

# STRATEGIES FOR MATERIALS EXHIBITION PRACTICES

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# THESIS ABSTRACT

## ABSTRACT

In recent years, Materials Exhibition have emerged as a distinct curatorial and spatial practice within the fields of design, architecture, and exhibition studies. At the same time, Material-Driven Design (MDD) has expanded significantly within design research, foregrounding materials as active agents in shaping product innovation and experiential qualities. However, despite these advances, MDD remains largely centered on studio-based experimentation, prototyping, and product-scale applications. The question of how material experiences are mediated for broader publics, particularly within exhibition and spatial contexts, has received comparatively limited attention.

This research argues that in exhibition environments, materials are not perceived solely through direct contact, but through curatorial strategies, spatial design, and narrative framing. It examines the evolution and characteristics of Materials Exhibition through a combined methodology of literature review, practitioner dialogue, site visits, and case studies, adopting a qualitative and reflective approach. Through the analysis of selected exhibition practices centered on material as primary content, the research develops a series of actionable strategies. These strategies demonstrate how spatial, narrative, and sensory design decisions can support material literacy and encourage more critical engagement with materials and resources. These strategies are further tested through a conceptual Exhibition Design application centered on wood as a material medium.

## KEYWORDS

Materials Exhibition; Exhibition Practices; Material-Driven Design; Material Agency; Curatorial Strategies; Spatial Design; Design strategy

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# 1

## INTRODUCTION

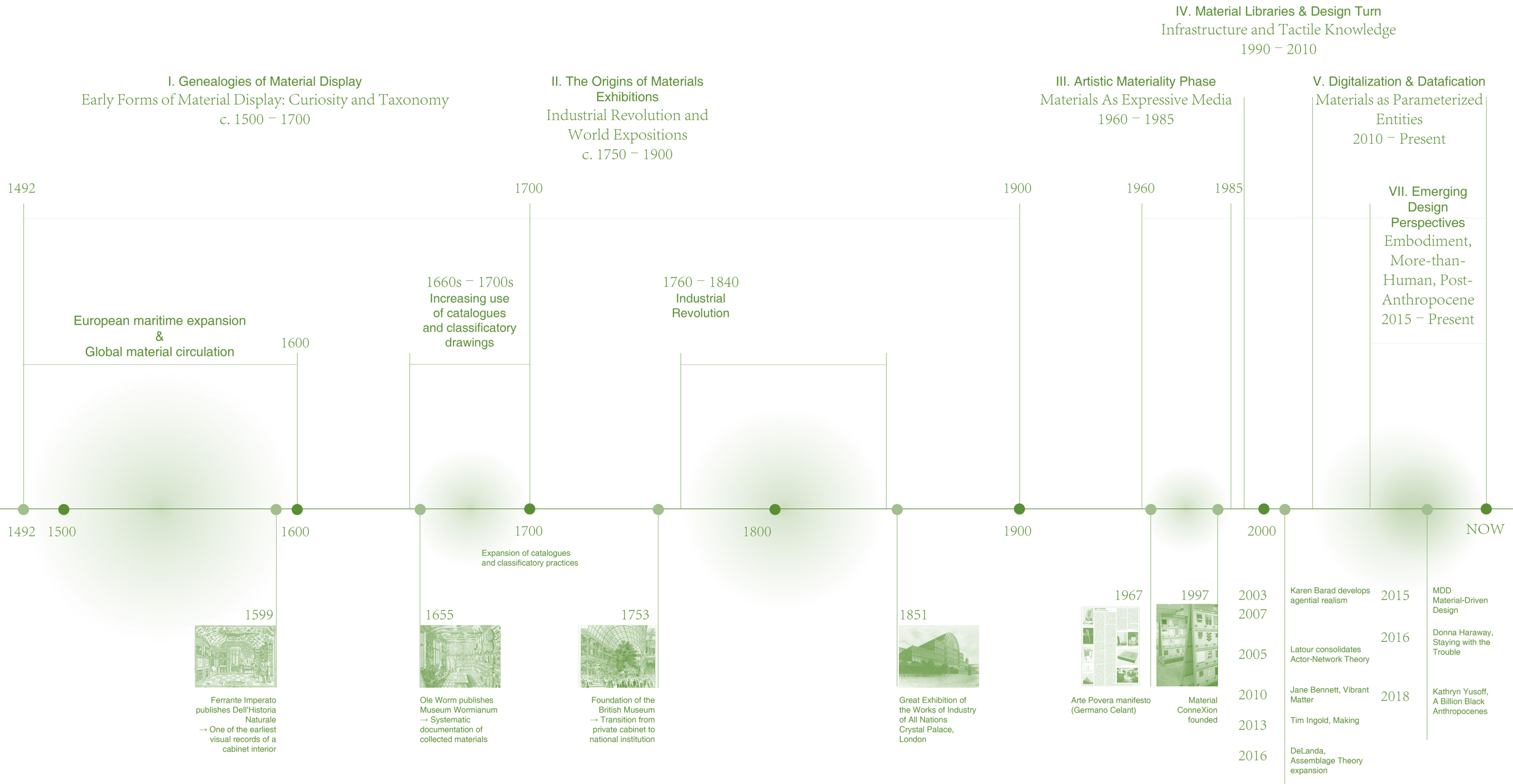
# 1 INTRODUCTION

## 1.1 THEORETICAL BACKGROUND

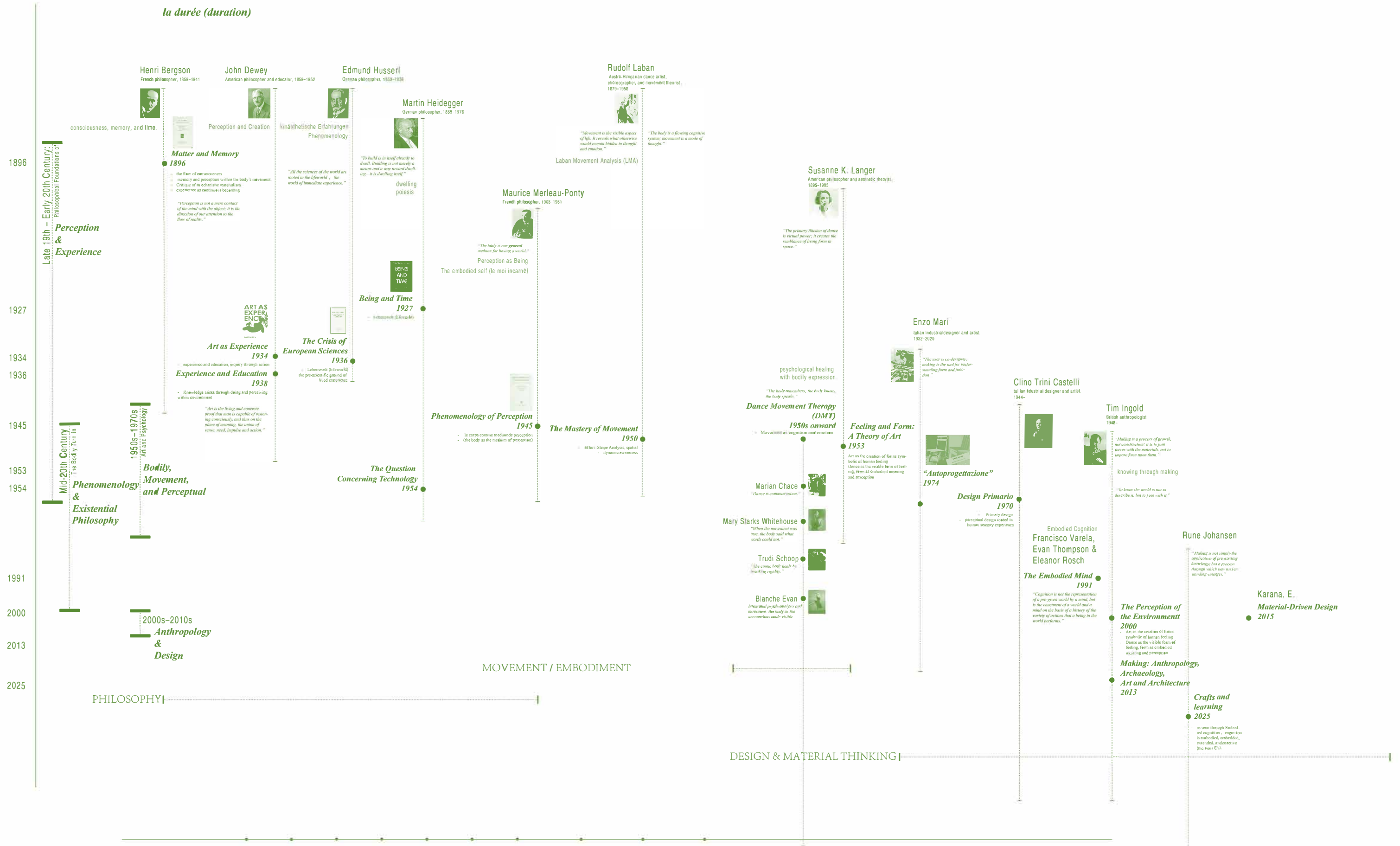
## 1.2 MOTIVATION

## 1.3 RESEARCH LENSES AND HYPOTHESIS

## 1.4 OBJECTIVES AND CONTRIBUTIONS



**Graphic 1.** Theoretical Timeline - Diagram constructed by the author as a conceptual synthesis of the historical, theoretical, and design research frameworks examined in Chapter 2, including scholarship on material culture, exhibition studies, Material Agency, Material-Driven Design, and Post-Anthropocene theory.



Graphic 2. Theory Mapping

# 1.1 THEORETICAL BACKGROUND

## The Emergence of Materials Exhibitions

Over the past two decades, Materials Exhibitions have emerged as a significant cultural and design phenomenon across museums, international design weeks, material libraries, biennales, and research-oriented exhibition platforms. Scholars in material culture studies and design research describe a shift from object-centered display toward material-centered inquiry. In this shift, materials are treated as subjects of investigation in their own right. Material objects actively shape social life and cultural meaning. Ingold (2013) proposes that materials should be understood as processes and flows. These perspectives reflect broader transformations in how matter is approached within contemporary theory and practice.

Materials Exhibitions foreground materials such as wood, soil, metal, biomaterials, composites, and industrial residues as primary sites of knowledge production. Appadurai (1986) explains that things acquire meaning through social circulation and exchange. Karana et al. (2015) demonstrate that materials possess experiential and affective qualities that influence design processes before formal decisions are made. This reorientation positions materials as dynamic and communicative entities. Materials become participants in meaning-making and design development.

This transformation unfolds within intensified global debates concerning climate change, resource depletion, and ecological responsibility. Latour (2005) challenges the separation between nature and society by proposing relational networks of human and nonhuman actors. Haraway (2016) extends this view through More-Than-Human perspectives on Coexistence. Within this intellectual climate, exhibitions operate as mediating interfaces where material knowledge becomes visible and experiential. MacLeod (2005) emphasizes that exhibition spaces shape how knowledge is produced and encountered.

Recent scholarship confirms the growing emphasis on exhibition as experiential construction. Popoli (2021) analyzes the creative processes behind immersive exhibition design and shows how curatorial, spatial, and sensory decisions generate engagement. Hayward (2024) examines narratives of material culture and argues that things participate in shaping cultural interpretation within museum contexts. These contemporary contributions support the understanding of exhibitions as active mediating systems.

Historically, practices of material display can be traced to Cabinets of Curiosity and World Expositions, where natural specimens and industrial materials were collected and exhibited as objects of knowledge and technological progress. Daston and Park (1998) describe how early collections structured wonder through systems of classification. Bennett (1995) explains how exhibitionary practices were embedded within institutional and political structures. The development of material libraries further institutionalized materials as resources for innovation and education. Hobbs (2011) observes that material libraries reorganized materials according to performance criteria and technical properties.

Although exhibitions featuring materials have existed historically, the consolidation of Materials Exhibitions as a distinct spatial and interdisciplinary practice remains insufficiently theorized. Existing scholarship addresses material culture, design research, and exhibition theory in separate domains. Limited research examines how these strands converge within spatial exhibition strategies. The present study situates itself within this intersection.

While material culture theory, material agency, and exhibition studies provide substantial theoretical foundations, limited attention has been paid to how these strands converge within spatial exhibition strategies. This thesis addresses this gap by examining how material experience is actively mediated through curatorial, narrative, and spatial design decisions

## 1.2 MOTIVATION

### Three Motivating Observations

#### 1. Materials Exhibitions as a new spatial practice

In recent years, Materials Exhibitions have emerged as a distinct temporary spatial systems where Material Research, Exhibition Design, and public engagement intersect.

As discussed in the literature review, the discourse on Material Agency and Material Driven Design (Karana et al. 2015) challenges the understanding of materials as neutral substrates and instead frames them as active participants in shaping perception and meaning. Within exhibition studies, space is increasingly understood as an epistemic device that structures how knowledge is encountered.

The analyzed case studies demonstrate how this theoretical shift materializes in practice. Soil-beings (Lamánlupa) positions soil as a living collaborator, transforming the pavilion into both a sensory environment and a research platform. Dropcity redefines exhibition space as a process-based laboratory where materials guide spatial outcomes through collective fabrication. Cambio and Internalities frame materials as ecological, political, and territorial agents, using spatial sequencing to mediate complex systemic narratives. Across these projects, the exhibition operates not as a representational display but as a structured spatial system in which materials are researched, performed, and interpreted.

These examples support the observation that Materials Exhibitions constitute a distinct spatial practice requiring focused investigation.

#### 2. Material-driven approaches to perception and material literacy

Materials Exhibitions foreground Embodied experience and sensory engagement, suggesting a different educational and cognitive potential.

The framework of Material Driven Design emphasizes that material understanding emerges through sensory and affective interaction prior to conceptual interpretation. This aligns with the thesis discussion of material literacy as a perceptual and experiential competence.

The case studies illustrate this shift clearly. In *Material Bar* and *Materia México*, tactile engagement and multisensory rituals generate curiosity and collective reflection. *Soil-beings* invites visitors to experience soil through touch, smell, and movement, transforming perception into embodied cognition. *Build of Site* foregrounds oxidation, cracking, and biological growth, allowing temporality to shape visitor awareness. Even in analytically oriented exhibitions such as *Internalities*, bodily navigation through comparative models produces an embodied understanding of scale and environmental consequence.

### **3. Cross-disciplinary collaboration and friction**

Materials Exhibitions bring together material science, design, architecture, and curatorial practice, yet reveal significant gaps in how materiality is understood and communicated across disciplines.

The literature reviewed in this thesis shows that while material science prioritizes measurable properties, design research foregrounds experiential qualities, and curatorial practice structures narrative interpretation, there is no consolidated strategy for translating these perspectives into spatial form.

The analyzed exhibitions reflect this interdisciplinary convergence. *Soil-beings* integrates indigenous ecological knowledge with architectural research. *Dropcity* merges collective making with spatial experimentation. *Internalities* translate territorial data and systemic analysis into exhibition design. *Cambio* mobilizes historical and political research through narrative sequencing. While all foreground *Material Agency*, they do so through different epistemological approaches performative, analytical, narrative, or process-based.

This diversity reveals productive experimentation but also strategic ambiguity. The absence of systematic reflection on how these disciplinary perspectives are spatially mediated highlights a research gap.

## 1.3 RESEARCH LENSES AND HYPOTHESIS

This research is guided by the following research lenses:

1. **How have Materials Exhibitions evolved historically and conceptually into a distinct exhibition typology?**
2. **How do contemporary Materials Exhibitions integrate curatorial strategy, narrative, and spatial design to shape visitors' perception and understanding of materials?**
3. **In what ways can Material Exhibitions act as mediating environments that foster material literacy and encourage more reflective engagement with materials and resources?**

### **Central Hypothesis:**

Based on these questions, this research hypothesizes that Materials Exhibition, can be strategically designed following the line of materials experiences and materials-driven design studies, and contribute to reshaping how materials are perceived and interpreted by broader publics, fostering material literacy and encouraging reflective engagement with materials and resources.

## 1.4 OBJECTIVES AND CONTRIBUTIONS

The objectives of this research are threefold:

- 1. To systematize the historical and theoretical development of Materials Exhibitions, positioning them within the evolving landscape of exhibition studies, material theory, and design.**
- 2. To analyze contemporary case studies in order to identify recurring design logics and exhibition mechanisms.**
- 3. To extract a set of operational Materials Exhibition design strategies applicable to future curatorial and design practices.**

The primary contribution of this research lies in bridging the gap between theoretical discourse and design practice. By translating complex concepts, such as material agency, embodiment, and ecological framing, into concrete exhibition strategies, this study positions Materials Exhibition as a critical design practice capable of mediating material knowledge and spatial experience.

# 2

**LITERATURE REVIEW**  
**THEORETICAL FRAMEWORK**

## 2 LITERATURE REVIEW AND THEORETICAL FRAMEWORK

### 2.1 GENEALOGIES OF MATERIAL DISPLAY: FROM CURIOSITY TO INSTITUTIONALIZATION

Early Forms Of Material Display: Curiosity And Taxonomy

Material Display: Cases From Chinese History

The Origins Of Materials Exhibitions: Industrial Revolution and World Expositions

The Artistic Materiality Phase: Materials As Expressive Media

The Rise Of Material Libraries

Material Databases And The Digitalization

### 2.2 MATERIALITY IN EXHIBITION CONTEXTS

Material Culture And Object Relations

Material Agency

Exhibition Studies: Theme, Narrative, and Contextualization

Curating and Curatorship

Design Research and Material-Driven Design

### 2.3 EMERGING DESIGN PERSPECTIVES

Embodiment And Spatial Experience

New Frontiers: More-than-Human Perspectives

Post-Anthropocene



Figure 1. Interior view of *Museum Wormianum*, from Ole Worm, *Museum Wormianum* (Leiden: Elsevier, 1655).



Figure 2. "Ritratto del Museo di Ferrante Imperato," engraving from Ferrante Imperato, *Dell'Historia Naturale* (Naples, 1599).

## 2.1 GENEALOGIES OF MATERIAL DISPLAY

### Early forms of material display: curiosity and taxonomy

In contemporary context, the term cabinet is commonly understood as a piece of furniture or a storage unit equipped with drawers, shelves, and doors, such as kitchen cabinets, filing cabinets, or display cabinets. This interpretation, however, obscures the deeper historical dimension of the concept. The word cabinet derives from medieval French and originally referred to a “small room” rather than a piece of furniture (Impey & MacGregor, 1985). Over time, its meaning expanded to encompass any enclosed space used to store valuable or significant objects, ranging in scale from a small box to an entire building (Pomian, 1990).

Early Cabinets of Curiosity, or Wunderkammer, often consisted of multiple rooms, forming the origin of modern museums (Findlen, 1994). These spaces were not only used for storage but also functioned as sites of display, exchange, and scholarly discussion, forming hybrid environments that combined domestic life, research, and exhibition.

This semantic and spatial elasticity is crucial for understanding Cabinets of curiosity as origin of Materials Exhibitions. Rather than serving merely as containers of objects, cabinets functioned as space that organized knowledge through materials. By spatializing display, objects were transformed into evidence that could be viewed, compared, and interpreted, forming a complex assemblage that integrated space, collection, and cognitive mechanisms (Bennett, 1995).

The rise of Cabinets of curiosity in Europe closely coincided with the so-called Age of Exploration between the fifteenth and seventeenth centuries. A substantial body of historical scholarship has demonstrated that maritime expansion during this period was driven primarily by trade, resource extraction, and territorial expansion, while scientific exploration was often a secondary outcome rather than the original motivation (Clifford, 1997). Therefore, the term “exploration” is strongly Eurocentric, as these regions were already inhabited, understood, and systematically known by locals.

During this process, Europeans transported large quantities of objects from across the globe back to the continent. In addition to high-value commodities such as precious metals and spices, these materials included unfamiliar plants and animals, fossils, gemstones, bones, and objects produced by Indigenous peoples. Due to their unfamiliarity, such materials were categorized as “curiosities” and systematically collected and displayed by wealthy patrons, including royalty, scholars, physicians, and religious figures.

The function of cabinets of curiosity extended beyond documenting the diversity of the world; they also served as symbols of knowledge, power, and access to global networks. As museum scholars have noted, the act of collecting and displaying constituted a cognitive and political practice through which the world was symbolically brought back to Europe.

Objects within cabinets of curiosity were highly heterogeneous: meteorites, taxidermy specimens, animal skins, musical scores, tools, seeds, fossils, human skulls, and exotic weapons were often displayed side by side within the same space. This juxtaposition was not based on strict classificatory principles but rather on a material organization oriented toward visual impact and wonder (Daston & Park, 1998). In this process, objects were stripped of their original ecological, cultural, and ritual contexts and re-encoded within European epistemic frameworks.

Early cabinets of curiosity operated within the epistemic frameworks of natural philosophy and religious cosmology. Collectors interpreted materials through these prevailing belief systems, which made misrecognition, misunderstanding, and fabrication common features of cabinet culture (see Figure 4). Composite creatures such as “mermaids,” “dragons,” or “basilisks,” assembled from parts of different animals, were incorporated into broader attempts to comprehend the order of nature. They functioned as speculative material propositions within a worldview that had not yet stabilized its scientific criteria.

Large fossils were frequently interpreted as the remains of giants or mythical beings, reinforcing biblical or classical narratives. Although these interpretations are now considered erroneous, historians of science emphasize that flawed explanatory models played a generative role in the development of modern knowledge (Rudwick, 1976). Through the accumulation and comparison of fossil specimens, scholars began to identify relationships between geological strata and biological forms. These comparative practices gradually contributed to emerging concepts of geological time, deep time, and biological evolution (Gould, 1987). Error, in this sense, formed part of the epistemic process through which new forms of knowledge became thinkable.

Medical knowledge was equally shaped by cabinet culture. In the seventeenth century, anatomists and physicians such as Frederik Ruysch expanded anatomical research and medical pedagogy through the preservation and display of human specimens. His collections intertwined scientific investigation with carefully staged visual and emotional effects, demonstrating how exhibitionary practice actively participated in knowledge production (Findlen, 1994).



Figure 3. Johann Georg Hainz, *Cabinet of Curiosities*, c. 1666–1670, oil on canvas, Kunsthistorisches Museum, Vienna.

By the late seventeenth and eighteenth centuries, cabinets of curiosity entered processes of systematization and institutional consolidation. Collectors increasingly relied on drawings, catalogues, and classificatory systems to organize materials. Herbariums, scientific instrument collections, and pedagogical displays gained prominence, signaling a growing emphasis on order, comparison, and didactic clarity.

A decisive example of this transformation can be seen in the collection of Hans Sloane (see Figure 5). His private assemblage was transferred to the nation in the mid-eighteenth century and became the foundation of the British Museum. This transition marks a pivotal moment in the reconfiguration of cabinets of curiosity into modern museums. The underlying logic of material accumulation and display persisted, yet its social function shifted. Materials continued to serve as epistemic instruments, while their symbolic role moved toward public education and institutional authority.

From the perspective of Materials Exhibitions, cabinets of curiosity constitute a crucial historical site of epistemic formation. They established foundational logics through which knowledge, narrative, and authority were constructed via material display. At the same time, they reveal the entanglements between material knowledge, colonial expansion, power structures, and epistemic inequality (Clifford, 1997).

A critical re-examination of cabinet culture enables Materials Exhibitions to be understood as a multi-sourced and non-linear global phenomenon. This approach creates theoretical space for juxtaposing non-Western traditions of material display and for questioning the dominance of singular Eurocentric epistemic centers.



Figure 4. Seahorse Monster from the Ulisse Aldrovandi's *Monstrorum Historia*, Biblioteca Universitaria di Bologna, Italy.



Figure 5. Materials from the collection of Hans Sloane (1660–1753):

(a) printed catalogue classification page; (b) portrait of Hans Sloane; (c) herbarium specimen volume; (d) manuscript record book; (e-f) labeled specimen packets. Sloane Collection, British Museum / Natural History Museum, London.

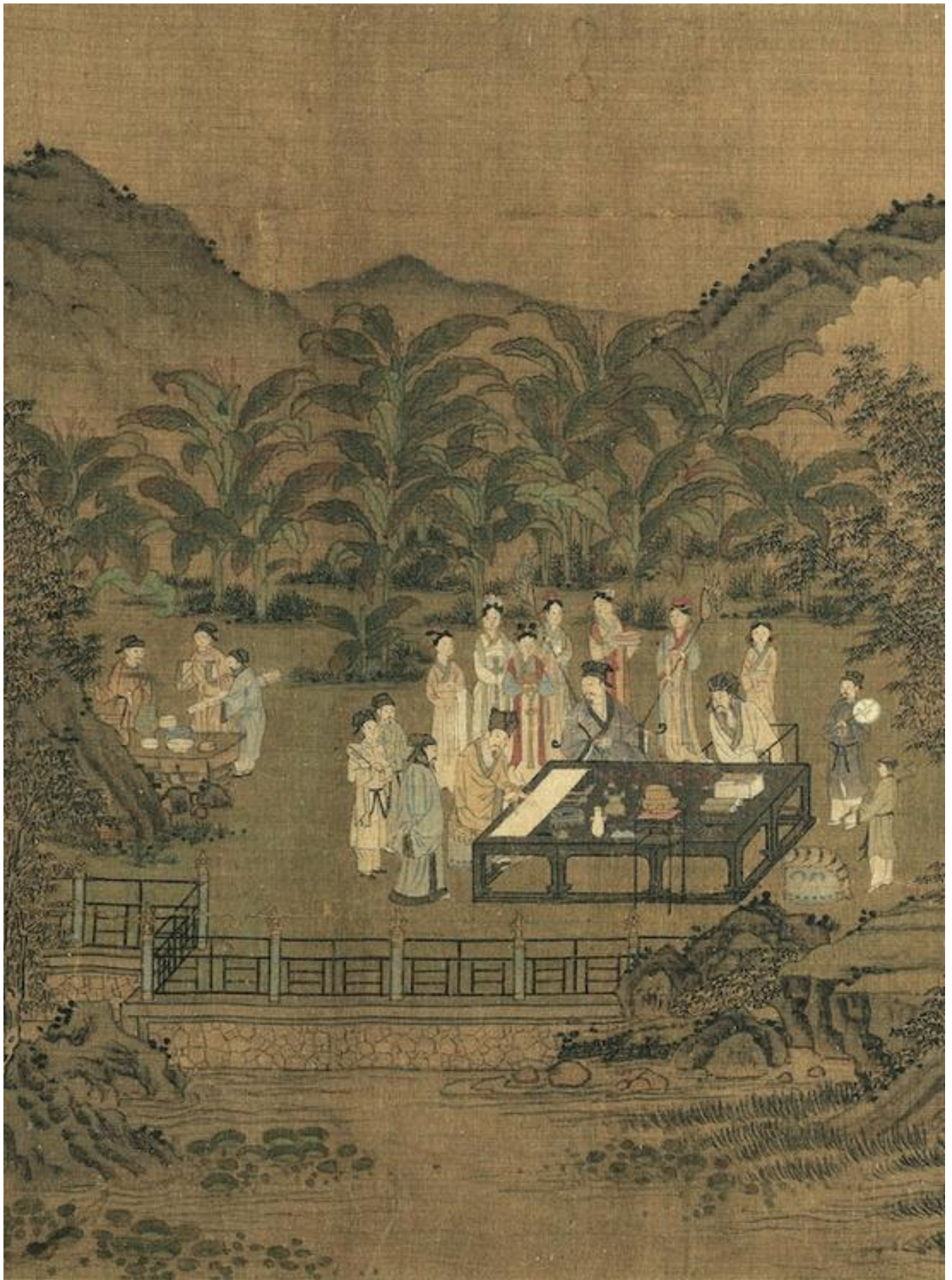


Figure 6. Song Anonymous "Southern Tang Wenhui Map" (detail) Color on silk Collection of the Palace Museum

## Material display: cases from Chinese history

If Cabinets of Curiosities are understood as systems for the collection and display of heterogeneous materials, analogous practices existed in ancient China and even predate the European Wunderkammer. However, these practices were not organized around spectacle or representing a microcosm of the world. Instead, they were embedded within epistemological frameworks grounded in ritual order, moral cultivation, and cosmological harmony, resulting in a fundamentally different logic of Materials Exhibition.

As early as the pre-Qin period, Chinese society had developed a material display system centered on bronze ritual vessels. Shang and Zhou bronzes were not collected as autonomous objects but systematically situated within ancestral temples and ritual spaces. Through material rarity, metallurgical techniques, and inscriptions, these objects materialized royal authority and the legitimacy of the Mandate of Heaven. Material “display” functioned through ritual use and intergenerational transmission, transforming materials into Embodied expressions of social order.

From the Han dynasty onward, with the consolidation of imperial governance and the intensification of classificatory knowledge, systematic recording and observation of “things” became increasingly prominent. Kaogong ji (see Figure 8)) linked materials such as wood, stone, metal, and leather to social divisions of labor and functional use. Material knowledge was transmitted primarily through textual codification and institutional regulation rather than spatial display.

During the Song and Yuan dynasties, the scholar-collector culture emerged in parallel with European Cabinets of Curiosities. Collecting ceased to be an exclusive imperial privilege and became a cultural practice tied to moral cultivation, learning, and personal character. The arrangement of epigraphic rubbings, ancient bronzes, paintings, scholar’s rocks, and studio implements constituted a highly coded system of Materials Exhibition, emphasizing historical depth, traces of time, and cultural continuity.

In the Ming and Qing periods, collecting practices diversified further, especially within the imperial court. The Qianlong Emperor’s collections included calligraphy, paintings, jade, ceramics, clocks, and European imports. Even in this increasingly “exoticized” context, materials were consistently integrated into pre-existing Chinese value systems, reflecting a de-spectacularized and coherent mode of material display.



Figure 7. Qing dynasty scholar's display objects, including carved jade vessels, coral vase, hardwood pedestal stands, and scholar's studio objects. 18th–19th century, China.

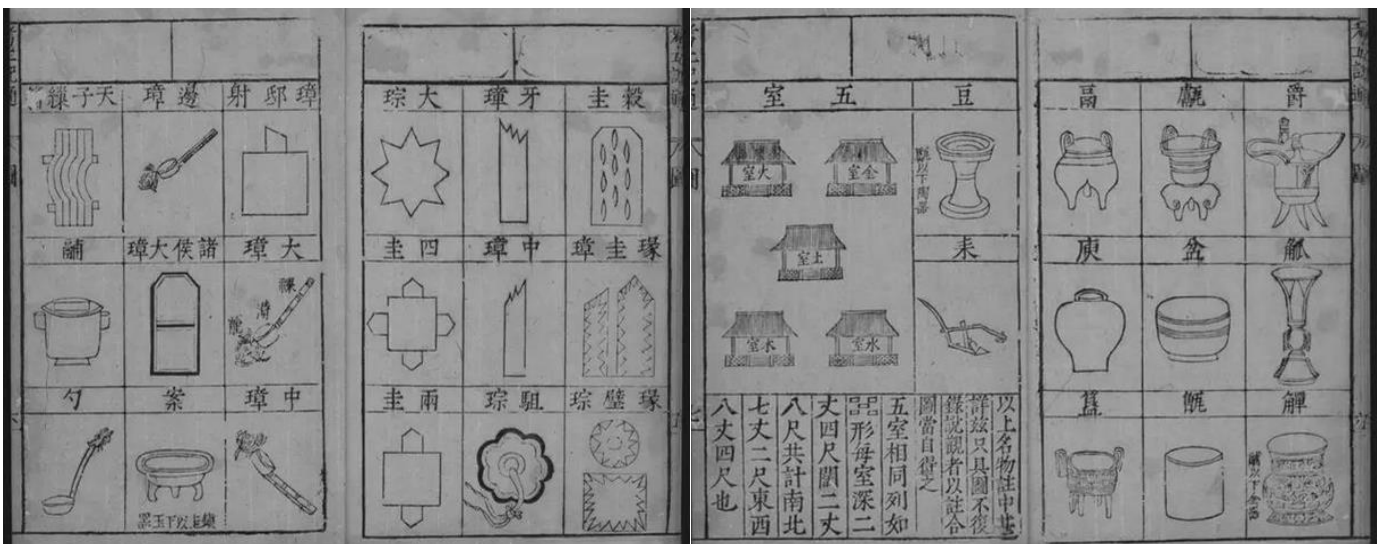


Figure 8. Kaogong ji (The Artificers' Record)

Overall, Chinese material display traditions developed a genealogy distinct from European Cabinets of Curiosities: materials were embedded within ritual, writing, use, and ethical systems, serving as tangible markers of order, temporality, and cultural transmission. This embeddedness rendered Chinese Materials Exhibition largely invisible within Western historiographies centered on museums and display practices.

Comparative reading reveals that European Cabinets of Curiosities and Chinese material display traditions constitute two parallel yet fundamentally distinct genealogies. European cabinets relied on decontextualized juxtaposition to transform natural specimens, artifacts, and foreign objects into visible, comparable entities, emphasizing rarity, heterogeneity, and the visualization of epistemic power. In contrast, Chinese Materials Exhibition emphasized embeddedness and continuity, making materials perceptible as tangible markers of order, temporality, and cultural transmission.

This comparison not only exposes civilizational differences in the formation of Materials Exhibition practices but also reflects divergent worldviews regarding the cognition and valuation of materials. By juxtaposing these genealogies, one can recognize modern museums and Materials Exhibitions emerged from historically specific European conditions while also acknowledging an alternative Chinese model: non-Western, non-spectacular, deeply intertwined with use, ethics, and temporal depth.



**Figure 9.** Interior of the Great Exhibition of 1851, Crystal Palace, Hyde Park, London. Engraving, 1851.

### **The origins of materials exhibitions: industrial revolution and world expositions**

If the Cabinet of Curiosity marked the moment when materials were abstracted from everyday function and inserted into the visual domain, the eighteenth and nineteenth centuries transformed this practice into a modern institutional mechanism. With the Industrial Revolution and the emergence of large-scale World Expositions, materials were no longer primarily collected as rare objects or symbols of private erudition. They were systematically mobilized as visual evidence of industrial capacity, technological rationality, and national competitiveness (MacGregor, 2007).

This transformation was not merely quantitative, involving larger buildings and broader publics. It represented a qualitative redefinition of what materials meant within exhibitionary culture. Enlightenment rationality, combined with industrial production, fostered a mode of understanding materials as measurable, comparable, and pedagogically communicable entities. Display practices increasingly aligned with scientific classification and economic evaluation. Materials Exhibitions thus shifted from expressions of individual authority to instruments of public knowledge, industrial culture, and state-sponsored narratives.

The Industrial Revolution fundamentally altered the ontology of materials. In pre-industrial contexts, materials were understood through craft traditions and embodied skill. Knowledge resided in tacit practice and localized expertise. Industrialization redefined materials as standardized substances subject to testing, replication, and mass production. Iron, steel, glass, coal, and cotton textiles became not only components of manufactured goods but also emblems of technological progress and industrial civilization.

Consequently, exhibitionary logic moved away from the cabinet's juxtaposition of heterogeneous curiosities. Instead of provoking wonder through proximity, industrial exhibitions structured materials within systems of demonstration. Production efficiency, durability, and scalability became the criteria through which materials were evaluated. Visitors were no longer invited merely to marvel at rarity; they were positioned as spectators of industrial systems and technological achievement (Bennett, 1995).

A decisive moment in this shift was the 1851 Great Exhibition of the Works of Industry of All Nations in London. Organized by the British state and housed in the purpose-built Crystal Palace (see Figure 9&10), the exhibition has been widely interpreted as inaugurating the modern world exposition. The building itself, constructed from cast iron and glass, functioned as a material manifesto. Its modular transparency symbolized industrial rationality and the seemingly limitless potential of mechanized production.

Within this exhibitionary framework, materials were systematically classified by nation and industry. Raw materials, semi-finished goods, and finished products were arranged to demonstrate technological progression and economic organization. Display logic introduced sequencing and hierarchy: raw material led to processed form, then to manufactured object, and finally to industrial system. This narrative embedded materials within evolutionary and developmental frameworks. The openness of cabinet-style juxtaposition was replaced by guided interpretation. Visitors were steered toward the conclusion that industrialization equated with progress and civilization.

At the same time, the global scope of World Expositions masked profound asymmetries. Many of the raw materials exhibited, such as rubber, cotton, ores, and timber, originated in colonial or semi-colonial territories. Their extraction depended on exploitative labor systems that were largely invisible within the exhibition space (Clifford, 1997). Non-Western regions were frequently represented as sources of raw resources or ethnographic spectacle rather than as producers of technological knowledge.

Thus, Materials Exhibitions of the nineteenth century did more than present technological achievement. They constructed visual narratives of world order in which industrialized nations

occupied the apex of development. Material display became intertwined with imperial expansion, capitalist accumulation, and national identity formation. As Bennett has argued, the exhibitionary complex operated not only to inform but also to discipline and shape publics.

By the end of the nineteenth century, Materials Exhibition had fully transitioned from loosely organized collections to a structured institutional system. Within this system, materials functioned simultaneously as evidence of technological progress, symbols of national strength, interfaces of capitalist logic, and tools of public pedagogy. The exhibition no longer merely displayed materials; it framed them within ideological, economic, and political narratives.

This “modernity moment” established durable exhibitionary conventions that continue to inform contemporary design fairs, industrial museums, and materials research platforms. Materials Exhibition thus emerges not simply as a mode of display, but as a historically situated institutional practice deeply entangled with modern conceptions of technology, nationhood, and economic order.



**Figure 10.** Crystal Palace, Sydenham, London, rebuilt 1854. Photograph.

## The artistic materiality phase: materials as expressive media

By the mid-20th century, Materials Exhibition had been profoundly shaped by the cognitive frameworks of industrial modernity. Materials were primarily understood as technical resources: standardized, optimized, and instrumentalized for production, display, and consumption. World Expositions and industrial museums had established a dominant exhibition logic, in which materials were abstracted from their contexts of origin and presented as categorized, named, and displayed evidence of performance, efficiency, and technological progress (Bennett, 1995; MacGregor, 2007).

However, from the 1960s onward, a radical rupture within artistic practice fundamentally transformed how materials were perceived, exhibited, and understood. Spanning roughly from the 1960s to the early 1980s, this period can be considered the formative phase of “artistic materiality”. During this era, materials were no longer neutral carriers of form or meaning; they began to assert their own presence, behavior, and resistance. Although discussions of ecological or scientific systems were not yet central, these practices laid the conceptual groundwork for later ideas of Material Agency, Embodied experience, and relationality in Materials Exhibition (Kwon, 2002).

Movements such as Post-Minimalism, Arte Povera, Process Art, and Land Art collectively challenged the industrial-modern abstraction of materials. Artists deliberately selected unstable, soft, mutable, or organic materials: wax, felt, rope, soil, stone, latex, fat. Materials that resisted precision, permanence, and industrial standardization. This approach fundamentally questioned modernist beliefs in the autonomy of form (Morris, 1975; Hesse, 1995).

Robert Morris’s felt works exemplify this approach: materials naturally sag and collapse under gravity, and the final form is determined not by the artist but by the physical behavior of the materials themselves. Eva Hesse’s use of latex and fiberglass incorporated aging, fragility, and decay as intrinsic components of the work, embedding temporality into the material experience (Hesse, 1995). In Arte Povera, Jannis Kounellis and Mario Merz juxtaposed industrial remnants with “poor” natural materials, destabilizing hierarchical distinctions between nature and culture while implicitly critiquing the ideology of industrial progress (Celant, 1969; Godfrey, 1998).

In these practices, materials ceased to be merely “used” and began to “act”. Weight, texture, flexibility, brittleness, and responsiveness to environmental conditions became central to meaning. Exhibition spaces were no longer neutral containers; rather, they became negotiated fields of interaction among bodies, materials, gravity, temperature, and time. Viewers confronted not completed objects but ongoing material events, experiences that unfolded dynamically in space.

Nevertheless, the artistic material phase primarily remained phenomenological and expressive,

rarely addressing ecosystems or material circulation. Materials functioned more as triggers for perception and emotion than as nodes embedded in complex environmental networks. Attention was directed toward how materials are perceived, how they behave, and how they resist, rather than to their extraction, circulation, or long-term ecological impact.

Despite these limitations, this period represents an indispensable transitional phase in the history of Materials Exhibition. It dismantled the industrial-era fiction of material “neutrality,” introducing proto-concepts of Material Agency, and paved the way for new materialist thought, actor-network theory, and ecological design practices (Barad, 2003; Bennett, 2010). By shifting the focus from “what materials mean” to “how materials act,” the artistic material phase redefined exhibition as an Embodied encounter with matter itself, rather than a mere representation of objects. This formative moment not only shaped exhibition practices for the subsequent decades but also profoundly influenced contemporary understandings of materials, technology, and design.



**Figure 11.** Michelangelo Pistoletto, *Venere degli stracci* (Venus of the Rags), 1967. Marble and discarded clothing.

## The rise of Material Libraries

From the late twentieth century onward, materials increasingly came to be understood as active participants in cultural and design processes. Jane Bennett (2010) describes matter as possessing “vitality,” a capacity to affect and be affected within assemblages of human and non-human actors. Tim Ingold (2013) similarly argues that materials are “in movement,” emphasizing process and transformation over static objecthood. These perspectives contributed to a broader reorientation in design research, where materials began to be treated as co-constitutive of creative thinking rather than as passive substrates.

Within design studies, Material-Driven Design formalized this shift. Elvin Karana and colleagues define Material-Driven Design as an approach in which material properties become the starting point of the design process, shaping both conceptual development and experiential outcomes (Karana et al., 2015). Direct engagement with material samples frequently leads to unexpected meanings and applications, positioning materials as generative agents within design inquiry. In this context, material exploration becomes epistemic practice.

The rapid proliferation of synthetic, composite, and bio-based materials intensified the need for structured access to material knowledge. Contemporary material selection now involves environmental performance, lifecycle assessment, and socio-cultural impact in addition to technical specification (Gonçalves, 2019). In response, material libraries emerged as curated infrastructures that organize material samples for tactile examination, comparison, and research. A global survey by Akin and Pedgley (2016) documents the expansion of such libraries and identifies their hybrid function as repositories, laboratories, and pedagogical platforms that expedite materials experience for design. Materials in these contexts are presented as samples for investigation rather than finished products, foregrounding analysis, testing, and comparison.

Beyond access, material libraries actively structure material knowledge. Classification systems, taxonomies, and metadata determine how materials are grouped, rendered comparable, and evaluated. As research in socio-technical infrastructure studies has shown, classification is never neutral; it shapes what becomes visible, measurable, and actionable within knowledge systems (s Wilkes & Miodownik 2018). Within material libraries, categories such as “sustainable,” “innovative,” or “bio-based” are operational constructs embedded in database design and institutional criteria. Curation thus extends beyond display into the architecture of information itself.

Recent scholarship emphasizes the pedagogical dimension of material libraries. Through the physical handling of samples, designers cultivate material literacy developing sensory familiarity alongside technical understanding. Embodied interaction enables the assessment of weight, flexibility, translucency, surface temperature, and acoustic response in ways that exceed abstract specification

sheets. Material knowledge here emerges through contact, comparison, and situated interpretation.

Institutions such as Material ConneXion and Materioteca exemplify the institutionalization of this infrastructural model. These libraries curate thousands of materials accompanied by technical data and sustainability indicators, operating as continuously updated repositories responsive to emerging technologies and environmental criteria. Their collections are dynamic, iterative, and systematically revised creating a display model defined by renewal rather than permanence.

From a theoretical standpoint, material libraries translate discussions of material agency into operational systems. Karen Barad (2003) proposes that entities emerge through “intra-action,” materializing within relational entanglements rather than pre-existing them. Within material libraries, materials acquire meaning through their positioning among other samples, databases, testing tools, and designer practices. Knowledge is generated relationally through juxtaposition, manipulation, and infrastructural mediation.

Material libraries therefore reposition material display as an epistemic practice grounded in relational organization and embodied evaluation. They cultivate informed material selection, ecological awareness, and strategic experimentation while simultaneously revealing how systems of classification shape material meaning. In doing so, they establish the infrastructural and conceptual groundwork for contemporary Materials Exhibitions concerned with circularity, bio-material innovation, and sensory engagement.



**Figure 12.** “Ideas Wall,” curated material samples display, Material ConneXion.



**Figure 13.** Contemporary materials library display wall with open shelving and sample drawers. Photograph.

## Material databases and the digitalization

Recent developments in materials research reveal increasingly complex intersections between geological, computational, and infrastructural layers. As Tristram et al. (2024) demonstrate, digitalized data management restructures materials systems workflows, integrating datasets, simulation tools, and performance modeling into unified computational infrastructures. Material identity is increasingly articulated through parameters, metrics, and predictive modeling prior to embodied engagement.

Within database environments, material identity is increasingly articulated through parameters, metrics, and computational descriptors. Performance, durability, and environmental indicators are frequently modeled and compared before tactile evaluation occurs. This computational mediation reconfigures how materials are known and selected.

From an assemblage perspective, Manuel DeLanda (2016) argues that systems emerge from the interaction of heterogeneous components. Digital repositories can therefore be understood as assemblages combining datasets, algorithms, designers, institutional criteria, and sustainability standards. What counts as sustainable, innovative, or comparable depends on how categories are constructed and operationalized within these systems. Classification thus becomes a curatorial act embedded in infrastructural design.

This infrastructural turn introduces tensions. While computational systems enhance efficiency and expand access to technical information, they also risk attenuating sensory and temporal dimensions that resist quantification. Jules Prown (1982) reminds us that material culture analysis depends on close observation and embodied interpretation. Qualities such as aging behavior, surface irregularity, acoustic response, and affective resonance remain difficult to encode within standardized datasets. The database phase therefore exposes both the power and the limits of data-driven material knowledge. It creates conditions for renewed critical reflection on how materials are encountered, interpreted, and valued within contemporary design and exhibition cultures.

## 2.2 MATERIALITY IN EXHIBITION CONTEXTS

Exhibitions operate as environments in which material entities are arranged, framed, and rendered perceptible through spatial and sensory organization. Recent exhibition scholarship emphasizes the experiential and performative dimensions of display, arguing that meaning emerges through embodied encounter rather than from objects alone. Exhibitions therefore function as structuring systems that condition how materials become visible, comparable, and interpretable within specific spatial settings.

Theme establishes the conceptual orientation through which exhibited elements are organized and understood. As Mieke Bal (1996) proposes in her discussion of exhibition as narrative space, curatorial framing defines the interpretive horizon within which objects acquire significance. Thematic construction operates as a selective mechanism that determines relationships, establishes hierarchies, and stabilizes particular readings. In Materials Exhibitions, thematic orientation shapes whether materials are positioned as technological resources, aesthetic surfaces, ecological processes, or socio-political actors. Themes centered on innovation and efficiency often align materials with solution-oriented industrial narratives. Themes focused on interdependence, lifecycle, or transformation invite attention to relational and processual dimensions of matter.

Narrative in exhibition contexts unfolds spatially through sequencing, movement, and bodily orientation. Henri Lefebvre (1991) conceptualizes space as socially produced, while Suzanne MacLeod (2005) emphasizes the role of movement and spatial progression in shaping interpretation. Meaning develops through navigation, proximity, and shifting perspective. In Materials Exhibitions, narrative configuration influences whether materials appear stable and discrete or dynamic and evolving. Linear arrangements tend to present materials as finalized entities. Cyclical or process-based configurations foreground change, temporality, and transformation. Spatial narrative thus conditions how material duration and instability are perceived.

Contextualization further determines how materials are positioned within exhibition environments. Display practices frequently abstract objects from their social and ecological conditions in order to enhance legibility and comparability. Bruno Latour (2005) argues that such abstraction conceals the networks that sustain objects and make them operative. In Materials Exhibitions, abstraction often appears in the form of standardized samples, technical metrics, or performance data detached from extraction histories, labor practices, and environmental consequences. Recontextualization situates materials within systems of production, circulation, and disposal, thereby restoring their relational complexity.

Despite the increased attention to spatial experience and relational interpretation, exhibition theory has rarely examined materials themselves as active contributors to exhibition meaning. Analytical emphasis has tended to focus on curatorial intention, institutional discourse, or visitor interpretation. Contemporary material theory, particularly the work of Jane Bennett (2010), Karen Barad (2007), and Tim Ingold (2011), proposes that matter possesses capacities that shape perception, movement, and affect. When situated within exhibition environments, materials influence spatial rhythm, bodily engagement, and sensory response. They do not simply illustrate narratives but participate in the formation of interpretive conditions.

Within this research, theme, narrative, and contextualization are approached as design operations that can either constrain or activate Material Agency in exhibition space. Exhibitions are understood as relational configurations in which materials, bodies, and spatial structures interact in the production of meaning. Materials Exhibitions are therefore positioned as environments where material knowledge is not only represented but also enacted through spatial encounter.



**Figure 14.** Display of vernacular tools and household implements in the ethnographic exhibition space at Museo Etnografico e Naturalistico Val Sanagra, Grandola ed Uniti, Como, Italy (traditional objects illustrating historical material practices and everyday life). Photograph sourced from the Museo Val Sanagra collection/website.

## Material culture and object relations

Material culture studies investigate physical objects, artifacts, and substances as active carriers of knowledge, social meaning, and cultural practice. Materials are situated within historical, social, and technological conditions, and their significance emerges through processes of making, using, circulating, and interpreting (Ingold, 2013). Objects register the values and assumptions of the societies that produce and preserve them. They operate as material condensations of collective memory, identity formation, and systems of value.

Anthropological and archaeological research emphasizes the relational nature of objects. Materials participate in networks that connect people, spaces, institutions, and other artifacts, revealing patterns of production, exchange, and social organization. Domestic utensils, textiles, and architectural elements, for instance, can signal hierarchies, technological capacities, and cultural priorities. Their meaning develops through interaction, placement, and use. Significance arises in relation to context and practice, extending beyond intrinsic physical properties.

Object relations within material culture also unfold across time. Materials pass through phases of manufacture, circulation, repair, reinterpretation, and preservation. Their roles and meanings shift in response to changing social norms, technological innovation, and collective remembrance (Schlereth, 1992). This temporal dimension enables scholars to trace how objects contribute to broader transformations in cultural practice and social value across generations.

In contemporary scholarship, material culture intersects with design and exhibition studies through attention to how objects communicate and mediate experience. Researchers examine the ways artifacts convey narratives, structure interpretation, and connect audiences to cultural histories (Dormer, 1997). Within exhibition environments, materials function as traces of human activity and technical knowledge. They invite layered readings that engage historical resonance, embodied perception, and societal meaning.

Through this focus on material relations, temporality, and mediation, material culture offers analytical tools for understanding exhibitions as sites where objects shape knowledge production and cultural identity. It prepares the ground for further discussion of material agency, curatorial strategies, and the dynamic interactions between human and non-human participants in material-driven displays.

## Material Agency

Within traditional design and engineering discourses, materials have long been understood as passive substrates whose value lies primarily in their physical properties, structural performance, or processability. Such an instrumental view treats materials as neutral media serving human intention, rather than as entities capable of influencing actions, perceptions, and meaning-making processes. However, developments in philosophy, science and technology studies (STS), and contemporary design research have fundamentally challenged this assumption, leading to a reconceptualization of materials as participants endowed with agency.

Material Agency does not imply that materials possess intention or consciousness comparable to that of humans. Rather, it emphasizes the capacity of materials to affect situations, constrain choices, and shape patterns of action through their interactions with humans, technologies, environments, and temporal processes. In Actor-Network Theory, Latour argues that agency is distributed across both human and non-human actors, and that meaning emerges through networks of relations rather than from a single authoritative subject (Latour, 2005). From this perspective, materials are not static objects but active components whose durability, resistance, transformation, and sensory qualities continuously influence human practices and interpretations. This relational understanding of materiality has been further developed within the framework of New Materialism. Bennett's concept of "vibrant matter" foregrounds the vitality of material entities and their capacity to act beyond human control, often in subtle, incremental, and non-linear ways (Bennett, 2010). Such an approach destabilizes the traditional subject-object dichotomy, positioning materials as dynamic and processual rather than fixed and inert. Material change, decay, and unpredictability are not treated as design failures, but as intrinsic expressions of Material Agency.

Design research has increasingly incorporated these theoretical shifts into material-oriented practices. Ingold challenges the notion of materials as pre-defined substances to be shaped, proposing instead that materials are continually "becoming" through processes of making, growth, and interaction (Ingold, 2012). In this view, design is less an act of imposing form and more a negotiation with material flows, tendencies, and constraints. Materials thus operate as co-creators rather than mere inputs, shaping outcomes through their responsiveness and resistance.

Beyond production and fabrication, scholars have also emphasized the experiential and cultural dimensions of Material Agency. Karana et al. argue that material experience is not determined solely by sensory attributes, but is co-constructed through cultural meanings, personal memories, and contextual use (Karana et al., 2015). Materials, therefore, exert agency by evoking associations, eliciting emotional responses, and influencing value judgments. Their impact extends beyond physical interaction to affect perception, interpretation, and ethical positioning.

Despite these advances, much of the existing literature on Material Agency remains focused on design processes, product interaction, or technological systems. Relatively little attention has been paid to how Material Agency operates within exhibition and display contexts. In exhibition environments, materials are often detached from their original sites of production and use, transformed into samples, artifacts, or data points. As a result, their agency is frequently reduced to visual appearance or technical information, reinforcing a representational and object-centered mode of understanding.

Such decontextualized approaches risk neutralizing the relational, temporal, and ecological dimensions of materials. When materials are framed primarily as objects to be explained or evaluated, rather than as actors embedded in broader material ecosystems, their capacity to shape narratives and provoke critical reflection is significantly diminished. This tension highlights the need to reconsider how Exhibition Design can function as a mediating mechanism through which Material Agency is activated rather than suppressed.

Consequently, this research sees Material Agency as an experiential and spatial phenomenon. The key question is not whether materials possess agency, but how exhibition strategies through spatial configuration, narrative structure, and curatorial framing can translate Material Agency into perceptible and meaningful experience. Addressing this gap provides the theoretical foundation for examining Materials Exhibitions as critical design practices, where materials actively participate in shaping knowledge, perception, and ecological awareness.



**Figure 15&16.** Close-up of rusty metal surface with corrosion patterns and texture; High angle view of cracked and weathered concrete pavement texture.

## Exhibition Studies: Theme, Narrative, Contextualization

In exhibition studies, exhibitions are increasingly recognized as cultural practices that actively construct meaning through spatial organization, narrative structures, and sensory engagement. Since the late twentieth century, museum and exhibition theory has shifted from object-centered classification toward an examination of how exhibitions frame interpretation through themes, narratives, and contextual strategies. This shift provides a critical foundation for reconsidering the role of materials within exhibition environments.

Theme functions as the primary interpretive framework through which exhibition meaning is organized. Rather than serving as a simple title, a theme establishes a conceptual orientation that shapes how relationships between exhibited elements are perceived. As Hooper-Greenhill argues, thematic framing determines what becomes visible, relevant, or marginal within an exhibition narrative. In *Materials Exhibitions*, thematic choices are particularly consequential. Themes centered on performance, innovation, or efficiency tend to reinforce materials as technical solutions subject to comparison and optimization. By contrast, themes oriented toward processes, relationships, or ecological consequences open space for materials to be encountered as active participants within broader material systems.

Within the thematic framework, narrative structures further organize how materials unfold across space and time. Exhibition narratives are not linear textual accounts but spatially constructed experiences shaped by movement, sequencing, and bodily orientation. MacLeod conceptualizes exhibition narrative as a form of spatial storytelling, in which visitors assemble meaning through walking, pausing, and revisiting elements. In *Materials Exhibitions*, narrative strategies play a decisive role in whether materials are perceived as static samples or as entities undergoing transformation, degradation, or growth. Linear and progress-oriented narratives often position materials as endpoints or solutions, whereas open-ended, multi-path, or cyclical narratives foreground uncertainty, contingency, and material temporality.

Contextualization has emerged as a crucial strategy in exhibition studies for counteracting decontextualized modes of display. Traditional museum practices frequently isolate objects from their original social, ecological, and temporal contexts in order to render them legible and controllable. As Bennett has observed, such strategies also reinforce institutional authority by centralizing interpretive power. In *Materials Exhibitions*, decontextualization is especially prevalent: materials are often stripped of their geographic origins, labor conditions, ecological impacts, and cultural practices, appearing instead as abstract samples or data points. Contextualization seeks to reintroduce these dimensions by situating materials within networks of production, use, transformation, and disposal.

Recent exhibition scholarship has increasingly framed curatorial practice as a form of critical intervention. Curating is no longer limited to selecting and arranging objects, but is understood as an active engagement with social, political, and environmental questions through Exhibition Design. From this perspective, Materials Exhibitions can function as space that interrogate dominant material narratives. By altering how materials are encountered visually, tactilely, and spatially, exhibition strategies can redistribute interpretive authority and challenge technocratic or market-driven logics.

Despite these developments, much of exhibition studies continues to prioritize artworks, cultural artifacts, or historical narratives, leaving Material Agency under-theorized. Materials are often treated as carriers of curatorial intent rather than as actors capable of influencing narrative trajectories and spatial experience. This gap suggests the need to integrate theories of Material Agency into exhibition studies, shifting attention from exhibitions that merely tell stories about materials to those that allow materials to actively shape meaning.

Accordingly, this research approach's theme, narrative, and contextualization as key design instruments for activating Material Agency within exhibition spaces. Exhibitions are not conceived as final representations of material knowledge, but as relational and open-ended structures through which materials, human bodies, and environments negotiate meaning. This perspective positions Materials Exhibitions as critical design practices capable of reconfiguring how material knowledge is experienced, contested, and imagined.

## Curating and Curatorship

Curating encompasses both the conceptual framing of exhibitions and the practical processes through which exhibitions are realized. Historically rooted in museum practice, the term has expanded across contemporary art, architecture, and cultural institutions to describe a multifaceted role that extends beyond object selection to include interpretation, spatial organization, narrative construction, and public mediation. Adrian George's *The Curator's Handbook* provides a comprehensive account of these operational dimensions, tracing the evolution of curatorial responsibilities from collection management toward audience engagement, institutional negotiation, and strategic exhibition development (George, 2017).

Beyond its practical scope, curating has been theorized as a critical and epistemic activity. Martinon (2013) frames the curatorial as a mode of knowledge production in which exhibitions articulate cultural values and construct interpretive frameworks. Similarly, O'Neill (2012) emphasizes that curatorial practice shapes the cultural logic of exhibitions by producing narrative scripts and spatial conditions that guide how visitors understand objects, artistic production, and historical processes. In this sense, exhibitions do not simply display materials; they configure relationships among objects, ideas, institutions, and audiences, thereby structuring meaning and authority.

Curatorship, understood as the professional enactment of these conceptual positions, involves negotiating institutional mandates, ethical considerations, logistical constraints, and audience expectations. Decisions regarding placement, sequencing, labeling, lighting, and interactive design are not merely technical adjustments. They actively influence perception, emotional engagement, and interpretive possibility. Through these mediations, materials are framed within specific narrative and spatial contexts that condition how their significance is recognized.

Contemporary curatorial scholarship also highlights the expanded responsibilities of curators as researchers, facilitators, and mediators operating within interdisciplinary networks. Collaboration with designers, conservators, educators, and community stakeholders positions curatorship as a relational practice that shapes not only representation but also experience and the reflective dimension of curatorial work, emphasizing ongoing evaluation of audience engagement and ethical representation.

In material-driven exhibitions, curating assumes additional ecological and relational significance. Museums and exhibition practices carry responsibilities toward broader social and environmental systems. When applied to materials, this perspective suggests that curatorship mediates relationships between human perception and material ecologies, situating materials within networks of production, extraction, use, and transformation. Curatorial decisions therefore shape whether materials appear as isolated artifacts or as participants within complex socio-ecological systems.

Bringing together conceptual reflection and professional practice, curating and curatorship function as mediating mechanisms through which Material Agency can be either activated or constrained. Exhibitions are not neutral platforms; they are structured environments in which materials are framed, contextualized, and rendered perceptible. Understanding this dual dimension is essential for analyzing how Materials Exhibitions operate as sites of knowledge production and ecological imagination.

## Design Research and Material-Driven Design

Within contemporary design research, design is increasingly understood not only as a response to predefined problems, but as a mode of inquiry capable of generating knowledge, reframing questions, and engaging with complex systems. Since the late twentieth century, scholars have argued for the epistemic value of design practice itself, particularly through approaches such as Research through Design, which position design activity as a legitimate form of research rather than a purely applied discipline (Frayling, 1993; Cross, 2001). Within this perspective, materials are no longer treated merely as means of execution, but emerge as central elements through which knowledge is produced.

Design research foregrounds uncertainty, exploration, and situated forms of knowing. Rather than aiming for universally applicable solutions, its contributions often lie in articulating new perspectives, questions, and conceptual frameworks through concrete design engagements. Zimmerman, Forlizzi, and Evenson (2007) emphasize that Research through Design generates knowledge by making design processes, decisions, and outcomes explicit, allowing design artifacts to function as vehicles for inquiry. This orientation contrasts with engineering- or science-driven approaches that prioritize optimization, predictability, and standardization, and it opens conceptual space for reconsidering how materials participate in design thinking.

Within this broader shift, Material-Driven Design (MDD) has emerged as a significant methodological framework that repositions materials at the core of the design process. Karana et al. (2015) argue that materials should not be introduced only at the stage of technical selection, but should function as starting points for exploration, capable of shaping design trajectories through their sensory qualities, behaviors, and expressive potentials. In this framework, materials guide design decisions through interaction, experimentation, and interpretation, rather than fulfilling predefined functional requirements.

A key contribution of Material-Driven Design lies in its emphasis on the experiential dimensions of materials. Instead of privileging technical performance or quantitative metrics, MDD foregrounds how materials shape perception, emotion, and interaction through multisensory engagement and temporal change. This focus aligns with broader discussions in materials experience research, which stress that material meaning emerges through Embodied interaction, contextual use, and cultural interpretation rather than through isolated material properties (Karana, Pedgley, & Rognoli, 2015). Materials thus influence design outcomes not only through what they do physically, but through how they are perceived, felt, and interpreted.

At the same time, design research has increasingly recognized that materials are embedded within social, cultural, and ecological systems. Ingold's critique of substance-based conceptions of

materiality reframes materials as ongoing processes that continuously emerge through interactions with climate, tools, bodies, and practices (Ingold, 2011). From this perspective, materials cannot be fully understood as stable resources; instead, they are shaped by—and actively shape—the environments in which they circulate. This shift encourages design research to move beyond efficiency-driven sustainability models toward relational, ethical, and experiential considerations of material use.

Despite these advances, Material-Driven Design remains largely focused on studio-based experimentation, prototyping, and product-scale applications. The question of how material experiences are mediated for broader publics has received comparatively limited attention. In many cases, materials are assumed to communicate their qualities through direct contact alone, overlooking the ways in which spatial arrangement, narrative framing, and contextual sequencing influence perception and interpretation. This limitation constrains the applicability of MDD within exhibition and spatial contexts, where material encounters are necessarily structured through curatorial and spatial decisions.

Integrating design research and Material-Driven Design into the study of Materials Exhibitions therefore requires a shift in scale and mediation. In exhibition environments, design does not address a single user, but orchestrates encounters among materials, bodies, spaces, and narratives. Within such contexts, Material-Driven Design expands into a curatorial design practice, where materials contribute to shared processes of knowledge production rather than solely informing design decisions. From this perspective, Materials Exhibitions can be understood as a specific form of design research: a spatial, experiential, and situated inquiry into how materials participate in shaping perception, interpretation, and ecological imagination.

## 2.3 EMERGING DESIGN PERSPECTIVES

The inclusion of embodiment, more-than-human perspectives, and Post-Anthropocene thought in this chapter arises from an observed transformation in contemporary Materials Exhibitions. Over the past decade, material-focused exhibitions have increasingly shifted from object-based display and information-driven categorization toward experiential, ecological, and process-oriented modes of engagement. Materials are no longer presented solely as samples, data points, or technical solutions; they are staged as living systems, temporal processes, and relational actors embedded within broader environmental and social contexts.

This shift does not occur independently of theoretical developments. Across design research, environmental humanities, anthropology, and spatial theory, recent scholarship has questioned human-centered epistemologies and instrumental understandings of matter. Advances in embodied cognition research have foregrounded the role of bodily movement and sensory engagement in knowledge production. Human–Material Interaction studies have emphasized that materials co-shape perception through tactile, spatial, and affective encounter. At the same time, more-than-human and new materialist approaches have challenged the assumption that agency resides exclusively in human intention, proposing instead that materials, environments, and infrastructures participate in shaping experience and action. Post-Anthropocene debates have further complicated temporal and ontological boundaries, situating materials within planetary processes that exceed human scale and control.

This research engages these theoretical currents because they provide conceptual tools for interpreting a discernible tendency within recent Materials Exhibitions: a movement toward embodied immersion, ecological awareness, and distributed agency. Rather than treating exhibitions merely as representational platforms for material knowledge, contemporary practices increasingly operate as environments where understanding emerges through movement, duration, and encounter. Exhibition space becomes a mediating condition in which material behaviors, environmental processes, and human perception intersect.

The following sections therefore introduce embodiment, more-than-human relationality, and Post-Anthropocene perspectives as analytical lenses for examining this transformation. These perspectives illuminate how Materials Exhibitions are evolving from spaces of display toward spatial-ecological environments that organize knowledge through bodily experience, relational entanglement, and material temporality. In doing so, they establish the theoretical groundwork for analyzing the case studies that follow, where these tendencies become spatially and curatorially operative.

This section is included not as a complete theoretical survey, but as an indication of emerging directions that increasingly influence material-focused exhibitions.

### **Embodiment and Spatial Experience**

Embodiment provides a critical theoretical framework for understanding how perception, cognition, and meaning emerge through embodied experience. Across phenomenology, cognitive science, and spatial theory, Embodied approaches argue that knowing is grounded in the body's situated engagement with the world. Perception develops through movement, orientation, balance, and sensory participation, and is inseparable from the spatial and material conditions in which it unfolds (Merleau-Ponty, 1962; Varela, Thompson, & Rosch, 1991).

Phenomenological philosophy offers a foundational articulation of this position. For Merleau-Ponty, the body is not an object located within space, but the primary means through which space becomes perceptible. Spatial experience is constituted through bodily action: reaching, walking, turning, touching, and pausing. Vision operates in continuity with movement and tactility, forming an integrated perceptual field shaped by bodily orientation and intentionality (Merleau-Ponty, 1962). Space, from this perspective, is lived and relational, continuously produced through Embodied engagement rather than apprehended as an abstract geometric system.

This understanding has significant implications for material experience. Material properties such as resistance, weight, temperature, elasticity, and surface texture are disclosed through bodily interaction rather than detached observation. Touch, effort, balance, and bodily adjustment play a central role in how materials are perceived and interpreted. Ingold emphasizes that materials are encountered through processes of handling, movement, and responsiveness, suggesting that material meaning arises through participation rather than representation (Ingold, 2011). Material experience is therefore inseparable from Embodied action.

Spatial configuration functions as a key mediator within this process. Architectural and spatial theory demonstrates that scale, enclosure, thresholds, circulation, and rhythm structure bodily movement and guide perception. These spatial conditions influence how bodies approach materials, how long they dwell, and which sensory modalities become foregrounded. In exhibition environments, spatial organization actively shapes the sequence and quality of material encounters, guiding bodily orientation and movement patterns that condition perception and understanding.

The relationship between embodiment, movement, and spatial perception is further elaborated through Rudolf Laban's movement theory. Laban conceptualizes movement as a structured interaction between body, effort, space, and shape, proposing that spatial meaning is generated

through dynamic bodily action rather than static form (Laban, 1988). His concept of the kinesphere the spatial field defined by the body's reach and movement highlights how perception is organized around bodily range, directionality, and orientation.

Laban's framework offers a valuable lens for analyzing exhibition experience. Materials are encountered within choreographed paths, gestures, and postures that unfold as visitors move through space. Perception develops through sequences of approach, proximity, withdrawal, and reorientation, situating material experience within a continuous flow of bodily movement. From this perspective, Exhibition Design can be understood as a form of spatial choreography that structures how materials are encountered through Embodied action.

Embodiment also introduces a temporal dimension to material experience. Bodily movement through space unfolds over time, making perception cumulative and processual. Material behaviors such as responsiveness, transformation, decay, or fatigue often require duration to become perceptible. Spatial sequencing, repetition, and rhythm allow time to operate as a perceptual medium, enabling visitors to experience material change rather than merely observe static conditions.

Despite the relevance of embodiment to Materials Exhibitions, spatial design is often treated as a secondary concern, subordinate to visual clarity or informational display. Such approaches tend to privilege detached viewing and limit the experiential depth of material encounters. An Embodied perspective foregrounds the role of bodily movement and spatial mediation in shaping how materials are known, emphasizing that material understanding emerges through lived, situated experience.

Integrating embodiment and spatial experience into the study of Materials Exhibitions therefore establishes spatial design as a methodological component of knowledge production. Through bodily engagement, movement, and temporality, exhibitions organize how materials are perceived, interpreted, and remembered. This framework provides a foundation for analyzing curatorial and spatial strategies as active agents in shaping Embodied material knowledge.

## New Frontiers

In recent years, Materials Exhibitions have begun engaging more directly with ecological entanglements, multispecies relations, and non-human agencies as operative concerns in curatorial and spatial design. This emerging orientation aligns with a broader “more-than-human” turn in design research, where human and non-human actors are understood as co-constitutive of environmental experience and practice. Rather than positioning materials as passive resources or representational artefacts, this shift foregrounds relational ontologies in which materials, organisms, infrastructures, and environments participate in dynamic processes of becoming.

The theoretical foundations of this orientation can be traced to posthuman and relational thought. Donna Haraway (2016) proposes “making kin” as an ethical practice of multispecies coexistence, emphasizing interdependence across human and non-human worlds. Bruno Latour (2005) challenges modernist separations between nature and society, arguing that agency emerges within heterogeneous networks of human and non-human actants. Similarly, Karen Barad (2003) introduces the concept of “intra-action,” suggesting that entities do not pre-exist relations but materialize through them. These perspectives reframe materials not as inert substrates but as participants in ecological and epistemic assemblages.

Within design research, this theoretical shift has been articulated through discussions of more-than-human design. Recent work by Elisa Giaccardi and Iohanna Nicenboim (2025) examines how design practices can decenter the human subject and attend to multispecies and environmental relations. In their contributions to the special issue on more-than-human design in *Human-Computer Interaction*, they argue for methodological and epistemic shifts that extend beyond user-centered paradigms toward relational, ecological engagements. These approaches emphasize situated practice, embodied encounter, and infrastructural awareness as ways of cultivating sensitivity to ecological interdependencies.

Such developments resonate with contemporary exhibition practice. Large-scale exhibitions such as *More than Human* demonstrate institutional shifts in how design, art, and ecology intersect by foregrounding species interdependence, environmental processes, and planetary ethics as central curatorial themes. Here, exhibition design functions as a medium for staging ecological relationships rather than merely displaying objects.

The implications for Materials Exhibitions are significant. A more-than-human orientation invites exhibition design to foreground material behaviors, ecological interdependencies, and multispecies relations in spatial and sensory experience. Spatial sequencing, atmospheric modulation, and environmental conditions can operate as curatorial instruments that render material processes perceptible across human and non-human scales. This orientation also supports ethical practices

attentive to ecosystems and material flows, positioning exhibition design as a site of ecological mediation.

By situating more-than-human perspectives as a new frontier, Materials Exhibitions can be understood as participating in an evolving theoretical landscape in which ecological awareness, relationality, and multispecies entanglement become curatorial and spatial imperatives.

### **Post-Anthropocene**

The concept of the Post-Anthropocene has emerged in contemporary theory as a critical framework for reconsidering human–material relations following the dominance of Anthropocene discourse. While the Anthropocene foregrounds humanity as a geological agent shaping planetary systems (Crutzen, 2002; Steffen et al., 2011), the Post-Anthropocene signals a conceptual shift away from human exceptionalism toward a more distributed understanding of agency, material processes, and temporality (Clark, 2015; Yusoff, 2018). Rather than marking a chronological “after,” the Post-Anthropocene functions as an epistemological repositioning that questions how materials are framed, interpreted, and understood within human-centered narratives.

Within this perspective, materials are increasingly theorized as active participants in complex material systems rather than passive substrates shaped solely by design intent. Scholars in material culture studies and new materialism have emphasized that materials operate across extended temporal and spatial scales, often exceeding the horizon of human perception and control (Bennett, 2010; DeLanda, 2016). Geological strata, industrial residues, synthetic polymers, and organic matter embody durations that challenge anthropocentric timescales, foregrounding processes such as accumulation, persistence, and transformation. Material properties thus gain significance through their behaviors over time rather than through their immediate functional or representational roles.

Post-Anthropocene discourse also complicates the distinction between natural and artificial materials. As scholars have noted, materials such as plastics, composites, and chemically engineered substances resist clear categorization, occupying hybrid ontological positions shaped by both ecological and industrial processes (Latour, 1993; Morton, 2013). These materials circulate through infrastructures, ecosystems, and bodies, rendering conventional material taxonomies insufficient. Attention shifts from material origin toward material trajectory—how substances move, transform, and persist within planetary systems.

In relation to Materials Exhibitions, the Post-Anthropocene offers a conceptual lens for examining how materials register planetary processes without relying on explicit moral or pedagogical framing. Exhibited materials can be understood as physical traces of extraction, production, circulation, and

decay, situating exhibition spaces within broader material ecologies (Parikka, 2015). Through their physical presence, scale, and temporal behavior, materials can communicate deep time, environmental embeddedness, and systemic interdependence, allowing visitors to encounter planetary processes through material encounters rather than discursive explanation.

Importantly, Post-Anthropocene thinking does not exclude the human subject but repositions human perception within entangled material systems. Human bodies, sensory capacities, and interpretive frameworks remain operative, yet they are understood as one element within assemblages shaped by non-human forces, infrastructures, and material agencies (Haraway, 2016). This repositioning enables an analytical approach in which human experience is contextualized rather than privileged, allowing materials to condition spatial atmospheres and experiential meanings beyond intentional design control.

As a theoretical framework, the Post-Anthropocene contributes to material studies by extending analysis beyond utility, symbolism, or ethical responsibility. It foregrounds material duration, hybridity, and systemic entanglement, providing a basis for understanding Materials Exhibitions as sites where planetary material relations become perceptible and conceptually legible through spatial and material configurations.

## 2.4 RESEARCH GAP AND POSITIONING

The preceding historical and theoretical mapping functions as a structured foundation for reframing Materials Exhibitions as a distinct design practice. Each body of literature contributes a specific analytical lens that informs this thesis and clarifies its research orientation. The genealogies of material display demonstrate that Materials Exhibitions operate as mechanisms of knowledge production, authority construction, and ideological framing. From Cabinets of Curiosity to World Expositions, material display has consistently shaped how materials are perceived, classified, and valued. This historical awareness establishes exhibition as an epistemic apparatus that actively structures material meaning.

Material culture and Material Agency theories reposition materials as relational participants within social and ecological systems. Exhibition studies clarify how theme, narrative, and contextualization organize visitor experience. Design research and Material-Driven Design foreground experiential engagement with materials. Emerging perspectives on embodiment, more-than-human relationality, and Post-Anthropocene thought expand the ontological and ecological horizon of material understanding.

Taken together, these bodies of scholarship provide conceptual depth, yet several structural gaps remain:

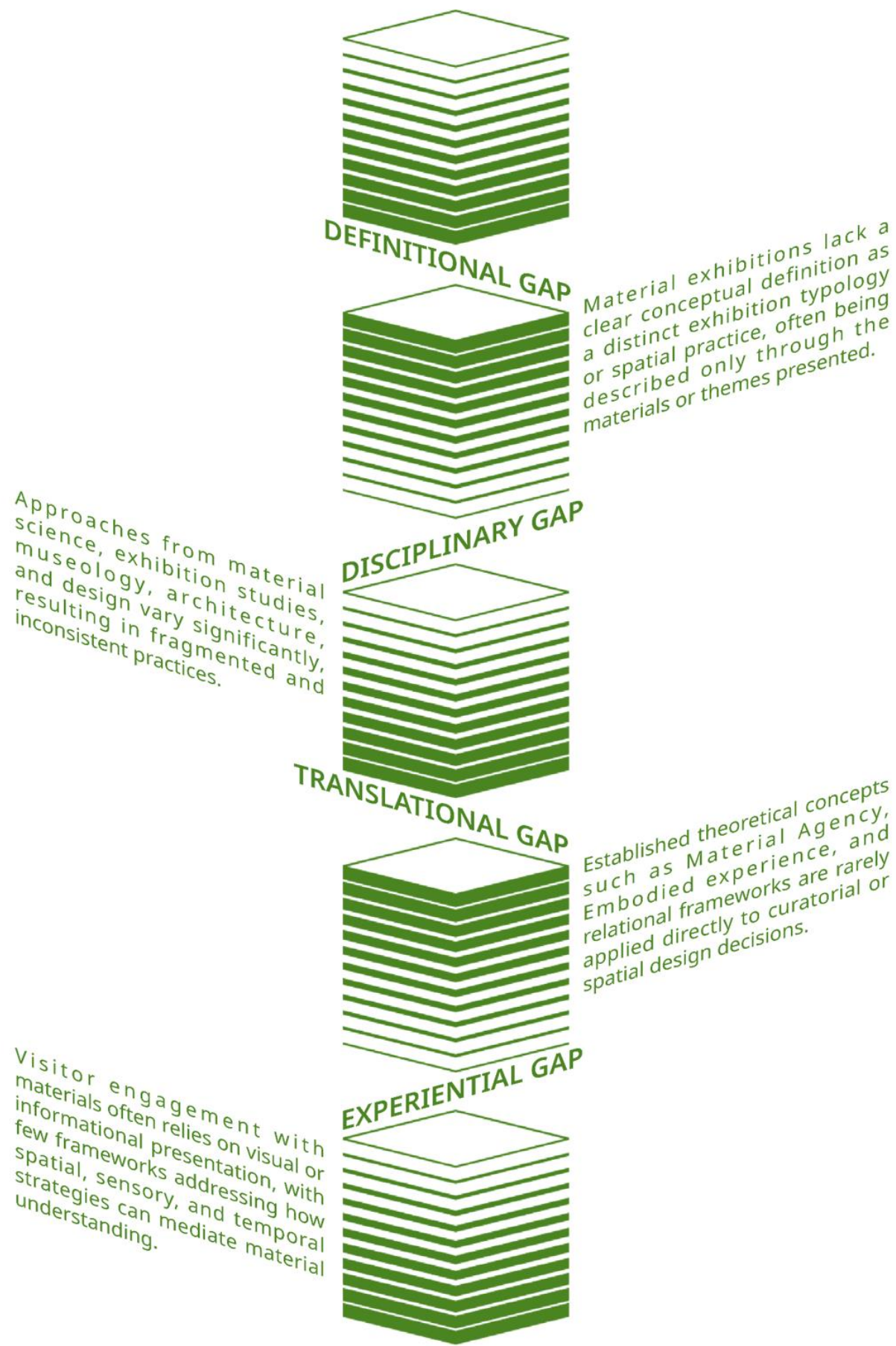
**Definitional Gap:** Material exhibitions lack a clear conceptual definition as a distinct exhibition typology or spatial practice, often being described only through the materials or themes presented.

**Disciplinary Gap:** Approaches from material science, exhibition studies, museology, architecture, and design vary significantly, resulting in fragmented and inconsistent practices.

**Translational Gap:** Established theoretical concepts such as Material Agency, Embodied experience, and relational frameworks are rarely applied directly to curatorial or spatial design decisions.

**Experiential Gap:** Visitor engagement with materials often relies on visual or informational presentation, with few frameworks addressing how spatial, sensory, and temporal strategies can mediate material understanding.

This thesis addresses these interrelated gaps by positioning Materials Exhibitions as a form of design research that operates through curatorial strategy, spatial configuration, and narrative structuring. It proposes an integrated strategic framework that translates material theory into spatial and experiential instruments. Through this integration, Materials Exhibitions are articulated as environments where materials, space, and audiences participate in the co-production of embodied and relational knowledge.



**Graphic 3.** Research Gaps diagram

# 3

## METHODOLOGY

## **3 METHODOLOGY**

3.1 OVERVIEW OF RESEARCH METHODS

3.2 ANALYTICAL DIMENSIONS

3.3 CASE SELECTION AND DATA COLLECTION METHODS

3.4 EMPIRICAL DATA OVERVIEW AND DOCUMENTATION

3.4.1 PRACTITIONER DIALOGUE DATA SHEETS

3.4.2 ON-SITE OBSERVATION DATA SHEETS

3.4.3 CASE STUDY DATA SHEETS

## 3.1 OVERVIEW OF RESEARCH METHODS

This research adopts a qualitative, reflective methodology grounded in case analysis, practitioner dialogue, and on-site observation. Grounded in a process-based investigation of Materials Exhibitions as spatial, cultural, and epistemic practices. Given that Materials Exhibitions operate through embodied experience, narrative structuring, and spatial mediation, quantitative measurement alone cannot adequately capture their complexity. A qualitative approach allows for in-depth interpretation of curatorial intention, material behavior, spatial configuration, and visitor engagement.

The methodology is also reflective, in the sense articulated within design research traditions. The research process unfolds through iterative analysis, critical comparison, and conceptual reframing. Rather than applying a fixed evaluative model, the study develops its analytical dimensions in dialogue with theory, field observation, and case interpretation. The research path therefore becomes part of the knowledge production process.

### Research Design and Process

The methodological structure integrates four interrelated components:

#### 1. Literature Review

Establishes the historical and theoretical foundation of Materials Exhibitions, identifying conceptual debates and research gaps. This stage informs the analytical lenses applied in later case analysis.

#### 2. Practitioner Dialogue

Semi-structured conversation with curator, designers, and material researchers provide insight into curatorial strategies, spatial decision-making, and intended impacts. These dialogues help contextualize exhibition practices within professional realities.

#### 3. Site Visits and Spatial Observation

Direct visits to selected exhibitions enable embodied observation of spatial layout, atmospheric conditions, material behavior, visitor movement, and sensory engagement. Field notes, sketches, and photographic documentation support reflective analysis.

#### 4. Comparative Case Study Analysis

Case studies function as the core analytical units of the research. Each case is examined through a consistent set of analytical lenses derived from the theoretical framework:

- Curatorial theme and narrative structure
- Spatial configuration and movement patterns
- Material mediation and agency
- Sensory and embodied experience

These components are not sequential but iterative. Insights from case studies refine theoretical interpretation, while theoretical framing guides observational focus. The research process therefore operates as a cyclical movement between theory, field engagement, and analytical synthesis.

### **Methodological Positioning**

This study does not aim to measure audience response statistically or evaluate exhibition success through quantitative indicators. Instead, it seeks to interpret how Materials Exhibitions structure perception, activate material agency, and mediate ecological imagination through spatial and curatorial design. The methodology is interpretive, relational, and grounded in close reading of spatial practice.

## 3.2 ANALYTICAL DIMENSIONS

To ensure systematic and comparable analysis across case studies, this research develops a structured analytical framework composed of 3 interconnected dimensions. These dimensions are derived from exhibition studies, material theory, spatial design research, and Embodied experience theory. The framework conceptualizes Materials Exhibitions as dynamic systems involving actors, narratives, spaces, materials, and values.

The analytical dimensions include:

**Curator** – curatorial position, disciplinary background, and collaborative approach

**Exhibition Designer** – spatial authorship and translation of curatorial intent

**Target Audience** – intended publics and modes of engagement

**Exhibition Typology** – e.g. research-based, educational, experimental, or hybrid formats...

**Exhibition Context** – e.g. institutional, cultural, geographical, and temporal conditions...

**Theme** – e.g. central conceptual and ethical focus...

**Narrative** – narrative structure, sequencing, and storytelling logic

**Emotion Mapping** – emotional progression and affective atmosphere

**Space Typology / Zoning** – spatial organization and programmatic differentiation

**Circulation** – visitor movement and temporal rhythm

**Sensory** – visual, tactile, auditory, olfactory, and thermal conditions

**Embodiment** – bodily engagement and spatial perception

**Interaction & Experience** – modes of participation and co-creation

**Programs** – talks, workshops, performances, or research dissemination

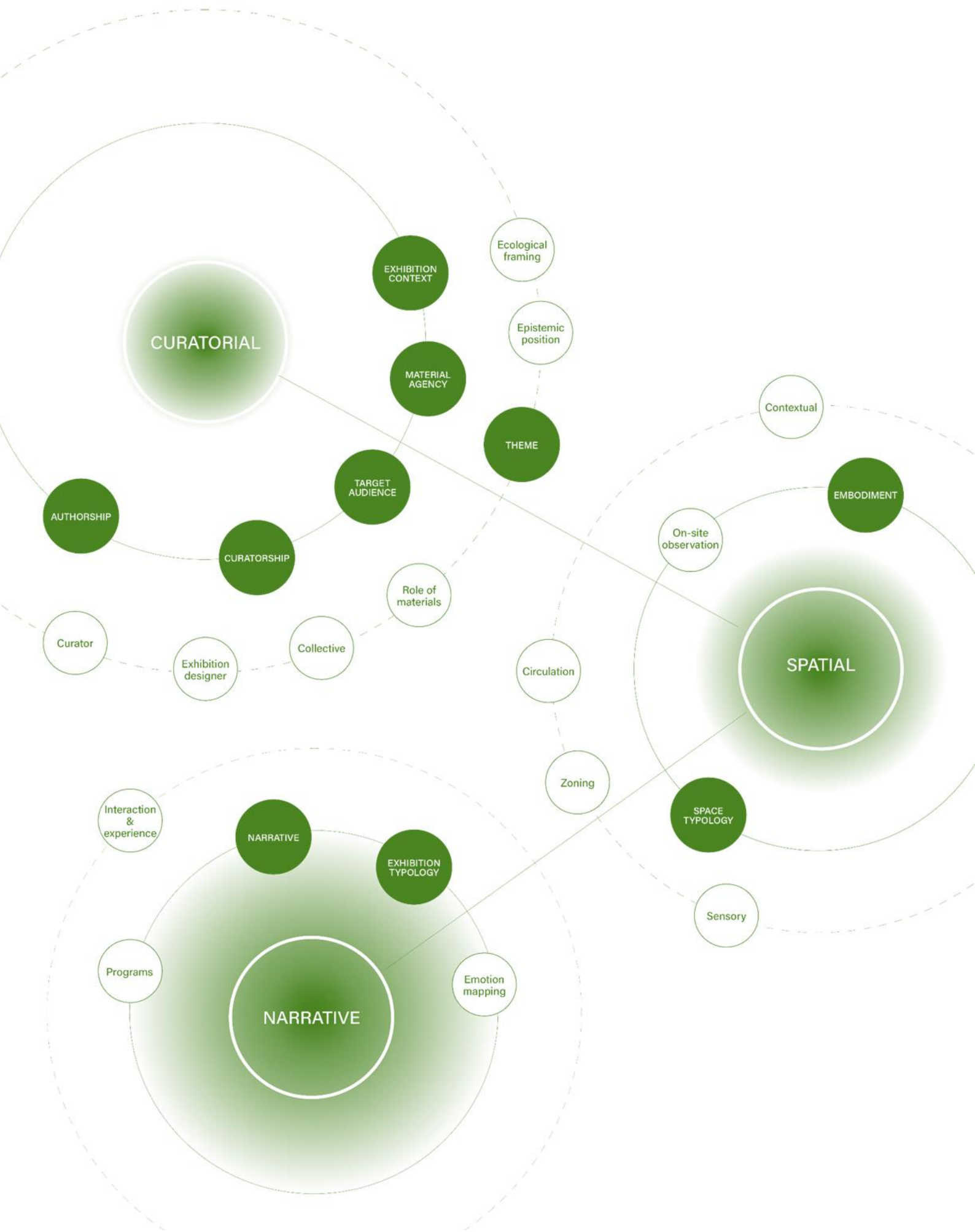
**Role & Agency of Materials** – e.g. materials as objects, processes, or collaborators...

**Contextualization** – social, historical, and cultural framing

**Ecological Framing** – ecological narratives, systems thinking, and sustainability positioning

**Epistemic Position** – knowledge production, ethical stance, and value transmission

This analytical framework functions both as a research tool and as a design lens, enabling insights to be translated into actionable exhibition strategies.



**Graphic 4.** Analytical Dimensions

### 3.3 CASE SELECTION AND DATA COLLECTION METHODS

Case selection was informed by three primary criteria:

1. A clear positioning of materials as central subjects of exhibition practice;
2. The articulation of materials through thematic, narrative, or spatial frameworks that extend beyond purely technical or aesthetic display;
3. Diversity in geographical context, institutional framework, and curatorial approach.

**Practitioner Dialogue** were conducted to access practitioner perspectives on material-driven exhibition practices and to understand decision-making processes behind material selection, knowledge dissemination, and exhibition programming. A semi-structured Practitioner Dialogue was carried out with Junyi Lu from Rong Mini Library, a material-driven design and research platform. This Practitioner Dialogue provided insight into how Materials Exhibitions can function as spatialized research outputs and educational environments within contemporary design practice.

**On-site visits** were undertaken to observe how Materials Exhibitions operate in real spatial conditions. These visits focused on spatial layout, circulation, material behavior, sensory engagement, and visitor interaction. These site visits generated first-hand experiential data that informed the analysis of embodiment, narrative sequencing, and material presence across different exhibition formats.

**Case Collection** constitute the core analytical component of this research. Case studies were selected for their explicit articulation of material-driven narratives and their use of Exhibition Design as a critical and research-oriented practice. Each case was systematically analyzed using the proposed analytical dimensions, enabling cross-case comparison and the extraction of curatorial, spatial, and material strategies.

Data collection across Practitioner Dialogue, site visits, and case studies includes exhibition documentation, curatorial statements, design drawings, photographs, published texts, Practitioner Dialogue transcripts, and on-site observation notes. Field notes, analytical diagrams, and comparative matrices were employed to synthesize spatial, material, and experiential data across different sources.

## 3.4 EMPIRICAL DATA OVERVIEW AND DOCUMENTATION

### PRACTITIONER DIALOGUE

This research was enriched through an in-depth practitioner dialogue with **Jingyi Lu**, Partner of PINWU, Research Director of Rong Design Library and curator of the *Re:Materialize* Materials Aesthetics Trend Exhibition.

Lu holds a Master's degree in Fashion Design from Politecnico di Milano. Having lived and worked between Italy and China for many years, her practice spans fashion design, textile design, jewelry design, artistic installations, brand strategy, and design research. She leads research initiatives focused on the application of craft-based materials across diverse design disciplines and directs material research programs at Rong Design Library, with particular emphasis on the contemporary transformation of craft materials.

The dialogue contributed to situating the theoretical reflections of this thesis within contemporary professional practice. Exchanges focused on decision-making processes behind material selection, exhibition structuring, knowledge mediation, and the positioning of Materials Exhibitions as spatialized research outputs and educational environments.

A semi-structured interview was conducted to consolidate and document key themes emerging from these discussions. The conversation supported the refinement of conceptual propositions developed through the literature review and theoretical framework, offering grounded insights from current design practice.

The dialogue functions as expert consultation, reinforcing the research arguments through situated professional experience. Prior to the recorded interview, the participant was informed about the aims of the research and consented to the use of the material for academic purposes.

<b>Interviewee</b>	Jingyi Lu
<b>Role</b>	Co-founder / Material Researcher, PINWU Design Studio
<b>Interview format</b>	Semi-structured interview
<b>Date / Location</b>	April 2025, Milan
<b>Duration</b>	Approximately 90 minutes
<b>Interview Context</b>	<p>The interview was conducted as part of the research's empirical investigation into practitioner-led Materials Exhibitions. Rong Design Library was selected due to its long-term engagement with Material Research, craft practices, and exhibition-based knowledge production in China. The discussion focused on how Materials Exhibitions can function as platforms for education, cultural transmission, and design strategy rather than as static displays of material samples.</p>
<b>Core topics</b>	<ol style="list-style-type: none"> <li>1. The founding motivation of Rong Design Library and its response to gaps in material education and design practice</li> <li>2. The role of craft knowledge and traditional materials in contemporary design contexts</li> <li>3. Challenges in translating intangible craft processes into legible exhibition narratives</li> <li>4. Exhibition as a spatialized output of Material Research</li> <li>5. Material-driven design logic and early-stage material intervention in architectural and spatial projects</li> <li>6. Collaboration models between designers, manufacturers, craftspeople, and institutions</li> </ol>
<b>Data Used in Analysis</b>	<ol style="list-style-type: none"> <li>1. Transcribed interview excerpts</li> <li>2. Thematic coding of recurring concepts such as Material Agency, Embodied learning, and process-oriented exhibition</li> <li>3. Cross-referencing with on-site observations and case studies</li> </ol>
<b>Analytical Relevance</b>	<p>This interview provides critical insight into how Materials Exhibitions can operate as research-driven and educational environments, emphasizing materials as active cultural agents rather than passive resources. The practitioner perspective informs the analytical interpretation of curatorial strategies, spatial organization, and Embodied interaction discussed in Chapter 4, particularly in relation to material literacy, Material Agency, and design-led knowledge production.</p>

# ON-SITE OBSERVATION DATA SHEETS

## A. Basic Exhibition Information

**Exhibition Title**  
**Exhibition Type**  
**Location**  
**Year / Duration**  
**Institution / Client**

**Built Area**  
**Visit Duration**

## B. Analytical Dimensions

**Audience & Participation Mode**  
**Theme & Narrative Structure**  
**Emotion Mapping**  
**Space Typology**  
**Zoning & Circulation**  
**Sensory Experience**  
**Embodiment**

**Interaction**  
**Programs**  
**Role & Agency of Materials**  
**Contextualization**  
**On-site Observation**  
**Insights & Design Strategies**



**Figure 17.** Material Bar, Slovenia Pavilion, Milan Design Week. Photo: Marijo Zupanov.

# Material Bar

## A. Basic Exhibition Information

### Exhibition Title

Material Bar

### Exhibition Type

Participatory Exhibition; Workshop-based Exhibition; Live / Performative Exhibition

### Location

Alcova, Milan Design Week, Villa Bagatti Valsecchi, Milan, Italy

### Year / Duration

During Milan Design Week (7-day program)

### Institution / Client

The Centre for Creativity (CzK), together with the Museum of Architecture and Design (MAO), Ljubljana

### Built Area

Not explicitly defined; open-plan installation within Alcova exhibition context

### Visit Duration

Extended and variable; visitors stayed for long periods due to ongoing workshops and live activities

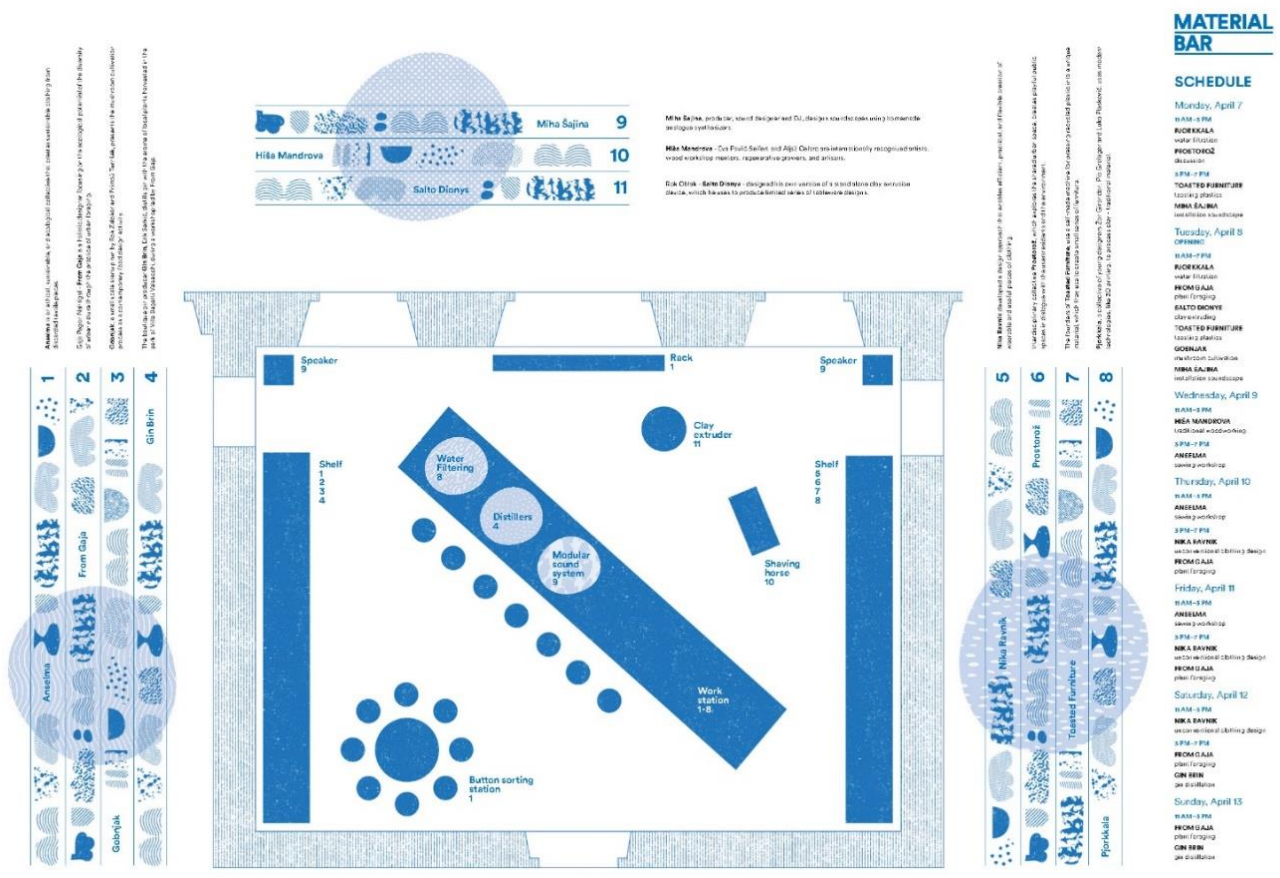


Figure 18. Material Bar, Slovenia Pavilion Plan, Milan Design Week 2025. Photo: Marijo Zupanov.

## B. Analytical Dimensions

### **Audience & Participation Mode**

The exhibition addressed designers and Material Researchers, independent studios, experimental practitioners, craftspeople, makers, and DIY communities, as well as participation-oriented general visitors. Audience engagement was highly active and participatory, with visitors of different ages engaging directly with materials, tools, and practitioners in real time.

### **Theme & Narrative Structure**

The exhibition centered on the concept of the “Materialist,” defined as:

1. a person who critically reflects on the use and reuse of materials and material resources;
2. a person who believes materials significantly shape the planet and everyday life.

The narrative unfolded through the Material Bar as a social and participatory stage. Visitors moved from observing materials, to touching them, to collaborating with others, and finally to collectively imagining future material practices. The exhibition thus transformed from a display into a living, evolving social process.

### **Emotion Mapping**

The participatory and experimental workshop environment generated emotions of openness, curiosity, surprise, and collective creativity. Emotional intensity increased through bodily engagement, hands-on making, and social interaction, reinforcing a sense of freedom,

experimentation, and shared discovery.

### **Space Typology**

An open, workshop-based spatial typology organized around a central bar functioning as both working counter and social condenser. The space acted simultaneously as exhibition, laboratory, and gathering place.

### **Zoning & Circulation**

The layout was fluid and open-plan, with three freely accessible entrances shaped by Alcova’s main circulation routes.

The perimeter was defined by a colorful vertical mosaic of materials and products, while the center hosted events around a double-sided bar—one side for observation, the other for collaboration.

### **Sensory Experience**

Material Bar created a multi-sensory environment where sight, sound, touch, and even taste were integral to the experience. Sensory perception was constantly activated through handling materials, listening to live soundscapes, smelling botanicals, and engaging in making processes.

### **Embodiment**

Bodily engagement was central: visitors were encouraged to stand, move, touch, manipulate materials, and work alongside practitioners. The emotional and narrative experience was inseparable from physical participation.

## **Interaction**

Interaction occurred through direct collaboration between visitors and practitioners, shared use of tools and materials, and informal conversations around the bar.

The exhibition prioritized process over finished objects, foregrounding live practices.

## **Programs**

A seven-day program included plant foraging, clay extrusion, mushroom cultivation, gin distillation, water filtration, sewing and textile workshops, experimental fashion practices, traditional woodworking, and recycled plastic processing.

Design was framed as a holistic activity involving materials, environments, relationships, and thinking processes.

## **Role & Agency of Materials**

Materials such as fungi, clay, recycled plastics, botanicals, textiles, and water were presented in raw, natural, waste, undiscovered, or semi-processed states.

They were not passive exhibits but active agents that revealed their properties—viscosity, texture, composition—through use and transformation during workshops.

## **Contextualization**

The exhibition emphasized locality, sustainability, community-building, and long-term ecological and social impact.

The Slovenian curatorial approach framed practitioners as part of a community, and curators positioned themselves as co-creators in building a progressive, responsible design culture.

## **On-site Observation**

On site, participation levels were extremely high. Visitors of different ages were curious, attentive, and deeply engaged with processes unfolding in real time.

Compared to other exhibitions in the same venue, Material Bar stood out for replacing object-centered display with practice-centered participation, creating a more egalitarian, autonomous, and lively exhibition environment.

## **Insights & Design Strategies**

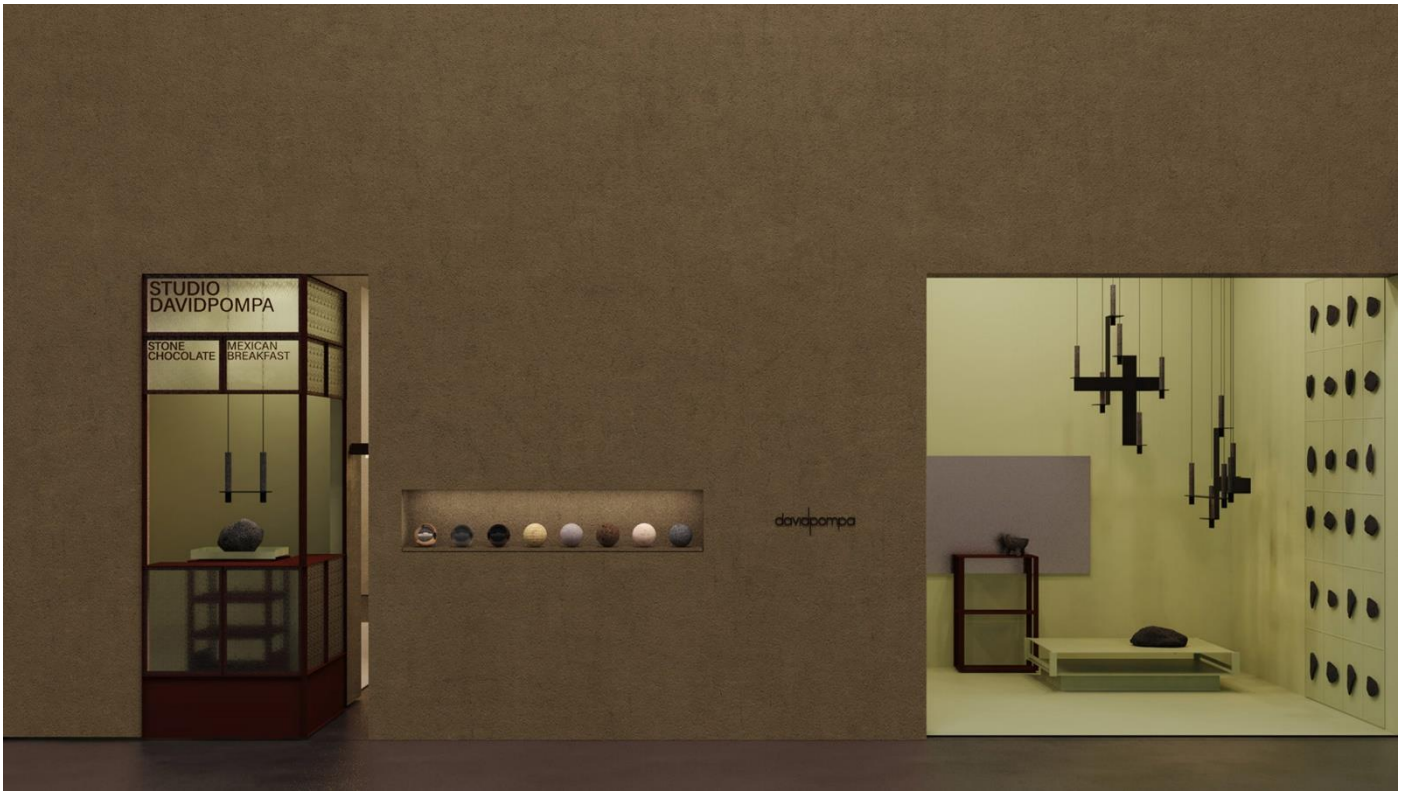
Rather than exhibiting finished objects, Material Bar demonstrated the power of exhibiting practices, processes, and people.

By foregrounding makers, tools, materials, and collective action, the exhibition proposed a participatory spatial model where Material Agency, social interaction, and ethical design values converge.

This strategy highlights how exhibition spaces can function as living ecosystems that actively shape collective meaning-making and responsible design futures.



**Figure 19.** *Taste of Materials* by Studio davidpompa. Milan Design Week 2025.



**Figure 20.** *Taste of Materials* by Studio davidpompa. Milan Design Week 2025.

# Studio Davidpompa

## A. Basic Exhibition Information

### **Exhibition Title:**

Materia México – The Taste of Materials

### **Exhibition Type:**

Self-curated exhibition; hybrid of brand exhibition, Material Research exhibition, and craft knowledge exhibition.

### **Location:**

Milan Design Week (Dropcity / Alcova-related context); conceptually rooted in Mexico City.

### **Year / Duration:**

During Milan Design Week (temporary exhibition)

### **Institution / Client:**

Studio Davidpompa (self-initiated and self-curated)

### **Built Area:**

Medium-scale pavilion with a sequence of micro-spatial environments.

## B. Analytical Dimensions

### **Audience & Participation Mode:**

The exhibition addressed international designers, architects, curators, galleries, collectors, and culturally engaged audiences interested in craft, materiality, and sustainability.

It also attracted culturally curious visitors seeking sensory, participatory, and process-based experiences rather than object-centered viewing. Participation ranged from tasting and observing to hands-on making.

### **Theme & Narrative Structure:**

The core theme positions materials as cultural carriers, temporal archives, and living heritage.

The narrative unfolds sequentially from nourishment to craft, archive, and collective making. Visitors begin with food rituals, move through material memory and documentation, and culminate in active participation at the Material Bar.

### **Emotion Mapping:**

At the entrance, warmth, intimacy, and curiosity are generated through food and ritual.

The middle zones foster slowness, reflection, and contemplation through archival displays.

The deepest space—the Material Bar—activates participation, dialogue, and collective energy.

### **Space Typology:**

The pavilion is composed of a sequence of

micro-spaces: a transparent food room (ritual space), a window gallery (contemplative display), an archival corridor (memory space), and a Material Bar (active workshop).

### **Zoning & Circulation:**

The spatial organization is linear yet immersive. The left side hosts sensory nourishment (Mexican breakfast and stone chocolate), the right front presents a visual-material zone through a long window displaying spherical Mexican materials, and the central axis forms an archival spine leading to the Material Bar at the deepest point.

### **Sensory Experience:**

The exhibition constructs a total sensory field through the smell of coffee and chocolate, tactile engagement with clay, visual glow from the long window, and ambient workshop sounds. Sensory perception becomes a primary mode of understanding materials.

### **Embodiment:**

Knowledge is acquired through bodily actions such as eating, touching, observing hands at work, and eventually participating in making. Learning is Embodied rather than purely cognitive.

### **Interaction:**

Interaction occurs through tasting rituals, visual

engagement with materials, slow movement along archival walls, and hands-on making at the Material Bar. Visitors shift from observers to participants.

**Programs:**

Key programs include AFFOGATO BARRO, Mexican Breakfast, Stone Chocolate, and The Taste of Materials film series. These activities merge culinary practices, material rituals, and cultural storytelling, transforming visitors into active contributors.

**Role & Agency of Materials:**

Materials act as cultural protagonists. Food

functions as material at the entrance, spherical objects operate as symbolic artifacts, archival walls treat materials as memory, and the Material Bar frames them as living practices.

**Contextualization:**

Mexican traditions are contextualized through lived rituals: tasting, pouring, eating rather than abstract explanation.

The archive anchors these practices within territorial and cultural memory, while ecological considerations emphasize local sourcing, sustainability, and mindful consumption.



**Figure 21.** *Holy See Pavilion / Opera Aperta*, Venice Biennale 2025. Photo by José Hevia.



**Figure 22.** *Holy See Pavilion / Opera Aperta*, Venice Biennale 2025. Photo by José Hevia.

# Holy See Pavilion /

## *Opera Aperta*

### A. Basic Exhibition Information

**Exhibition Title:**

Holy See Pavilion – *Opera Aperta*

**Exhibition Type:**

Practice-based exhibition; process exhibition; heritage and conservation exhibition.

**Location:**

Santa Maria Ausiliatrice Complex, Castello, Venice, Italy  
19th Venice Architecture Biennale (2025)

**Year / Duration:**

2025, duration of the Venice Architecture Biennale

**Institution / Client:**

Commissioned by the Dicastery for Culture and

Education of the Holy See

**Curatorial Team:**

Curated by Marina Otero Verzier and Giovanna Zabotti

**Architectural Design:**

Tatiana Bilbao ESTUDIO and MAIO Architects

**Built Area:**

Historic architectural complex adapted as a living restoration site

**Visit Duration:**

Variable and extended; visitors often remain for long periods due to workshops, rehearsals, and communal activities

## B. Analytical Dimensions

### **Audience & Participation Mode:**

The pavilion addresses a broad and layered audience, including conservation architects, restoration practitioners, craftspeople, Material Researchers, and specialists in religious architecture.

It also engages institutions such as church bodies, heritage organizations, museums, and archives, as well as academic audiences from architectural history, conservation theory, and material culture studies.

The general public is invited to participate through observation, shared use of space, workshops, meals, rehearsals, and performances, emphasizing collective presence rather than passive viewing.

### **Theme & Narrative Structure:**

The central theme frames architecture as a practice of repair and care rather than the production of novelty.

Restoration is understood as both an ecological and social action, while heritage is conceived as a living process rather than a preserved object.

The narrative unfolds through ongoing restoration work instead of finished displays.

Visible elements such as scaffolding, textiles, cracks, salt efflorescence, and weathered surfaces act as narrative devices revealing past, present, and future simultaneously.

### **Emotion Mapping:**

The emotional atmosphere emerges through immersion in care, vulnerability, and shared responsibility.

As visitors move among scaffolds, cracks,

textiles, and traces of decay, they experience a sense of time, fragility, attentiveness, and renewal. Sensory engagement and participation foster empathy toward materials, labor, and community.

### **Space Typology:**

The pavilion transforms a historic religious complex into a hybrid spatial condition combining heritage architecture, open scaffolding systems, and soft textile partitions. The space operates as a living restoration site rather than a static exhibition hall.

### **Zoning & Circulation:**

Spatial organization is non-linear and exploratory.

Visitors encounter visible restoration immediately upon entry, drift through workshop zones and communal areas, pause at shared tables, rehearsal rooms, and scaffold platforms, and often revisit spaces as the site continuously evolves.

### **Sensory Experience:**

Visual conditions include layered surfaces, exposed histories, scaffolds, and textiles.

Tactile engagement arises from rough stone, aged plaster, wood, and fabric.

Auditory elements include tools, footsteps, conversations, and music rehearsals.

Interaction is multisensory and participatory, grounded in everyday use rather than spectacle.

**Embodiment:**

Bodily experience is shaped by walking on uneven surfaces, navigating scaffolds, sitting at shared tables, and participating in workshops or rehearsals.

Embodiment reinforces awareness of maintenance, care, and the labor embedded in architectural space.

**Interaction:**

Interaction occurs through shared meals, workshops, musical rehearsals, performances, and informal gatherings.

Visitors, artisans, musicians, and local communities co-produce meaning through repeated use and collective occupation of the space.

**Programs:**

The pavilion hosts ongoing restoration work by specialists in stone, marble, clay, plaster, wood, and metal.

From Tuesday to Friday, visitors can observe conservation practices in real time.

On Tuesdays, Fridays, Saturdays, and Sundays,

musicians may reserve instruments—such as harpsichords and pianos—for rehearsals, integrating music into the life of the site.

**Role & Agency of Materials:**

Materials function as archives of time and use. Cracks, salt efflorescence, and decay are treated not as defects but as records of climate, humidity, and urban life.

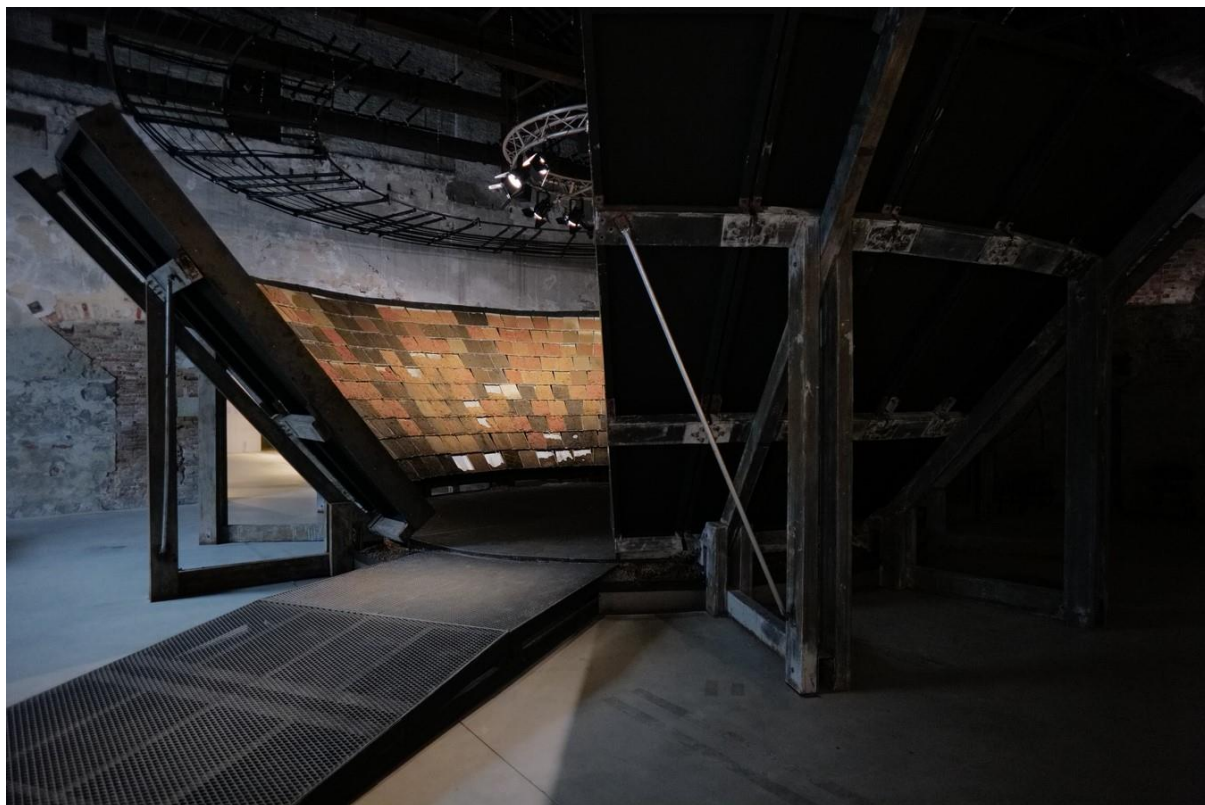
Textiles and scaffolds act as temporary, adaptive mediators between restoration work and public gathering.

**Contextualization:**

Context is produced through the triad of place, history, and process.

Embedded in Venice's saline climate, maritime ecology, and long history of adaptive reuse, the Santa Maria Ausiliatrice complex becomes an active co-author rather than a passive backdrop. Sustainability is framed as repair rather than replacement, emphasizing maintenance, material continuity, and reduced extraction.

## CASE STUDY DATA SHEETS



**Figure 21.** *Soil-beings (Lamánlupa)* , Venice Biennale 2025. © Studio KIM/ILLI



**Figure 22.** *Soil-beings (Lamánlupa)* , Venice Biennale 2025. © Studio KIM/ILLI

# Soil-beings (Lamánlupa)

The Philippine Pavilion, 19th Venice Architecture Biennale, 2025

**Curator:** Renan Laru-an

An interdisciplinary curator whose practice connects architects, indigenous leaders, artists, policymakers, and communities. Through *Soil-beings*, he repositions soil as a living force that actively shapes architectural, social, and ecological relations rather than an inert building substrate.

**Exhibition Designer:** Christian Tenefrancia Illi

A German-Filipino multidisciplinary artist whose work explores soil's climatic, ecological, and cultural agency. The pavilion translates long-term Material Research into a spatially Embodied installation.

## Target Audience

- Architects and spatial designers
- Material and environmental researchers
- Students and academic communities
- Environmental, cultural, and political thinkers
- General public interested in critiques of materiality and architectural practice

## Exhibition Typology

- Experiential exhibition
- Research-driven installation
- Ecology and materiality discourse space
- Interdisciplinary collaborative platform

This Practitioner Dialogue provides critical insight into how Materials Exhibitions can operate as research-driven and educational environments, emphasizing materials as active cultural agents rather than passive resources. The practitioner perspective informs the analytical interpretation of curatorial strategies, spatial organization, and Embodied interaction discussed in Chapter 4, particularly in relation to material literacy, Material Agency, and design-led knowledge production. *Soil-beings* emerges from extensive fieldwork, translocal workshops, and research conducted across multiple Philippine regions (Metro Manila, Batangas, Leyte, South Cotabato). The project responds to histories of land use, colonial extraction, disaster, and ecological resilience, situating these local narratives within the global framework of the Venice Architecture Biennale.

## Curatorial Theme

### Reimagining architecture through soil-body and soil-time

Foregrounding soil as a living entity with memory, power, and temporal depth, capable of reshaping architectural thinking.

## Curatorial Narrative

The pavilion reframes soil not as a passive substrate but as an active collaborator in architectural production. At its core is

**Terrarium**, a vortex-like immersive structure composed of nearly 1,000 soil tiles sourced from different regions. Visitors are invited to engage with soil's histories, memories, and climatic rhythms, challenging human-centered architectural paradigms and proposing reciprocity with the earth as a foundational architectural responsibility.

### Emotion Mapping

- **Encounter:** Curiosity and grounding through visual and tactile contact with soil
- **Immersion:** Weight, smell, and presence provoke introspection
- **Reflection:** Reconsideration of extractive human-land relationships
- **Respect & Urgency:** Ethical awareness of soil's agency and environmental responsibility

### Space Typology

#### Immersive sculptural environment

A hybrid space that blurs the boundaries between installation, landscape, and body-scaled architecture.

### Spatial Layout

- **Central zone:** The Terrarium immersive vortex
- **Peripheral zones:** Research materials and contextual displays

### Circulation

A spiral circulation path leads visitors into and through the Terrarium, encouraging slow movement, contemplation, and multisensory

engagement before transitioning into contextual zones.

### Sensory Engagement

- Tactile: soil texture and material density
- Olfactory: petrichor and earthy scents
- Visual: chromatic variations and layered formations
- Microclimatic sensations: humidity and thermal variation

### Embodiment

Visitors encounter soil through embodied experience: touching, smelling, navigating weight and texture, understanding soil as a corporeal condition of inhabitation rather than an abstract material.

### Interaction & Experience

Interaction is somatic and contemplative rather than digital. Visitors slow their pace, adjust breathing, and negotiate proximity and distance with soil, forming a bodily dialogue with the material environment.

### Content Programming

- Interdisciplinary workshops across multiple Philippine regions
- Long-term research partnerships with communities and institutions
- The installation itself functions as an ongoing research platform generating dialogue around soil-related ecological, cultural, and political issues

## **Role of Materials**

### **Soil as a protagonist material**

Soil acts as a custodian of memory, a climatic archive, an ecological agent, and an active participant in architectural formation rather than a passive substrate.

### **Material Agency**

Soil demonstrates agency through its climatic, ecological, and temporal behaviors, breathing, resisting containment, and transforming over time challenging conventional architectural norms of stability, control, and permanence.

### **Contextualization**

Each soil sample carries its own biography, embedded in specific geographies, land-use histories, colonial legacies, disasters, and socio-ecological conditions, grounding the exhibition deeply within Philippine contexts.

### **Epistemic Position & Value Transmission**

The pavilion promotes a non-extractive, reciprocal architectural stance that listens to soil's rhythms and embraces temporal and ecological flux over permanence. It communicates values of ecological reciprocity,

historical awareness, and collective responsibility.

### **On-site Observation**

Upon entering the Terrarium, visitors encounter walls of multihued, tactile soil tiles that evoke scent, weight, and landscape memory. The immersive environment noticeably slows movement, foregrounding soil's presence as a bodily and sensorial condition.

### **Insights & Design Strategies**

- Treat foundational materials as active collaborators rather than inert substrates
- Use immersive, multisensory environments to reveal Material Agency and ecological intelligence
- Integrate local knowledge, indigenous epistemologies, and community narratives into design research
- Embrace temporal, climatic, and ecological rhythms as design conditions rather than anomalies

# Dropcity



**Figure 23.** Dropcity, photo by Piercarlo Quecchia

## Curator

Dropcity's curatorial direction is embedded in the collective practice of the Dropcity studio itself, led by Andrea Caputo. Rather than a traditional curator-led exhibition, the project operates through collective authorship shaped by a city-embedded design ecology.

## Exhibition Design

The Exhibition Design is fully integrated with Dropcity's spatial practice. Architectures are conceived as evolving constructive systems, unfolding through on-site fabrication, material experimentation, and continuous interaction

with participants and surrounding community.

## Target Audience

Design practitioners and students  
Material experimenters and craft makers  
Community participants and co-creators  
Public interested in experimental and alternative architectures

## Exhibition Typology

- Participatory / process-based exhibition
- Experimental architecture installation
- Live workshop + research laboratory

## Exhibition Context

Dropcity originated as a creative collective investigating experimental architecture and craft ecologies, focusing on ephemeral materials and process-based construction. The Milan Design Week 2024 installation presents this ongoing research within a public, urban context.

## Curatorial Theme

Dropcity centers on process, materiality, and social interaction as primary architectural drivers, shifting attention from finished objects to the collective becoming of built environments.

## Curatorial Narrative

The exhibition unfolds as a non-linear, experimental journey in which materials, tools, and participants co-author an evolving architecture. Rather than presenting a fixed sequence or final form, Dropcity emphasizes continuous transformation, improvisation, and site-responsive fabrication.

## Emotion Mapping

- Curiosity & exploration: tactile engagement activates participation
- Playfulness & surprise: unpredictable material behavior
- Reflection & delight: emergent forms and iterative variations
- Collective agency: shared authorship among participants

## Space Typology

Continuous arched tunnel space  
Open studio-laboratory environment  
Processual installation space  
Participatory constructive field

## Spatial Layout

Experiment Zone: material trials and assembly  
Interaction Zone: visitor participation  
Display Zone: documentation and artifacts

## Circulation

Upon entering the site, a stepped scaffolding structure on the right hosts talks and music events, while a series of linear, parallel tunnels on the left function simultaneously as exhibition halls and workshops.

Within each tunnel, circulation is open and non-linear, allowing visitors to move freely between workbenches, material stacks, in-progress constructions, and archival displays.

## Sensory

- Touch: direct contact with raw and experimental materials
- Sight: bright, uniform artificial lighting
- Sound: tools, construction noises, tunnel echoes
- Smell: material odors and humidity of the tunnels

## Embodiment

Through multisensory practices of making, touching, hearing, smelling, and seeing, Dropcity transforms material knowledge into Embodied cognition. Different labs foreground specific bodily-material relationships, allowing

materials to actively shape posture, movement, and perception.

### **Interaction & Experience**

Interaction is based on collective making rather than observation. Participants negotiate materials through bodily labor, improvisation, and feedback, producing knowledge through action rather than instruction.

### **Content Programming**

Five interconnected workshops: FRAGMENT, TRASH LAB, CLAY LAB, MODEL SHOP, and TEXTILE LAB, form an open, process-driven material laboratory. Together they trace a continuous material trajectory from residue and waste to plasticity, fabrication, structure, and textile systems.

### **Role of Materials**

Materials function simultaneously as resources, witnesses, and actors. Waste, clay, residues, and fibers reveal urban metabolism, labor traces, and ecological tensions, shifting the exhibition from object display to critical material systems.

### **Material Agency**

Materials display strong agency through unpredictability and temporal change: fragmentation, deformation, decay, and transformation, positioning them as co-creators that guide experimentation, improvisation, and negotiation.

### **Contextualization**

Material experiments are embedded in Milan's urban context and Design Week conditions.

Waste is locally sourced, while clay and fibers reference regional craft and industrial heritage, grounding the work in real urban material flows.

### **Ecological Framing**

Dropcity adopts an ecological framework of circulation, repair, and regeneration, challenging linear production models and proposing a degrowth-oriented material ethic focused on reuse, longevity, and repair.

### **Epistemic Position & Value Transmission**

The project shifts cognition from anthropocentrism toward material-ecological coexistence. Knowledge emerges through collective making (knowing-through-making), promoting openness, collaboration, and the visibility of failure over authorship and hierarchy.

### **On-site Observation**

The space is filled with mixed smells of wood cutting, paint, metal, moisture, and earth. Participants constantly shift postures while working, surrounded by scattered material fragments and layered workshop soundscapes. Despite apparent chaos, an organic order emerges through bodily engagement.

### **Insights & Design Strategies**

- Treat materials as active participants in design
- Embrace uncertainty and feedback as form generators
- Facilitate environments that encourage co-creation
- Use process as the primary narrative structure

# Internalities

Spanish Pavilion, 2025 Venice Architecture Biennale



**Figure 24.** *Internalities*, Venice Biennale 2025. Photo by luis diaz diaz.

## Curator

Manuel Bouzas Barcala, Roi Salgueiro Barrio  
The curators propose *Internalities* as a conceptual framework to rethink architecture's deep integration with territorial ecologies and socio-economic systems.

## Exhibition Designer

Curators as Exhibition Designers, collaborating with researchers and graphic designers.

## Target Audience

Architects & architectural theorists  
Environmental designers and planners  
Policymakers and regional strategists  
Students and educators  
Sustainability-oriented general public

## Exhibition Type

Research-based Pavilion Exhibition  
Ecological Architecture Exhibition  
Multi-axis Thematic Exhibition

## Exhibition Context

Presented within La Biennale di Venezia 2025,  
under the overarching theme  
*Intelligens. Natural. Artificial. Collective.*

The pavilion addresses architecture's  
responsibility to internalize environmental  
externalities—emissions, resource extraction,  
labour conditions, and waste—responding to  
global decarbonization imperatives.

## Curatorial Theme

Internalities: Architecture of Territorial  
Equilibrium

Internalities reframes architecture as a practice  
capable of absorbing and responding to its  
ecological, economic, and social impacts, rather  
than externalizing them.

## Curatorial Narrative

The exhibition unfolds from a Balance Hall,  
presenting 16 projects through paired territorial  
and architectural models, followed by five  
research axes:

Materials, Energy, Labour, Residues, Emissions.

Each axis investigates how architectural  
externalities can be measured, visualized, and  
mitigated within specific territorial contexts.

## Emotion Mapping

Concern and urgency toward ecological

externalities

Curiosity through thematic exploration

Critical reflection on Embodied environmental  
impacts

Hope and agency through decarbonization  
strategies

## Floor Plan

Central Overview Gallery + Five Axis-Focused  
Research Galleries + Dual Model Display Zones

## Space Typology

Balance Hall (Central Hub)  
Axis-based Research Halls

## Spatial Zoning

Each hall corresponds to one research axis,  
enabling thematic depth while maintaining  
cross-referential visibility between domains.

## Circulation

Circulation flows from macro to micro, forming  
a loop that encourages comparison and  
revisiting.

## Sensory

Visual contrast between maps and models  
Material samples and textures  
Data-driven infographics

## Embodiment

Visitors physically traverse researched ecologies,  
experiencing the scale and impact of  
architectural decisions through spatial  
sequencing.

Interaction & Experience  
Dual-model comparison  
Data exploration through graphics  
Public talks and seminars

### **Content Programming**

Roundtables and expert presentations aligned with pavilion themes.

### **Role of Materials**

Materials are framed as territorial connectors, carrying ecological footprints, origins, and regenerative potential.

### **Material Agency**

Implicit rather than performative—materials act through data, models, and territorial narratives rather than direct interaction.

### **Contextualization**

Architectural practices are embedded within specific territorial contexts, coastal, rural, industrial, mountainous.

### **Ecological Framing**

Ecology is central: each axis interrogates architecture's role in environmental degradation or mitigation.

### **Epistemic Position & Values**

Architecture should internalize its externalities, fostering territorial equilibrium and decarbonized practice.

### **On-site Observation**

Spatial progression elicits Embodied recognition of environmental impact scales and tensions.

### **Insights & Design Strategies**

Integrate territorial ecological data into design decisions

Elevate materials as carriers of ecological history

Visualize externalities to inform policy and practice

Promote architecture that internalizes environmental costs

# Build of Site

Denmark Pavilion/



**Figure 25.** *Build of Site*, Venice Biennale 2025. Photo by Hampus Berndtson

## Curator & Exhibition Designer

Søren Pihlmann

## Target Audience

Architects & landscape designers interested in site, geology, and material systems

Researchers in ecological architecture and material studies

Policy/urban actors concerned with land, extraction, and governance

Climate-aware public seeking critical perspectives on construction

## Exhibition Type

- Critical Architecture Exhibition
- Site-specific Exhibition
- Ecological / Environmental Exhibition

## Exhibition Context

The Danish contribution to the 19th International Architecture Exhibition – La Biennale di Venezia 2025 is curated by architect Søren Pihlmann and commissioned by the Danish Architecture Centre. Titled *Build of Site*, the project investigates how rethinking and

reusing existing buildings and materials can address architectural, ecological, and social challenges. Developed collaboratively with universities and craft specialists, the pavilion functions as both exhibition and living laboratory.

### **Curatorial Theme**

**Rethinking Material Value and Resource Consciousness:** Materials on-site are reused to challenge conventional ideas of value and waste.

**Adaptive Reuse and Hyper-Local Sustainable Practice:** Emphasizes maintenance, repair, and reuse over new construction.

**Collaborative Knowledge and Methodologies:** Interdisciplinary work integrates craftsmen, academics, and material specialists to explore regenerative architectural cycles.

### **Curatorial Narrative**

"The pavilion functions as a living architectural laboratory, where the story unfolds through ongoing transformation of the historic building. Narrative emerges from material investigation, reuse experiments, and visible construction processes, highlighting resourcefulness and architectural adaptation. Process takes precedence over finished project; the building itself becomes both medium and message.

### **Emotion Mapping**

Upon entering the space, visitors are confronted with an unfinished construction condition. Exposed structures and raw site traces disrupt expectations of exhibition completeness, triggering surprise and curiosity while prompting reflection on spatial formation and

material origins.

Material experiments displayed on the central table and in the corners of the site remain in states of transformation: oxidation, cracking, and moss growth allowing materials to be perceived as processual agents shaped by time and environment, gradually evoking curiosity and ecological responsibility.

Emotional experience shifts from sensory engagement (touch, smell, vision) toward cognitive understanding (material reuse, climatic influence), forming a cyclical narrative of perception, cognition, and emotional resonance.

### **Space Typology**

Historic pavilion functioning simultaneously as exhibition space and construction site.

### **Spatial Layout**

Material-driven zones composed of benches, ramps, and tables made from reclaimed materials; ongoing construction integrated into spatial experience.

### **Circulation**

Non-linear circulation allows visitors to navigate freely among material artifacts, guided by spatial encounters rather than prescribed routes.

### **Sensory**

Visual, tactile, auditory, and olfactory layers created through exposed surfaces, construction sounds, material textures, and earthy smells.

### **Embodiment**

Hands-on engagement with materials encourages bodily understanding of weight,

texture, and material behavior over time.

### **Interaction & Experience**

Exploratory movement, material handling, and reflective engagement supported by films and interpretive panels.

### **Content Strategy**

Material experiments, film documentation, and interpretive texts focusing on reuse, sustainability, and architectural decision-making

### **Role of Materials**

Materials act as both architectural components and narrative media, structuring space while conveying ecological and historical meaning.

### **Material Agency**

Materials visibly transform over time: oxidizing, cracking, and hosting moss acting as active agents that shape atmosphere, narrative, and ecological perception.

### **Contextualization**

The exhibition is deeply embedded in site, practice, and time, with the pavilion structure, local materials, and environmental conditions

shaping both form and experience.

### **Ecological Framing**

Ecology is framed as a process of coexistence with material transformation rather than control or preservation.

### **Epistemic Position & Values**

Architectural value is reframed beyond novelty, emphasizing material intelligence, reuse potential, and ethical responsibility.

### **On-site Observation**

The pavilion feels like a site in the midst of becoming materials appear alive, responsive, and temporally active, creating a dynamic architectural ecosystem.

### **Insights & Design Strategies**

- Prioritize site-embedded resourcefulness
- Treat buildings as dynamic material ecosystems
- Make construction and adaptation processes visible
- Foster cross-disciplinary collaboration



**Figure 26.** *Build of Site*, Venice Biennale 2025. Photo by Hampus Berndtson

# Cambio



**Figure 27.** *Cambio*, № 2.6.3.10 – 1858, 2020, video still. video production by C41

## **Curator**

Formafantasma

Local communities and craft networks  
Material innovators and social enterprises  
Environmentally engaged audiences

## **Exhibition Designer**

Formafantasma (Andrea Trimarchi & Simone Farresin)

## **Exhibition Typology**

Sustainability Exhibition  
Circular Economy Exhibition  
Community-based Exhibition  
Regenerative Materials Exhibition  
Local Knowledge Exhibition

## **Target Audience**

Sustainable designers and circular economy practitioners

## **Exhibition Context**

*Cambio* (from the medieval Latin *cambium*, meaning “change” or “exchange”) is a research investigation conducted by Formafantasma into the governance of the timber industry. Commissioned by Serpentine Galleries, London (2020) and Centro Pecci, Prato (2021), the project operates not as a conventional design exhibition but as a critical, research-based platform exploring how design can engage with environmental politics and ecological futures.

### **Curatorial Theme**

Governance of trees and the timber industry  
Ecological responsibility of design  
Material as memory, archive, and power

### **Curatorial Narrative**

The exhibition adopts the cambium layer of a tree as a spatial and narrative metaphor. Through a concentric, ring-like structure, the narrative unfolds from trees as living organisms, to the extractive logic of the timber industry, and finally to design’s role in critique and transformation. Sensory engagement gradually gives way to critical reflection, forming a cyclical narrative structure.

### **Emotional Mapping**

Visitors first encounter wood as an unfamiliar archive rather than a neutral material, provoking curiosity and questioning. As historical samples, trade narratives, and ecological data accumulate, concern and anxiety emerge in response to the ecological stakes of timber production. In the central core, extended engagement with films and interviews catalyzes critical reflection. The exhibition concludes with moments of insight, inviting visitors to imagine alternative relationships between design, materials, and ecological coexistence.

### **Space Typology**

Research-based exhibition space structured as a circular, systemic narrative environment.

### **Spatial Layout**

A concentric layout inspired by tree rings, composed of a central core and surrounding case-study zones, reinforcing temporal cycles and ecological chains.

### **Circulation**

A dynamic trajectory of contraction and expansion: sensory immersion at entry, intellectual deepening at the core, and multidimensional reflection along the periphery, encouraging a mental return to the starting point.

### **Sensory**

Multi-sensory strategy combining olfactory (forest scent), visual (films and data visualization), tactile (wood textures), and auditory (material resonance).

### **Embodiment**

Furniture and material displays invite bodily engagement, positioning visitors as perceivers, thinkers, and participants simultaneously.

### **Interaction & Experience**

Reading, watching, touching, and lingering around furniture elements and material samples enable reflective and Embodied participation.

### **Content Strategy**

Films, interviews, archival specimens, policy documents, and material samples collectively

map the full lifecycle of timber and its socio-political implications.

### **Role of Materials**

Wood is positioned as the protagonist of the exhibition, an archive of climate history, ecological processes, and power relations.

### **Material Agency**

Wood is treated as an ecological witness and active participant rather than inert matter, narrating extraction, circulation, and climate crisis through its material presence.

### **Contextualization**

Context is constructed as a relational field shaped by history, place, material, and Embodied experience. Rare hardwood samples from the 1851 Great Exhibition and a storm-felled tree from 2018 situate the exhibition within colonial, climatic, and ethical design contexts.

### **Ecological Framing**

Ecology is framed as a relational, co-existence-based system rather than a resource to be managed or controlled.

### **Epistemic Position & Values**

The exhibition shifts cognition from

anthropocentric consumption toward relational awareness, framing design as an ethical and political practice entangled with ecological responsibility.

### **Insights & Design Strategies**

Prioritize material narrative over object display  
Use circular, systemic spatial structures inspired by nature

Build perception → cognition → action cycles

Integrate material history, ecology, and politics into design logic

Employ multi-sensory engagement to deepen participation

Position design as a tool for ecological understanding and ethical communication

# 4

## ANALYSIS & FINDINGS

## **4 ANALYSIS & FINDINGS**

4.1 THEORETICAL TENDENCIES OBSERVED IN CONTEMPORARY MATERIALS EXHIBITIONS

4.2 PRACTITIONER DIALOGUE FINDINGS: MATERIAL-DRIVEN CURATORIAL PRACTICE AT RONG DESIGN LIBRARY

4.3 ON-SITE OBSERVATION FINDINGS

4.4 CASE STUDY ANALYSIS

4.5 SUMMARY OF FINDINGS

## 4.1 THEORETICAL TENDENCIES OBSERVED IN CONTEMPORARY MATERIALS EXHIBITIONS

Drawing on the historical and theoretical mapping established in Chapter 2, the case studies reveal how contemporary Materials Exhibitions operate at the intersection of multiple exhibition traditions and theoretical positions. The concept of materiality in exhibition contexts is clearly observable in the spatial organization of the cases, where materials acquire meaning through arrangement, scale, lighting, proximity, and circulation. Exhibition space functions as a structuring environment that conditions visibility, comparability, and sensory engagement. Insights from material culture and object relations are reflected in the ways materials are situated within broader processes of production, circulation, and transformation, allowing them to register temporal depth and socio-ecological entanglement. Materials appear as traces of labor, extraction, technological development, and environmental change, embedded within relational systems that extend beyond the exhibition space.

The theoretical framework of Material Agency gains concrete articulation in these contexts. Material properties such as weight, fragility, texture, aging, and environmental responsiveness shape visitor movement, duration of attention, and sensory orientation. Agency emerges through interaction with spatial configuration and curatorial mediation. Scale adjustments, tactile access, environmental conditions, and spatial sequencing contribute to the perceptibility of material behaviors. This operationalization addresses the translational gap identified in Chapter 2, where theoretical discussions of Material Agency often lack direct application within exhibition design.

Exhibition Studies concepts of theme, narrative, and contextualization are also visibly operative. Thematic framing establishes interpretive horizons within which materials are positioned as technological resources, ecological processes, or relational actors. Narrative unfolds spatially through progression, repetition, and circulation, structuring how materials are encountered across time. Contextualization reconnects materials to networks of extraction, use, and disposal, expanding interpretive depth beyond isolated samples. Curating and curatorship mediate these operations through decisions regarding placement, sequencing, labeling, and interaction design, shaping the relational field in which materials become legible and experiential.

Design Research and Material-Driven Design further inform the observed practices. Materials function as generative starting points that influence spatial composition, experiential rhythm, and conceptual orientation. Sensory qualities and behavioral tendencies contribute to exhibition structure, extending material-driven inquiry from studio-scale experimentation into shared public environments. At the same time, the case studies demonstrate that material experience within

exhibitions depends on spatial and narrative orchestration, reinforcing the need to consider mediation as a central design dimension.

Emerging design perspectives introduced in Chapter 2 are likewise present. Embodiment is evident in the reliance on movement, proximity, tactility, and temporal exposure as mechanisms of material understanding. Perception develops cumulatively through bodily navigation and sustained encounter. More-than-human perspectives appear in the staging of materials as participants within ecological systems, multispecies relations, and environmental processes. Post-Anthropocene sensibilities surface through attention to material duration, transformation, and systemic embeddedness across extended temporal scales.

Taken together, the case studies demonstrate that the theoretical framework developed in Chapter 2 offers substantial interpretive capacity for understanding contemporary Materials Exhibitions, while also revealing how material agency, embodiment, and ecological relationality depend on curatorial and spatial mediation to become experientially operative. These observations establish the empirical foundation for the strategic framework articulated in the following chapter.

## **4.2 INSIGHTS FROM PRACTITIONER DIALOGUE: MATERIAL-DRIVEN CURATORIAL PRACTICE AT RONG DESIGN LIBRARY**

The dialogue with Jingyi Lu offers situated insight into how material-driven exhibition platforms operate within contemporary design practice. Rong Design Library emerges not as a conventional exhibition venue, but as a long-term experimental infrastructure for material research, education, and cultural mediation. The discussion illuminates how Materials Exhibitions can function as spatial articulations of ongoing inquiry rather than isolated display events.

### **Insight 1: Materials Exhibitions as Practice-Led Spatial Outcomes**

The establishment of Rong Design Library evolved from sustained material experimentation, including early investigations into oil-paper umbrella craftsmanship and extended field research into traditional crafts across China. Exhibition formats developed gradually as spatial condensations of this research trajectory.

This suggests that Materials Exhibitions may operate as moments of synthesis within broader cycles of material investigation. Exhibition space becomes a site where accumulated experimentation, documentation, and reflection are temporarily structured and made publicly accessible.

## **Insight 2: Material Illiteracy as a Cross-System Condition**

The dialogue highlights recurring gaps in material understanding across education, manufacturing, and professional design practice. Craft traditions are often marginalized within formal curricula, standardized industrial processes constrain material innovation, and template-driven development can lead to homogenized material use.

Within this context, Rong Design Library's activities, including workshops, material experimentation, and early-stage design interventions, position exhibition practice as part of a broader mediating system. Materials Exhibitions, in this sense, contribute to rebuilding material literacy by reconnecting theoretical discourse with tactile and procedural experience.

## **Insight 3: Material Value as Constructed Through Narrative Activation**

Experiments with materials such as yak wool and lacquer on paper reveal that material qualities gain contemporary relevance through contextual framing. Rather than neutralizing resistance or instability, short fibers, brittle textures, and unpredictable surfaces are treated as generative conditions.

Narrative strategies, including process documentation and visual storytelling, support the translation of these qualities into design potential. Materials Exhibitions therefore stage not only material results, but also material uncertainty, positioning incompleteness and experimentation as part of the exhibition logic.

## **Insight 4: Exhibition as Spatialized Knowledge Structure**

Rong Design Library conceptualizes exhibitions as spatial outputs of material research. Thematic frameworks, process diagrams, samples, workshops, and public discussions form layered knowledge environments. Information density is calibrated according to audience background, allowing exhibitions to function simultaneously as learning spaces, research articulations, and dialogical platforms.

This reinforces the understanding of exhibition space as epistemic infrastructure, shaping how material knowledge is encountered, processed, and embodied.

## **Insight 5: From Form-Driven to Material-Driven Spatial Logic**

The dialogue further reveals a shift toward material-driven design logic in architectural and institutional collaborations. Through early-stage involvement in projects such as the Tencent Education Center, Rong Design Library contributes material narratives and conceptual frameworks prior to spatial formalization.

Such practice demonstrates how material research can influence circulation, atmosphere, and spatial strategy. Materials Exhibitions and related platforms thus extend their agency beyond display environments, participating directly in design decision-making processes.

Collectively, these insights position Rong Design Library as an expanded model of material-driven exhibition practice. Research, education, industry collaboration, and spatial experimentation are interwoven within a continuous investigative structure. Material knowledge is not retrospectively communicated but actively constructed through embodied, narrative, and spatial operations.

### 4.3 ON-SITE OBSERVATION FINDINGS

The on-site observations reveal that contemporary Materials Exhibitions increasingly operate as performative environments in which materials, bodies, and practices co-constitute the exhibition experience. Across the three cases, material encounter unfolds through participation, spatial immersion, and temporal duration, generating modes of engagement that extend beyond static display.

Material Bar at the Slovenia Pavilion during Milan Design Week presents an open, workshop-based environment organized around a central bar functioning simultaneously as working surface, social condenser, and performative stage. The exhibition integrates live making processes into the exhibition framework, allowing visitors to engage directly with fungi, clay, recycled plastics, botanicals, textiles, and water in various states of transformation. Participation levels on site were consistently high. Visitors of different ages gathered around the bar, collaborated with practitioners, handled tools, and observed material behaviors as they unfolded in real time. The spatial configuration encourages fluid circulation, with multiple points of entry and an open perimeter defined by a vertical mosaic of material samples. The center remains active and event-driven, creating a continuous oscillation between observation and collaboration. Material properties such as viscosity, texture, elasticity, and responsiveness become perceptible through use. The exhibition environment generates curiosity, experimentation, and collective energy through direct bodily engagement and shared making processes.

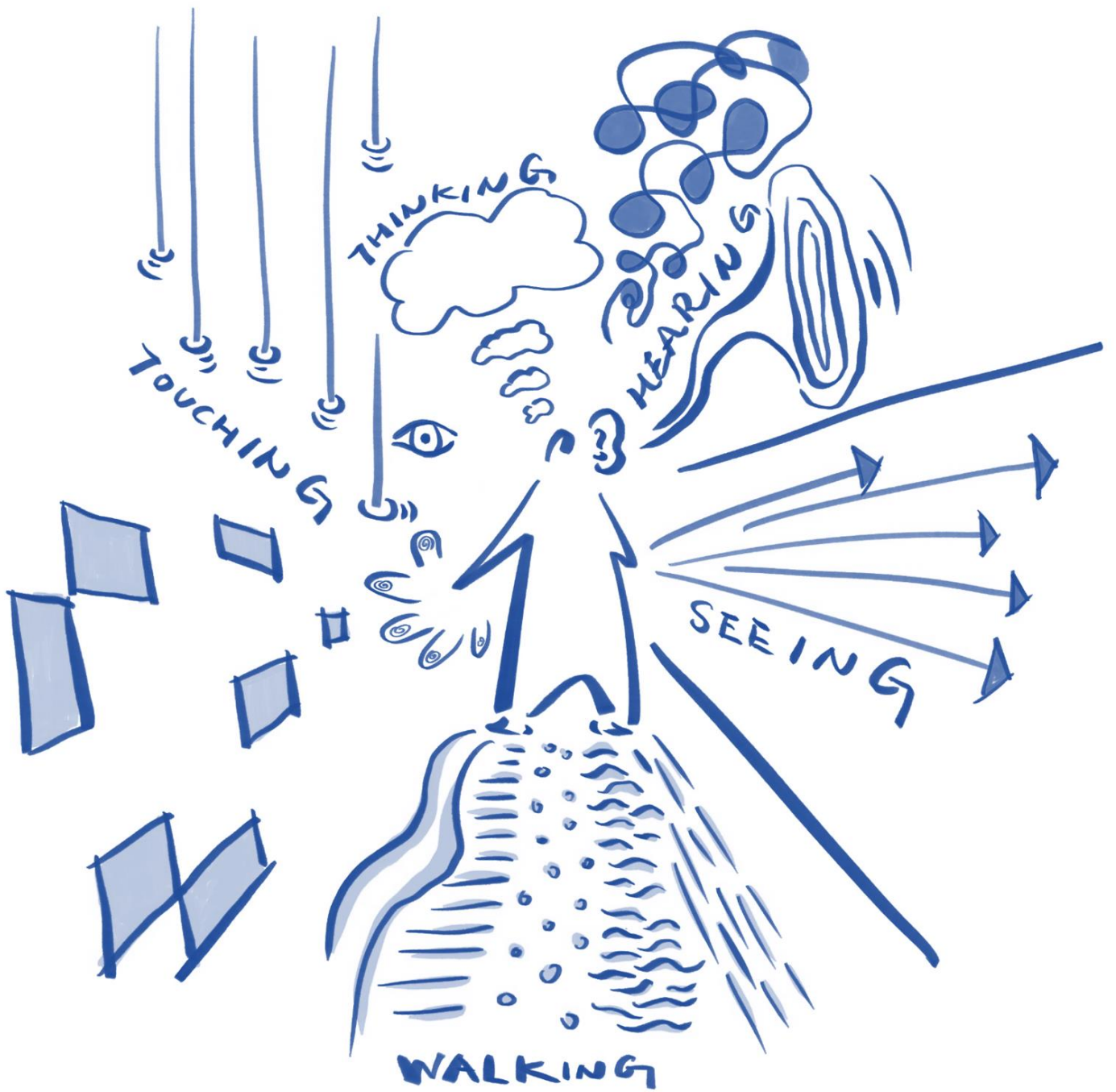
Studio Davidpompa's "Materia México – The Taste of Materials" constructs a sequential spatial narrative rooted in cultural ritual and material memory. The pavilion unfolds as a series of micro-environments, beginning with food-based sensory rituals and progressing toward archival documentation and participatory making. Visitors encounter materials through taste, smell, touch,

and visual immersion. Mexican breakfast rituals, stone chocolate preparation, and film documentation establish a sensory threshold that situates materials within lived tradition. The spatial sequence guides visitors from nourishment to archive and finally to a participatory Material Bar. Emotional intensity shifts gradually from intimacy and warmth toward collective activation. Materials function as cultural protagonists: food becomes material substance, spherical objects operate as symbolic artifacts, and archival walls frame materials as repositories of memory. Knowledge emerges through embodied actions such as eating, observing, handling, and making. The exhibition integrates cultural narrative, material research, and participatory practice within a unified spatial composition.

The Holy See Pavilion “Opera Aperta” at the Venice Architecture Biennale transforms a historic architectural complex into a living restoration site. The pavilion integrates ongoing conservation practices, musical rehearsals, communal meals, and workshops into the exhibition framework. Visitors navigate uneven surfaces, scaffolds, textile partitions, and active work zones, encountering materials in states of repair and weathering. Cracks, salt efflorescence, aged plaster, and exposed structural layers operate as visible records of climate, time, and urban conditions. The spatial organization remains exploratory and non-linear, allowing visitors to dwell, return, and observe processes over extended durations. Interaction occurs through shared occupation of space rather than prescribed engagement formats. Materials are experienced as archives of use and environmental exposure. The atmosphere fosters attentiveness, care, and awareness of material continuity. Sustainability is articulated through maintenance, restoration, and adaptive reuse embedded in the site itself.

Across the three cases, several consistent patterns emerge. Participation frequently replaces detached observation. Exhibition duration expands through live programs and ongoing processes. Spatial typologies shift toward workshop environments, ritual sequences, and adaptive heritage settings. Sensory engagement plays a central role in shaping perception, with tactile, auditory, and olfactory dimensions complementing visual presentation. Materials are encountered in raw, semi-processed, aged, or transforming states, foregrounding process and temporality. Emotional experience develops through bodily proximity, shared activity, and environmental immersion.

These on-site findings demonstrate that contemporary Materials Exhibitions increasingly operate as dynamic ecosystems in which materials, practices, and communities intersect. Exhibition design organizes conditions for material encounter through spatial configuration, programmatic layering, and curatorial mediation. Materials contribute to shaping movement, duration, attention, and collective interaction. The observation data thus provide empirical grounding for identifying strategic principles that translate theoretical constructs into spatial and experiential operations.



Graphic 5. Sensory Engagement

## 4.4 Case Study Analysis

### Soil-beings (Lamánlupa)

*Soil-beings (Lamánlupa)* operates as a material-driven exhibition that foregrounds Material Agency through embodied and ecological spatial strategies. Soil is presented as a living collaborator carrying memory, temporality, and climatic intelligence. The immersive Terrarium structure and spiral circulation enable multisensory engagement through touch, smell, weight, and movement, supporting material perception as embodied cognition. The curatorial framework integrates indigenous knowledge, field research, and long-term material investigation. Exhibition space functions simultaneously as sensory environment, research platform, and epistemic device that repositions architecture within ecological responsibility and reciprocal relations with land.

### Dropcity

Milan Design Week 2024

*Dropcity* operates as a process-based exhibition in which Material Agency emerges through collective making and continuous transformation. Architecture is framed as an evolving construct shaped through interaction among materials, tools, and participants. Hands-on fabrication, improvisation, and bodily labor generate material knowledge through action and feedback. Waste, clay, fragments, and fibers guide spatial outcomes through their physical behaviors and constraints. Exhibition space functions as a living laboratory in which embodied practice becomes both method and narrative, foregrounding ecological coexistence, shared agency, and distributed knowledge production.

### Spanish Pavilion: Internalities

Venice Architecture Biennale 2025

*Internalities* presents a research-driven curatorial model that articulates Material Agency through data, territorial mapping, and systemic visualization. Materials are framed as carriers of emissions, labor conditions, residues, and energy flows, situating architectural production within socio-economic and environmental systems. Paired models, thematic axes, and spatial sequencing support bodily navigation across researched territories, enabling an embodied understanding of scale and systemic consequence. The pavilion operates as an analytical instrument that reorients architectural cognition toward accountability, decarbonization, and territorial balance.

### Build of Site

Danish Pavilion, Venice Architecture Biennale 2025

*Build of Site* foregrounds Material Agency through visible transformation, reuse, and ongoing

construction. The pavilion presents architecture as a living process in which unfinished structures, repair work, and material experiments remain exposed. Oxidation, cracking, and biological growth shape atmosphere, perception, and narrative through temporal change. Non-linear circulation encourages exploratory movement and spatial discovery. Architectural value is framed around maintenance, adaptability, and site-embedded intelligence, positioning construction as an ecological and ethical practice.

## **Cambio**

### **Formafantasma**

*Cambio* exemplifies a narrative-driven Materials Exhibition in which Material Agency is articulated through historical, political, and ecological storytelling. Wood is presented as an archive of climate history, colonial extraction, and governance structures. The concentric spatial layout, structured around the metaphor of tree rings, organizes a cyclical progression from sensory encounter toward analytical reflection. Material presence operates as critical evidence within global systems of power and resource management. Exhibition design mobilizes narrative sequencing to cultivate ecological awareness and political consciousness.

## **What Material-driven Exhibitions Do Differently**

This chapter has examined five material-driven exhibitions—*Soil-beings*, *Dropcity*, *Internalities*, *Build of Site*, and *Cambio*—to investigate how contemporary exhibition practices reconfigure the role of materials within architectural discourse. Across diverse contexts and curatorial models, materials function as active contributors to perception, knowledge production, and ethical orientation.

Material Agency appears through multiple modalities. In *Soil-beings* and *Build of Site*, agency is expressed through temporality, transformation, and ecological responsiveness. In *Dropcity*, agency unfolds through collective fabrication and material unpredictability guiding spatial formation. In *Internalities* and *Cambio*, agency is articulated through analytical mapping and narrative structuring that situate materials within territorial, political, and historical systems. These variations indicate that Material Agency in exhibitions operates across a spectrum of spatial, performative, analytical, and narrative expressions.

Embodiment functions as a central epistemic mechanism throughout the cases. Immersive and process-based exhibitions cultivate awareness through movement, touch, smell, and labor. Research-oriented exhibitions rely on bodily navigation, spatial sequencing, and comparative viewing to generate understanding of scale and systemic consequence. Embodied engagement shapes how material knowledge is formed, retained, and interpreted.

From a curatorial perspective, exhibition space emerges as an active apparatus for research and

knowledge production. These exhibitions operate as laboratories, archives, or evolving environments in which materials, participants, and spatial conditions generate meaning collectively. Curatorial authorship is exercised through orchestration of conditions that enable materials to manifest their ecological and social dimensions.

Across the five cases, a consistent epistemic orientation becomes visible. Material temporality, ecological embeddedness, and systemic entanglement receive sustained attention. Architecture is framed through relational and process-oriented perspectives that emphasize responsibility and coexistence. Material-driven exhibitions function as instruments for cultivating awareness of architecture's entanglement with environmental systems and its participation in ecological transformation.

This chapter demonstrates that material-driven exhibitions expand the role of architecture by activating materials as agents of knowledge, experience, and ethical reflection. Through spatial mediation and curatorial strategy, exhibition design contributes to a relational and ecologically situated architectural discourse.

## **4.5 SUMMARY OF FINDINGS**

The analysis conducted in this chapter consolidates theoretical interpretation, practitioner dialogue, and on-site observation into a coherent understanding of contemporary Materials Exhibitions as spatially mediated knowledge systems. Across historical mapping, empirical cases, and practitioner insights, several consistent findings emerge.

First, Materials Exhibitions function as structured environments in which material meaning is generated through spatial organization. Arrangement, scale, circulation, lighting, and programmatic layering determine how materials become perceptible and comparable. Exhibition space operates as a mediating condition that organizes sensory access and interpretive sequencing. Materials do not communicate autonomously; their perceptibility depends on curatorial and spatial configuration.

Second, Material Agency becomes operational through design decisions. Properties such as weight, fragility, texture, transformation, and environmental responsiveness influence movement, duration of engagement, and patterns of interaction. Agency manifests through relational conditions shaped by mediation. This clarifies the translational gap identified in Chapter 2 by demonstrating how theoretical constructs of Material Agency can be activated within exhibition environments.

Third, embodiment emerges as a primary epistemic mechanism. Across immersive, process-based, and research-driven exhibitions, bodily navigation, proximity, tactility, and temporal exposure shape how materials are understood. Knowledge develops cumulatively through movement and sustained encounter. Sensory engagement operates as a structural component of interpretation.

Fourth, narrative and contextualization structure material understanding across temporal and systemic scales. Thematic framing positions materials within technological, ecological, cultural, and political horizons. Spatial sequencing organizes interpretation through progression, repetition, and circulation. Contextualization reconnects materials to extraction histories, labor conditions, territorial systems, and environmental processes. Exhibition design thus mediates the relationship between localized material encounter and broader socio-ecological frameworks.

Fifth, contemporary Materials Exhibitions increasingly operate as research infrastructures. Case studies and practitioner dialogue indicate that exhibitions function as laboratories, archives, workshop environments, and platforms for collective experimentation. Material knowledge is constructed through interaction among materials, practitioners, participants, and spatial systems. Exhibition space becomes a site of ongoing inquiry embedded within design research processes.

Across these dimensions, a shared epistemic orientation becomes visible. Material temporality, ecological embeddedness, and relational entanglement receive sustained attention. Architectural discourse expands to include maintenance, transformation, accountability, and coexistence. Materials are framed as participants within environmental and socio-technical systems rather than isolated technical components.

Taken together, the findings demonstrate that contemporary Materials Exhibitions operate as integrative mediating systems that translate material theory into spatial and experiential practice. They address definitional, disciplinary, translational, and experiential gaps identified in Chapter 2 by articulating exhibition as a form of design research grounded in curatorial strategy and spatial configuration.

These conclusions provide the conceptual and empirical basis for the strategic framework developed in the following chapter, where recurring operational principles are synthesized into structured design strategies.

# 5

## **MATERIALS EXHIBITION STRATEGIES**

# MATERIALS EXHIBITION STRATEGIES



## THE INVISIBLE ORCHESTRA

Practice-Driven and Collective Curatorship  
Theme As Operative Framework  
Exhibition As Process  
Material Agency  
Context As Co-Author  
From Sensory Immersion to Ethical Awareness



## THE TALE OF MATTER

From Object → Relationship  
Stories That Loop And Twist  
Embodied Narrative  
Visitor As Collaborator  
More Than Human  
Queering The Tale



## THE SHAPE OF EXPERIENCE

Morphing Spaces  
Zoning Knowledge and Ecology  
Emotional Mapping  
Material Theatre  
Material Rituals

## 5.1 WHAT THEY ARE, WHAT THEY ARE NOT.

### WHAT these strategies are :

Within this research, the strategic plan refers to a coordinated structure composed of multiple strategies. Each strategy is understood as a course of action designed to achieve a long-term or overarching aim within Materials Exhibitions.

These strategies constitute a set of adaptable insights for Materials Exhibitions, grounded in empirical and theoretical research. They are intended to:

- Offer guidance for researchers, practitioners, and newcomers to the field in shaping future Materials Exhibitions;
- Present findings across three interconnected dimensions: curatorial strategy, narrative strategy, and spatial design;
- Activate material agency and embodied experience;
- Support ecological perspectives within exhibition contexts;
- Echo the autonomy and flatness of Materials Exhibitions, functioning both as an integrated framework and as a modular set of strategic components applicable to diverse cultural, spatial, and institutional settings.

In this research, strategies are understood as transferable logics derived from recurring patterns across practices, enabling situated decision-making within curatorial, narrative, and spatial dimensions.

### WHAT these strategies are not:

These strategies are not a prescriptive toolkit or a rigid, step-by-step guideline. While they provide adaptable insights for Materials Exhibitions, they cannot be applied directly without interpretation and must always be adapted to specific cultural, spatial, and institutional contexts.

This research primarily adopts a spatial design perspective, leaving other disciplinary perspectives less fully addressed. In addition, most case studies are drawn from European and Western contexts, while non-human perspectives remain only partially explored.

Finally, this work represents an initial stage of inquiry rather than a definitive or complete framework. The final design proposals are conceptual rather than fully realized exhibition solutions, and the strategies do not claim that Materials Exhibitions alone can resolve broader social or environmental issues.

## 5.2 WHO THEY ARE FOR

The primary audience for these strategies includes researchers, curators, designers, and practitioners engaged in the design and organization of Materials Exhibitions. They are also intended for newcomers to the field who seek to understand the interplay between curatorial strategy, narrative strategy, and spatial design.

Beyond individual professionals, these strategies may also benefit institutions and cultural organizations aiming to explore material-driven approaches while maintaining flexibility, adaptability, and ecological awareness in exhibition design.

## 5.3 TRACING THE THREADS

These strategies were developed through an iterative, evidence-informed process based on the cross-reading of literature, case studies, practitioner dialogues, and on-site observations. Through this process, recurring patterns and operative gestures were identified.

These observations were subsequently distilled into a set of interconnected insights structured around three interrelated domains: curatorial decisions, narrative construction, and spatial articulation. Rather than imposing a fixed framework, this approach traces how materials, spatial design practices, and visitor engagement repeatedly co-evolve in practice.

The resulting structure reflects a bottom-up synthesis, allowing the strategies to remain open, adaptable, and responsive to diverse cultural, spatial, and institutional conditions.

# THE INVISIBLE ORCHESTRA





## THE INVISIBLE ORCHESTRA

Practice-Driven and Collective Curatorship  
Theme As Operative Framework  
Exhibition As Process  
Material Agency  
Context As Co-Author  
From Sensory Immersion to Ethical Awareness

### PRACTICE-DRIVEN AND COLLECTIVE CURATORSHIP

Curatorship operates as a situated practice rather than an external authorship, emerging from long-term engagement with materials, sites, and communities.

### THEME AS OPERATIVE FRAMEWORK

Themes function as methodological lenses that structure research, spatial organization, and visitor engagement.

### EXHIBITION AS PROCESS

The exhibition becomes an infrastructural platform for making, learning, and negotiating with material processes.

### MATERIAL AGENCY

Through curatorial strategies that provide materials with time, interaction, and room for action, materials are positioned as active agents participating in the generation of space and narrative.

### CONTEXT AS CO-AUTHOR

Contextualization operates as a relational field, in which place actively shapes curatorial logic, material choice, and visitor experience.

### FROM SENSORY IMMERSION TO ETHICAL AWARENESS

How sensory engagement, spatial mediation, and narrative framing contribute to the formation of ethical orientation toward material and ecological systems.

# PRACTICE-DRIVEN AND COLLECTIVE CURATORSHIP

## WHAT is it?

This strategy shifts the traditional top-down, curator-led exhibition model toward a practice-driven and collective approach. Curators are now practitioners, designers, researchers, or collectives who engage in long-term material experimentation and community collaboration. Authorship is distributed across networks of artisans, local communities, researchers, and institutions, making curatorship relational and processual.

## WHY use it?

- Enables exhibitions to emerge organically from ongoing practice.
- Facilitates collaboration and shared knowledge production across interdisciplinary and local networks.
- It aligns exhibition processes with lived cultural ecologies and socio-environmental contexts, enabling activism, resistance, and care through curatorial practice.

## HOW to use it?

### **1. Start from Practice**

Let the exhibition grow out of ongoing material research or community work.

### **2. Commit to Long-Term Engagement**

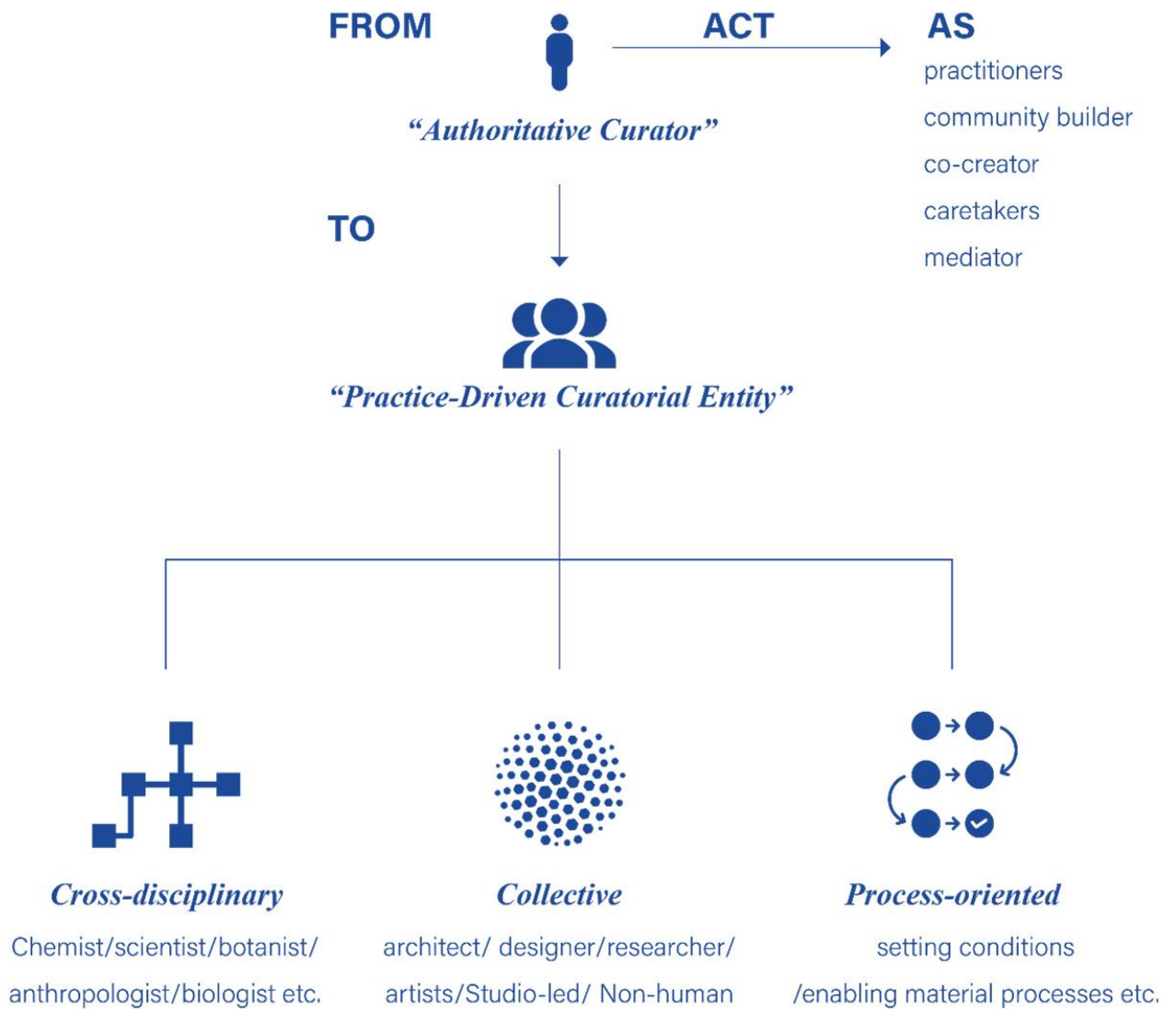
Build sustained relationships through fieldwork, workshops, and iterative collaboration.

### **3. Distribute Authorship & Design for Horizontality**

Make collective contribution structurally visible.

### **4. Activate Participation**

Integrate live making, dialogue, and shared learning into the exhibition space.



***How Material Exhibitions Are Curated Differently***

*Curatorship operates as a situated practice rather than an external authorship, emerging from long-term engagement with materials, sites, and communities.*



**Figure 28.** Material Bar, Slovenia Pavilion, Milan Design Week. Photo: Marijo Zupanov.

## CASE EXAMPLE 1: **MATERIAL BAR**, THE CENTRE FOR CREATIVITY (CZK), THE MUSEUM OF ARCHITECTURE AND DESIGN (MAO) IN LJUBLJANA

Material Bar operates as a participatory, workshop-based exhibition curated by designers and Material Researchers themselves, it foregrounds live material practices such as clay extrusion, plant foraging, recycled plastic pressing, and textile upcycling, inviting visitors to move from observation to hands-on collaboration. Curatorship here functions as the facilitation of social and material processes rather than object selection.



**Figure 29.** Cyprus Pavilion at the Venice Biennale, Venice Biennale 2025. Photo by Demetris Loutsios.

## CASE EXAMPLE 2: *TO THE STONES*, CYPRUS PAVILION AT THE VENICE BIENNALE

*To the Stones* exemplifies practice-driven and collective curatorship through the communal act of dry-stone construction as both exhibition method and curatorial logic. The pavilion is assembled through collective, Embodied labor involving architects, researchers, and participants, foregrounding making as a political and ecological practice. Curatorship operates as the organization of shared action and care, where material practice becomes a medium for negotiating land, memory, and collective responsibility.

# THEME AS OPERATIVE FRAMEWORK

## WHAT is it?

This strategy reframes exhibition themes from abstract conceptual propositions into operative frameworks that actively structure research methods, spatial organization, and visitor engagement. Themes act as methodological lenses through which materials, sites, and practices are examined, tested, and performed over time. Themes such as soil agency, internalization of externalities, material as memory, or architecture as repair. They enable open-ended inquiry, allowing materials, bodies, and environments to enact the theme through processes, temporal change, and Embodied experience.

## WHY use it?

- Transforms themes from symbolic narratives into actionable research tools that guide curatorial and spatial decisions.
- Allows exhibitions to address temporal, ecological, and ethical dimensions without reducing complexity to simplified messages.
- Supports performative and experiential engagement, where meaning emerges through practice, interaction, and duration rather than explanation alone.

## HOW to use it?

### **1. Define the Theme as a Research Question**

Formulate the theme as an operative inquiry.

### **2. Translate the Theme into Spatial Thinking**

Let the theme shape circulation, sequencing, material selection, and atmosphere.

### **3. Design for Temporal Activation**

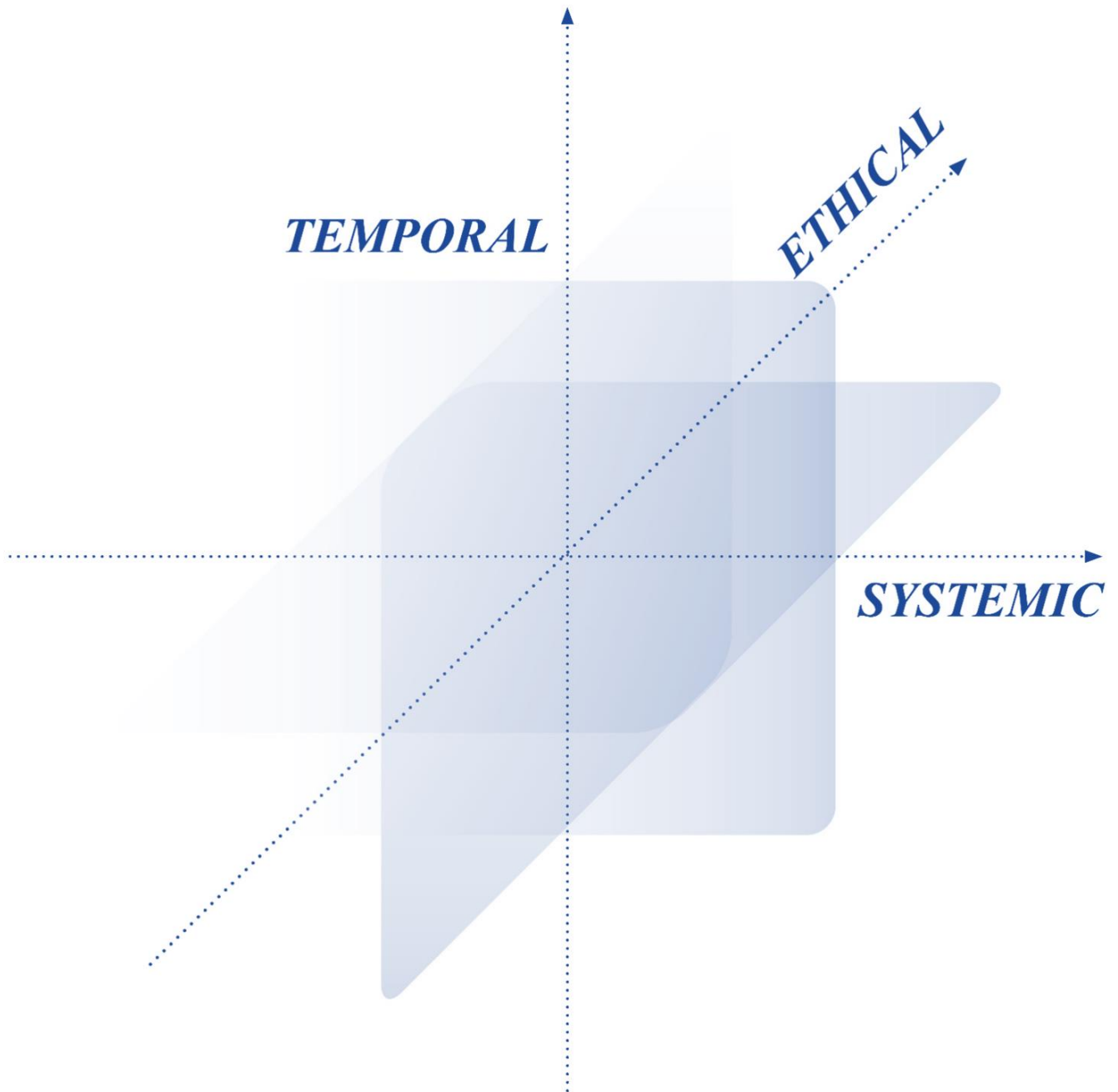
Allow change over time through growth, decay, repair, or participation.

### **4. Replace Explanation with Experience**

Prioritize embodied interaction, sensory engagement, and performative encounters.

### **5. Maintain Thematic Coherence Across Scales**

Ensure alignment between concept, material systems, spatial structure, and communication design.



**Graphic 6.** 3 dimensional Theme

*Themes function as methodological lenses that structure research, spatial organization, and visitor engagement.*



**Figure 30.** Build of Site, Venice Biennale 2025. Photo by Hampus Berndtson

## CASE EXAMPLE: ***BUILD OF SITE***, DENMARK PAVILION AT THE 2025 VENICE ARCHITECTURE BIENNALE

Build of Site exemplifies the use of theme as an operative framework by framing architecture as a site-based, material, and process-driven practice rather than a representational discipline. The theme directly informs the pavilion's construction logic, material sourcing, and spatial organization, foregrounding on-site building processes as both content and method. Rather than illustrating a concept, the pavilion performs the theme through making, positioning architecture as an ongoing negotiation between material conditions, labor, and site-specific constraints.



**Figure 31.** Build of Site, Venice Biennale 2025. Photo by Hampus Berndtson

# EXHIBITION AS PROCESS

## WHAT is it?

This strategy reconceptualizes the exhibition as a processual infrastructure. Exhibitions are conceived as workshops, laboratories, or living sites where research, making, repair, and learning unfold in real time. Production processes, transformations, residues, and even failures are made visible and become integral to the exhibition content.

## WHY use it?

- Shifts focus from finalized objects to processes of making, repair, and experimentation.
- Allows exhibitions to operate as active research environments.
- Emphasizes uncertainty, adaptation, and negotiation with material and ecological constraints, aligning exhibition practice with contemporary design research methodologies.

## HOW to use it?

### **1. Design for Live Production**

Integrate making, testing, repair, or assembly directly within the exhibition space.

### **2. Make Process Visible**

Expose tools, raw materials, intermediate stages, waste, and documentation.

### **3. Allow Transformation Over Time**

Enable growth, decay, modification, or accumulation throughout the exhibition period.

### **4. Incorporate Iteration**

Treat the exhibition as a prototype that can be adjusted, reconfigured, or expanded during its duration.

### **5. Facilitate Learning-in-Action**

Embed workshops, demonstrations, and open research sessions as part of the exhibition program.

*The exhibition becomes an infrastructural platform for making, learning, and negotiating with material processes.*



**Figure 32.** *Holy See Pavilion / Opera Aperta*, Venice Biennale 2025. Photo by José Hevia.

## CASE EXAMPLE: **OPERA APERTA / HOLY SEE PAVILION 2025**

Opera Aperta exemplifies exhibition-as-process by transforming the pavilion into an active repair site rather than a finished architectural object. Ongoing acts of maintenance, restoration, and care unfold throughout the exhibition period, dissolving the boundary between construction site, exhibition space, and research environment. The pavilion foregrounds repair as both method and message, positioning architecture as a continuous practice of care, adaptation, and responsibility rather than a completed work.

# MATERIAL AGENCY

## WHAT is it?

Material Agency constitutes a core curatorial concern across the examined cases. Materials are treated as active agents that shape spatial conditions, bodily behaviors, and narrative structures. Soil breathes and resists containment, clay cracks and dictates gesture, wood ages and records climatic histories, and bio-based materials host growth and decay.

Curatorial strategies deliberately accommodate unpredictability, temporal change, and resistance. Material transformation: oxidation, weathering, decomposition, or biological growth is framed as evidence of material intelligence and ecological time. By curating these processes, exhibitions position materials as co-authors that actively participate in meaning-making.

## WHY use it?

- Positions materials as agents whose behaviors, transformations, and resistances shape both spatial and narrative logics.
- Enables exhibitions to engage temporality, unpredictability, and ecological processes.
- Expands curatorial authorship by allowing materials to “speak” through their own histories, responses, and interactions with environment and bodies.

## HOW to use it?

### **1. Select Materials for Behavior**

Choose materials based on their capacity to transform, resist, decay, grow, or react.

### **2. Design for Temporal Exposure**

Allow oxidation, drying, cracking, weathering, or biological processes to unfold during the exhibition.

### **3. Avoid Over-Control**

Create spatial conditions that permit unpredictability rather than sealing or stabilizing materials.

### **4. Make Transformation Legible**

Frame change as content through documentation, sequencing, or comparative displays over time.

## MATERIALS EXHIBIT:



*resistance*



*decay*



*growth*



*transformation*

*aging,  
weathering,  
archive,  
memory,  
witness  
...*

*Accept* **UNCONTROLLABILITY:**

*mold, cracks, smell, aging...*

***Include material transformation as exhibition content***

*Through curatorial strategies that provide materials with time, interaction, and room for action, materials are positioned as active agents participating in the generation of space and narrative.*



**Figure 33.** *Soil-Beings*, Venice Biennale 2025. photo Delfino Sisto Legno

## CASE EXAMPLE 1: ***SOIL-BEINGS***, PHILIPPINE PAVILION AT THE 2025 VENICE ARCHITECTURE BIENNALE

Soil-beings exemplifies Material Agency by centering soil as an active participant in spatial and ecological narratives. Soil is understood as a breathing, responsive matter with its own temporality, resilience, and capacity to host life, memory, and environmental processes. Curatorial emphasis is placed on the soil's ecological behaviors, its cycles of growth and decay, and its capacity to bear cultural and environmental trace. By integrating soil's agency into both the form and content of the exhibition, Soil-beings exemplifies how material behaviors can shape spatial experience and narrative authority.



**Figure 34.** *FR(AGILE) SYSTEMS*, Venice Biennale 2025. photo by Wanqing Yue

## CASE EXAMPLE 2: ***FR(AGILE) SYSTEMS***, PAKISTAN PAVILION AT THE 2025 VENICE ARCHITECTURE BIENNALE

*FR(AGILE) SYSTEMS* positions rock salt as a material agent whose ongoing transformation under climatic conditions becomes central to the exhibition's meaning. Pakistani rock salt deeply rooted in the country's geological and cultural history undergoes continuous cycles of dissolving, re-hardening, and reshaping within Venice's humid environment, making material change visible in real time. This process underscores both the adaptive and vulnerable qualities of natural systems, challenging fixed architectural form and urging a reconsideration of resilience as a localized, nature-based process. The salt's behavior becomes a material co-author that shapes spatial logic and narrative discourse, reflecting both climatic precarity and ecological intelligence.

# CONTEXT AS CO-AUTHOR

## WHAT is it?

In this strategy, context is a generative mechanism that actively shapes curatorial decisions. Context emerges through the interrelation of place, history, material origin, climate, craft traditions, labor, and social relations. Participates directly in how exhibitions are conceived, structured, and experienced. Through site-specific sourcing, reuse of local waste streams, and engagement with historical layers, context becomes a co-author of the exhibition. Curatorial strategy thus treats contextualization as a relational field in which material, spatial, and social agencies are mutually constituted.

Context ≠ geographic description

Context = place × history × craft × climate × social relations

Place actively participates in curatorial decisions

## WHY use it?

- Moves beyond descriptive site references toward context as an active force shaping curatorial logic.
- Grounds exhibitions in specific territorial, cultural, and ecological conditions, resisting universalized or abstract narratives.
- Enables exhibitions to reveal how material practices, spatial forms, and social relations are inseparable from place-based histories and environments.

## HOW to use it?

### 1. Map the Relational Field

Analyze local material flows, climate conditions, craft networks, labor systems, and historical layers before defining the exhibition structure.

### 2. Source from the Site

Use locally available materials, waste streams, or existing spatial elements as primary resources.

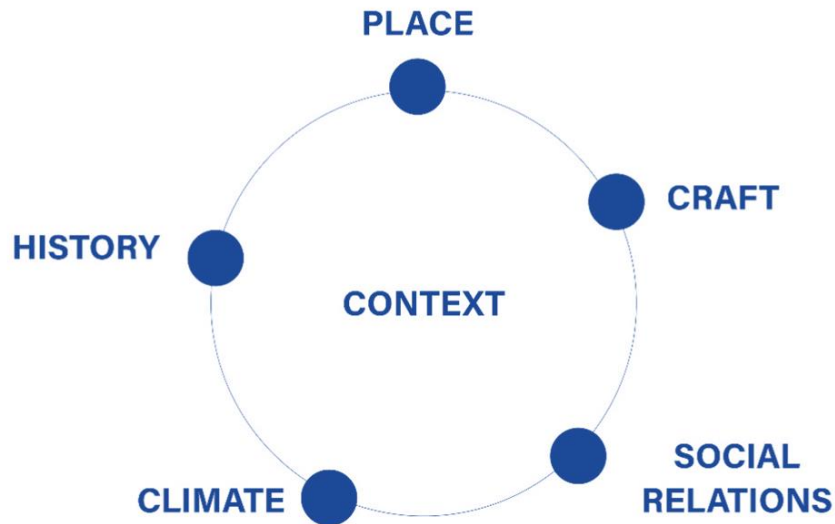
### 3. Engage Local Knowledge

Collaborate with artisans, communities, or institutions embedded in the site's history and practices.

### 4. Expose Contextual Layers

Make visible the historical, social, and ecological conditions that shape the materials and space.

*Context = place × history × craft × climate × social relations*



*Contextualization operates as a relational field, in which place actively shapes curatorial logic, material choice, and visitor experience.*



**Figure 35.** Róng Design Library, photo from official website

## CASE EXAMPLE: ***RONG DESIGN LIBRARY***

Rong Design Library exemplifies context as co-author by positioning material samples as carriers of regional craft knowledge, historical production systems, and local labor practices. The library curates materials through their cultural lineages, modes of making, and geographic origins. Context understood as the intersection of place, craft, and social relations, actively informs both the organization of the collection and the narrative logic of the space, allowing materials to speak as situated actors rather than abstract resources.



Figure 36. Róng Mini Library Milan, Photo by Wanqing Yue

# FROM SENSORY IMMERSION TO ETHICAL AWARENESS

## WHAT is it?

Knowledge is produced through Embodied, sensory, and collective experience. Visitors learn by touching, making, smelling, tasting, repairing, and participating. This experiential pathway often leads from sensory immersion to critical awareness and ethical reflection, enabling deeper engagement with complex material, ecological, and social issues.

## WHY use it?

- Prioritizes Embodied and multisensory engagement as a pathway to deeper understanding.
- Encourages visitors to reflect on their own roles within ecological, economic, and social systems through direct experience.
- Challenges anthropocentric, consumption-driven models by foregrounding repair, reuse, maintenance, and collective labor as ethical practices.

## HOW to use it?

### 1. Activate the Senses

Design for touch, smell, sound, temperature, texture, and material proximity.

### 2. Enable Bodily Participation

Integrate making, repairing, assembling, or collaborative actions within the exhibition.

### 3. Reveal Systemic Connections

Link sensory experience to visible ecological, political, or economic systems.

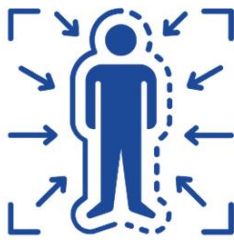
### 4. Facilitate Ethical Reflection

Create moments for pause, dialogue, or collective discussion that prompt responsibility, coexistence, and care.

## SENSORY



## MULTISENSORY ATMOSPHERE



***Smell:*** soil, wood, food, humidity

***Touch:*** roughness, weight, temperature, plasticity

***Hearing:*** construction sounds, tools, spatial echoes

***Sight:*** light, layered materials, exposed structures, process imagery

***Taste:*** linking material memory with food flavors

*“This is not just an exhibition—it is a campaign, and we all have an active part in our future.” – Gemma Curtin, Curator of Waste Age*



**Figure 37.** Material Bar, Slovenia Pavilion, Milan Design Week. Photo: Marijo Zupanov.

## CASE EXAMPLE: **MATERIAL BAR** – FORAGING PRACTICE AT ALCOVA (MILAN DESIGN WEEK)

Within Material Bar, foraging sessions led participants from the exhibition space into AlcovA's garden to collectively identify, harvest, and discuss local plants. This sensory encounter walking, touching soil, smelling vegetation, tasting ingredients situated material knowledge within a living ecological context rather than a representational display. The act of foraging transformed visitors from observers into participants within a shared metabolic system, fostering awareness of locality, seasonality, and human-nature interdependence. Ethical reflection emerged through Embodied experience of extraction, care, and limitation.



**Figure 38.** Material Bar, Slovenia Pavilion, Milan Design Week. Photo: Marijo Zupanov.

# THE TALE OF MATTER





## THE TALE OF MATTER

From Object → Relationship  
Stories That Loop And Twist  
Embodied Narrative  
Visitor As Collaborator  
More Than Human  
Queering The Tale

### **NARRATIVE SHIFT: OBJECT → RELATIONSHIP**

The narrative unfolds by showing how materials, people, time, labor, and the environment are interconnected

### **STORIES THAT LOOP AND TWIST**

Rejecting linear “beginning–development–twist–conclusion” storytelling, the narrative adopts cyclical, branching, and juxtaposed structures, remaining continuously in the process of generation.

### **EMBODIED NARRATIVE**

Narrative unfolds through bodily perception and temporal processes.

### **VISITOR AS COLLABORATOR**

Narrative authority is distributed, with visitors’ actions, decisions, and collaborations becoming integral to the narrative.

### **MORE THAN HUMAN**

Narrative is produced through living systems, material behaviors, and environmental conditions.

### **QUEERING THE TALE**

By foregrounding Embodied difference, the exhibition questions normative assumptions of efficiency, control, and value in exhibition practice.

# NARRATIVE SHIFT: OBJECT → RELATIONSHIP

## WHAT is it?

A foundational narrative strategy across the case studies is the repositioning of materials from passive exhibits to active collaborators. Soil, straw, stone, timber, and other bio-based matter are entities with histories, temporal behaviors, ecological relationships, and social impacts. Narrative emerges through material processes, growth, decay, repair, reuse, and transformation.

Materials are endowed with narrative agency: they carry memories, resist simplistic categorization, and enact ecological time through their behaviors. Foregrounds materiality as relational collaborator within ecological, cultural, and built environments.

## WHY use it?

- Materials are positioned as co-narrators whose histories, behaviors, and transformations shape exhibition logic.
- Narrative unfolds through material processes, enabling visitors to perceive ecological and temporal relations first-hand.
- This reframing deepens engagement with materials as living entities whose relationships to place, people, and environment are co-constitutive.

## HOW to use it?

### 1. Relational Mapping

Show connections between material origin, labor, climate, transport, use, and afterlife.

### 2. Narrate Through Transformation

Sequence the exhibition around processes such as extraction, making, aging, repair, and reuse.

### 3. Reveal Hidden Networks

Make visible supply chains, ecological impacts, and social relations embedded in materials.

### 4. Connect Micro to Macro

Link a single material encounter to broader environmental and socio-political systems.

*The narrative unfolds by showing how materials, people, time, labor, and the environment are interconnected*



**Figure 39.** Homegrown: Building a Post-Carbon Future. Photo: Henry Woide.

## CASE EXAMPLE: **HOME GROWN: BUILDING A POST-CARBON FUTURE,** MATERIAL CULTURES 2023

Homegrown reframes material from object to relationship by presenting bio-based construction materials such as straw, stone, and timber as carriers of ecological and cultural narratives. The exhibition, developed by Material Cultures in collaboration with The Building Centre, invites visitors to reassess their relationship with the built environment by engaging with landscape-derived materials and their stories of origin and use. It combines innovative bio-based materials with commissioned films that reimagine land use at local, regional, and national scales, positioning material histories and ecological processes at the core of its narrative.

By displaying materials alongside their ecological potentials and social contexts, Homegrown allows narrative to unfold through the materials themselves as they embody geography, craft knowledge, supply chain histories, and future possibilities for post-carbon building practice.

# STORIES THAT LOOP AND TWIST

## WHAT is it?

This narrative strategy employs non-linear and open narrative structures. Spatial arrangements such as spirals, concentric rings, thematic axes, and workshop networks allow visitors to enter, exit, and re-enter the exhibition at multiple points. Narrative progression is therefore cyclical, accumulative, and multi-directional.

The exhibition is conceived as a living system, where narrative unfolds in response to visitor movement, material interactions, and environmental conditions, enabling stories to loop, twist, and recombine.

## WHY use it?

- Allows visitors to construct their own pathways and experience.
- Supports accumulation of knowledge and reflection through repeated engagement with materials, processes, and spatial arrangements.
- Encourages relational and systemic thinking by connecting themes such as energy, materials, labor, waste, and emissions in branching, overlapping ways.

## HOW to use it?

### **1. Design Multiple Entry Points**

Avoid a single directional path; allow visitors to begin anywhere.

### **2. Structure Through Spatial Motifs**

Use spirals, loops, clusters, or networks to spatialize cyclical thinking.

### **3. Create Narrative Recurrence**

Reintroduce materials or themes in different contexts to build accumulative meaning.

### **4. Encourage Reorientation**

Design sightlines, crossings, and overlaps that prompt visitors to revisit earlier elements.

### **5. Juxtapose Rather Than Sequence**

Place contrasting themes or materials side by side to provoke relational interpretation.

### **6. Leave Space for Open Endings**

Resist closure; allow the narrative to remain unfinished and generative.

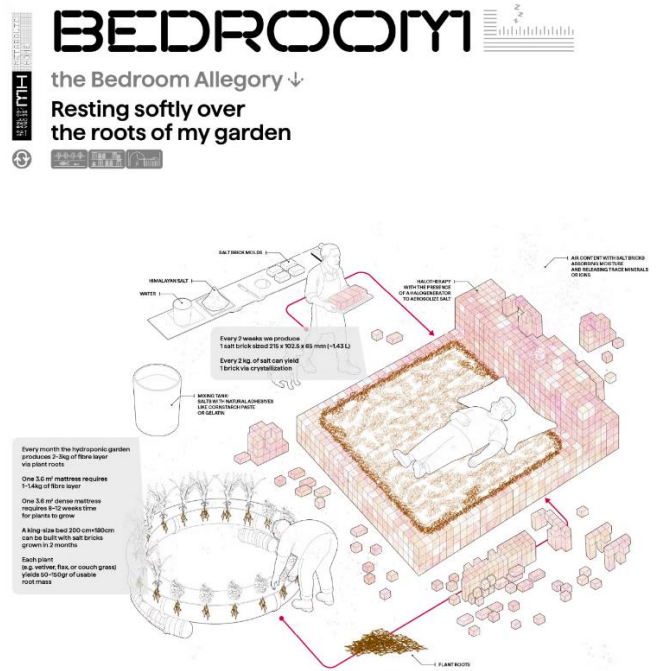


Figure 40. Metabolic Home. Photo: Petros Pattakos.

## CASE EXAMPLE: *METABOLIC HOME*: NEW FORMS OF COHABITATION AND DECARBONIZATION IN THE DENSE CITY

*Metabolic Home* structures its exhibition spaces as a cyclical and multi-axial narrative system. Visitors navigate through spiraling “Terrariums,” circular modules, and interconnected workshop networks, encountering thematic threads, materials, energy flows, waste streams, labor, and emissions at multiple entry points. The narrative is branching and cumulative, allowing participants to re-enter topics in different contexts, reflecting the complex, interdependent systems of urban cohabitation and decarbonization.

The exhibition highlights feedback loops and iterative processes, mirroring metabolic and ecological cycles in dense urban environments. Visitors experience the exhibition as a continuous dialogue between material, space, and social systems, emphasizing systems-thinking over linear storytelling.

*Rejecting linear “beginning–development–twist–conclusion” storytelling, the narrative adopts cyclical, branching, and juxtaposed structures, remaining continuously in the process of generation.*

# EMBODIED NARRATIVE

## WHAT is it?

Embodied narrative shifts storytelling from textual or visual explanation toward sensorial and bodily engagement. Touch, smell, weight, sound, taste, and physical labor become primary narrative media. Knowledge is encountered through bodily presence and action.

The body itself becomes the primary interface for narrative, and temporal processes such as drying, cracking, oxidation, and repair are experienced directly, turning material transformation into a narrative language.

## WHY use it?

- Promotes knowledge acquisition through embodied experience.
- Makes material histories, craft techniques, and cultural practices tangible and memorable.
- Supports slow, non-instantaneous perception, emphasizing lingering, repetition, and direct interaction over rapid information delivery.
- Connects visitors physically and emotionally to the material and cultural context of the exhibition.

## HOW to use it?

### **1. Design for Direct Contact**

Allow touching, holding, lifting, assembling, or repairing materials.

### **2. Activate Multiple Senses**

Incorporate smell, sound, texture, temperature, and weight as narrative elements.

### **3. Engage the Body in Doing**

Integrate making, grinding, mixing, weaving, or assembling as experiential components.

### **4. Slow Down the Experience**

Create spatial conditions that encourage lingering, repetition, and attentiveness.

MATERIAL	TERROIR	COLLECTION	MATERIAL	TERROIR	COLLECTION	MATERIAL	TERROIR	COLLECTION	MATERIAL	TERROIR	COLLECTION
M	T	C	M	T	C	M	T	C	M	T	C
<b>BARRO NEGRO</b>						<b>1. BARRO NEGRO</b>			<b>1.</b>		
NATURAL EARTH	OAXACA	CAN				MOLE	OAXACA	FLAVOURS			
											
<p>In San Bartolo Coyotepec, Oaxaca, nearly 99% of the community shapes Barro Negro, a craft passed down for generations. This deep black clay has been used since the Monte Albán period, with pieces still found in Zapotec archaeological sites. The material and its techniques have remained unchanged for centuries, preserving a legacy of craftsmanship.</p> <p>Visiting the artisans in Oaxaca is an experience rooted in warmth and tradition. Often, our team is welcomed with a plate of mole, hot and fragrant, a symbol of Oaxacan culture and a poetic reflection in similarity of the land and its dark clay. Handcrafted with care, Barro Negro is shaped by hands that carry this heritage, mixing earth with water, and fired in underground kilns. This ancient technique, perfected over generations, gives the clay its signature dark tone, without the use of pigments or glazes.</p> <p>Each piece we create is not only a modern interpretation of this centuries-old tradition but a tribute to the artisans, their community, and the culture that nourishes them. Like the mole that brings people together around the table, each piece of Barro Negro carries with it the essence of Oaxaca—a story of craftsmanship, food, and shared heritage.</p>			<p><b>INGREDIENTS</b></p> <ul style="list-style-type: none"><li>• 4 dried Ancho chilies</li><li>• 4 dried Pasilla chilies</li><li>• 2 dried Guajillo chilies</li><li>• 1 cup tomatoes (roasted)</li><li>• 1/4 cup almonds (toasted)</li><li>• 1/4 cup sesame seeds (toasted)</li><li>• 1/4 cup raisins</li><li>• 1 onion (chopped)</li><li>• 4 cloves garlic (minced)</li><li>• 2 cups chicken broth</li><li>• 1 tsp cinnamon</li><li>• 1 tsp cumin</li><li>• Salt and pepper to taste</li><li>• 2 tbsp vegetable oil</li><li>• 1 tbsp chocolate (preferably Mexican)</li></ul>			<p><b>PREPARATION</b></p> <ol style="list-style-type: none"><li>1. Toast the dried chilies lightly in a skillet, then soak them in warm water until soft.</li><li>2. In a blender, combine the soaked chilies, roasted tomatoes, toasted almonds, sesame seeds, raisins, onion, garlic, and chicken broth. Blend until smooth.</li><li>3. Heat oil in a pot, pour in the chili mixture, and cook for about 10 minutes, stirring frequently.</li><li>4. Add cinnamon, cumin, salt, and pepper. Simmer for an additional 20 minutes.</li><li>5. Stir in the chocolate until melted, adjust seasoning if necessary, and serve over your favorite meat or vegetables.</li></ol>					

Figure 41. Taste of material, Studio Davidpompa

## CASE EXAMPLE: **STUDIO DAVIDPOMPA**, MILAN DESIGN WEEK

At Milan Design Week, Studio Davidpompa structured its pavilion to engage visitors through Embodied, multisensory programs that integrate materials, craft, food and Mexican culture. Examples include:

**AFFOGATO BARRO** – Pouring espresso mirrors the ritual of shaping barro negro clay, turning coffee-making into a performative act that conveys material behavior.

**MEXICAN BREAKFAST** – Tasting tamales and atole at EUROLUCE introduces visitors to traditional Mexican flavors, connecting culinary experience with cultural context.

**STONE CHOCOLATE** – A 20-kg chocolate sculpture mimicking raw rock engages visitors through taste, texture, and scale, revealing material qualities via physical interaction.

**THE TASTE OF MATERIALS** – Wolf Lass’s film series links sensory experience with material history, guiding visitors to perceive narratives through sight and imagination.

*Narrative unfolds through bodily perception and temporal processes.*

# VISITOR AS COLLABORATOR

## WHAT is it?

Visitor as Co-Author repositions visitors from passive recipients to active contributors who materially and socially shape the exhibition. Through participation, collaboration, and decision-making, visitors intervene directly in processes of making, repairing, and maintaining.

## WHY use it?

- Decentralizes authorship and challenges hierarchical curatorial control.
- Enables collective action to become the primary engine of narrative.
- Aligns participation with ethical values of care, responsibility, and stewardship.
- Transforms visitors from interpreters of meaning into agents of change within the exhibition.

## HOW to use it?

### 1. Create Open Systems

Design installations that require visitor input to be completed, altered, or sustained.

### 2. Enable Material Intervention

Allow visitors to assemble, repair, modify, or contribute materials over time.

### 3. Incorporate Decision Points

Introduce choices that influence spatial configuration, narrative direction, or material outcomes.

### 4. Accumulate Collective Traces

Make visible the marks, additions, repairs, or transformations generated by visitors.

### 5. Design for Responsibility

Structure participation so that actions have visible consequences within the exhibition ecosystem.

### 6. Share Credit

Acknowledge visitor contributions as part of the authorship of the exhibition.



**Figure 42.** Aaron Gatt, *Landscape*, 2025. Drawing. The Cyprus Pavillion

## CASE EXAMPLE 2: ***TO THE STONES***, CYPRUS PAVILION AT THE VENICE BIENNALE

To the Stones frames co-authorship through collective Embodied labor, centered on the act of dry-stone construction. Visitors participate in stacking, adjusting, and negotiating stone placements, becoming physically involved in the making of the pavilion.

In this context, narrative emerges through coordination, bodily effort, and mutual dependency. The exhibition is shaped by collective decisions and material resistance, positioning visitors as co-authors within a shared ecological and political process concerning land, memory, and responsibility.

*Narrative authority is distributed, with visitors' actions, decisions, and collaborations becoming integral to the narrative.*



**Figure 43.** *Holy See Pavilion / Opera Aperta*, Venice Biennale 2025. Photo by José Hevia.

## CASE EXAMPLE 1: **HOLY SEE PAVILION / OPERA APERTA**

Opera Aperta operates as an open repair site where visitors are invited to engage in acts of maintenance, care, and collective responsibility. Visitors' actions repairing, cleaning, adjusting, and conversing directly affect the physical condition and temporal evolution of the pavilion.

Here, narrative unfolds through ongoing use and care. Visitors become co-authors by sustaining the space, with authorship expressed through accumulated traces, wear, and shared labor rather than symbolic interaction.

OPERA APERTA Padiglione della Santa Sede

10.05 → 23.11 '25

COMPLESSO DI SANTA MARIA AUSILIATRICE FONDAMENTA S. GIOACCHIN #450 30122 VENEZIA, VE

Laboratori a cura di UIA - Università Internazionale dell'Arte

Fotografia di MAIO Architects



Figure 44. Holy See Pavilion / Opera Aperta, Venice Biennale 2025. Photo by José Hevia.

# MORE THAN HUMAN

## WHAT is it?

More-than-Human expands the scope of curatorial and narrative agency beyond humans, positioning plants, animals, soils, minerals, microorganisms, and ecological systems as active participants in the exhibition. The exhibition explores the complex, interdependent relationships between materials, living beings, and political systems.

Narrative authority is redistributed across species, environments, and infrastructures. Materials are treated as living or formerly living entities, situated within extractive practices, legal frameworks, and ecological cycle.

## WHY use it?

- Challenges anthropocentric models of design, authorship, and exhibition-making.
- Makes visible the ecological, political, and multispecies entanglements.
- Enables ethical reflection on extraction, care, responsibility, and coexistence.
- Repositions design as a mediator within complex planetary systems.

## HOW to use it?

### **1. Include Living Systems**

Integrate plants, soil, fungi, microorganisms, or ecological processes as active components of the exhibition.

### **2. Design for Ecological Interdependence**

Expose relationships between materials, energy flows, climate, and biological systems.

### **3. Reveal Extraction and Afterlife**

Map the political, legal, and environmental histories embedded in materials.

### **4. Decenter Human Perspective**

Use spatial framing, soundscapes, or scale shifts to situate humans within larger ecological systems rather than at the center.

### **5. Enable Ethical Encounter**

Create moments where visitors confront their entanglement with non-human agencies and planetary infrastructures.



**Figure 45.***Oltre-Terra*. Photo by Gregorio Gonella

## CASE EXAMPLE: **OLTRE-TERRA**, FORMAFANTASMA

Oltre Terra investigates the global wool industry through a more-than-human lens, tracing the entangled lives of sheep, grasslands, microorganisms, breeders, economies, and territories. The exhibition treat wool as a biological, cultural, and political agent shaped by grazing patterns, soil health, breeding practices, and climate systems.

Narrative unfolds through material samples, archival research, spatial installations, and filmic documentation that foreground non-human labor and vulnerability. Sheep, landscapes, and fibers become narrative actors, revealing how human design decisions are inseparable from multispecies ecosystems and extractive infrastructures.

In this framework, the exhibition becomes a space for negotiating coexistence rather than mastery.

*Narrative is produced through living systems, material behaviors, and environmental conditions.*

# QUEERING THE TALE

## WHAT is it?

Queering the Tale reframes material and architectural narratives by disrupting normative assumptions about how materials should behave, how labor should be performed, and how value is produced.

\*Queer is used as out of ordinary, surreal, and not corresponding to conventional ideas. Sometimes but not always related to gender and sex.

## WHY use it?

- Challenges extractive and efficiency-driven material narratives in architecture.
- Reveals material practice as relational, effortful, and contingency.
- Makes visible the hidden labor, strain, and bodily cost embedded in material production and construction.
- Aligns material storytelling with ethics of care, vulnerability, and non-normative value systems.

## HOW to use it?

### 1. Expose Effort and Strain

Make visible lifting, grinding, mixing, carrying, or repetitive actions usually hidden in construction processes.

### 2. Translate Material Forces into Bodily Tasks

Design participatory elements where visitors encounter resistance, imbalance, or friction.

### 3. Reveal Labor Time

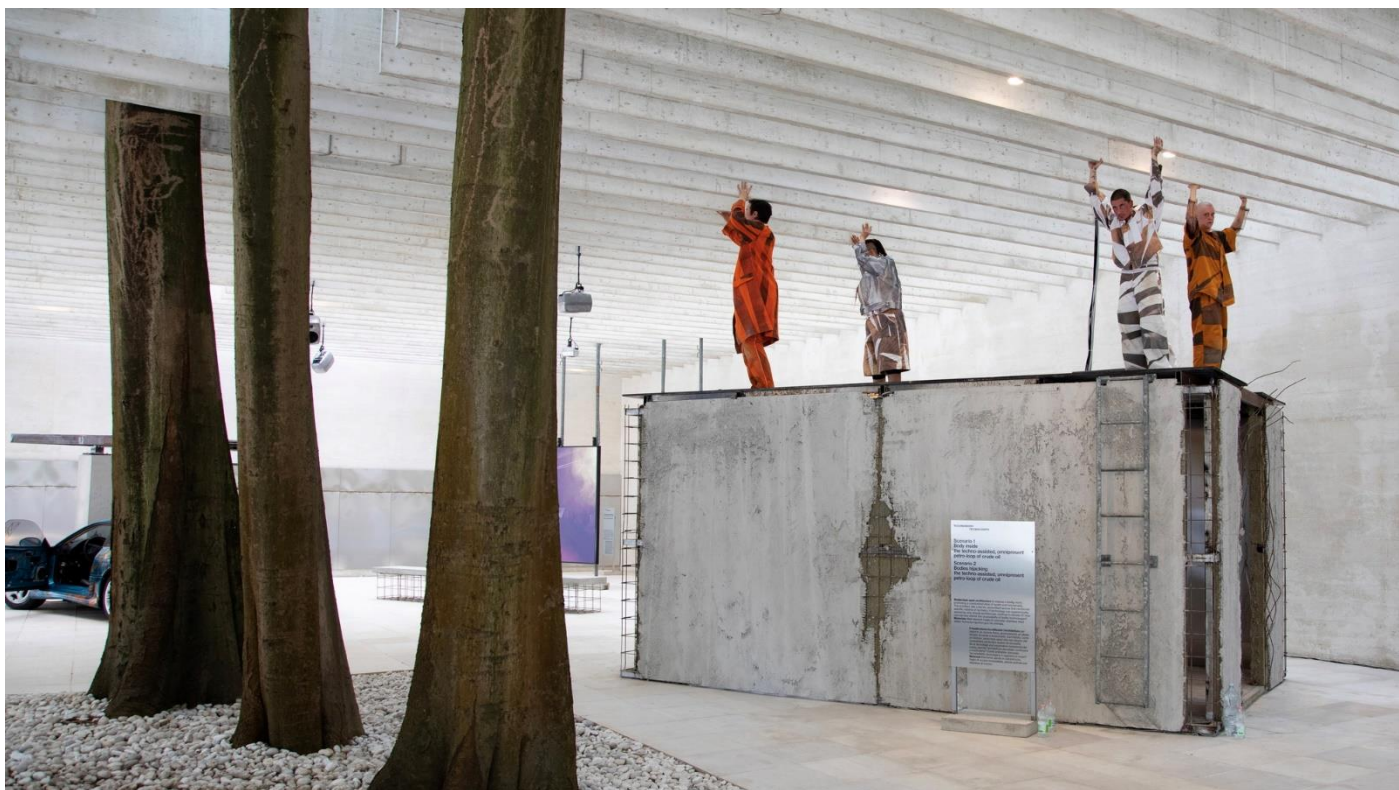
Expose duration, repetition, and maintenance as central narrative elements.

### 4. Complicate Value Systems

Highlight care, repair, slowness, and vulnerability as forms of productivity.

### 5. Embrace Instability

Allow shifting, sagging, or imperfect structures to challenge ideals of mastery and control.



**Figure 46.** *Industry Muscle*. Photo by Venla Helenius.

## CASE EXAMPLE: **INDUSTRY MUSCLE** – FIVE SCORES FOR ARCHITECTURE

In *Industry Muscle*, materials are activated through bodily performance. Each score corresponds to a material condition load, resistance, repetition, coordination, endurance translated into muscular action, breath, and rhythm.

The narrative celebrates foregrounds friction, exhaustion, imbalance, and dependency. Materials are thus narrated through their demands on bodies, revealing architecture as a negotiation between human muscle and Material Agency rather than a triumph of form or technology.

*By foregrounding Embodied difference, the exhibition questions normative assumptions of efficiency, control, and value in architectural practice.*

# THE SHAPE OF EXPERIENCE





## THE SHAPE OF EXPERIENCE

Morphing Spaces  
Zoning Knowledge and Ecology  
Emotional Mapping  
Material Theatre  
Material Rituals

### MORPHING SPACES

Space is constructed as a hybrid spatial field—positioned between installation, landscape, studio, and human-scale architecture.

### ZONING KNOWLEDGE AND ECOLOGY

Zoning translates the relationships among materials, ecology, labor, and knowledge into spatial layers that can be experienced bodily.

### EMOTIONAL MAPPING

The smell, developed by smell researcher and artist Sissel Tolaas, evokes the wet earth and flora of a forest, offering an immersive reminder of what is at stake when we lose this environment.

### MATERIAL THEATRE

Materials become partners that communicate with both performers and audience, shaping meaning in real time.”

### MATERIAL RITUALS

Material Rituals transform space into a sensory and affective field, where form, materiality, and embodied experience produce meaning through presence.

# MORPHING SPACES

## WHAT is it?

Morphing Spaces refers to a spatial strategy in which exhibition environments are designed as hybrid, reconfigurable, and use-driven typologies. Spaces are structured to accommodate multiple functions, production, learning, social interaction, and maintenance within a single architectural framework.

## WHY use it?

- Supports exhibitions conceived as processes rather than finished outcomes.
- Allows spatial configuration to adapt to workshops, meals, making, and repair.
- Dissolves rigid boundaries between exhibition, production, and social space.
- Aligns spatial design with material temporality, collective labor, and learning-by-doing.

## HOW to use it?

### **1. Design Reconfigurable Elements**

Use modular structures, movable partitions, adaptable platforms, and adjustable furniture.

### **2. Layer Functions**

Combine display surfaces with worktables, seating, storage, and tools within the same spatial system.

### **3. Allow Programmatic Overlap**

Enable simultaneous exhibition, making, eating, repairing, and discussion within shared zones.

### **4. Design for Temporal Change**

Let spatial configuration shift throughout the exhibition in response to use and material processes.

### **5. Expose Infrastructure**

Keep structural systems, tools, and utilities visible to support transparency and adaptability.

### **6. Scale Between Installation and Architecture**

Position the space between object, landscape, and inhabitable structure.

<b>CHRONOLOGICAL</b> 	<b>THEMATIC</b> 	<b>GEOGRAPHIC</b> 
<b>DRAMATURGICAL</b> 	<b>PROBLEM-SOLUTION</b> 	<b>MULTIVOCAL</b> 
<b>SENSORY</b> 	<b>COMPARATIVE</b> 	<b>BIO-DESIGN</b> 
<b>RELATIONAL</b> 	<b>PROCESS-BASED</b> 	<b>MORE-THAN-HUMAN</b> 

<b>LIFECYCLE MODEL</b> 	<b>ECONOMIC</b> 	<b>MATERIAL CULTURE</b> 
<b>MATERIAL ARCHAEOLOGY</b> 	<b>MATERIAL BEHAVIOR</b> 	<b>MAKING &amp; CRAFT</b> 
<b>MATERIAL ECOLOGY</b> 	<b>ISSUE-BASED</b> 	<b>MATERIAL AGENCY</b> 
<b>POLITICAL</b> 	<b>EXPERIMENTAL / LAB</b> 	<b>SPECULATIVE</b> 

*Space is constructed as a hybrid spatial field—positioned between installation, landscape, studio, and human-scale architecture.*



## CASE EXAMPLES:

### **MATERIAL BAR – BAR AS SPATIAL APPARATUS**

At Material Bar, the central bar operates simultaneously as counter, workshop table, display device, and social interface. Its spatial meaning shifts throughout the day from observation to participation, from demonstration to collective making. The bar morphs with the actions performed upon it, making space inseparable from process.

### **OPERA APERTA – COMMUNAL KITCHEN AS REPAIR SPACE**

The communal kitchen operates as a shared infrastructure for cooking, gathering, and maintenance. Everyday acts of preparation and repair continuously reconfigure the pavilion through collective use.

### **DROPCITY – LABS AS OPEN INFRASTRUCTURES**

Dropcity's laboratories blur the distinction between exhibition space, construction site, and research environment. Workshops, prototyping zones, and public programs coexist within a flexible spatial framework. Scaffolding, temporary structures, and reused materials allow spaces to be constantly reassembled according to ongoing experiments.



**Figure 47.** *Drocity*. Photo by Wanqing Yue.

# ZONING KNOWLEDGE AND ECOLOGY

## WHAT is it?

This zoning strategy replaces conventional functional layouts with epistemic and ecological zoning, where spatial organization translates material systems, lifecycles, and power relations into embodied experience. Space is structured to reflect how materials move through extraction, production, use, waste, and governance rather than how exhibitions are typically categorized.

## WHY use it?

- Enables visitors to physically navigate complex material and ecological systems.
- Transforms spatial layout into a cognitive tool for understanding material lifecycles.
- Aligns spatial sequencing with ethical and systemic awareness rather than visual spectacle.
- Makes abstract processes (supply chains, waste, policy) experientially legible.

## HOW to use it?

### 1. Map the Lifecycle

Identify stages such as extraction, transformation, distribution, use, repair, and disposal before designing the layout.

### 2. Sequence Ethically

Organize space according to systemic logic rather than visual composition alone.

### 3. Layer Scales of Knowledge

Combine micro (material sample), meso (workshop), and macro (policy, infrastructure) within adjacent zones.

### 4. Use Transitional Thresholds

Design passages that signal shifts between ecological phases or knowledge.

### 5. Enable Bodily Navigation of Systems

Let movement through space mirror movement through material and ecological processes.

*linear/zigzag*



*thematic*



*functional*



*path-driven  
experience*



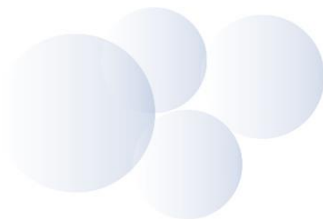
*layered /  
nested zoning*



*open plan*



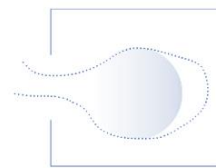
*emotion zoning*



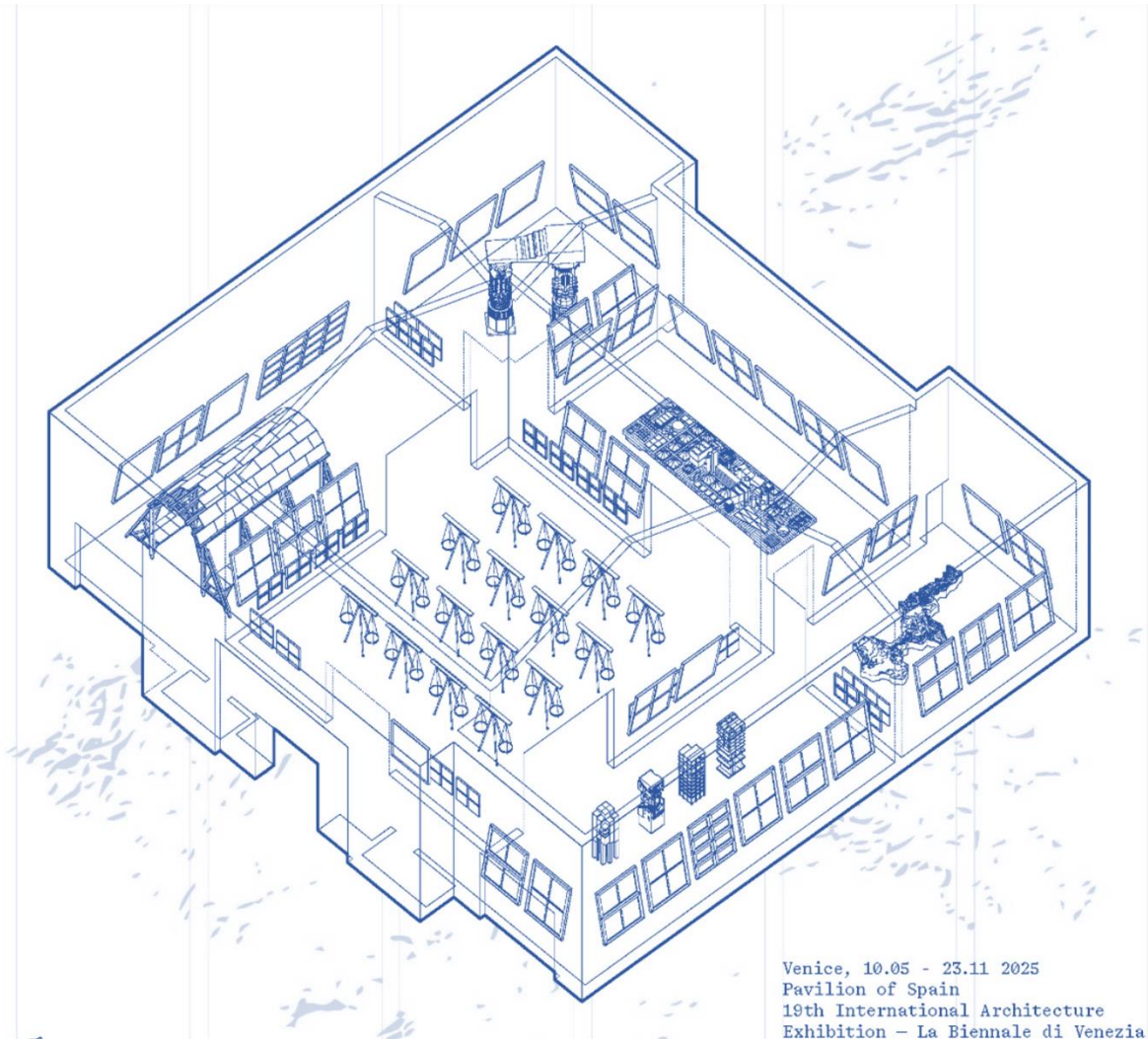
*narrative zoning*



*interactive  
zoning*



*Zoning translates the relationships among materials, ecology, labor, and knowledge into spatial layers that can be experienced bodily.*



## CASE EXAMPLE: **INTERNALITIES** – ARCHITECTURES FOR TERRITORIAL EQUILIBRIUM

Internalities organizes spatial zones around ecological and epistemic themes rather than traditional function or chronology. The pavilion is structured with a central “Balance” hall presenting an overview of 16 architectural projects that explore decarbonization strategies in Spain, followed by five thematic zones dedicated to Materials, Energy, Trades, Waste, and Emissions, each tied to a specific regional ecology and resource context.

In this arrangement, zones correspond to material lifecycles and territorial systems: wood, stone, ceramics, earth, and plant fibers are analyzed from extraction through production to reuse, illustrating how architecture might balance ecological systems with economic activity. The spatial layout thus embodies a system model that visitors traverse physically, transforming the exhibition into a spatialized framework for understanding ecological-material relations rather than a series of isolated displays.



**Figure 48.** Model of the Spanish Pavilion made by Cornell APP students. Photograph courtesy of Internalities.

# EMOTIONAL MAPPING

## WHAT is it?

Emotional Mapping is a spatial strategy that intentionally crafts emotional gradients within exhibition spaces, enabling visitors to experience material and ecological knowledge affectively. Spaces are designed to evoke sensory reactions: wonder, tension, melancholy, reflection, urgency that mirror the material and ecological processes being explored.

In this mode, spatial zones correspond to felt states, guiding visitors through layered experiences that resonate physically and emotionally as they traverse the exhibition.

## WHY use it?

- Supports Embodied understanding by linking spatial sequences with affective responses.
- Encourages empathy, curiosity, and reflection through environment-activated emotion.
- Helps communicate complex ecological issues by connecting intellect with sensation.
- Makes material lifecycles and environmental consequences personally felt.

## HOW to use it?

### 1. Define Emotional Trajectories

Map desired affective shifts across the exhibition: immersion → tension → confrontation → reflection → care.

### 2. Design Atmospheric Conditions

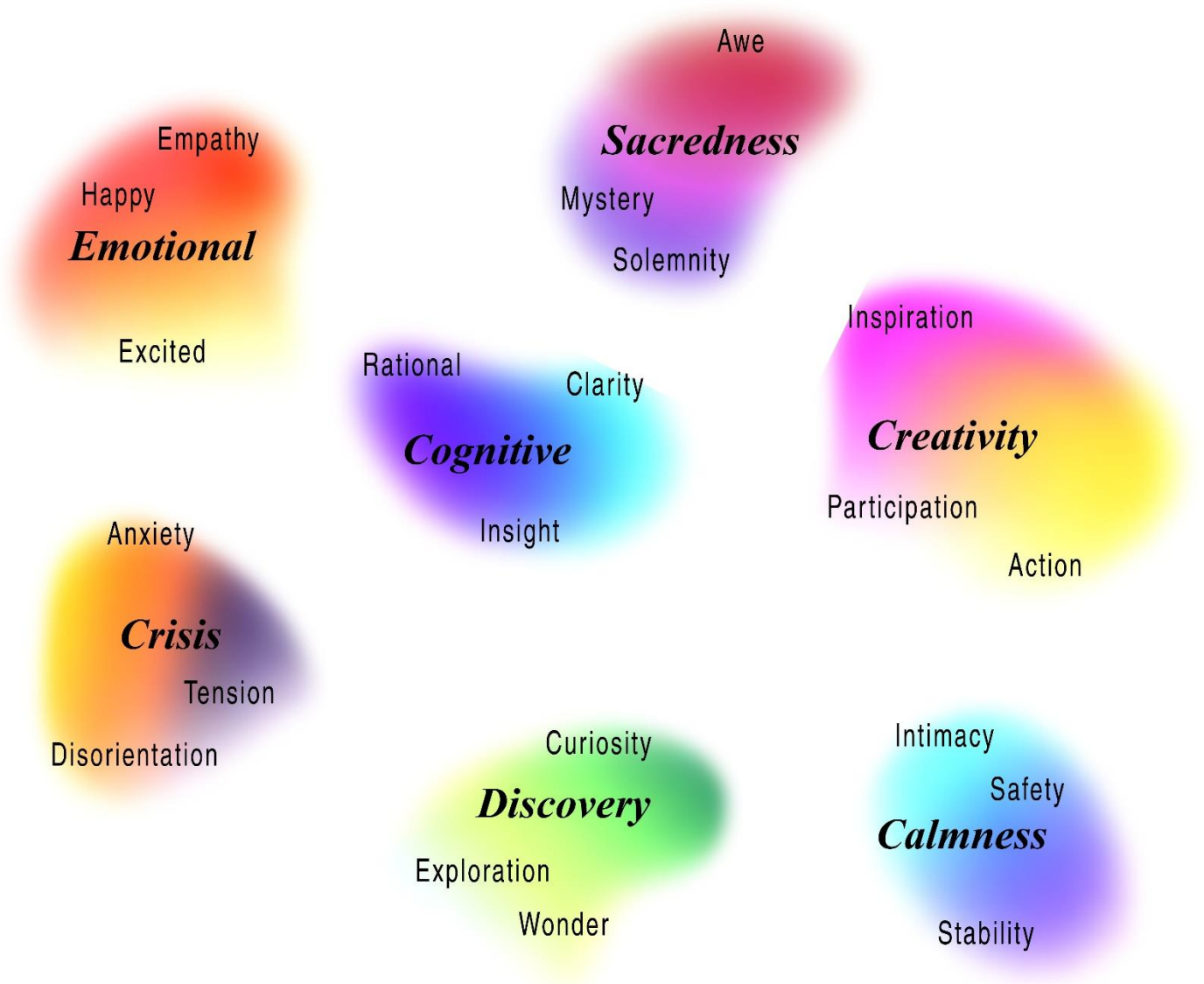
Manipulate light, scale, acoustics, temperature, density, and material proximity to shape emotional tone.

### 3. Activate Olfactory and Sonic Layers

Integrate smell and sound to deepen immersion and memory formation.

### 4. Create Reflective Thresholds

Include pauses, seating, or contemplative voids that allow emotional processing.



*The smell, developed by smell researcher and artist Sissel Tolaas, evokes the wet earth and flora of a forest, offering an immersive reminder of what is at stake when we lose this environment.*



**Figure 49.** Cambio, Image credit: Serpentine Galleries

## CASE EXAMPLE: **CAMBIO** – FORMAFANTASMA

### **Entrance / Confrontation (Awakening)**

Visitors are immersed in the scent and texture of wood, heightening bodily awareness and connection to living ecosystems.

### **Transition / Disorientation (Reflection)**

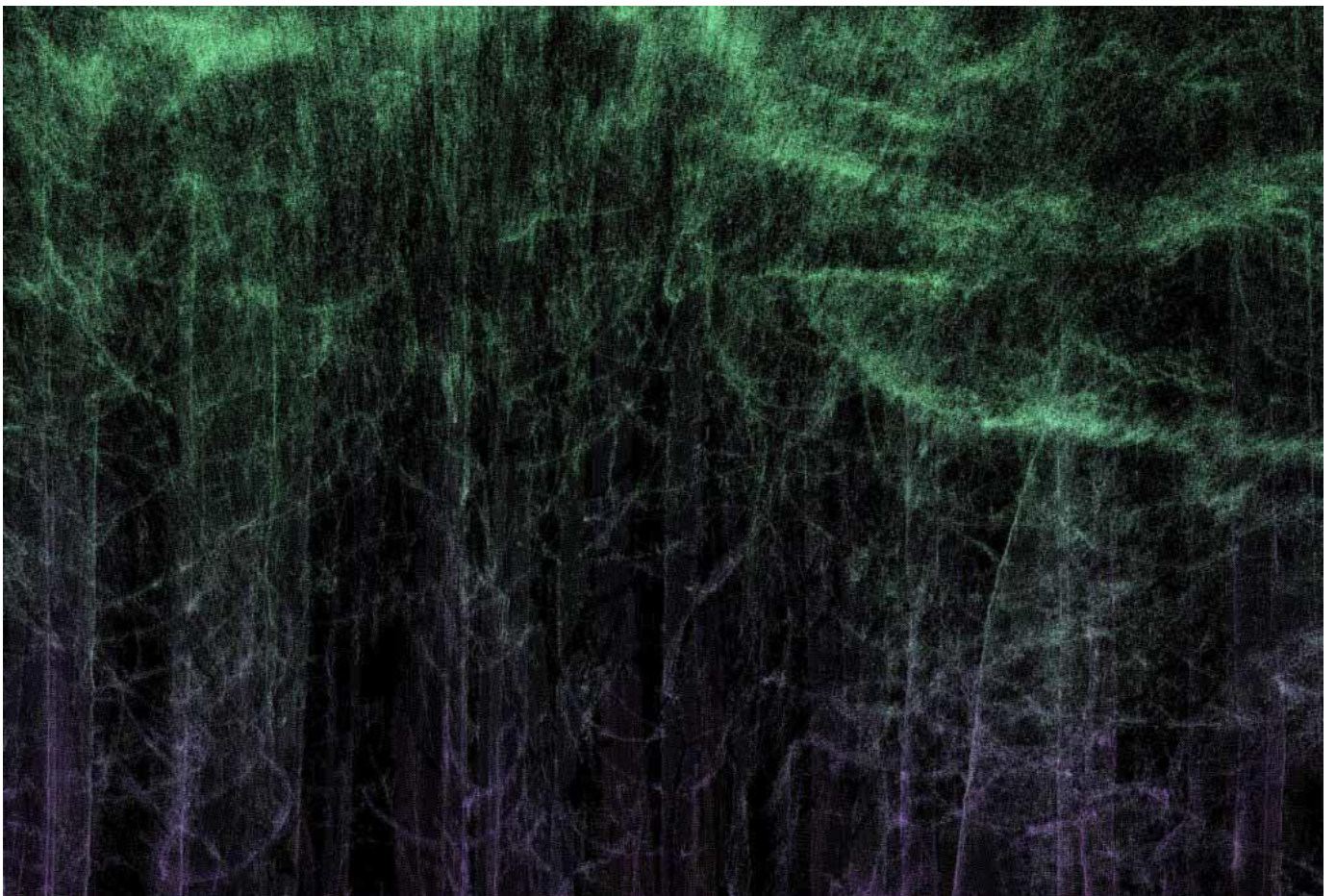
Concentric spatial layouts echo tree rings, guiding movement and prompting reflection on time, growth, and ecological cycles.

### **Core Zones / Hidden Narratives (Tension & Empathy)**

Films and installations reveal forest histories, extraction, and ecological change, evoking intellectual engagement and emotional tension.

### **Peripheral Zones / Afterthought (Contemplation)**

Slower spatial rhythms allow visitors to dwell with objects and material traces, fostering contemplative resonance with human responsibility.



# MATERIAL THEATRE

## WHAT is it?

This spatial strategy positions bodies and materials as co-actors within the exhibition or performance environment. Space is a responsive, dynamic field shaped by bodily interaction, material properties, and temporal processes. Materials such as paper, fabric, water, foam, or ice are treated as active participants whose textures, resistance, and behaviors influence the movement and engagement of people.

## WHY use it?

- Activates Embodied perception and kinesthetic understanding of materials.
- Creates spaces that are performative, adaptive, and emotionally resonant.
- Supports improvisation, experimentation, and relational interaction between humans and materials.
- 

## HOW to use it?

### 1. Stage Material Forces

Expose weight, fragility, fluidity, elasticity, melting, tearing, or collapse as performative elements.

### 2. Design for Interaction, Not Observation

Allow pushing, pulling, entering, balancing, or navigating through material resistance.

### 3. Defamiliarize the Familiar

Use common materials in unexpected scales, states, or behaviors to disrupt habitual perception.

### 4. Let Materials Script Movement

Allow spatial choreography to emerge from material properties rather than pre-fixed pathways.

### 5. Enable Improvisation

Design flexible environments where bodily responses and material changes co-create narrative.

*Materials become partners that communicate with both performers and audience, shaping meaning in real time.”*



**Figure 50.** Material Theatre, Image credit: Resonance Horizon Theatre

## CASE EXAMPLE: ***MATERIAL THEATRE*** – PHILIPPE GENTY

In Genty's material theatre, performers and materials interact dynamically, with paper, fabric, and ice acting as partners. Materials are hidden, revealed, moved, and transformed through touch and bodily engagement, creating rhythms and improvisations that continuously reshape the space. Audience perception completes the narrative, making the environment a living, co-authored spatial experience.

# MATERIAL RITUALS

## WHAT is it?

Material Rituals is a spatial strategy in which materials generate ritual-like experiences through form and atmosphere rather than narrative explanation. Through repetition, gravity, enclosure, and sensory density, elemental materials such as earth, clay, brick, or stone structure rhythms of approach, pause, and release. Meaning emerges from bodily attunement within material presence.

## WHY use it?

Enables non-discursive, embodied understanding.

Slows perception and resists distraction.

Spatializes care, humility, and coexistence through atmosphere.

Material rituals communicate through presence, not explanation.

## HOW to use it?

### **1. Construct Rhythms of Movement**

Sequence compression and expansion, darkness and light, weight and openness.

### **2. Use Repetition and Alignment**

Repeat material modules, columns, bricks, or earthen forms to create spatial cadence.

### **3. Control Sensory Density**

Modulate acoustics, temperature, tactility, and smell to heighten bodily awareness.

### **4. Work with Gravity and Mass**

Let weight and structural presence define spatial hierarchy and emotional tone.

### **5. Create Spaces of Pause**

Design thresholds, voids, or enclosed chambers that encourage stillness and attunement.

*Material Rituals transform space into a sensory and affective field, where form, materiality, and embodied experience produce meaning through presence.*



**Figure 51.** The Elephant Chapel and Earthen Rituals, Photo by Wanqing Yue

## CASE EXAMPLE: *THE ELEPHANT CHAPEL*

The Elephant Chapel constructs a four-meter-tall arched sanctuary entirely from biomaterial bricks made of elephant dung, demonstrating how unconventional materials can reframe spatial perception and spiritual presence. The chapel's material mass, arching geometry, and porous light create a contemplative atmosphere grounded in material existence and ecological relationality. This weighty yet open space invites slowed movement, reflection, and Embodied engagement, turning architectural enclosure into a threshold for introspection rather than mere observation.

## CASE EXAMPLE: *EARTHEN RITUALS*

Earthen Rituals activates spatial resonance through a fusion of vernacular earth construction and digital design, producing 3D-printed earth-fiber tiles that embody both craft knowledge and ecological texture. The installation's sensory focus manifested in tactile surfaces, earthy scents, and ritual-like material variation creates spaces that foreground Embodied material presence over visual spectacle. As the project confronts extractive practices and climate crises, the space becomes a place of collective pause and material encounter, where visitors experience the variable qualities of raw materials in relation to their own presence and the larger environment.

# 6

## CONCEPTUAL DESIGN SCENARIO

- *WOOD*

*Material Exhibition*

**This chapter translates the strategic plan developed in Chapter 5 into an exhibition proposal for RONG Design Library.**

**The exhibition is conceived as a collaborative, research-driven platform that enables designers, artisans, and researchers to contribute through installations, workshops, and performative actions. Three strategies are selected and operationalized through curatorial, narrative, and spatial decisions.**

**While spatial organization, narrative sequencing, and operative formats are clearly defined, specific works are understood as emergent outcomes shaped through interaction and ongoing material research. The openness of the proposal is methodological.**

\* A detailed curatorial planning document, including collaborative frameworks and quantitative calculations, is provided in the appendix

## 6.1 PROJECT POSITIONING

### CONTEXT: RONG DESIGN LIBRARY

This project develops from dialogue with Jingyi Lu at RONG Design Library in Qingshan Village.

RONG functions as a long-term research platform dedicated to traditional Chinese crafts and material knowledge. It has accumulated extensive documentation, material experiments, and collaborations with artisans and designers. The institution produces substantial internal research. The primary difficulty lies in its translation into contemporary exhibition and design contexts.

3 structural conditions define this challenge:

1. Traditional craft systems operate within specific material constraints and inherited technical logics. Craft knowledge is transmitted through mastery and completion, while contemporary design research requires analytical decomposition and iterative experimentation. This methodological difference complicates collaboration and reinterpretation.
2. Dissemination mechanisms remain limited in relation to research output. Complex craft systems are difficult to communicate through conventional exhibition formats. Materials are often encountered as static objects, while process, labor, and ecological context remain implicit.
3. In many design workflows, material research enters after conceptual direction has been established. Systematic mechanisms for early-stage material intervention are often absent.

These conditions position the exhibition as a site of mediation between craft knowledge, research production, and public understanding.

## WHY WOOD AND WHY THIS SITE

Wood is selected in direct relation to RONG's existing research trajectory. The institution has conducted sustained investigations into wood coloration, mortise-and-tenon joinery, wood and lacquer relations, and structural logic within vernacular construction. A dedicated wood material library in Qingshan Village houses samples, documentation, and experimental outcomes. The second floor includes a temporary exhibition space used for thematic research presentations. During discussions with Jingyi Lu, the possibility of organizing a temporary wood materials exhibition within this space emerged. The project therefore operates within an existing institutional and spatial framework.

At the same time, the exhibition is conceived as a transferable structure. Its spatial logic, narrative sequence, and material strategies are designed to be adaptable to different contexts. The Qingshan site provides the initial testing ground, while the exhibition format remains mobile and scalable. This reduces dependence on fixed architectural characteristics and strengthens the project's potential for circulation across multiple venues.

Wood connects craft technique, ritual practice, ecological systems, and contemporary market dynamics within a single material field. It provides a coherent ground through which accumulated research can be reorganized into an exhibition structure.

## 6.2 STRATEGIC DECISIONS

### WHAT STRATEGIES ARE SELECTED?

Three strategies from the strategic plan are selected for this exhibition:

- **Curatorial Strategy:** *From Sensory Immersion to Ethical Awareness*
- **Narrative Strategy:** *From Object → Relationship*
- **Spatial Strategy:** *Emotional Mapping*

### WHY ARE THESE STRATEGIES SELECTED?

The selection responds directly to the structural challenges identified in Section 6.1.

The curatorial strategy addresses the difficulty of communicating complex craft systems and material research to diverse audiences; The narrative strategy responds to the reduction of materials into isolated display objects and restructures wood within relational networks; The spatial strategy supports the translation of material knowledge into embodied experience through controlled emotional progression.

Together, they form a coherent response to the need for mediation between craft logic, institutional research, and public engagement.

### HOW ARE THEY OPERATIONALIZED?

The curatorial strategy is implemented through four operative dimensions: sensory engagement, bodily participation, systemic understanding, and value reflection; The narrative strategy organizes the exhibition into relational movements that expand from intimacy to systemic scale and return to personal agency; The spatial strategy structures circulation, atmosphere, and rhythm according to an emotional trajectory that guides perception and reflection over time.

Through their combined application, the exhibition functions as a staged progression in which material knowledge becomes experiential, relational, and participatory.

**THE  
INVISIBLE  
ORCHESTRA**

FROM SENSORY IMMERSION  
TO ETHICAL AWARENESS

Curatorial Strategy

**THE TALE  
OF  
MATTER**

FROM OBJECT → RELATIONSHIP

Narrative Strategy

**THE SHAPE  
OF  
EXPERIENCE**

EMOTIONAL MAPPING

Spatial Strategy

## Strategy 1

### ***Curatorial Strategy: From Sensory Immersion to Ethical Awareness***

This curatorial strategy was selected in response to a structural gap identified at RONG Design Library: the difficulty of translating complex craft research into forms that are both accessible and intellectually rigorous. Material knowledge within the institution is extensive, yet its communication often relies on display conventions that privilege visual encounter over layered understanding. Wood operates across technical, ritual, ecological, and economic dimensions. The curatorial structure must therefore accommodate shifts in scale without simplifying these layers.

The exhibition therefore unfolds as a gradual deepening of engagement. It begins with direct sensory contact, allowing visitors to encounter wood through grain, texture, scent, weight, and sound before encountering explanatory text. This initial immersion establishes material presence as a form of knowledge. The sequence then expands toward cultural embedding, where wood appears within life-cycle objects, ritual practices, and philosophical references, situating the material within social continuity. A further transition introduces ecological and economic dimensions, including tree-ring temporality, forestry policy, and consumption systems. Finally, the exhibition redirects systemic awareness toward personal implication through spatial translations of consumption data.

Through this progression, ethical awareness emerges as a cumulative condition shaped by sensory, cultural, and systemic experience. Curating becomes an act of staging relational depth across scales. Material shifts from being presented as a sample to functioning as a carrier of intertwined temporal, social, and ecological dimensions. The visitor moves through increasing layers of implication, experiencing knowledge as an embodied process rather than immediate instruction.

## Strategy 2

### ***Narrative Strategy: From Object to Relationship***

The narrative structure of the exhibition addresses a recurrent limitation within both craft practice and exhibition culture: materials frequently appear as isolated objects detached from their relational contexts. Exhibition often struggles to communicate processes of collaboration, ecological embedding, and socio-cultural entanglement through object-centered display. A narrative strategy grounded in relational thinking enables wood to be understood as a node within interconnected systems.

The exhibition sequence reframes wood through successive relational lenses. In the opening sections, wood relates directly to the body through touch and perception. It then relates to human life cycles and ritual continuity, appearing within everyday and ceremonial objects that structure social experience. At a broader scale, wood connects to climate history, forestry governance, and market dynamics, revealing how environmental, political, and economic systems shape material trajectories. In later stages, wood becomes linked to personal habits of use and disposal, making visible the temporal accumulation of daily choices. The workshop and participatory sections extend this relational field into collective making and shared action.

Objects remain present throughout the exhibition; however, their meaning emerges through adjacency, sequencing, and cross-reference. Narrative coherence develops through spatial movement rather than textual density. Wood is encountered as a dynamic participant in networks of labor, ritual, ecology, and exchange. Material knowledge thus becomes structured through relationships instead of categories.

## Strategy 3

### ***Spatial Strategy: Emotional Mapping***

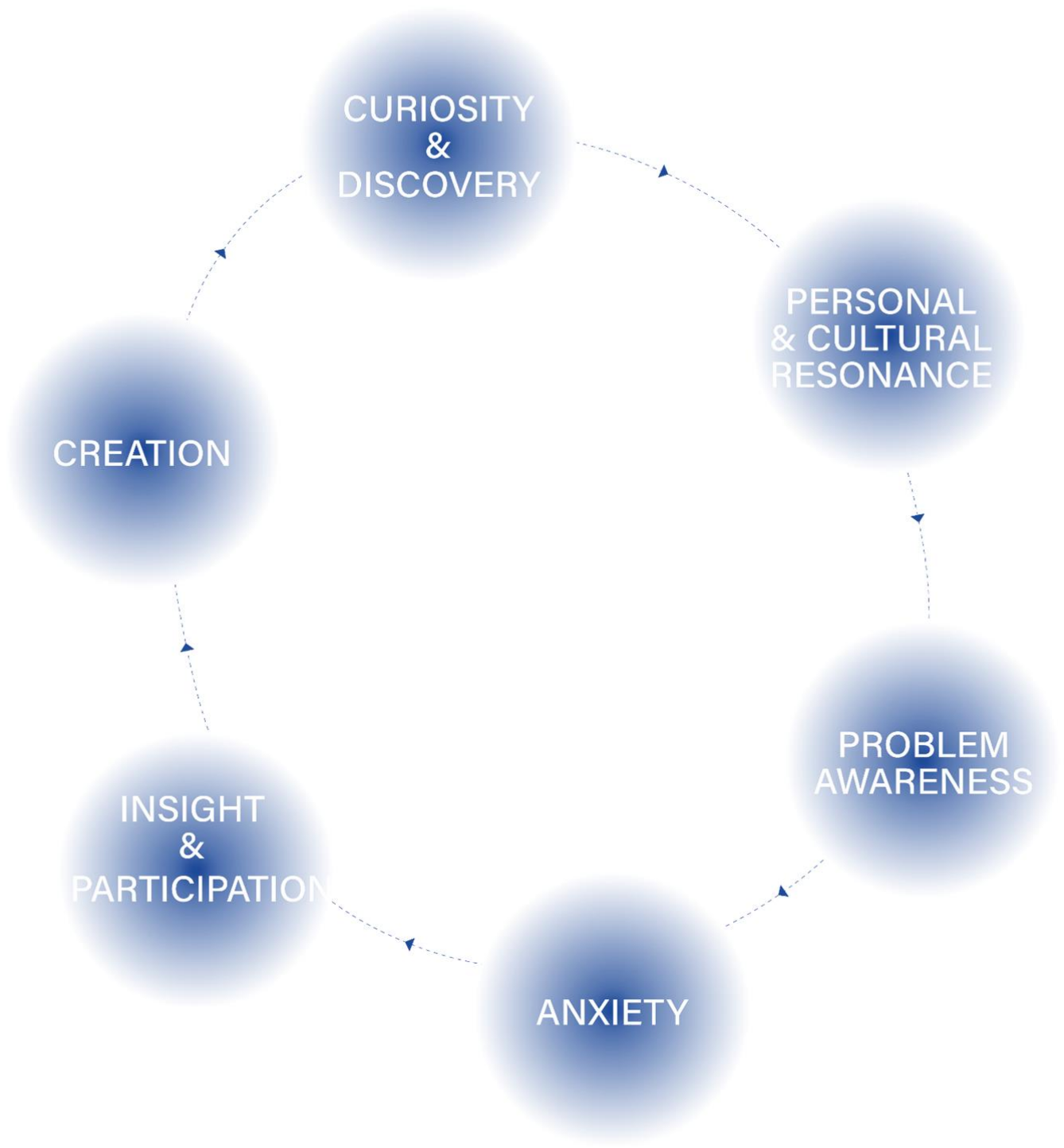
The spatial strategy responds to the need for a coherent progression capable of integrating sensory, cultural, ecological, and participatory dimensions. The exhibition must translate sensory, cultural, ecological, and participatory knowledge across distinct scale. Spatial organization therefore functions as a mediating structure that aligns experiential intensity with conceptual depth.

The exhibition follows an articulated emotional trajectory that guides visitors from curiosity and discovery toward resonance, awareness, tension, insight, and ultimately collective creation. Early zones are characterized by openness and tactile exploration, allowing intuitive engagement with material presence. As visitors move forward, spatial density increases, projections and analytical elements introduce systemic complexity, and environmental conditions shift to support reflection. The later zones expand into workshop and participatory formats, where making and experimentation reconfigure the relationship between visitor and material.

This calibrated emotional progression structures cognitive development without relying on overt didactic framing. Space operates as an active agent that shapes perception, pacing, and responsibility. The exhibition acquires temporal coherence through movement, and knowledge unfolds as a sequence rather than as a collection of thematic fragments. Because the emotional logic is independent of fixed architectural features, the structure remains adaptable to different venues while maintaining its internal progression.

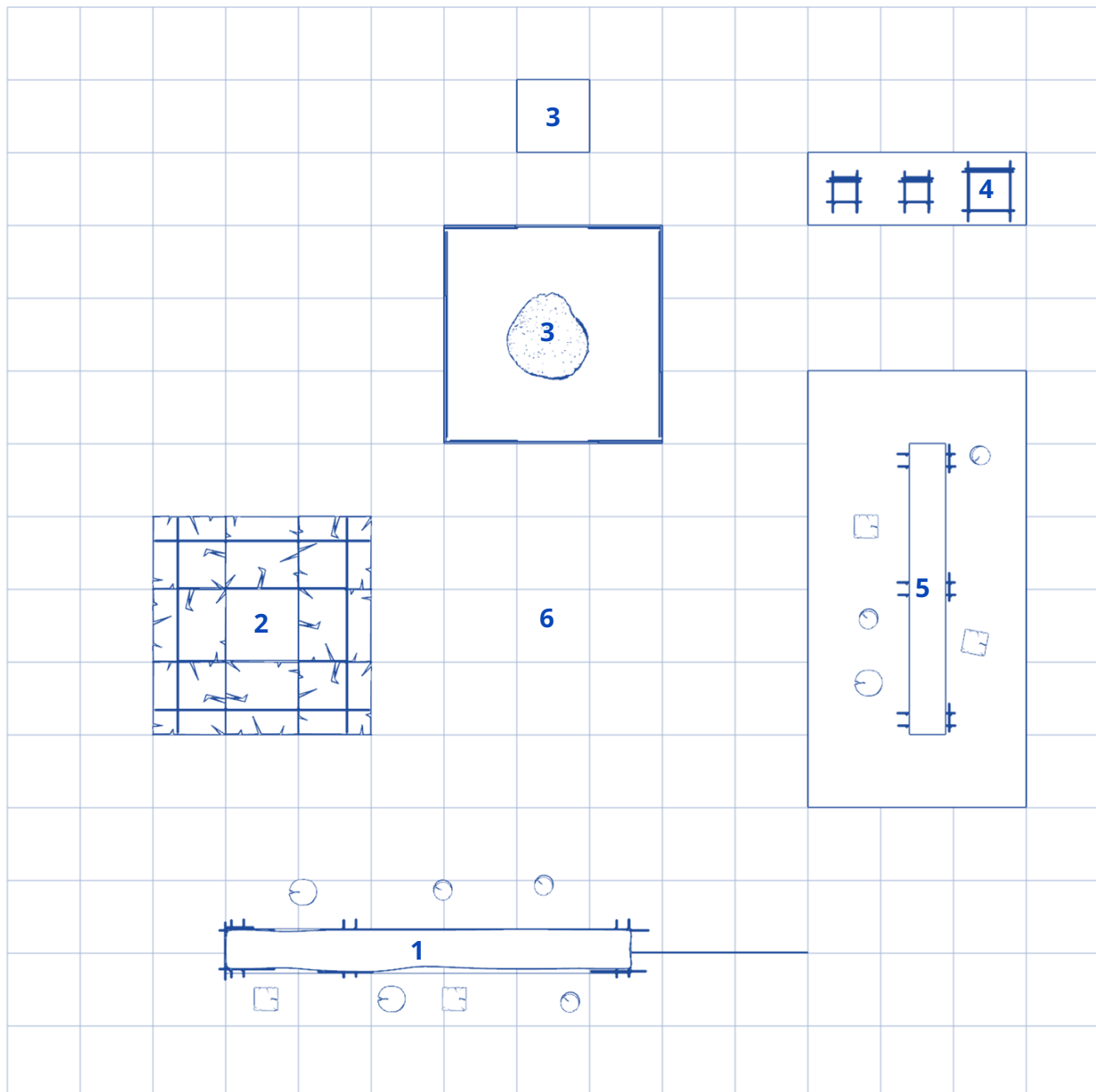
CURIOSITY & DISCOVERY → PERSONAL & CULTURAL RESONANCE → PROBLEM AWARENESS →

ANXIETY → INSIGHT & PARTICIPATION → CREATION



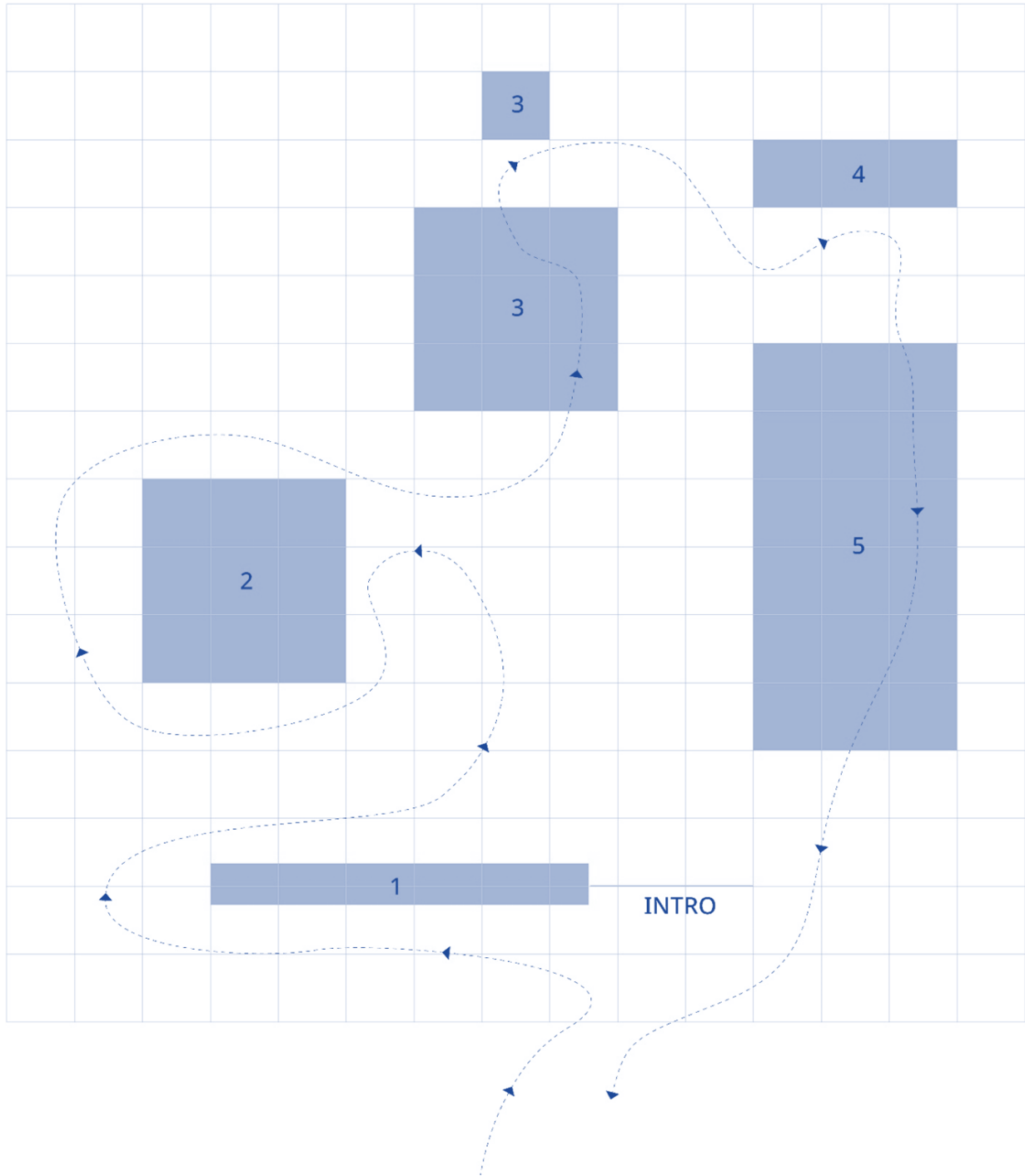
## 6.3 Spatial Structure

### EXHIBITION FLOOR PLAN

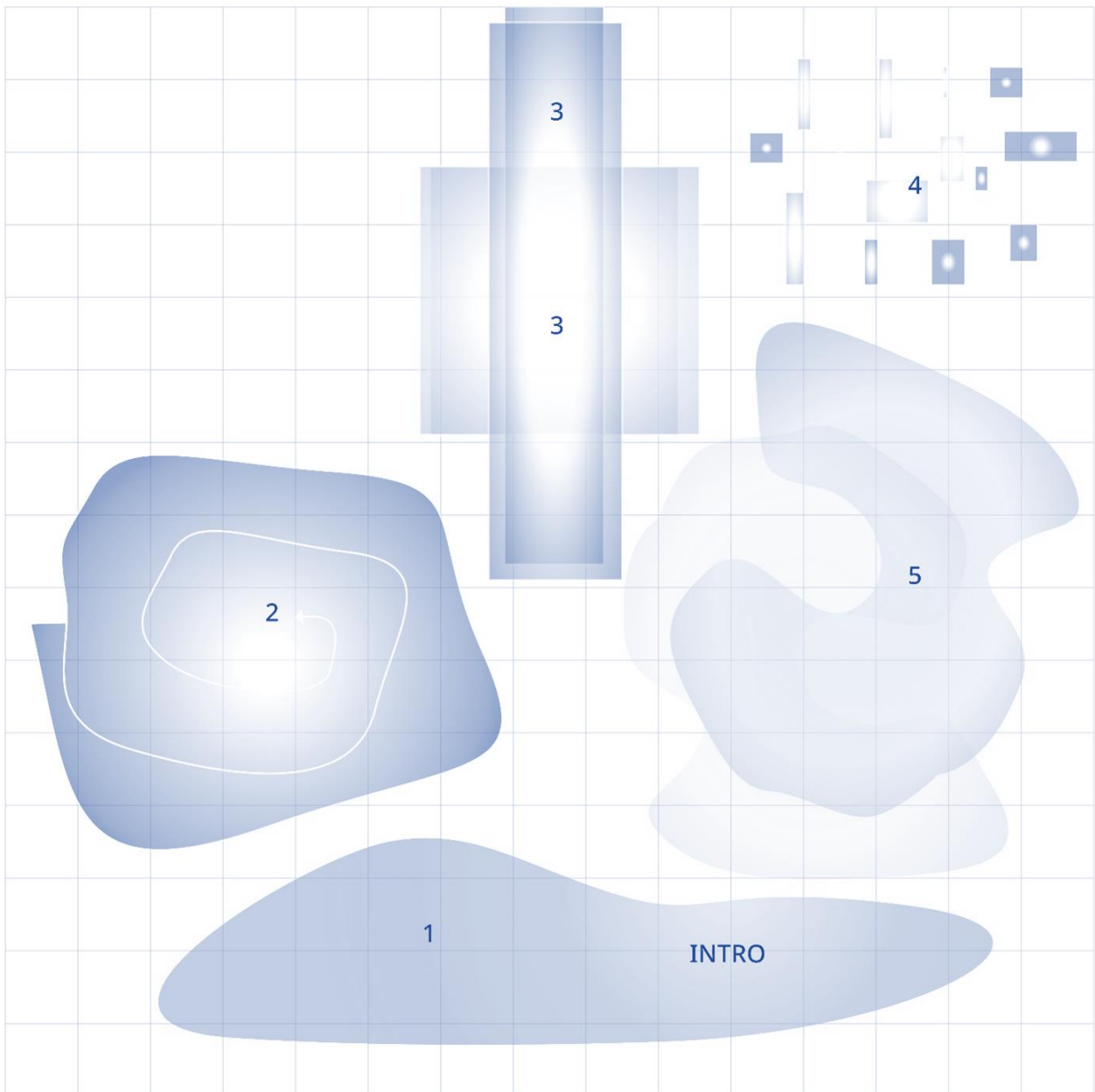


1. Reading Wood
2. Cultural Resonance
3. Expanding Scale
4. Lifecycle Awareness
5. Arboreal Kinship: wood workshop + craft display
6. Participatory Creation – the entire space

# SPATIAL ZONING & CIRCULATION DIAGRAM



# EMOTIONAL ZONING



1. Curiosity & Discovery
2. Personal & Cultural Resonance
3. Problem Awareness
4. Anxiety
5. Insight & Participation
6. Creation

## 6.4 Exhibition Sections

The exhibition unfolds through six spatial sections structured as a cumulative progression. Each section recalibrates the scale at which wood is encountered, expanding from material presence to collective action.

Section 1 – *Reading Wood*

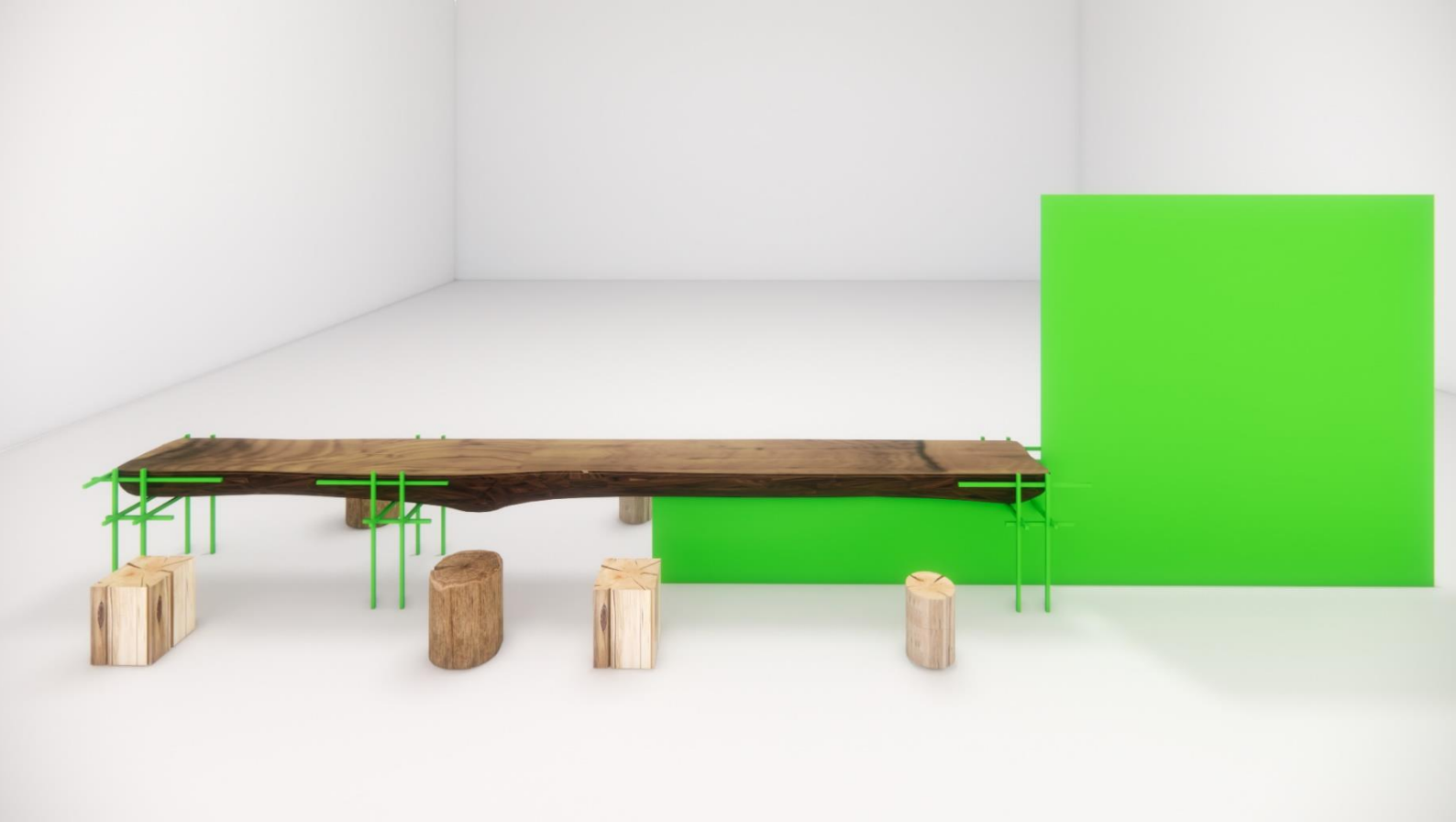
Section 2 – *Cultural Resonance*

Section 3 – *Expanding Scale*

Section 4 – *Lifecycle Awareness*

Section 5 – *Arboreal Kinship*

Section 6 – *Participatory Creation*



## Section 1 – *Reading Wood*

The exhibition opens with direct sensory engagement. A large central wooden surface presents untreated timber, cross-sections, dyed samples, joinery fragments, and lacquered elements at close range. The display avoids hierarchy and dense labeling. Visitors approach, touch, compare, and remain in proximity.

Grain patterns are magnified. Subtle acoustic recordings of cutting, sanding, and thermal expansion are audible. Natural scent contrasts with processed fragrance. Surface temperature and weight become perceptible through handling.

This section establishes material presence before conceptual framing. Wood appears as texture, density, resistance, and variation. Attention slows. Perception becomes the primary mode of knowledge.

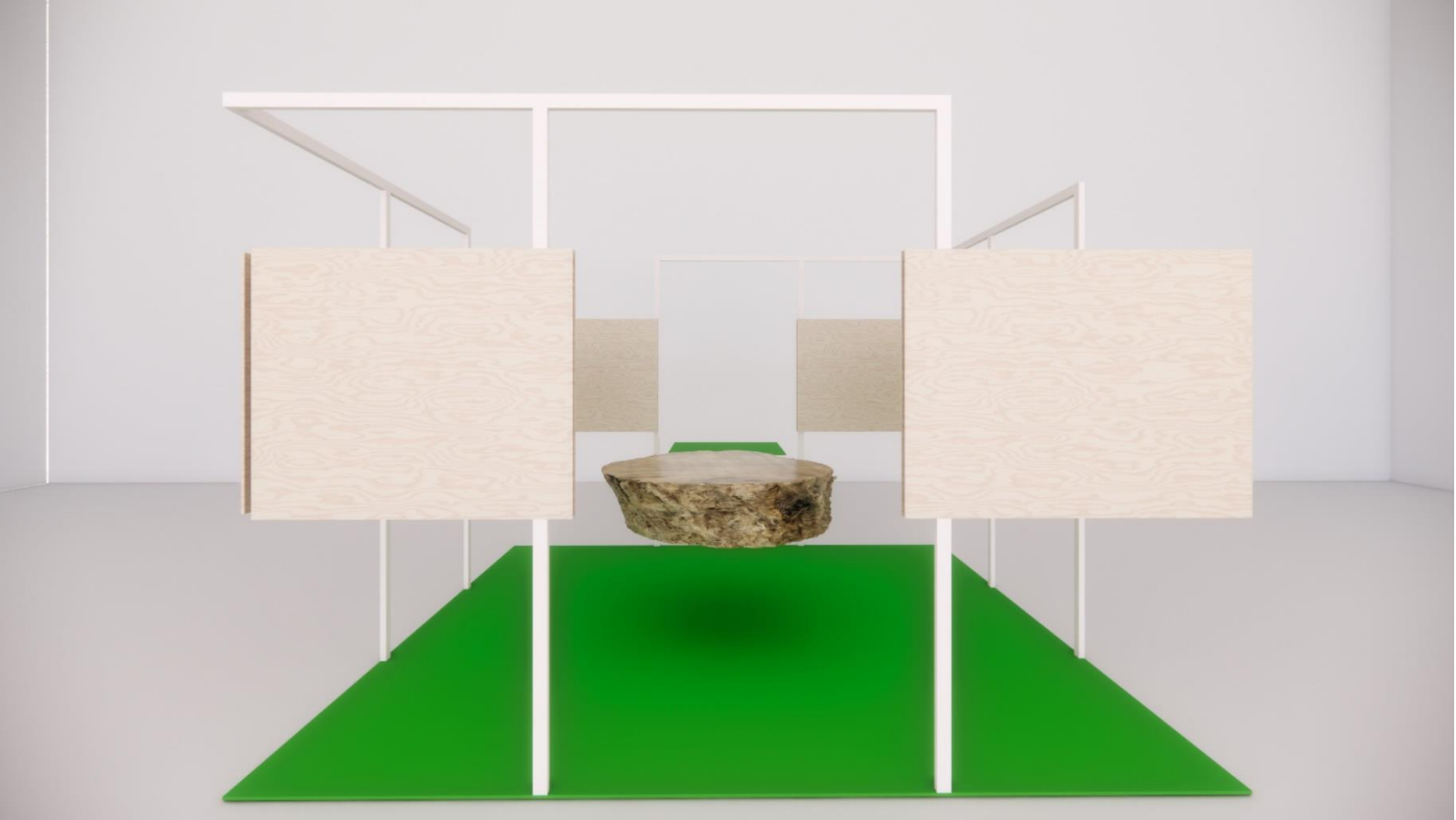


## Section 2 – *Cultural Resonance*

The second section situates wood within social continuity. Everyday objects and ritual artifacts are presented in close adjacency, spanning birth, celebration, illness, and death. The arrangement encourages comparison across life stages.

Archival texts and philosophical references accompany selected objects. The atmosphere becomes more contained and reflective. Circulation narrows, and lighting is moderated.

Wood shifts from physical presence to cultural medium. It appears embedded in memory, ceremony, and collective structure. Recognition replaces curiosity.



### Section 3 – *Expanding Scale*

The third section introduces ecological and political dimensions. A suspended wood column reveals growth rings projected onto the floor, transforming dendrochronological data into a navigable surface. Walking across the projection becomes an embodied reading of climatic time.

Adjacent displays integrate forestry policy, plantation systems, and market dynamics. Analytical material is embedded spatially rather than isolated on panels.

The scale expands beyond individual experience. Wood appears within overlapping environmental, economic, and temporal systems. Intimacy gives way to structural awareness.



## Section 4 – *Lifecycle Awareness*

This section redirects systemic knowledge toward personal implication. Disposable wooden products are suspended within volumetric light structures scaled to represent consumption rates. Data becomes spatial pressure.

The comparison between growth lifespan and usage lifespan becomes physically legible. Statistics translate into volume and density. Visitors move through illuminated cubes that quantify accumulation over time.

Wood appears as a material subject to accelerated extraction. The atmosphere carries tension. Awareness becomes embodied.



## Section 5 – *Arboreal Kinship*

The fifth section reintroduces material through technique and labor. Traditional cutting logics, joinery systems, and lacquer processes are presented through exposed structural fragments. Craft knowledge is made visible through partial assemblies and process traces.

A workshop space operates within the exhibition, allowing reuse, improvisation, and collective making. Offcuts and discarded wood from nearby contexts enter the space as working material.

Wood shifts from object of reflection to medium of action. Knowledge is encountered through handling and construction.



## Section 6 – *Participatory Creation*

The final section dissolves the boundary between exhibition and practice. Performative workshops, material theatre, and live production activities occur throughout the space. Wood participates as structural support, instrument, and mediator.

Visitors become contributors. Meaning emerges through collaboration and improvisation. The exhibition concludes in action rather than interpretation.

The spatial sequence culminates in openness. Material knowledge continues beyond the exhibition frame.

## 6.5 Key Installations

The exhibition structure described in Section 6.4 is supported by specific spatial mechanisms that translate material research into perceptible experience.

This section presents three key installations that operationalize the strategic framework across sensory, ecological, and systemic scales. These mechanisms demonstrate how curatorial, narrative, and spatial strategies are materialized within the exhibition environment.

## Sensory Activation Platform

The Sensory Activation Platform forms the entry condition of the exhibition. A long table presents untreated timber, dyed samples, joinery fragments, and lacquered surfaces at close range. The platform avoids hierarchical display and minimizes labeling.

The installation activates multiple sensory channels simultaneously. Visual magnification reveals grain irregularities, wormholes, and repair marks. Tactile contrasts are established between smoothed surfaces and untreated wood. Subtle acoustic recordings of cutting and thermal expansion reintroduce the material's generative processes. Olfactory points differentiate between natural wood scent and synthetic "woody" fragrances.

The platform operates as a pre-cognitive field. Visitors engage through sight, touch, smell, and sound before encountering conceptual framing. Material presence becomes the first layer of knowledge.

Through this mechanism, wood is positioned as an active sensory agent rather than a passive display object. The installation establishes intimacy and prepares the perceptual ground for subsequent cultural and systemic expansion.

## Tree Ring Projection

The Tree Ring Projection translates dendrochronological research into spatial experience. A suspended Hainan Huanghuali wood column is illuminated along a vertical axis. Its growth rings are projected and enlarged onto the floor, forming a linear surface that visitors can walk across.

Each ring corresponds to a specific period within the tree's lifespan, including extreme climatic events such as typhoons and environmental stress. Time becomes navigable. Walking across the projection transforms chronological data into embodied movement.

Adjacent analytical panels present forestry policy shifts and the transformation from primary forests to plantation systems. The installation links climatic memory with political decision-making and economic acceleration.

This mechanism shifts perception from intimacy to structural awareness. Wood appears as a temporal archive embedded within environmental and institutional systems. The projection renders climate and policy legible through scale transformation rather than textual explanation.

# Consumption Cube

The Consumption Cube spatializes everyday wood consumption through volumetric translation. A cubic structure composed of illuminated axes frames suspended disposable wooden objects such as chopsticks and birthday plates.

The dimensions of each cube correspond to real-time consumption rates in China. Statistical data is translated into physical volume, allowing visitors to experience accumulation spatially rather than numerically.

The comparison between growth lifespan and usage lifespan becomes perceptible through scale contrast. Fast consumption and long regeneration cycles occupy the same physical field.

The cube does not present moral judgment. It establishes proportional awareness. Data becomes density, and density becomes spatial pressure.

Through this mechanism, systemic knowledge returns to the body. Personal habit is situated within broader material flows.

# 7

## DISCUSSION

## 7.1 Theoretical Implications of the Strategies

The curatorial, narrative, and spatial strategies developed in this research contribute to the theoretical understanding of Materials Exhibitions as structured mediating systems. Within this framework, exhibitions are conceptualized as environments in which materials, visitors, institutional logics, and spatial configurations operate through relational interaction. Materials are positioned within networks of display, interpretation, and circulation that shape how they are perceived and understood.

Material agency is articulated through curatorial structuring. Agency becomes perceptible through sequencing, framing, juxtaposition, and contextual positioning within exhibition environments. The visibility of material agency is therefore connected to how materials are organized and how relationships between samples, processes, and references are constructed. Exhibition design functions as a mediating structure that renders these relationships intelligible and experientially accessible.

The strategies also contribute to discussions on embodied experience and spatial cognition. Material encounter unfolds through proximity, scale, orientation, rhythm of movement, and degrees of sensory access. Perception develops progressively through bodily navigation of space. Knowledge formation is therefore closely linked to spatial arrangement and to the physical positioning of the visitor in relation to materials. Spatial structure participates in epistemic formation by organizing sequences of encounter and by modulating cognitive intensity.

Ecological and relational dimensions are incorporated as interpretative infrastructures. Materials are situated within extended networks that include extraction, processing, transformation, circulation, and reuse. Exhibition space enables these networks to be visualized and negotiated. Through this structuring, Materials Exhibitions can be understood as epistemic environments in which material knowledge is organized, framed, and communicated through spatial and curatorial systems.

In this theoretical framing, exhibitions operate as environments that coordinate material presence, interpretative cues, and embodied experience. The strategies developed in this thesis therefore contribute to a clearer articulation of how spatial mediation shapes the perception of material systems.

## 7.2 Practical Value of the Strategies

At a practical level, the strategies offer structured guidance for the organization of material-centered exhibitions. They provide designers and curators with operational principles that clarify how thematic articulation, narrative sequencing, and spatial zoning influence material interpretation.

The curatorial strategy supports the construction of thematic constellations and material groupings that reveal relational connections between samples, processes, and applications. Through systematic classification and contextual framing, it assists in building coherent interpretative structures.

The narrative strategy organizes progression across space. Material stories unfold through transitions between zones, changes in scale, and shifts in informational density. Narrative coherence is achieved through spatial continuity and calibrated sequencing. This approach supports exhibitions in which visitors gradually accumulate understanding through movement and encounter.

The spatial strategy regulates circulation patterns, density of display, and degrees of sensory exposure. It guides the distribution of visual focus, tactile engagement, and informational layering. Spatial articulation influences how attention is directed and how interpretative pauses are introduced within the exhibition environment.

The strategy of Zoning Knowledge and Ecology exemplifies this practical orientation. It structures transitions between areas of concentrated technical explanation and zones of reflective or sensory experience. Through controlled modulation of density and rhythm, it supports exhibitions that integrate analytical content with embodied engagement.

Together, these strategies function as analytical and operative tools. They clarify how curatorial selection, narrative organization, and spatial configuration shape material perception. Their applicability extends across temporary installations, institutional exhibitions, and research-based display environments. The practical value of the framework lies in making explicit the relationship between spatial decisions and material interpretation.

# 8

## CONCLUSION

This thesis has examined Materials Exhibitions as a distinct design practice concerned with the mediation of material knowledge. Through the articulation of curatorial, narrative, and spatial strategies, the research has explored how exhibition environments structure encounters with materials and influence interpretative frameworks.

The analytical foundation of the study draws primarily from European case studies, particularly within the Italian exhibition context, where material libraries and exhibition cultures provide well-developed models of display. The conceptual design scenario engages Chinese material culture and exhibition discourse. This cross-cultural structure establishes a comparative analytical perspective and enables examination of how strategic principles can operate across different cultural settings.

The strategies developed in this thesis demonstrate how material agency becomes spatially legible within exhibition environments. Agency emerges through processes of framing, sequencing, juxtaposition, and embodied encounter. Exhibition design organizes relational fields in which materials, visitors, and institutional contexts interact. Meaning develops through circulation patterns, narrative progression, and sensory modulation within structured environments.

The research contributes to exhibition studies by clarifying how spatial mediation participates in epistemic formation. It contributes to design research by articulating how theoretical concepts concerning material agency and relationality can be translated into structured curatorial and spatial systems. Materials Exhibitions can therefore be understood as environments in which material knowledge is organized through coordinated design decisions.

Through this reframing, the thesis expands the scope of Material-Driven Design to include exhibition-scale mediation. Exhibition design functions as a public interface through which material research becomes accessible within broader cultural contexts. Materials Exhibitions operate as structured epistemic environments in which spatial organization, narrative articulation, and curatorial framing shape how materials are encountered and understood.

## 8.1 Research Limitations

The scope of this research is defined by methodological and contextual boundaries that frame its contribution.

The strategies were developed through conceptual synthesis and examined through a single design scenario. While this scenario demonstrates how theoretical concepts can inform spatial and curatorial decisions, it does not encompass the full diversity of institutional conditions, visitor behaviors, or material typologies encountered across exhibition contexts. Broader application requires contextual adaptation and empirical testing.

The analytical framework is primarily informed by European case studies, particularly within Italy. The conceptual design scenario is situated in relation to Chinese material traditions and exhibition discourse. Although this cross-cultural structure strengthens the comparative dimension of the research, the strategies have not been empirically implemented within a single continuous cultural and institutional setting. Variations in audience expectations, institutional models, and material traditions may influence their application.

The methodological approach is qualitative and reflective. It emphasizes analytical clarity and strategic articulation. Quantitative evaluation of long-term visitor impact was outside the scope of this study. Societal and environmental implications discussed in the thesis therefore remain interpretative.

The framework also centers on tangible materiality and embodied encounter. Exhibitions focused predominantly on digital, ephemeral, or highly abstract media may require theoretical and spatial extensions to address alternative forms of mediation.

These limitations define the research as a strategic and conceptual foundation. Further empirical investigation and contextual refinement would strengthen its practical validation.

## 8.2 Suggestions for Future Research

Building upon these limitations, several directions for future research emerge.

Empirical studies conducted within a single cultural and institutional context could evaluate how curatorial, narrative, and spatial strategies influence visitor interpretation and engagement over time. Comparative research between European and Chinese exhibition environments may further clarify how material traditions, spatial norms, and audience expectations shape the mediation of materials.

Future investigations may also explore how strategies developed from European case studies operate when implemented in Chinese exhibition settings, or vice versa. Such cross-cultural application would deepen understanding of which elements of the framework remain stable and which require adaptation.

Participatory and co-creative formats offer additional avenues for expansion. Examining collaborative workshops, audience contributions, and evolving exhibition structures could extend the relational dimension of the strategies and test their adaptability under dynamic conditions.

Research on emerging material systems including bio-based, recycled, and technologically augmented materials may further refine the ecological and ethical dimensions of exhibition design. Longitudinal studies could also assess whether repeated engagement with material-driven exhibitions influences sustained perception and material awareness.

Through these directions, future research can strengthen the empirical grounding, contextual precision, and cultural adaptability of the framework proposed in this thesis.

# GLOSSARY TERMS

# A

## **Age of Exploration**

A historical period (15th–17th centuries) marked by European maritime expansion, global trade, and large-scale acquisition of objects and knowledge from colonized regions, often framed through Eurocentric narratives of discovery.

## **Arte Povera**

An Italian art movement of the 1960s–1970s emphasizing everyday or “poor” materials, organic and industrial remnants, and process-based practices that challenge distinctions between nature and culture and foreground material agency.

## **Assemblage / Assembly**

A theoretical concept (DeLanda, 2016) describing systems in which heterogeneous elements—materials, objects, spaces, bodies—interact to produce emergent properties, meanings, or functions. Widely used in new materialism and post-Anthropocene theory.

# C

## **Cabinet of Curiosities (Wunderkammer)**

Early modern European collections (16th–18th centuries) of heterogeneous natural and artificial objects, functioning as sites of

observation, knowledge production, spectacle, and social prestige.

## **Cognitive Mechanisms in Cabinets**

Early epistemic processes in Cabinets of Curiosity through which classification, comparison, wonder, and analogy shaped pre-modern systems of knowledge.

## **Collection vs. Exhibition Mechanism**

A conceptual distinction in exhibition studies: collection refers to accumulation and preservation of objects, while exhibition mechanism refers to systematic presentation strategies designed to communicate knowledge, hierarchy, or narrative.

## **Colonial Material Sources**

Materials extracted or collected through colonial expansion, often embedded in asymmetric power relations and Eurocentric systems of knowledge production.

## **Contextualization (Exhibition Studies)**

A curatorial strategy of situating objects or materials within social, historical, ecological, or cultural contexts to enhance meaning and counteract decontextualization.

## **Curating**

The conceptual and creative practice of designing and staging exhibitions, including the development of interpretive frameworks, narrative structures, and modes of visitor engagement (George, 2017).

## **Curatorship**

The professional, institutional, and operational enactment of curating, encompassing selection, organization, mediation, and presentation of objects and materials (Janes, 2007; Sigfúsdóttir, 2021).

## **Curatorial / Narrative Strategies**

Methods used to structure, sequence, and present materials in exhibitions in order to guide interpretation, shape experience, and construct meaning.

# D

## **Database Phase**

A contemporary phase in Materials Exhibition and research characterized by digitization, data structuring, searchability, and abstraction of materials into computable knowledge systems.

## **Dynamic Temporality**

An understanding of time in exhibitions as evolving, processual, and non-static, including changing material states, meanings, and visitor interactions.

# E

## **Ecological Embeddedness / Embeddedness**

An understanding of materials as inseparable from environmental, social, and ecological systems, emphasizing sustainability, interdependence, and relational existence.

## **Embodied Encounter**

A moment of direct bodily engagement with materials or space, emphasizing sensory perception, movement, and affective response.

## **Embodiment / Embodied experience**

A theoretical and curatorial approach emphasizing that perception, cognition, and

meaning emerge through lived bodily interaction with spatial and material conditions (Merleau-Ponty, 1962; Varela et al., 1991).

## **Epistemic Gap**

A gap between different systems of knowledge production (e.g., scientific, design-based, curatorial), often resulting from disciplinary boundaries or differing epistemologies.

## **Epistemic Environment**

A spatial configuration in which knowledge is structured, mediated, and encountered.

## **Ethical Considerations**

Awareness of social, cultural, and environmental responsibility in material production, use, representation, and exhibition.

## **Exhibition Mediation**

The processes through which materials are framed, contextualized, and spatially articulated within exhibition systems.

## **Exhibition Narrative**

The spatial and temporal organization of exhibition elements that guides visitor interpretation through movement, engagement, and relational understanding rather than linear textual explanation (MacLeod, 2005).

## **Exhibition Typology**

Classification of exhibitions based on objectives, content, spatial configuration, and experiential strategies.

## **Exhibitionary Complex**

A concept describing how exhibition practices operate within institutional and political structures that organize public visibility.

# I

## **Industrial Rationality**

A logic emerging during the Industrial Revolution emphasizing efficiency, standardization, classification, and linear process in material production and display.

## **Industrial Revolution**

The historical period (18th–19th centuries) during which mechanized production transformed materials, society, and exhibition practices, leading to systematic and hierarchical modes of display.

## **Industrial World Expositions**

Large-scale 19th–20th century exhibitions showcasing industrial, scientific, and cultural innovations, often reinforcing narratives of progress and national identity.

## **Interdisciplinary Gaps**

Differences in methods, values, and communicative frameworks across disciplines such as design, science, engineering, and curatorial practice.

# K

## **Kaogong ji (The Artificers' Record)**

An ancient Chinese technical text documenting craft knowledge, material processes, and ethical production principles, reflecting early systematic material intelligence.

# M

## **Material Agency**

The capacity of materials to influence actions, perceptions, and meaning-making processes, understood as relational, temporal, and ecological rather than solely human-driven (Bennett, 2010; Karana et al., 2015).

## **Material-Centered Exhibition**

An exhibition format in which materials themselves function as primary subjects of inquiry.

## **Material Culture**

A field of study examining objects and materials as carriers of social meaning, knowledge, and cultural practice (Ingold, 2013).

## **Material Database / Digital Materials Exhibition**

Exhibition formats based on structured, searchable datasets that privilege abstraction, prediction, and comparison over tactile or spatial engagement.

## **Material-Driven Design (MDD)**

A design methodology positioning materials as central agents in the creative process, guiding form and concept through material behavior and sensory qualities (Karana et al., 2015).

## **Material Encounter**

The situated engagement with materials within structured spatial conditions.

## **Material Intelligence**

Knowledge derived from understanding materials' properties, behaviors, histories, and

potentials, often supported by material libraries and research infrastructures.

### **Material Libraries**

Organized collections of material samples used for research, education, and design experimentation, bridging abstract knowledge and embodied exploration.

### **Modernity of Materials**

A conceptual shift during the Industrial Revolution in which materials became indicators of industrial progress, efficiency, and national competitiveness.

### **More-than-Human Perspectives**

Theoretical approaches emphasizing entanglements among humans, materials, and non-human entities, foregrounding distributed agency and ecological responsibility (Haraway, 2016; Whatmore, 2006).

### **Museum / Institutionalized Museum**

An institution formalizing the collection, display, and interpretation of objects for public education, evolving from private Cabinets of Curiosity (e.g., British Museum, 1750s).

## **N–P**

### **New Materialism**

A philosophical and design-oriented approach attributing vitality and agency to matter, challenging human–object dualisms and emphasizing relational processes (Bennett, 2010; Coole & Frost, 2010).

### **Phenomenology / Phenomenological Approach**

A philosophical method focusing on lived experience and perception. In Materials Exhibitions, it emphasizes sensory engagement and bodily understanding of materials and space (Merleau-Ponty, 1962).

### **Post-Anthropocene**

A conceptual framework moving beyond human-centered perspectives, emphasizing distributed agency, deep time, and ecological entanglements (Clark, 2015; Yusoff, 2018).

### **Post-Minimalism**

An art movement emphasizing process, impermanence, and material behavior, reacting against Minimalism's formal rigidity.

## **R**

### **Relational Configuration**

The structured arrangement of materials, spatial elements, and interpretive cues within an exhibition system.

### **Research through Design**

A methodological approach in which design practice generates theoretical insight.

## **S–Z**

### **Semantic and Spatial Elasticity**

The capacity of materials or spatial arrangements to generate multiple meanings depending on context, perception, and

relational positioning.

### **Sequencing and Hierarchy (Exhibition Logic)**

A curatorial principle arranging materials in ordered sequences or hierarchical systems to communicate processes, evolution, or efficiency.

### **Socio-ecological Systems**

Complex systems in which materials, humans, and ecosystems interact and co-evolve.

### **Spatial Choreography / Kinesphere**

The organization of bodily movement, orientation, and reach within space; developed by Rudolf Laban to describe the spatial field of human motion (Laban, 1988).

### **Spatial Experience**

Visitors' perception of space through movement, layout, sensory stimuli, and relational positioning of materials.

### **Spatial Mediation**

The role of spatial organization in structuring conditions of perception and interpretation.

### **Spatial Strategy**

The configuration of circulation, scale, density, and sensory access within exhibition environments.

### **Temporality of Exhibition**

The role of time in exhibition design, including permanence vs. ephemerality and evolving meanings of materials.

### **Theme (Exhibition Studies)**

The primary conceptual framework organizing an exhibition's meaning and relationships among materials (Hooper-Greenhill, 2000).

### **Vibrant Matter**

A concept by Jane Bennett (2010) describing the inherent vitality and agentic capacity of material entities to act and affect human and non-human actors.

### **World Expositions**

Large-scale international exhibitions that historically displayed industrial materials and technological development.

### **Zoning Knowledge and Ecology**

A spatial structuring method developed in this thesis that differentiates informational density and experiential zones.

# VISUAL INDEX

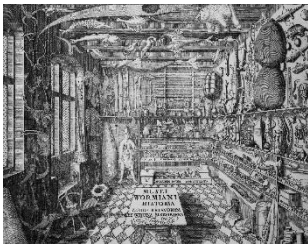


Figure 1. Interior view of Museum Wormianum, from Ole Worm, (Leiden: Elsevier, 1655).



Figure 2. "Ritratto del Museo di Ferrante Imperato," engraving from Ferrante Imperato, Dell' Historia Naturale (Naples, 1599).

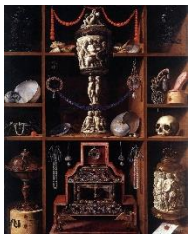


Figure 3. Johann Georg Hainz, Cabinet of Curiosities, c. 1666–1670, oil on canvas, Kunsthistorisches Museum, Vienna.



Figure 4. Seahorse Monster from the Ulisse Aldrovandi's Monstrorum Historia, Biblioteca Universitaria di Bologna, Italy.



Figure 5. Materials from the

collection of Hans Sloane.



Figure 6. Song Anonymous "Southern Tang Wenhui Map" (detail) Color on silk Collection of the Palace Museum



Figure 7. Qing dynasty scholar's display objects, including carved jade vessels, coral vase, hardwood pedestal stands, and scholar's studio objects. 18th–19th century, China.

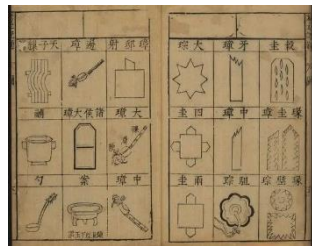


Figure 8. Kaogong ji (The Artificers' Record)



Figure 9. Interior of the Great Exhibition of 1851, Crystal Palace, Hyde Park, London. Engraving, 1851.

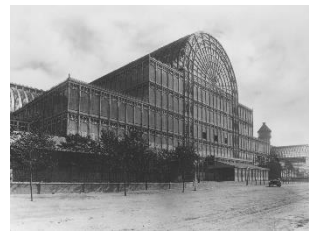


Figure 10. Crystal Palace, Sydenham, London, rebuilt 1854. Photograph.



Figure 11. Michelangelo Pistoletto, Venere degli stracci (Venus of the Rags), 1967. Marble and discarded clothing.



Figure 12. "Ideas Wall," curated material samples display, Material ConneXion.

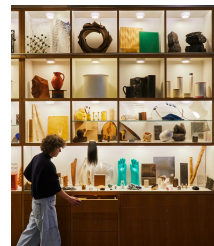


Figure 13. Contemporary materials library display wall with open shelving and sample drawers. Photograph.



Figure 14. Display of vernacular tools and household implements



Figure 15&16. Close-up of rusty metal surface with corrosion patterns and texture; High angle view of cracked and weathered concrete pavement texture.



Figure 17. Material Bar, Slovenia Pavilion, Milan Design Week. Photo: Marijo Zupanov.

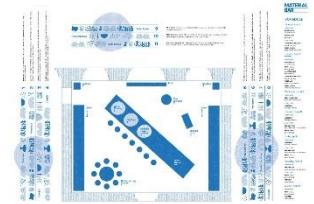


Figure 18. Material Bar, Slovenia Pavilion Plan, Milan Design Week 2025. Photo: Marijo Zupanov.



Figure 19. Taste of Materials by Studio davidpompa. Milan Design Week 2025.



Figure 20. Taste of Materials by

Studio davidpompa. Milan

Design Week 2025.



Figure 21 Holy See Pavilion / Opera Aperta, Venice Biennale 2025.



Figure 22&33. Soil-beings (Lamá nluca) , Venice Biennale 2025. © Studio KIM/ILLI



Figure 23. Dropcity, photo by Piercarlo Quecchia



Figure 24. Internalties, Venice Biennale 2025. Photo by Luis Diaz Diaz.



Figure 25&26. Build of Site, Venice Biennale 2025. Photo by Hampus Berndtson



Figure 27. Cambio, Nº 2.6.3.10 – 1858, 2020, video still. video production by C41



Figure 28. Material Bar, Slovenia Pavilion, Milan Design Week. Photo: Marijo Zupanov.



Figure 29. Cyprus Pavilion at the Venice Biennale, Venice Biennale 2025. Photo by Demetris Loutsios.



Figure 30&31. Build of Site, Venice Biennale 2025. Photo by Hampus Berndtson



Figure 32. Holy See Pavilion / Opera Aperta, Venice Biennale 2025. Photo by José Hevia.



Figure 34. FR(AGILE) SYSTEMS, Venice Biennale 2025. photo by Wanqing Yue



Figure 35. Róng Design Library, photo from official website



Figure 36. Róng Mini Library Milan, Photo by Wanqing Yue



Figure 37&38. Material Bar, Slovenia Pavilion, Milan Design Week. Photo: Marijo Zupanov.



Figure 39. Homegrown: Building a Post-Carbon Future. Photo: Henry Woide.



Figure 40. Metabolic Home. Photo: Petros Pattakos.



Figure 41. Taste of material, Studio Davidpompa



Figure 42. Aaron Gatt, Landscape, 2025. Drawing. The Cyprus Pavillion



Figure 43&44. Holy See Pavilion / Opera Aperta, Venice Biennale 2025. Photo by José Hevia.



Figure 45. Oltre-Terra. Photo by Gregorio Gonella



Figure 46. Industry Muscle. Photo by Venla Helenius.



Figure 47. Material Bar, Slovenia Pavilion, Milan Design Week. Photo: Marijo Zupanov.



Figure 47. Holy See Pavilion / Opera Aperta, Venice Biennale 2025. Photo by José Hevia.



Figure 47. Droptcity. Photo by Wanqing Yue.

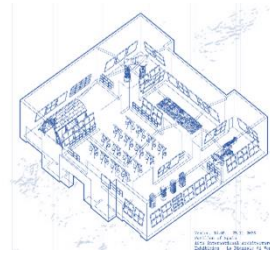


Figure 48. Plan and Model of the Spanish Pavilion made by Cornell APP students. Photograph courtesy of Internalities.

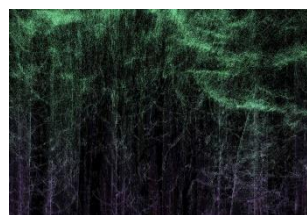


Figure 49. Cambio, Image credit: Serpentine Galleries

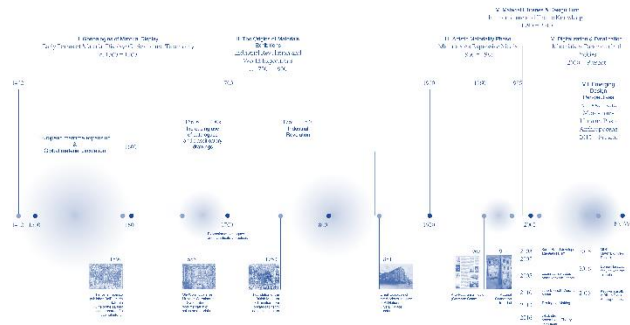


Figure 50. Material Theatre, Image credit: Resonance Horizon Theatre

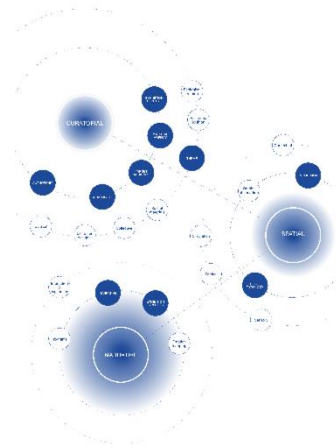


Figure 51. The Elephant Chapel and Earthen Rituals, Photo by Wanqing Yue

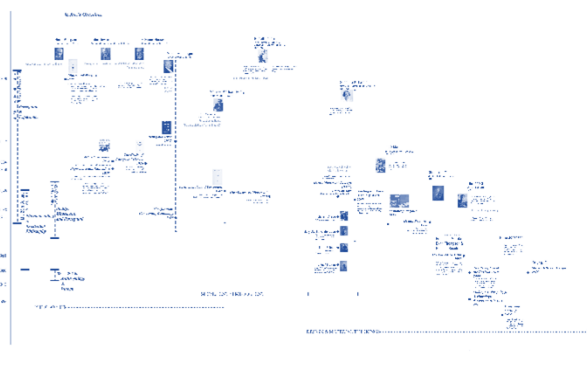
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**Graphic 1.** Diagram constructed by the author as a conceptual synthesis of the historical, theoretical, and design research frameworks examined in Chapter 2, including scholarship on material culture, exhibition studies, Material Agency, Material-Driven Design, and Post-Anthropocene theory. by Wanqing Yue.



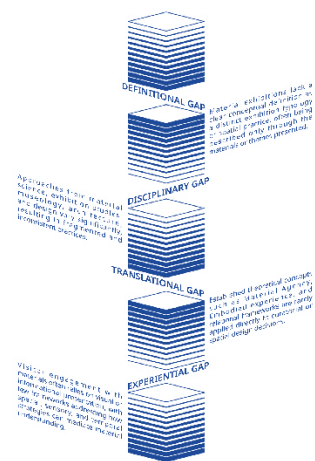
**Graphic 4.** Analytical Dimensions by Wanqing Yue



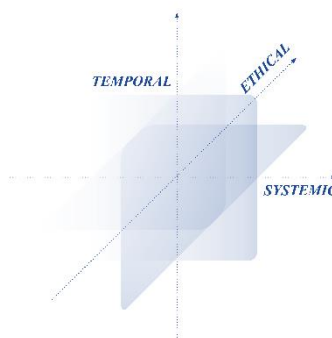
**Graphic 2.** Theory Mapping by Wanqing Yue



**Graphic 5.** Sensory Engagement by Wanqing Yue



**Graphic 3.** Research Gaps by Wanqing Yue



**Graphic 6.** 3 dimensional theme diagram by Wanqing Yue

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# APPENDIX

# CURATORIAL PLANNING DOCUMENT



Exhibition Section 1

## ***Reading Wood*** / Discovery and Curiosity

### Sensory Engagement

In this stage, the exhibition engages visitors through **sight, smell, touch, and hearing**, eliciting curiosity and active perception.

Sensory experience here functions as a **pre-cognitive strategy**: before understanding, judging, or constructing value, visitors “read wood” directly through their bodies.

## Conceptual Collaborative Contributions

Sense	Source / Collaborator
Sight	Samples from RONG Design Library
Smell	@Hills Between / @Narrative Scent Design / @Asin
Touch	Samples from RONG Design Library
Hearing	Field Recordings by @ShengLi WeiSheng Huang
Taste	@Food Designer Leyu

## Format

Sensory Table (2400mm × 2400mm × H800mm)

Content is organized according to three thematic trends, with each section labeled with theme information and sensory markers.

Products are freely placed on the tabletop, allowing visitors to explore them at will.

## The 3 Thematic Trends

*A. Emotional Sustainability*

*B. Post-Material Luxury*

*C. Inclusive Flow*

## *A. Sustainable Emotion*

Emotional sustainability reflects on the logic of sensory consumption.

It focuses on a long-term, low-stimulation, non-efficiency-oriented sensory relationship, opposing the dominance of strong stimulation and rapid feedback in conventional consumption.



### **| Empathizable Imperfection**

Wood samples are displayed under magnifying glasses to reveal wormholes, cracks, mold, weathering, and repair marks. These features, usually considered “flaws” are transformed into carriers for emotional projection, highlighting the wood’s agency and the traces of time.



### **| Memory-Based Scents**

Interactive scent points are provided. Olfactory cues evoke memories of old furniture, temples, and aged beams, connecting with memory of home, childhood, and accumulated time. Scents function here as emotional memory.



### **| Soothing Tactility**

A wooden sample or handle is presented. Its surface, smoothed through prolonged human touch, is juxtaposed with untreated rough wood. This tactile contrast encourages touching, making the act itself a form of emotional regulation.



### **| Low-Frequency Sounds**

Subtle noises generated by wood’s thermal expansion and contraction, the sound of footsteps on a wooden floor, and the crackle of burning wood guide visitors into a more introspective sensory state.

## *B. Post-Material Luxury*

Post-material luxury responds to contemporary shifts in value judgment and consumption logic. Value is no longer defined solely by scarcity, surface polish, or visual display; instead, attention turns to the ethics, time, and labor embedded in materials.



### **| Extinct and Endangered Tree Species**

A series of samples from tree species that are extinct or endangered due to human activity are displayed. This challenges conventional notions of “luxury” and seeks to redefine it as responsibility and restraint rather than mere possession.



### **| Natural vs. Synthetic**

The olfactory experience is clearly divided into two sides: one presents the natural scent of real wood, the other the common “woody fragrance” used in commercial perfumes. This juxtaposition exposes the designed authenticity and highlights the manipulation of sensory perception in consumption systems.



### **| Traces of Handcraft**

Natural-dyed wood samples and traditional woodworking artifacts retain visible tool marks. Touching becomes a medium for perceiving time, labor, and craftsmanship.



### **| Sounds of Production**

Sounds recorded during woodworking processes—cutting, hammering, sanding—are introduced, making the material’s generative process audible once again.

## *C. Inclusive Flow*

Inclusive flow resists material homogenization and the pursuit of uniform, “perfect” forms. It emphasizes the adaptation and transformation of materials and life in diverse environments.



### **| Non-Linear Growth**

Wood sections with forced bends and heterogeneous growth patterns are displayed, alongside landscape cases such as banyan trees growing through cracks in pavement.



### **| Unconventional Woody Scents**

Scents that deviate from commercial norms are presented, resisting standardized sensory experience.



### **| Unstable Surfaces**

Knots, peeling bark, and bleached surfaces are incorporated into tactile exploration, emphasizing change, transition, and uncertainty.



### **| Experimental Material Sound**

Wood’s electrical properties or biological data are experimentally translated into sound, transforming the material from a passive object into an active sound-producing entity.

*Through these three thematic pathways, visitors establish an intimate relationship with wood and enter a state of discovery and curiosity.*

*Meaning emerges naturally from embodied experience, laying the foundation for subsequent narrative construction and spatial guidance.*



Exhibition Section 2

## ***Cultural Resonance*** / Deepening Relationships

### Value Reflection

This section focuses on **value reflection** as a process through which materials—specifically wood—mediate cultural memory, social relationships, and shared emotional experience. Rather than positioning objects as isolated exhibits, the display constructs a relational field in which everyday items and ritual artifacts are read together, allowing visitors to recognize how wood accompanies human life from birth to death. Through minimal labeling and chapter-based organization, meaning emerges gradually through proximity, comparison, and personal association.

## Formats and Devices:

- Collection and display of objects and books
- Table displays encouraging slow observation
- Chapter-based introductions framing thematic clusters
- Objects displayed without labels to foreground sensory and relational reading
- Books accompanied by annotated labels to support conceptual depth

## Scope:

Wooden objects spanning the human life cycle, from birth to death

### “Everyday + Ritual”

- Birth – Birth certificate
- Birthday – Paper birthday plates
- Education milestone – College entrance examination papers
- Illness – Medical records
- Death – Urn
- Afterlife – Joss paper (spirit money)

## Life-Cycle Perspective:

The exhibited wooden objects span the full human life cycle, combining **everyday practices and ritual moments**. From birth certificates and birthday paper plates, to examination papers, medical records, urns, and joss paper, wood appears as a quiet but persistent material witness—present in moments of celebration, transition, vulnerability, and remembrance. This juxtaposition emphasizes wood not as a precious material, but as a **carrier of lived experience and cultural continuity**.

## **Annotated Bibliography:**

### **Five Elements (Wu Xing) – Focus on Wood**

#### **The Book of Documents (Shangshu), “Hongfan” 《尚书·洪范》**

This text provides one of the earliest systematic formulations of the Five Elements, establishing wood as a stage of growth and emergence within a broader model of natural and political order. It serves as a historical foundation for understanding Wu Xing as a normative and relational system rather than a material taxonomy.

#### **The Book of Changes (Zhouyi / Yijing) 《周易》**

By emphasizing change, becoming, and continuity, *Zhouyi* supports an interpretation of wood as a temporal and generative condition. Although not always explicit, its logic aligns closely with the qualities attributed to wood as initiation and vitality within the Five Elements framework.

#### **Huainanzi 《淮南子》**

*Huainanzi* articulates a fully developed system of correspondences linking wood with spring, the east, and growth, and applies this model across natural, political, and bodily scales. The text demonstrates how wood functions as a mediating category connecting different domains of knowledge.

#### **Huangdi Neijing 《黄帝内经》**

In this medical-philosophical text, wood is embedded within the understanding of the human body, associated with specific organs, sensory capacities, and emotional states. These associations frame wood as a functional and process-based concept, central to maintaining dynamic balance and life activity.

張隱菴先生註

黃帝內經素問

靈樞合編

太醫  
院藏

黃帝內經序

臣聞安不忘危存不忘亡者往聖之先務  
求民之瘼恤民之隱者上主之深仁在昔  
黃帝之御極也以理身緒餘治天下坐於  
明堂之上臨觀八極考建五常以為人之  
生也負陰而抱陽食味而被己外有寒暑  
之相盪內有喜怒之交侵天昏札瘥國家  
代有將欲歛時五福以敷錫厥庶民乃與

The Book of Documents (Shangshu), "Hongfan"



Exhibition Section 3

## ***Expanding Scale*** / Triggering Awareness

### Systemic Understanding

This chapter shifts from intimacy and cultural resonance toward a systemic and critical reading of wood, exposing the larger ecological, political, and economic structures embedded within a single material. The aim is not to provide reassurance, but to intentionally introduce tension and unease, prompting visitors to confront the consequences of human intervention, policy acceleration, and material desire.

The development of this section requires further research and cross-disciplinary collaboration, involving dendrochronologists, forestry researchers, and environmental scientists.

The chapter is structured around three interrelated themes, all examined through the case of Hainan Huanghuali (*Dalbergia odorifera*).

### 3.1 Tree Rings × Climate

#### Making Time Legible

This subsection draws on **dendrochronology** to reveal how tree rings function as material archives of time and climate. Beyond indicating age, tree rings record **extreme environmental events**, transforming abstract notions of climate change into legible, physical evidence. In the case of Hainan Huanghuali, the growth rings correspond to specific periods of extreme weather—such as tsunamis and typhoons—allowing environmental change to be read directly within the material structure of the wood. Reading a single tree thus becomes an act of observing historical climate conditions.

#### Exhibition Format:

A suspended Hainan Huanghuali wood column is illuminated by a vertical light axis. Its growth rings are projected and enlarged onto the floor, forming a linear, map-like drawing. Walking across this surface becomes an embodied act of reading time, where each step corresponds to a specific climatic event embedded within the tree's lifespan.

### 3.2 Forest Policy × The Chinese Path

#### Plantation Forests vs. Primary Forests

This subsection examines forestry as a **policy-driven system**, highlighting the tension between ecological complexity and economic efficiency. Plantation forests are often shaped by commercial imperatives, prioritizing speed, yield, and control.

As a highly valuable timber species, Hainan Huanghuali underwent a dramatic trajectory—from overexploitation and near extinction to artificial cultivation within monoculture plantations. This transformation reflects how China's forestry policies have shifted rapidly within a short historical period, raising questions about biodiversity loss, ecological fragility, and long-term sustainability.

#### Exhibition Format:

Flat-panel displays combining analytical text, diagrams, and data visualizations. The layout emphasizes comparison and contrast, enabling visitors to trace the structural logic—and hidden risks—behind policy-driven forest transformation.

### 3.3 Rare Wood × Desire Economy

#### When Desire Exhausts Material

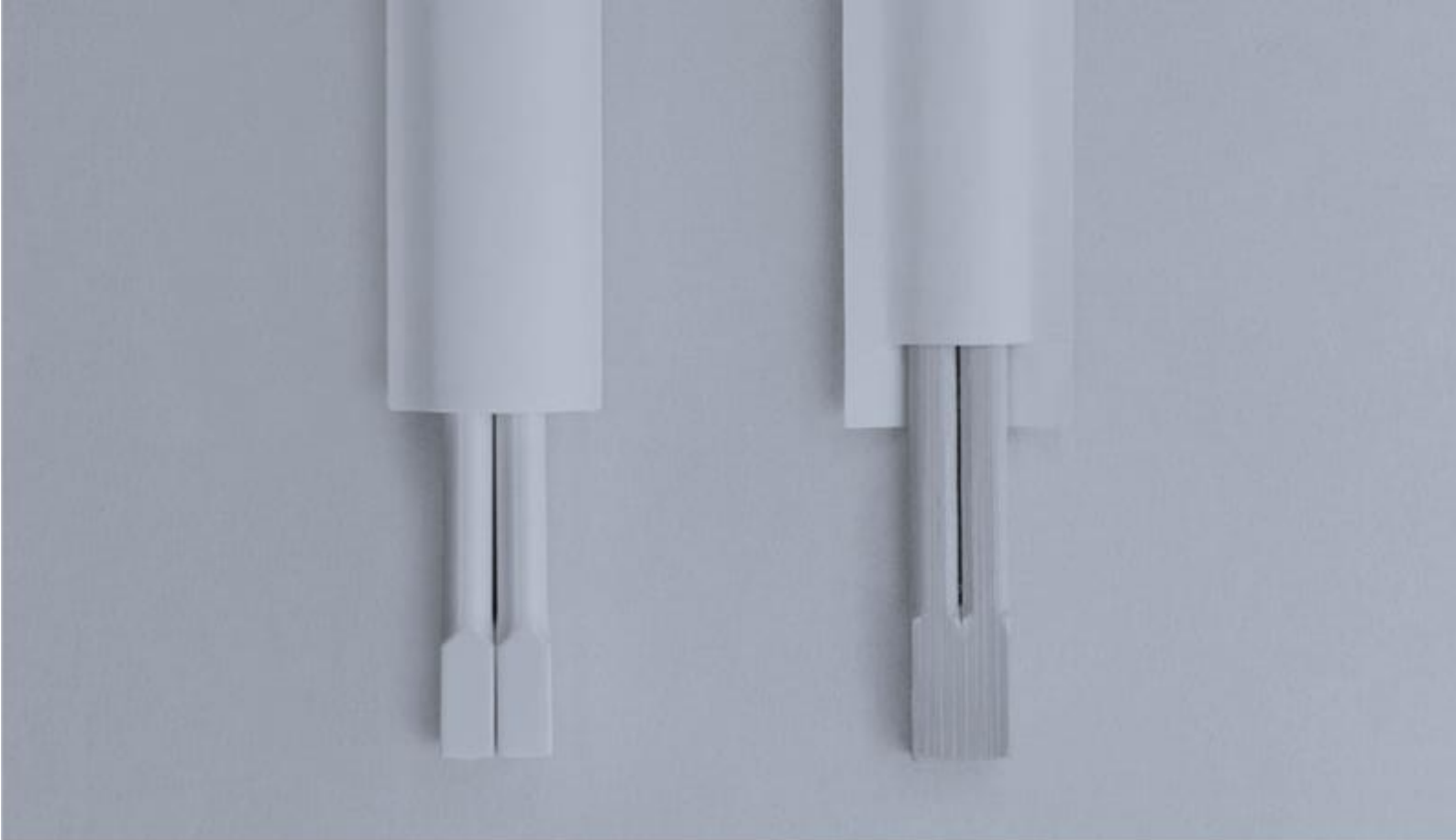
This subsection addresses the role of **desire and symbolic value** in accelerating material depletion. Hainan Huanghuali is examined within a broader economy of longing, prestige, and speculation, manifested through redwood furniture, traditional medicine, and beaded accessories.

Here, wood is no longer understood as a living system or cultural medium, but as an object consumed by status, belief, and accumulation. The question posed is not how rare materials are valued, but **how desire itself becomes a destructive force.**

#### Exhibition Format:

Installation-based work (in development). The unfinished nature of the installation is intentional, reflecting the unresolved tension between cultural desire and material exhaustion.





Exhibition Section 4

## ***Lifecycle Awareness*** / Personal Reflection

### Systemic + Value

This chapter brings **systemic analysis and value reflection** together, shifting the focus from distant ecological structures back to **everyday personal responsibility**. Rather than presenting abstract data alone, the narrative deliberately redirects the question toward “*me*”—my habits, my celebrations, my consumption.

By comparing **usage lifespan versus growth lifespan**, and **fast consumption versus long-term regeneration**, this section exposes how ordinary wooden objects quietly accumulate into large-scale ecological consequences.

## Pointing the Question Toward the Self

- Consumption of everyday wooden products
- Usage lifespan vs. growth lifespan
- Fast consumption vs. long-term use

The intention is not moral judgment, but awareness: to make visible how seemingly insignificant daily choices participate in much larger material systems.

## Exhibition Format

A cubic structure composed of **light axes** forms the core display. At the center of each cube, a corresponding disposable wooden object—such as **disposable chopsticks** or **single-use birthday plates**—is suspended.

The **volume of each light cube** is scaled to represent the **real-time consumption rate in China**, transforming statistical data into a spatial experience.

## Conceptual Collaborative Work

### Co-creation with artist **NIDAODAO**

*The Stomach Tells the Truth* — lacquered wooden chopsticks

This collaborative piece introduces a bodily and emotional layer to the otherwise data-driven narrative, linking digestion, consumption, and material extraction through the intimate act of eating.

## Case Study 1: Disposable Chopsticks

Disposable chopsticks represent one of the most pervasive forms of fast wood consumption in everyday life.

- Global annual consumption: **approximately 80 billion pairs**
- Trees felled worldwide: **about 2.64 million trees per year**

### China-specific data:

- Daily consumption: **approximately 123 million pairs**
- Equivalent to: **around 12,300 pine trees felled per day**

### Material conversion:

- One pair of disposable wooden chopsticks  $\approx$  **20 g of wood**
- One fast-growing plantation tree suitable for chopstick production  $\approx$  **300 kg of usable wood**  
(after removing bark and processing loss)

### Converted to real-time scale:

#### Global (per second):

- Disposable chopsticks: 80 billion / year
- Trees: 2.64 million / year

#### CN China (per second):

- Disposable chopsticks:  $\approx$  **1,424 pairs / second**
- Trees:  $\approx$  **one pine tree every 7 seconds**

### Spatial translation:

- **1,420 pairs of disposable chopsticks**, stacked into a cube
- Approximate cube edge length: **41 cm**

## Case Study 2: Disposable Birthday Cake Plates

According to common Chinese birthday customs, an individual may use approximately **900 disposable birthday cake plates** over the course of a lifetime, accounting for annual birthdays and milestone celebrations.

Large milestone gatherings (with 20 or more participants) represent roughly **one quarter** of this total. This illustrates how even modest, joyful rituals accumulate into significant material consumption over time.

### Spatial translation:

- 900 disposable cake plates stacked into a cube
- Approximate cube edge length: **66 cm**

### Scenario calculation:

Assuming a city of **10 million residents (e.g. Hangzhou)**, each using approximately **900 disposable cake plates over a lifetime**:

- Total wood consumption: **approximately 1,980,000 tons**
- Equivalent to felling **around 7.92 million pine trees**
- Cumulative tree growth time: **approximately 238 million years**



Exhibition Section 5

## ***Arboreal Kinship*** / Material Application

### Bodily Participation

This chapter translates awareness into **bodily participation**, shifting from observation and reflection toward hands-on understanding. After moving through sensory immersion, value reflection, and systemic critique, visitors are invited to engage with wood through **making, handling, and collective action**.

Here, knowledge is no longer transmitted solely through text or images, but emerges through **embodied experience**, where the body becomes an active medium for learning how wood is processed, shaped, and reused.

This chapter consists of **two interconnected components**.

## A. Traditional Wood Material Techniques

This section presents traditional woodworking techniques as a foundation for understanding wood as an applied material rather than an abstract concept. By exposing different cutting logics—such as **plain sawing (tangential cut)**, **quarter sawing (radial cut)**, and **rotary cutting**—visitors can perceive how material behavior, grain patterns, and structural performance are shaped through specific techniques.

The emphasis is not on craftsmanship as spectacle, but on revealing how technical decisions mediate between material properties and human intention.

## B. Wood Workshop Space

A dedicated woodworking space is established within the exhibition, transforming the gallery into a site of **production rather than display**. This workshop invites visitors to participate directly in working with wood, reinforcing the shift from passive viewing to embodied engagement.

The workshop foregrounds reuse, improvisation, and care, emphasizing wood as a living resource embedded within local contexts.

## Conceptual Creative Exercises & Collaborative Workshops

- **@Agian 再手**

On-site workshops organized during the exhibition, collecting wood offcuts and discarded wooden objects from nearby villages. These materials are reworked and transformed into new objects, highlighting cycles of reuse and local material flows.

- **@Quesi**

Architect *Zhenghua* leads a hands-on workshop constructing temporary structures using **tree branches**, emphasizing non-standard forms, bodily coordination, and collective making as modes of spatial learning.



## Section 6

### ***Participatory Creation*** / Embodied Knowledge

#### Bodily Participation

This chapter marks the final transformation of the exhibition experience, breaking away from the conventional role of “*viewing an exhibition.*” The narrative shifts decisively **from Object** → **Relationship** → **Action**, positioning creation itself as a form of knowledge production. Rather than being confined to a single room, all activities in this chapter can occur **anywhere within the exhibition space**, using any materials available on site. The exhibition thus becomes an open field for experimentation, collaboration, and performative making.

## Narrative Function

### Disrupting the Role of the Viewer

Visitors are no longer observers or participants following predefined instructions. Instead, they become co-creators whose bodily actions generate meaning, relationships, and material outcomes. Knowledge here is **situated, relational, and embodied**, emerging through collective processes rather than finished objects.

### Conceptual Programs & Creative Actions

- **@RESONANCE HORIZON 共鸣之界剧团 - Material Theatre Workshop**

A theatre-based workshop that treats materials as active performers rather than passive props. Through movement, sound, and spatial interaction, participants explore how wood and other materials shape bodily gestures, rhythms, and relationships. The workshop emphasizes presence, improvisation, and interdependence between body and material.

- **@HE SHEN 何珅 NIDAODAO 岛岛 - *Tofutopia***

A live, on-site tofu-making action using lacquered wooden tableware. Tofu is produced and processed directly within the exhibition space, transforming acts of cooking and eating into a performative exploration of material cycles, care, and collectivity. Wood functions not as an exhibit, but as a **mediating agent** between body, food, and space.

### From Exhibition to Practice

In this chapter, the exhibition no longer culminates in interpretation, but in **action**. Creation is framed as a form of embodied knowledge—one that cannot be fully documented or archived, but only experienced through participation.

By allowing activities to unfold across the entire site, this section dissolves the boundary between exhibition, workshop, and everyday life, leaving visitors with practices rather than conclusions.