CA²RE HANNOVER

Tra jec to ries

Book of Proceedings

Conference for Artistic and Architectural Research

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Book of Proceedings

Conference for Artistic and Architectural Research

Faculty of Architecture and Landscape,
Leibniz University Hannover

Hannover, Germany, 26–28 March 2026

Trajectories
Book of Proceedings
Colophon

CA²RE Hannover – TRAJECTORIES:
Proceedings of the Conference on 26–28 March 2026 at Leibniz University Hannover

Editors
Jörg Schröder and Riccarda Cappeller, Leibniz Universität Hannover

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Scientific Committee
See Section 08

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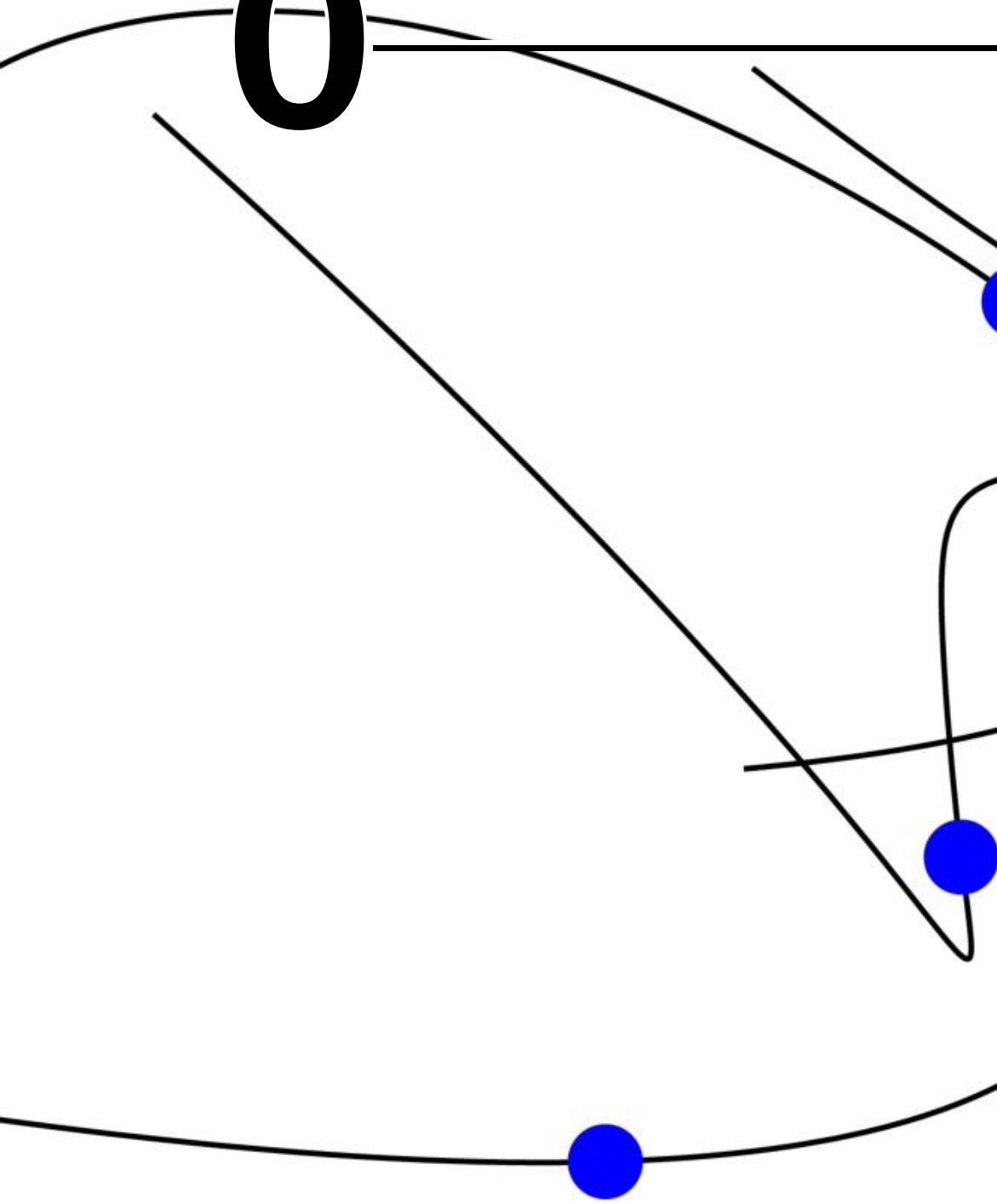

Introduction

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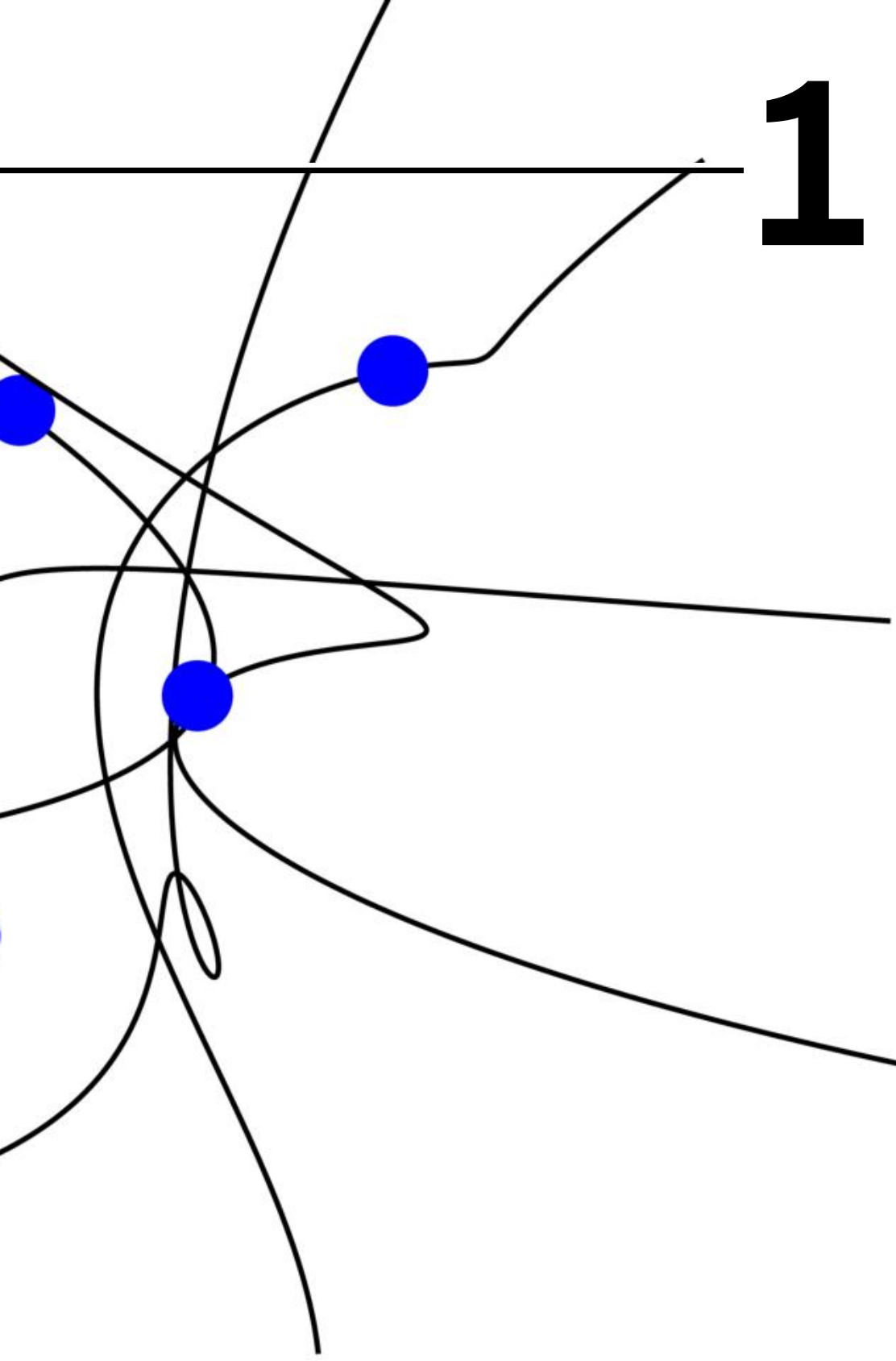

CA2RE Conference Hannover – Trajectories

Jörg Schröder, Leibniz University Hannover
Riccarda Cappeller, Leibniz University Hannover

The Hannover CA2RE Conference places *Trajectories* at the centre of discussion.

We want to investigate its relevance for research and spatial transformation, and discover new approaches, perspectives and processes within design-driven research. How do we navigate our research paths, creating settings that allow research and practice to intersect? Why and at which points do we change the course, pose new questions and follow different directions? How do we enter states of movement and flow – circulating, moving, coming and going? *Trajectories* explores fields of research across architecture and design while highlighting alternative ways of working and re-connecting thinking and making as a distinct form of knowledge production.

Trajectories, from the Latin *trans–iacere* (to throw across), refer to the move to further dimensions, thinking and creating beyond what first-hand appears and what is practiced, concerning the spin to transmit and transport understanding, knowing and practising. To discuss paths of research – as it moves – points at finding logics and coherence, for the course over time, seen as a curve, tracing in space and context, for cutting other curves, passing through a set of points, and identifying rules which steer the research process. With *Trajectories* of design-driven and artistic research we aim to shed light on the intersection of research processes with spatial change. How can spatial capacities and their transformation be grasped, related to theory and shown in research? In which way can material- or concept-based spatial interventions become a practical part of research? What role can the creation of space and projection of existing spaces towards the future play for research in architecture?

"To throw across" – *Trajectories* can be about the risk and adventure in design-driven and artistic research, to engage with uncertainties, to move to something new and unknown, towards emerging directions, to move from and to horizons of knowledge (Gadamer, 1990), getting aware of conditioning skills, practices and concepts and how they can be contested, reworked, and extended. Thus, finding "curved lines" driven by a spin, necessarily involves learning processes, trial and error, using also discarded lines to identify more complex lines of thought and practice. Tracking *Trajectories,* in this sense, is about how practices are followed, drawn, and documented, considering the legitimacy of more intuitive, drifting approaches (Krogh, Markussen, and Bang, 2015) and setting an equal focus on the research process and its outcome. *Trajectories* are simultaneously pointing forwards and backwards, for a prospective as well as a retroactive reflection.

„Lines of flight" – *Trajectories* can be, at the same time, about a performative view on space, its capacities, tendencies, and the agencies involved in its transformation – across architectural, urban, territorial, natural, interior, and more dimensions – to invent, experiment, and evolve pathways in understanding spatial change. Understanding *Trajectories* as part of assemblage thinking can respond to dynamic spatial as well as research contexts, and to social and material networks of people, things, and narratives. As Deleuze and Guattari (1980) point out, *Trajectories* are able to frame complexity through fluidity and connectivity, constantly

shifting, evolving, and adapting – concerned with material forms and forms of expression, with territorialisation for ordering and creating space and context, and with coding/decoding (De Landa, 2016) to different languages and contexts of meaning.

Trajectories are taking up on the work of the CA2RE community on strategies (Pedersen et al., 2021). *Trajectories* of research are about the persons imagining and forming them, their personal paths, collaboration and interaction in new forms of understanding and organising research. To actively form, steer and adjust *Trajectories* of research processes, at different points, can enhance and promote specific characteristics of design-driven and artistic research. For example, to create iterative and recursive moves, in defining start and end, research questions, results, and relevance, or to design courses that address how to move across methods, fields of research, meanings, and concepts. *Trajectories* of space thus are about spatial capacities and transformation, its social, spatial and historic change, cultural resources, material matters, context-based, human and ephemeral experiences and creative heritage. They are based within the material but go far beyond, lingering into fields of interdisciplinarity, collective conversations, visual languages and theoretical reflection.

The invitation to the CA2RE conference in Hannover was an invitation to share space and time at an ongoing construction site. We would like to thank Prof. Anette Haas and the kug-Team for hosting us in their premises – the sculpture hall, the drawing room, the courtyard – and for contributing with "Transmission –kug workshop insights" to the conference. Looking back on the rich days in Hannover, a Thank you to Enrico Miglietta and Liselotte Vroman with Thierry Lagrange, Jo Van Den Berghe for the kick-off with the workshop "Trajectory · Punctum" and to the keynote speakers Sabine Hansmann, Irati Irulegi and Ramón Parramon for the opening dialogue. Many thanks to the presenters for sharing their research and thoughts. Thanks to the reviewers and respondents and to the whole CA2RE-community, especially to the authors of the essays, visual essays, dialogues and reflections in this book. We are grateful to the „Niedersächsiches Ministerium für Wissenschaft und Kultur" for co-funding the conference. Thanks to Stina Wellmann and Helena Reinhardt whose active support made this conference possible.

We hope that these conference proceedings bring together what we experienced throughout the two days and that it gives new ideas, initiates dialogues and thoughts and contributes to ongoing debates on *Trajectories* in artistic and architectural research.

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TRAJECTORIES of Artistic and Design-driven Research

Tadeja Zupančič, University of Ljubljana

THOUGHTS

Created to direct the very act of making.

Recognised while coming from the act of making.

Explicated during the making process.

Accompanying the act of making.

Reflecting on making.

DIRECTIONS

Of curiosity.

Through the research strategy.

Through uncertainty.

Towards the unknown.

To freedom.

CONNECTIONS

Between people, groups and networks.

Of places and artefacts.

Of people, places and embodiments.

Of affinities and interests.

Through time.

FLOWS

Of inseparable thinking and making.

Of constellations.

Of relationships.

Of consistent decision/making.

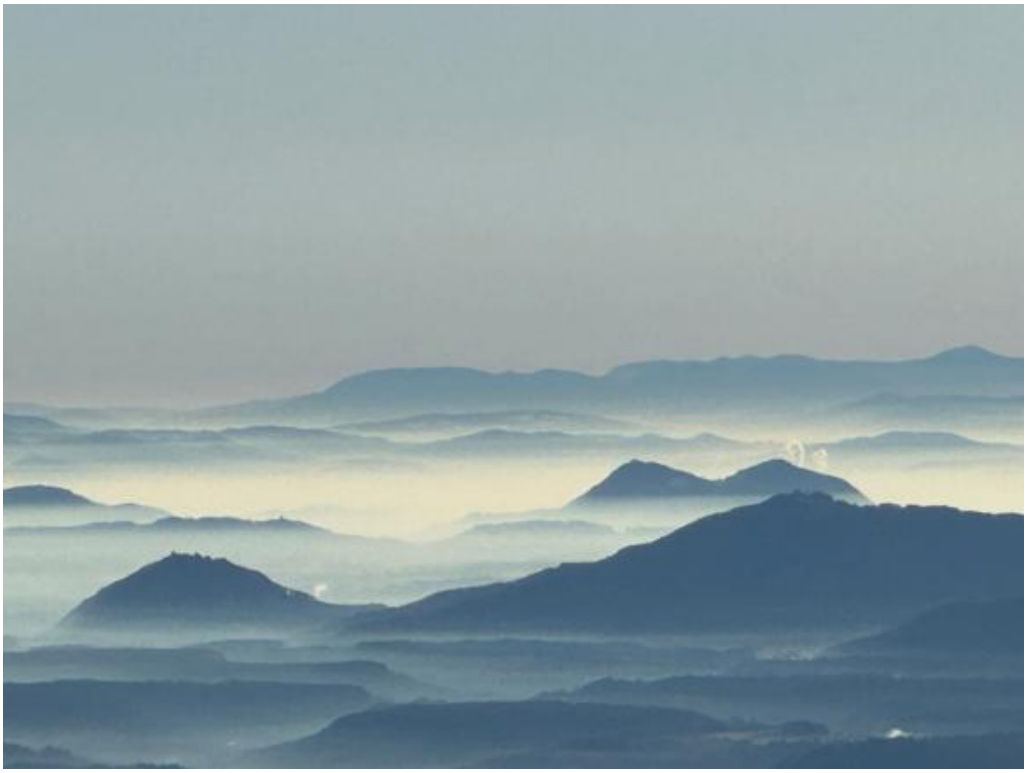
Of rigorous speculations into the future.

KNOWLEDGE

Intersubjective transfers and creations.

Flows embedded and readable form artefacts and performances.

Cultural impacts and influences on people and places.



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Making Trajectories / Design-Driven Research and the Emergence of Knowledge

Claus Peder Pedersen, Aarhus School of Architecture

Design-driven research rarely unfolds as a linear progression from predefined questions to stable outcomes. Instead, it develops through situated engagements in which experiments, materials, reflections, and conceptual framings continuously reshape one another. This poses a particular challenge within doctoral research, where projects are typically expected to demonstrate coherence, methodological clarity, and the potential for an original contribution to knowledge from the outset.

This text proposes the notion of trajectory as a prism for understanding how design-driven research develops through such conditions of openness and contingency. Due to the embodied and situated nature of design practice, and by extension design-driven research, inquiry often evolves through shifting trajectories that emerge through ongoing interaction with materials, contexts, and practices rather than through the execution of a predefined plan. In this sense, trajectory does not merely describe movement through a research process, but points to a mode of inquiry in which knowledge is progressively formed through engagement.

Understanding research in terms of trajectories requires an awareness of being in the research process, of how actions, decisions, and responses continuously redirect inquiry in relation to broader research concerns. At the same time, these trajectories must be actively mapped and documented to articulate how knowledge contributions are constructed. Trajectory thus becomes not only a way of describing research processes, but also a methodological lens for relating situated practice to the requirements of academic knowledge production.

'Trajectory' may be associated with the metaphor of the PhD journey, described by Pat Thomson as 'a way of telling self and others the story of the PhD process and the various experiences, emotions, and challenges along the way. The notion of the journey sums up the sense of movement, personal growth and change' (Thomson 2015). In this context, the PhD journey may be understood not as a steady progression along a predefined path, structured by a logically ordered research plan, but rather as a series of shifting trajectories. These unfold as experiments fail, research designs are revised, doubts emerge, and insights are gained.

Thomson underscores this by drawing on Christina Hughes and Malcolm Tight's suggestion to frame the PhD journey as a pilgrim's progress, characterised by 'loneliness, confusion, loss of voice and avoidance of temptations in the process, as well as the final arrival at the heavenly destination' (Hughes and Tight 2013, cited in Thomson 2015). By mobilising this quasi-spiritual imagery, Pat Thomson critically exposes how the metaphor of the journey risks shifting responsibility for success onto the individual, obscuring the broader institutional conditions under which doctoral research unfolds.

While this critique is highly relevant, the metaphor of the PhD journey need not be abandoned. Rather, it can be reconsidered in a way that shifts emphasis away from an internalised and individualised narrative toward a more situated and embodied understanding of learning. In this perspective, the journey does not primarily describe a personal, reflective process (although it still plays a part), but points to the necessity of

engaging in and through practice to learn by being involved in situations where knowledge is actively made. The focus thus moves from narrating experiences to participating in them, foregrounding the role of material, sensory, and practical engagement in shaping the course of the research process.

From this perspective, drawing on Tim Ingold's work on making, knowledge can be understood as emerging from within processes of engagement rather than being constructed after the fact (Ingold 2013). Ingold develops this position through a transdisciplinary perspective that brings together 'the 4As': anthropology, art, architecture, and archaeology. These fields are not aligned by shared objects of study, but by a common concern with making as a way of knowing. By placing them in dialogue, Ingold challenges established separations between thinking and doing, and between observing and producing, instead foregrounding practices in which understanding arises through active, material engagement.

From this perspective, trajectories unfold through situated engagement, where movement is guided less by overarching plans than by responsiveness to conditions encountered along the way. In Tim Ingold's account, knowing develops through processes of making in which each action opens toward the next, forming paths that are continuously adjusted rather than prefigured. Trajectories in this sense are not directed toward fixed endpoints but shaped through interaction with materials and situations as insights emerge. A related dynamic can be observed in design practice, where the definition of a design problem and the development of a proposal evolve in parallel, each informing and transforming the other (Schön 1983; Dorst and Cross 2001). This reinforces the view of trajectories as emergent and responsive rather than predetermined. When this understanding of making is brought into the context of design-driven research, however, a fundamental tension arises.

If situated and relational forms of making are taken as a basis for research, trajectories unfold through processes that are inherently contingent and cannot be fully specified in advance. Yet entry into a PhD programme typically requires demonstrating the potential for an original contribution to knowledge through a prior mapping of existing research and the formulation of a clearly defined research question. The unpredictability implied in trajectories of making thus sits uneasily with academic expectations of positioning, coherence, and methodological rigour. The challenge is therefore not to resolve this tension, but to work with it so that knowledge emerging through such trajectories can be articulated and recognised within academic research.

In response to this tension, approaches within design research have sought to establish intermediary frameworks that can relate exploratory, practice-based processes to the requirements of academic knowledge production. Within constructive design research, Eva Brandt and Thomas Binder introduce the notion of the *program* as such an intermediary between research questions and design experiments. Drawing on the idea of the design brief as 'the first statement of a design space within which to draft a design', the program establishes a provisional framing that links broader research concerns to situated acts of experimenting and making. Rather than implying a hierarchical structure, the relation

between program, question, and experiment is understood as dynamic and reciprocal, where each domain continuously informs and reshapes the others.

This model has been further expanded by Anne Louise Bang and colleagues through the introduction of *motivation* as an additional dimension (Bang, Krogh, Ludvigsen and Markussen 2012). In this sense, trajectories are not only shaped by the interplay between questions, programs, and experiments, but are also oriented by the values, beliefs, and dispositions brought into the process. These may be ethical, aesthetic, or rooted in design practices, and act as a driving force that influences the direction of inquiry without fully determining it.

A related approach can be found in Johan Verbeke's notion of designerly grounded research (2017), which proposes that research questions and conceptual framings develop alongside the design process itself. Drawing on constructivist grounded theory, the approach treats experimentation and analysis as intertwined processes through which insights emerge progressively through engagement with the material produced. At the same time, Verbeke's engagement with grounded theory is not only methodological. By relating design-driven research to established epistemologies from other research traditions, he also seeks to position it within a broader academic landscape, forming alliances that challenge the risk of treating design-driven research as an isolated or exceptional mode of inquiry. In this sense, designerly grounded research offers a way of aligning exploratory trajectories with the demands of academic knowledge production without reducing their situated and practice-based character.

Considered together, these approaches remain conceptual and somewhat abstract, grounded in different theoretical traditions, yet they share a common ambition: to establish provisional frameworks that are sufficiently open to initiate design experiments while structured enough to allow the gradual consolidation of research focus, questions, and outcomes. Rather than treating research questions, experiments, and conclusions as sequentially defined components, they propose dynamic relations in which these elements continuously inform and reshape one another through iterative movement between framing, making, and reflecting. In this sense, trajectories emerge through ongoing loops between exploratory practice and the progressive articulation of the research.

Such processes of gradually refining research focus are, of course, not unique to design-driven research. Most research develops through revisions, adjustments, and reformulations as inquiry unfolds. What distinguishes design-driven research is perhaps the more pronounced openness of the process, where the trajectory is less dependent on refining a predefined structure and more shaped through situated engagement with emerging material, spatial, and conceptual conditions. Importantly, these trajectories are not only processes to be navigated, but also to be made explicit. Their mapping, often through graphic means in design-driven research, becomes part of the research outcome itself by documenting how knowledge emerges through the unfolding trajectory of the PhD journey. In this sense, the contribution lies not only in the knowledge

produced, but also in articulating the framework through which it is constructed.

A more practice-embedded version of such trajectories can be found in models developed within practice-led research environments such as RMIT University, where research unfolds through reflection on an already established body of professional work (Blythe and van Schaik 2013). In this context, trajectories connect past, present, and projected future practice, allowing motivations, values, and accumulated experiences to become active components of the research process itself. The mapping of trajectories thus becomes not only a means of documenting emerging knowledge, but also a way of critically unfolding how practice has been formed and how it might develop further.

Taken together, these perspectives suggest that trajectory offers a way of understanding design-driven research not as a linear progression, but as a situated and evolving process in which knowledge emerges through engagement. As both a conceptual and methodological lens, trajectory allows the researcher to navigate the tension between openness and academic structure by making the development of inquiry explicit. In this sense, design-driven research contributes not only through the knowledge it produces, but also through the articulation and documentation of the paths through which that knowledge is constructed.

From this perspective, research design itself becomes an evolving object of inquiry rather than a stable framework established in advance. Questions, methods, experiments, and conceptual framings are progressively formed and reformed through movement between making, reflecting, and positioning. The mapping of these trajectories is therefore not supplementary to the research process, but central to it, as a means of articulating how knowledge emerges through situated and exploratory forms of practice.

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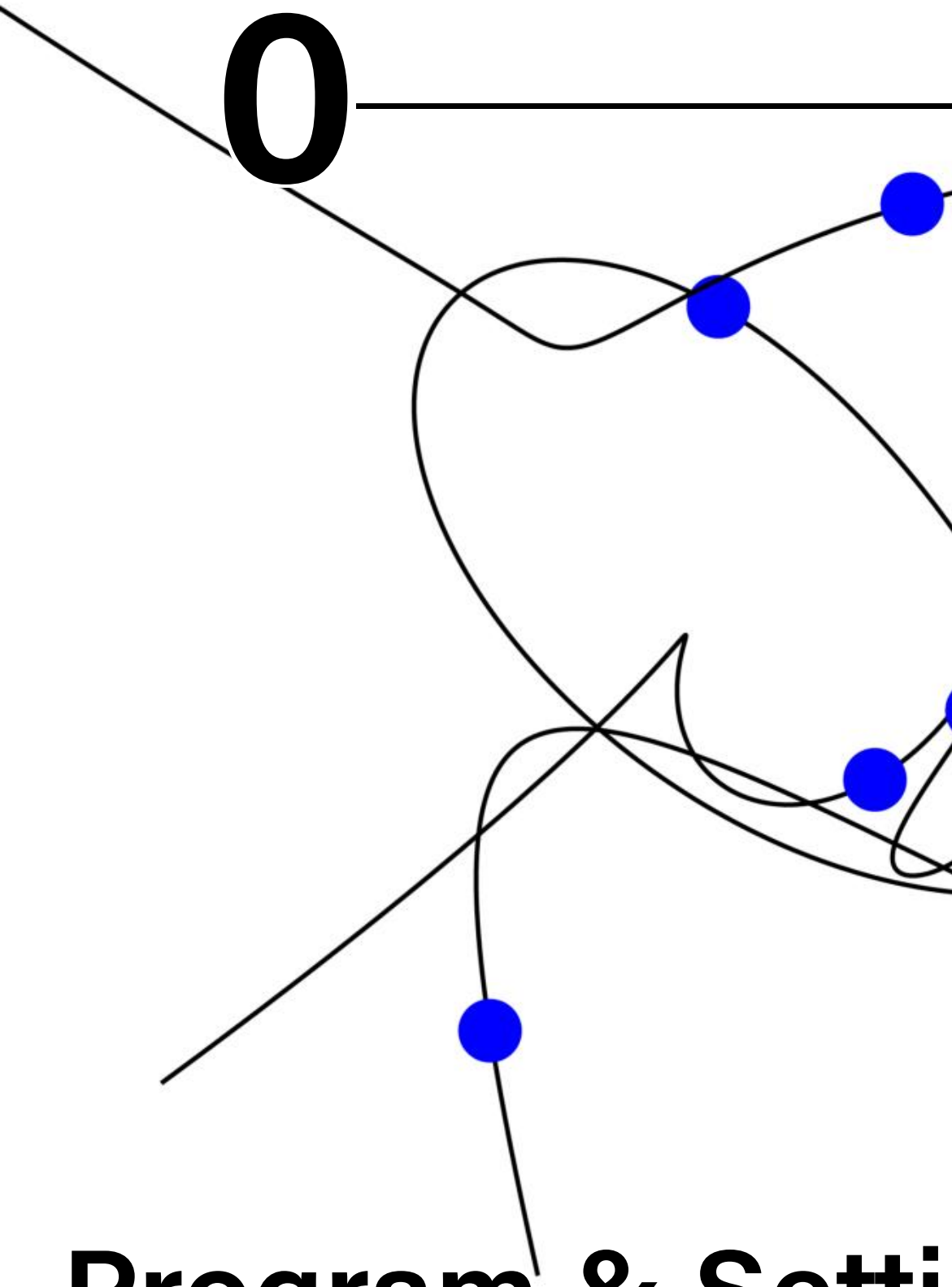
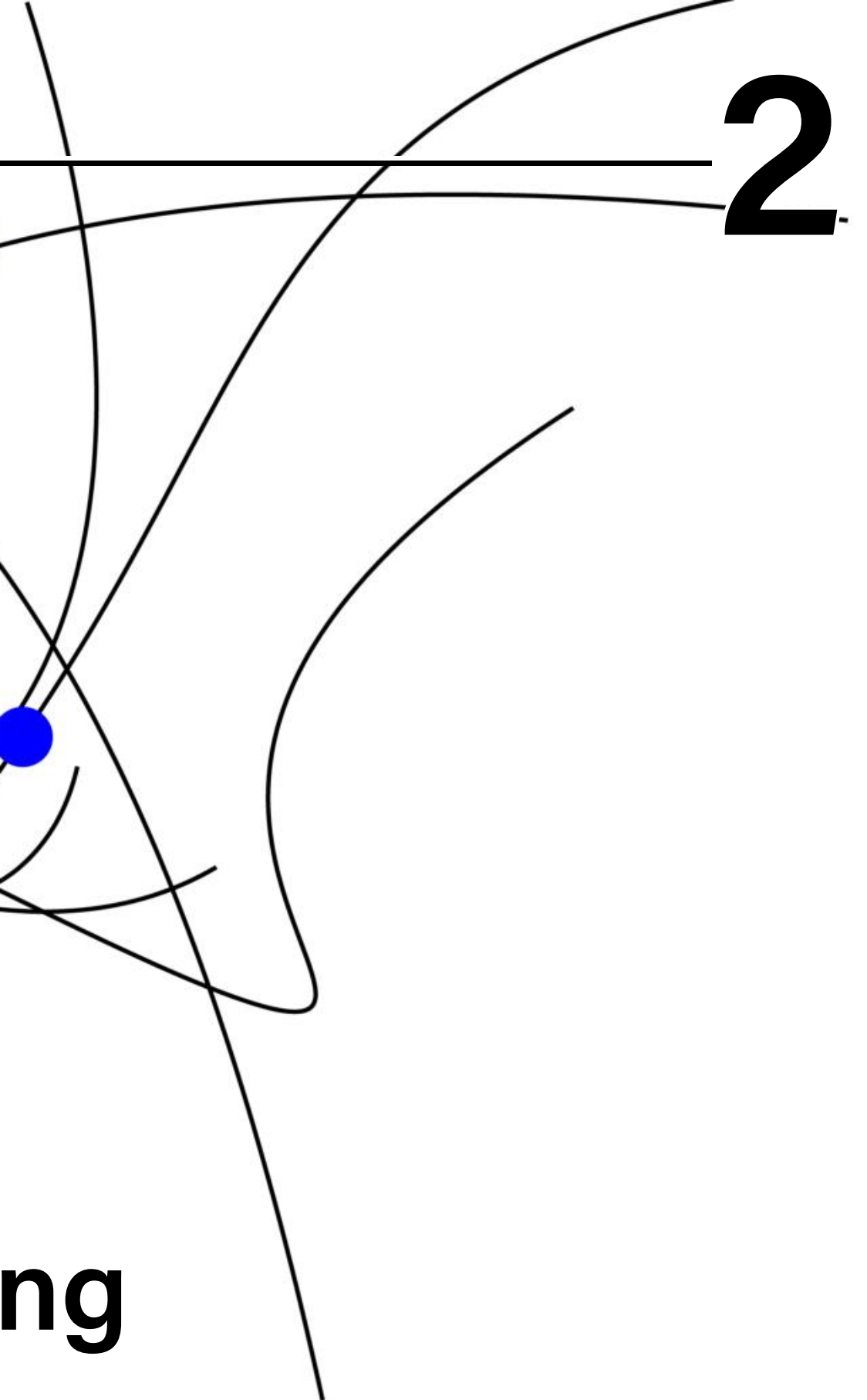


Program & Setti



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Conference Schedule

Thursday——26 Mar.

10:00 Workshop: Trajectory ▪ Punctum: Portrait of a PhD

Tutors:
Enrico Miglietta (KU Leuven), Lieselotte Vroman (KU Leuven) with Thierry Lagrange (KU Leuven) and Jo Van Den Berghe (KU Leuven)

13:00 Break

15:00 Welcome & Introduction

Collective welcome
Jörg Schröder (LUH), Tadeja Zupančič (CA^{2}RE), Claus Peder Pedersen (CA^{2}RE), Roberto Cavallo (EAAE), Ana Telles (ELIA), Anđelka Bnin-Bninski (ARENA)

Conference programme
Riccarda Cappeller (LUH)

Introduction into Trajectories
Jörg Schröder, Riccarda Cappeller

16:00 Lectures-Dialogue

Input Trajectories of Research:
Sabine Hansmann (Karlsruhe Institute of Technology)
abstract and bio →

Input Trajectories of Space:
Irati Irulegi, Ramón Parramón (Idensitat, Barcelona)
abstract and bio →

17:00 Discussion

18:00 Excursion Kulturzentrum Faust

20:00 Dinner Respondents

Friday——27 Mar.

08:30 Morning Coffee

09:00 Sessions

Zeichensaal
Lines of Transition
Diana Gouveia Amaral
P: Lagrange, Salema, Buchert

B053
Mapping Latent Reality
Ayodele Arigbabu
P: Bnin-Bninski, Botas Kenda, Zupančič

B063
A Tectonic Study on Wool
Ina Samdal
P: Schröder, Rowden, Padoa Schioppa

B169
Planetary Infrastructures
Shona Kitchen, Aly Ogasian
P: Gasperoni, Ballestrem, Gheysen

10:00 Sessions

Zeichensaal
The Future Line of Cinema(tic) Spaces
Diego Terna
P: Guilherme, Miglietta, Wehmeyer

B053
At the Confluence
Vija Viese
P: Ballestrem, Gheysen, Lagrange

B063
Off Course
Luise Leon Elbern
P: Peder Pedersen, Hoberg, Careva

B169
Landing with Distortion
Renata Berta Saumell
P: Stewart, Venrooij, Vroman

11:00 Break

11:30 Sessions

Zeichensaal
Obscuri Loci
Giovanni Manfolini

B053
From Externalisation to Metabolism
Ema Soukupová
P: Zupančič, Gheysen, Hoberg

B063
From Hidden Modernism to Hidden Architecture
Cláudia Melo
P: Peder Pedersen, Buchert, Schröder

B169
Spaces of Epiphany
Uğur Sarışen, Ayşe Şentürer
P: Salema, Stewart, Careva

12:30 Book Presentation: The Drawing and the Space

Thierry Lagrange (KU Leuven), Jo Van Den Berghe (KU Leuven), Enrico Miglietta (KU Leuven), Lieselotte Vroman (KU Leuven)

13:00 Lunch Break

14:00 Sessions

Zeichensaal
Walton Hall
Sarah Van Marcke
P: Padoa Schioppa, Bredella, Venrooij

B053
Energy and Seismic Retrofit Solutions as Spatial Devices
Francesco Iuliano
P: Lagrange, Almeida, Hoberg

B063
Loss is More
Miloš Kostić
P: Guilherme, Gasperoni, Buchert

15:00 Sessions

Zeichensaal
Tracing Hidden Trajectories
Ilke Kerkhofs
P: Careva, Lagrange, Scaffidi

B053
Architectural Low Definition
Sofia Hosszufalussy
P: Schwai, Vroman, Wehmeyer

B063
Fragmented Trajectories
Tamara Koneska
P: Bnin-Bninski, Roth-Čerina, Bredella

16:30 Sessions

Zeichensaal
Architecture of Proximity
Hinnerk Utermann
P: Botas Kenda, Schwai, Padoa Schioppa

B053
Stereoscopic Drawing Experiments
Charlotte Erckrath
P: Schröder, Wehmeyer, Gasperoni

B063
The Nexus of Textile and Sound
Gertrud Fischbacher
P: Venrooij, Vroman, Rosa

17:30 Exhibition Walk

TRANSMISSION - kug workshop insights
Department: Chair of Art and Creative Design (kug)

INSTALLATION - Towards an Architecture of Perspectives and Practices
Department: Chair for Territorial Design (ies)

18:30 Social Event

Concept and Preparation:
Max Neumann
Constanze Böhm

Saturday——28 Mar.

08:30 Morning Coffee

09:00 Sessions

Zeichensaal
Material Afterlives of Division
Holly Carton
P: Schröder, Almeida, Salema

B053
Archiving Spatial Drawing through Texture
Elaine Bonavia
P: Stewart, Peder Pedersen, Cappeller

B063
Neglected Walls
Lucas Oettinger
P: Botas Kenda, Bnin-Bninski, Miglietta

B169
Participant Space
Paula Vidal
P: Rosa, Roth, Buchert

10:00 Sessions

Zeichensaal
Reorienting the Project
Giulio Delle Sedie
P: Miglietta, Scaffidi, Schwai

B053
Assembling Disneyland's Trajectories
Joran Kuijper
P: Guilherme, Wehmeyer, Rowden

B063
Atlas Power
Ekin Baskentli
P: Zupančič, Almeida, Hoberg

B169
Research through Design or Research for Design?
Radek Toman, Karin Písaříková, Roman Warta, Markéta Marie Elbel, Kateřina Hrubá, Tereza Čamborová
P: Roth-Čerina, Rosa, Bnin-Bninski

11:00 Break

11:30 Sessions

Zeichensaal
Eyes of Epoché
Daein Cheong
P: Peder Pedersen, Guilherme, Rowden

B053
Territory, Imaginary, Ecology
Alma Grossen
P: Stewart, Zupančič, Scaffidi

B063
Drawing through (Im)material Trajectories of Water
Büşra Balaban
P: Salema, Cappeller, Botas Kenda

B169
Toilet
Maria Chiara Dolce

12:30 Sessions

Zeichensaal
Reconnecting Waste
Doruk Kayali
P: Schwai, Rowden, Roth-Čerina

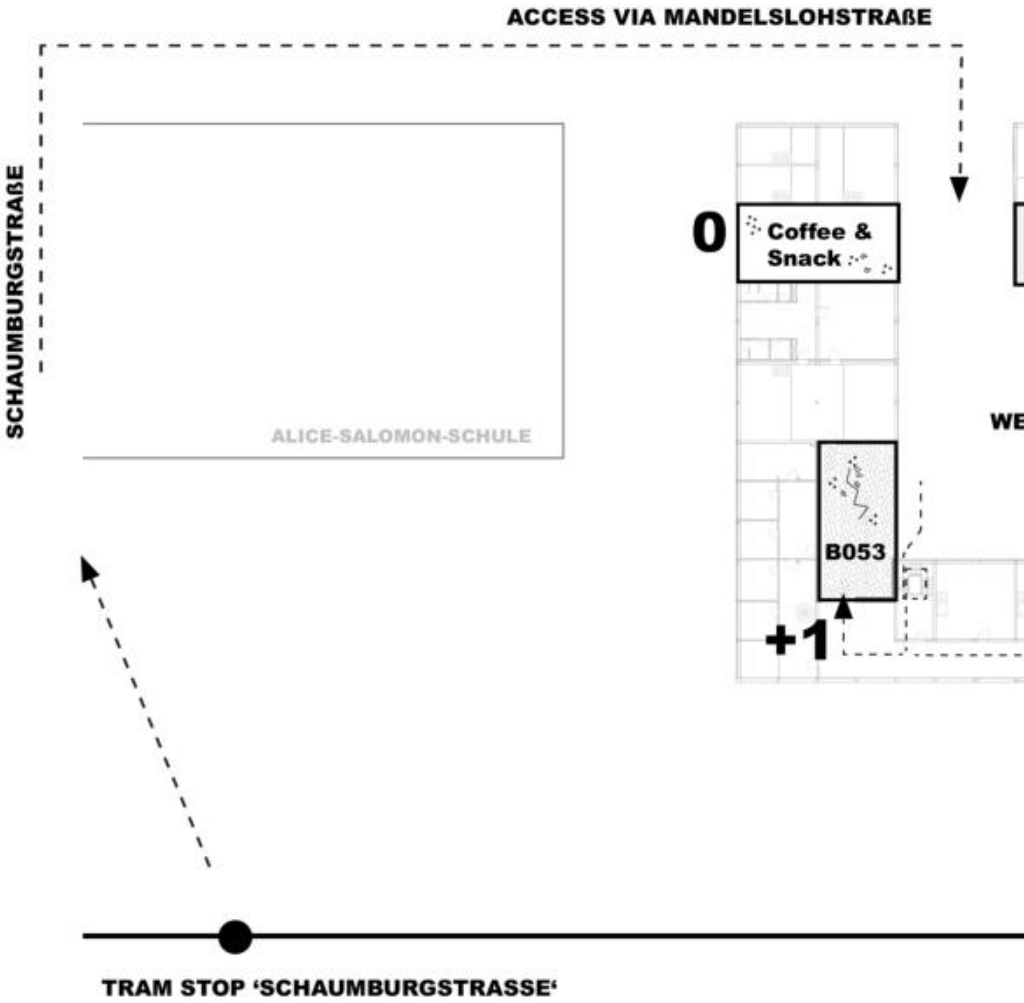
B053
Unfolding Demolition of the Family House
Berivan Güzel, Bihter Almaç
P: Gasperoni, Venrooij, Cappeller

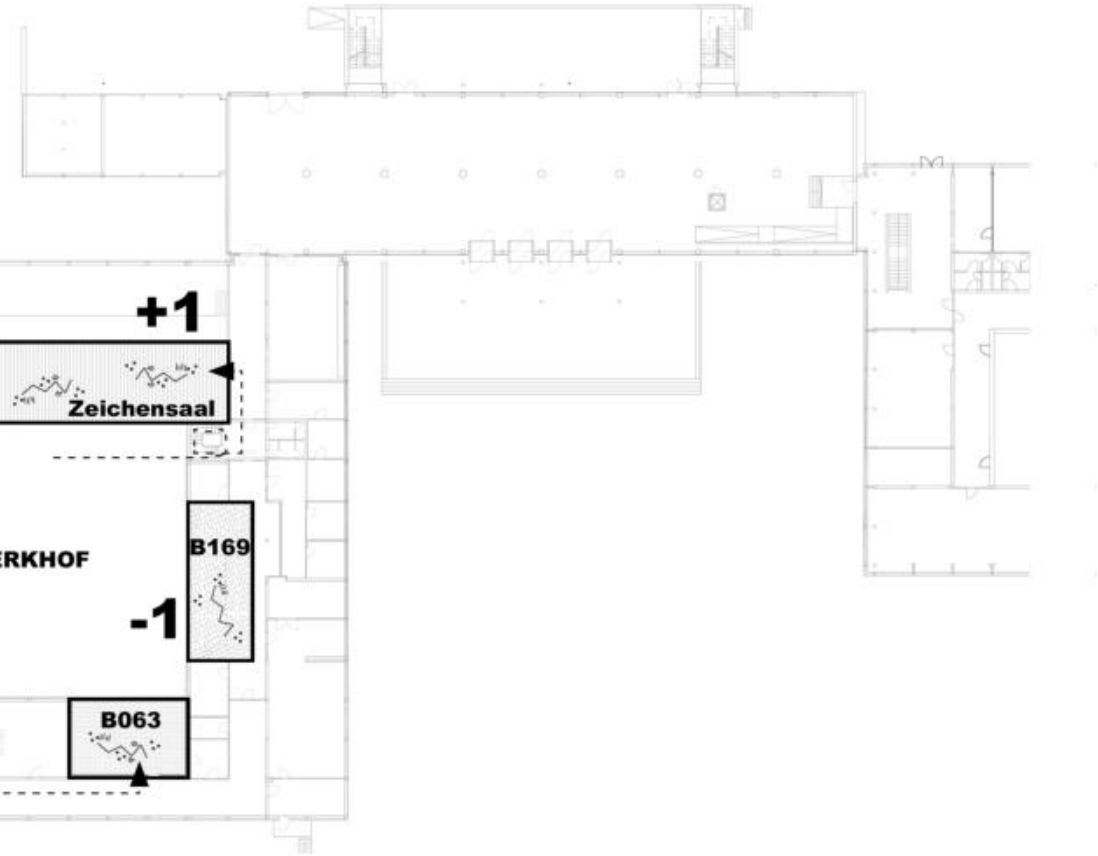
B063
Designing Post-Taurine Futures for Mediterranean Spain
Beatriz Alés-Gregori
P: Rosa, Scaffidi, Almeida

13:30	Lunch Break
14:30	Final Discussion + Announcements
15:30	Excursion Sprengel Museum Hannover

Floor Plan — CA²RE Conference rooms

Stina Wellmann, Leibniz University Hannover




+1
Zeichensaal
B169
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B063

Visual Exploration — Conference (photo collection)

Joran Kuijper, TU Delft
Riccarda Cappeller, Leibniz University Hannover
Büşra Balaban, Istanbul Technical University
Rebekka Wandt, Leibniz University Hannover

Photo: Riccarda Cappeller

Photo: Büşra Balaban

Photo: Riccarda Cappeller

Photo: Joran Kujiper

Photo: Büşra Balaban

Photo: Büşra Balaban

Photo: Rebekka Wandt

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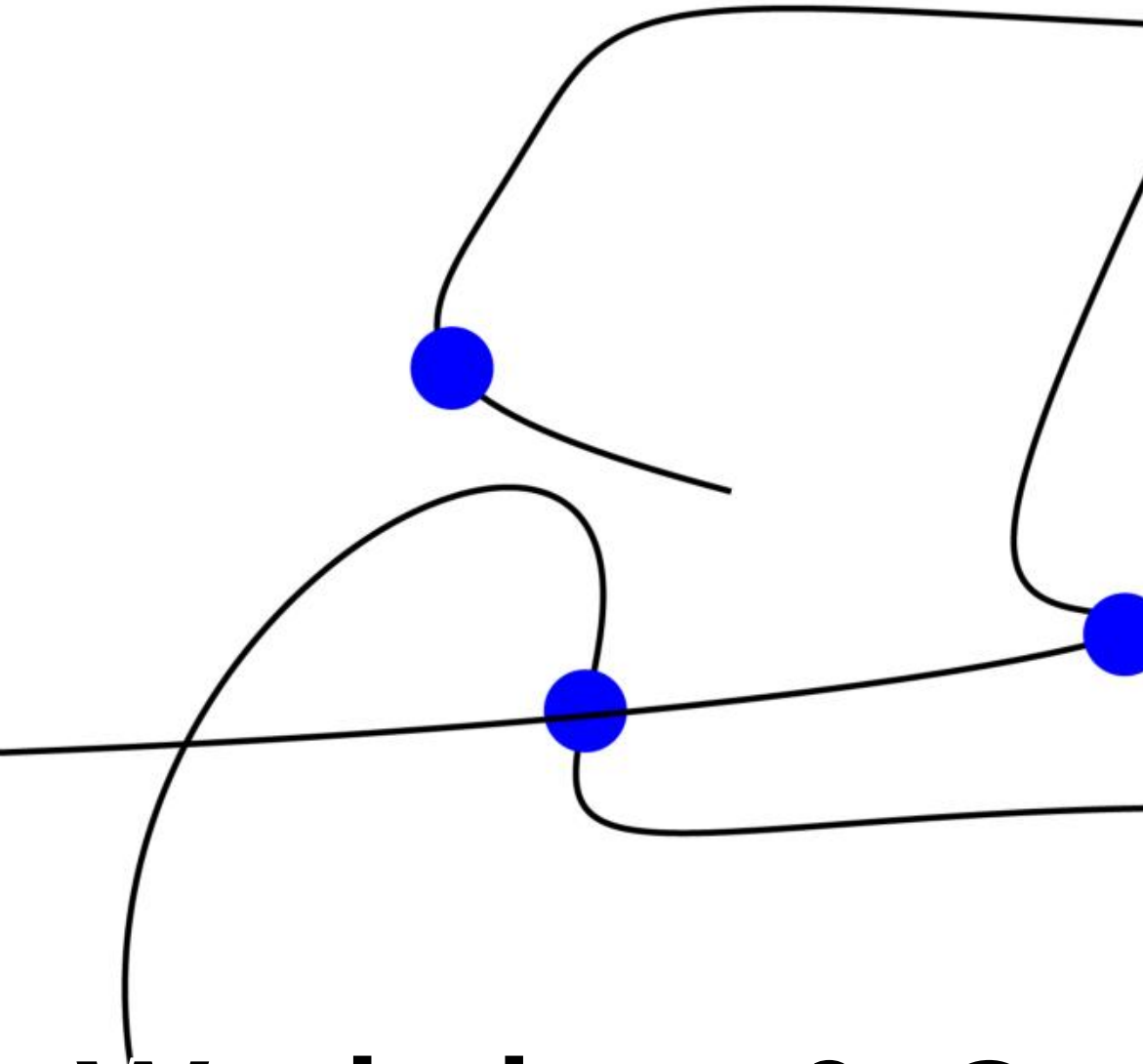

Workshop & Op
Dialogues

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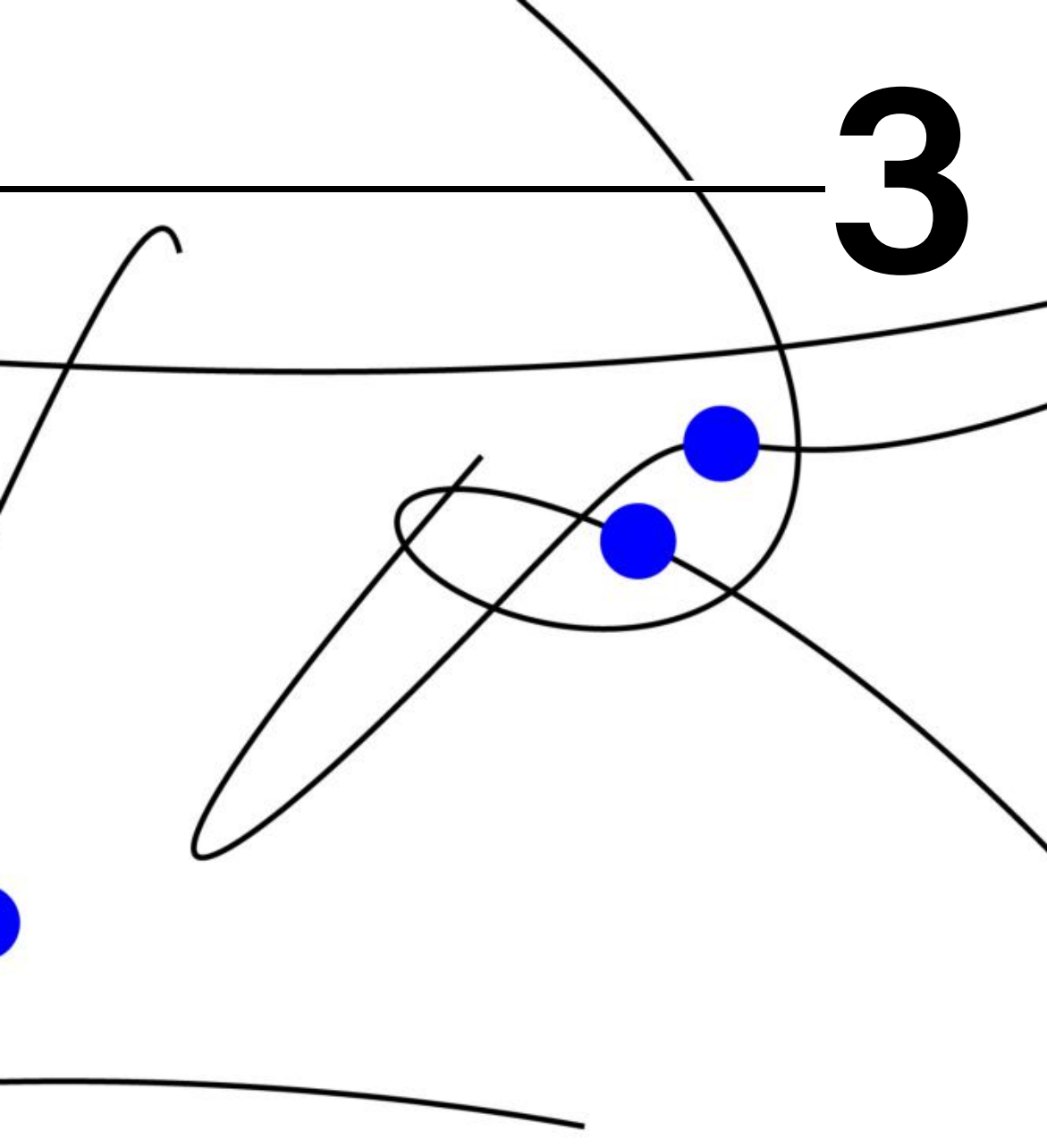

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Trajectory ▪ Punctum. An Exercise in Drawing Research

Enrico Miglietta, KU Leuven
Liselotte Vroman, KU Leuven
Thierry Lagrange, KU Leuven
Jo Van Den Berghe, KU Leuven

Figure 1: Setting up of the conclusive 'instant exhibition', CA2RE Hannover, Leibniz Universität Hannover, Fakultät für Architektur und Landschaft, Room C007. Photo by Enrico Miglietta.

Doctoral research is often described as a trajectory. It unfolds through time, across readings, conversations, drawings, references, hesitations, revisions, and unexpected returns. Yet while a PhD is commonly narrated as a coherent progression, it is rarely experienced as such. From within, research tends to appear discontinuous, dispersed across parallel lines of inquiry, constantly shifting between scales, methods, and moments of concentration. One of the central difficulties of doctoral work lies precisely here: while inhabiting the process, it becomes difficult to perceive its structure. Writing partially resolves this condition. It organises, orders, and stabilises research into narrative form. However, coherence often arrives before the work itself has fully clarified its internal logic. In this sense, writing may conceal as much as it reveals. The workshop *Trajectory ▪ Punctum*, developed within the framework of the CA²RE conference, emerged from the desire to explore another possibility: drawing as a way of reconstructing the trajectory of a research while keeping its internal tensions and movements visible.

The workshop approached drawing as an operative and interpretative act. Participants were invited to engage with their research through movements, repetitions, ruptures, and moments of intensity, allowing the work to appear temporarily as a drawn configuration. The objective was never to summarise a PhD in graphic form. What mattered instead was the possibility of rendering its internal structure momentarily legible through a 'portrait' capable of holding together movement and concentration. Thus, the notion of trajectory was central to the workshop. A trajectory exceeds the idea of a timeline or a chronological account of events. It unfolds as a field of movements: deviations, accelerations,

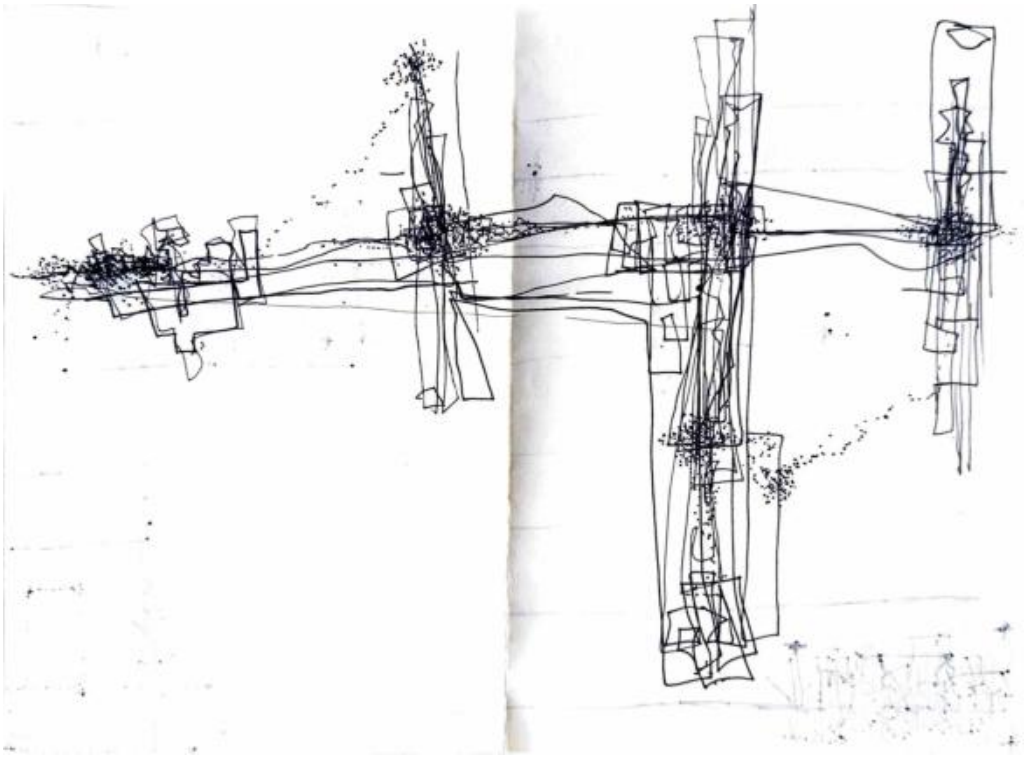

Figure 2: Work by Tamara Koneska, PhD candidate at the University of Belgrade, 2025.

interruptions, returns, and transformations. Architectural drawing has long offered tools to engage with such conditions. In works concerned with movement and perception, drawing often approaches a reconstruction of spatial experience itself. Movement, once translated into drawing, becomes observable as a sequence of relations, intensities, and transformations distributed across a field.

This condition also suggests a broader shift in the role of drawing itself. Drawing gradually moves away from the passive recording of something already given and becomes an active process of constructing relations. Robin Evans described this condition with particular clarity when discussing architectural projection. What passes through drawing is never transferred neutrally from one form into another; it undergoes transformation (Evans 1997). Projection produces displacement, reorganisation, and reinterpretation. Thought changes while being drawn. This understanding of drawing became fundamental for the workshop. Mapping a research trajectory did not mean documenting every component of a PhD. Instead, participants were asked to construct a readable field in which certain relations could emerge. Through drawing, research could be approached as a configuration rather than as an accumulation of information. Selectivity became essential. Reduction, emphasis, displacement, and repetition all contributed to the formation of a portrait capable of revealing how the work moved internally.

One of the most interesting aspects emerging during the workshop concerned the gradual transformation of the drawings themselves. Many participants initially approached the exercise through descriptive

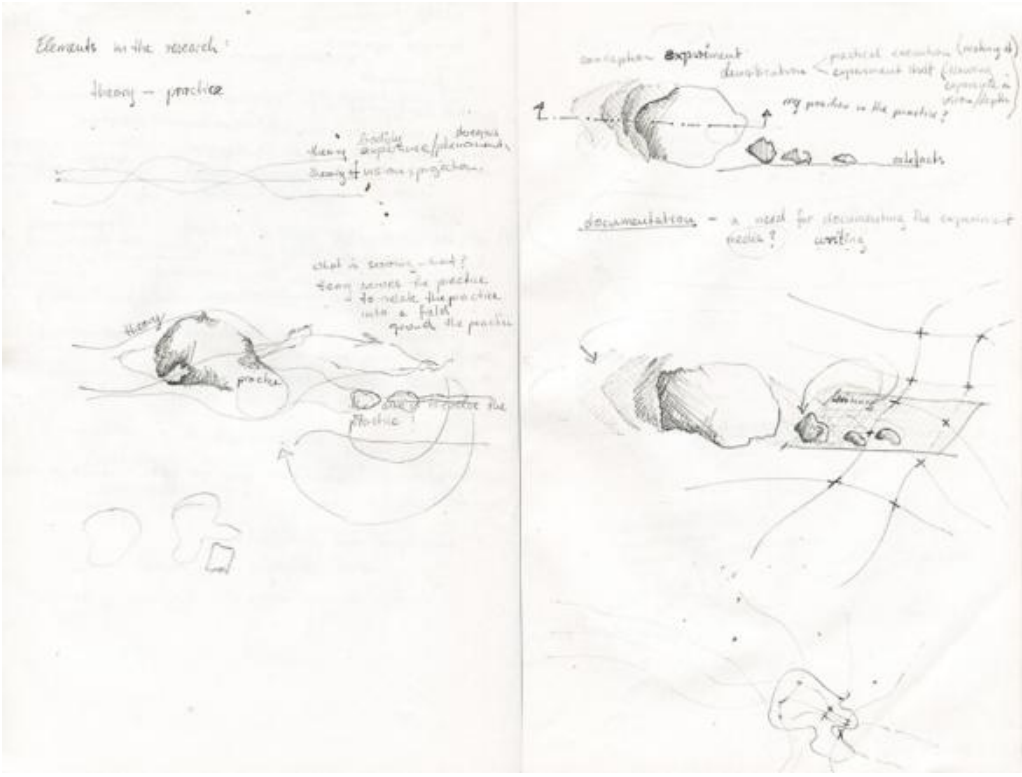

Figure 3: Work by Charlotte Erckrath, PhD candidate at KU Leuven, 2025.

diagrams or chronological schemes. As the work progressed, however, the drawings slowly shifted towards more synthetic and concentrated configurations. Certain fragments, gestures, recurring forms, or tensions began organising the field unexpectedly. The exercise therefore did more than visualise trajectories already known in advance. Through the act of drawing, participants often discovered structures that had previously remained implicit within the research process itself.

Yet trajectories alone were not sufficient. Within every research process there are moments that acquire a particular intensity: a fragment, a detail, a sudden shift, a recurring obsession, a discovery capable of reorganising everything around it. Roland Barthes described something similar through the notion of "punctum" in *Camera Lucida* (1980): a point within an image that interrupts continuity and suddenly brings an entire field into focus. Unlike the *studium*, which belongs to the broader cultural structure of meaning, the punctum condenses intensity. It punctures the flow of the image and renders it newly legible. Within architectural discourse, Marco Frascari's reflections on the detail intensely resonate with this idea. Details are never merely small technical components subordinated to the whole. They operate as sites where architecture thinks and where meaning concentrates (Frascari 1984). A fragment may carry the logic of an entire work. This relation between fragment and whole became particularly relevant within the workshop itself. Many participants discovered that apparently marginal aspects of their research—a recurring reference, a small drawing, a spatial condition, a methodological hesitation—eventually acted as organising principles for the entire

trajectory. What initially appeared secondary gradually acquired density through repetition and proximity. Certain details became capable of revealing the structure of the work more effectively than comprehensive overviews.

During the workshop, the relation between trajectory and punctum therefore became an operative framework rather than a purely theoretical distinction. Participants first drew their PhD as a trajectory: a selective field of relations emerging through lines, clusters, layered fields, fragments, notes, or recurring graphic gestures. What mattered was the capacity of the drawing to reveal how the research moved. A second step focused on identifying one or several *puncta* within this field: moments where the trajectory changed direction or intensified. These points gradually reorganised the drawings from within. Interestingly, they rarely corresponded to official moments in the PhD process such as chapter completions or methodological shifts. More often, they emerged through apparently marginal discoveries, unresolved tensions, recurring images, or persistent questions that continued structuring the work beneath its formal organisation. Participants then were then asked to produce a final condensed drawing capable of standing on its own. These drawings occupied an ambiguous territory between notation, projection, mapping, and portrait. In several cases, they moved away from explanatory diagrams altogether, approaching instead forms of graphic concentration where trajectories and puncta coexisted within a single image.

A central aspect of this process concerned the role of the hand. Drawing externalised thought while simultaneously constructing it through movement, pressure, hesitation, repetition, and insistence. The hand functioned both as an instrument of distance and as a medium of proximity. Researchers could step slightly outside the flow of their work while remaining physically engaged with it. This embodied dimension of drawing recalls Frascari's reflections on architectural embodiment (Frascari 2011), together with broader considerations on making and perception developed by authors such as Juhani Pallasmaa (2009) and Tim Ingold (2013). Understanding emerges through contact, adjustment, and physical engagement as much as through conceptual reflection. Several participants described how drawing slowed down the research process enough for latent relations to become visible. Others noted that aspects previously considered secondary unexpectedly emerged as structuring elements once translated into graphic form. The exercise therefore operated as a temporary suspension of the 'linear movement' of the PhD, creating a moment in which the research could be observed from a slightly displaced position.

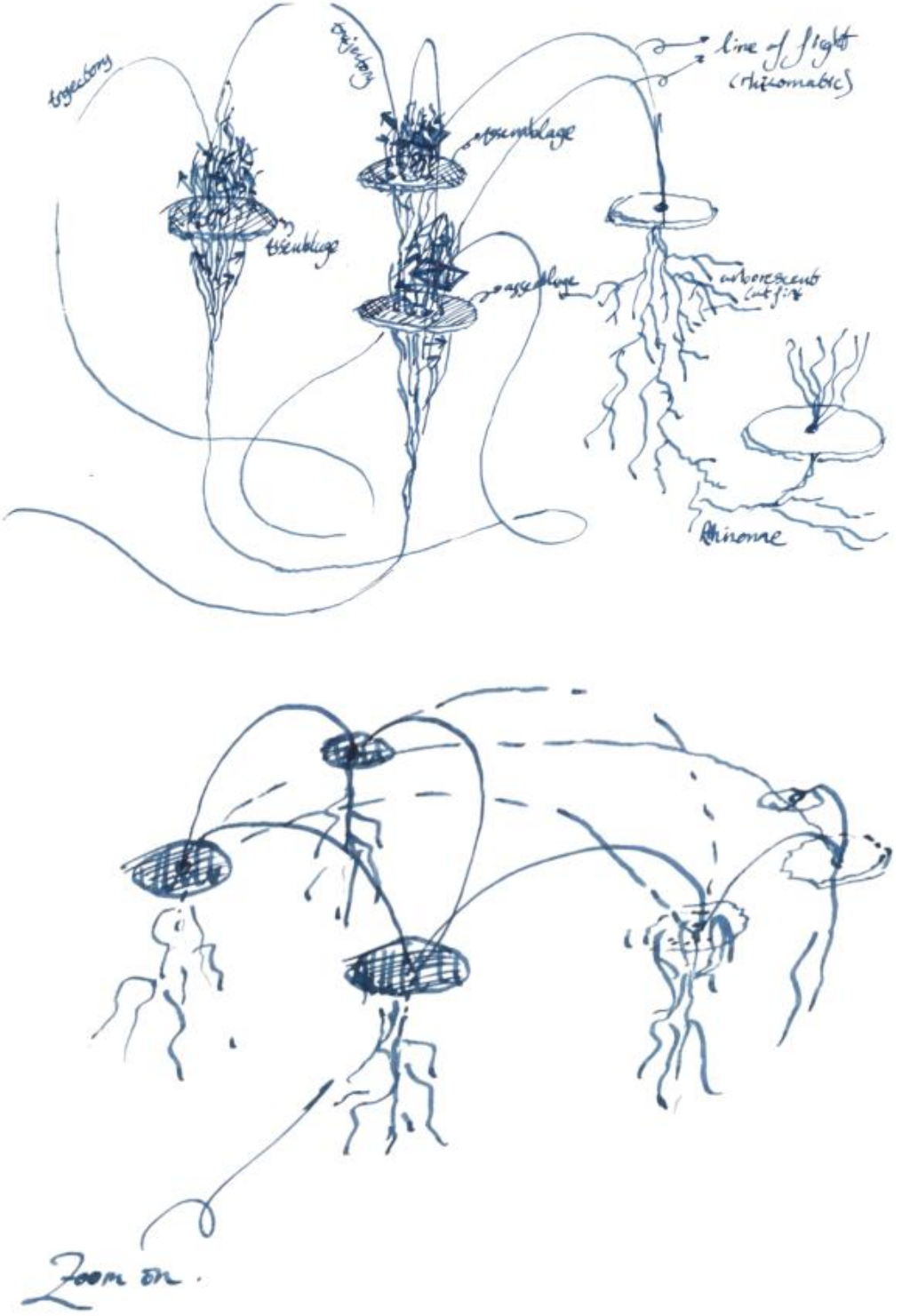

Figure 4: Work by Joran Kuijper, PhD candidate at TU Delft, 2025.

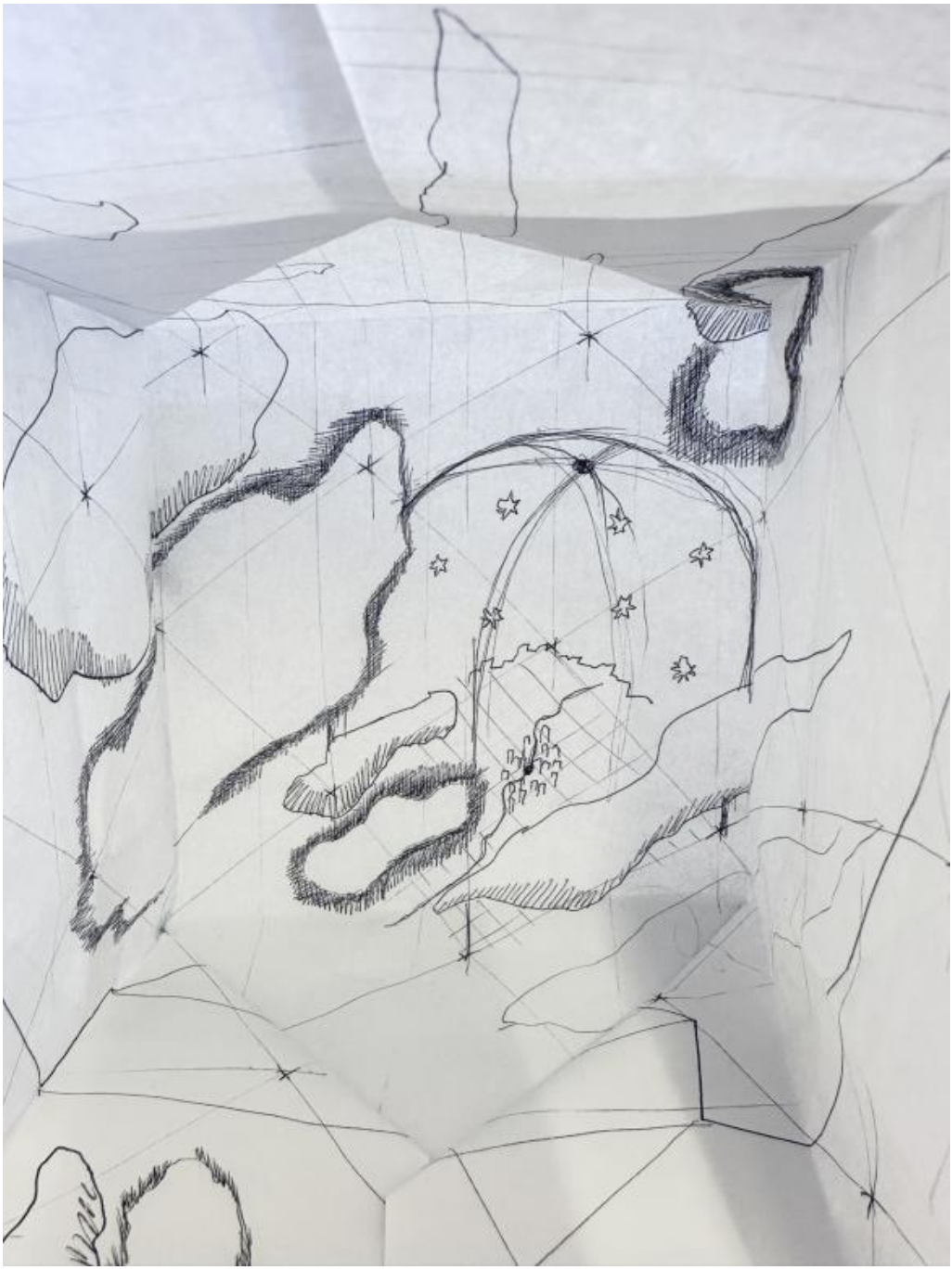

Figure 5: Work by Alma Grossen, PhD candidate at KU Leuven, 2025.

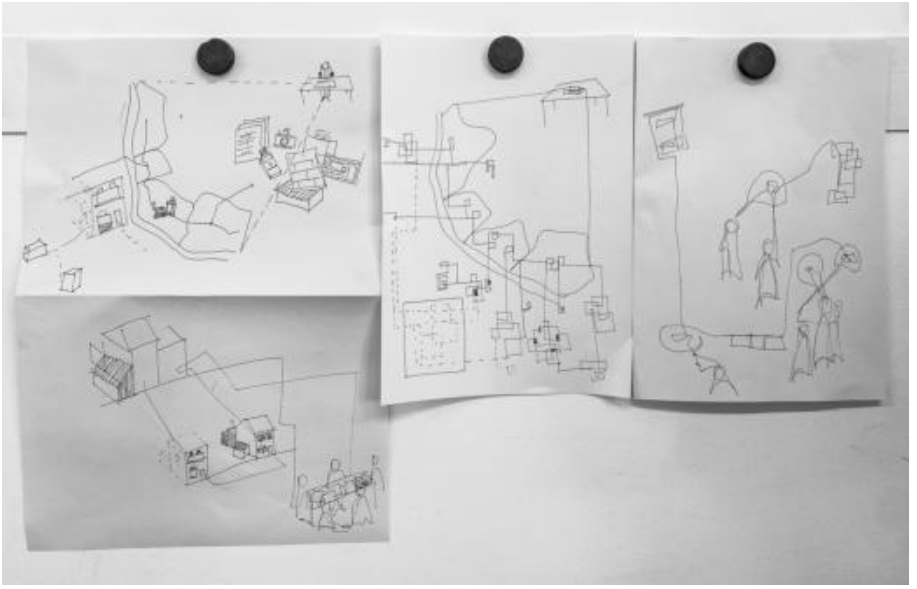

Figure 6: Work by Ilke Kerkhofs, PhD candidate at University of Antwerp, 2025.

The workshop concluded with an instant exhibition and collective discussion. The drawings were displayed as provisional operative images through which research trajectories could be collectively re-read and discussed. What emerged from this setting was not only the singularity of each project, but also the diversity of ways in which research can be mapped, condensed, and repositioned through drawing. Ultimately, the portraits produced through this process did not attempt to explain the PhD. They made it visible differently. The drawings became devices through which researchers could recognise what actually structured the work: where it moved, where it gathered, where meaning intensified, and where the trajectory itself had already begun suggesting directions not yet fully articulated in writing.

Literature

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Frascari, M. (1984) 'The Tell-the-Tale Detail,' *VIA 7: The Building of Architecture. Architectural Journal of the Graduate School of Fine Arts*, edited by Paula Behrens, and Anthony Fisher. University of Pennsylvania, pp. 23–37.

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When Methodology shapes the Artistic Process

Ramon Parramon, University of Bacelona and Idensitat
Irati Irulegi, Idensitat
Anna Recasens, Idensitat

Idensitat is an arts project whose trajectory is defined by an ongoing investigation upon the impact of creative practices on the public sphere, considering the ways in which these practices engage with sites and locations in their spatial, temporal, and social dimensions. Over time, Idensitat has evolved into a complex system which incorporates other projects, actions, and interventions, progressively expanding across multiple local contexts.

Throughout its development, Idensitat has fostered a wide range of creative strategies which bring together research, production, and cultural experimentation. Its trajectory is rooted in collaborative dynamics, in order to create an intersection between contemporary artistic practices and other disciplines, connecting with specific layers of social space.

Under the maxim *"experimenting with places to transform artistic practices, and experimenting with artistic practices in order to transform places"*, Idensitat highlights the active role of art within social contexts, while reinforcing the capacity of art to disseminate cultural content across a wider social environment. Over the years, the project has consolidated a long-term strategy focused upon strengthening social interaction, collaboration, content production, and knowledge exchange.

In the following we delve into IDENSITAT´S ways of working, reflecting upon the production of social space as a positioning within spatial practices, and looking at three projects realized together with invited artists.

Idensitat investigates the Connection between Arts and the Production of Social Space

Idensitat's roots lie in the rural setting of the village of Calaf. In 1999 it held its first edition, focusing upon artistic practices linked to its local context, with the aim of expanding the concept of public space. We have focused subsequent editions on this task, always within the framework of a dialogue between the rural and the urban, which has enabled us to engage in the redefinition of, and experimentation with the concept of 'social space.' We have continued to work with this concept to the present day, convinced that culture and art contribute to the creation of other social spaces built upon critical imagination.

Sometime later, we found ourselves enlightened by Bruno Latour's actor-network theory, in which he stated that there is neither a specific thing nor a specific property that can be called 'social.' Latour suggests that there should be a redefinition of the social as the result of a process of associations and connections, of actors and networks, and we felt ourselves to be in profound agreement with this conception of the construction of the social. Actors are those who establish relationships between entities which are not in themselves social.

This way of defining the emergence of the social—as a kind of assemblage arising from a connection between a variety of elements—helps to explain how we conceive of the creation of social space and how we understand artistic practice as it takes shape in relation to a specific

context; a practice immersed in a process that seeks to make sense of an interaction between heterogeneous elements and agents—both human and non-human—which form part of a territory, inhabit a specific ecosystem, and in which they take shape.

The desire to shape complex, heterogeneous, interrelated, and symbiotic ecosystems, drawing upon dialogue and reciprocity, with the aim of overcoming the rural-urban dichotomy, stems from cultural discourse and aligns with the ecosystemic vision proposed by Latour. But can we make it a reality? When culture emerges from the place itself, working from a sense of proximity, situated knowledge, contextualised practices, and generating long-term connections, perhaps we are moving closer to this idea, or illusion. But culture is complex; sometimes it operates from a local perspective and at other times from that of the visitor; it is often peripheral, yet cannot be disconnected from the centre; it explores collaborative strategies, yet unfolds within competitive contexts. Throughout our journey, we have not managed to resolve these conflicting tensions, although they have given us the energy to work at the boundaries of these tense spaces, trying to envision heterogeneous relationships which allow us to build other possible social spaces.

Below, we present a few of our projects which demonstrate how our methodology shapes the processes, and how the outcomes become methodological reconfigurations in their own right; in other words, seeking to transform places by transforming practices themselves.

Transversal Aesthetics

Transversal Aesthetics (Idensitat, n.d.-a) is a programme for research and experimentation on the intersection between art, mediation, and social space. It represents a place of confluence between artistic practices as a vehicle for critical research, mediation activities as a vehicle for the production of content, interaction, and learning transfer, and the urban context as a vehicle for connecting specific themes of work to a specific active social space relevant to these themes. The programme is based upon the cross-disciplinary dimension of art, combining experiences and activities which impact upon common themes and strategies shared among various participating agents. There have been seven editions of the Transversal Aesthetics programme by Idensitat and Centro Huarte, each focusing upon a specific theme: "*Peripheral Ecosystems*", "*Ecosystems of Leisure*", "*Ecosystems of Fiction*", "*Immunity ~ Community*", "In the Air", and "Silenced ~ Reactivated".

Transversal Aesthetics Methodology. Transversal Aesthetics methodology follows three main strands: organising temporary **artistic residencies** with the participation of an artist or a collective as creator and researcher within the local context; setting up a temporary **node** involving various active local agents; and **educational interaction** as a transfer of knowledge and learning from other fields and subjects, with activities that allow for the expansion of creative practices in a multidimensional space. These three strands may cross over, they may work in unison, they may coexist in parallel, or they may intertwine with others, so that in this symbiosis of possibilities, all the elements that come together undergo

Figure 1: Intermediate zone | E-SPACE. Workshop by Ángela Bonadies and Idensitat

an alteration or mutation, allowing them to relocate to other spaces of critical knowledge.

The context of thought and action activated during Transversal Aesthetics may comprise a number of agents, organisations, and individuals with an interest in participating from the artistic, social, political, or research spheres. To cultivate the local context prior to activating the residencies, or to open up spaces for thought and encounter in parallel with the artistic practice, it is necessary to engage with, and care for, the local context in which the residency takes place. Participating artists or collectives must propose a project which involves the node, and must add their own agents to the network, agents who may become more or less involved, depending upon their role within the project's framework. Projects are carried out using open formats of production, proposing activities or interventions in public space, or in educational and social environments, and presenting the results publically.

WHO CARES? as part of Transversal Aesthetics

The Who Cares? programme, defined care as a shared responsibility towards our local and global communities, to whom we address our work as organisations dedicated to artistic production. It created spaces for dialogue and processes for expanding the social impact of artistic practice, envisioning collective futures and presents in which mutual care and care for our environment are central.

Figure 2: Fuegos de alto grado, Sara García. Transversal aesthetics. Immunity ~ Community. Idensitat and Centro Huarte

Within the framework of *Who Cares?*, we aimed to revisit the relationship between *immunity* and *community*, approaching these concepts from the perspective of artistic practices, and examining the roles that care plays in this contrast.

With the objectives of further exploring the connection between immunity and community, and of rethinking these concepts after the pandemic, beyond distancing, isolation, digital mediation, fear of contagion, and the pursuit of total immunity, we opened the research towards the changes needed to improve the circumstances of the cultural and artistic sector, as well as to deal purposefully with the problems and inertia which affect the artistic community when in contact with the cultural institution.

Our aim was to envision a common development based upon care, intergenerationality, and the inclusion of a broader range of voices from the sector in decision-making spaces, reviewing concepts such as instability, ethics, inclusion, transparency, the value of work, rights and obligations, community, immunity; concepts which are all linked to the understanding of care as an essential principle of an ethic which should govern professional relationships based upon respect, equality, and mutual support.

The philosophy of care embedded in Idensitat's contribution to *Who Cares?*, through the Transversal Aesthetics programme, focused upon envisioning futures in which mutual and environmental care improve relationships and recover the idea of community as *res publica*: a shared, affective, and learning-oriented space. From this perspective, we created a critical working environment in which artistic processes were developed within institutions and social contexts, enabling new kinds of community to be assembled.

Figure 3: Vítol. Laboratorio para resignificar la fiesta (Vítol; A Laboratory to Re-define the Public Festival). Cúmul and Idensitat. Transversal aesthetics.Immunity ~ Community. Idensitat and Consorci de Museus de la Comunitat Valenciana.

Idensitat, together with Centro Huarte, and the Consorci de Museus de la Comunitat Valenciana, developed *Transversal Aesthetics: Immunity–Community* as part of *Who Cares?*, implementing three site-specific artistic residencies between 2021 and 2022 :

Fuegos de alto grado by Sara García in Huarte, a project which explored connections with the land through fermented foods, ceramics made with local clay, and collaboration with educational spaces.

Vítol; Laboratorio para resignificar la fiesta by Cúmul and Idensitat in Castellón. This project was an open laboratory to reimagine the public festival, both locally and through its ancestral and communal dimensions.

Equipo interdisciplinario de ensayos malvidentes by Laura Arensburg in Valencia, explored peripheral and shifting visual perspectives, bringing together people with various visual impairments and ophthalmologists.

Sounds of our Cities & Voices

Sounds of Our Cities (Idensitat, n.d.-b) was a Creative Europe-funded project focused on cultural cooperation and based upon research and knowledge transfer within the fields of art, technology, and social space, a critical reflection about cultural identity in relation to the concepts of community and silence. Developed between 2019 and 2021 in the Krottegem district of Roeselare and the Sant Andreu district in Barcelona,

Sounds of Our Cities unfolded through hybrid (on-site and remote) artist residencies and public exhibitions. These residencies involved workshops, collaborations with student groups and local participants, and smaller-scale encounters between artists and organisations. In Barcelona, the residencies, some conducted remotely due to the pandemic, generated diverse approaches to sound art practice:

Anne Fehres and Luke Conroy created soundscapes rooted in themes of community during a period of empty, constantly changing public spaces.

Donia Jourabchi developed a site-specific practice exploring acoustic territoriality and the uniqueness of listening experiences.

Zsófia Szonja Illés investigated peripheral zones and marginal voices through sound.

Raphael Daibert examined the River Besòs and the presence of parakeets to address migration and sonic belonging.

In-Dialog Collective analysed movement across the city and the pathways that shape it.

During the aforementioned period, as part of the curatorial work, Idensitat developed **VOICES: Visual and Sound Archive**, an archive of interviews, sound pieces, and experimental narratives exploring silenced spaces in the urban environment.

Voices opened methodological pathways for hybrid artistic research and digital dissemination. The investigations addressed tensions present in vulnerable, fragile, or unprotected spaces—symbolic, emotional, spatial, economic, social or political—and fostered social interaction in specific local contexts.

The archive is organised around three strands:

Small Talks — conversations with the selected artists about their processes and conceptual frameworks.

Sound as a Form of Connection — documents, stories and sound materials contributed by participants around the concept of "silenced spaces".

Sound Speculations — imaginative and experimental soundworks created by local artists and university students.

The archive includes multiple perspectives, and calls for new forms of environmental engagement, connecting elements which have rarely been linked together, rather than concluding with certainties. The project leaves open a question: What's Behind That Silence? a research theme examining cultural identity, community, and silenced spaces, enabling both fictional and non-fictional explorations of urban reality. The city is understood as a traversable and imaginable territory shaped by collective memory, including sites erased from official narratives. Silence, rather than mere absence, may function as resistance or as a form of agency, as Susan Sontag suggested.

Figure 4: What's behind that silence? sound art and public space. Listening workshop with Donia Jourabchi. Sounds of our cities, Creative Europe project. Idensitat

Nosymmetries

Since 2024, Idensitat, as part of the Concentric programme at La Capella Centre d'Art has promoted Nosymmetries, a programme of investigation and activation of artistic processes, focused upon the critical exploration of the concept of democracy, and aiming to impact upon social and cultural contexts. Nosymmetries (Idensitat, n.d.-c) has been conceived as a space for sharing methodologies and knowledge, and for implementing ideas which address the degradation of transcultural diversity, the loss of rights, and the neocolonisation of democratic values.

For the edition 2025–2026 Idensitat has formed a working group composed of seven people, selected by a public call. The participants were tasked with producing a personal or a collaborative project, combining research, production, and the socialisation of processes. During the process, monthly meetings were held with invited guests: Marwa Arsanios, Núria Güell, Adrian Schindler, and Ana Teixeira Pinto. These sessions combined presentations, workshops, and group activities, sharing experiences and knowledge, while also helping participants to define their individual or collective projects. The different approaches to the concept of democracy prompted us to question its relevance, and its deterioration, or whether we must consider its radical transformation, collectively activating an exercise in critical imagination. The resulting productions were presented in a collective exhibition which opened at La Capella Centre d'Art in March 2026.

Figure 5: Vuestro orden está levantado sobre la arena.
Nosymmetries. Idensitat, La Capella. Photo by Albert Gironès.

The exhibition *Vuestro orden está levantado sobre la arena* displayed artworks by Anna Peixet Calbet, Federica Pagano, Laura Arensburg, Maria Kastillejof, Ramon Parramon, Santiago Echeverri and Santiago Fernández Honrubia, and was curated by Angelica Tognetti, Irati Irulegi and Vanesa Peña Alarcón.

In Conclusion

Idensitat's methodologies combine artistic production, project management, the socialisation of processes, and transversal research, following Bruno Latour's idea that the social emerges from networks connecting human and non-human elements. This enables engagement with local organisations and interdisciplinary artistic practices which bring together participation, mediation and digital connectivity.

Can art contribute to social transformation? Can it function as activism? Can it influence policies addressing inequality? Starting from these seemingly simple questions, the methodologies employed by Idensitat are rooted in participatory and collaborative structures that seek to position art within broader contexts, expand its relational capacity, and counteract self-referential tendencies. The cases presented demonstrate that methodology, beyond being a mere organisational framework for artistic production, becomes a constitutive element of the process itself, shaping forms of participation, knowledge production, and social transformation. Collaboration is not merely an aesthetic gesture; it must also activate the political potential of collective processes. Ultimately, Idensitat focuses on art's transformative possibilities as part of broader and more complex

processes capable of influencing policies, engaging with social realities, and generating systemic change. Transdisciplinarity and collaboration therefore become key strategies, sometimes through silence, and sometimes by revealing the silences that obstruct transformation.

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Expanding Architectural Research: Tracing Socio-Material Practices[1]

Sabine Hansmann, Karlsruhe Institute of Technology

1———The following text is an abridged version of my lecture delivered at the CA2RE-Conference on Trajectories on 26 March 2026 in Hannover. This edited version brings together selected parts that reflect my disciplinary perspective, methodological approach, and aspects of my research trajectory that have informed my work. Sections about the Sainsbury Centre for Visual Arts are taken from my dissertation project (Hansmann, 2021).

Actor-Network Theory, Architectural Research, Architectural Ethnography, Socio-Material Practices, Research Methodology

Let me begin with a little anecdote. In 2013, I joined the Cluster of Excellence Image Knowledge Gestaltung at Humboldt University in Berlin, having recently graduated in architecture and design. During my first weeks, I attended a retreat of the entire Cluster in the Brandenburg countryside, where a senior researcher joined me at the dinner table. She encouraged me to pursue a PhD.

At the time, I knew little about architectural research, about the relationship between theory and practice in architecture, and even less about research methodologies. Yet, it was precisely this uncertainty that motivated me to embark on a doctoral project. Looking back, I realise that this decision was enabled by conditions that cannot be taken for granted: personal and institutional support, funding, time, and the opportunity to engage with an exceptionally interdisciplinary research environment.

[...]

In politically turbulent times marked by climate emergency, housing scarcity, and geopolitical tensions, in short, multiple intersecting crises, architectural and artistic research is increasingly important. In this context, architecture and spatial disciplines more generally carry a particular responsibility. Beyond the visible ways our lives are entangled with the built environment lie countless relations that remain unacknowledged, unaccounted for, or simply unseen. Whether we consider materials extracted from distant territories, emissions released into the atmosphere, infrastructures, neighbourhoods, or shifting climatic conditions, architecture remains entangled in relations that exceed immediate perception.

Architecture builds—and destroys—in a single, steady rhythm. Our current urban green transformations, for instance, remain inseparable from distant extractive zones: copper, lithium—but also timber. Even materials commonly perceived as sustainable reveal complex and often contradictory trajectories when examined across their global supply chains and land-use implications.[2]

Such conditions raise fundamental questions:

How must we rethink the production of space—and, with it, the political, economic, and legal systems that sustain it—if we aim to move toward more just and sustainable futures? And whose voices, whose experiences, and whose histories are currently shaping the narratives through which architecture understands and positions itself?

These challenges require architectural researchers to critically reassess and expand our methodological tools. Methodological choices are never neutral. They influence which actors, experiences, and histories become

visible and which remain marginalised. If spatial production unfolds through complex socio-material relations, we need research approaches capable of making these connections visible. One approach that has proven particularly productive in this regard is Actor-Network Theory.

[...]

Bruno Latour and Albena Yaneva call for the overcoming of a static understanding of architecture in their article `Give Me a Gun and I Will Make All Buildings Move´ (Latour and Yaneva, 2008). They argue that a building should not be understood as a static object, and instead propose to integrate the numerous dimensions, processes, and relations through which a building exists into the (spatial) understanding of architecture.

But how do we do this?

To illustrate what such an approach might look like in practice, I turn to my doctoral research, which explored the potential of Actor-Network Theory for studying architectural space.

[...]

> *Starting off, I thought I would do a comparative study of several buildings. Comparing itself seemed like a method to me, but as I started travelling to visit the buildings which I had identified as interesting, it was at the first one—the Sainsbury Centre for Visual Arts—that I met a volunteer guide in the gallery, who asked about my interest. After hearing about my project, she arranged for a security officer to show me the underground areas and even offered me a place to stay whenever I return. In the weeks after my first visit, the Head of Collections responded to my request and invited me back for interviews. Clearly, field access is often shaped by personal encounters, and empirical research rarely develops along linear trajectories.*
>
> *When I later described my field access to a colleague, she pointed out that this no longer sounded like a comparative study. In retrospect, this conversation marked a turning point. What had started as a comparative project was slowly becoming an in-depth engagement with a single building.*
>
> [...]

Figure 1: View of the Sainsbury Centre for Visual Arts, Norwich, England, by Foster + Partners. Photo by Sabine Hansmann, 2016.

The Sainsbury Centre for Visual Arts, located in Norwich, England, became the central case study of the project (Fig. 1). It is a museum and educational building designed by Foster Associates in the 1970s. As the architects put it, the Sainsbury Centre `integrates a number of related activities within a single, light-filled space.´ (Foster + Partners, no date)

From the outside, it is a silver tube that orients itself on both ends into the surrounding greenery. Inside the planners did not create a sequence of rooms for the different activities but used an open plan typology. However, reading the plan and talking about the spatial layout does not tell us much about how this building works. Rather, we have to move inside.

Here, the building appears not as a static architectural body—a white box that contains a lot of space—but many elements of the building and specific practices come to the fore, how people meet and work in here, and how they interact with the art, with all these multiple objects that are very present inside this building.

[…]

So, let us turn to an ethnographically based account through some brief snapshots:

Sitting on the first mezzanine and facing her computer, a graduate student can see the greenery of the landscape on the white wall in front of her (Fig. 2).

Figure 2: Student in front of computer on the first mezzanine. Light reflections on the wall connect her to the outside. Photo by Sabine Hansmann, 2017

Figure 3: Entrance area to the museum with reflective glass railings and rubber floor. Photo by Sabine Hansmann, 2017.

Figure 4: 'Living Area', showcasing the permanent exhibition at the Sainsbury Centre for Visual Arts. Slats run along the wall and the roof. Photo by Sabine Hansmann, 2017.

The glass railings in the entrance area and less shiny, yet still reflective, plastic flooring redistribute light throughout the building (Fig. 3).

As soon as there is a bit of sun, the green of the trees outside is drawn deeply into the building along these slats of the inner skin (Fig. 4). The louvre system in the roof prevents the light from simply falling down. Instead, it redistributes the light across vertical surfaces.

These three snapshots show us how light does not simply fall but moves throughout the building, bouncing and jumping across surfaces. All these material surfaces—they render the light visible.

Light is not light, it is heavy in the Sainsbury Centre.

[…]

The `overall generosity of light´for which the building is known is highly compromised on a Saturday afternoon in May 2017 when I enter the building. Instead, the building is rather moody. As it turns out, it is dark in the building because the Conservator introduced a new light policy during the summer season in 2017. A policy intended to adapt the artificial lighting to the rhythm of the natural light. The result: the environment stayed rather dark, while the art started to glow.

Entering the Sainsbury Centre, we do not enter `a single, light-filled space,´ as Foster says. Instead, we connect with light, and through light, with a multiplicity of actors.

What becomes visible here is that space is not produced by architectural form alone. It emerges through networks of materials, technologies, institutional decisions, environmental conditions, and human practices. ANT offers a useful conceptual toolkit for grasping space as a socio-material process, particularly when turning to architecture. Among the many relations that shape everyday life in the building, the production and distribution of light proved particularly revealing.

[…]

> *Yet buildings are big objects. During fieldwork, I often found myself wondering where to sit and what to observe. At times, I felt surprisingly unproductive, simply sitting somewhere, with the persistent feeling that I had chosen the wrong spot and was missing something important elsewhere in the building. In that regard, interviews often felt like a kind of fast-forward button. Through conversations with people working in and with the building, I learned a great deal about ongoing processes and everyday practices. Returning afterwards to observations—for example during the dismantling of an exhibition, a process that had already surfaced in interviews—allowed me to look differently. I already had a sense of why I was observing and what relations I should pay attention to.*
>
> […]
>
> *While observation allowed me to follow socio-material relations in practice, sketching interviews opened a different methodological perspective.*

Sketching interviews draw on traditions of mental map research in geography, psychology, and planning (Gould and White, 1974; Downs and

Stea, 1977; Sommer and Atkins, 1982). At first glance, such an approach might seem at odds with ANT, given its focus on individual, mental, spatial representations and perceptions. Yet it raises an interesting methodological question: how can we engage with experience without reproducing a distinction between subjective perception and objective world.

> *Let us turn to two interviews; I will describe the research design in more detail as I proceed.*

During a sketching interview, a couple, Mr and Mrs Smith,[3] visiting the Sainsbury Centre for the first time, were invited to draw the building and describe their experience of it. While my student assistant, Maria, interviewed Mrs Smith, I conducted the same interview with her husband. Participants were asked to draw the building, its interior, and their movements through it, while explaining their drawings verbally.

> 'Could you please draw the Sainsbury Centre? In other words: Imagine you are telling a close friend about your visit here. What was/is important to you personally?'

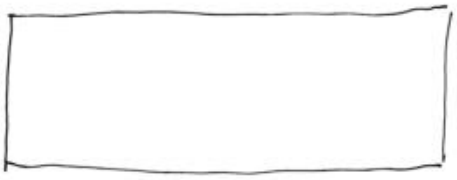

Figure 5: Sketch 1 by Mr Smith.

> [Mr Smith]
>
> 'As I am a first-time visitor, and I haven't looked around the exhibition, at the moment, to me, [...] the Sainsbury Centre is just an empty box. We are about to explore to see what is inside it.'[4]

Mr Smith doesnt hesitate and draws an empty rectangle (Fig. 5). Neither context nor content is drawn. I pose the second question:

> 'Could you please draw the inside of the building?'

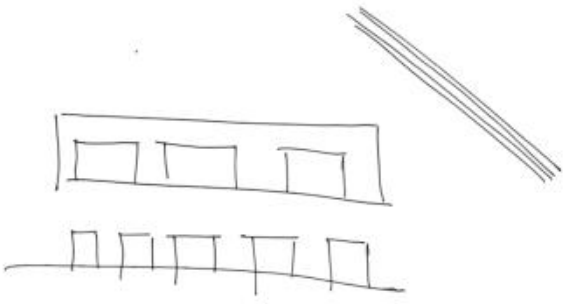

Figure 6: Sketch 2 by Mr Smith.

[Mr Smith]

'At the moment the most [...] visual thing is the actual structure itself. The inside is made up of a lot of empty space, but the ceiling is quite striking with the [...] blinds, and at one end there seems to be an interesting gallery, but I am not sure whether it is public or not. So that is something that we need to explore, down at the end of the building.'

He draws four diagonal lines, symbolising the panelling on the ceiling, then the mezzanine at the end of the exhibition space with boxes inside it, and a line of display cases or walls above it (Fig. 6). He explains that he and his wife had asked for a map at the reception desk, but apparently there wasn't one, and they were encouraged to explore the exhibition on their own. I pose the third question:

'Think about the different ways you move around here. Where did/do you go? And what did/do you do there?'

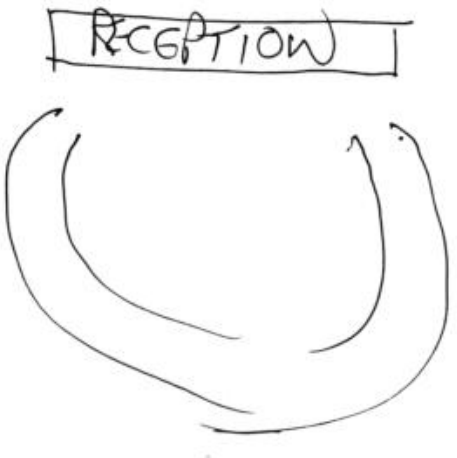

Figure 7: Sketch 3 by Mr Smith.

Mr Smith explains that he and his wife first went to reception, and then to the circular shop to get their bearings, before exploring the actual exhibition. He sketches the reception area and, using two semi-circular lines, the outline of the shop area (Fig. 7).

[…]

Mrs Smith answers the question about drawing the Sainsbury Centre by describing her arrival, or rather, she talks about the difficulties they encountered upon arrival. Firstly, they couldn't find the car park, and furthermore:

> [Mrs Smith]
>
> 'We were two minutes early, and nothing said when the opening times were so that we could check […].' She stops, 'I haven't drawn anything much yet, but do you want me to draw the actual entrance?'[5]
>
> 'Yeah? I just remember the two … lots of glass.'

She draws a box, writes the word 'glass' inside it and adds two doors (Fig. 8). 'I am writing a lot.' She pauses.

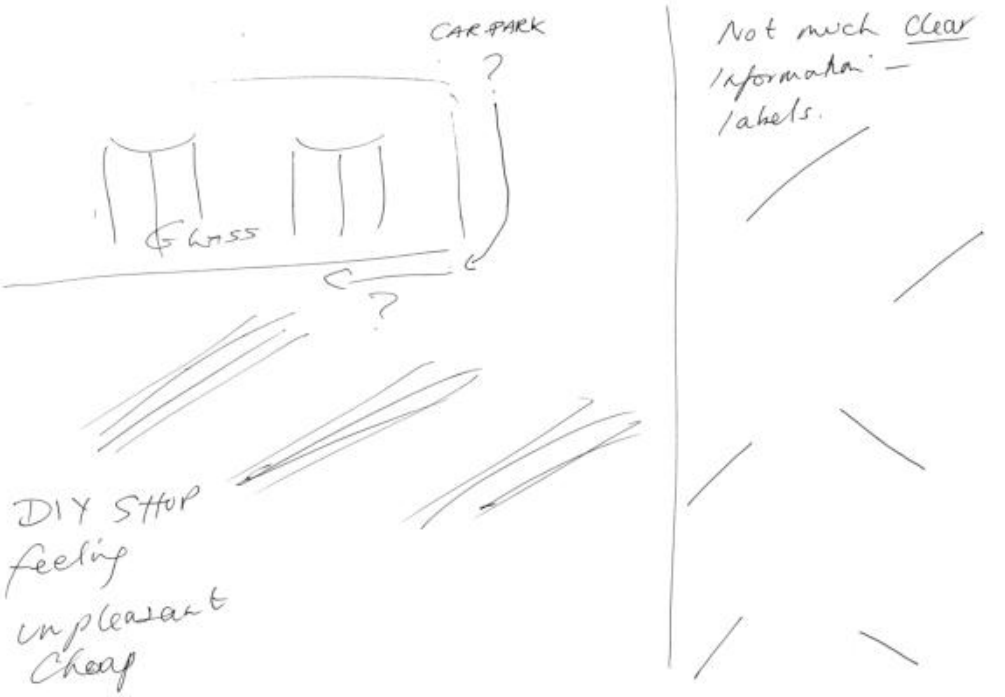

Figure 8: Sketch 1 by Mrs Smith.

Maria encourages her again. Mrs Smith then draws two arrows with question marks, which are meant to show the way to the building.

> 'We were not sure which doors took us through, […] we did not understand where we were supposed to go.'

It is an arrival fraught with uncertainty, just like the act of drawing itself. Mrs Smith, unlike her husband, seems to find drawing uncomfortable; at the very least, she struggles to accompany her narrative with her drawings at the same time. Drawing during an interview proved challenging for many participants. Some concentrated on drawing and spoke little, while others narrated their experiences at length but hesitated when confronted with a blank sheet of paper.

'I am a terrible drawer [laughing], no sense for proportion.'

Of course, the quality of the drawings isn't what matters in this interview; they don't have to be complete or accurate. The drawings and the conversation complement each other. And I skip some parts. Mrs Smith later states about the building:

'DIY shop feeling—unpleasant—cheap.'
Then she stops and bursts out laughing,
'I hope the rest aren't like me. I am so critical.'

So, Mrs Smith is critical, whereas Mr Smith is not. Both drawings bear strong similarities, yet their experience of arrival seems to differ greatly. It does not appear to be a shared experience.

Is this not evidence of the division of the world into a stable, objective world of things and a highly individual, subjective world of perception? Is this not, then, a method that reproduces precisely this split, this dichotomy, which ANT attempts to circumvent?

How can we turn to individual experience without speaking of subjective perceptions within an objective world? What can this form of interview show us beyond personal feelings and perspectives?

Let us therefore take a second look.

In the tradition of pragmatism, ANT does not separate experience from action (Belliger and Krieger, 2006, p. 35). What matters analytically is not an individual's perception of a world `out there,´ but the events, encounters, and relations through which differences are made. If one reads the interviews in terms of events—events that befall people in relation to the building—and here I follow the methodological approach to interview analysis presented by Annemarie Mol in *The Body Multiple*, then one can turn away from individual perspectives of observation and experience and turn towards the 'practicalities' (Mol, 2002). Here, we can learn a great deal about what is more likely to happen to people visiting the Sainsbury Centre for the first time than to those who have already been there twice or more.

Mr and Mrs Smith get lost on the university campus and cannot find the car park; they walk to the wrong doors; they stand in front of locked doors; there is no map and they do not know where to start or where the exhibition space ends. These are practicalities—circumstances or situations one encounters in which one does not have full control over the experience.

Mrs Smith herself points out that she was not equipped with sufficient information upon her arrival—information that might have made her arrival smoother. In this sense, there was a lack of people who could have facilitated her arrival without stumbling blocks, thereby making it less frustrating.

We can therefore also see in these interviews how individual and nuanced people interact with the Sainsbury Centre and what sequences of actions emerge. In this context, for example, two doors or missing maps play an important role. In the spirit of ANT, we see various things

and elements that facilitate or hinder, that support or render something impossible. And we see this in a combination of words and images.

[…]

In this empirical view, with the help of ANT, we can unravel spatial processes and follow how spaces are performed.

[…]

Here, we come back to my initial statements:

> *Research needs time. Time we often do not have. Looking back, I realise how much my doctoral work depended on the possibilities in the field and the quiet time needed afterwards for writing. Methodological choices shape what becomes visible and what remains in the background. They influence which actors, relations, and processes come into view and, consequently, how we understand architecture and space. In this sense, knowledge is always situated and partial (Haraway, 1988).*
>
> […]
>
> *In my dissertation, I used Actor-Network Theory to analyse how architecture and space emerge through human and non-human entanglements. Today, I continue this thread through methods like architectural ethnography and embodied research formats—in research but particularly also in teaching. I am exploring how built environments are shaped not only by design decisions, but also by materials, infrastructures, users, policies, and economies. While doctoral research is often organised within disciplinary boundaries, many of the challenges we face today exceed such boundaries. They require forms of inquiry capable of engaging with the complex socio-material realities through which spatial futures are produced.*

2 On the web platform Material Networks, an interdisciplinary research and teaching project, I explore and narrate with students the everyday life of the things/materials/resources we use in construction. See 'Material Networks,' https://materialnetworks.blogs.hoou.de (accessed June 3, 2026).

3 All names have been pseudonymised.

4 Mrs Smith. Sketching interview by Sabine Hansmann. Norwich, 6 November 2016.

5 Mrs Smith. Sketching interview by Maria Lisenko. Norwich, 3 November 2016.

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A

Course Title: Art and Design Basics 1
Lecturers: Prof. Anette Haas, Sascha-Andre Hahn, Kathrin Jobczyk, Jan Neukirchen, Sarah Nicola, Nico Pachali, Julia Schmid
Participants: Architecture undergraduates

Photo: Riccarda Cappeller

B

Course Title: belichtet.exposed.
Lecturer: Sarah Nicola
With works by: Robin Falke, Sabrina Janßen, Linn Sophie Jochum, Paula Marie Kruse, Emelie Mathilda Merkel

Photo: Sarah Nicola

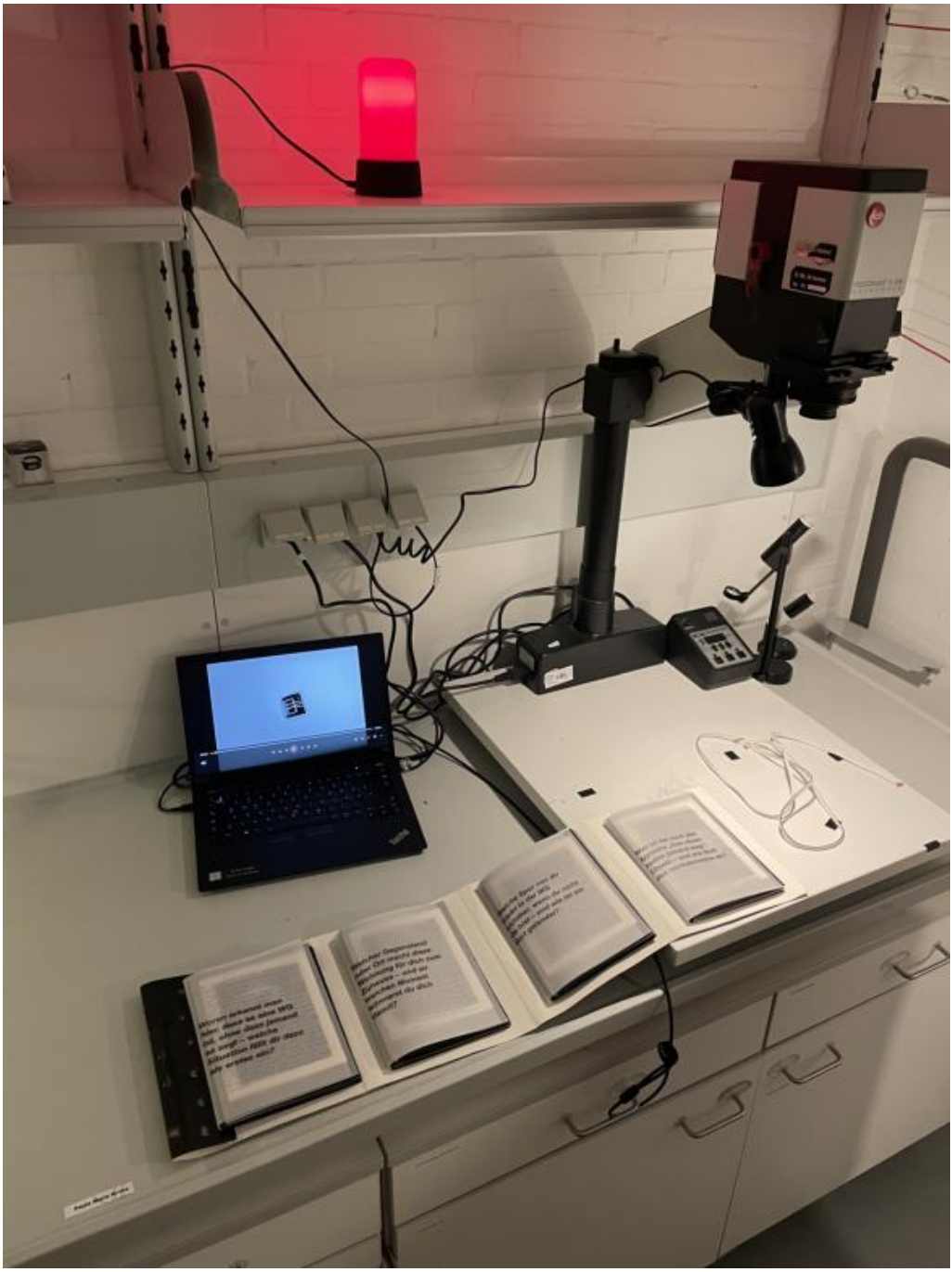

Photo: Sarah Nicola

Photo: Sarah Nicola

Photo: Büşra Balaban

C

Course Title: form follows frequency
Lecturer: Jan Neukirchen
With works by: Mimke Rohden, Sören Schneider, Emil von Appen

Photo: Jan Neukirchen

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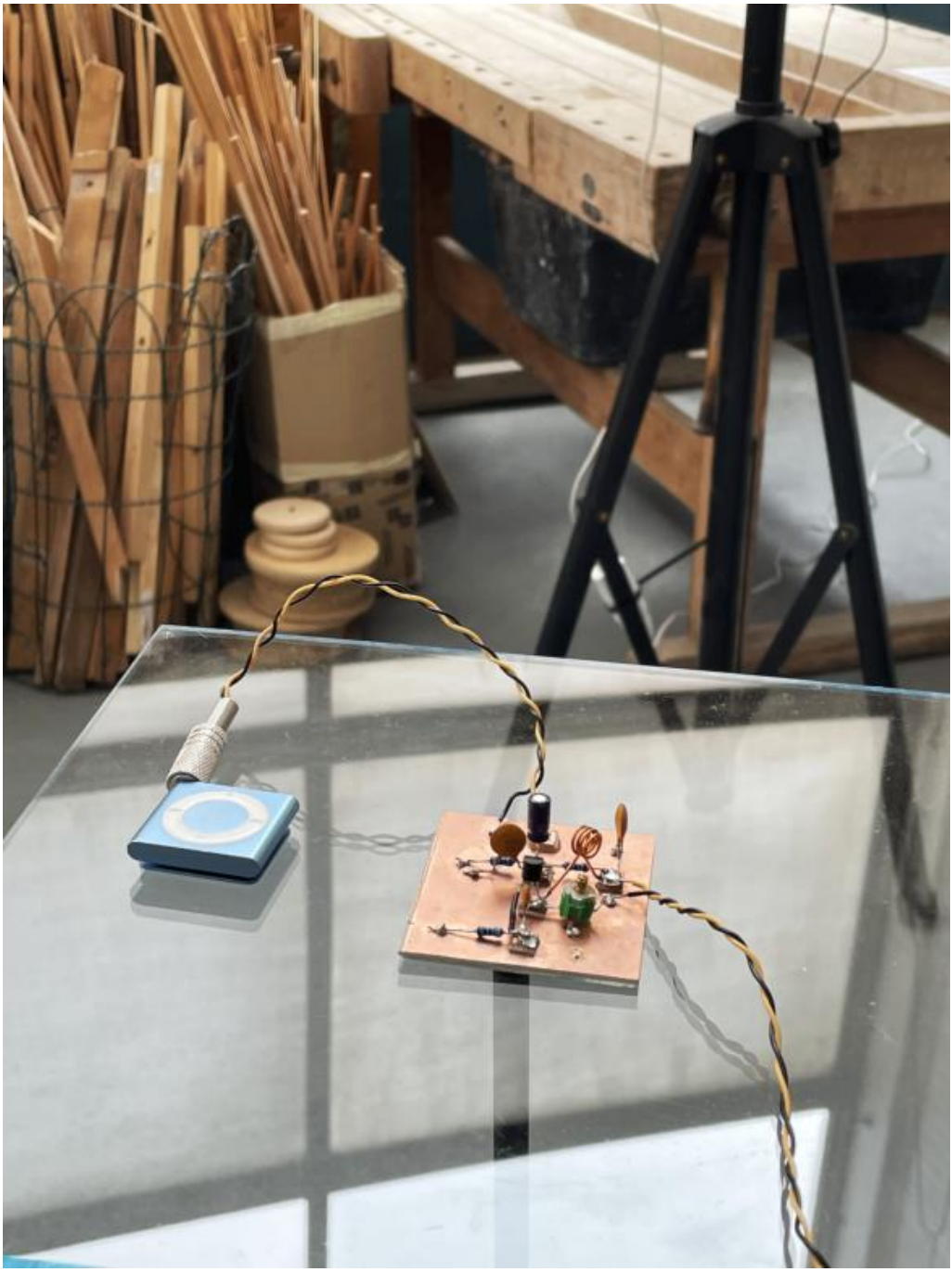

Photo: Riccarda Cappeller

Photo: Riccarda Cappeller

D

Course Title: Publishing a House
Lecturers: Seb Holl-Trieu, Piotr Zapasnik
Participants: Nikan Ahmaditaj, Frederieke Becker, Pia Josephine Bleker, Vincent Damaske, Paula Donaire Moll, Selma Grein, Jasmin Hackmann, Teresa Hauth, Sarah Kristin Meyer, Alena Mölder

Photo: Seb Holl-Trieu, Piotr Zapasnik

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Photo: Prof. Anette Haas

E

Course Title: being so connected
Lecturer: Kathrin Jobczyk
With works by: Anna Bertram, Inka Borchers, Ella Büsse, Ida Fiedler, Robin Greenwell, Luise Hagemeister, Paul Pusch, Merle Suhr

Photo: Leander von Meding

Photo: Leander von Meding

F

Course Title: what does the drawing want?
Lecturer: Nico Pachali
With works by: Steffen Braun, Lisa Brumme, Emeka Eze, Johanna Flachbart, Josephine Hetsch, Luca Hopf, Jan Kramer, Eva Maron, Annika Reiß, Mette Röschmann, Amina Sachenko, Luise Sievers

Photo: Riccarda Cappeller

Photo: Riccarda Cappeller

Photo: Riccarda Cappeller

G

Course Title: Printshop
Lecturer: Christoph Sander
With works by: Mareike Beermann, Noa Fechner, Svea Fildbrandt, Nina Grodhues, Martin Hajduga, Lina Harms, Oskar Kollenrott, Sabrina Lang, Danielle Malchow, Tim Mödeker, Dariya Muxunova, Magdalena Wiegmann, u.a.

Photo: Christoph Sander

Photo: Christoph Sander

Trockenschrank 1100

H

Course Title: „JETZT“ sagen – Experimental Video
Lecturer: Sascha-Andre Hahn
With works by: Alexa Brand, Luisa Klingenstein, Julius Leib, Linus Vandieken

Photo: Stills from Video by Alexa Brand

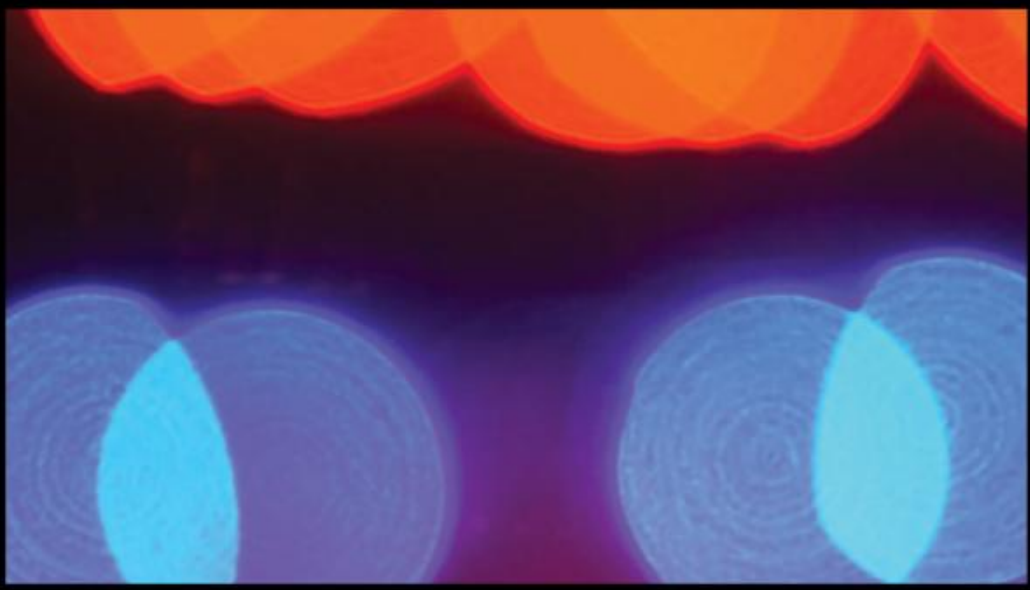

Photo: Stills from Video by Luisa Klingenstein

Photo: Stills from Video by Julius Leib

Photo: Stills from Video by Linus Vandieken

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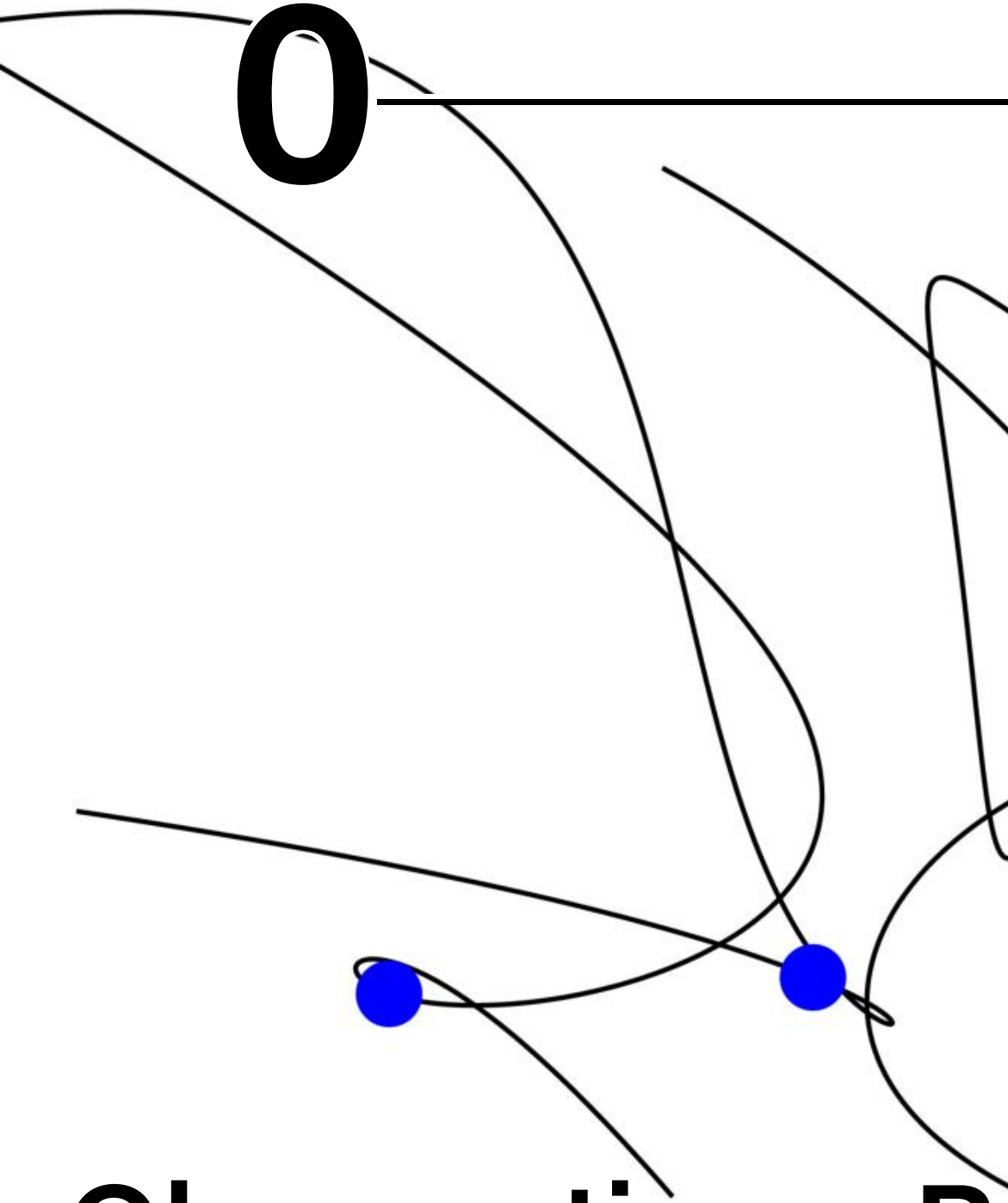

Observations. Re
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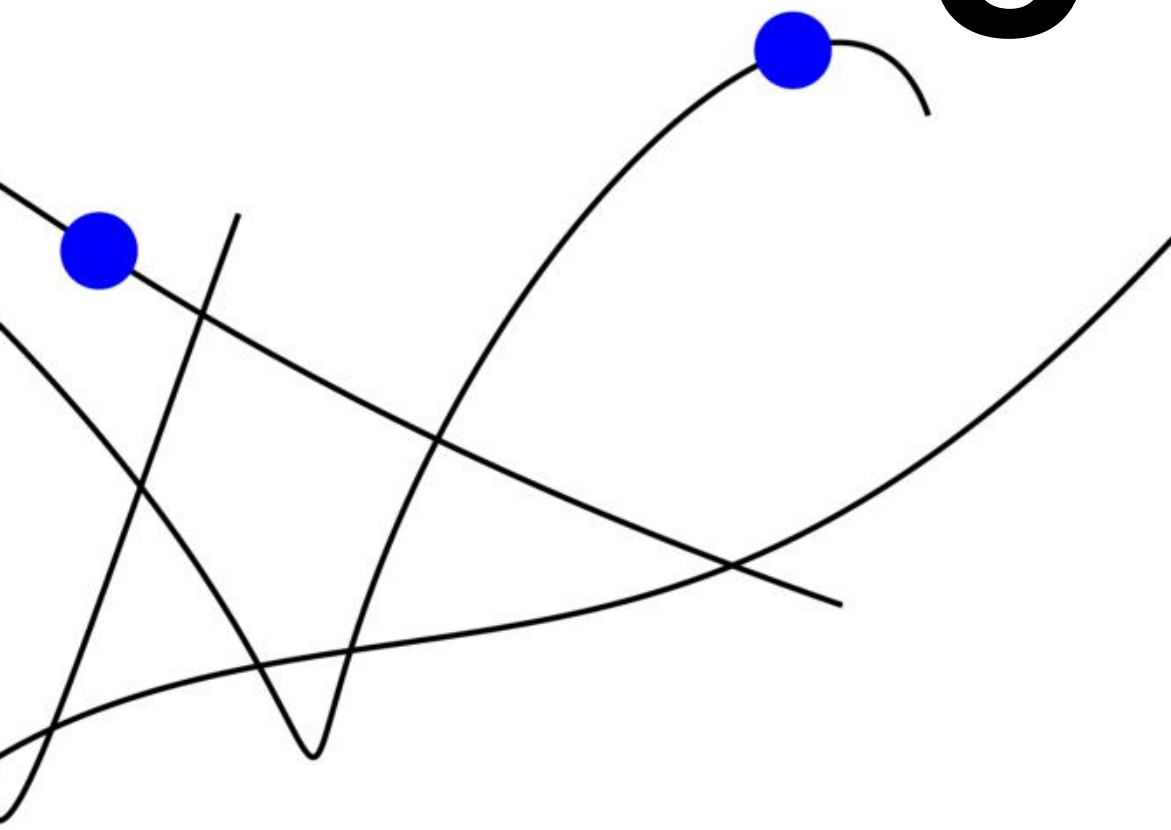

eflections.

To Take a Risk of Creating new Knowledge

Anđelka Bnin-Bninski, University of Belgrade
Boštjan Botas Kenda, University of Ljubljana

Figure 1: Scheme of approach, Image by the authors

Reflecting upon the Ca2re Conference Trajectories in Hannover, our perspectives stem from the intersection of artistic and academic fields in Architecture. While Dr. Andgelka Bnin-Bninski (ABB) is an architect, lecturer and researcher at the Faculty of Architecture — University of Belgrade and coordinator of ARENA, Boštjan Botaš Kenda (BBK) works in visual communication design in public spaces and leads Design+Science and Interactive Design programs at the Academy of Fine Arts and Design at the University of Ljubljana.

In order to discuss three major subjects: design-driven research (1), trajectories (2) and spaces (3), we propose a dialogical discussion in three steps: statements, questions and re-reviews. There are three statements per person defined by three subjects; questions are raised and substantiated through the exchange of statements, and the reviews consist of a review of the statements and questions, resulting in a joint review. Additionally, we propose a graphic representation of this three-folded process. The idea was to appropriate and re-invent the format in order to fit our needs to share, exchange and think together. While floating in the unstable field of design related research trajectories, deeply inspired by the CA²RE event in Hannover, we continue our lines of thought and emerge with the ideas started during this community gathering earlier this year. Without ambitious conclusions, we decide that it is necessary to take the risk for creating new knowledge in our fields and we invite you to write on margins, so we can continue to draw trajectories together, during the next CA²RE event.

Statements

Anđelka Bnin-Bninski (ABB): Is a design-driven research radical? PhD and beyond (1)

Practices of architecture are dominantly seen as solution providers – offering stable and clear responses to spatial demands of the building industry. Envisioned 'architectural solutions' are highly conditioned by the global market, quests for speed, financial efficiency and investors' benefit. Auxiliary, university education and academic research are often detached from these issues and sometimes even mutually non-aligned. This situation is resulting in simplifying and undermining the overall capacity of architectural creative thinking and its imaginative force.

How do we operate within contradictions between the three major fields of the architectural profession: the building industry, university education and academic research? Is it possible to create an advantageous interplay? And finally – is, at this time the imaginative force of architecture considered as a radical practice?

My positioning is based on design-driven research as a radical practice of imagination intersecting the three major professional streams. The initial argument is anchored in Tim Ingold's recent publication "Architecture educates!" where he points out the specificity of architectural and artistic education and the urge to lean on its creative and imaginative potencies. Ingold elaborates that education in science, techniques and mathematics is submissive to strict demands of the neoliberal knowledge economy. In these circumstances, students are considered as consumers and lecturers as service providers, responsible for the knowledge-product delivery. Following his observation, a doubt occurs: the creative thinking and its imaginative potential is not needed nor desirable in the dominant economical systems, yet it remains essential for our resilient and meaningful future.

In order to address the raised questions and doubts, I suggest discussing design-driven research as an experimentation field that may bridge industry, education and research. The design-driven PhD, (even though it is not a mandatory as a design-related research trajectory), disposes a potential to act as a relational bridge that is able to engage with the profession a whole. CA^{2}RE experience largely implies that the role of an artefact in a design-driven approach is essential as the artefact is able to preserve not just a stable links between the industry, education and research, but also contradictions embedded in these three fields. The design-driven research might be a radical practice as in its very nature it is investing creative potencies as a critical actor and in such a way it is able to open a chance for our profession to nurture, to question and reinvent itself and to thrive.

Boštjan Botaš Kenda (BBK): Artistic doctorates: the significance and value of research through practice (1)

We constantly ask ourselves about the meaning and role of practical research in the arts. The very premise that art is something broad, all-encompassing, and noble makes research in these contexts seem too mundane, direct, and perhaps even pointless. What are you going to research if it's something intangible? It's as if you were trying to make the abstract concrete.

No, the problem lies in the interpretation of the term. Is research truly the exclusive domain of science—a set of methods based on the processes of artistic creation that connect the conscious and the unconscious? The interweaving of interdisciplinary content enriches and broadens the fields governed by these processes.

This intertwining—this principle of affirming absolute values between art and science, which we have known since the dawn of civilization—enables us today to reestablish the foundations that affirm and enhance both activities. Has the reinterpretation of the roles of art and science—with a tendency toward synergistic activities—introduced an element of research into art?

ABB: How to face the unease in design-driven research trajectories? (2)

Design-driven research can be confusing and very difficult at times, form the within (as a researcher) and from the outside (as peer or a reviewer). It is mostly due to the interdisciplinarity and trans-disciplinarity of this approach to the research. The engagement with various disciplines implies work on different positions and various media, thus the movements of thoughts and ideas are often non-linear.

In shifting trajectories of design-driven and artistic research in architecture and the arts, practice itself has become a vital form of inquiry. Rather than following only established scholarly routes, these approaches often move in unpredictable ways—surveying boundaries, overlaps, and fissures between fields. Yet this crossing of boundaries carries its own tensions. Jane Rendell has described a persistent anxiety of interdisciplinarity—a deep-seated unease at the edges of disciplines, where enthusiasm for collaboration meets resistance. Drawing on Julia Kristeva, she notes how specialists often protect their domains, and how stepping into the unknown can provoke ambivalence, fear of failure, and the psychic discomfort of surrendering hard-won expertise. In design-driven research this anxiety appears when practitioners move beyond familiar methods or institutional expectations, risking misrecognition or the sense that their work no longer "belongs" anywhere neat.

At the same time, Rendell reframes this anxiety as potentially generative. By paying attention to the emotional and relational (or psychic) dimensions of working across fields—the play, trust, and care required in transitional spaces, inspired by D.W. Winnicott—she suggests that

interdisciplinarity can become a site of fragile transformation rather than mere borrowing or conflict. New forms of understanding emerge precisely where disciplines fray and reconnect. For events such as the CA²RE conference in Hanover 2026, which explores specifically trajectories of design-driven and artistic research while fostering a community attentive to how we care for one another's work and approach with openness, curiosity and empathy: they remind us that the anxious edges of interdisciplinarity and transdisciplinary are not obstacles to avoid but places where more responsive, ethical, and spatially attentive practices can take root.

BBK: Terminology regarding research through practice in art (2)

Is the terminology in this field and for such a method appropriate, or does it even exist? It is already evident from the title itself that the research principles and methods applicable in science are not adequate for research in practice, in art. "Artistic research" is not the correct term… the artist explores and master's knowledge and insight in order to create, to produce, to express themselves, and to use for this purpose a visible, audible, sensory, and multifaceted materialized language. The power lies not only in the choice or interweaving of expressive languages, but also in artistic interdisciplinarity in its very essence.

Therefore, the term "research" in one's own artistic practice—which functions merely as a look into one's own work and processes without involving the broader context—can serve as a re-examination of one's own work, or rather, a reflection on artistic practice.

ABB: What are the spaces for a cultivation of design-driven research? Formats, people, constellations (3)

CA²RE community has various attempts to accommodate, host and enable the cultivation of design-driven research in architecture and arts. Spatial capacities of different host institutions of CA²RE events are intertwined and challenged with spatial choreographies of this community. Within CA²RE as a community space itself, there is permanent rethinking about the forms and formats, constellations and choreographies of sharing and cultivating design-driven research. Round tables and rounds of tables, lunch and coffee tables, workshops, groups, performances, presentations, walks and talks, chats, online and ofline, exibition tables and walls, panels. These formats are recurrently confronted to traditional ways of doing research and learning about the research.

Jeremy Till dwells the notion of "educating otherwise" to offer a powerful lens for rethinking spaces for education and cultivation. Starting from the observation that architectural education tends to be inherently conservative, bound by longstanding rituals and the reproduction of professional norms, Till calls for alternative approaches that embrace contingency, criticality, and the integration of design practice with ongoing inquiry. In

educational organizations this might involve creating environments where inherited methods are questioned, disciplinary boundaries are crossed, and design is understood not as a fixed skill set but as a dynamic way of exploring and contesting the world—precisely the conditions under which design-driven research can be actively cultivated rather than passively and merely taught.

I would suggest that the design-driven research demands a rethinking of inherited and fixed spatial systems in research and practice; spaces we engage with are just a polygon to investigate various forms of interaction and to adapt them to a specific sites for nourishing and cultivation of particular research approaches in a variety of its forms.

BBK: The influence of the environment, or rather, the environment's influence on art (3)

Practice, education, and reflection are the pillars of all forms of artistic expression, regardless of how they come into being. We understand this when we analyze the specificity of media, which are entirely different from one another—and may even be contradictory—yet enable an influence on the environment, time, and resources in which they are created and in which they operate.

Imagine a closed laboratory process and scientific analytical and research work proceeding in parallel with the processes in the "workshop," ultimately converging to substantiate the initial thesis. The public learns of the findings indirectly.

Or consider a design, architectural, or perhaps sound project that takes shape in full view of the public—or at least is presented to the public as the result of a process—whether it be a work of art in an urban setting or an intervention in the landscape, which we, as users, gradually accept and evaluate.

Just as the author or collective of authors views it, it establishes an evaluation that enables and provides a platform for new works by others. This is a key point of reflection, re-examination in art.

Questions

BBK: In one of your statements, you describe the state of anxiety in interdisciplinarity: Is the anxiety caused by interdisciplinarity a state that enables development and progress?

ABB: I understand an anxiety in this context of interdisciplinary research as a necessary form of unease and discomfort in crossing into more or less friendly discipline. As someone from interdisciplinary background, I think that the real research adventure lies in cautious curiosity towards the other discipline. If we are rigorous, this displacement embodies the ambivalence and the fear of failure; and we really need to be rigorous and honest because the mere borrowing from another discipline (to dwell further on Randall's assumption) is inappropriate, useless and may

appear as violent and un-fair. And to refer to the notion of progress from your question, I am not convinced that progress as such is what our societies need, but more a site for fragile transformation where we all reflect and evolve. I believe that the real field of interdisciplinarity is demarked by fragile and vulnerable research trajectories that can result in the precious new knowledge.

BBK: The term that defines the position of processes within the environmental system is "Alternative Education." Does it offer open possibilities for rethinking spaces for education and personal development? Could this be linked to "the ergonomics of learning and teaching"?

ABB: When I was saying about the need to rethink spatial concepts of how we share, teach and evaluate design and practice led research, I was thinking more about spatial constellation of people, objects and artefacts involved, about constructing the site-specific situation that fits the best for the specific persons and research moment, because I am convinced that this spatial situation can play additional role and maybe contribute to the research, learning and knowledge production. I do not know how the ergonomics of learning and teaching could be approached on this note, but I find your perspective very intriguing, will definitely think more about that. Maybe to underline that the comfort would not be the objective of my idea, but more a proposition to involve space as another research medium, as an additional question into the equation. Again, maybe also in this sense, the real quest is in the right measure between the personal and collective experience, personal development and common knowledge production.

ABB: I have noticed in your statements a clear distinction betwen the architectural and the artistic design-driven research, did I understand correctly? Can you elaborate further on this distinction or the relation between the two?

BBK: The answer lies precisely in the relationship between the two fields. Scientific research and artistic inquiry differ; they do not share common starting points. They do not employ the same methodologies for carrying out their processes. They yield different results. However, they share an identical goal: contributing to the discipline. This distinction, nevertheless, dissolves when we introduce the fact that architectural design embodies both approaches—scientific inquiry and artistic questioning. These must remain separate.

ABB: When you explain the collision between the artistic research and scientific vocabulary and methods, you suggest the artistic research needs its proper "rules"? I wonder how subjective these proper vocabulary and methods can be relating to the specific practice and how we deal with the shareability of artistic research in this sense?

BBK: Precisely because of its own structure, its methodologies, and concrete, already existing practices, the process of developing artistic inquiry operates completely autonomously, thereby ensuring the continuous expansion of the body of content and the establishment of values for the development of the fields in which it manifests itself.

Review

The questions that shed light on key areas of activity within the processes—specifically those of the architectural profession—are its practices, education, and research.

Of course, architecture, like design, positions itself in relation to artistic processes as a hybrid structure that is not limited to the natural sciences or the arts, but encompasses all forms.

Naturally, we ask ourselves whether the definition of creativity is merely a connection to artistic processes, or whether creativity can be the domain of empirical structures and ways of thinking. In the form of three questions:

- Is design-led research radical? The Doctorate and Beyond.
- How can we address the discomfort inherent in design-led research processes?
- What are the spaces for cultivating design-led research? Forms, People, Constellations

Here are the answers regarding the meaning, role, and relationships in the emergence and development of research processes through practice in relation to the form of the artistic doctorate. Or rather, the deconstruction of key questions is this form, which we replace with—or define through—the term "re-examination of work in practice" as research in science.

Are the art and science that different and confrontational? We would like to challenge this one. Without an extensive elaboration, the creativity is the key force for both, personal and collective creativity; and there is also the trans-generational knowledge deeply embedded in both – that notion Ingold highlights as a treasure of our educational systems. In the world of creativity, the trans-generational knowledge exchange strongly differs form traditional forms of teaching and conservativism of academic education. This opposition implies rethinking the politics of design-driven research in art and architecture. Here is the subtle tension defined as a "re-examination of work in practice" as "research in science" and we would like to propose another couple of terms to "replace with—or define through": "re-examination of work in science" as a "research in practice". As Rendall suggests with the anxiety of the interdisciplinarity, what would you think about the cautious leap into another in order to take responsible risk for a creation of a new knowledge?

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Towards an Architecture of Perspectives and Practices

Visual Investigations for a future spatial agency (25/26)

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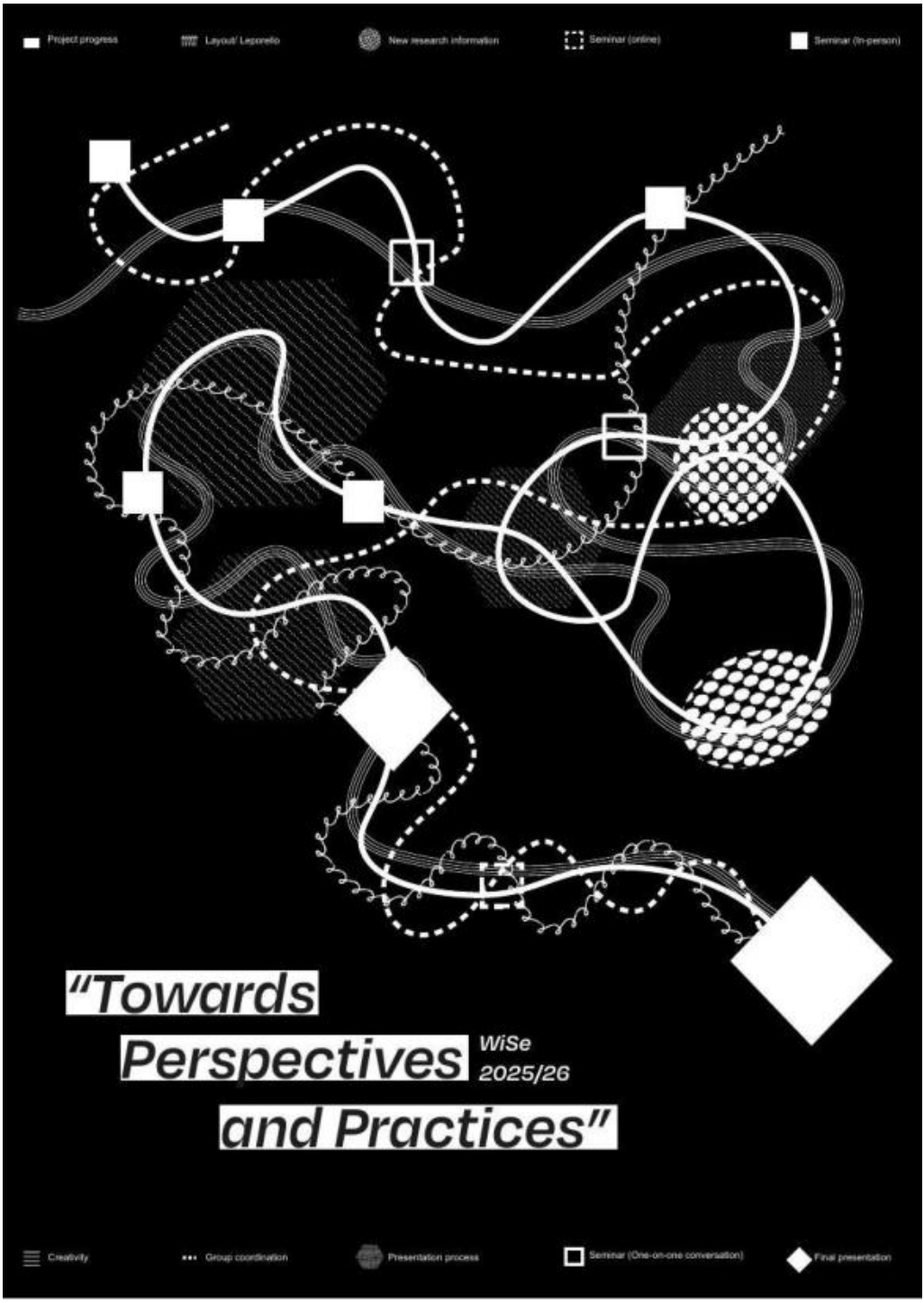


Figure 1: Postcard showing individual research processes with collective anchor points as defined moments.
© Paula Kruse, Milena Matul, 2026.

“Investigate, Visualize, Install” are the words that best describe the essence of the research seminar, designed for contributing to the CA2RE Conference in Hannover. With “Trajectories” as the topic of the conference, the aim was to deepen an understanding of artistic and design-driven research and to explore possible future fields of the architectural discipline. Students examined a range of contemporary artistic and design-driven practices that challenge conventional understandings of architectural production, digging into their positioning and modes of working as well as their perspectives upon a paradigm change. One, that would shift the way we look at and work with spaces towards a more social, critically engaged and experimental field of knowledge creation. Instead of designing and creating new spaces, the seminar aimed to investigate architectural practice. Instead of creating visions and models as representations of a project, invisible processes of thinking and intervening in space were visualized. And, instead of presenting drawings and models of a finished, to-be-built architecture, an installation with Leporellos showing comparisons between different practices, made accessible the research steps undertaken.

This design-driven research seminar was set to explore how topics and concepts relevant for a future design in Architecture and Urbanism could be made graspable. In order to do so a framework for pursuing individual research topics in a same manner, but with distinct visual approaches was developed. This process resulted in a shared installation format, later presented at the conference (Fig. 1).

Trajectories: Collective Research – Individual Creation

Together with a group of five master students, we asked the following questions: What defines the practice and research in architecture and urban design today? Which perspectives and practices can be discussed as positive examples in relation to the current discourse? And what role do experimental approaches and methods of design play in exploring these contexts, opening them for discussion? With “perspectives and practices” the designers’ conviction was investigated – a positioning within the current discourse. While entering this field collectively – discussing ideas and possible research methods as well as looking at references and sharing intermediate results – individual works following own interests were created and brought together as an installation. It shows the individual research processes that even though being very different from each other, share a common conceptual ground.

In the following, the procedure and main steps of the seminar are introduced.

1. Getting Ideas: Connecting artistic positions to the architectural discourse

As a starting point, artistic positions tackling aspects of architecture and opening up perspectives upon space or spatial creation as social practice are looked at. The artistic positions selected, use various approaches to highlight what for them is relevant in the creation, transformation and dealing with space in one or another way. The artistic positions can be seen as experiences that make us think and open up broader reflections upon what we care about in our professional practice.

For example, 1. Kader Attia in "Traditional Repair. Immaterial Justice" works on the topic of Repair, collective memory and time, which stresses the value of the existing and visibility of transformation by showing scars. 2.) Jean and Claude Christo in "Over the river, a work in porgress", develop a design for a public intervention with huge pieces of translucent fabric above a river bed. Already the drawings allow to experience the site in different ways – from underneath the fabrics – exploring the space inbetween the river and its novel layer; from the street, exploring the section through the landscape; or from above, exploring the added layers becoming part of the texture already there. 3. Franz Erhardt Walter in "Action Pieces" works with object performances that question space as a medium and art as social practice, while 4. Ute and Werner Mahler in "Kleinstadt" collect impressions from small cities across Germany which introduces an observation of vacancy, missing infrastructure and at Everydaylife and perspectives of young people outside the city. 5. Yukinori Yangai in „Wandering Position", through the close observation of Ants in a fictive world, – a network of sugar flags through which they path their ways while eating opens reflections about crossing borders, transnational connections and scales. 6. John Smith with his film "blight" addresses gentrification and transformation at an urban level, introducing personal memories as left-overs from a large scale project of a new road map in London. And 7. Rimini Protokoll with "Staat 1–4" thematizes co-creation and knowledge ransfer between rules and rights of the city.

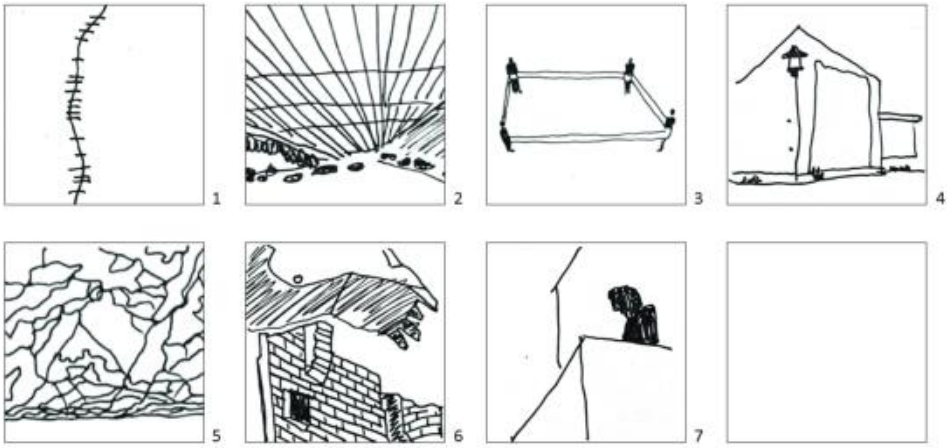


Figure 2: Artistic Positions as points of interest for fields of knowledge in Architecture, © Riccarda Cappeller, based on images by the artists

1 Kader Attia, "Traditional Repair. Immaterial Injury"
2 Jean / Claude Christo, "Over the river, a work in progress"
3 Franz Erhardt Walter, "Action Pieces" 1. Werksatz
4 Ute / Werner Mahler, „Kleinstadt"
5 Yukinori Yangai, „Wandering Position"
6 John Smith, "Blight"
7 Rimini Protokoll, „Staat 1-4"

2. Formulating Interests: Practices and Perspectives

Departing from these references, we discussed a possible future of architectural practice, fields of engagement, ethics of designing and interdisciplinary collaboration as fundamental base. In order to shift architectural thinking and doing towards spatial agencies as a broader and rather self-organized engagement with space, we searched for ways of dealing with the built environment that could inspire the present. From this discussion, a framework of principles and relevant topics in the current discourse evolved. It allowed a comparability among the projects and defined a structure of five aspects to dig into throughout the research. These five aspects were defined by the students. Together they combine a personal approach and interest (questions) with the comparison of case studies (focus: agen), a closer look into their organization and relation among eachother (constellations), an investigation about the working methods and approaches (methodology) of the practicioners , as well as their communication and visibility (performativity).

Then, the individual investigations into the works of spatial agents with alternative backgrounds, projects and networks started. Central to the process of gathering information was the continuous search for an adequate visual representation – a transfer of information into graphical elaborations and visually experienceable contents. Throughout the research process, the steps and findings were continuously discussed

	Position Architecture & Society	Focus: Agents Themes & Practices	Constellations Organization Form	Methodology Approaches & Working Process	Perfomativity Expression & Communication
Research Questions Architecture	What is Architecture? What are (for you) relevant perspectives?	Where should Architecture move? Which topics are relevant today / in future?	Which roles do spatial agents take? In which constellations do they work together?	What kind of tools/approaches are needed? What do they contribute to change the discipline?	How to show and convey processes? How to create experiences of co-creation and transformation?
Research Aspects Agents	Importance /Relevance Interest *> Motivation*	Conviction agents, designers, artists *> Positioning*	Practice / Collective / Communities *> Composition*	Context Interdisciplinarity Tools / Methods *> Procedure*	Exploration Visualization Curation *> Experience*
Individual Findings	Fields of Interest	Work Principles	Models	Ways of acting	Visual Language

Figure 3: Collectively developed Research-Grid for approaching Perspectives and Practices, © Riccarda Cappeller, Catalina Andraczek, Nico Krause, Paula Marie Kruse, Milena Matul, Merle Suhr, 2026

and thought further collectively. External advice was given by guest critiques; Jackie Williams and Jörg Schröder, who contributed in two separate presentation rounds. The works developed, define five different topics, each of them looking at, comparing and visualizing two to three practices and perspectives of spatial agents. Here, three of the five investigative works were selected to share their processes and findings. In their own words, the participants of the seminar describe what they did.

“Performative Politics of Urban Space” by Paula Kruse

Agents: Guerrilla Architects / Rimini Protokoll

My interest in the performative politics of urban spaces arose from the intersection of theater, activism, and urban planning, as all three fields operate through publicly visible actions and actively shape space. I am particularly fascinated by the idea that the city is not merely planned, but politically produced through collective practices. In my work, I therefore examined the approaches of Guerilla Architects and Rimini Protokoll, both of which operate at the intersection of space, the public sphere, and participation. My primary focus was on how their methods can make power relations visible and influence spatial processes. The goal was to derive approaches for my own performative design process from this investigation.

The selection of the two collectives is based on their shared thematic intersections, but also on their differing approaches. Both understand urban space as a negotiable framework and work in a transdisciplinary and participatory manner. Nevertheless, clear differences emerge: Guerilla Architects operate in a more spontaneous, activist, and situational manner, while Rimini Protokoll works with structured formats and pre-defined roles. While Guerilla Architects’ interventions are open-ended and often conflict-ridden, participation at Rimini Protokoll is deliberately shaped and guided. This comparison allows for the analysis of

different forms of control and openness in dealing with space and participation.

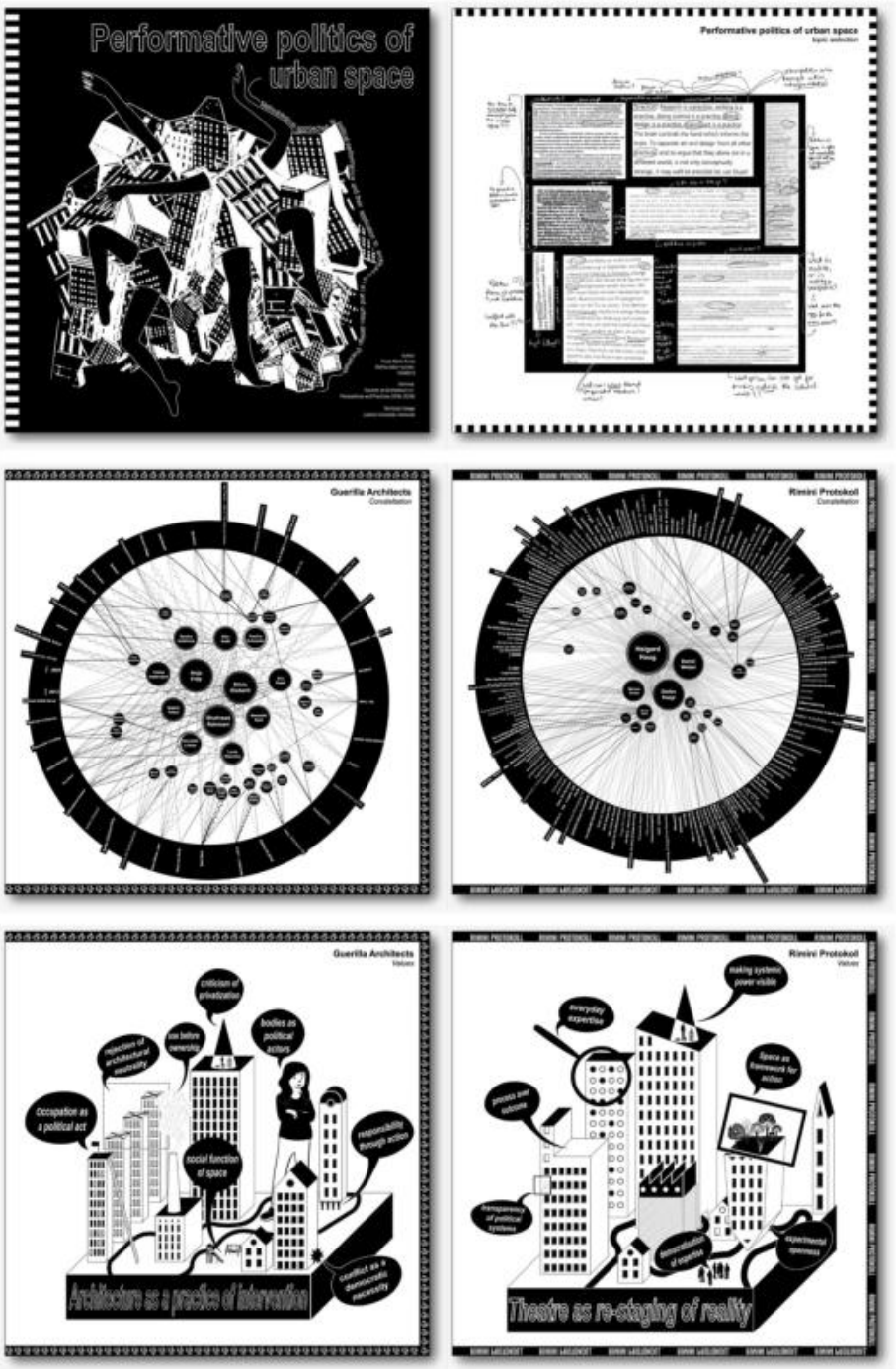


Figure 4: Fragments from the Leporello Performative Politics of Urban Space © Paula Kruse

Methodologically, my work is based on a comparative analysis of the two practices and their translation into my own design approach. In doing so, I have examined in particular the process-oriented nature of the methods, which are structured into phases such as research, participation, action, and impact. It is striking that both approaches do not function linearly, but are iterative and open to change. This structure is also reflected in my own working process, which was characterized by detours, hurdles, and new impulses. On this basis, I have developed my own model (based on the two reference groups) that understands design as a dynamic, open process.

A central insight of my work is that performative practices do not merely comment on the city but can actively structure spatial processes. Through interventions, participatory formats, and the conscious handling of conflicts, power relations become visible and negotiable. Design is no longer understood as a finished object, but as a sequence of actions and situations. Particularly important is the integration of everyday knowledge, which is regarded as equal to professional knowledge. This results in an expanded understanding of architecture as a process-oriented and open system.

My visual approach also follows this logic of non-linear, process-oriented thinking. The Leporello format and the graphic representations create a narrative structure that resembles a spatial experience rather than a classic linear presentation. Diagrams, comics, and schematic sequences help to make complex relationships visible and to present processes in a comprehensible way. The presentation of the values and methodology was particularly challenging and has significantly shaped my visual language, as I attempted to convey complex information with as little text as possible. The graphic language of the comic has proven (even in retrospect) to be very suitable for this purpose, as content can be grasped intuitively without the need for extensive textual explanations. This makes the presentation more accessible and allows key messages to be understood quickly and immediately—similar to a performance by Rimini Protokoll or Guerilla Architects.

„Public Participation“ by Merle Suhr

Agents: Rurbane Ruralitäten / nonconform /Neue Auftraggeber

This investigation focuses on public participation as an indispensable tool for sustainable planning within rural and rurban contexts. My interest was specifically sparked by the unique challenges and opportunities found in non-metropolitan areas where social ties are particularly strong. The research proceeds from the belief that local knowledge only becomes truly accessible through direct contact with the people on-site. By exploring how residents engage with their environment, the study seeks to understand how they can identify with and take responsibility for their surroundings. Ultimately, the goal is to show how activating these social potentials can transform subjective life realities into tangible spatial opportunities.

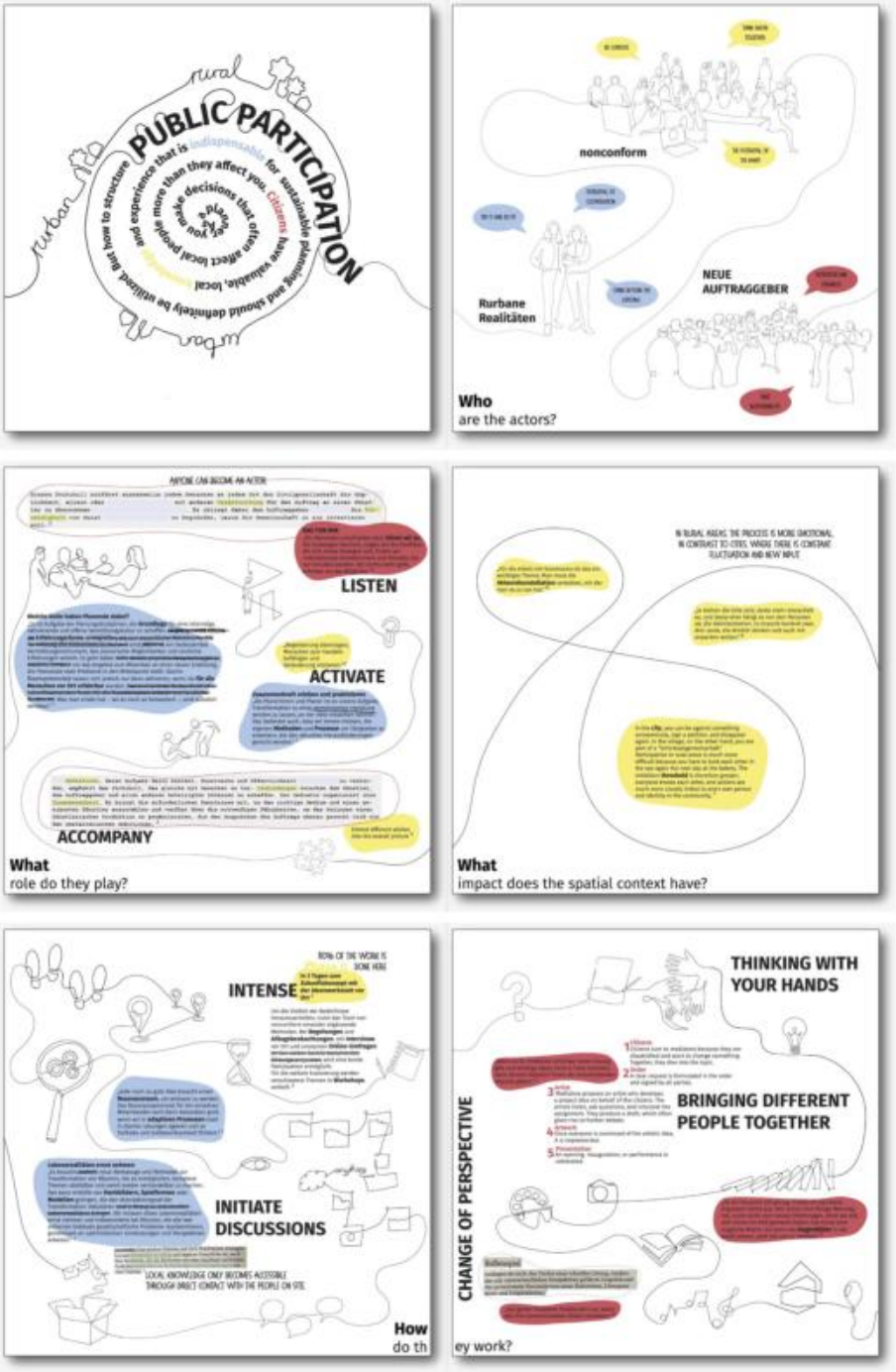


Figure 5: Fragments from the Leporello Public Participation
© Merle Suhr

Due to their intensive and innovative work with participation , I selected the offices Rurbane Realitäten, nonconform and Neue Auftraggeber.
A major commonality is that all three prioritize the activation of local potential in rural or rurban territories. However, they differ significantly in their organizational scale, ranging from a small two-person team to a large collective of over 30 members. Despite these size differences, each office emphasizes the "potential of the many" and the fundamental importance of cooperation. This selection allows for a broad comparison of how various structures manage the complexities of citizen engagement across different project types.

The research methodology centers on an intensive analysis of self-published texts, interviews, videos, and photographic documentation .
I structured the investigation around four key questions concerning the identity of actors, their roles, the spatial impact, and their specific work methods. I specifically sought out characteristic statements to understand the underlying mindset and "communication culture" of both planners and citizens. The focus was placed on human interaction and communicative processes, which are often described more vividly in photos and texts than in technical blueprints. This approach highlights that results are often snapshots of performances or ideas rather than physical building projects.

A central finding is that planners must act as mediators who listen, activate, and accompany citizens to make the "fantastic thinkable". In rural contexts, participation is more emotional and personal because residents belong to a "Schicksalsgemeinschaft" where they face each other daily. Unlike the anonymity of cities, village interactions have a higher inhibition threshold because actions are closely linked to one's personal identity in the community. Success often depends on "thinking with your hands" and using adaptive processes that allow for perspective changes. This method ensures sustainability, as local users identify more deeply with solutions that respect their individual life realities.

The visual design of this work uses a continuous line to represent the interconnected influence and constant connection between all actors. This line symbolizes that every participant in the process impacts the others, creating a web of mutual influence. I chose to specifically highlight or strike through certain text segments to reflect the iterative and process-oriented nature of participation. This graphic strategy mirrors my own research process as I filtered through material to uncover core statements and potential. Ultimately, these visual elements represent the idea that the process of development and negotiation is just as significant as the final spatial result.

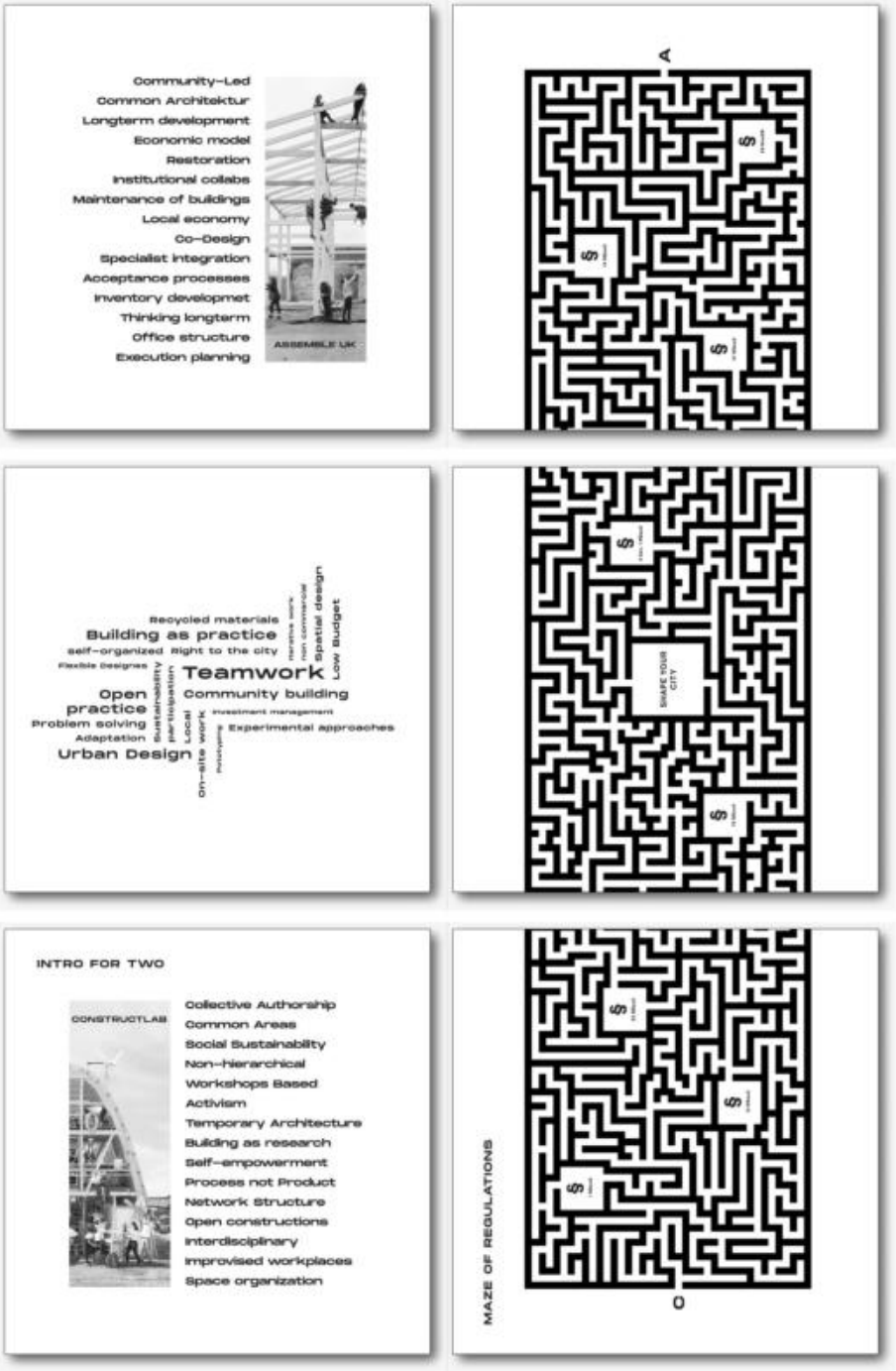


Figure 6: Fragments from the Leporello More than Buildings© Nico Krause

“More than Buildings” by Nico Krause

Agents: Constructlab / Assemble

My investigation focuses on architecture as a collective and process-oriented practice rather than the production of isolated objects. I am particularly interested in how spatial design emerges through negotiation between social, material, and institutional conditions, and how these relationships shape decision-making processes in architecture. In this context, I examined the working methods of ConstructLab and Assemble, whose practices challenge hierarchical structures through collaborative authorship and design-build approaches. Their projects demonstrate how participation, on-site construction, material reuse, and long-term engagement with local communities can become fundamental elements of spatial production rather than supplementary methods. Through this research, I aimed to develop an understanding of architecture as a platform for exchange, learning, and collective responsibility in shaping urban space.

The investigation into seselected practices examines how criteria, authorship, and decision-making processes shape collaborative architectural work, particularly in relation to collective design approaches. I am interested in how “selectivity” is not a neutral act, but a negotiated process influenced by social values, material constraints, and institutional frameworks. In comparing the working methods of ConstructLab and Assemble, both common aspects and fundamental differences in their approaches to participation and authorship become visible. While both practices emphasize collaboration and openness, they differ in how responsibilities are distributed and how decisions are structured within the design-build process. This analysis aims to understand selection as an active spatial and organizational mechanism that shapes not only outcomes, but also the conditions under which architecture is produced.

Approach and methodology in architecture can be understood as a way of generating knowledge through practice. I am particularly interested in methodologies that frame design as an iterative and situated process shaped by continuous feedback between people, materials, and context. In this framework, the working methods of ConstructLab and Assemble serve as key references, as both operate through experimental, site-specific and collaborative design-build processes. Their approaches reveal how architectural methodology can shift from fixed planning towards adaptive systems of making, testing, and adjusting in real time. This perspective understands methodology as an evolving structure that produces not only space, but also forms of collective learning and shared authorship.

Findings from this study highlight that architectural practice increasingly operates as a collective and process-driven activity, instead of a purely object-oriented discipline. It becomes clear that decision-making is distributed across multiple actors, where social, material, and institutional conditions constantly interact and influence outcomes. In the work of ConstructLab and Assemble, shared authorship and participatory design-build processes emerge as key strategies for negotiating these complex relationships. Their practices demonstrate that openness,

collaboration, and on-site engagement can fundamentally reshape how architectural knowledge and space are produced. Overall, the findings suggest that architecture functions less as a final product and more as an ongoing, collective process of spatial negotiation and learning.

Reflection and Visual Approaches focuses on how architectural ideas can be critically understood and communicated through visual representation and iterative reflection. In my work as an architecture student, I use drawing, mapping, and diagrammatic studies not only as tools of representation, but also as instruments for thinking and analysing spatial relationships and processes. Looking at the practices of ConstructLab and Assemble, it becomes evident how visual strategies can document and reveal collective design processes, material decisions, and site-specific dynamics. Their work shows that visual output is not separate from making, but deeply embedded in the development of architectural projects. This reflection highlights how a visual approach can support a more process-oriented understanding of architecture, where representation, experimentation, and construction continuously inform one another.

3. Curate: “Trajectories” as Installation for CA2RE

While each of the participants in both – form and content, worked on their own interests, a group installation was developed in parallel. It was thought as a contribution to the CA2RE Conference. As a common format for the investigations the Leporello was chosen. This was based on the artistic work of Dayanita Singh, an Indian photographer who alongside her photographs explored ways of exhibiting them in small, easily transportable formats. Instead of putting the Leporellos on shelves, as she does with many works, we decided to use a hanging construction that allowed to show the works while at the same time defining the spatial setting. The theoretical explorations in this way framed the space of encounter at the conference and could be explored by walking through.

As a concluding remark, it has to be said, that the trajectories explored throughout the seminar were not only those of the selected practices. It were also the trajectories of the students engaging with these practices while developing a design-driven methodology and the trajectories of architecture itself. By tracing how different spatial agents think, collaborate, communicate and act, the seminar opened a space for reflecting on where the discipline might be heading—and how future architects may contribute not only through designing buildings, but through shaping processes, relationships and collective forms of spatial knowledge. The resulting installation thus functioned not only as a presentation format, but as a research instrument for reflecting on this changing role of architecture within contemporary society.

Works by: Catalina Andraczek, Nico Krause, Paula Marie Kruse, Milena Matul, Merle Suhr

Course led by: Riccarda Cappeller

Figure 7: Installation Towards an Architecture of Perspectives and Practices © Riccarda Cappeller

Visual Exploration / Excursion

Joran Kuijper, TU Delft
Riccarda Cappeller, Leibniz University Hannover

Photo: Riccarda Cappeller

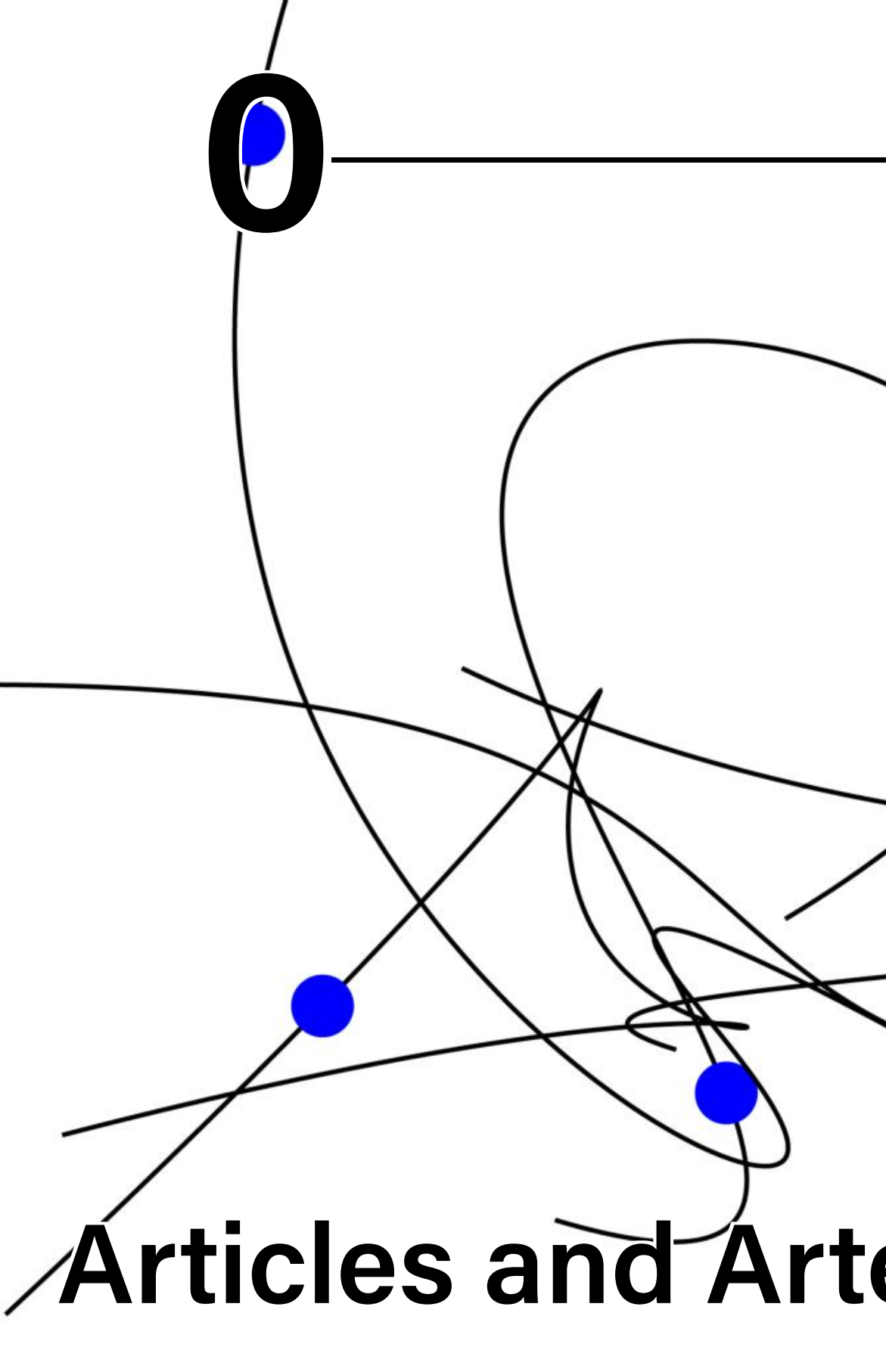
Photo: Joran Kujiper

Photo: Joran Kujiper

MAYZ
PEACE

Photo: Joran Kujiper

Photo: Joran Kujiper



Articles and Arte

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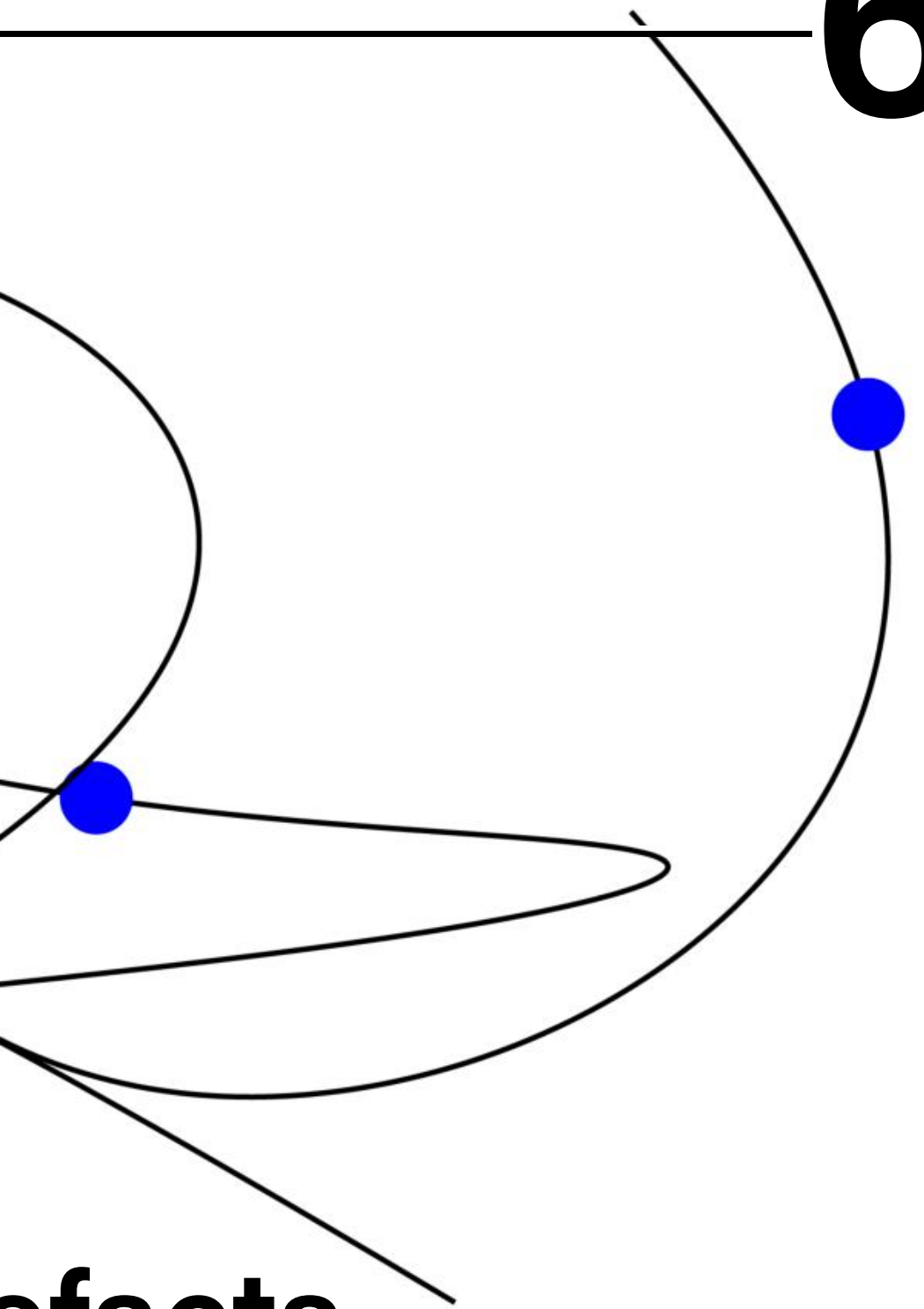

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PRESENTATIONS – Poster Collection and Essays

HANNOVER

CA²RE

Community for Artistic and Architectural Research

26–28.03.2026

CA²RE

THE FUTURE LINE OF CINEMA(TIC) SPACES

Diego Terna, Politecnico di Milano

Recomposition

In 2025, at Milan's Fondazione Prada, the filmmaker Alejandro González Iñárritu designed a fractal material, a physical line, and an immaterial visual line that reassembled in a unique movement. His artwork, titled *Sueño Pena*, working between two opposites - *Linearity and Rupture* -, attempts to compose a new spatiality, once again bringing cinema - its movements and spectators - into an innovative spatial experience.
Within the museum spaces, the Mexican director staged the immateriality of cinema by revealing the projection line itself. Smoke saturating the void allows the projected light to be seen, with its tonalities, colours, and the very movements Deleuze once described "as a function of any instant whatever", just before they reach the screen and become perceptible once more.

CA²RE

NEXUS OF TEXTILE AND SOUND

Art, Architecture and embodied Knowledge

Gertrud Fischbacher, Mozarteum University

CA²RE

A TECTONIC STUDY ON WOOL

Ina Samdal, Norwegian University of Science and Technology

CA²RE

UNFOLDING DEMOLITION OF THE FAMILY HOUSE

Entangled Narratives through the Architectural Essay Film

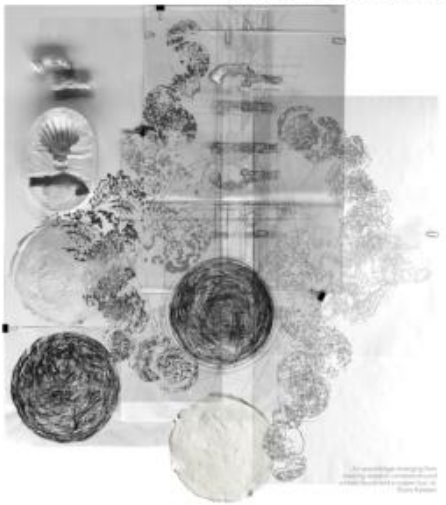
Berivan Güzel, Istanbul Technical University
Bihter Almaç, Istanbul Technical University

ARENA ELIA

CA²RE

DRAWING THROUGH (IM)MATERIAL TRAJECTORIES OF WATER

Büşra Balaban, Istanbul Technical University



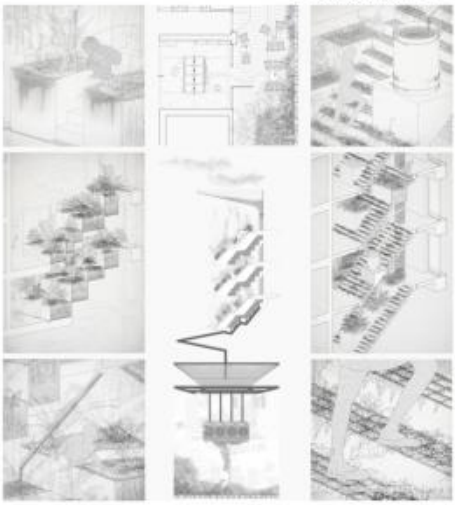
ARENA ELIA

CA²RE

FROM EXTERNALISATION TO METABOLISM

Outlining Design-Driven Research for Shared Domesticities

Ema Soukupová, KU Leuven



ARENA ELIA

CA²RE

ARCHITECTURAL LOW DEFINITION: TRAJECTORIES

Sofia Hosszufalussy, Politecnico di Milano

ARENA ELIA

EYES OF EPOCHÉ

Suspended Vision and Discovered Space

Daein Cheong, Wenzhou-Kean University

PLANETARY INFRASTRUCTURES, TERRESTRIAL ECOLOGIES

Non-Formulaic Artistic Research

Shona Kitchen, undisciplined + Aly Ogasian, Scripps College

Artistic research practice using adaptive, non-formulaic methodologies to investigate planetary infrastructures, terrestrial ecologies, and space-exploration mythologies. Situated between contemporary art, environmental humanities, and science and technology studies, the research develops narratives linking distant sites shaped by satellite communication, launch systems, and planetary imaginaries. Space infrastructures are treated as culturally and ecologically charged environments where planetary ambition intersects with fragile ecosystems. The work unfolds through long-term, embedded processes combining fieldwork, material experimentation, and public exchange. Collaborations with scientists generate hybrid knowledge that resists disciplinary boundaries. By foregrounding the ecological entanglements of space infrastructures on Earth, the works challenges myths of progress and expansion, proposing artistic inquiry oriented toward care, coexistence, and more-than-human futures.

From Hidden Modernism to Hidden Architecture

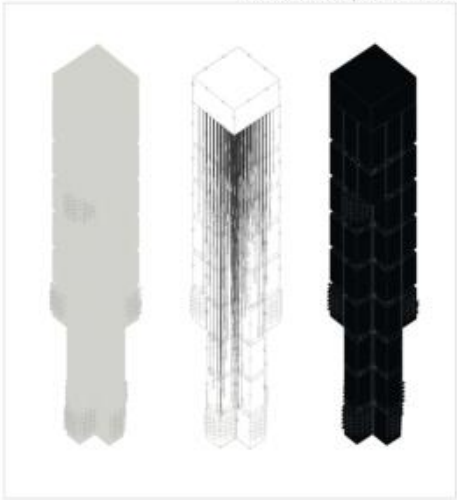
Testing a Rhizomatic Mapping-Project along the Douro Riverbanks

Cláudia Melo Universidade de Évora

LOSS IS MORE

Detailing towards a Media-Based Atlas of Modernist Heritage Fragmentation

Miloš Kostic, PhD, independent researcher



CA²RE

PARTICIPANT SPACE

Embodied Experience and Pneumatic Interventions in Cultural Public Spaces

Paula Vidal, TU Berlin

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A DESIGN-DRIVEN RESEARCH TRAJECTORY

Energy and Seismic Retrofit Solutions as Spatial Devices

Francesco Iuliano, University of Naples Federico II

What if retrofits focused not just on efficiency, but on enhancing the quality of living spaces?

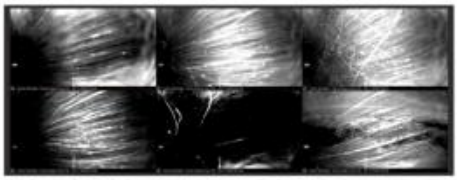
The doctoral research develops along a trajectory that deliberately crosses technical, spatial, and cultural dimensions of housing renovation, reframing energy and seismic retrofitting as an architectural and design-driven research practice rather than a purely performance-oriented task. Starting from the critical condition of the European post-war housing stock—particularly evident in the Italian context—the research "throws across" established engineering-led approaches, transferring technical requirements into the domain of spatial quality, lived experience, and architectural meaning.

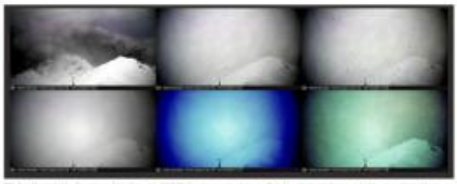
ARENA ELIA

CA²RE

LANDING *with Distortion*

Renata Berta Saumell, Free University of Bozen-Bolzano





Landing with Distortion reflects on a reconfiguration of Landing, transdisciplinary research that approaches design as a practice of care in foreign mountain landscapes. Rooted in architecture, landscape and artistic research, *Landing* advances a performative and relational approach attentive to the temporal and material flux of territories, in which knowledge emerges through embodied intra-actions and material agency.

Embodiment has been understood as a form of care enacted through encounters, returns, and moments of absence. In its current fanatica, the research asks how embodied knowledge can be sustained when the body is not physically present, and how absence itself can operate as an active space of relation rather than a loss of engagement.

ARENA ELIA

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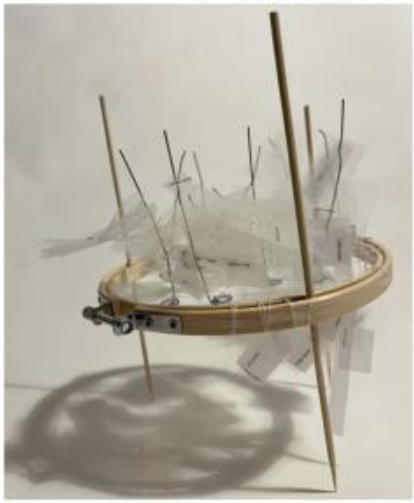
SPACES OF EPIPHANY

A Queer Performance toward a Spatial Theory

Ugur Sarsen, Istanbul Technical University

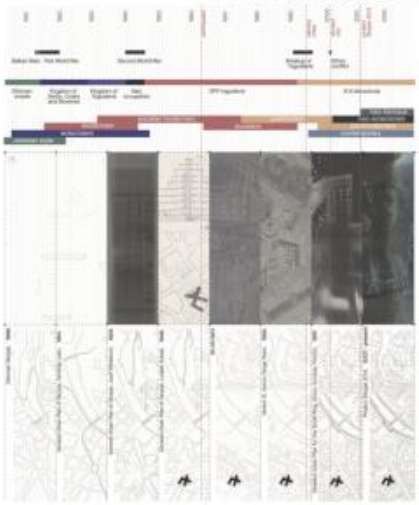


ARENA ELIA

FRAGMENTED TRAJECTORIES

VISUALISING IDEOLOGY, MEMORY AND SPATIAL RE-INSCRIPTION IN SKOPJE

Tamara Koneska, University of Belgrade



AT THE CONFLUENCE

Practice-based Research on Embedding Grassroots Environmental Activism into Resilient Urban Design of the Flood-prone Mathare River

Vija Viese, NTNU

Mathare Riverfront plan: Zones 2-6

Confluence of Trajectories

This practice-based work focuses on a locally-led project of re-designing the recently cleared banks of the Mathare River into community-owned spaces. Particularly of interest in the co-design process is the integration of grassroots environmental organisations and small businesses into this plan. This is done both my spatial conception as well as co-governance negotiations.

This process provides an insight into how knowledge on climate adaptation and environmental stewardship was translated, negotiated, and transformed during co-design. By focusing on the moment of transition from abstract plans to realised interventions – the moment I call the Confluence of Trajectories – it shows how the use of **Theory of Change** as an actionable methodological tool allowed us to resolve the frictions that arose in this 'translation' process.

Designing Post-Taurine Futures for Mediterranean Spain

Beatriz Alés-Gregori, UPV Valencia

#

bous al carrer; ephemeral infrastructure; speculative design; Mediterranean urbanism; post-taurine futures

Abstract

The tradition of Bous al Carrer, a four-century-old practice involving the running of bulls through urban streets, remains culturally significant in Mediterranean Spain, particularly in Valencian society. While these events foster community bonds and celebration, they also pose challenges to animal welfare and urban design. The infrastructure for these festivals includes modular barriers, protective ground-floor structures, and steel viewing platforms, creating pedestrianised spaces while prioritising taurine requirements over climate-adaptive design. As climate change, demographic decline, rising insurance costs, and ethical concerns pressurize this tradition, a re-evaluation of its spatial and social implications is crucial. This research explores how historical design threads can inform speculative post-taurine futures that prioritise sustainable urban spaces while respecting cultural heritage.

Introduction

Bous al carrer (bulls on the street in Valencian) is a four-century-old tradition of running bulls through urban streets (Díaz Manteca & Iglesias Díaz, 1991). These events involve the release of bulls and cows along closed routes through the main streets of municipalities, where they are led, exhibited, taunted, or run by participants who are not professionally trained. In contrast to bullfighting in arenas, typical *Bous al Carrer* events do not culminate in the death of the animals, but they do experience chronic stress (Grau et al., 2014). Despite this, the tradition continues to hold considerable cultural and social significance in Mediterranean Spain, particularly within Valencian society. These celebrations are the central feature of most *Festes Patronals* (local festivities held in honour of a town's patron saint), attracting large crowds of participants and spectators, fostering community bonds, and temporarily transforming central urban spaces into pedestrianised zones dedicated to communal celebration at the expense of animal welfare (Delgado, 2003). In the province of Castelló, 124 out of 136 municipalities host these events, which last from 2 to 10 days. Right before that, the whole city centre changes its atmosphere: streets are pedestrianised, and the taurine infrastructure is assembled to receive spectators and animals.

This research essay explores how this infrastructure has evolved through history and how investigating its past reveals design threads that help develop speculative proposals, creating new imaginaries for post-taurine futures.

Ephemeral Infrastructure

The transformation happens through precisely engineered ephemeral systems (Delgado, 2003) comprising three primary elements: modular street barriers that create enclosed circuits, ground-floor protections constructed by property owners to protect windows and doors, and steel platforms called *cadafals* that serve dual purposes as protection and elevated viewing positions. The *cadafal* constitutes the most distinctive element of this ephemeral architecture. It is a modular steel structure that follows standardised dimensions with a capacity varying from ten to twenty spectators, depending on configuration (Blasco et al., 2000). Through these three systems, the space is pedestrianised, and the venue's perimeter is closed. During celebration hours, this perimeter clearly separates safety from danger posed by a frightened animal.

Tradition Blocks Climate Adaptation

Nonetheless, the spatial consequences extend beyond festival days. Following Franco's death in 1975, there was a strong resurgence of these traditions, with municipalities becoming protective of their festivals. They represent the tradition and identity of this region, and local governments want to enhance them. However, preserving these traditions means keeping central public spaces as large, extended paved surfaces with no new fountains, trees, elements that cast shadows, or fixed urban furniture. Urban design became subordinate to taurine requirements: any remodelling of public space has to preserve the enclosure area, which is kept clear for these 10 days per year, meaning that the province's central squares have been frozen for the last decades. Landscape architectural competitions for public spaces within bull-running circuits explicitly prohibit elements that could obstruct the festival assembly. Exceptions are rare. Vila-real managed to redesign its plaça major, but the project generated significant controversy and opposition from much of the local population. Onda took a different approach, remodelling one of its main squares with movable planters and furniture that can be temporarily removed for the festivals. In most municipalities, 10 days of festival effectively determine the design of central public spaces for the remaining 355 days. The consequences are particularly acute in summer, when temperatures in some municipalities reach 40ºC. Squares remain unable to provide climate relief as long as they remain part of the *bous al carrer* circuit.

Why Post-Taurine?

These practices are increasingly framed by conditions of obsolescence, shaped by four key pressures:

First, climate change mitigation needs unpaved surfaces along with water, shade, and abundant greenery: precisely the opposite of what is needed for an empty arena, where sand can be spread, and nothing interferes with the activities of the*rodaors*.

Second, demographic decline quietly erodes the social fabric that supports these events. Of the 136 municipalities in Castelló province, 83 are classified as at risk of depopulation (Dirección General de Administración Local, 2025). Fewer residents mean fewer volunteers, fewer spectators, and fewer taxpayers to cover festival costs.

Third, insurance costs climb sharply. The liability burden on local governments is considerable: minors participate ignoring the prohibition, alcohol and drug consumption is common, often cows escape from the venue and can reach anybody who is just walking on the streets, often older adults. Between 2014 and 2022, 34 deaths were attributed to *bous al carrer* events.

Fourth, ethical opposition to animal abuse is intensifying. While voices against animal suffering have always existed (Codina Segovia, 2023), recent prohibitions, such as Catalunya's ban on toros de lidia and the abolition of el toro de la vega, indicate a changing public awareness that is increasingly difficult to overlook.

The Paradox, Ethical Positioning and Research Question

Even though these festivals cannot persist indefinitely, they hold centuries of accumulated spatial knowledge: how communities collectively organise and hierarchise space, how modular systems evolved through trial-and-error, and how assembly rituals strengthen social bonds. This research does not propose 'sustainable bullfighting' or design interventions making festivals compatible with climate adaptation while maintaining animal abuse. Such a compromise would be ethically indefensible and technically impossible, since genuine climate mitigation cannot rely on removable infrastructure. This work operates from the premise that converging pressures make the disappearance of taurine festivals increasingly probable. By projecting intangible post-taurine futures through design speculation, the research creates distance from tradition-attachment, enabling communities to imagine transformation without experiencing it as total loss and create spaces for discussion and debate (Dunne and Raby, 2013). From this perspective, the research asks: What spatial knowledge and modular systems developed through centuries of *bous al carrer* can be reconfigured to imagine new collective uses of public space once these practices disappear?

Figure 1: Image of an enclosure made out of round woods and horse-drawn carriages in a pause of a bous al carrer event in Càlig. Unknown author. Arxiu Personal de Sofia Querol.

Research-by-Design Methodology: A Two-Phase Trajectory

This investigation works through two connected phases that treat drawing, mapping, and speculation as ways of generating knowledge rather than just illustrating it (Frayling 1994).

Phase 1: Historical Mapping as Design Research

The first phase reconstructs how communities have developed spatial solutions balancing safety, spectacle, and participation. This work combined archival research (historical photographs, municipal records, festival programs, regional media) with collective mapping and extended interviews with key informants. Afterwards, there was an intense period of on-site observation during festivals, including assembly and disassembly, mapping in situ and post-fieldwork analytical drawing. This served to gather information and test hypotheses related to taurine perimeters, infrastructure evolution, symbolic value of space and assembly sequences. Most of this research took place in Borriana, a small city of 35,000 inhabitants that is proud of the quality of its bull-running tradition.

Figure 2: Image of Plaça Major blocked with wooden barriers in a bous al carrer event. Borriana, 1950s. Unknown author. Arxiu Municipal de Borriana.

Historical research revealed several key spatial logics relevant for this research:

First, **morphological permanence**. Despite infrastructural evolution, the spatial configuration of the primary circuit remained stable, following street hierarchies established centuries ago.

Second, an **infrastructural trajectory** from improvisation to standardisation. Communities initially blocked streets with systems of round woods. Afterwards, horse-drawn carriages were used to close the perimeter and simultaneously create a viewing platform for passive audiences. Later on, the available space was divided into identical plots of 3x3m to place the new platforms made from structural round woods and boards. During the 80s, the structures we know today were implemented: standardised steel modules, precisely engineered to certified specifications. This evolution from reappropriated objects to specialised systems shows how ephemeral practices solidify and how collective evolution goes towards standardisation and industrialisation through regulations.

Third, the **accumulated spatial knowledge**. Communities have developed a sophisticated understanding of space through centuries of observation. This includes microclimate awareness: the canonical *sol o sombra* (sun or shade) that determines seating prices in professional bullrings also operates here: locals know precisely how sunlight moves across the main square throughout the day. Strategic sightlines matter: participants know which *cadafal* offers the best views of the entire enclosure. Topographical variations are understood through experience: bulls invariably slip on curved streets with the finest slope. This collective environmental intelligence has been tested and refined over generations, and the knowledge is directly applicable to climate adaptation challenges.

Fourth, **collective assembly choreographies**. Infrastructure requires coordinated labour involving municipal workers, volunteer crews, and *cadafals* owners, all following protocols about timing, responsibility, and spatial organisation. These assembly traditions then community bonds through shared physical labour, shared equipment, and collective competence (Delgado, 2003).

Figure 3: Two young boys climbing onto a bin to see through the bars during the bull-running in El Pla, Borriana. Photograph by Beatriz Alés-Gregori, 2025.

Fifth, barriers create a **gender-related triple-height system**: ground-level protection, mid-level platforms (*cadafals'*upper floor), and building facades transformed into elevated viewing positions. This vertical stratification produces distinct participation zones differentiated by gender, age, and physical ability. Men dominate the ground level, where direct contact with bulls confers social status (Mira, 1976, Gil-Cortés 2024). Women and children typically occupy the safer mid-level *cadafals* or upper balconies. At the periphery, people who cannot access the interior for mobility reasons gather—mothers with strollers, wheelchair users and others. This spatial stratification materialises social hierarchies around risk, gender and participation.

Sixth, the **presence of animals** in the urban environment. Several informants note that these festivals are among the few occasions when urban residents come into contact with non-domestic fauna. This observation becomes more relevant as the disconnect between urban populations and natural settings grows.

Seventh, the **complex position allocation system**. Borriana operates a rotation mechanism where 90 *cadafals* shift 15 positions annually, completing a six-year cycle that ensures equitable access to all locations (Torralba, J., personal communication, 2024). The 15 rotation positions correspond to the street's least visible spots, preventing consecutive placements in disadvantaged areas. Other villages employ annual auctions instead.

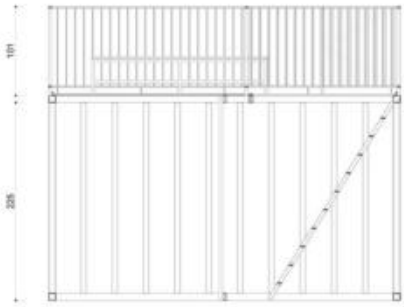
Phase 2: Speculative Design as Research

The second phase uses design speculation to test whether spatial intelligence documented in Phase 1 can be extracted from its taurine function and reconfigured toward alternative collective practices to open up new perspectives (Dunne and Raby, 2013).

Proposal 1: Rethinking Animal Presence. The *cadafals* and barriers could support nesting structures for swallows, bat boxes, and habitat corridors for small mammals. The venue has been proven to function as a pedestrianised zone during festivals, so that it could remain that way. There, grazing animals, such as bulls and cows, maintain the intense greenery in central areas. Instead of instrumentalising animals for entertainment, the infrastructure becomes a protection. Urban wildlife coexists with human use.

Proposal 2: Climate Adaptation. The spatial intelligence governing the distribution of shade and topographical variation already exists in festival practice. As summers intensify, this knowledge could inform collective cooling strategies. This proposal reconfigures barrier modules as vertical structure systems that support climbers and drought-resistant Mediterranean species, providing shade and evaporative cooling during warm months. The *cadafals* function as shading devices with adjustable canopies. Topographical knowledge guides the placement of water collection ponds in areas where runoff naturally accumulates. Communities still gather to transform their plazas, but toward thermal comfort rather than animal spectacle.

Current Bou per la Vila route (inside the city walls)
Urban layout no longer existing in the current street grid
Streets within the walled enclosure that are not part of the current bull-running route



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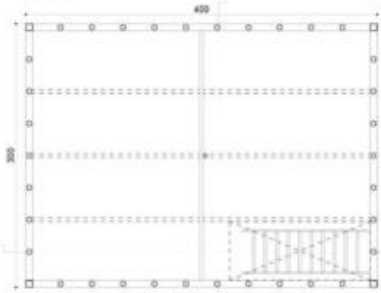

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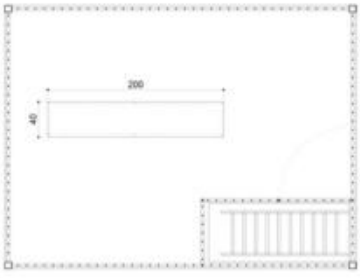

planta superior

Proposal 3: Rotation as Commoning Practice

The proposal extends rotation logic to ongoing public space management. The modular division of space accommodates temporary uses that cannot find a place elsewhere or that benefit from extreme visibility at the main public square. Rotation enables fair distribution. Community groups assemble their program using shared components. The collective competence and social bonding that current assembly traditions generate persist, but they no longer build *cadafals*; they assemble 3x3m containers made out of circular materials.

Proposal 4: Redistributing Gendered Space

The proposal reconfigures existing spatial hierarchies. Platforms support activities with broader participation demographics, such as community theatre, collective dining, and intergenerational skill-sharing workshops. Local workshops with non-men users develop how platforms should be designed, since until now they have been developed entirely by male festival participants. *Cadafal* materiality and assembly procedures are revised to be accessible to anybody. Assembly choreographies explicitly rotate responsibilities between genders rather than reproducing male-dominated patterns.

Conclusion

Bous al carrer attracts large crowds to the municipality's most central space for extended periods, sometimes for entire days. This sustained collective presence generates observational knowledge that municipalities without such enduring social events lack. The findings identify transferable patterns: modular systems for temporary space transformation, rotation mechanisms that distribute access and responsibility, and embedded environmental knowledge applicable to climate adaptation.

The methodology combined historical reconstruction through archival research and fieldwork with speculative design proposals. Festival documentation, assembly observations, and key informant interviews mapped the evolution of infrastructure and spatial logics. Speculative proposals tested whether documented intelligence could function independently from taurine origins.

Design speculation functioned as an analytical method. Proposing functional transformation exposed power structures in spatial hierarchies and tested boundaries of cultural attachment against environmental and social necessity. The methodology establishes a framework for engaging heritage practices facing obsolescence through active investigation rather than passive abandonment or unchanged preservation. The next step is to work together with users and participants of these activities to test if it opens up their perspectives towards different future scenarios.

Figure 6: Speculative image of Plaça Major in a post-taurine event. Borriana, Original photo by author, collage by nanobanana AI, 2025.

Drawing through (Im)material Trajectories of Water

Büşra Balaban, Istanbul Technical University

#

water, care, artefact, drawing research, practice–based research

Abstract

This paper investigates how drawing research can trace the (im)material trajectories of water and articulate care as a material and spatial condition. Through a situated drawing practice centred on a particular brass faucet, the study examines water's movements across material, temporal, and spatial scales, positioning drawing as a method of close spatial engagement rather than a final representation.

The trajectory of water guides the drawing strategies and, in turn, shapes the trajectory of the research itself. Combining technical drawing, endoscopic imaging, and mould-making, the study unfolds through three interrelated phases: *(un)veiling the artefact*, *stories and layers of water*, and *caring through speculating*. By assembling these trajectories, the research reframes architectural drawing as a critical, creative, and caring practice that engages with dirt, ambiguity, and material vulnerability.

The paper contributes to discussions in practice-based architectural and artistic research by proposing an inter-scalar and inter-spatial mode of drawing research that reveals how water mediates care relations between human and more-than-human actors, and how such relations can inform architectural thinking and the production of spatial knowledge.

Introduction

This study examines the trajectory of water across material, temporal, and spatial scales through a situated drawing research practice centred on a *brass faucet*: an artefact that has long been unused.[1] Treating drawing as a critical, spatial, and creative methodology, the research investigates how forms of care emerge through water's unpredictable and often invisible behaviours, and how water mediates care(–ing) relationships between human and more–than–human actors. By foregrounding drawing as a method of close, attentive engagement, the study reframes care not merely as a social or ethical concern but as a material and spatial condition that unfolds across scales, bodies, and forms of agencies (Mitchell, 2023).

Following this trajectory, this paper presents a particular case study drawn from an ongoing PhD research project that examines the ancient typology of Istanbul's public baths, aiming to challenge the exclusionary dualism embedded in Western spatial thought. These 'watery interiors' simultaneously include and identify 'dirt', whilst excluding and othering it through intimate bodies and their acts of care. The research aims to examine how such urban interiors enable togetherness by fostering communal practices of care that embrace 'dirty others' — marginalised individuals, particularly women. This study, therefore, proposes engaging water beyond the binaries that frame it, presence and absence, cleanliness and dirt, formlessness and spatial form, through practices of care that operate materially and spatially.

Figure 1: Images of the artefact: a brass faucet found at a flea market, unused for a long time, and the accompanying artefact, a 'family heirloom' copper bucket, evoked through the faucet. Images by author, 2026.

To understand the broader interrelations between public baths, hygiene, water, and care through a single, obsolete brass faucet that can be held in the hand, this drawing research focuses on exploring the materiality of water through its (im)material features (Hill, 2006) (Fig. 1). As the drawing research unfolds, progressively closer engagement with the artefact enables the tracing of the layered trajectory of (non–)existent water across three different stages: first, water takes on the shape of the artefact as it flows through it and is simultaneously shaped by it; second, water interacts with air and copper to produce oxidation, or generates material interventions on the surface such as tarnishing, bending, and deformation; and finally, water becomes part of rituals that negotiate shifting states of cleanliness and dirt. These different modes of water, acknowledging, reshaping, and transforming the materiality of the artefact, guide the drawing strategies and, thereby, shape the trajectory of the research itself.

The drawing strategies develop through three successive phases. The first phase examines the material's physical form from an external

viewpoint, while deliberately ambiguating its apparent solidity within the drawing plane. The second phase shifts into the interior of the artefact, where intensified close observation brings together a series of close–up images and drawings. In the final phase, the research effectively 'turns the artefact inside out' by overlaying its interior onto the drawing plane, thereby rendering the water previously concealed by the artefact available for critical examination in its multiple material dimensions. In doing so, the drawing seeks to release both the artefact and water from a fixed interior/exterior dichotomy, instead articulating them through an inter–spatial mode of representation.

Trajectory is thus understood not as a linear progression but as a layered movement across scales, materials, and modes of seeing, making, and learning. Following this understanding, the research navigates through interrelated phases; *(un)veiling the artefact*, which explores the form, materiality, and latent possibilities of a specific object; *stories and layers of water*, which evoke individual narratives of water and overlay their remnants within the drawing research; and *caring through speculating*, which produces speculative representations of the presence and absence of water as a fundamentally 'formless entity.' Following this inter–scalar trajectory enables the exploration of new materialities produced through the encounter between water and human and more–than–human bodies it touches.

(Un)Veiling the Artefact

The drawing begins with the question of how water can be represented as a component that is no longer physically present. To address this, I start from the conventional technical drawing. Departing from the rules and conventions of technical drawing, I draw the faucet through precise elevations that initially describe its physical form. Rather than remaining descriptive, however, the drawing progressively stretches technical drawing's own tactics by multiplying, repeating, and exaggerating its conventional lines (Fig. 2). Through this process, the drawing moves beyond representing a physical artefact and enters an exploratory field in which form is gradually dissolved. As Erckrath (2024) stated, if drawing functions as an inquiry into how space is perceived, the act of drawing itself problematises spatial perception and exceeds its role as a mere representational tool. Within this drawing method, the faucet's visibility becomes increasingly ambiguous, echoing the unseen yet operative presence of water within it. Drawing thus shifts from a tool of representation to a method for caring and engaging with absence and immateriality.

Following the absence of water, the research moves spatially into the faucet's interior. Through endoscopic imaging, the drawing practice traces water's trajectory by revealing interior surfaces designed exclusively for water and shaped solely through its contact. By enlarging and closely examining these narrow, dark, rough, and previously unseen surfaces, the research shifts from the scale of an object to that of space, reconfiguring the faucet as a series of interior environments.

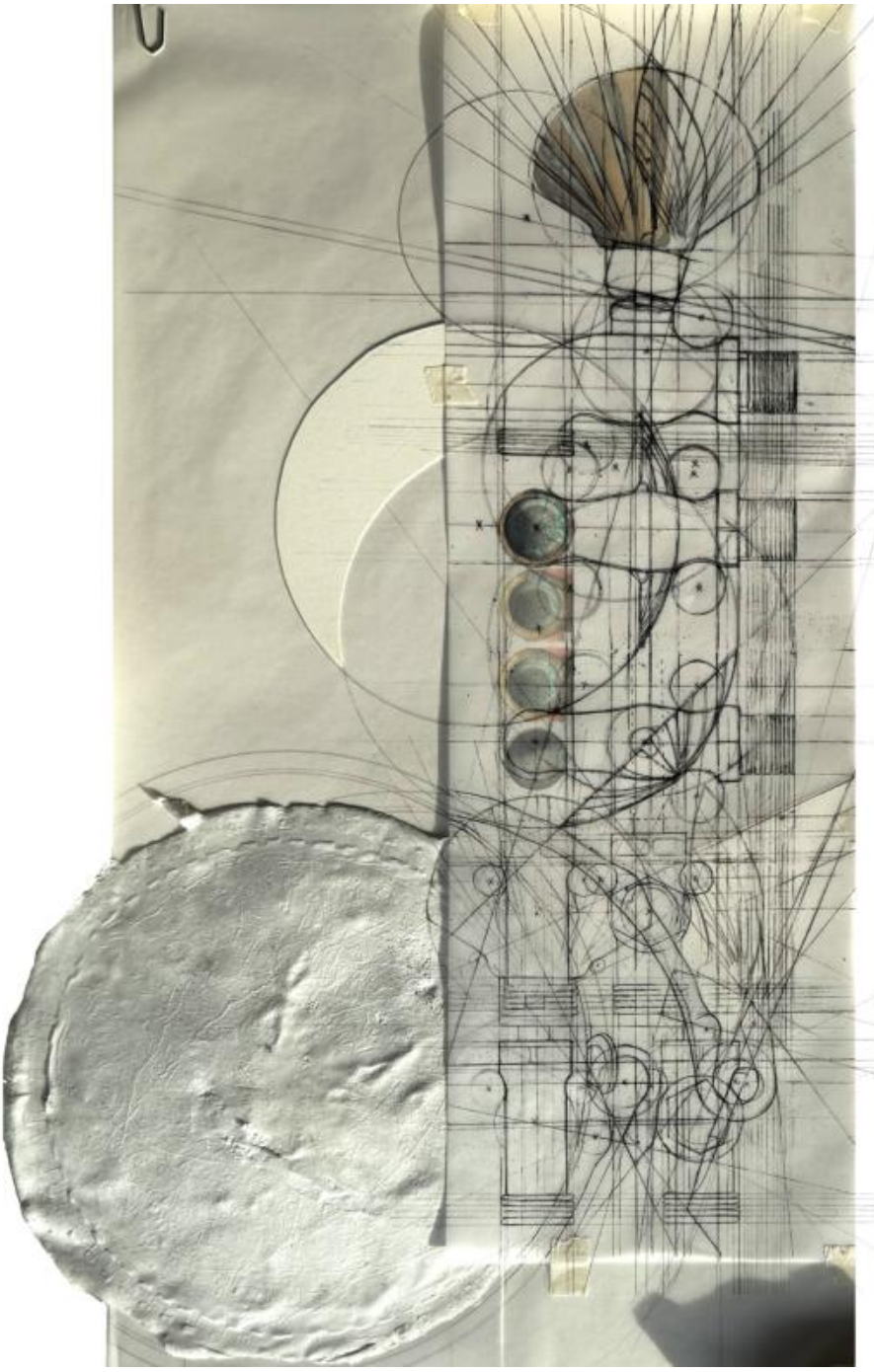

Figure 2: Technical drawing of the brass faucet, rather than remaining purely descriptive, progressively stretches the conventions of technical drawing by multiplying, repeating, and exaggerating its conventional lines. Drawing by author, 2026.

Figure 3: Experiments on revealing the topography of the unpolished brass surface, its oxidation and accumulated dust over time. Image by author, 2026.

Stories and Layers of Water

Drawing research continues with revealing the traces of oxidation as 'a record of past contact' of water, air and copper as well as material and cultural sediments within this artefact (Burns, 2023). When enlarged and redrawn, these residues of oxidation shift scale, producing another trajectory from the endoscopic to the spatial (Fig. 3). As the act of drawing unfolds, I move progressively closer to the artefact: engaging with it in increasing proximity, entering its interior, and revealing successive layers such as the topography of the unpolished brass surface, oxidation, and dust accumulated over time, along with the remnant stories of past contacts.

The research further extends into another layer through the rituals and stories evoked by the faucet. A childhood memory of an open bathroom in an old village house recalls a brass faucet, a copper bucket that was always placed beneath it to collect the flowing water, and a plant pot into which the accumulated 'clean' water was poured, nourishing the soil. Here, remembered practices of washing, collecting, and reusing water situate the oxidised brass faucet alongside the darkened, repaired, and tinned surfaces of the copper bucket and the living soil surface where water ultimately meets the earth (Fig. 4). When I examine these three materialities closely and carefully within the context of care and domestic rituals, I begin to perceive them as accompanying topographies. Thinking of the faucet's 'interior' and the surfaces of the copper bucket or soil as such a landscape, drawing research continues with assembling them through imagined water. Here, trajectory is articulated through recurring gestures and material reuse.

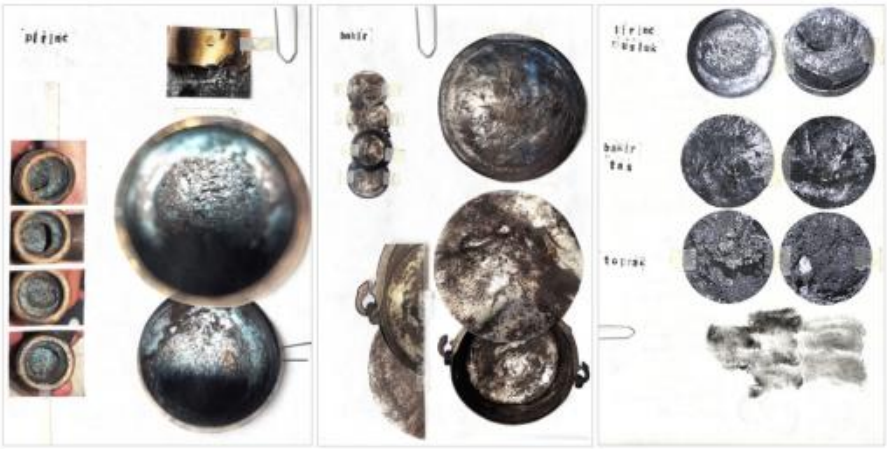

Figure 4: Close-up views into the oxidised interior of the brass faucet, the tarnished, repaired, and tinned surfaces of the copper bucket, and living soil. Images by author, 2026.

Caring through Speculating

Drawing research continues with moulding that seeks to (re)produce the topographies shaped by water, such as the interior and exterior surfaces of the brass faucet and the base of the copper bucket. The creation of 'watery' moulds translates these accumulated traces into new material forms, allowing rigid industrial objects to reappear as stained, soft, ambiguous topographies (Fig. 5). Along with the moulds themselves, the drawing of these silicone moulds, shaped by remembered stories, becomes another layer within the artefact's initial transfers. Through drawing, relationships between the interior and exterior, the foreground and background, presence and absence, and the visible and invisible are opened to critical inquiry (Fig. 6). This practice operates as both a turning backwards and a looking forward (Brennan, 2016): from artefact to space, from surface to water, from oxidation to care.

This oscillated movement of close observation enables the exploration of new materialities produced through the encounter between water and the material it touches. It explores how elements that may initially be perceived as 'dirty'—such as oxidation, which forms to protect the underlying metal, or dust, which accumulates as a protective layer—are, in fact, careful and valuable material processes. It enables this research to speculate in a broader context on how water provides care across scales.

In parallel with the materialities that water generates and accumulates within the faucet as acts of care, this research, within assemblaged layers on the drawing plane, resituates architectural drawing research as a dirty yet careful practice. As Jonathan Hill (2006) stated, the use of drawing as a tool, understood as any instrument, technique, or material employed in the process of architectural design, shapes our understanding of potential building processes. Through repeated acts of drawing, endoscopic imaging, and moulding, this practice unfolds an engagement, creating 'assemblages' of watery immaterialities (De Landa, 2016).

Figure 5: (top) silicone moulds taken from the interior and exterior of the faucet and their subsequent drawings, (bottom) surface rubbing and texture transfer through silicone mouldings of copper bucket. Images by author, 2026.

Figure 6: An overview of the final assemblage of the drawing research. Images by author, 2026

Conclusion

Following the trajectories of water through a particular brass faucet, this drawing research explores the broader interrelated context of water, hygiene, and care. Drawing, here, operates not as a final representation but as a method that follows, slows down, and zooms in on the material and spatial traces of water, aligning the research's own trajectory. The act of drawing unfolds throughout the research, and this gradual movement of close observation allows me to trace the layered trajectory of water and its reproductions as caring practices within this environment. This drawing research continues by opening up care to its plural meanings, following water and its agencies across the drawing field.

Oscillating between object and oxidation, dirt and care, and endoscopic and spatial scales, this research explores how a brass faucet and a copper bucket, emerging from a childhood memory of a domestic bathroom, can reveal urban practices of shared cleansing and the care relations embedded within them. It aims to contribute to the care literature within critical spatial studies by questioning what kinds of human and more–than–human relations may emerge from the (un)predictable and (in)visible materiality of water.

The study suggests that this particular mode of practice–based research can be adopted in other research contexts that require close observation of a specific object, material or space in order to reconfigure the interrelations between different scales and subjects. It proposes that an inter–scalar and inter–spatial mode of drawing research, operating as a critical and creative methodology, can make a distinct contribution to broader discussions of care, material agency, and the production of spatial knowledge.

1 This drawing research was initiated within a PhD course *Special Topics in Architectural Design* at Istanbul Technical University's Architectural Design Program, focusing on drawing practices and drawing research theory, under the supervision of Bihter Almaç and İpek Avanoğlu during the Fall 2025–26.

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Atlas Power Dissecting and Unfolding the Dissonant Heritage of Nicosia

Ekin Baskentli, KU Leuven

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dissonant heritage, spatial narration, drawing, atlas-making, cyprus

Abstract

Dissonant heritage refers to sites marked by contested histories, conflicting narratives, and unresolved political tensions. Nicosia, Europe's last divided capital, offers a compelling case of dissonant heritage. Research on Cyprus has largely focused on macro-histories and political narratives. While the introduction of micro-histories has challenged dominant accounts, architectural methodologies capable of engaging with evolving spatial realities remain underdeveloped. However, contexts like Cyprus require a methodology that moves beyond static representation, capable of responding to ongoing transformations. This doctoral project repositions drawing as a critical practice that cuts into, reveals, and confronts spatial dissonances as they are encountered on site. Architectural artefacts are mobilised to expose hidden continuities, overlooked interdependencies, and everyday life that remains invisible within dominant narratives. The project introduces atlas-making as its central methodological contribution. While drawing operates as an act of dissection, the atlas enables unfolding by recomposing these cuts into relation. In doing so, it allows contested narratives to coexist, confront one another, and remain open to debate.

Since 1974, Cyprus has been de facto divided by a UN-controlled Buffer Zone that cuts across both the island and its capital city, Nicosia.

Starting from Dissonance

This research starts from dissonance discovered on site. Through repeated walking and drawing along the divide in Nicosia, I encountered spaces and everyday routines that complicate and are often absent from official representations of the city. Some encounters took place at visible sites such as the Ledra Palace checkpoint and the Home for Cooperation. Others directed attention toward less visible forms of negotiation, such as the bi-communal sewage system that continues to operate across the divide. These encounters are not treated as evidence leading to conclusions, but as starting points for inquiry within the trajectory of the doctoral research. They point toward forms of interdependence, mobility, and everyday negotiation that complicate the notion of a strictly divided city. Yet dominant accounts continue to describe Nicosia primarily through political separation and conflict-driven narratives. I refer to these stabilised ways of seeing as frozen frames: interpretive frameworks within Cyprus studies and heritage discourse that immobilise contested landscapes into static representations (such as state-driven macro-histories, political symbolism, or authorised heritage narratives). This research seeks to work against such frames, not by replacing them with a single alternative narrative, but by introducing spatial narratives that otherwise remain unseen or unspoken.

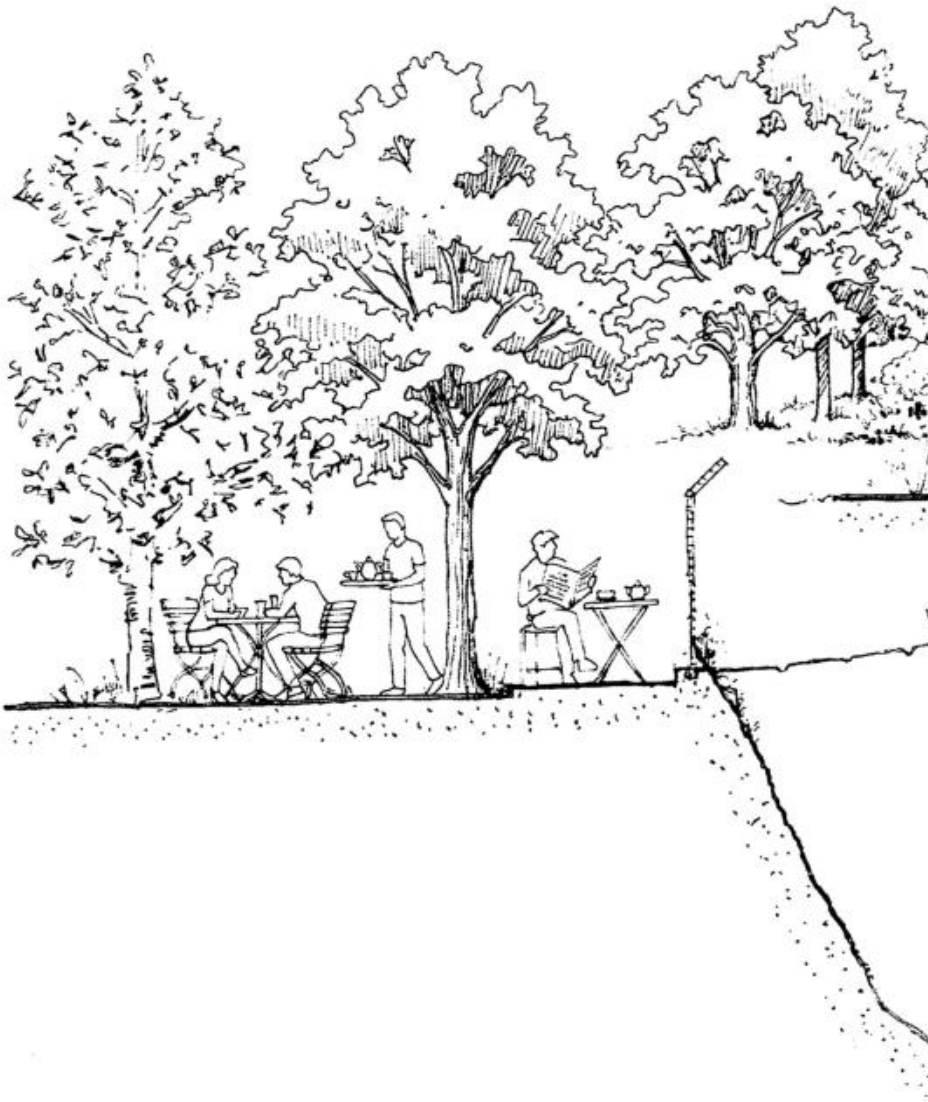
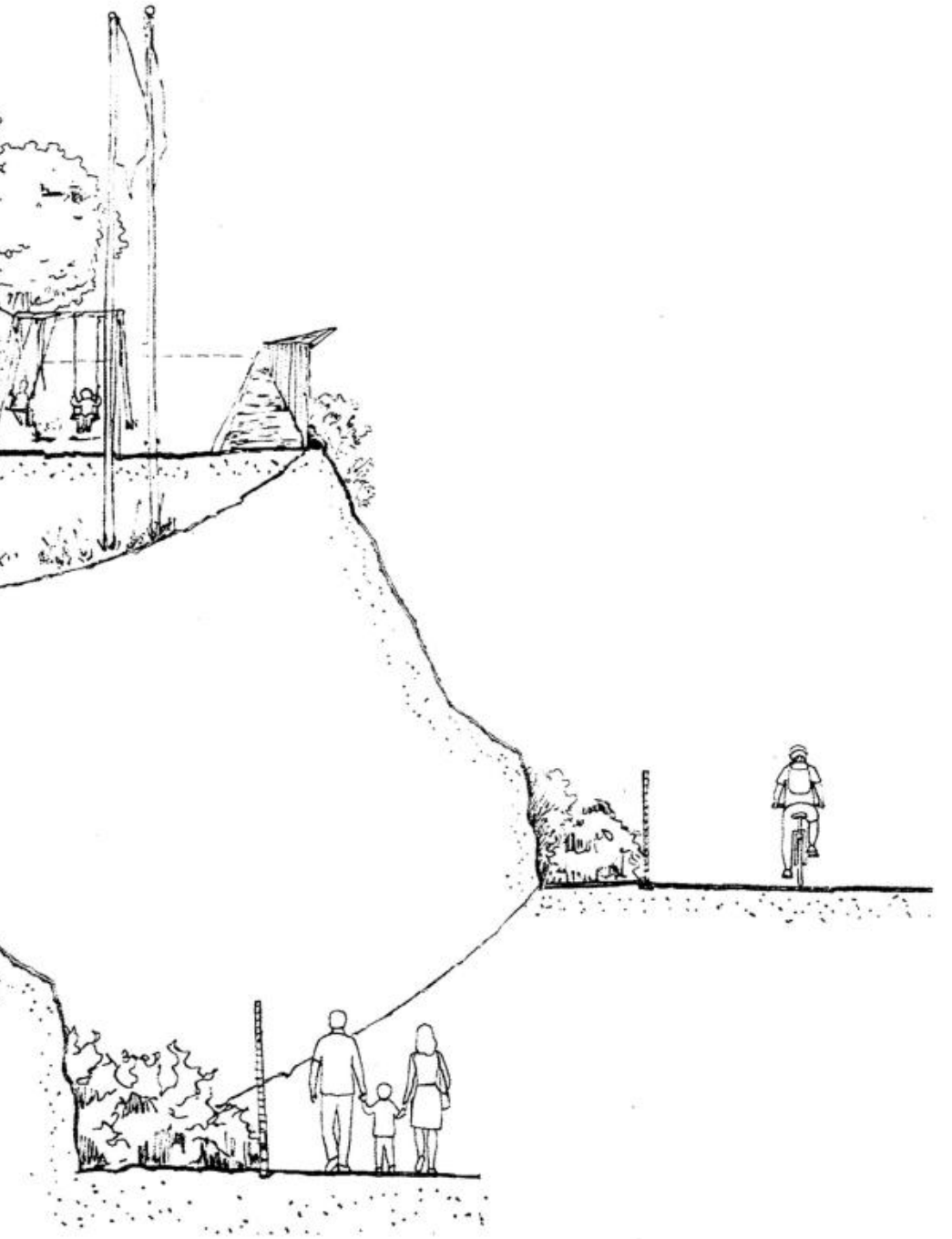


Figure 1: Section drawing along the urban edge revealing spatial proximity across the Buffer Zone. Image by Ekin Baskenteli, 2025.



Curved Research Lines

To unsettle frozen frames, the research does not follow a linear methodology. Instead, it develops through curved and intersecting trajectories that constantly return to the site. These trajectories include:

- Fieldwork: walking, observing, sketching, and interacting with residents within everyday environments. Unplanned encounters generate situated insights into how dissonance is spatially negotiated in daily life.
- Drawing: collected observations, narratives, and spatial qualities are documented through sketches and drawings. These artefacts act as objects of speech in participatory settings, triggering dialogue by visually representing Nicosia's contested spatial narratives.
- Mapping and Counter-Mapping: employed to challenge dominant narratives by revealing hidden dynamics, latent structures, and evolving spatial relationships beyond official cartographies, rather than simply opposing them (Cattoor & Perkins, 2014).
- Atlas-Making: understood as a process rather than a finished product, which assembles, reworks, and relates the produced artefacts into a broader spatial framework.

Rather than functioning as separate or hierarchical research lines, these trajectories overlap and feed into one another. The research method itself becomes a way of examining how knowledge about contested heritage is produced, questioned, and challenged.

Drawing as Spatial Inquiry

Drawing is the primary tool through which this research engages the divided city of Nicosia. Rather than recording what is already known, drawing becomes a way of seeing that doubts itself. It tests spatial assumptions through the act of making. The architectural artefacts produced through the project are not illustrations of contested places. They register spatial conditions as they unfold, making visible how dissonance is inhabited, adapted, and continually reshaped.

With existing representations stabilising the divide as a fixed line, drawing becomes not only the first tool with which to approach the city, but the instigator of all findings that follow. Rather than serving the purpose of precise documentation, it takes on different roles: as a research tool and a mediator. It operates through cuts; not cutting only in the technical sense of a section drawing, but as a way of opening space. It dissects surfaces, edges, and routines to expose spatial relations that remain flattened in official cartographies. Through this act of dissection, the divide is no longer approached only as a line on a map but as a spatial condition with depth, thickness, and presence in everyday life.

Drawing cuts into what is familiar and taken for granted. A section drawing produced along the urban edge begins by tracing what is immediately visible at street level (Fig. 1). On the map, this place is marked by two dashed lines indicating the contours of the buffer zone, with a narrow gap separating north and south. Initially, this reads as a condition of

extreme proximity. The section does not replace the plan; it builds on it. It fleshes out what the plan alone cannot show: how closeness is produced and simultaneously denied. The buffer zone becomes a spatial body, enclosed and extended vertically. On one side, people sit at a café, children play in a playground under the trees, next to the fences. On the other side, it is one of the main streets in the south, with pedestrians walking, cars passing, and people cycling. The drawing makes the distance between them measurable: less than the width of an ordinary street. Yet between them lies a steep drop of the Venetian bastion, vegetation overgrown, fencing on both sides. They can see each other. They cannot reach each other.

Beyond disclosing this spatial condition, the drawing also reveals something that official representations of the divide consistently deny: that life on both sides unfolds in the same present. Dominant accounts of the divided city tend to frame the two communities as living in separate spatial and temporal realities, each side locked into its own history, its own present (Constantinou and Hatay, 2010). The drawing refuses this by showing everyday life on both sides within the same frame, occurring simultaneously.

A section drawing brings this inquiry below ground. It reveals the division above ground while exposing hidden interconnections below (Fig. 2). The city is divided at the ground level by walls, fences, and a buffer zone in between. Yet its underground tells a different story: a bi-communal sewage system runs beneath both sides. The act of juxtaposition activates spatial narratives, highlighting how the two communities remain physically connected through shared infrastructure and depend on each other for basic resources, despite political separation.

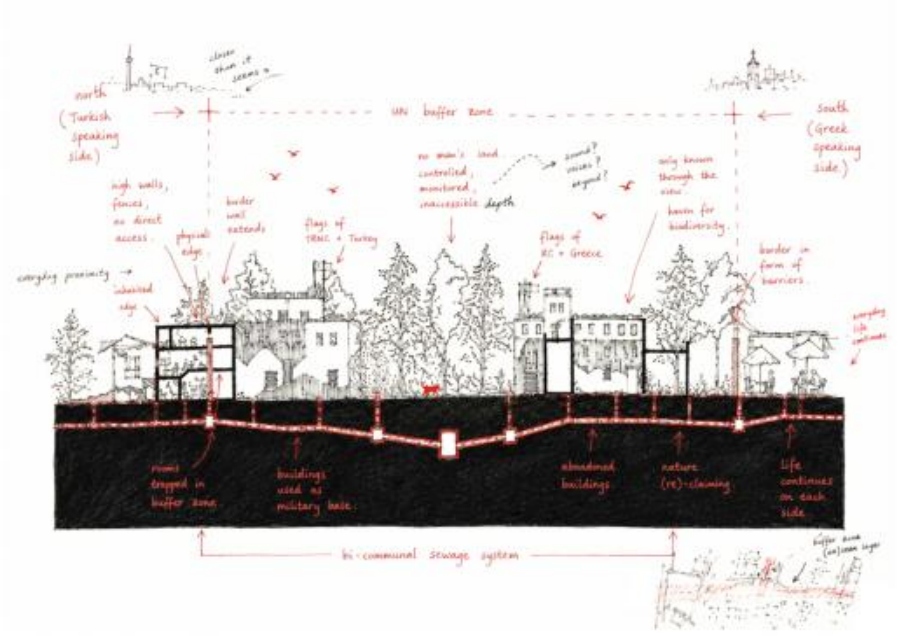


Figure 2: Section drawing exposing the bi-communal sewage system beneath the divided urban ground. Image by Ekin Baskenteli, 2025.

The inquiry then returns to situations where everyday life unfolds directly in front of the border. In these drawings, elements of division and everyday routines share the same frame (Figs. 3 and 4). Drawing therefore unveils dissonances by bringing conflicting realities into coexistence. It confronts us with the discrepancy between how the border is physically defined and how it is lived in everyday life.

Figure 3: Selected drawings produced during fieldwork along the Buffer Zone. Image by Ekin Baskenteli, 2025.

Figure 4: Leporello drawing registering everyday activities and spatial gestures along the border. Image by Ekin Baskenteli, 2025.

Each drawing captures a fragment of spatial dissonance tied to a specific place and moment. Taken alone, these fragments remain partial and situated. The project therefore turns to the Atlas to assemble them into a relational framework.

The Atlas as a *Machine à Penser*

The Atlas is the central epistemic and methodological instrument of this research. It is not conceived as a finished compilation of maps nor as a static inventory of images, but as a *machine à penser*: a thinking device that produces knowledge through spatial and visual relations.

What It Contains and How It Operates

The Atlas is composed of architectural artefacts such as drawings, maps, models, photographs, field notes, archival material, and testimonies. Each artefact might appear as an independent component in participatory settings but will ultimately be integrated into the Atlas through layering, reconfiguration, and montage. The making of the Atlas is as important as its elements. Rather than functioning as a fixed inventory, atlas-making here remains an ongoing process, allowing relations between artefacts to be continually reshaped.

Critical Capacity and Self-Correction

The drawings that feed the Atlas are complicit (Mannering, 2024). This means that they are not neutral representations but active participants in shaping the narratives they depict. This is a reminder that the Atlas is not an innocent, unbiased tool. It plays a role in reinforcing or challenging the status quo, depending on how it is used and interpreted. This complicity requires the Atlas to be approached critically, ensuring that the narratives it constructs remain open to correction through ongoing dialogue. The Atlas has the capacity to go beyond representation and to be *a critical tool*. As an atlas-maker, I recognize the power of the Atlas to receive and replicate some form of truth. However, I am also aware of the danger that comes with this power: the risk of presenting it as the ultimate take on reality. Therefore, I approach it critically, knowing that my Atlas will correct things, but it can also be corrected. The reverse perspective will always emerge. To guard against the risk, the antidote lies in the conversation mechanism itself; one that facilitates self-correction and ongoing re-evaluation.

Performative and Participatory Medium

The Atlas will be tested in workshops, exhibitions, seminars, and bi-communal spaces where participants engage directly with its artefacts by annotating, rearranging, and questioning. I activate the Atlas in participatory settings by bringing together stakeholders, residents, scholars to engage with its artefacts. This collective engagement turns the Atlas into a medium to debate, where conflicting readings, memories, and spatial interpretations can be confronted. Debate is crucial here because dissonant heritage cannot be understood through consensus alone but through visibility of disagreement and negotiation. This process ensures that the Atlas remains a performative and evolving instrument rather than a final representation. In this way, the Atlas becomes both a medium and a method that is open to interpretation.

Figure 5: Assemblage of produced, found, and collected artefacts, including drawings, maps, photographs, archival material, sketchbooks and field notes. Image by Ekin Baskenteli, 2025.

MUTALUP
ECHOES
FROM
THE
DEAD
ZONE

Conclusion

This research employs drawing and atlas-making as spatial tools to engage with the dissonant heritage of Nicosia beyond its static narratives. In doing so, it aims to contribute to the discourse on dissonant heritage by introducing a spatial and architectural methodology grounded in situated observation and visual inquiry. This approach is transferable in its capacity to be applied to other divided or contested cities, while remaining sensitive to local conditions. It is transformative in how it reconfigures drawing and atlas-making as open, relational methods for studying and representing contested heritage.

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Landing with Distortion

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absence, distortion, embodied knowledge, mediation, landscape

Abstract

Landing with Distortion extends *Landing*, a transdisciplinary research practice that understands design as a situated practice of care with mountain landscapes. Rooted in landscape and artistic research, it develops a relational and performative methodology in which knowledge emerges through embodied intra-actions between bodies, sites, and materials.

While embodiment has been central—enacted through repeated encounters with the site—this work examines what becomes of this knowledge when direct bodily presence is not possible. It argues that absence is not a loss of relation, but a condition through which relations persist and are reconfigured across time.

To engage this condition, the research works with alpine webcam images, focusing on moments of interference where images destabilize their representational function and register atmospheric and material processes. These interruptions become constitutive of the method, and distortion operates as an epistemic condition through which knowledge is produced through translation across distributed relations.

Introduction

This paper examines how relations with a territory are sustained when direct bodily presence is not possible. In mountain environments, many transformations unfold across temporal scales that exceed continuous human engagement. Rather than a limitation, absence is understood as a condition that shapes how relations are formed and how knowledge is produced. Situated within a transdisciplinary practice combining landscape, artistic, and embodied research, the work investigates how mediated observation enables engagement with processes beyond direct experience. It focuses on moments in which images fail to stabilise the landscape as a coherent representation (Fig. 1). These interruptions do not simply obscure visibility; they reveal the conditions that exceed it, opening alternative ways of sustaining relations over time. This research approaches trajectories as processes unfolding across time, media, and absence. Relations are traced through movement, interruption, and translation, where shifts between body, image, and material generate situated knowledge within a design-driven and artistic practice.

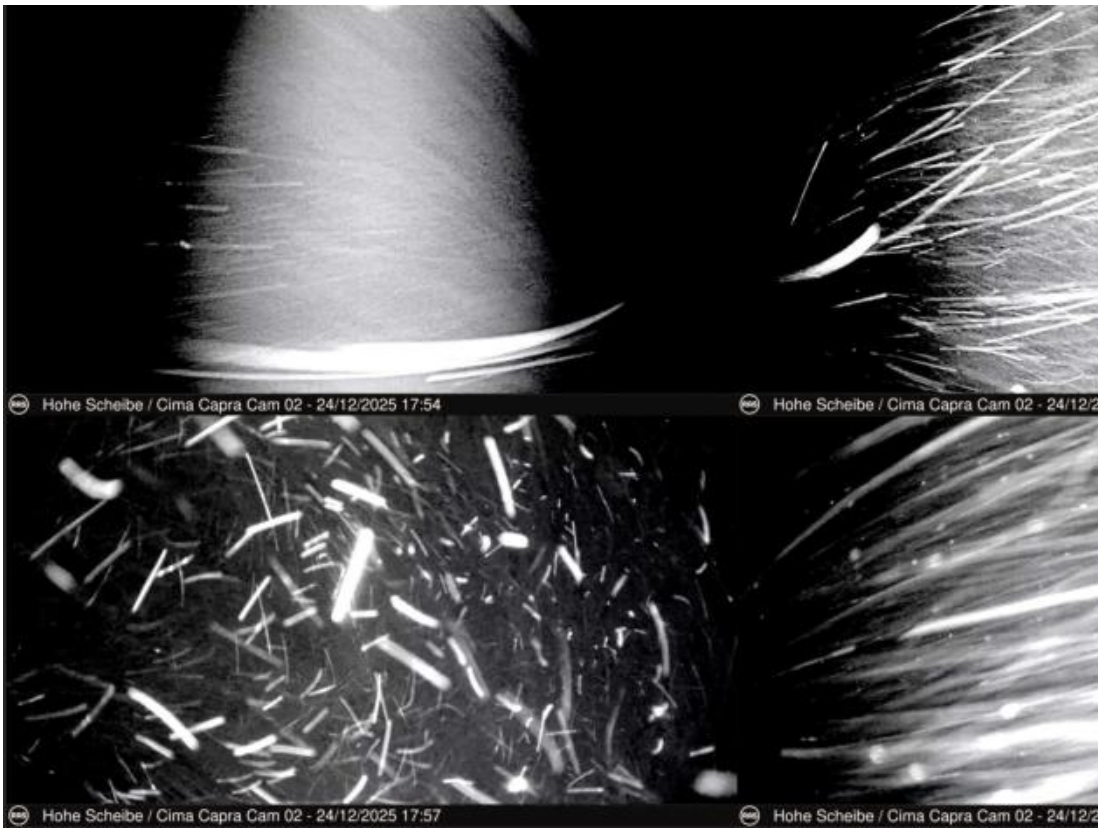
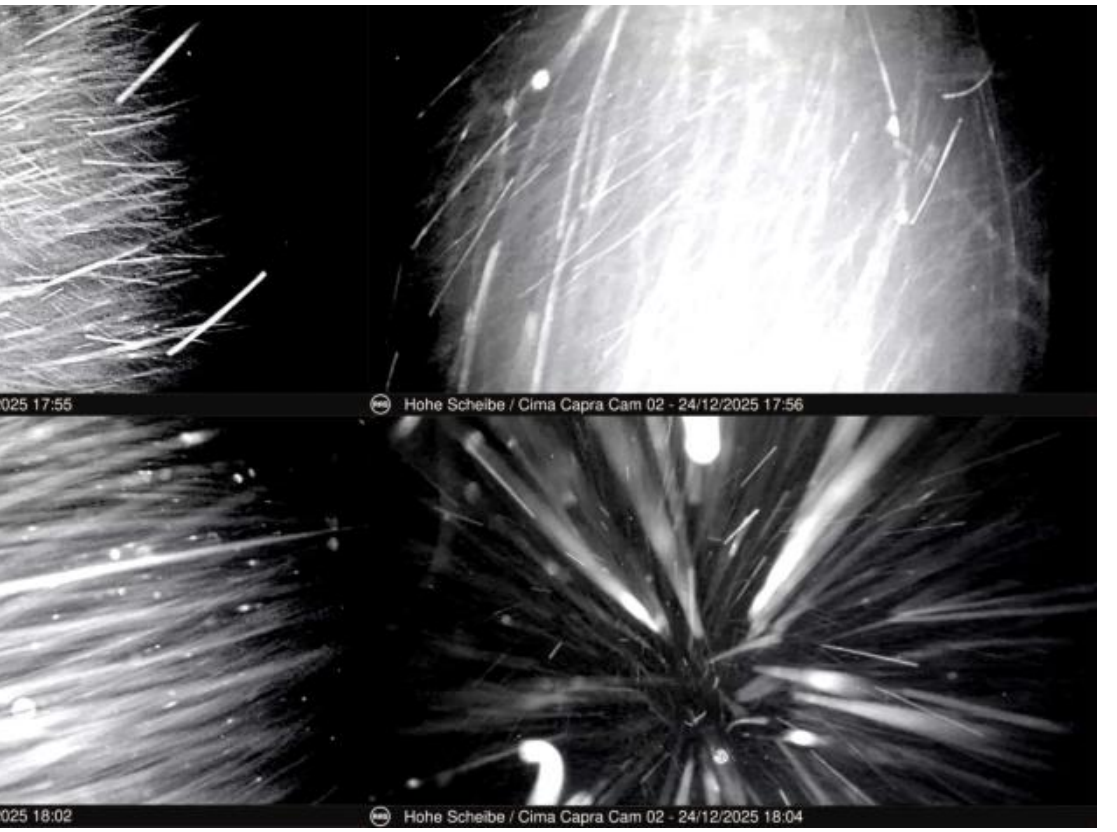


Figure 1: Stills from Distorted Video Transmission, Cima Capra, Italy, 24 December 2025. Operational webcam image affected by climatic interference. Composition and selection by Renata Berta Saumell. Source: Autonomous Province of Bolzano – South Tyrol (RAS).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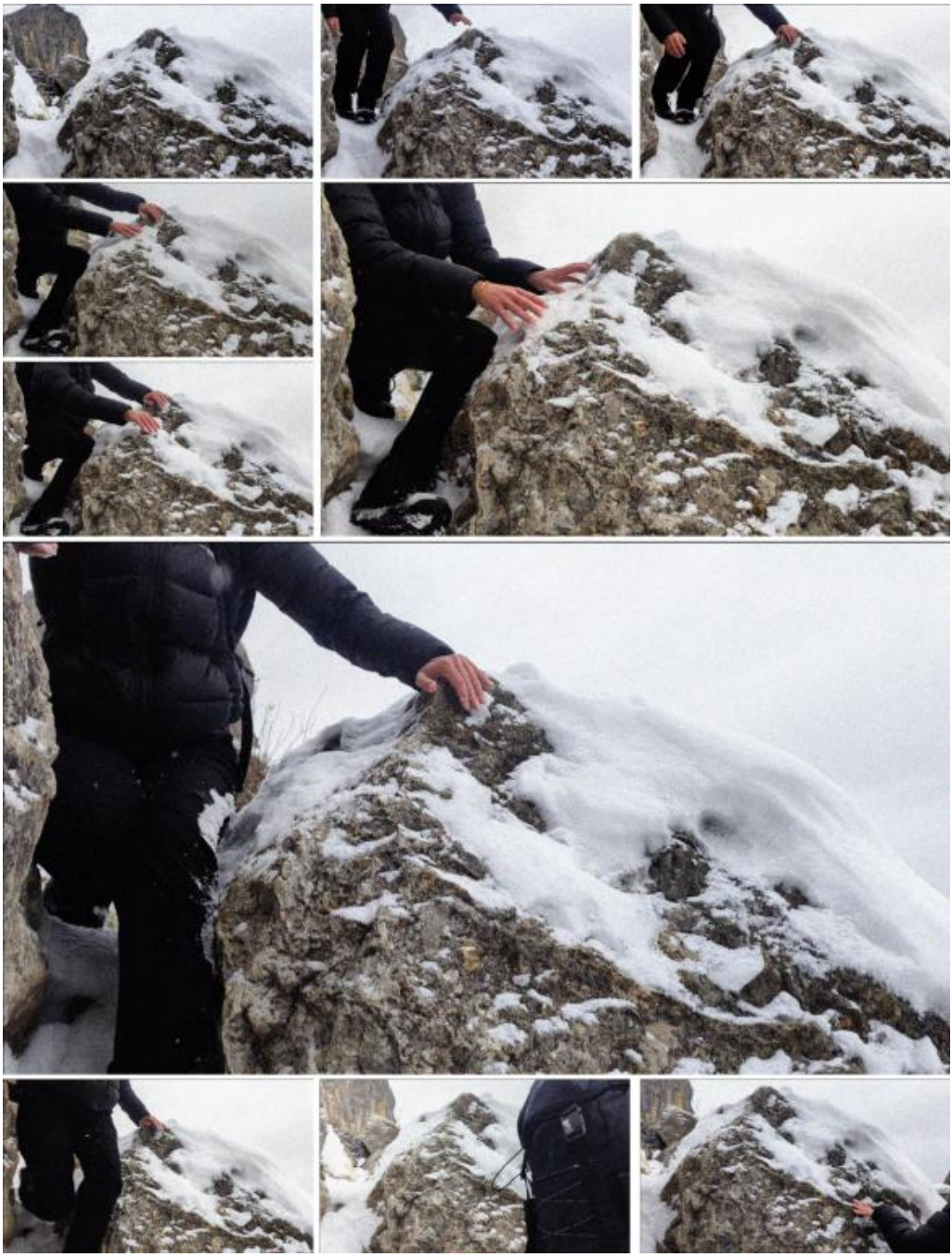

Figure 2: Stills from Embodied Action Going Through Snow, Laberinto Latemar. Video performance documenting embodied engagement with material and terrain. Credits: Renata Berta Saumell and Anna Tudos.

Figure 3: Stills from Embodied Action Removing Material, Laberinto Latemar.

Landing as a Situated Practice of Intra-action

Landing emerges as a situated research practice developed through engagement with dynamic territories. It unfolds through walking, touching, waiting, and returning, approaching the territory as a constellation of relations in continuous transformation (Fig. 2). Knowledge does not arise from detached observation, but through embodied intra-actions between bodies, sites, and materials, understood as co-constitutive processes (Barad, 2007).

The practice is grounded in direct bodily engagement yet begins from a condition of distance. As a foreign body in an unfamiliar landscape, the encounter is marked by a lack of coordination with its temporalities and material conditions. This distance shapes attention, requiring gradual attunement through repeated encounters (Fig. 3). Through these returns, knowledge emerges as an accumulation of situated experiences. At the same time, the method reveals a second form of distance: the temporal interval between encounters. Between them, the landscape continues to transform through processes that cannot be directly accompanied. These intervals are not interruptions but conditions through which the relation extends. What unfolds in absence becomes part of how the territory is understood. From this condition, the research asks how absence actively participates in the formation of relations with the territory.

Absence as an Active Condition of Intra-action

The methodological reconfiguration of *Landing* emerges from recognizing that many of the processes shaping the territory cannot be directly experienced through continuous bodily presence. As developed, relations with the site extend beyond moments of encounter into the temporal intervals between them. If the relation does not end with the encounter, then absence must be reconsidered as a condition through which the relation is formed.

This becomes evident through material encounters with dolomite stones in the Latemar mountain range (Fig. 4). Their surfaces bear traces of repeated contact -polished areas, softened edges, accumulated wear- produced through processes unfolding across multiple temporalities. These marks do not represent discrete past events; rather, they register transformations that exceed any individual encounter. The stone is not simply an element within the territory, but a material expression of its ongoing formation, where human and non-human forces remain entangled in continuous processes (Anna Tsing, 2015). At the same time, these traces point to the vitality of matter itself, suggesting that material processes are not passive but actively participate in the formation of the territory (Jane Bennett, 2010). What is encountered are traces of processes that have taken place without being directly experienced.

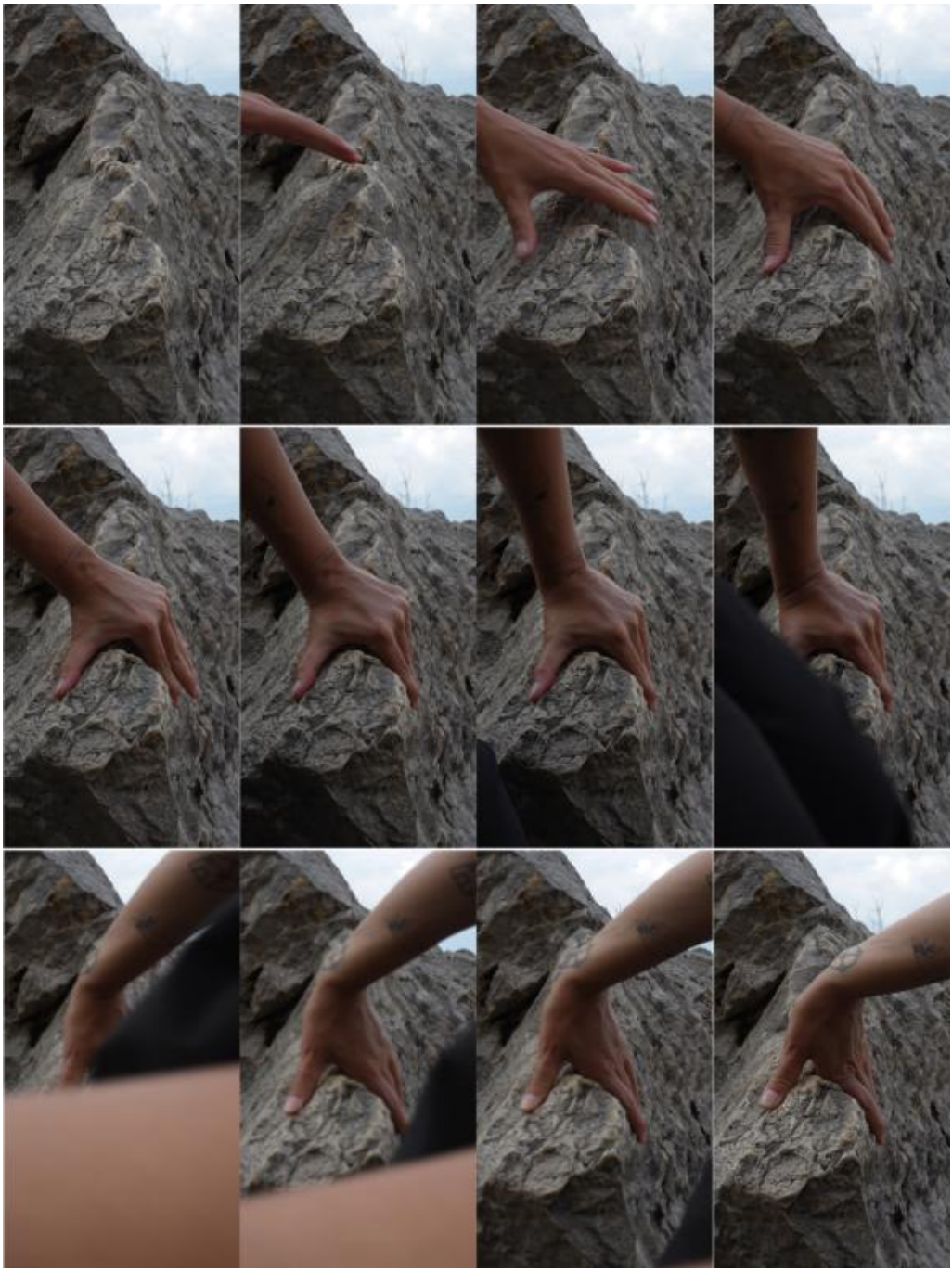

Figure 4: Stills from Embodied Action in Laberinto Latemar: Touching and Holding Time, 2025. Video performance exploring embodied duration and material contact. Composition and selection by Renata Berta Saumell.

Figure 5: Location of public webcam infrastructure in South Tyrol. Green marker indicates the digital field site at Cima Capra, Italy. Edited by Renata Berta Saumell. Source: Autonomous Province of Bolzano – South Tyrol (RAS).

From this perspective, absence is not external to the relation, but intrinsic to it. It defines the condition in which the territory continues to transform beyond any individual bodily experience. Relations are therefore not limited to what is directly perceived but extend through processes that unfold independently of the body. What becomes available are not complete representations, but partial and situated traces of these processes, which cannot be fully accessed yet still sustain the relation (Donna Haraway, 1988). Absence does not interrupt the relation; it is the condition through which it persists across time. This has methodological implications: absence becomes a condition of engagement. Mediation operates within absence—not to recover what is missing, but to engage with what cannot be directly experienced.

Mediation and Distortion as Operative Conditions

The turn toward mediation in *Landing* arises from the need to remain in relation with territorial transformations. Processes such as erosion, accumulation, and atmospheric variation continue in absence. The question is not how to observe them from a distance, but how to engage with them as part of the relation itself. This engagement takes place through operational webcam images installed in alpine territories (Fig. 5).

These infrastructures continuously render the landscape visible for monitoring and tourism (Farocki, 2004; Paglen, 2014), producing a mediated condition shaped by atmospheric and technical factors. Within this context, images no longer function primarily as representations, but as operative elements within systems of observation, circulation, and use. Their relevance lies not in what they show, but in how they sustain a continuous yet mediated relation to the territory across time (Fig. 6). Rather than engaging these images through their intended clarity, the research

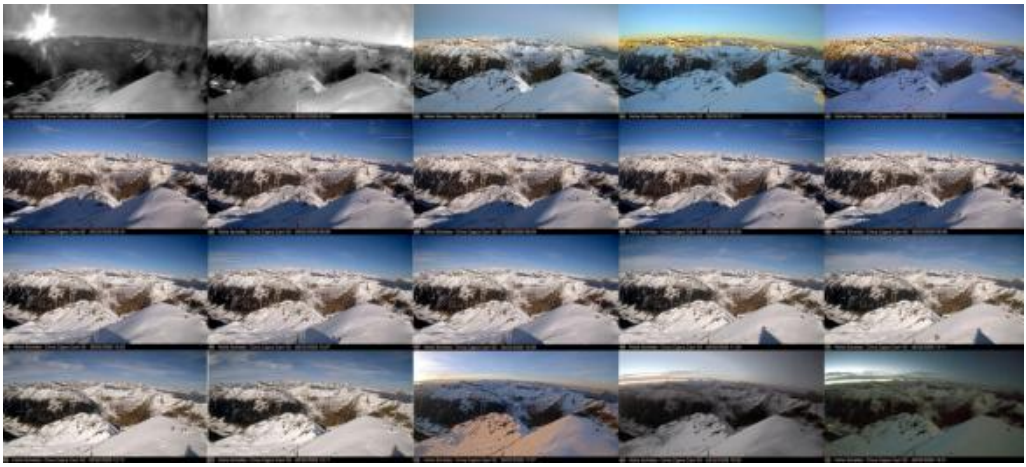

Figure 6: Stills from Distorted Video Transmission, Cima Capra, Italy, 28 February 2026. Sequential frames from a webcam stream showing human presence interacting with the terrain under conditions of being captured. Composition and selection by Renata Berta Saumell. Source: Autonomous Province of Bolzano – South Tyrol (RAS).

Figure 7: Stills from Distorted Video Transmission, Cima Capra, Italy, 20 November 2025. Webcam image affected by climatic interference, where the weather station becomes visible within the frame. Composition and selection by Renata Berta Saumell. Source: Autonomous Province of Bolzano – South Tyrol (RAS).

focuses on moments in which this clarity breaks down. If the aim is to engage with processes that exceed direct experience, then it is precisely in these moments that such processes become perceptible. Snow, fog, condensation, and shifts in light do not simply obscure the image; they reveal the atmospheric density, material interference, and technical limits that structure its visibility (Fig. 7).

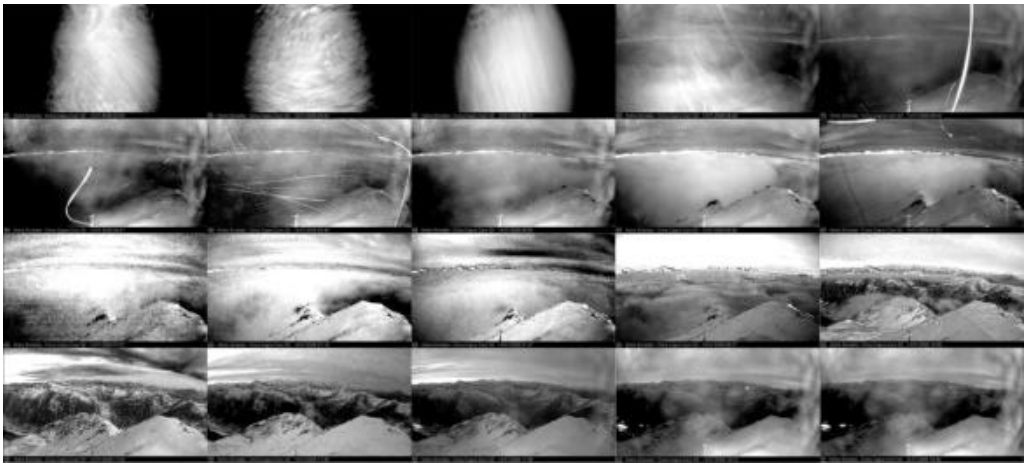

Figure 8: Stills from Distorted Video Transmission 03, Cima Capra, Italy, 14 January 2026. Webcam sequence alternating between distortion and clarity. Composition and selection by Renata Berta Saumell. Source: Autonomous Province of Bolzano – South Tyrol (RAS).

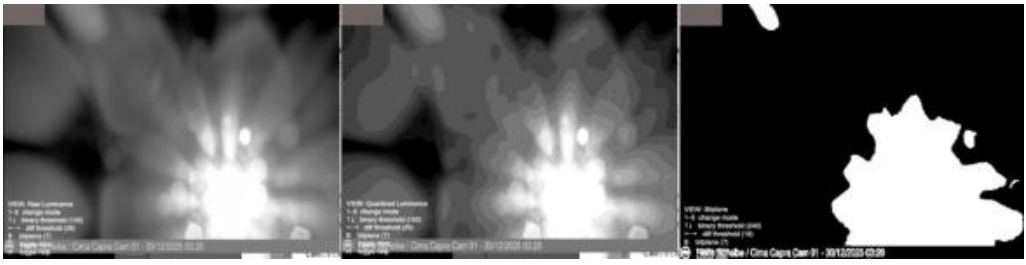

Figure 9: Script detecting moments of climatic interference and extracting distorted frames for material translation. Script developed by Rocco Modugno and Renata Berta Saumell.

At these moments, distortion becomes central. It is the condition in which the image exposes its limits, registering the forces that exceed its capacity to represent the territory. Distortion marks the point at which the relation can no longer be stabilized as a coherent visual object, shifting attention from what is visible to the conditions that produce visibility (Fig. 8).

Methodologically, these moments are treated as events. A script detects and extracts frames affected by interference from continuous webcam streams (Fig. 9). This operation responds to the scale and continuity of the visual flow, which exceeds what can be manually attended. Attention must therefore be translated into a form that can operate in absence.

The construction of this script requires translating embodied knowledge of the territory -its rhythms, weather patterns, and material behaviours- into computational criteria. What affects the body in the field -cold, humidity, reduced visibility, glare- also affects the camera as a material device (Fig. 10). The script operates at this intersection, transforming embodied perception into a distributed form of attention, where sensing is no longer exclusively human but shared across bodies, machines, and environments (Bridle, 2022). In this sense, the camera and the script cannot be understood as neutral tools, but as participants within a network

of relations that includes human, technical, and environmental agencies (Bruno Latour, 2005).

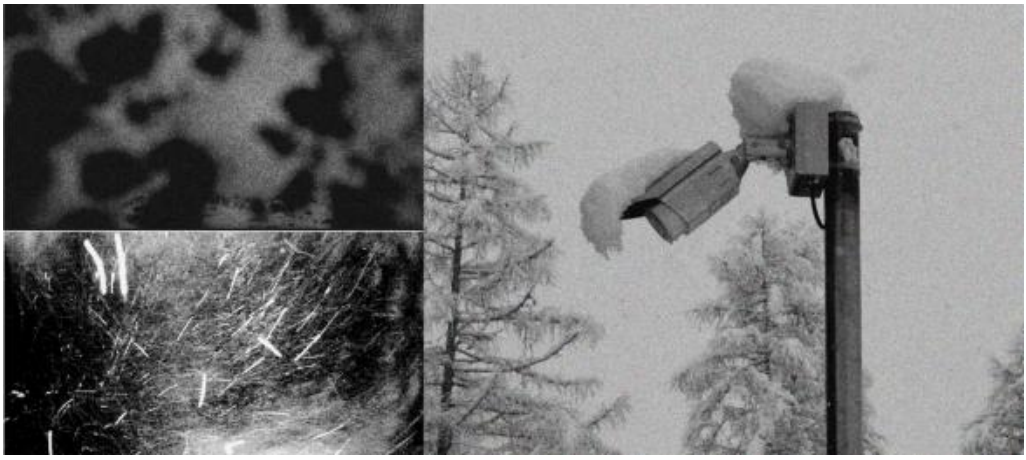

Figure 10: Webcam device affected by snow accumulation and corresponding image outputs registering this interference as a material process. Composition and selection by Renata Berta Saumell.

Through this process, an archive is produced (Fig. 11). It does not simply collect images but gathers the result of this translation. Each extracted frame is not a representation of the territory, but a trace selected through the alignment of body, machine, and environment. The archive therefore functions as a working material: a field in which absence is not only recorded but made operative. It allows these otherwise fleeting events to persist, accumulate, and be re-engaged.

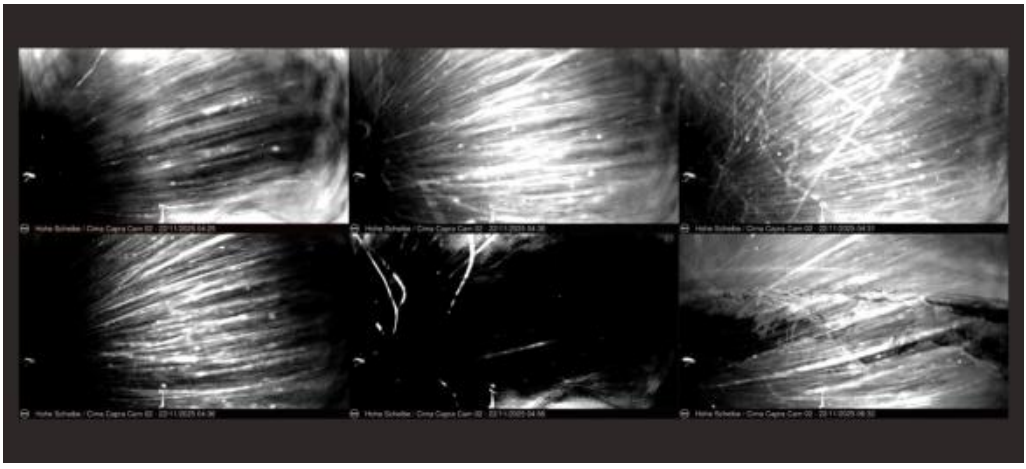

Figure 11: Stills from Distorted Video Transmission, Cima Capra, Italy, 22 November 2025. Webcam sequence alternating between distortion and clarity. Composition and selection by Renata Berta Saumell. Source: Autonomous Province of Bolzano – South Tyrol (RAS).

Because the script is continuously adjusted through encounters with the territory, the archive remains open and iterative. In this sense, the process involves an ongoing translation -from embodied experience to computational detection, and from mediated traces to further forms of

Figure 12: Early transfer experiments translating distorted webcam frames from inkjet prints onto canvas, foregrounding loss and transformation across media. Materials: canvas, transfer medium, inkjet print. Composition and selection by Renata Berta Saumell.

engagement. Working with this archive therefore does not end in its accumulation but opens the need to transform it further.

Material Translation as an Epistemic Practice

The archive does not resolve how these traces can be engaged, nor how knowledge of absence can emerge from them. While it allows interruptions to persist and be revisited, it remains bound to a digital condition in which perception unfolds through screens and continuous image flows. The archive sustains the relation but does not yet fully activate it as an experience.

To address this condition, the research extends translation beyond the computational into the material. If the script translates embodied knowledge into detection, material translation continues this process across media. Translation is not understood as reproduction, but as transformation, where what is transferred is not the image itself but the conditions it carries. The archived images are therefore not restored but reworked as fragments that hold traces of atmospheric and temporal processes.

This transformation takes place through specific materials and techniques -printing, transfer, layering, and work on textiles (Fig. 12). Each passage from one medium to another entails a loss: resolution decreases, contours dissolve, and visual coherence is disrupted. Yet this loss is not a limitation. It produces a shift in how the image can be engaged. As the image is translated, it acquires weight, texture, and scale, reintroducing a material dimension that the digital condition suppresses. What emerges is not a clearer image, but a denser one -one that must be approached, handled, and situated in space. In this sense, knowledge is not extracted from the image but generated through processes of making and material engagement.

Through this process, each materialisation becomes a new instance of the relation. The image is no longer a representation of the territory, but a site where its processes are rearticulated. What is preserved is not visual fidelity, but a condition: the persistence of transformation across media. The relation is therefore not maintained intact but continuously reconfigured through what is lost and what is retained in each translation. Knowledge, then, does not reside in the image or in the observer alone. It emerges in this movement between media -between embodied experience, computational selection, and material form. The material objects do not provide direct information about the territory; instead, they enable a mode of engagement grounded in proximity, scale, and embodied memory. What becomes legible are not complete representations, but partial and situated traces that can only be understood through relation (Donna Haraway, 1988). At the time, the project continues to develop these material forms, exploring how different media and techniques can further elaborate distortion, absence, and loss as constitutive conditions of the research.

Conclusion

Relations with a territory do not depend on continuous presence but persist through absence. What is learned is not the landscape as form, but the conditions through which it resists being seen—fog, snow, condensation—processes that interfere with their own capture. The territory does not become clearer through observation; it asserts itself through distortion. By working with these interruptions, absence becomes methodologically operative. Knowledge is not extracted from the image, but produced through its transformation—across scripting, archiving, and material translation. What emerges are not representations, but traces that remain partial, unstable, and ongoing. The implication is a shift in how design engages landscape. Rather than seeking clarity, control, or prediction, this method remains with what exceeds them. In a moment when mountain environments are continuously captured, streamed, and consumed through images, the demand for visibility becomes a form of reduction. Against this, opacity is not a deficit but a refusal. As proposed by Édouard Glissant (1997), opacity is the condition through which relation can persist without being made fully transparent, legible, or extractable. To work from absence is not to know less, but to know differently: to remain in relation with a territory that cannot—and should not—be fully resolved.

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Archiving perception with spatial drawing

Elaine Bonavia, TU Berlin

Abstract

This visual essay presents a series of archival drawings from the artistic research project 'EXPANDED GLITCH: forging digital materiality' which explored new forms in blacksmithing through spatial drawing in VR, producing a collection of statement furniture-sculptures for showcasing Jewelry. The collaborative project started in a workshop format and continued more formally, in this way also exploring non-linear ways of working closely with craftspersons, designing with photogrammetry scanning and VR technology. The overall porous process of exchange is discussed from the lens of trajectories of diffraction1, examining moments of tension and ambiguity between collaborators and how the specific digital tools influenced the process. Some of the images presented are preparatory drawings used throughout the design process of the first sculpture. Together with other drawings that were made following its realization, the essay presents the process of archiving the experience of spatial drawing into one 'final drawing', the artwork LIMBS (2025). This archives different aspects of the project's material, spatial and collaborative dimensions through its composition and its digital matrix of texture layers. LIMBS (2025), considered both a drawing and a textile artwork, also translates a deep engagement with digital materiality and the movement of spatial drawing into a physical work.

Introduction

Expanded Glitch: forging digital materiality is an artistic research project at the intersection of design, craft and sculpture. It came about through an open call aiming to experiment with new forms in blacksmithing. Organized by the metal workshop *Bernd Euler GmbH*, under the framework of the *September Workshop*, entitled '*Neue Formen für eine Alte Kunst*'.

The selected design proposal was to be produced by the blacksmith Georg Reinking, supported by Ida Fröhlich. The open call framework was organised by Senta Hoppe and sponsored by Bernd Euler.

Together with designer, Lucas Macabéo, we proposed a sculptural furniture piece EXPANDED GLITCH I (2024), intended for showing experimental jewellery by Goze.ws. Intentionally exploring new design and creation strategies through spatial drawing in virtual space, the project addresses the materiality of drawing spatially in VR, connecting digitized bodily intelligence with the implicit knowledge of blacksmithing. Through the concept of an expanded glitch, drawing from existing theories of Glitch in video games, media art and cinema(Betancourt 2023) we examine how 3D glitches — digital distortions and mesh irregularities in spatial drawing practice — resonate with complex artisanal techniques and the physical effects of heat, force and repetition. With this project, we demonstrate how a 'new' kind of digital materiality – one that is directly, structurally linked to the body — can be translated into tangible forms.

The sculpture / furniture hybrid *EXPANDED GLITCH I* is part of a collection of similar sculptures that continue exploring themes of collaboration,

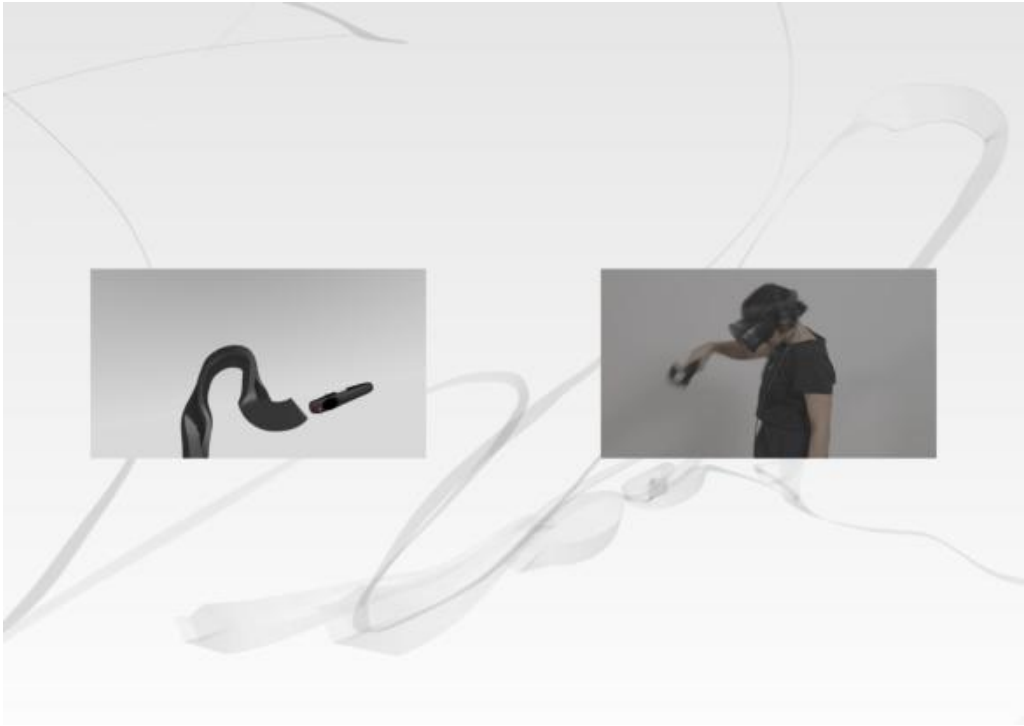


Figure 1: Process images from the project *EXPANDED GLITCH*: *forging digital materiality* using VR sketching as a design method. Summary video of the project in collaboration with Euler Workshop can be seen here. 2024 © Aleksandra Kononchenko, Image © Atelier Crossover (Lucas Macabéo & Elaine Bonavia)

materiality and production at the intersection of crafting with forged metal, industry and technology.

In the process of archiving and making sense of the project experience, a new artwork was created, collaging key images and drawings as visual milestones of the project. In this process I had the possibility of working with textile designer and maker Lilo Ming Kiefer on a jacquard interpretation of the drawing-image. The artwork LIMBS (2025), was created, depicting spatial drawings from the *EXPANDED GLITCH* project and working with textile yarns for a 3D interpretation of the image.

LIMBS archives the resonance experienced from a concentrated and compelling process of making: negotiating, sensing and translating with a myriad of hi-tech digital and analog media, with a dedicated team of practitioners intending to push the limits of their craft.

Figure 2: Examples of glitches showing digital materiality of spatial drawings in the *EXPANDED GLITCH: forging digital materiality* project, 2024 © Atelier Crossover

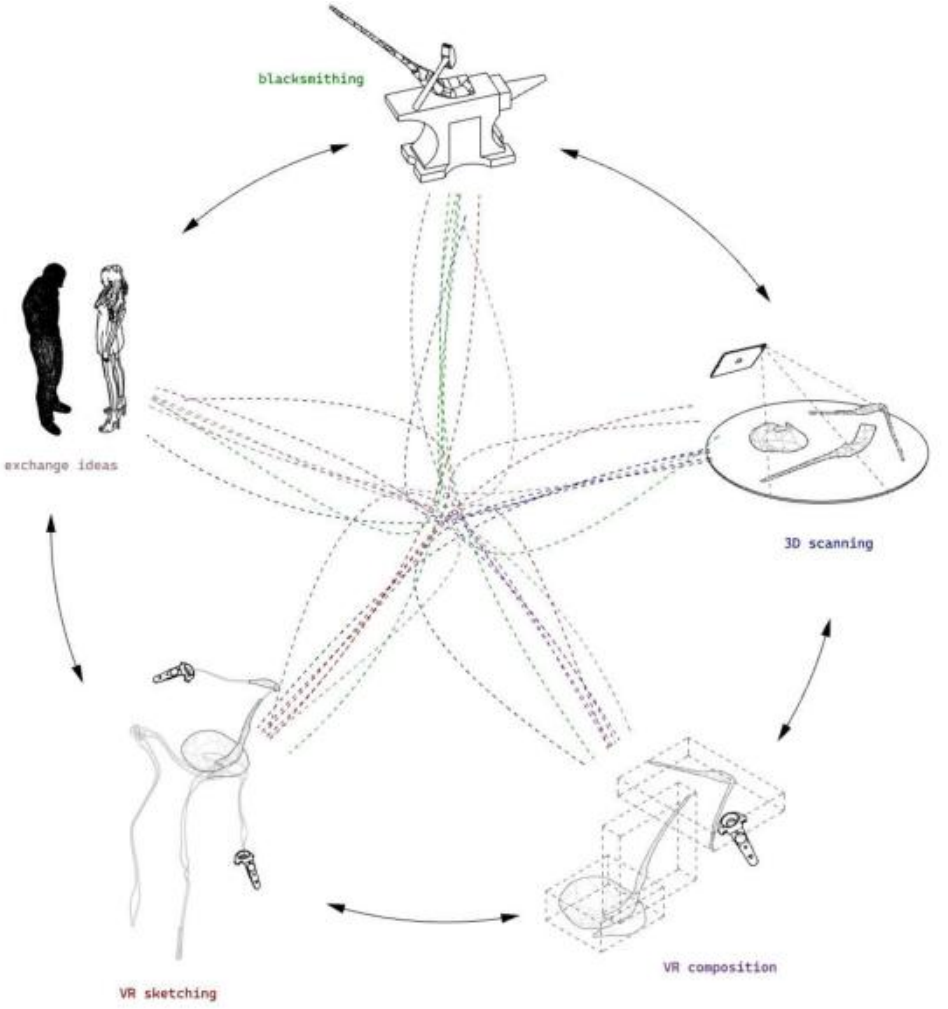


Figure 3: Diagram of different processes of making and designing within the project *EXPANDED GLITCH*:*forging digital materiality* showing collaborative trajectories that could be circular but also organic between different step, , 2024 © Atelier Crossover

Figure 4: *EXPANDED GLITCH SCULPTURE* I (2024) by Elaine Bonavia & Lucas Macabéo dimensions: 150 [h] x 90 x 70 cm © Büro Bum Bum

Spatial Drawing*: Thinking with Materials through Movement*

In my ongoing PhD project Spatial Drawing*: Thinking with Materials through Movement,* I address the potential of XR as a drawing tool in design, focusing on thinking with materials and their expressive qualities. I do this by interrogating material elements in space through a practice of body-drawing inspired by movement techniques. This allows me to map out modes of relating with physical materials in their environment, situated within time and space, by engaging with my perception-in-action through a very embodied approach to digital drawing.

My practice of drawing freely and unconstrained by the desktop space produces lines that become sites of tension between physical movement and digital encoding. Here, digital 'material' is no longer just a visual representation of a physical object, but a correspondent that encodes experiential and performative aspects within its wireframe anatomy.

In my work I reveal this through the post-processing of spatial drawing artefacts, grounding evidence into the overall aesthetic and expressive quality of the 3D sketch, which can be regarded as a hybrid digital object. It's something between a 3D model and sketch, and its expressive qualities are particularly interesting and visuo-haptically more effective than those of traditional, digital 3D models. It is drawn by the body yet I still describe it as a 'drawing' due to the movement intentionality and controlled demeanour that it carries with it.

Expressive and plastic qualities of materials are aspects we can engage with to think *with* the substance and matter of things, they can provoke agency in the design process and open new lines of thinking. In cases where the framework allows for it, they can even lead to new approaches for shaping or working with traditional techniques, such as in the *EXPANDED GLITCH: Forging Digital Materiality* Project.

While the *EXPANDED GLITCH* design project is linked to particular forms of craft, its experimental format and workshop style approach laid the foundation for thinking about how trajectories of exchange can fundamentally shape design processes, as well as how spatial drawings can be presented as archives of interaction, primarily through a process of continued self-observation and engagement with the body, digital materiality and affordances of digital media.

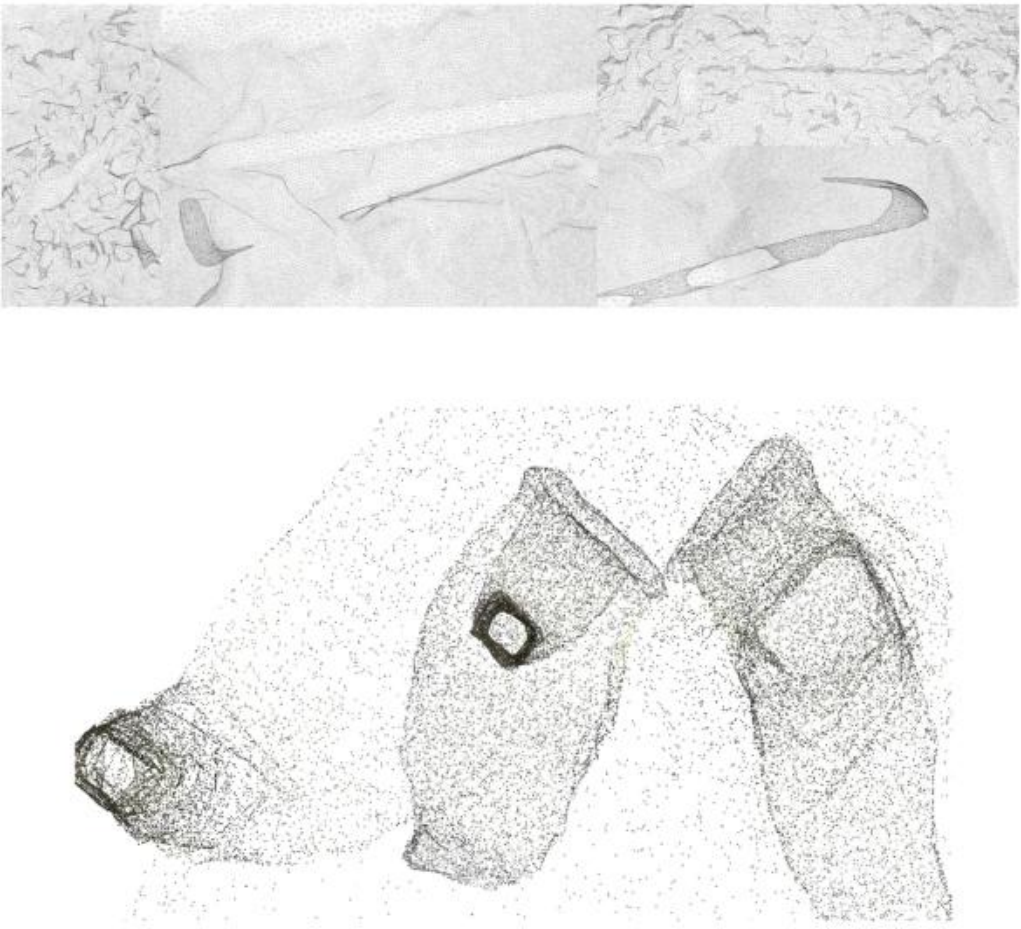
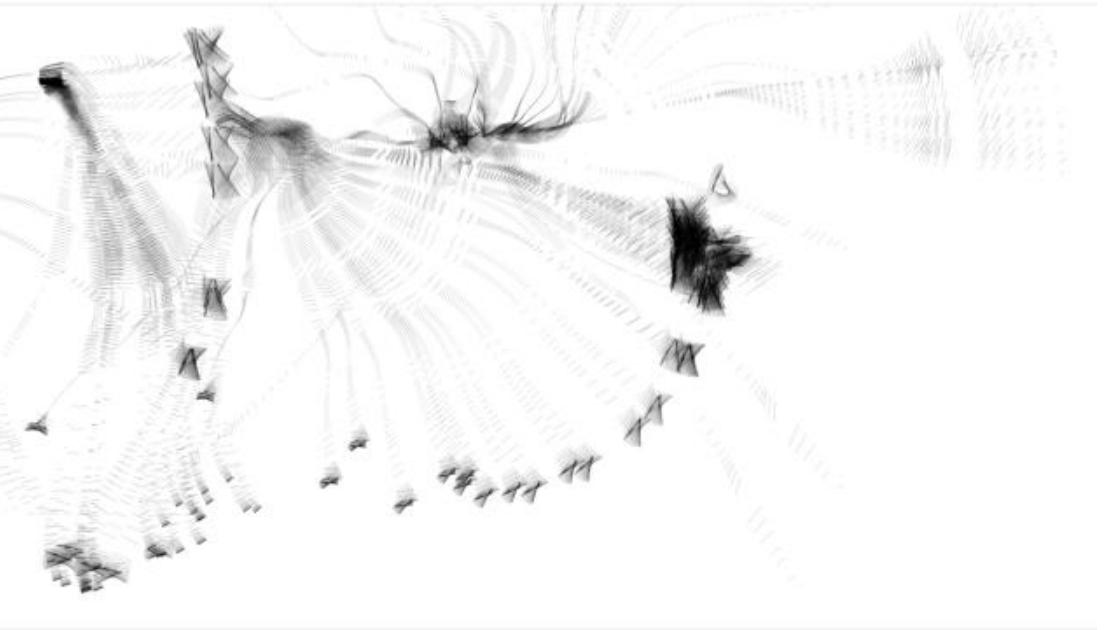


Figure 5: VAGUE MATERIALITY (2026) shows 3D scanned, forged metal prototypes by the team members of the *EXPANDED GLITCH* project, set over organic surfaces. Evoking a seemingly ephemeral and vague materiality through its wireframe mesh aesthetic, the scans are specifically framed in a way that the spatial thresholds between inside and outside remain loosely defined or discontinuous, effectively with blurred edges. Image referring to the idea of vagueness as a form of abundance from (Ölme and Wallenstein 2021) © Elaine Bonavia

Figure 6: SIMULATION OF THE UNROLLED (2026) is a drawing addressing an acute gap in my experience of the project. Depicting frames of unrolled limbs from *EXPANDED GLITCH I*, fictitious unravelling movements based on the meshes' geometry and complex curvature were simulated using the plugin *Kangaroo2* within *Rhino* and *Grasshopper*. The drawing archives the dynamics of the material in its slow – sometimes inconspicuous - states of transformation under the blacksmith's hand. It also speaks of the plasticity of steel - a material that is generally just perceived as hard, stiff and strong © Elaine Bonavia



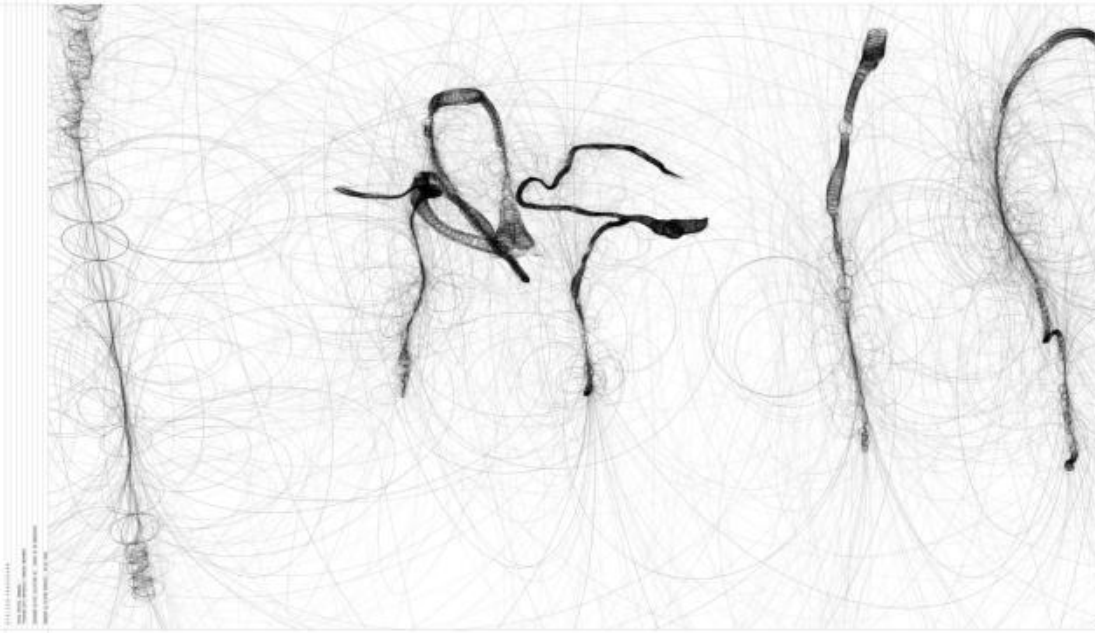


Figure 7: SENSE OF VR SPACE (2026) is a drawing about the feeling of being surrounded by floating mesh-lines in a VR space. Repeatedly sketching lines with your body eventually gives the sensation of the line as a prosthesis / extrusion of the physical body. The spatially drawn lines were rather short, similar to body limbs in scale. The sensation of letting these lines go and suspending them in the model space is also something that is intended to be evoked in this drawing. As soon as the stroke is done, the body moves through a scene that is rapidly developing around to find a new zone, experiencing a floating forest of mesh-lines along the way. © Elaine Bonavia

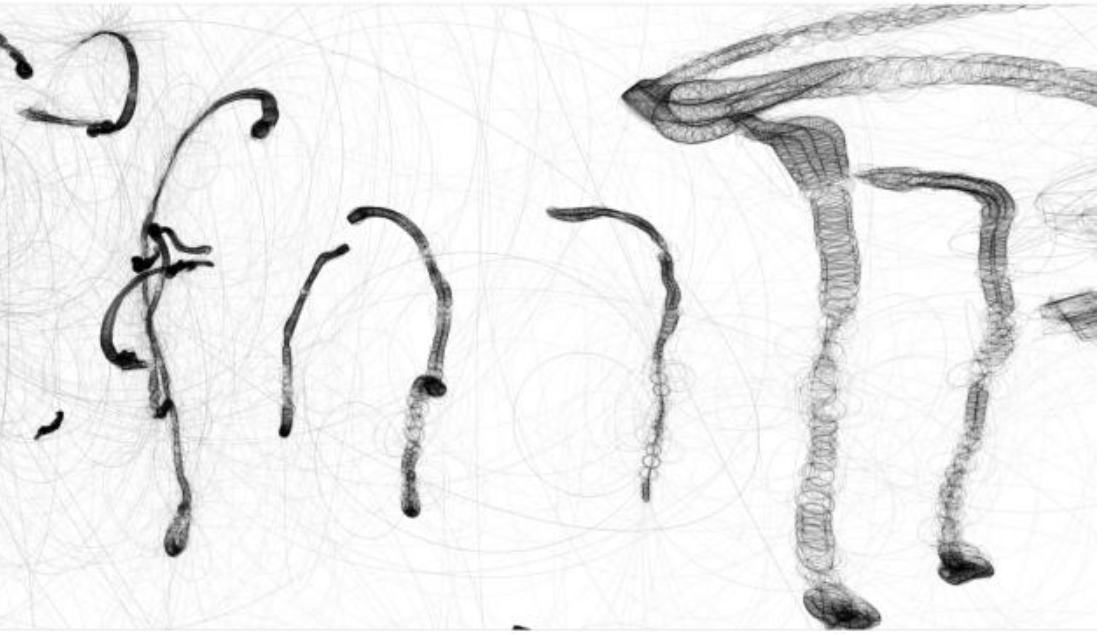


Figure 8: Selected views of the *EXPANDED GLITCH SCULPTURE I* 3D model, used as base media to create the image for *LIMBS* © Elaine Bonavia

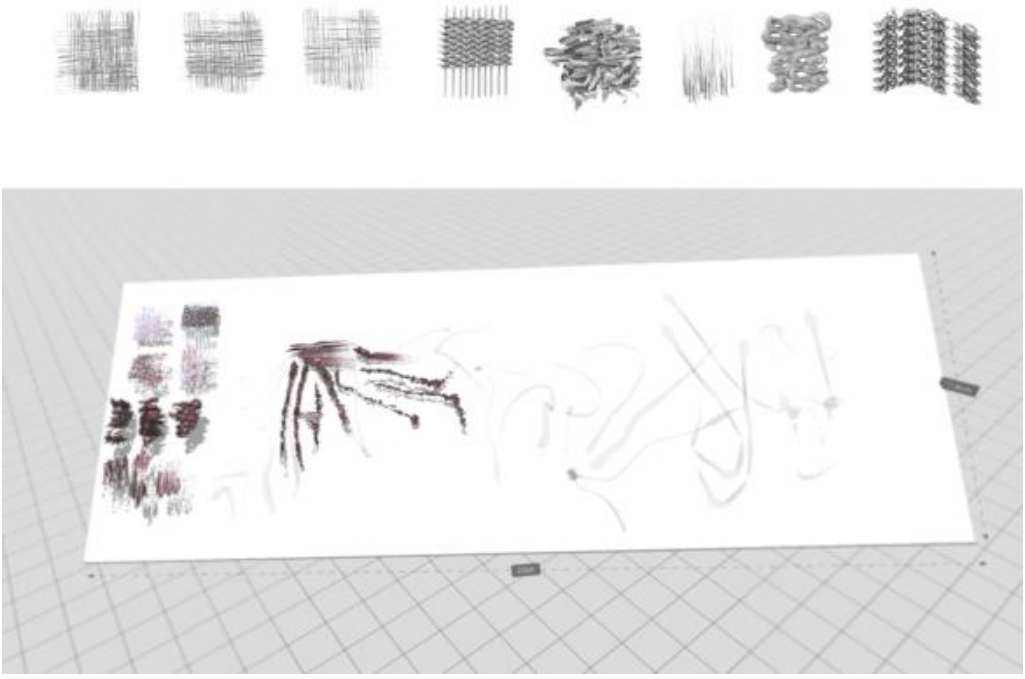


Figure 9: Texture studies through spatial drawing and VR view of compositional exploration for *LIMBS* © Elaine Bonavia

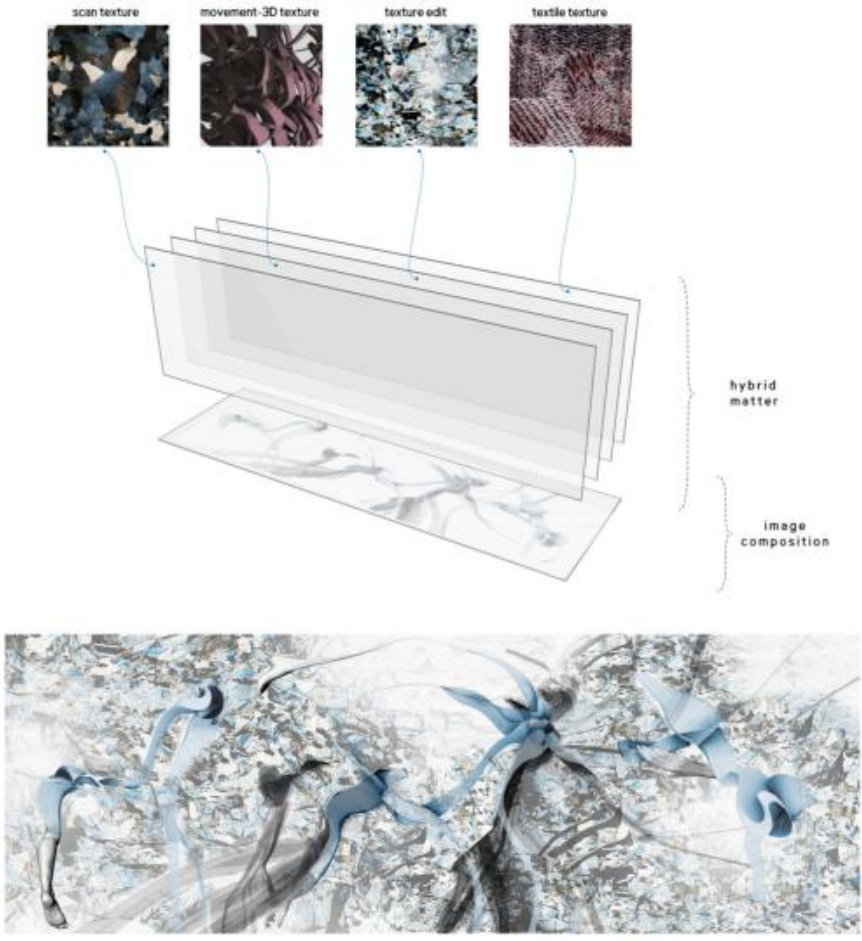


Figure 10: Base Digital image for *LIMBS* and diagram of the textural image matrix of the artwork. Images © Elaine Bonavia

Figure 11: *LIMBS* (2025), 250 x 70cm, jacquard woven with acryl, polyester, cotton, digital materiality. Jacquard Weaving and Preparation by Lilo Ming Kiefer. Image © Heike Overberg & Elaine Bonavia, weißensee kunsthochschule berlin. Back detail of LIMBS, 250 x 70cm, jacquard woven with acryl, polyester, cotton, digital materiality. Jacquard Weaving and Preparation by Lilo Ming Kiefer. Image © Heike Overberg & Elaine Bonavia, weißensee kunsthochschule berlin.

Trajectories of Intra-Action

The workshop framework of the Open Call set the stage for an open-ended and non-linear design process that was unconventional in many ways, and whose outcome thrived only in sustained collaboration and intra-action.

Beginning with 3 days of the *September Workshop,* the team at *Bernd Euler GmbH* introduced us to blacksmithing while Lucas and I introduced them to immersive VR sketching. Just as we attempted holding, manoeuvring and shaping portions of semi-molten steel, our hosts tried sketching in the virtual space, moving with extruding lines, spatial doodles and a scalable world of experimentation. Significantly, these moments created the conditions for a rich space of exchange, where the focus was not on an intended outcome but on the techniques and process of both crafts.

The possibility to dabble in each other's craft gave everyone more proximity to each other's implicit knowledge. It created an entanglement of perceptions about the others' craft, making discussions more concentrated and riper with emergent impulses. The exchange workshop can be described as a web of meandering trajectories and was an essential step towards what Karen Barad terms as 'intra-action'(Barad 2007). Broadly speaking, this describes the exchange of energy and phenomena within a single entity that consists of multiple parts. It relates to the philosophy of agential realism, which deals with ontologies of being and interacting with the world and the influences of multiple entanglements. In elaborating on this from an architectural design perspective, Sandy Litchfeld says that "In other words, agency is relational, whereby doing and being are not separate but rather something that emerges from this co-mingling."(Litchfield 2023)

At the *September Workshop*, precisely this space of co-mingling offered everyone the possibility to dabble in ideas that were not only discursive, but also tangible and with the possibility of testing at hand. Thus, rather than aiming for a direct *interpretation* and assimilation of designed forms, as is typical in usual designer-craftsperson scenarios, the workshop days were spent collectively brainstorming, collectively prototyping and simultaneously interpreting a hand-drawn sketch of a design element. Lucas and I engaged in ways of drawing and shaping a paper sketch in VR, while Georg and Ida engaged in ways of interpreting their sense of the paper sketch and their experience of the digital one. Critically, the two teams repeatedly jumped between one workshop zone to the other, checking in on the translation of the image and the progress of forged prototypes. In doing so, the design process of the first element was realised within an intra-active space of exchange.

Fast-forwarding to the production of *LIMBS*, a second 'workshop-style' work ethic was adopted between myself and designer-maker Lilo Ming Kiefer. The process of translating a digital image into a woven jacquard entailed thinking about how specific parts of the image correspond to envisaged textural volumes brought about by the combination of weaving patterns. It was necessary to prepare for the intended textural effects within the different zones of the image – both as separate entities but

also as a whole assemblage of colour and varying texture. While in the process of determining this texture map, I engaged with spatially drawn 3D textures motivated by body movement research in VR. The movement was prompted by haptic effects such as direction, roughness or smoothness that I had experienced in physical textures at the Soft Rapid Prototyping Lab in precedent weeks.

This bodily attempt to define a textural direction for the overall image is a manifestation of a deep relationality between tactile experience and imagination. It's a way of coming into intra-action with the tools, materials and collaborators involved in the production process. The drawn 3D textures are my approach of drawing out a sense of tactility without going into the technicalities of it. It is a drawing that intuitively exteriorises haptic sensation, memory and projection.

My approach of examining the 3D spatial drawing artefact and translating it into a 2D drawing emerges through the making of *LIMBS* and is an act of archiving relations. The work can be seen as both a drawing and a textile artwork that harbours layers of contact and relation with different media and material. Different types of texture transport themselves across media: each layer within *LIMBS* (presented as a separate drawing in the visual essay) represents moments of interfacing and achieving relation throughout milestones of the project process. The *VAGUE MATERIALITY* (2026) layer refers to a reflection on the results of the September Workshop. The *SIMULATION OF THE UNROLLED* (2026) layer refers to the production process, the steel in transformation and the physical labour embedded in blacksmithing. *SENSE OF SPACE IN VR* (2026) refers to the spatial drawing process between Lucas and myself.

As a digital image, it evokes spatiality, depth and movement through its distinct background and composition of layers of unrolled elements laid over selected views of the sculpture. It describes experienced perceptions of the project as a world that occupied several tangible spaces at the same time. It appears in a horizontal landscape format in an attempt to slow down time and look more deeply into something, just as one does with an archive.

By translating several 3D spatial drawings into this 2D image, I anchor selected perspectives of the spatial experience of the project into a site that concentrates intra-active resonances into one place. The translation into a textile serves as a three dimensional archive which harbours the entanglements between tools, perception of the project and material experimentation.

Acknowledgement

This Essay has been written in the process of reading for my practice-based PhD Spatial Drawing: Thinking with Materials through Movement at TU Dortmund, under the supervision of Prof. Matthias Ballestrem.

I am thankful to all the collaborators involved in the EXPANDED GLITCH: *forging digital materiality* project: Bernd Euler, Ida Frolich, Senta Hoppe, Lilo Ming Kiefer, Lucas Macabéo, Georg Reinking, and to Sara Hassoune at the Soft Rapid Prototyping Lab of the Weißensee Kunsthochschule Berlin.

Thanks also goes to the PEP Program at TU Berlin and to the PhD group at « Matters of Activity » Image | Space | Material.

Material Afterlives of Division

Human and Non-Human Interventions on Modern Europe – An Post-Conflict Dividing Walls

Holly Carton, Oxford Brookes University

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post-conflict dividing walls, graffiti and murals, urban biodiversity, materiality and post-conflict trajectories

Abstract

The construction of dividing walls, ranging from international borders to urban barriers, is accelerating, resulting in the physical fragmentation of communities. As climate change remains unresolved, climate migration is expected to intensify, further exacerbating pressures already evident at borders. At the same time, as populism continues to operate as a political force, there remains a tendency to advocate for and construct additional walls. This doctoral project examines modern European post-conflict dividing walls, with a particular focus on the Belfast peace lines. It explores interventions that emerge within these borderland spaces, including graffiti and murals, alongside the development of biodiversity resulting from dereliction. The research extends existing understandings of conflict timelines by incorporating the period following the formal declaration of peace, while also addressing the spatial trajectories and material characteristics that shape human and ecological interactions. Using a mixed-methods approach, the study integrates spatial mapping, digital modelling, and qualitative interviews with peace process NGOs, artists, and policymakers. It culminates in a research-through-design framework intended to inform future installations and biodiverse interventions in post-conflict urban environments.

Introduction

The construction of dividing walls, ranging from international borders to urban barriers, is accelerating (Vallet 2017), resulting in the fragmentation of communities through physical structures. As the challenge of climate change remains unresolved, the phenomenon of climate migration is poised to intensify, thereby exacerbating the difficulties already observed at borders. Furthermore, as populism continues to present itself as a viable political force, there is a persistent tendency among its proponents to advocate for, and indeed construct, additional walls (Brown, 2010). These developments underscore the urgent need to examine the evolving role and impact of such walls in contemporary urban contexts.

Despite extensive research on border walls, there remains a significant gap in architectural scholarship regarding the materiality of post-conflict dividing walls and the interventions, both human and nonhuman, that occur after formal peace is established. Existing studies often conclude with the cessation of conflict(Calame and Charlesworth 2009, and Kliot and Mansfield 1997), overlooking the transformation of these structures into memorials, sites of preservation, or targets for demolition. This research addresses this gap by focusing on the period following established peace, investigating how edits, interventions, and spontaneous ecological growth shape the trajectory of these walls.

My doctoral project undertakes a comprehensive examination of modern European post-conflict dividing walls, with particular emphasis on the

Belfast peace lines during the second year of the project. It explores the diverse interventions that manifest in and around these borderland spaces, such as the emergence of graffiti and murals, as well as the development of biodiversity arising from dereliction in these areas. The research seeks to extend current understandings of conflict timelines (Atun and Doratli 2009; Calame and Charlesworth 2009), specifically by including the period following the formal declaration of the end of conflict. In addition, it investigates the spatial trajectories and material characteristics that shape both human and ecological interactions with these structures. More specifically, the study examines the factors that facilitate individuals to create graffiti on these walls, as well as the environmental conditions that promote the spontaneous growth of weeds and other forms of nature in neglected sites. Particular attention is devoted to identifying the types of wall or fencing materials most conducive to artistic expression or ecological colonisation, considering how their physical properties may either invite painting or enable the proliferation of plant life.

Employing a mixed-methods approach, the research integrates architectural techniques such as spatial mapping, the creation of digital models, and qualitative interviews with key stakeholders, including local peace process NGOs, artists, and policymakers. This methodological framework allows for a nuanced exploration of

both the physical and social dimensions of post-conflict walls. Recent fieldwork has revealed a remarkable variety of materialities in and around the walls, from printed aluminium sheets coated in plastic to canvas framed in plywood and painted surfaces. Nonhuman elements, though less populous, possibly due to seasonal factors, include birds, moss, lichens, weeds, grasses, and even buddleia growing atop the walls. These observations suggest that both artistic and ecological interventions are influenced by local climate and material conditions.

Preliminary findings indicate that the transformation of these walls is shaped by a complex interplay of social, political, and environmental factors. The anticipated outcomes of this research include the formulation of guidelines for designated art installation areas and recommendations for zones to be left for natural reclamation. These guidelines are intended to empower local communities to consider the future of these walls, whether as memorials, preserved sites, or candidates for removal. Through a series of design-by-research mini-projects, the project will culminate in a brief and a set of actionable recommendations, enabling residents to actively participate in shaping the destiny of their urban environment.

Ultimately, this research-through-design framework aspires to support the transformational trajectory of post-conflict walls, guiding their evolution from security infrastructure towards new roles as cultural landmarks or ecological spaces that both reflect and enrich the local context. By bridging the gap between architectural theory and community practice, the project seeks to contribute not only to academic discourse but also to the lived experience of those residing in proximity to these contested structures.

In addition to the aforementioned aims, this research situates itself within a broader discourse on the politics of urban space and the agency of communities in post-conflict environments. The study recognizes that dividing walls are not merely inert barriers but are dynamic entities that continue to shape social relations, urban morphology, and ecological processes long after the cessation of overt conflict. By foregrounding the period of transformation that follows peace agreements, the project challenges conventional narratives that treat walls as static relics of past violence. Instead, it posits that these structures are subject to ongoing negotiation, reinterpretation, and reappropriation ie, interventions by diverse actors, human and nonhuman.

The research also acknowledges the importance of interdisciplinary perspectives, drawing on insights from urban studies, environmental psychology, and cultural geography to enrich its analysis. By integrating these perspectives, the study aims to develop a holistic understanding of post-conflict walls as sites of contestation, creativity, and ecological regeneration. The ultimate goal is to inform policy and practice in ways that foster inclusive, sustainable, and culturally resonant urban environments.

Literature review

This literature review adopts a systematic and comprehensive approach to the selection and evaluation of relevant sources, ensuring a robust foundation for the research. The primary focus is on European post-conflict city walls, specifically those constructed in urban settings and arising from post-conflict scenarios. To maintain clarity and relevance, the review explicitly includes studies that examine walls built in European countries under post-conflict conditions and excludes those outside these parameters.

However, to provide a richer analytical context and strengthen the theoretical framework, the review also incorporates literature that extends beyond the immediate scope of modern European walls. This includes studies on border walls and ancient city walls from various regions around the world. For instance, the work of Jones (2016) on the US-Mexico border wall and Vitruvius and Rowland (2014) on ancient theories of city walls have been purposefully included. These sources are pertinent as they offer valuable insights into the motivations behind wall construction, the reasoning processes that inform such architectural decisions, and the analytical methods used to examine these structures.

By integrating both region-specific and globally relevant literature, this review aims to elucidate the multifaceted nature of dividing walls. The inclusion of diverse case studies and theoretical perspectives not only enriches the analysis but also enables a more comprehensive understanding of the social, political, and material factors that influence the construction and transformation of walls in post-conflict urban settings (Monticelli, 2020; Silver, 2010). This approach ensures that the review is both rigorous and inclusive, laying a solid foundation for the subsequent research and analysis.

The literature reveals three principal themes that are particularly salient within the architectural discourse on dividing walls. First, the political dimensions of wall construction and maintenance are explored through the works of Calame and Richard (2010), whose comparative analyses underscore the significance of political context and advocate for bottom-up approaches as potentially yielding the most constructive outcomes. Second, the theme of interventions—both human and non-human—is examined through the lens of Rael (2017), who investigates fictional and non-fictional installations along the US-Mexico border wall. While Rael's research may lack methodological rigour in certain respects, it is complemented by the contributions of Shulyk et al. (2024), who investigate the use of plants as architectural elements during conflict, with a particular focus on the Ukrainian war, while Hanauer (2011) delves into the political implications of graffiti on the Israel-Palestinian wall. The third theme centres on the temporal dimension of wall interventions, drawing on Calame and Charlesworth (2009), who articulate a timeline from the initial construction of walls to the cessation of physical violence. This thematic structure provides a comprehensive framework for understanding the complex interplay of politics, materiality, and temporality in the evolution of dividing walls.

The conceptualisation of city and border walls has undergone significant transformation over time, reflecting shifts in architectural, political, and material paradigms. Early texts, such as those by Morris (1994), discuss the historical significance of city walls, while more recent research has focused on the construction and analysis of specific case studies, including those in Belfast. A pivotal moment in the field occurred with the fortification of the United States following the events of 9/11, which catalysed a broader interest in securitisation and the proliferation of border walls. This period marked the emergence of 'border studies' as a distinct interdisciplinary field, characterised by rapid scholarly development and the production of comparative analyses. The construction of the Trump border wall, for example, inspired a series of publications by Rutledge, Cooper and Tinning (2020), further expanding the discourse. Contemporary research now revisits issues of securitisation in light of ongoing conflicts in Ukraine and Palestine, underscoring the dynamic and evolving nature of wall studies.

The current state of research on border walls is distinguished by its interdisciplinary scope and geographical diversity. Scholars from political science, economics, sociology, and anthropology have contributed to a nuanced understanding of the multifaceted roles and implications of these structures. Key figures such as Brown, Jones, Calame and Vallet have shaped the discourse by offering perspectives on the socio-political, economic, and cultural significance of border walls. Research is being conducted across a range of countries, including the United Kingdom, Northern Ireland, Cyprus, Turkey, and the United States, thereby enriching the analysis with diverse contextual insights. Despite this breadth, there remains a need for more integrative and comparative research that examines the interplay between environmental, artistic, and material culture factors in wall interventions. Future studies should adopt a holistic approach, systematically comparing these dimensions to achieve a comprehensive understanding of the impact and significance

of border walls. Such an approach will facilitate deeper insights into the complex dynamics surrounding these structures and inform more effective policy decisions.

Recent years have witnessed significant technological advancements in the study and construction of border walls, elevating the field to a critical area of inquiry within border studies. These structures, which have long served functions such as security, population delineation, and the assertion of sovereignty, are now being examined through the lens of technological innovation. The historical context of urban walls reveals their enduring significance and the multifaceted roles they play in contemporary geopolitics. Political scientists have provided a robust foundation for this research, contributing to the emergence of border studies as a distinct interdisciplinary field. The depth and diversity of perspectives and methodologies within this field are essential for understanding the complexities of border walls. Notably, scholars such as Brown, Jones, Calame and Vallet have made substantial contributions, shaping the discourse and offering valuable insights into the evolving materiality and technological dimensions of wall construction and intervention.

The social and cultural context in which walls are constructed and maintained plays a pivotal role in shaping their architectural character and significance (Nagle, 2009). The politics of wall construction are increasingly influenced by factors such as climate change, migration, and shifting societal values. These dynamics necessitate a reevaluation of traditional approaches to wall design and intervention, emphasising the importance of context-sensitive and culturally informed strategies.

Environmental research has focused on the ecological impact of border walls, particularly in relation to wildlife migration, habitat fragmentation, and environmental degradation (Zmelik et al., 2011; Gurung et al., 2009). Artistic research has explored the cultural and symbolic significance of art installations and styles, yet these studies have often been conducted in isolation, without adequately considering the interplay between environmental and artistic factors (McAtackney, 2011; Hocking, 2012). To address this gap, future research should pursue a more integrative approach, systematically comparing and contrasting these dimensions to provide a holistic understanding of their impact and significance. Comparative studies of the US-Mexico border, the Israel-Palestinian wall, and the Indian-Pakistani wall (Jones, 2016) offer valuable insights into the commonalities and differences in the roles and implications of these structures.

Furthermore, comparative research has highlighted the importance of examining both large-scale border walls and smaller city dividing walls. While the former have received considerable attention due to their political and environmental impact, the latter remain understudied, in part because of their relative scarcity and shorter length (Abdelmonem & McWhinney, 2015). Studies on the environmental impact of border walls have predominantly focused on border regions, such as the US-Mexico divide, but have also noted the ecological benefits of abandoned sites along the Iron Curtain, which have become thriving habitats for local wildlife. The literature identifies significant gaps, including the absence of comparative studies on European city walls, a lack of material

studies addressing both human and non-human interventions, and insufficient research on the life cycle of walls from the end of conflict to the process of memorialisation.

This research aims to address these gaps by examining the timelines and trajectories of European walls through a material lens, focusing on both human and non-human interventions. Drawing inspiration from Calame's work and extending it beyond the "third generalisation," the study also incorporates insights from Kowarik's (2011) analysis of the Berlin Wall as an "uncomfortable monument."

In addition to the themes outlined above, recent scholarship has begun to interrogate the symbolic and psychological dimensions of dividing walls (Summa, 2019). For example, Brown (2010) explores how walls function as both literal and metaphorical boundaries, shaping collective memory and identity in post-conflict societies. This perspective is echoed in the work of Jones (2016), who argues that the persistence of walls in urban landscapes reflects deeper anxieties about security, belonging, and exclusion. Such analyses underscore the importance of considering not only the physical and material aspects of walls but also their affective and symbolic resonance.

Technological innovation has also emerged as a critical area of inquiry. Advances in surveillance, construction materials, and digital mapping have transformed the ways in which walls are built, monitored, and represented. Scholars such as Vallet (2014) and Casey and Watkins (2014) have examined the implications of these technologies for both security and artistic intervention, highlighting the complex interplay between control and creativity in contemporary wall studies.

Moreover, interdisciplinary approaches have enriched the field by integrating insights from environmental psychology, cultural geography, and urban ecology (Webster, 2006; Hickey, 2014). For instance, research on the ecological succession of abandoned walls has revealed unexpected patterns of biodiversity and habitat creation, challenging conventional narratives of dereliction and decay (Zetter & Blitz, 2014; Mell, 2019). Artistic interventions, meanwhile, have been analysed as forms of resistance, commemoration, and community engagement, with scholars such as Hanauer (2017), Hasan and Bleibleh (2023), and Rael (2015) documenting the diverse media and methods employed by artists in contested spaces.

Despite these advances, significant gaps remain. There is a pressing need for longitudinal studies that track the evolution of interventions over time, as well as comparative analyses that examine the interplay between materiality, climate, and social context across different regions. By addressing these gaps, the present research aims to contribute new insights to the field and inform future policy and practice.

Research Questions and Hypotheses

This research is fundamentally concerned with understanding the dynamic transformations that occur to city dividing walls over time, particularly in post-conflict urban environments. The central research question guiding this study is:How does materiality impact the types and nature of interventions that occur in and around post-conflict walls?

To address the main research question, several supporting sub-questions have been formulated. These sub-questions are distinct from the research aims, as they are designed to probe specific aspects of the phenomenon under investigation:

How does time affect the materiality of post-conflict walls and the interventions enacted upon them?

To what extent do various actions, whether political, economic, policy-driven, artistic, or ecological, influence the materiality and the range of possible interventions on these walls?

What frameworks should be developed and employed to guide future interventions and the ongoing management of post-conflict walls?

These questions collectively aim to catalogue the different types of post-conflict walls, with the goal of selecting archetypal cases for further, in-depth investigation. The research seeks to develop a series of methodological approaches for examining both human and non-human interventions in post-conflict walls across modern Europe. This will be piloted through an exploration of the peacelines in Belfast, serving as a foundational case study. Subsequently, the tested approach will be applied to additional cases through comparative analysis, thereby addressing the overarching research questions.

This project is conceived as a design-through-research initiative, with the final phase dedicated to creating a framework that enables communities to reimagine and transform these walls, from their original function as security infrastructure to new roles as cultural or ecological icons within their localities. The structure of this literature review section is intended to support and clarify the rationale behind these research questions and the methodological choices made.

While the research is exploratory in nature, several hypotheses and propositions are anticipated. It is expected that the material composition of post-conflict walls will significantly influence both the type and persistence of interventions, whether artistic or ecological. Political, economic, and policy actions are also expected to play a critical role in shaping the possibilities for transformation, while artistic and ecological interventions may serve as catalysts for reimagining the function and meaning of these structures. Ultimately, the development of a robust framework for future interventions is anticipated to empower communities to guide the evolution of post-conflict walls toward outcomes that reflect local values and aspirations.

Methodology

This research adopts a mixed-methods approach, integrating both qualitative and quantitative methodologies to ensure a robust and multifaceted analysis of post-conflict urban dividing walls. The rationale for employing mixed methods lies in the complexity of the subject matter, which encompasses not only the materiality of architectural structures but also the diverse human and non-human interventions that shape their evolution over time. Qualitative techniques, such as in-depth interviews, field observations, and trace analysis, are employed to capture the nuanced perspectives of stakeholders and the subtle transformations occurring within these spaces. Quantitative methods, including digital odelling and cataloguing, provide empirical rigor and facilitate the systematic comparison of case studies. The overall research design is structured to allow for iterative cycles of data collection and analysis, thereby enabling the triangulation of findings and the validation of emergent themes.

The selection of case studies is guided by a set of rigorous criteria designed to ensure both relevance and representativeness. Specifically, the research focuses on European urban sites that have experienced post-conflict scenarios, as these contexts offer rich opportunities for examining the interplay between architectural materiality and sociopolitical transformation, while also being geographically accessible to the researcher. The chosen cases are emblematic of broader phenomena, allowing for the extrapolation of findings to similar settings. Materials and subjects are selected based on their capacity to illuminate the research questions, with particular attention paid to the diversity of interventions, both human and ecological, that occur in and around these walls. The areas under investigation extend one and a half miles from the walls, reflecting the economic and social area of influence(McCord J.,McCord M.J.,McCluskey W.,Davis P.,McIhatton D.,Haran M. 2013).

A comprehensive suite of data collection tools is employed to capture the multifaceted nature of interventions on post-conflict walls. These include:

Desktop Studies: Utilization of web-available images, such as those from Google Earth, Google Street View, and satellite maps, to document spatial configurations and changes over time. These images are further processed using software such as Photoshop and Illustrator to enhance visual analysis and support comparative studies. (Rose 2016),

Trajectories, Cuppar Way

Photo - Google Maps edited by Holly Carton

Figure 1: Desktop studies, Credit: Google Maps, 2025

Digital Modeling: Simulation of weather and light conditions, as well as public and private interventions, to understand environmental and social dynamics. This is conducted using Rhino and Grasshopper, with outputs refined in Photoshop. (Ewing and Park, 2020)

Credit: Holly Carton, Baced on maps from OSNI

Figure 2: Digital Model, Credit: Holly Carton

Architectural Drawings: Detailed drawings of each wall and the surrounding art, including axonometric representations of how weeds or art interact with the walls. These are produced using AutoDesk, Illustrator, and Photoshop. (Leavy 2020)

Credit: Holly Carton, Baced on maps from OSNI

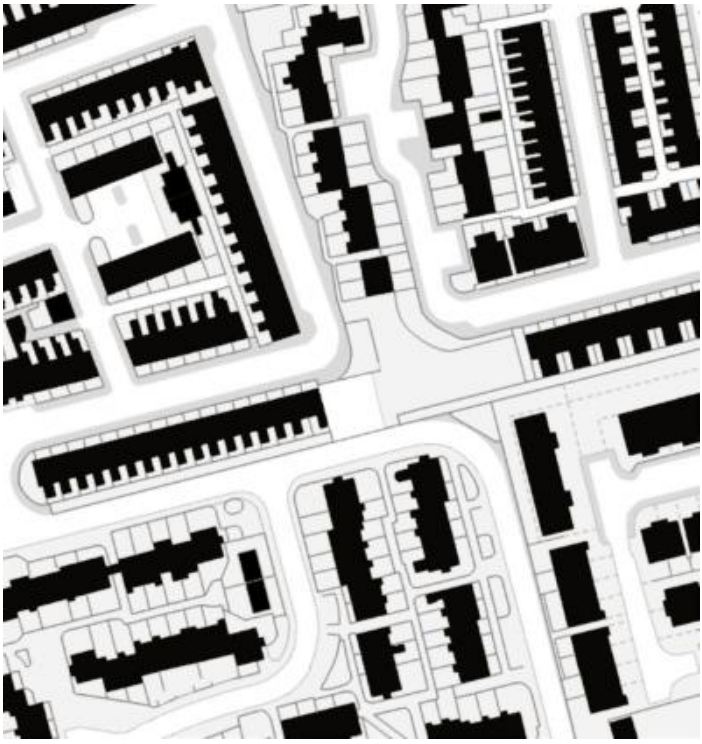

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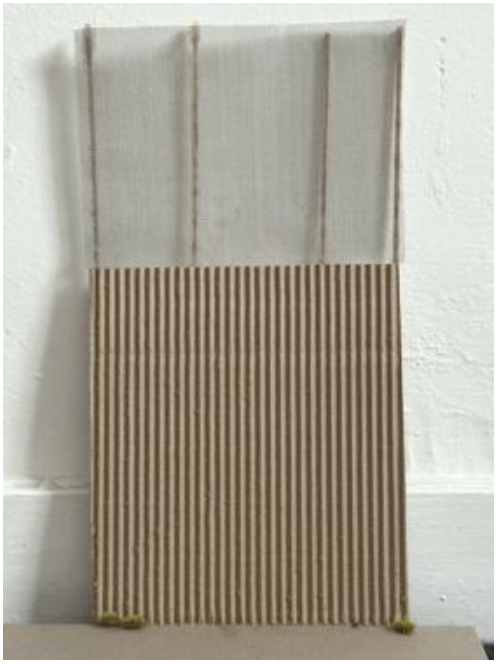
Figure 3: Architectural Drawings, Credit: Holly Carton

Figure 4: Architectural Drawings, Credit: Holly Carton

Physical Models: Construction of small sections using materials analogous to those found in the field, facilitating tactile and visual analysis. These models, built at scales such as 1:20 or 1:100, enable examination of materiality and spatial relationships in a controlled setting. (Rose 2016),

Credit: Holly Carton, Baced on maps from OSNI



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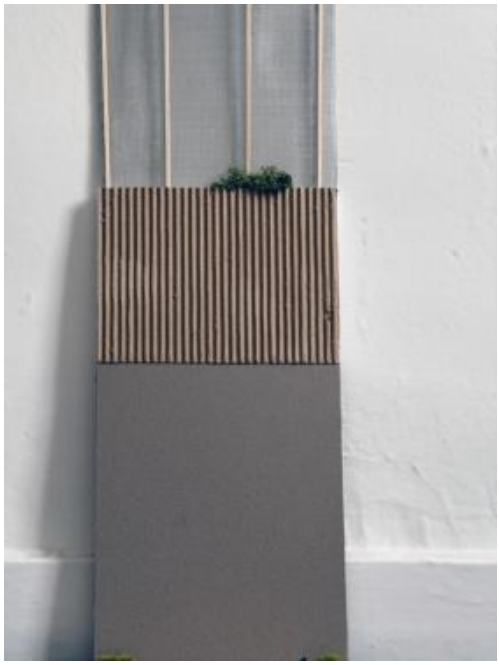

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Figure 5: Physical Models, Photos by Holly Carton

Figure 6: Physical Models, Photos by Holly Carton

Fieldwork: Site visits, photography, material sampling, and rubbings to gather empirical evidence of interventions and their material characteristics. Multiple site analyses in Belfast support the creation of a photo essay to study changes and trajectories over time. (Flyvbjerg 2001).

Evidence of non humansMetal frames to attach art offset from the wall.Marker tile and canvas as materials for artSigns and text attached to the walls.Physical human made edits to the wall, dents made by throwing, and bolts to stabilize columnsFlora growing under(weeds), on top of(moss), through(Buddleia) and out of the walls(grass). Fauna on the walls Effects of climate on the walls, sun damage, rust, and water damage. plaques glued, and sat on a L plate. Evidence of humansPhotos taken by Holly Carton

Credit: Holly Carton,

Figure 7: Field Work, Photos by Holly Carton

Interviews: Engagement with local residents, artists, owners, and other stakeholders to elicit qualitative insights into art on the walls and significance of interventions on the walls.(Gosseye, Stead and Plaat 2018, Gordon 2020)

The collected data are subjected to cataloguing, descriptive analysis, and visual interpretation, drawing on established frameworks such as those proposed by Rose (2016), (Ewing and Park, 2020) Zeisel (2006), and Flyvbjerg (2001). Comparative and content analyses are conducted to identify patterns and divergences across cases, while focused interviews and discourse analysis provide additional depth and context to the findings

The analytical strategy is designed to ensure methodological rigor and interpretive depth. Data are systematically catalogued and described, with visual analysis employed to elucidate material and spatial relationships. Physical and digital models are analyzed using case study methodologies, enabling the identification of intervention typologies and their temporal trajectories. Trace analysis is applied to material palettes, facilitating the comparison of interventions across different wall sections. Content analysis and comparative techniques are utilized to synthesize findings, while focused interviews are subjected to discourse analysis to uncover underlying themes and stakeholder perspectives.

The research is structured in two principal phases: the MPhil and the PhD. The MPhil stage initiates a broad investigation of post-conflict European dividing walls, employing a material cultural studies framework to categorize exemplar cases. This phase culminates in the selection of representative sites and the piloting of visual and architectural research methods, with Belfast serving as the foundational case study. The subsequent PhD phase extends the material investigation to additional cases, such as Nicosia, Berlin, and the Iron Curtain, thereby demonstrating the generalisability of the findings. The final stage involves the development

of guidelines and frameworks for future interventions, informed by the research outcomes and tested through design-based projects(Loveless 2019).

Ethical integrity is paramount throughout the research process. Interviews are conducted with the informed consent of participants, documented through signed forms or audio consent. Special care is taken to ensure the anonymity of respondents, particularly when dealing with sensitive political information. Audio and video recordings are made only with explicit permission, and alternative modes of communication are offered to accommodate participant preferences. Observational methods, including photography and mapping, are employed with the understanding that any individuals captured in images will be digitally removed to protect privacy. Archival research is conducted with strict adherence to data protection protocols, and all personal information is anonymized in reporting.

To ensure the reliability and validity of the research, multiple strategies are employed, including methodological triangulation, pilot studies, and reflexive analysis. The use of diverse data sources and analytical techniques enhances the robustness of the findings, while pilot studies allow for the refinement of methods and the identification of potential limitations. Reflexivity is maintained throughout, with the researcher critically reflecting on positionality and potential biases.

The research acknowledges several methodological constraints, including the challenges of accessing certain sites at particular times due to heightened tensions in the area, the potential for incomplete archival records or limitations in online resources, and the inherent constraints of qualitative interviews. These limitations are addressed through adaptive strategies, such as the use of alternative data sources and the triangulation of findings. By anticipating and responding to these challenges, the research maintains its methodological rigor and adaptability.

A pilot study is conducted to test the feasibility and effectiveness of the proposed methods, with the Belfast study serving as a practical example. This pilot provides valuable insights into the practical challenges and opportunities associated with the research design. The findings from Belfast inform subsequent stages of data collection and analysis, ensuring that the research remains responsive to emergent issues and is able to refine its approach as necessary.

The research is informed by feminist methodologies, acknowledging the outsider perspective of the researcher and the ethical complexities associated with studying dividing walls. (Law 2004, Harding, 2013) While the researcher recognizes the divisive nature of these structures, it is also understood that, for host communities, walls

may serve vital security functions. Reflexivity is maintained throughout, ensuring that the research remains sensitive to the diverse values and experiences of affected populations. The researcher's own positionality as an Irish individual studying in the UK is explicitly acknowledged, and efforts are made to mitigate potential biases and to approach the research context with humility and openness.

Case Studies

This section presents the empirical case studies selected for detailed analysis, all situated within Belfast. The choice of Belfast as the pilot location was primarily motivated by its accessibility to the researcher and the diversity of wall materials and interventions present. Sites were chosen not only for the variety of their physical construction but also for the presence of artistic expressions and spontaneous ecological growth, such as weeds, on or adjacent to the walls. The focus on Belfast allows for an in-depth exploration of post-conflict urban dividing walls within a manageable geographic scope, providing a foundation for broader comparative analysis in future research phases.

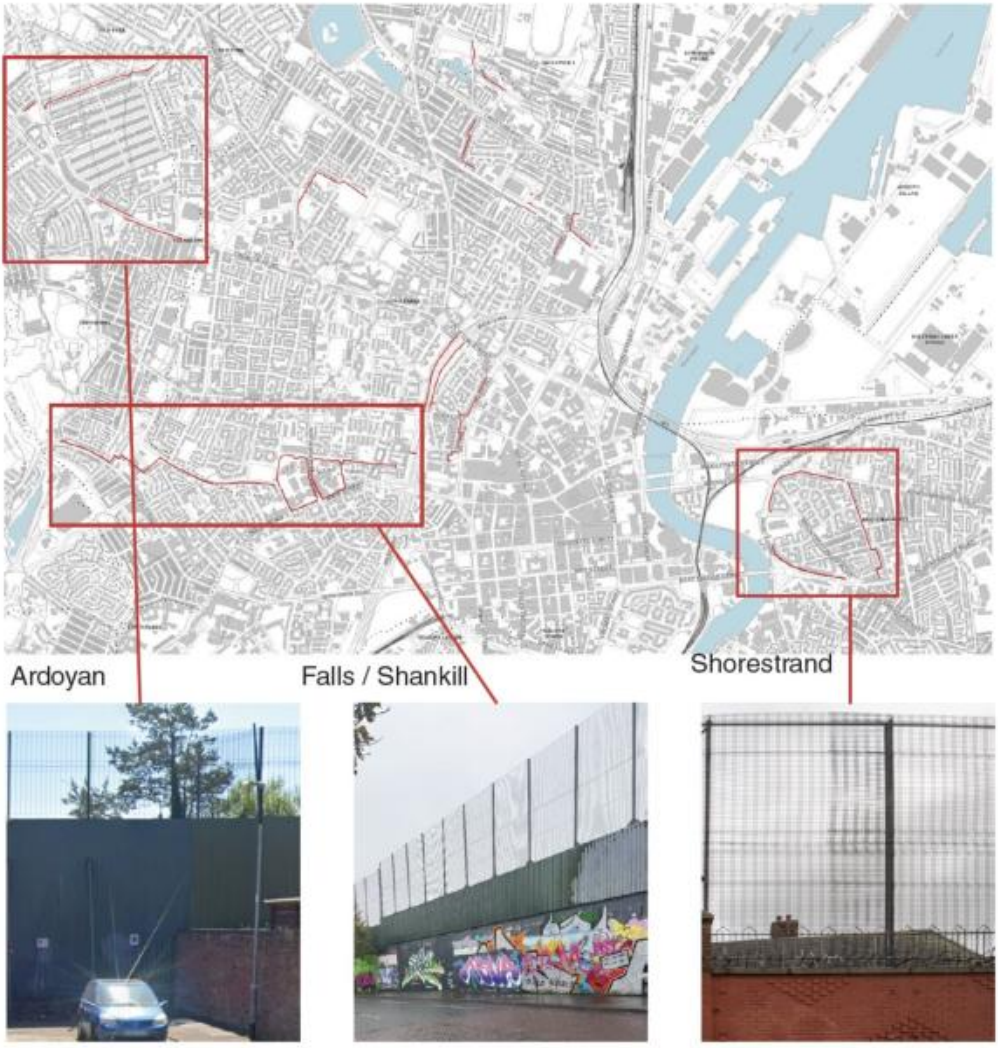

Figure 8: Belfast Map and Case Study, Credit Holly Carton based on Digi Maps, Photo Credit Google Maps Photos by Pascal Artur Witt, 8/25 (left) and Holly Carton (middle, right)

Case 1: Shankill / Falls

The first case study examines the wall separating the Shankill and Falls communities. This wall is the most prominent in Belfast, both in terms of its physical dimensions and the extent of scholarly attention it has received. It is the longest and tallest of the city's dividing walls, and it has been closely associated with tourism and historical episodes of violence. Its significance is further underscored by its role as a focal point for both local and international visitors.

The most well-known section of the Shankill/Falls wall runs along Cupar Way, reaching a height of approximately 14 meters. It is constructed from concrete and corrugated metal, topped with fencing for additional security. Another notable area is the "peacewall" section, which serves as a canvas for local artists to address current conflicts and social issues through their work. This dynamic use of space highlights the evolving function of the wall as both a barrier and a site of cultural expression.

Figure 9: Falls Shankill Map, Credit Holly Carton based on OSNI Maps, Photo Credit Google Maps Photos by Pascal Artur Witt, 8/25(left) and Holly Carton (middle, right)

Case 2: Shore Strand

The second case study focuses on Shore Strand, which is unique as the only dividing wall located in south Belfast; all other major walls are situated in the northern part of the city. This wall was constructed to separate a small Roman Catholic community from the surrounding predominantly Protestant population. Its distinct social context provides valuable insights into the localized impacts of urban barriers.

The Shore Strand wall is primarily composed of brick, with fencing installed on top. Of particular interest is the presence of ceramic, tile-based artwork, which adds a layer of aesthetic and cultural significance to the structure. This artistic intervention distinguishes the wall from others in Belfast and serves as a testament to the community's engagement with its built environment.

Figure 10: Shore Strand map, Credit Holly Carton based on OSNI Maps Photo Credit by Google Maps Photos (left, right) and Holly Carton (middle)

Case 3: Ardoyne / Crumlin

The third case study examines the Ardoyne and Crumlin walls, which are more fragmented and disjointed compared to the other examples. These walls are located near the Falls/Shankill wall, making them easily accessible for comparative analysis. Their dispersed nature reflects the complex spatial dynamics of post-conflict urban landscapes.

The Ardoyne walls exhibit the most pronounced signs of dereliction and abandonment. While the majority of these walls are constructed from brick, the surrounding neighborhoods feature large and visually striking murals. However, few of these artistic installations are found directly on the walls themselves, suggesting a spatial separation between sites of artistic activity and the physical barriers.

Figure 11: Ardoyan map, Credit Holly Carton based on OSNI Maps Photo by Google Maps Photos (left, right, middle)

A comparative overview reveals several key distinctions among the case studies. Tourism exerts a significant influence, particularly on the Falls/Shankill wall, as evidenced by the frequent presence of tour groups and black cabs(McLintock 2020). This wall's height and prominence

make it a primary destination for visitors. In contrast, the Shore Strand wall evokes a sense of trespass, likely due to its location within a tightly-knit residential estate. The Ardoyne area, with its more open spaces, conveys feelings of isolation and abandonment. These differences underscore the interplay between physical characteristics, social context, and public perception. Notably, themes of surrounding space, wall height, artistic intervention, and ecological growth (such as weeds) recur across the sites.

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Figure 12: Photo by Google Maps Photos

Figure 13: Photo by Google Maps Photos

Figure 14: Photo by Google Maps Photos

Figure 15: Photo by Google Maps Photos

The historical context of these walls is rooted in the conflict between Roman Catholic, North of Ireland republican communities and Protestant, Northern Ireland unionist populations. The peak of the conflict occurred in the 1970s, with the peace process formally initiated in 1994 through agreements brokered by the governments of the United Kingdom, Ireland, and the United States. Artistic expression on the walls reflects these divisions: the unionist side features more depictions of local community life and conflict, as well as areas designated for graffiti and tourist inscriptions. The republican side, by contrast, emphasizes cultural identity and solidarity with other global conflicts, notably Palestine.

Belfast's temperate and wet climate shapes the ecological context of the walls. Summers are mild, and winters are characterized by frequent rainfall, fostering the proliferation of weeds, moss, and lichens during the spring and summer months. As an urban center, Belfast supports a range of fauna adapted to city life, including birds, rodents, and insects. These environmental factors contribute to the ongoing transformation of the walls and their immediate surroundings.

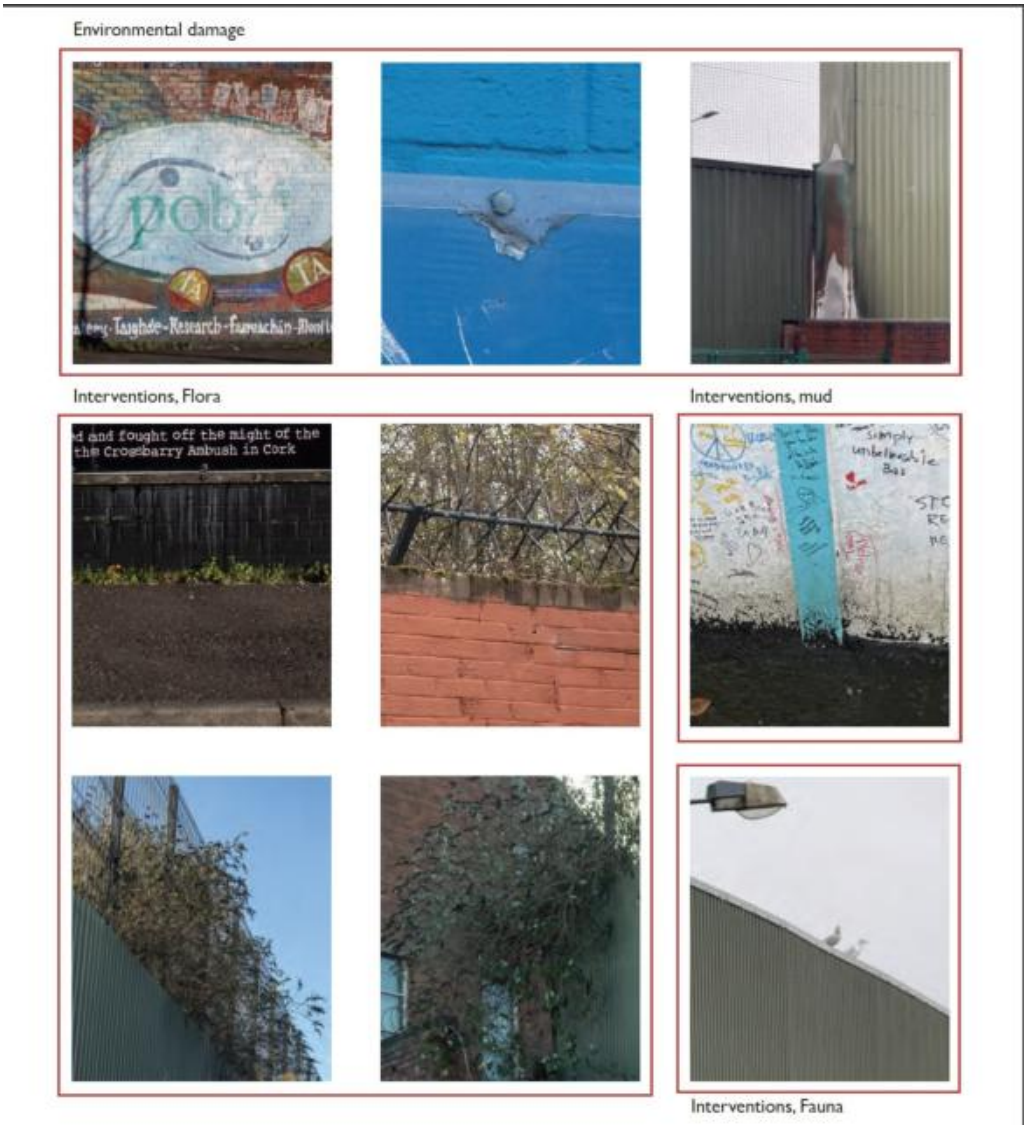

Figure 16: Photo by Holly Carton

The selected case studies illuminate the research problem by demonstrating the multifaceted impacts of post-conflict urban walls. Through analysis of materiality, artistic intervention, ecological processes, and social context, the research advances understanding of how these structures evolve and interact with their environments and communities. The diversity of cases within Belfast provides a rich empirical foundation for addressing the central research questions and developing frameworks for future interventions

Figure 17: Photo by Holly Carton

Figure 18: Photo by Holly Carton

Figure 19: Photo by Holly Carton

Preliminary Findings and Observations

To date, a comprehensive set of data has been gathered, including detailed maps of all study areas, architectural drawings of two principal walls, and physical models constructed at a scale of 1:20. Additionally, all three walls have been recreated as paper models at 1:100, providing a tactile dimension to the analysis. Extensive fieldwork has been conducted across each site, allowing for direct observation and documentation of the walls and their surrounding environments.

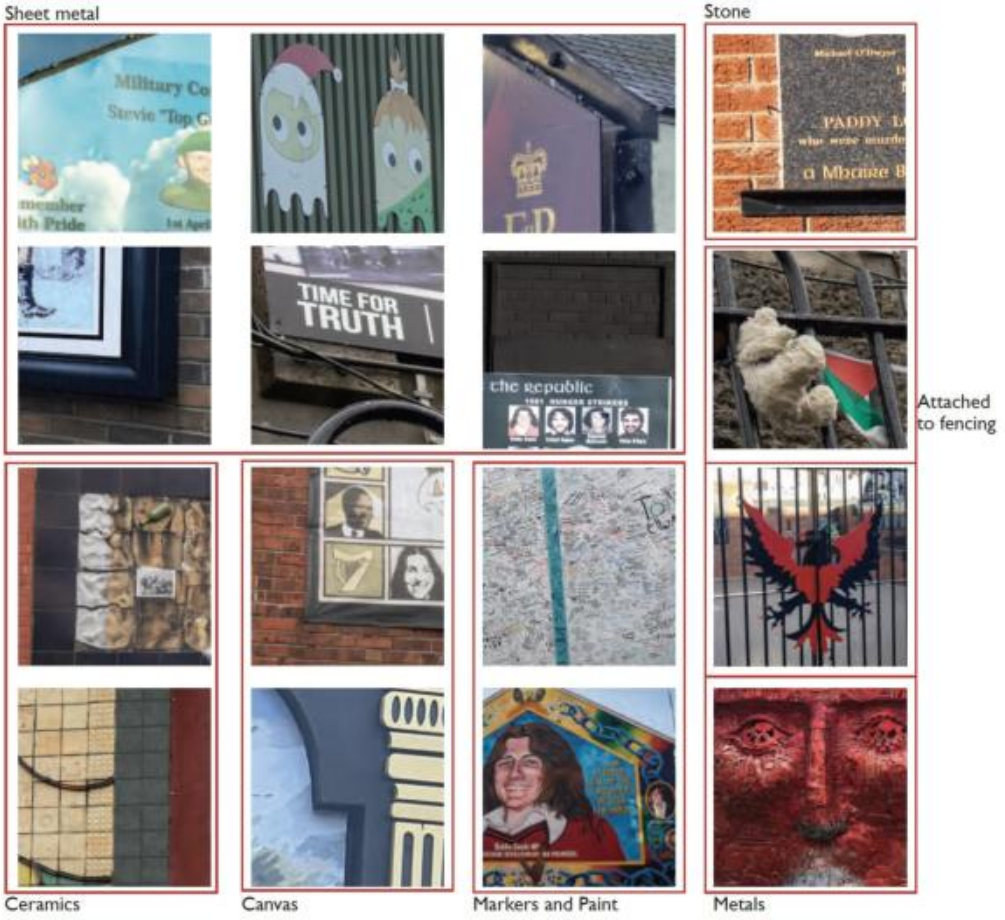

Figure 20: Photo by Holly Carton

Preliminary analysis reveals several recurring themes and notable patterns. Foremost among these is the remarkable diversity in the materiality of the art found on and around the walls. The spectrum includes aluminium sheets printed with plastic coverings, tile and ceramic artworks, granite and metal plaques, other metal art, canvas and framed canvas, banners affixed to fences, painted and spray-painted walls, stickers, and various signs. The breadth of artistic media and the methods used to attach them to the structures are particularly striking. Trace analysis further highlights the presence of litter, dead leaves, spray paint drips on the ground, and evidence of objects thrown at the walls. Both official and unofficial signage is prevalent, with the addition of Irish Gaelic on republican signage underscoring the cultural divisions present

Figure 21: Photo by Holly Carton

Each site exhibits unique characteristics. The pop-up café adjacent to the Falls wall stands out as a focal point for "dark tourism," with tours deliberately incorporating breaks at this location. Artistic traces differ between the republican and unionist sides: the former displays more brushstroke drops, while the latter shows greater evidence of spray techniques. Both sides feature canvas works and aluminium printed sheets. The Falls side provides areas for tourists to sign and larger spaces for non-political graffiti, whereas the Shankill side is dominated by murals depicting various political conflicts. Memorial gardens are present on both sides, with the Shankill garden abutting the wall itself. Notably, the Falls wall was the only site where birds were documented sitting atop the structure. At Shore Strand, ceramic-based art predominates, with fewer painted or aluminium works. There is clear evidence of older walls being repurposed or extended, such as bricked-up openings and modifications to increase wall height. Auditory evidence of birds was noted, though not visually confirmed. The Ardoyne area features murals and aluminium sheets, but fewer installations directly on the walls. Signs of dereliction, litter, and leaves accumulating in corners, as well as abandoned spaces, are more pronounced here.

The findings regarding the art are consistent with themes identified in previous research (McAtackney 2014; Dahdal 2017). However, the wide

variety of materials used for artistic expression has not been extensively documented in the literature, marking a novel contribution of this study.

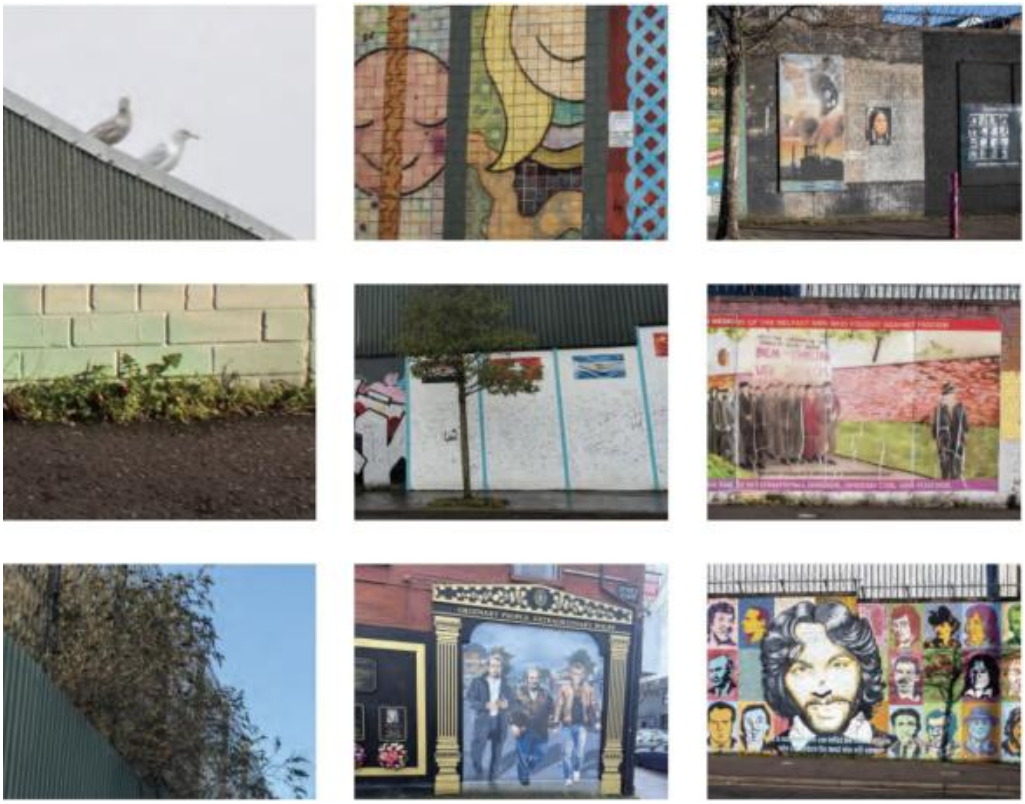

Figure 22: Photo by Holly Carton

Challenges during initial data collection included inclement weather, technical difficulties with equipment, and the social dynamics of working within unfamiliar communities. These constraints have informed adaptive strategies for future fieldwork.

The preliminary findings highlight the diversity of artistic and ecological interventions on Belfast's post-conflict walls, the influence of materiality and construction techniques, and the persistent impact of environmental and social factors. These insights lay the groundwork for deeper analysis and the development of frameworks to guide future interventions. Further analysis suggests that the transformation of these walls is not solely a product of intentional design but is also shaped by spontaneous and sometimes unpredictable processes. For example, the proliferation of weeds and moss is closely linked to microclimatic conditions and the physical properties of the wall surfaces. The durability of ceramic and metal installations contrasts sharply with the rapid deterioration of canvas and plastic-based artworks, indicating that material choice is a critical factor in the longevity of interventions. The ecological dimension is further illustrated by the presence of birds, insects, and other fauna, which contribute to the dynamic character of the wall environments. These findings underscore the importance of considering both human and non-human actors in the analysis of post-conflict urban spaces.

Overall, the preliminary observations provide a nuanced understanding of the complex interplay between materiality, artistic intervention, ecological processes, and community agency. These insights will inform the next phase of research, which will focus on developing practical guidelines and frameworks for future interventions

Discussion

The interpretation of my finding thus far are as follows:

How does materiality impact the types and nature of interventions that occur in and around post-conflict walls?

The findings indicate that the materiality of post-conflict walls exerts less influence on the types and nature of interventions than initially anticipated. Instead, climatic factors appear to play a more significant role in shaping both artistic and ecological interventions. While the physical properties of the walls do affect the methods by which art is attached or affixed, such as the suitability of surfaces for painting or mounting installations, the presence of similar flora across different wall types suggests that materiality does not substantially impact plant growth. Notably, the height of the walls may be a more critical factor influencing local fauna, as it affects the accessibility and habitat potential for birds and other urban wildlife.

How does time affect the materiality of post-conflict walls and the interventions enacted upon them?

Time emerges as a crucial variable in the transformation of post-conflict walls. The duration required for certain species, such as buddleia, mosses, or lichens, to establish themselves underscores the importance of temporal processes. Prolonged exposure to climatic conditions accelerates the degradation of artistic interventions, with materials such as canvas and plastic coverings showing visible signs of wear over time. Additionally, there is evidence that the walls themselves undergo physical modifications, such as being made taller, which further influences the trajectory of interventions.

To what extent do various actions, whether political, economic, policy-driven, artistic, or ecological, influence the materiality and the range of possible interventions on these walls?

Various actions, political, economic, policy-driven, artistic, and ecological, collectively shape the materiality and range of possible interventions on these walls. For example, shifts in political climate have led to changes in the content and medium of wall art, such as the replacement of violent imagery with depictions of community service, often rendered on more durable materials like aluminium sheets. The evolution of artistic expression is thus closely tied to broader societal trends and the ongoing negotiation of meaning within these contested spaces.

The findings corroborate and extend existing theoretical frameworks, such as those proposed by N. Kliot and Y. Mansfield, situating the current state of these walls at the juncture of “Unification” but prior to becoming “uncomfortable monuments” as described by Kowarik. Although the

walls may be politically unified, underlying tensions persist, as evidenced by media restrictions and the continued negotiation of their symbolic significance. This research thus contributes to the understanding of post-conflict urban spaces as dynamic and evolving entities, rather than static memorials.

From a practical perspective, the durability of artistic materials varies considerably. Ceramic installations demonstrate superior resilience to weathering, with little to no visible damage, while canvas and plastic coverings are prone to fading, cracking, and deterioration due to sun and rain exposure. Paint is also susceptible to environmental degradation. Ecological interventions, such as the growth of weeds, moss, and lichen, persist regardless of material type, suggesting that future design guidelines should account for both artistic and ecological processes in the transformation of post-conflict walls.

One of the most surprising outcomes was the sheer diversity of materials used in artistic interventions. This variety appears to be a response to local climatic conditions and community efforts to preserve art for extended periods. Additionally, the physical modification of walls, such as the extension and fortification observed in Shore Strand, highlights the ongoing evolution of these structures beyond their original function.

The study's findings align with existing research regarding the themes and functions of wall art in post-conflict settings. However, the extensive range of materials employed for artistic expression has not been widely documented in previous literature, marking a novel contribution of this research. This underscores the importance of materiality not only in architectural analysis but also in understanding the socio-cultural dynamics of urban transformation.

Several constraints were encountered during the research process, including inclement weather, technical challenges with photographic equipment, and the complexities of conducting fieldwork in unfamiliar communities. These limitations have informed adaptive strategies for future research, such as improved logistical planning and methodological flexibility. Continued fieldwork is planned to address gaps and further refine the analysis.

In synthesising these findings, it becomes clear that the transformation of post-conflict walls is a multifaceted process shaped by the interplay of environmental, social, and political factors. The research highlights the importance of adopting a holistic approach to the study of urban barriers, one that integrates material analysis with ecological and community perspectives. The dynamic nature of interventions, both intentional and spontaneous, suggests that post-conflict walls are not merely relics of past violence but active sites of negotiation, creativity, and renewal.

The discussion highlights the complex interplay between materiality, climate, time, and societal influences in shaping the evolution of post-conflict walls. The research advances understanding of these structures as dynamic sites of artistic and ecological intervention, with implications for theory, practice, and policy. These insights set the stage for further investigation and the development of frameworks to guide future transformations.

Conclusion

This research has systematically examined the materiality, artistic interventions, and ecological processes associated with post-conflict urban dividing walls, with a particular focus on case studies in Belfast. The findings reveal that while materiality influences the methods by which art and interventions are affixed to walls, climatic factors and timing dynamics play a more significant role in shaping both artistic and ecological outcomes. The diversity of materials used in artistic expression, the persistence of flora across sites, and the evolving nature of interventions underscore the complexity of these urban structures.

By integrating qualitative and quantitative methodologies, this research advances the field of architecture through its comprehensive analysis of post-conflict walls as dynamic entities. The study contributes new insights into the interplay between materiality, climate, and social context, highlighting the importance of considering both artistic and ecological interventions in the transformation of urban spaces. The development of a research-through-design framework will offer practical guidelines for future art installations and ecological reclamation, supporting the evolution of these walls from security infrastructure to cultural and ecological landmarks.

Building on the preliminary findings, future research should expand the comparative analysis to additional post-conflict sites across Europe and beyond. Longitudinal studies are recommended to monitor the temporal evolution of interventions and to assess the long-term impacts of material choices, climate, and community engagement. Further investigation into stakeholder perspectives and policy implications will enhance the applicability of the research framework and inform adaptive strategies for urban transformation.

In closing, this research has laid the groundwork for a deeper understanding of post-conflict urban walls, emphasising the significance of interdisciplinary approaches and community involvement. The insights generated here are intended to inform both academic discourse and practical policy, fostering the development of urban environments that reflect and enrich the diverse values of their communities. The study's emphasis on the integration of ecological and artistic perspectives positions it at the forefront of contemporary architectural research. By foregrounding the agency of both human and non-human actors, the research challenges traditional narratives that treat walls as static relics of conflict, instead presenting them as evolving sites of negotiation, creativity, and renewal.

Looking ahead, the recommendations and frameworks developed through this research can serve as valuable resources for policymakers, urban designers, and community leaders seeking to address the challenges and opportunities presented by post-conflict walls. The adaptability of the research-through-design approach ensures that it can be tailored to diverse contexts, supporting the creation of inclusive, resilient, and culturally resonant urban spaces.

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Eyes of Epoché Suspended Vision and Discovered Space

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vision, perception, architectural fiction, visual apparatus, image

Abstract

This essay traces a research process shaped through unplanned shifts, detours, and moments of trial and error. The research unfolded through architectural fiction, alongside theoretical and historical inquiry, image archiving, and experiments with visual apparatuses. Each attempt interacted with and influenced the others, collectively expanding the research in unforeseen ways. Within this non-linear development, it explores how vision structures architectural thinking and spatial production, while opening up alternative possibilities through the disruption and deferral of existing visual systems.

The Problematisation of Vision in Architecture

As the most powerful sense through which we perceive the world, vision has long functioned as a condition that allows the world to appear ordered and coherent. To question vision, therefore, is to destabilize the entire framework of perception. In architecture in particular, vision has operated as the most powerful and self-evident premise, while at the same time functioning as a condition that scarcely needs to be questioned. It would not be an exaggeration to say that architecture has always been organized around vision. Since the Renaissance, perspective has functioned as a language that disciplines space, and in the modern period, photography and mass media have established this visual order as a universal standard. Today, digital rendering and VR technologies further reinforce this tradition, reducing architecture increasingly to an object of image-based consumption. Despite repeated critical discourses on oculocentric architecture, we continue to inhabit architectural environments that are visually polished and immediately consumable.

Questioning the privileged status of vision has not been confined to architectural discourse. Since the nineteenth century, philosophy, science, literature, and art have increasingly ceased to regard vision as a transparent medium of perception or a guarantor of truth. Perception came to be understood not as a simple reflection of sensory input, but as a complex process entangled with the body, technology, language, and power. Vision, in turn, became persistently examined as a site of distortion, illusion, mediation, and conditioning. Philosophy reconsidered the epistemological status of vision, science revealed perception as a learned and constructed process, and literature and art dismantled the transparency of representation, transforming vision into a field of experimentation by destabilizing the viewer's point of view. As Martin Jay has articulated in *Downcast Eyes*, these developments form a genealogy in which vision is treated not as a foundation of certainty, but as an object of continuous problematization.

By contrast, cases in which vision itself has been directly questioned within architectural discourse are relatively few. Kenneth Frampton

criticized spectacle-driven and image-centered architectural culture and argued for the necessity of resistance grounded in place and materiality, while Juhani Pallasmaa sought to weaken visual dominance through tactility, corporeality, and multisensory experience. While these discussions may have succeeded in critiquing the cultural conditions surrounding vision, they did not fully pursue how vision itself is constructed, learned, and made operative, nor how it has organized design thinking and spatial production. Vision was repeatedly identified as a problem, yet its potential was never fully excavated, and it ultimately returned as a self-evident premise. This research was formed precisely at this point, within the theoretical gap that remained after critiques of vision. Rather than attempting to replace or abandon vision, it seeks to explore whether other possibilities exist by twisting and delaying existing visual systems, thereby questioning how vision organizes design thinking and the production of space.

The Eyes of Epoché

The difficulty lies in the fact that, from the position of the architect, taking vision itself as an object of inquiry is almost impossible. The act of "seeing" is so ordinary and habitual that the moment it is designated as an object of research, thought is easily pulled back into already solidified schemas. Attempts to analyze vision tend either to be reduced to established epistemological languages or to shift abruptly toward a rejection of vision altogether. Under these conditions, to study vision was less a matter of presupposing a clear conclusion than of accepting the possibility that the inquiry might remain unresolved. For this reason, rather than explaining or defining vision, this project takes the form of a thought experiment that first establishes conditions under which its usual premises no longer operate. In other words, instead of taking the act of "seeing" as its point of departure, this work attempts to trace the structure of vision in reverse by starting from a state of "not seeing."

From a medical perspective, "not seeing" refers to blindness, a condition in which visual information cannot be perceived due to damage to the visual organs or the nervous system. From a cognitive perspective, however, seeing is not a simple sensory input, but a process that actively interprets visual information through accumulated knowledge and experience. When we see a car moving away from us, the image projected onto the retina becomes progressively smaller, yet we do not perceive the car as shrinking. Learned knowledge intervenes immediately, constructing the judgment that the car is receding into the distance.

In this context, the "not seeing" assumed in this research does not signify the loss of vision, but rather a suspension of interpretation. Basic visual stimuli such as color, contrast, and distance are registered, but judgments about what they are have not yet been formed. This condition is comparable to the vision of a newborn infant. This is what the research refers to as the *Eyes of Epoché*.

The Thought Experiment

Such a state of "not seeing" is difficult to define theoretically or to reproduce empirically. Under conditions in which we live with vision that is already learned and automated, directly observing or analyzing a prior state is nearly impossible. Accordingly, rather than attempting to explain this condition, the research adopts a strategy of hypothetically setting up the conditions under which it might be possible. Fiction here does not function as an escape from reality, but as a form of thought experiment that constructs situations in which existing perceptual structures no longer function.

This approach is informed by a series of thought experiments that have repeatedly appeared in philosophy. Molyneux's problem in the late seventeenth century asks whether a person born blind, who has learned to distinguish a sphere and a cube through touch alone, would be able to visually distinguish them immediately after gaining sight. Condillac's theory of sensation in the mid-eighteenth century imagines a statue devoid of all sensation that gradually acquires senses one by one, in order to investigate how cognition is constructed step by step. Frank Jackson's *Mary's Room* in the late twentieth century asks whether a person who has acquired all physical knowledge about color in a black-and-white environment would learn something new upon seeing red for the first time. These thought experiments share a common strategy: in order to demonstrate that sensation and perception are not self-evident faculties but conditional and constructed processes, they posit initial states or extreme situations that cannot be directly verified in reality.

Alongside these thought experiments, this research proposes an architectural fiction titled *Eyes of Epoché*. *Eyes of Epoché* imagines a figure whose body, from the neck down, has been completely immobilized since birth, and who has lived her entire life without any interaction with others, facing only a single visual scene. Smell, taste, hearing, and touch are extremely limited or blocked altogether, and her sole relationship with the world is a repeatedly presented visual scene. She looks out at an urban landscape through a window, yet she does not grasp what it signifies, nor does she even recognize the bodily similarity between herself and others. This setting constructs, in the form of a thought experiment, a condition in which vision exists prior to its organization into meaning and concepts, that is, a condition in which interpretation is suspended.

From Theory to Image

Eyes of Epoché did not emerge as a finished narrative outcome that subsequently triggered the research. Rather, it was continuously revised and expanded throughout the research process itself. As a result, the study did not unfold according to a clear sequence or fixed methodology, but instead progressed through multiple branching trajectories that simultaneously interfered with and amplified one another.

Within this non-linear development, historical and theoretical inquiry served as an initial means of delineating the field in which vision has operated. In its early stages, the research focused on how optical illusion,

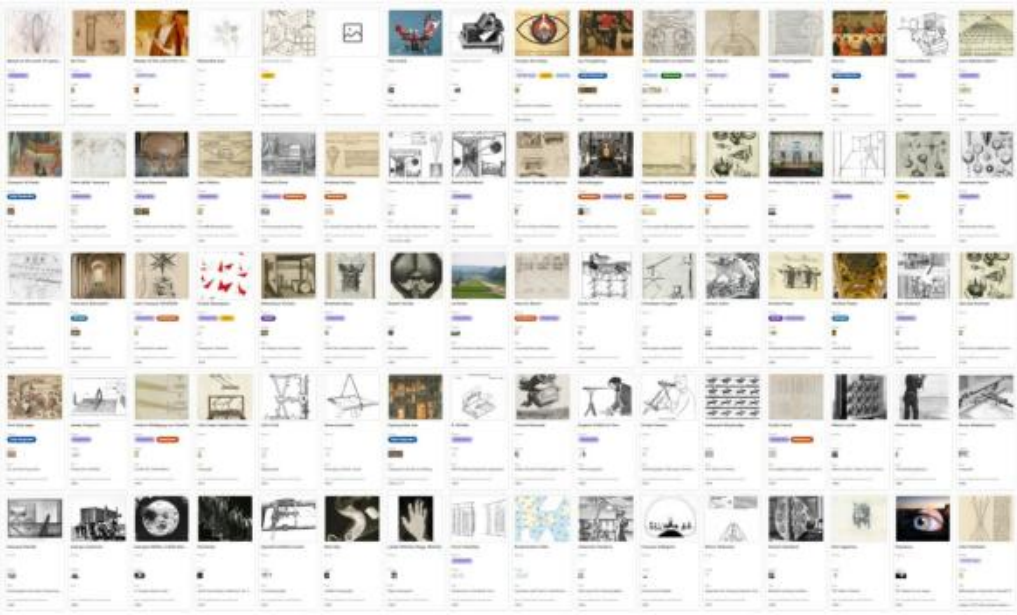

Figure 1: Digital Archive : a contemporary cabinet de curiosité, a constellation of mosaics and images assembled to examine vision as a constructed and historically conditioned system. Image by the author, 2026.

perspective, and visual perception have shaped the formation and perception of architectural space, ranging from visual corrections in ancient architecture to perspectival experiments in the Renaissance and Baroque periods, and further to transformations in visual technologies and theories of perception in the modern era. This phase was articulated in a peer-reviewed paper presented at the AMPS conference, yet it also revealed a critical limit: historical and theoretical explanation alone could not advance the inquiry.

This realization redirected the research toward images and their arrangement, leading to the construction of a digital archive (Fig. 1). Initiated during the theoretical phase, the archive was built through the selective collection of more than 200 images rather than through comprehensive textual study. It extended beyond architecture and fine art to include visual materials related to anatomical and physiological models of the eye, scientific diagrams of vision, geometries of perspective, drawing machines, camera obscura, spectacles, and mechanical attractions. These images were minimally labelled and organized not to provide in-depth explanation, but to enable visual comparison, juxtaposition, and cross-reading across domains. Materials were loosely clustered to allow overlaps and frictions rather than fixed interpretation, shifting the research from explaining vision to observing how visual systems recur, intersect, and mutate across disciplines.

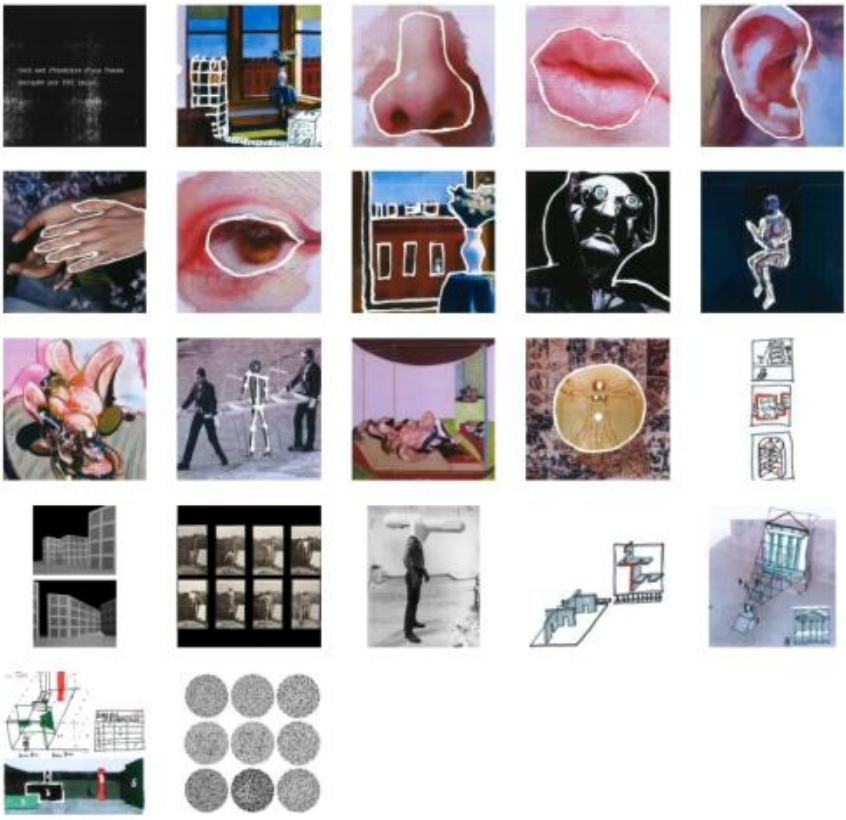

Figure 2: Storyboard, first version. Collage-based exploration of narrative structure and visual logic. Image by the author, 2026.

The Fiction and Experiments

The fiction *Eyes of Epoché*, which was continuously revised throughout the research process, was planned to be developed into a photo-roman film and images accumulated through the archive became the material basis for the film. A first storyboard was produced through collage, combining architectural and artistic references in a sketch-like manner to test narrative structure and visual logic (Fig. 2).

Beyond proposing the *Eyes of Epoché* as a conceptual framework within fiction, the research also unfolded through various experiments aimed at reproducing it physically. The representation courses at WKU became an experimental platform where perspective, photography, and attraction-based visual devices were manipulated and twisted (Fig. 3). Through this process, mechanical devices and experimental visual apparatuses were designed and prototyped to induce modes of spatial perception that escape conventional visual systems. This phase led to the realization that the very conditions required to materialize visual experiments constitute an essential part of the research itself.

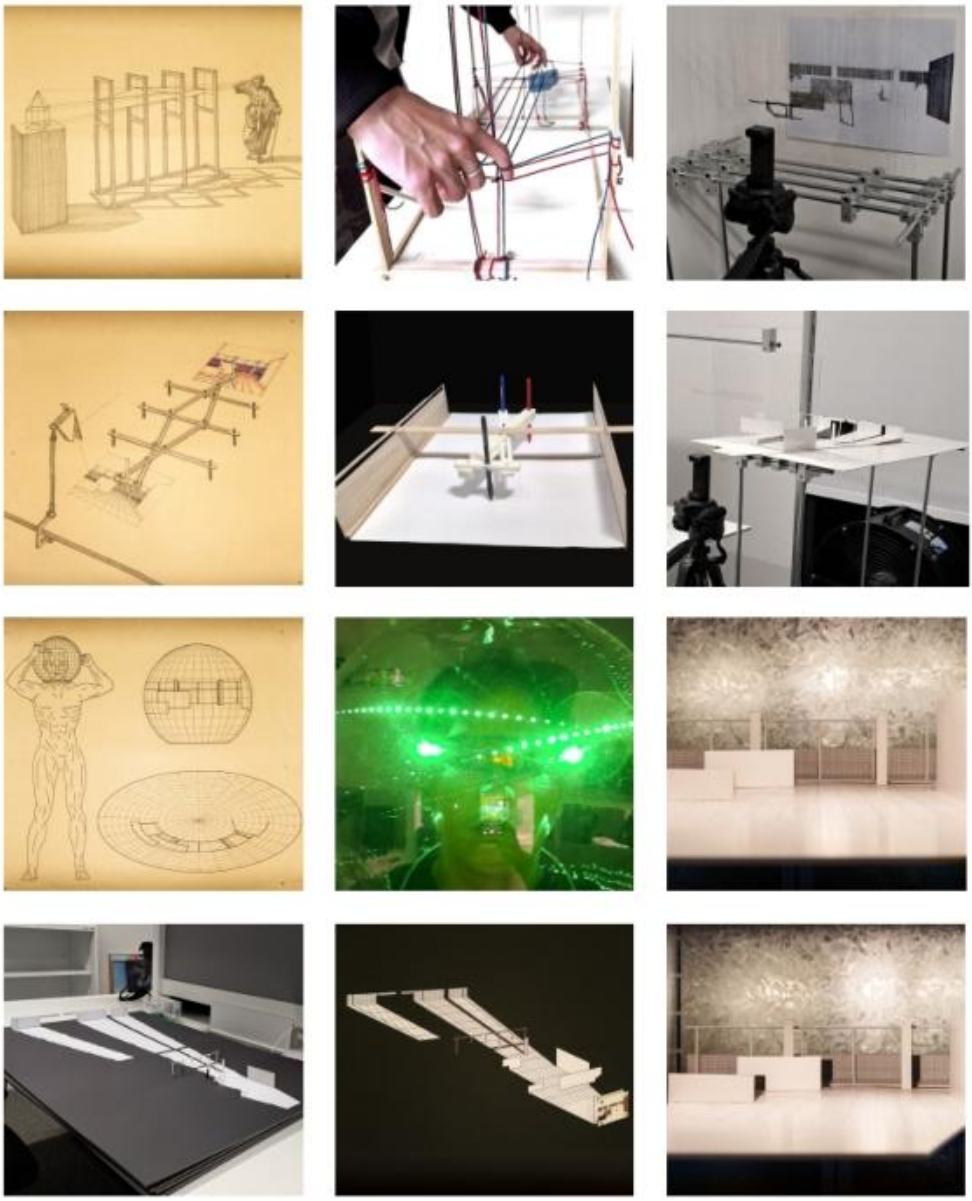

Figure 3: Prototypes and images of experimental devices that manipulate visual conditions through spatial and representational constraints.
Image by the author, 2026.

Figure 4: Storyboard, second version. Development toward a photo-roman and short film.
Image by the author, 2026.

In parallel with the experiments on visual apparatuses, the research continued through theoretical and historical inquiry, during which more clearly defined visual references were accumulated. Based on this, a second storyboard was developed, and in order to maintain overall coherence, the images were kept in a predominantly black-and-white tone (Fig. 4).

Figure 5: Exhibition view. Installation view showing the screening of the short photo-roman film.
Image by the author, 2026.

Figure 6: AI-generated images. Experimental image generation under practical constraints.
Image by the author, 2026.

The Trajectory

In this research, fiction, archival investigation, theoretical and historical study, image experimentation, and apparatus construction were not arranged as linear stages. Rather than producing independent outcomes, they were intertwined as a continuous inquiry into how vision has operated within architecture. This mode of development can be understood as a non-linear trajectory that inevitably emerges under research conditions that do not presuppose automated vision. This research process was first presented to an external audience through the exhibition *Without Parallax*, held in Seoul in November 2025 (Fig. 5), which included the final version of the photo-roman film composed of AI-generated images (Fig. 6).

The exhibition was conceived not as a space to explain or summarize the research outcomes, but as a site of testing, where hypotheses formed through this non-linear trajectory collided with external perspectives. Through these conditions, the *Eyes of Epoché* proposes that design-driven and artistic research in architecture can move beyond mere representation or critique, opening a space in which the relationship between perception and space can be reconsidered and potentially reconfigured in practice.

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TOILET
A Queer Dimension

Maria Chiara Dolce, Sapienza University of Rome

toilet, bathroom, queer, inclusion, LGBTQIA+

Abstract

This research reframes public toilets as a critical lens to examine the built environment beyond a purely functional perspective. Conceived as architectural dispositifs shaped by normative, political, and cultural intentions, these spaces reveal mechanisms of inclusion and exclusion that regulate access, orient behaviours, and contribute to identity construction. The study investigates how sanitary architectures have historically participated in the normalization of bodies and the consolidation of binary gender frameworks, in dialogue with queer theory. The concept of trajectory is adopted as an analytical tool to interpret space as a relational and processual construct, emerging from interactions between spatial configurations, embodied practices, and power structures. Public toilets thus emerge as contested sites where issues of gender, sexuality, and accessibility are continuously negotiated. Through case studies and an interdisciplinary approach, the research advocates for integrating queer perspectives into architectural practice, reimagining these spaces as laboratories of inclusion and transformation within the public realm.

The central role of bathrooms in modernity is clearly articulated by Lawrence Wright, who argues that the history of peoples can be learned more effectively from their bathrooms than from their battlefields. The aim of this research is to restore bathrooms to a central position within the analysis of the built environment, from which they have traditionally been relegated to a functional and marginal dimension of architectural design. The study demonstrates how bathrooms are in fact pivotal to understanding the social production of space and urban rights. As architectural spaces endowed with a specific normative, political, and cultural intentionality, their physical configuration is shown to shape behaviors, relationships, and forms of access, revealing implicit mechanisms of inclusion and exclusion and positioning them as sites of identity negotiation with high symbolic and regulatory intensity.

Interest in public toilets as devices for the assertion of the rights of a minority, or of multiple minorities, has developed extensively and in parallel across different cultural contexts, driven by diverse and often adverse social conditions. The Indian architect Anupama Kundoo, for example, places the bathroom at the center of the architectural discourse by designing the *Easy WC* not as an isolated architectural object, but as part of a holistic design vision shaped by social needs. Its presentation at the 2016 Venice Architecture Biennale marked a growing interest in the experimental potential of small-scale, sustainable, and low-cost architecture, conceived to encourage local self-construction while reducing material costs and environmental impact. In this case, public toilet architecture becomes a means to generate awareness and community; however, it does not constitute the sole trajectory within this line of inquiry.

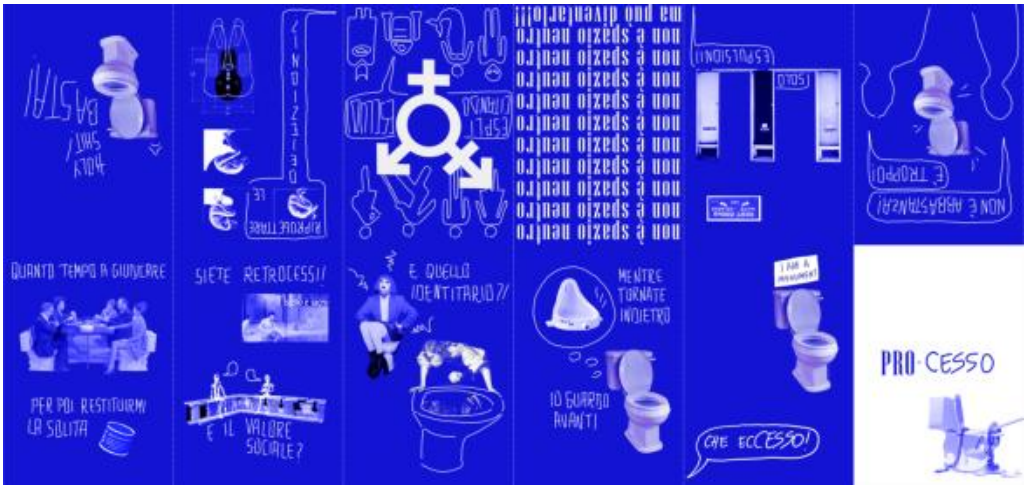

Figure 1: Pro-cesso, fanzine produced by Maria Chiara Dolce during the seminar "Architecture and Irony". The title is a play on words: while its literal translation would be "process," in Italian "cesso" is a colloquial term used to refer to a toilet, ©Maria Chiara Dolce

Over the past century, various artistic practices—from Frida Kahlo to George Michael to Alessandro Michele—have sought to represent the bathroom, almost invariably foregrounding its relationship with intimacy. Yet which historical transformations have shaped the architecture of bathrooms, and which political or social tensions have driven these changes? The historical trajectory of this minimal and universal service traces a path from the act of bathing to the present day.

Several exemplary cases within the contemporary architectural landscape have brought renewed attention to bathroom architecture, such as *The Tokyo Toilet* project by the Nippon Foundation, which has restored dignity to public toilets. Through the mapping of this intervention, it becomes possible to highlight the multiscalar nature of the bathroom, demonstrating how a single architectural element can resonate across the entire urban system."The toilet is today the fundamental zone of interaction between humans and architecture on the most intimate level, [...] at once the most private and the most political element".

The research therefore adopts an interdisciplinary methodological approach that combines historical analysis, critical readings of architectural space, and the study of contemporary case studies, bringing into relation projects, urban policies, and practices of use. The objective is to interrogate the role of architecture not merely as a formal outcome seeking to restore theoretical and aesthetic dignity, but as an active agent in the processes of inclusion and exclusion that traverse public space.

Bathrooms are here understood as a relational field in constant becoming, open to conflict and transformation. This entails questioning the very structure of spaces built upon binary identity models that exclude bodies considered atypical. By addressing this topic, the research seeks to fill a critical gap, proposing a cultural, political, and spatial reading of these sites. While queer studies have long engaged with spatial questions, the systematic application of these perspectives to bathroom design remains

Figure 2: Asakusa public toilet, Tokyo, Japan, 2025. At the entrance to the restrooms, there are signs showing all the nearest bathrooms, highlighting the need for bathroom mapping, © I. Greco

rare and fragmented; it is therefore necessary to integrate queer theory into architectural design, starting from public toilets.

But which implicit mechanisms of inclusion and exclusion are produced through spatial configurations, and in what ways can queer theory reveal the normative logics embedded in the design of bathrooms?

The queer community has turned the public toilet into a stage for a range of practices that have transformed it into a distinctly identity-forming space: from *cruising*[1], to its capacity to function as a site of transformation for drag performers and gender non-conforming subjects, to the critical issue of accessibility for trans and non-binary people. Acting as a resonant chamber, the queer community—by virtue of its heterogeneous and non-unitary identity—deploys an *intersectional*[2] perspective to advocate for a broad spectrum of underrepresented and marginalized groups.

The research group QSPACE, founded at Columbia University in 2016, focuses on queerness within the built environment, with particular attention to questions of inclusivity. The project *Coded Plumbing* is especially illustrative in this regard, as it interrogates the extent to which laws and design standards produce exclusionary spaces, and how gender affirmation and sexual expression are placed at risk by regulatory frameworks governing bathroom design, with consequent impacts on queer communities.

DESIGN CRITERIA FOR DEFECATION

10

DESCRIPTION OF ACTIVITY

For the purposes of analysis we can divide the activity of defecation into several distinct phases: adjustment or removal of clothing; assumption of a squatting or sitting position; initiation of defecation by straining and relaxing the anal sphincter; defecating, urinating, and farting; wiping, cleansing, flushing; and readjusting one's clothing. While this sequence may be more or less complicated by incidental activities such as reading or by personal idiosyncrasies such as repeated flushing or examination of one's feces, these do not essentially alter the basic pattern. From a design standpoint, the major variable in this activity is the particular posture assumed for which the fixture will have to be designed. The management of clothing, wiping and flushing procedures, and so on are secondary, and the treatment of specific applications will vary, depending upon the precise posture and fixture involved.

The ideal posture for defecation is the full squat, which provides the stomach muscles with the proper support during the straining/expulsion process, as contrasted with the familiar casual "sitting-on-a-chair" posture so often assumed on a standard water closet, particularly by those who read there. In this posture the individual is essentially passive and unable to do much to aid the body's natural mechanisms. Conversely, it is possible, by doubling over, folding the arms across the stomach, and drawing the feet back, to assume a fair approximation of the desirable squat posture even on a standard closet. As Figure 32 illustrates, the squat posture can thus be assumed in a variety of attitudes, particularly since the most important relationship is that between the trunk and the upper leg. Stressing the legs is also helpful and can be achieved by drawing the legs back, which automatically transfers some of the body's weight from the buttocks to the legs. In this respect the concept of a water closet as a "throne" is particularly invidious in terms of its suggestion about sitting posture, particularly when the water closet

Figure 3: *The Bathroom*, 1966, pp. 118-119, © A. Kira

has been encased in a *chaise percée*, a decorative marble shroud, or some other bit of disguising cabinetwork, since in all such instances one is prevented from drawing one's feet back.

Although we can postulate that the free full-squatting posture for defecation practiced by most of the world's population is ideal from the viewpoint of physiological functioning, this posture is an unaccustomed and difficult one for most Western people to assume, let alone maintain, for any length of time, particularly if unaided. While this difficulty can easily be overcome with sufficient practice and exercise, a more serious impediment to its adoption is the problem posed by contemporary Western clothing. In large measure the problem of clothing is responsible for the gradual shift in Japan from their traditional squat closets to Western-style water closets. Having largely adopted Western dress, they also have to adopt the Western closet. In societies where some version of a loose gown is the traditional costume for both men and women, this can easily be gathered up around one's waist, out of the way, leaving the legs free. Western clothing, in contrast, almost invariably involves some form of under or outer garment—trousers, shorts, girdles, panty hose, and so on—that must be lowered around one's legs or else removed entirely. If simply lowered, as is now customary, these garments would interfere with the assumption of a properly balanced stance, which involves spreading the feet. Furthermore, they would be in danger of being soiled in the fixture or by one's own actions. Urination, for example, would be impossible in this situation. In addition, one is liable to lose the contents of one's pockets, as many unfortunate souls can wryly testify. In short, the only satisfactory way to use the traditonal form of hole-in-the-floor squat closet is to disrobe completely from the waist down. Given our accustomed habits and in light of the practical, not to mention the psychological, difficulties,

32 / POSSIBLE ROTATIONS OF SQUAT POSTURE

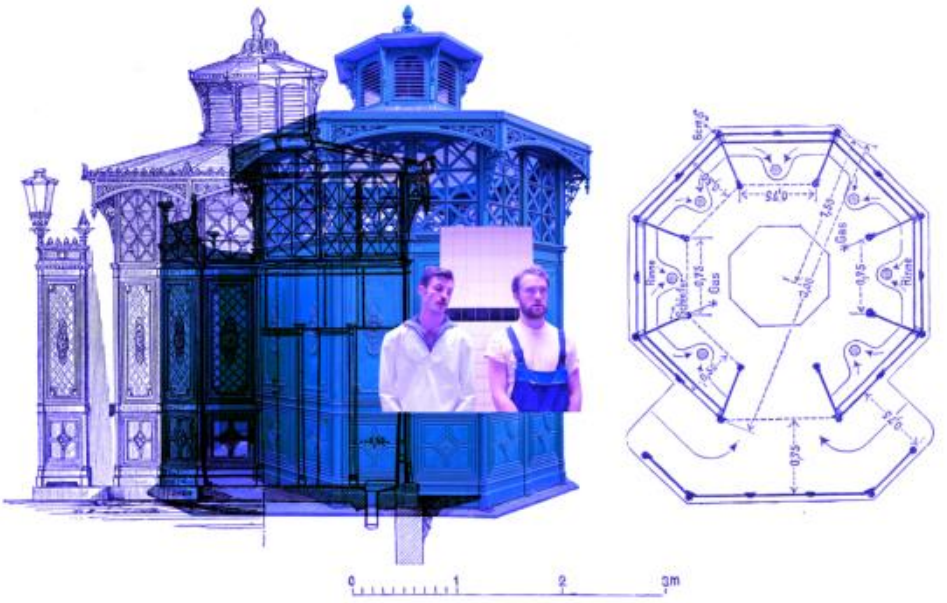

Figure 4: *Cruising Space*, digital collage 2026 ©Maria Chiara Dolce

Within this framework, the concept of *trajectory* is adopted as a central analytical category in order to move beyond a static conception of architectural space and to investigate its processual, relational, and conflictual dimensions. Trajectory is not understood solely as a physical path, but rather as a line of force that connects space and body. This approach is situated within a theoretical tradition that understands space as a social product, generated through the interaction of practices, representations, and lived experiences. Public toilets constitute a privileged observatory of this spatial production, as they condense—in an extreme form—devices of control, everyday rituals, and political tensions.

The research identifies and analyzes multiple types of trajectories that intersect within public toilets. Spatial trajectories are constituted by the organization of routes, thresholds, access points, and architectural devices that structure movement and regulate the use of space. These configurations materialize historically determined normative trajectories, which have contributed to the construction of the public toilet as a disciplinary and binary space, grounded in gender segregation and the normalization of bodies. As highlighted by Preciado, the architecture of public toilets has played a crucial role in the naturalization of the heterosexual regime and in the stabilization of gender identities through seemingly neutral spatial dispositifs.

Throughout history, spaces of queer socialization have undergone significant transformations, closely linked to shifting cultural, political, and religious conditions. As noted by P. Ackroyd in *Queer City*, Roman-era London was characterized by a marked openness toward homosexual practices, whose acceptance was implicit as part of everyday social customs. This phase, however, was followed by a progressive normative and symbolic hardening brought about by the rise of Christianity, which imposed a systematic denial of queer practices. This ideological shift translated spatially into the abandonment and closure of urban facilities dedicated

Figure 5: *Transhowers*, digital collage 2026 ©Maria Chiara Dolce

to pleasure and sociality—such as baths, public swimming pools, and brothels—contributing to a restrictive reconfiguration of urban space and to the marginalization of non-heterosexual subjectivities.

This segregative configuration has historically fostered the emergence and persistence of practices deemed illicit, many of which have endured into the present. The introduction of spatial devices such as glory holes—anonymous openings within public toilets—reveals how socially stigmatized acts are deeply embedded in the spatiality of the public bathroom. The latter emerges as a liminal environment, capable of self-determining as a portal to the domain of the forbidden, where norms and conventions are temporarily suspended. The *Cruising Pavilion* by the ArkDes collective, presented at the 2019 Venice Biennale, challenges architecture as a normative, orderly, and sanitized space, transforming it instead into

a space of desire, ambiguity, and illegality. Cruising itself is a by-product of hygienist morality: conceived within parks and bathrooms designed for cleanliness, these spaces are reappropriated and transformed into realms of transgression. A historical example is the *Café Achteck*, a project by Carl Theodor Rospatt from 1878, which populated Berlin for over a century; by the early twentieth century, the city counted more than one hundred and forty such structures. Originally conceived as urinals with access restricted to men, they gradually became strongholds of Berlin's gay culture and meeting points for cruising practices.

Alongside these institutionalized trajectories, the research examines bodily trajectories, understood as practices of crossing, using, and appropriating space. The public toilet emerges as a space in which control is exercised through the arrangement of elements, signage, surveillance, and behavioral regulation. These dispositifs produce privileged trajectories for certain subjects, while generating friction, deviation, or exclusion for others, thereby making visible the power asymmetries inscribed in space. "To be admitted is to be represented".

For over a decade, public toilets have been at the center of public debate in the United States under the label *Bathroom Wars*, placing transgender people in the uncomfortable position of having to choose between bathrooms corresponding to their gender identity or those assigned at birth. It is not new that public toilets have historically followed a logic of differentiation: between the 1950s and 1960s, they were segregated not only by gender but also by race. The issue also concerns the semiotic dimension of the iconographies applied to restroom entrances. Within a conception of space that is truly inclusive and free from devices of distinction, the need to specify categories becomes superfluous.

In certain contexts, such a rethinking still appears utopian—or rather, *Bodytopia*. At the Nordic Pavilion of the 19th International Architecture Exhibition of the Venice Biennale, the exhibition *Industry Muscle: Five Scores for Architecture*by Teo Ala-Ruona asks how the relationship between architecture and normative identities might be reimagined by taking the transgender body as a starting point—specifically, how spaces such as locker rooms and public showers, traditionally bound to gender segregation, might be rethought.

It is precisely at these points of friction that identity-based and political trajectories develop. Public toilets have become, particularly in recent decades, sites of symbolic and material conflict around issues of gender, sexuality, disability, and accessibility. Practices of contestation and reappropriation—such as demands for non-binary restrooms or non-normative uses of space—can be interpreted as attempts to rewrite imposed trajectories, destabilizing the apparent naturalness of spatial and representational categories. Identity, following Butler, is thus conceived as a performative process, continuously produced and negotiated through the interaction between body and space.

In conclusion, the research demonstrates how the contemporary relevance of this issue ultimately reveals itself as intrinsically atemporal. The expression of queerness and the sense of community move in parallel, mutually reinforcing one another. A space that clearly embodies this

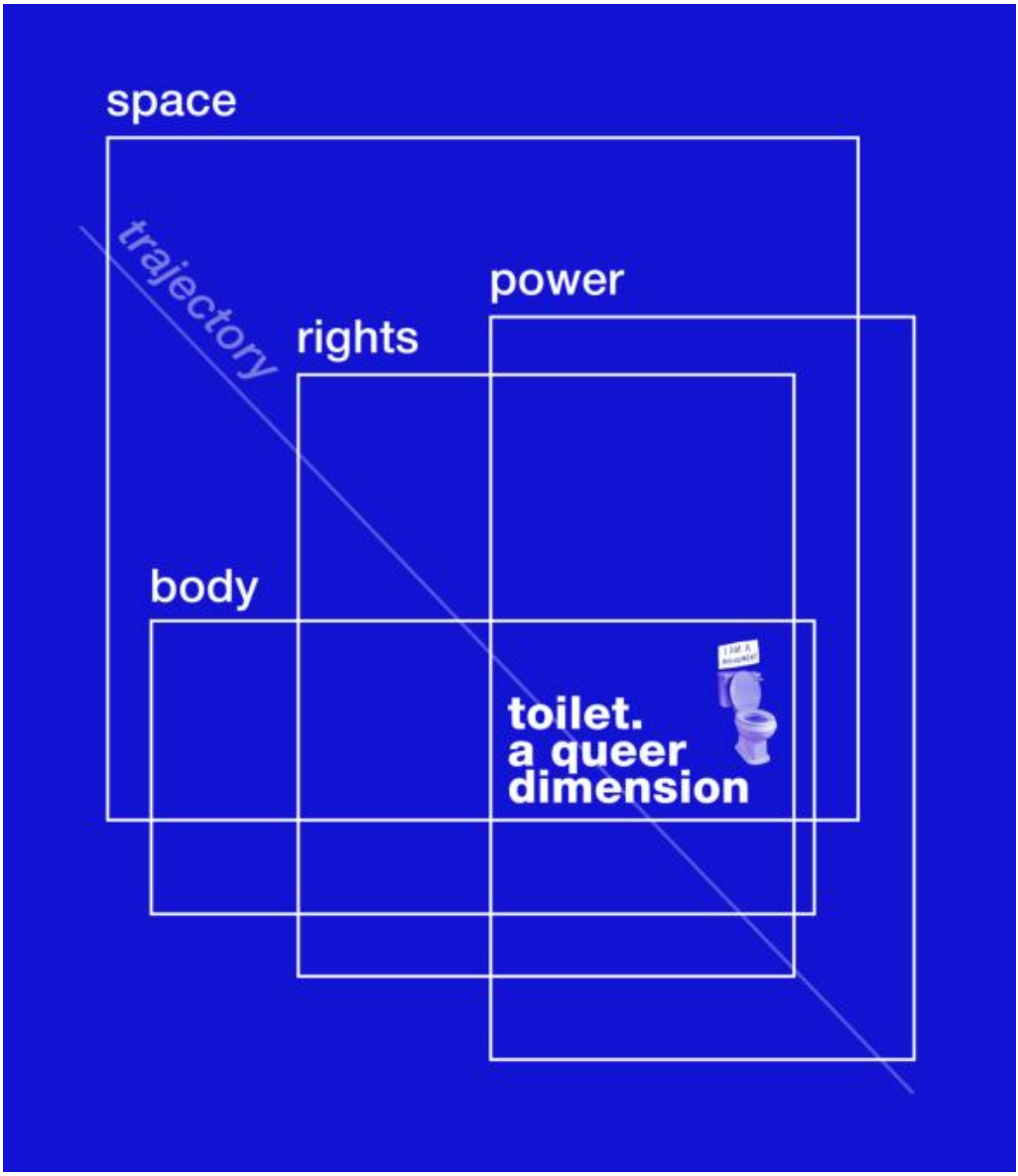

Figure 6: Trajectory *Diagram* 2026 ©Maria Chiara Dolce

relationship is the Rhode Island School of Design in Providence, designed by the New York–based firm WORKac in 2019. Beyond its role as a polyvalent structure of high architectural quality, the project's approach to all-gender bathrooms is exemplary: the toilet is positioned at the center of the entire spatial system, becoming the focal point of a narrative aimed at expressing maximum inclusivity and the richness of diversity.

The public toilet thus emerges as a true architectural and political laboratory, in which the structural tensions between space, body, and power become visible. The adoption of the concept of trajectory allows these tensions to be read as constitutive elements of contemporary public space and enables the imagining of design practices capable of accommodating a plurality of bodies and identities. Rethinking the architecture

of public toilets through trajectories means recognizing movement, crossing, and negotiation as fundamental dimensions of architectural design. "The function of the baths is the creation and recycling of private and public fantasies, the transactions between them and the invention, testing and possible introduction of new forms of behaviour".

1 It is a practice that consists in seeking casual sexual encounters in public or semi-public spaces, originally attributed predominantly to cisgender gay or bisexual men.

2 The concept of *intersectionality* was introduced by legal scholar Kimberlé Crenshaw in 1991. It constitutes an analytical framework that examines how social categories such as race, class, age, sexual orientation, disability, religion, and others interact with one another, producing interdependent systems of inequality or privilege.. https://www.femres.org/en/papers/mapping-the-margins?utm_ .

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Reorienting the Project Reuse as a Critical Practice

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#

critical deviation, dismantling strategies, circular construction, competition, components

Abstract

The article investigates the architectural competition as a potential instrument of scientific advancement, capable of producing not only design outcomes but also verifiable knowledge about contemporary disciplinary processes. From this perspective, the research is situated within the field of *research on design*, treating the project as an empirical object and attributing epistemic value not to the result, but to the traceability of decisions, deviations, and operative conditions that guide its development. By considering uncertainty, negotiation, and adaptation as constitutive parts of the project, non-standardized processes can be read as a field of inquiry rather than as anomalies to be corrected.

Within this framework, *Elementa*, a project by the practice Parabase, is examined as a case study. Developed within the context of public policies of the Canton of Basel-Stadt, *Elementa* is based on the assumption of the reuse of building components—particularly structural and façade elements derived from the dismantling of the Lysbüchel Coop parking garage (1970)—as an initial design condition. In the competition under analysis, sustainability is not defined as a qualitative objective, but as a set of measurable constraints that affect the technical configuration of the project and the evaluation criteria from the earliest design stages. On this basis, the article reconstructs the initial conditions and an intermediate stage of the project through competition documentation and interviews with the actors involved.

Context

The architectural competition for the Walkeweg Nord area in Basel—concerning the residential complexes on plots C and D and characterized by the possibility of reusing existing building components—was launched on 20 July 2022, with results announced in May 2023. The initiative formed part of a broader urban transformation process promoted by the Canton of Basel-Stadt through Immobilien Basel-Stadt (IBS), owner of the northern portion of the Walkeweg site.

The intervention area covers approximately six hectares of urban land, previously occupied by allotment gardens and located at a hinge point between productive areas—such as Dreispitz and *Auf dem Wolf*—and established residential and landscape contexts, including the Wolfgottesacker cemetery and the Duggingerhof neighbourhood. This position has been further strengthened by the presence of the Dreispitz stop on the regional rail network.

Since 2014, the area has undergone a process of urban redevelopment defined by a planning study completed in 2020, following a two-phase competition (2017–2018) that led to the selection of the proposal by Cam-ponovo Baumgartner Architects. The resulting master plan structures the

settlement through a hierarchised system of open spaces and an urban morphology derived from local typologies. On this basis, plot owners—including IBS and SBB—launched a series of competitions to develop the individual sectors, encompassing housing, public facilities, and participatory design processes.

Within this framework, the competition for plots C and D introduced a specific discontinuity related to the environmental evaluation device adopted. In addition to the mandatory submission of an ecological balance, teams were required to explicitly state whether—and to what extent—they intended to integrate building components derived from the planned dismantling of the Lysbüchel parking garage. These elements were made available through an online catalogue, accompanied by quantitative data on embodied emissions and potentially avoided emissions, as well as three-dimensional surveys of the components themselves.

The Project

The analysis focuses exclusively on the project awarded first prize and recommended by the jury for realization: *Elementa*, coordinated by the Basel-based practice Parabase. The jury commended the project on the grounds that "The architectural expression of the buildings is particularly convincing in the way the theme of reuse is translated into design. The hope that reuse might lead to a new aesthetic finds here its full realization" (Immobilien Basel-Stadt, 2023).

It is from this statement that the investigation of the project's overall structure begins, in which the plan does not assume a primary generative role but rather emerges as the outcome of a design logic founded on other principles. The project does not originate from spatial arrangement in the traditional sense, but from its *Elementa*: reused building components. There exists a higher-order framework within which these elements are organized. Already at this foundational level, a reversal of the designer's role within the competition becomes evident: freed from the rhetoric of the blank sheet, each decision is evaluated according to parameters that can be defined as scientific, insofar as they are grounded in data, measurements, and material constraints.

The settlement layout adheres strictly to the provided master plan. In development plot C, three compact linear buildings with a depth of 12 m are envisaged, while in plot D three linear buildings with a depth of 10 m are planned. The placement of stair cores along the external edges of the buildings allows for the maximization of gross floor area. The functional program likewise follows the masterplan's guidelines: plot D accommodates three-room dwellings organized in a duplex typology served by a single stair core, recalling the traditional structure of terraced housing aggregated into blocks; plot C, by contrast, comprises four-storey buildings accessed via external galleries, configuring the range of required dwelling types.

An examination of the plans (Fig. 1) reveals a high degree of typological flexibility: internal partitions can be modified over time, allowing

dwellings to be merged or subdivided. The constants are the orientations —south-facing for terraces and north-facing to maintain alignment with the external galleries. Public functions are concentrated along the central axis of the building volumes in plot C, generating open and covered central spaces, while the migration centre is positioned along the perimeter of the plot to simplify access.

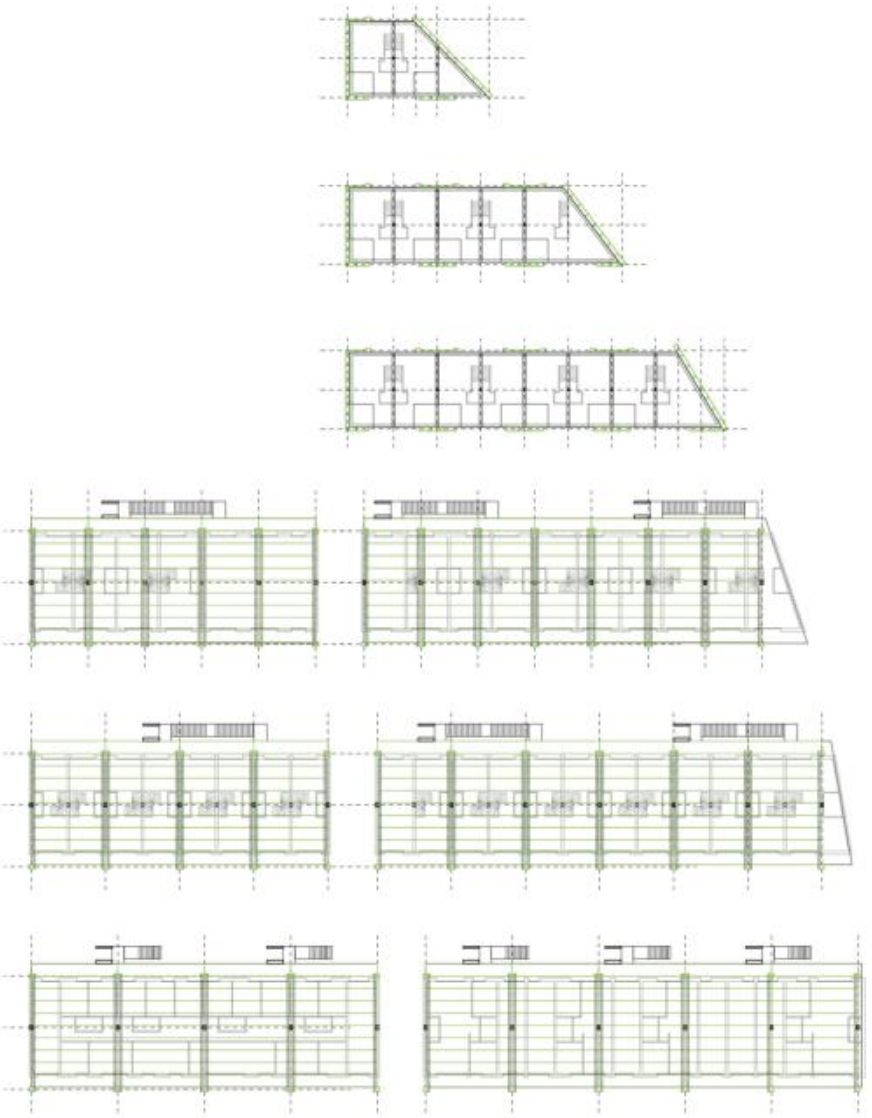

Figure 1: Redrawn general site plan of the competition area, highlighting in green the reused structural components – Elementa project proposal. Graphic by Giulio Delle Sedie. © Giulio Delle Sedie.

From this point onward, the *how* of the project is entirely determined by the principles governing the reuse of components and their adaptation to a new construction system. Pre-stressed ribbed concrete slabs, with

spans of 5.99 and 6.54 meters, are employed to configure the buildings in plot D (Fig. 2), defining a perimeter load-bearing system into which timber floors and columns are inserted internally.

Figure 2: Detail view of the façade composed of load-bearing ribbed slabs reused from the demolition of the Lysbüchel parking garage. Graphic by Parabase. © Parabase, with permission for publication.

Slabs with greater spans—6.84, 9.97, and 10.39 m—determine the dimensions of the three linear buildings in plot C. Here, the process of

adaptation proves even more complex: these dimensions must engage with the structural grid of existing prefabricated columns, originating from a former machine hall and therefore incompatible with the heights and spacing typical of residential construction. The original spacing of 5.15 m is thus reinterpreted and adapted to the 3-meter inter-storey height of the new housing units.

Although some construction details at this initial stage appear deliberately unresolved, the images and sections clarify the underlying principle: the existing structural system is intercepted by new columns that subdivide the original 12-meter spans and support reinforced concrete beams, which laterally embrace the pre-existing prefabricated columns. The overall result can be understood as a series of large prefabricated concrete structural racks, onto which a new residential layer is grafted, calibrated to the dimensions and proportions of contemporary dwelling.

Work in progress

In conventional design processes, the phases following the award of an architectural competition—particularly in the Swiss context—are generally clear, codified, and regulated by SIA protocols. In projects based on the reuse of building components, however, such stages lack established procedures. The post-competition phase therefore takes the form of an experimental process, characterized on the one hand by the absence of a stable regulatory and procedural framework and, on the other, by a high degree of public and media exposure.

The topic of reuse has, in recent years, attracted growing critical and institutional attention, generating high expectations without yet having achieved full operational implementation. It is within this context that the approach adopted by the winning team—Parabase, Eng. Mario Monotti, and USUS Landschaftsarchitektur AG—should be understood in addressing the delicate transition from design to execution: an approach marked by a high degree of caution, openness, and negotiation, aware of the pioneering nature of the process and of the need to progressively construct tools, responsibilities, and procedures throughout the implementation phase.

The first step undertaken by Eng. Monotti did not concern the sizing or verification of the proposed structure, but rather the design of the dismantling process of the Lysbüchel parking garage, from which the components intended for reuse in the construction phase were to be sourced. In a project of this kind, the critical issue is not so much what to dismantle as how to do so (Fig. 3). Dismantling methods directly affect the feasibility of reusing the elements and, consequently, the environmental credibility of the operation itself.

Figure 3: Cutting phase of the ribbed concrete slabs during the dismantling process, aimed at adapting the elements for reuse. Graphic by Parabase. © Parabase, with permission for publication.

Figure 4: Failed outcome of the dismantling phase due to the use of a water-based cutting system, which caused excessive inaccuracies and prevented the reuse of the components. Graphic by Parabase. © Parabase, with permission for publication.

Figure 5: Cleaning phase following the dismantling of the ribbed concrete slabs prior to their potential reuse. Graphic by Parabase. © Parabase, with permission for publication.

Treating decommissioned materials as an *urban mine* implies that extracted elements can be reused without substantial further transformation, beyond the unavoidable operations of transport, cleaning, and storage. Operationally, this means that components must retain dimensions and tolerances compatible with the new project (Fig. 4). If, for example, the building system is based on the use of prefabricated elements measuring 6.84 × 1.50 m, these dimensions must be respected within minimal margins. Even minor deviations—such as 5 cm per element—can, across large sequences, result in significant cumulative dimensional discrepancies, potentially compromising compliance with the plot's building limits.

It follows that the dismantling of the Lysbüchel parking garage cannot be understood as a simple operation of selective demolition, but rather as a complex design process involving not only cutting techniques, but also the organization, seriality, and scalability of the extracted elements. Reuse does not in itself generate an ecological benefit unless it can be applied at a sufficiently large and controlled scale.

A further critical issue concerns the verification of structural performance. Recovered elements must ensure a level of reliability compatible with their new use (Fig. 5); however, for logistical reasons, it is not possible to test each component individually. Structural tests are therefore carried out on samples (Fig. 6), which further reinforces the need for the extracted components to exhibit consistent and homogeneous characteristics for the results to be reliable and scalable.

Figure 6: Verification phase of the structural performance of ribbed concrete slabs reused from the dismantling of the Lysbüchel parking garage. Graphic by Parabase. © Parabase, with permission for publication.

From an operational standpoint, this approach has entailed a profound reversal of the conventional design sequence. The process unfolded in the following order: the design of dismantling and cleaning operations; the definition of a strategy for testing and assessing the residual load-

bearing capacity of structural elements; the design of transport logistics; and finally, the design of storage procedures.

Alongside these operational aspects, fundamental questions of responsibility and safety also emerge. After approximately fifty years of use, followed by dismantling, transport, and periods of storage, the issue arises as to who assumes responsibility for the structural performance and safety of the reused elements. These questions cannot be resolved a priori but have progressively imposed themselves throughout the design process.

One possible response to these challenges can be found in models already tested in other contexts, such as the K118 project in Basel, where the economic value corresponding to the CO_2 emissions saved through reuse—in that case of decommissioned windows—was allocated to an insurance fund intended to cover potential future maintenance, replacement, or damage (Sonderegger et al., 2022). Extending similar mechanisms to structural reuse could constitute one of the operational conditions for making such practices more widespread and institutionally sustainable.

To address these issues, Immobilien Basel-Stadt established a dedicated coordination committee tasked with aligning timelines, requirements, and responsibilities among the various actors involved. This institutional device represents one of the principal lessons learned from the project.

Next Step

The analysis of the *Elementa* project demonstrates how the adoption of reuse as a structuring design condition does not produce effects limited to architectural form or environmental performance, but instead leads to a profound reconfiguration of the design process as a whole. The most significant consequences concern the design process itself.

The case first reveals the inadequacy of linear design processes when material availability becomes a determining factor: in *Elementa*, the project develops as an iterative sequence of anticipations, verifications, and adaptations, in which structural, logistical, and operational issues are addressed from the earliest stages. This shift entails a different distribution of work over time, with increased preliminary complexity aimed at reducing uncertainty in later phases.

In parallel, the project redefines the role of the architect, who no longer acts as the author of abstract spatial configurations, but as an organizer of components, processes, and constraints, repositioning the profession at the centre of contemporary disciplinary debate. Design decisions encompass the compatibility, transformation, and assembly of existing elements, as well as the mediation between technical, regulatory, and logistical requirements, implying an expansion of professional competencies and responsibilities.

Within this framework, the notion of sustainability is also reformulated: not as an a posteriori verification, but as an initial decision-making framework, supported by quantitative tools that directly affect structural and

typological choices. Confrontation with reality—its costs and its effectiveness—raises questions about when and how a component should be reused, and when reuse may no longer be viable. At the same time, the architectural competition emerges as a research device, capable of transforming reuse from a declarative objective into an operational and measurable condition, thereby producing transferable knowledge.

Nonetheless, unresolved regulatory and contractual tensions remain, related to responsibility, certification, and warranties, which limit the scalability of reuse-oriented practices. Taken together, these implications suggest that *Elementa* should not be read as a model to be replicated, but rather as an operational prototype to be further investigated in subsequent phases: a project that simultaneously reveals how we should no longer build and how we are not yet able to build.

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Stereoscopic Drawing Experiments

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#

stereoscopy, drawing research, stereopsis, drawing device, spatial perception

Abstract

The essay presents the development of drawing experiments that are concerned with unpicking a notion of spatial ambiguity in depth perception framed in this research as 'Baroque Spatiality.' With the help of stereoscopic devices, the design research practice seeks to establish a phenomenological intersection of the architectural projection drawing with the experienced space. Reading into the history of depth perception —or stereopsis, reveals how the invention of the first stereoscope stands at a turning point of understanding linkages between spatial perception and imagination. Looking more closely, might the early research into depth perception offer new angles to investigate spatial experience and open trajectories for the drawing practice to evolve? Does the understanding of depth perception gained with stereoscopic experiments open ways to study 'Baroque Spatiality', considering on the one hand concept of space as measurable and abstract and on the other its perceived depth seen as an imaginative capacity?

Introduction

As this research project aims to explore "Baroque spatiality," a brief introduction to the concept is necessary before discussing the role of the stereoscope in spatial perception and drawing as a research practice.

In descriptions of Baroque architecture notions of movement, indeterminacy, infinity or liveliness appear repeatedly. The writer and semiotician Umberto Eco names its "dynamic" quality that "tends to an indeterminacy of effect (...); it conveys the idea of space being progressively dilated." (Eco, 1989, p. 7), while the art historian Heinrich Wölfflin remarks how "in the face of this intangibility the eye remains perpetually in a state of unrest" (Wölfflin, 1992, p. 72) making the Baroque an example of "a completely new conception of space directed towards infinity" (Wölfflin, 1992, p. 64). The responsibility for this spatial experience sits within the notion of the "painterly", which puts the effects of light first, but also includes "dark depth" and layered "masses of interpenetrating and overlapping forms" as well as an avoidance of "a clear contour" (Wölfflin, 1992, p. 64). There is a sense of depth in these spaces, a specific spatiality that brakes open into the indefinite "the orthogonal and closed tectonic space" (Damisch, 2002, p.4), that does not restrict itself to the Baroque, but resides in these descriptions and summarizes under the notion "Baroque spatiality".

This sort of spatiality may not be entirely grasped within the sets of tools, that the projection drawings offer to architects, therefore this project looks toward linkages between the experienced space and the space of the drawing. The stereoscopic gaze in the early devices of photogrammetric surveying (Deville,1902) provides such an entryway by superimposing the drawing space with the spatial image where its depth can be measured, mapped and drawn. However, as will be further developed

throughout this paper, the relationship between these spaces is far from straightforward."

Stereoscope for Spatial Perception

As the art critic Jonathan Crary states in "Techniques of the Observer", during the 19th century, the understanding of the relationship between the senses changed along with visual culture (Crary, 1990, p.19)—with the research on stereopsis as well as the popular reception of the stereoscope playing its part in it. Looking towards developments in the history of surveying, instances of the presence of the embodied observer appear in the processes and drawn constructs at closer look, but according to Crary, our relationship with vision is now biased by a scientific understanding as a consequence of modernity. On the one hand there is an understanding that visual perception is "a continuous process, a flux of temporally dispersed contents" (Crary, 1990, p.100) and on the other we see a "denial of the body (...) as the ground of vision." (Crary, 1990, p.138) This points to a dialectical situation in the understanding of the notion of depth either as measured or as experienced (imagined) and the entanglement of the projective drawing within this.

The notion of depth goes beyond measured distance. Instead, it resides within spatial imagination. The philosopher Maurice Merleau-Ponty critiques the idea of "depth as an objective, stable geometric entity." (Pérez-Gómez and Pelletier, 2000, p.337) As a consequence, depth must always be sought anew through experience. (Pérez-Gómez and Pelletier, 2000, p.338) The architectural historians and theorists Alberto Pérez-Gómez and Louise Pelletier state "Depth is neither the prosaic interval between nearby and distant objects that one observes from above, nor the concealment of layered things that a perspectival drawing represents." (Pérez-Gómez and Pelletier, 2000, p.334) Spatial perception thus must be seen as a much more malleable concept, that resides in a subject's imagination. With that in mind, we can find potential in involving the participant in a spatial experience within which to embrace uncertainty and delay in spatial perception.

The philosopher George Berkeley promotes in his "An essay towards a new theory of vision." (Berkeley, 1709) the idea that vision and depth are separated entities, claiming that depth comes to mind as an idea, a knowledge built on previous tactile experiences, which situates depth in the realm of touch rather than vision. This understanding was challenged with the invention of the stereoscope. In 1838 the physicist and inventor Charles Wheatstone demonstrated the effects of binocular vision for the experience of depth and with that located space perception in the sense of vision rather than touch. He applied "the systematic experimental procedures of physics to the phenomena of depth perception" (Wade and Ono, 1985) and proved that spatial depth occurred as a cognitive process resulting from the different angles under which the eyes perceived, rather than as a perceptive process within the retina. He realizes that "the mind perceives an object of three dimensions by means of the two dissimilar pictures projected by it on the two retinae" (Wheatstone, 1838, p.373), a phenomenon later termed "binocular disparity".

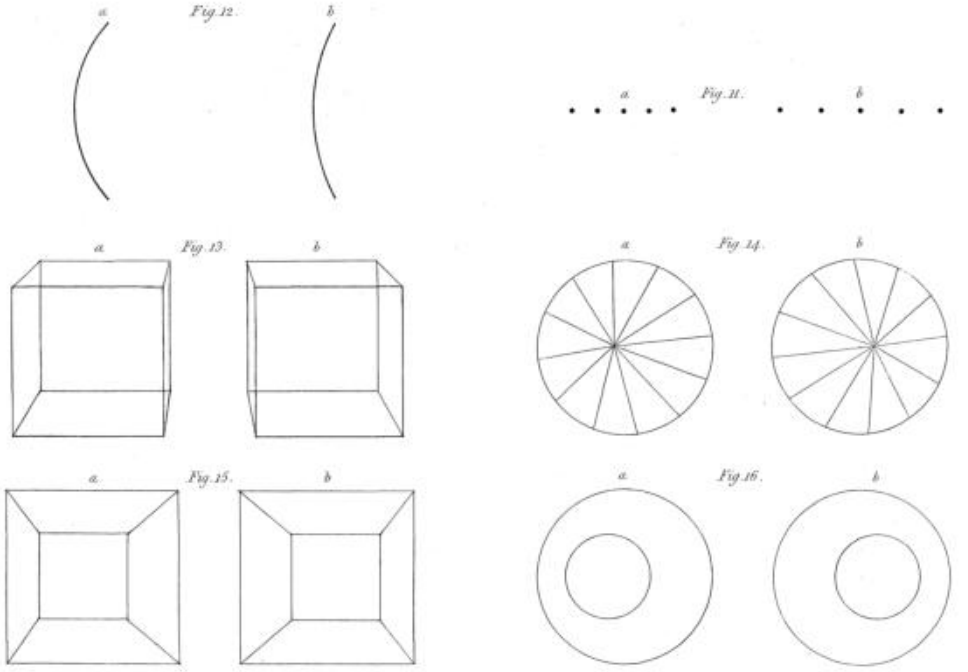

Figure 1: Stereoscopic image pairs from Wheatstones' seminal paper on binocular vision (1838) © Public domain.

In his samples he uses "pairs of outline figures, calculated to give rise to the perception of objects of three dimensions when placed in the stereoscope" (Wheatstone, 1838, p.376). To facilitate the view of these probes, he designed the mirror stereoscope, that diverted the visual path in such a way, that each eye would be presented an image as if in the proper direction of sight. With these samples he shows how just the dissimilarity between the images in each eye causes the mind to form a relief of an object from the images. "By leaving them [shading or coloring] out of consideration no room is left to doubt that the entire effect of relief is owing to the simultaneous perception of the two monocular projections, one on each retina" (Wheatstone, 1838, p.376), (Fig 1.).

His experiments with wireframe figures described as "outline figures of three dimensions" (Wheatstone, 1838, p.378) reveal that the 3-dimensional form of these objects can be recognized without ambiguity. The vividness of such a relief diminishes with the distance of the object before the eyes and "becomes less and less as the object is seen at a greater distance before the eyes, and entirely ceases when it is so distant that the optic axes are parallel while regarding it." (Wheatstone, 1838, p.380)

Expanding on the invention of the stereoscope, Wheatstone developed further experiments that led to his findings how depth experience could be manipulated by altering angle of view and distance to the image pair. He could show how perceived depth appeared true if these parameters aligned with the properties of the image sets, while it could equally be enhanced or diminished when altering distance and angle. An inversion of depth experience occurred when mirroring the image sets (Wheatstone, 1852). These explorations opened a pathway to Helmholtz' Tele-

Figure 2: The sequence of diagrams speculates on the stereoscopic depth perception of an observed object following a reasoning on scale, size and distance. The visual cone of each eye is displayed, observing an object at different distances from the eye. The constant here is that the angle (a) that the object occupies within the field of vision does not change, while the size and distance of the object increases. With a constant angle occupied in the visual field, the object does not take different amount of space on the retina, its size on the retina remains the same. What does change, is the angle (b), under which the item is seen and as such the vividness of depth perception. While the angle decreases, the images on the retina resemble more and consequently the depth of the object flattens. Drawing by the author.

stereoscope, a viewing apparatus that diverted the sightline to perceive an actual view rather than a set of images, through an enhanced eye distance resulting in altered size and distance perception, while at the same time making depth appear respectively deeper or shallower (Helmholtz, 1857).

With the invention of the Daguerreotype and Talbotype, another version of the stereoscope became popular, known as the lenticular stereoscope and invented by the physicist Sir David Brewster. It has the advantage of a small size and is particularly suitable to view small images (Wade, 2025, p.4). This stereoscope became widely known through its popularity to view scenic sites, rarities and intimate scenes. A view could now be experienced separated from its physical substance. Still, seeing through a stereoscope has specific qualities that distinguishes it from an actual perception. As we are viewing two images with a slightly different viewpoint our vision composes a spatial scene. The contradiction between the depth experience and the flat space of the image becomes most pointedly exemplified in Jonathan Crary's description. He observes that the elements at different depths appear "planar" floating with an undefinable empty space between them (Crary, 1990, p.125). An effect named binocular occlusion causes this phenomenon. It has been described previously by Leonardo da Vinci. It is therefore also known as "da Vinci stereopsis". "The presence of an object in the foreground creates regions

Figure 3: By diverting the visual path using mirrors in the fashion of the tele-stereoscope, the angle under which an item is seen, can be adjusted. As a consequence, the perceived distance and size of the object is altered. A larger angle will show the item smaller and closer, while a smaller angle will make the item appear larger and further away. Drawing by the author.

of the background that can be seen by one eye only. These unpaired image points provide potent cues for depth and occlusion." (Ponce and Born, 2008, p.846)

The stereoscope emerges as a pivotal device in changing understandings of visuality and binocular spatial perception. "The subsequent dissociation of touch from sight occurs within a pervasive ´separation of the senses´ and industrial remapping of the body in the nineteenth century. The loss of touch as a conceptual component of vision meant the unloosening of the eye from the network of referentiality incarnated in tactility and its subjective relation to perceived space." (Crary, *1990*, p.19). For this project, it raises the questions, whether such devices might also offer potential for a reconciliation of embodied space, its tacit and visual dimensions, in relation to the projection drawing and the notion of spatial imagination. The view through the stereoscope offers a particularly haptic spatial experience (Plunkett, 2013, p.396). This was applied in the field of surveying in 1902 by Edouard Deville who made use of the tangible quality of the stereoscopic image and establishes the link to descriptive geometry by drawing horizontal sections within a stereoscopic image to obtain topographical maps (Deville, 1902).

Stereoscopic drawing experiments

In this research project the stereoscopic experiments and applications provide pathways for developing a drawing device, that reconnects to

the concerns around vision and depth perception, while exploring from an embodied standpoint its relations to the Cartesian space, to answer to the question of exploring the notion of "Baroque spatiality". The proposed device is not a stereoscope per se as it views out towards an object rather than an image set, the spatiality of the image is therefore not a process of resolving a stereoscopic image pair into a spatial image. 'Binocular' might be a more suitable term. Instead, it combines properties of the camera lucida, which superimposes the drawing space and the image space, with the integration of a binocular view (Fig. 4).

There are different aspects to the project, that need to be taken into account further: the optical development of the device, the references that are observed with the device and the experience and consequence for the drawing process, which are in different ways entangled with each other. Further tests with the drawing device will reveal an extended understanding of projective drawing with enhanced possibilities of embodied spatial imagination making use of Deville's surveying method. Wheatstone's extended stereoscopic experiments with mirror angle and distance adjustments, as well as Helmholtz' extension of the eye distance, point towards possibilities to use the device in context of different model sizes and scales as well as making adjustments to the perception of the scale. This might resolve a persistent concern, that depth perception is distance dependent, while the device operates at a model scale. While scale is a concern, the size of the drawing device is relevant to the experience of the drawing process. Brewster's lenticular device offers here an example for the value a spatially more efficient optic provides for usability. At this stage the drawing device has to prove its usability in exploring samples that are representatives for 'Baroque spatiality.' The evolvement of the drawings in the entangled place between the measured and the perceived will devise trajectories for future adjustments.

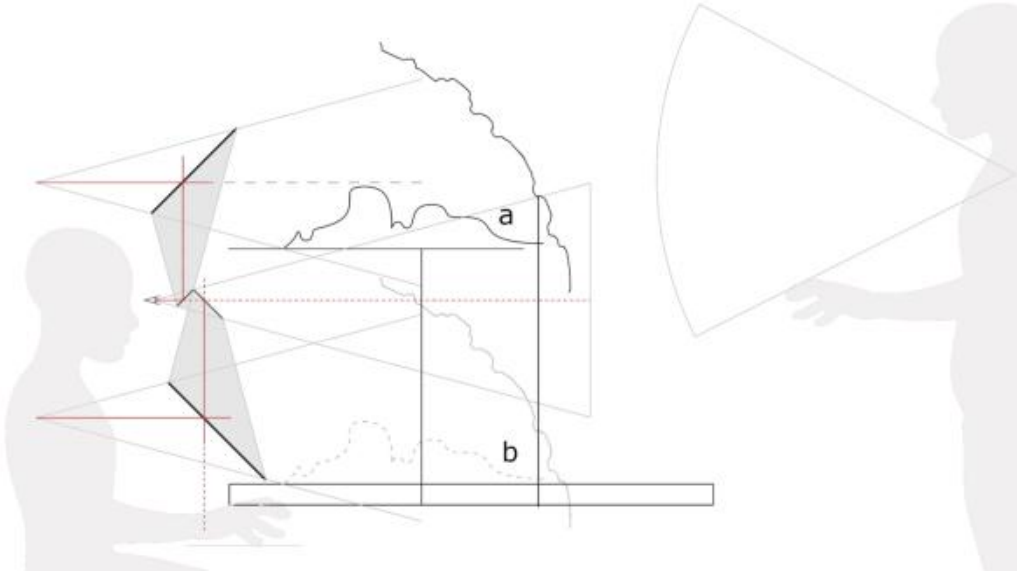

Figure 4: The drawing device LUCIDA V2 proposes to align the superposition of the drawing space and the model space, in such a way, that the reflected object is located below the object, so that the camera can be easily

moved along a horizontal plane, without losing consistency between model and drawing. Drawing by the author.

Figure 5: The drawing device in use. Photo by the author.

Figure 6: The view through the drawing device shows model space and drawing space superimposed. Photo by the author

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The Nexus of Textile and Sound Performative Relationships between Art, Architecture and Embodied Knowledge

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#

textile, sound, space, embodiment, materiality, perception

Abstract

The Nexus of Textile and Sound is an interdisciplinary arts-based research project that investigates the performative relationships between textile and sound as spatial practices connecting art, architecture, and embodied knowledge. Rather than treating them as separate or additive media, the project understands both as interwoven material processes that actively produce space through perception, movement, and affect.

Textiles are approached as responsive, membrane-like systems shaped by touch, tension, and bodily interaction, while sound is conceived as an ephemeral, vibrational phenomenon that structures time and space through resonance. Both share principles such as texture, repetition, and layering, which generate multi-sensory spatial experiences.

Through interactive installations, audiences become co-producers of temporary and reversible environments, engaging tactile, auditory, and visual perception simultaneously. The project contributes to artistic research by foregrounding material agency, non-linear perception, and the continuous transformation of space through embodied interaction.

When interpreted as lines of flight, trajectories unveil a performative perspective on space, comprising an assemblage of material, social, sonic and textile actors and recipients. It is imperative to acknowledge that these provisional spaces cannot be fully planned or permanently fixed. The notion of spatial interventions is theorised as a means of both territorialisation and deterritorialisation. The term 'territorialisation' is defined as the establishment of order, structure and framing, whereas 'deterritorialisation' is defined as the dissolution, displacement and opening of territories.

Rather than appearing as additive media, textile and sound are presented as intertwined fields of material, perception and meaning that produce space in an affective, performative and relational way. The inquiry employs trajectories as a methodological instrument to examine the textile and sound practices that generate space.

Textiles function both as a medium and a metaphor with responsive qualities: they react to or resist forces such as touch, tension, and bodily movement. In doing so, they generate ephemeral spaces, operate sculpturally, and unfold acoustic as well as multi-sensory dimensions. As a “second skin,” they mediate between body and environment, softening the hardness of functional surfaces through soft, draped structures that carry the traces of their inhabitants (cf. Walter Benjamin, 1983).

This underscores their significance as communicative and meaning-producing elements.

In this research context, sound encompasses a wide range of artistic practices, from sound art and music to ambient, transacoustic fields, and silence. It operates both as a compositional and conceptual process and as a physical phenomenon closely linked to bodily perception, shaped by

breathing, movement, and heart rate. Sound is inherently ephemeral and invisible, yet physically perceptible. The phenomenon under scrutiny does not merely unfold in time, but actively shapes the experience of time and space, permeating rooms, objects, and architectural environments. This spatial dimension is further emphasised by approaches such as Bernhard Leitner's concept of "corporeal hearing," which understands listening as a full-body experience ("I can hear with my knee better than with my calves") and Maryanne Amacher's Third Ear Music, which has been composed with the intention of inspiring the human ear to produce its own unique sounds and melodic structures.

The exploration of textiles and sound from the perspectives of their similarities, differences, and correlations has the potential to reveal novel perspectives and thematic synergies. In both fields, texture emerges through repetition, variation, density, and layering across time and space. Rather than serving as superficial embellishment, texture operates as an experiential domain that modifies perception through the mediums of embodiment, tactility, and audition. Through the application of textile interventions that modulate acoustic properties, or sound processes that activate textile structures, the transformation and interpretation of these domains is rendered visible, audible and tangible.

The processes of textile and sonic production are theorised as active agents in the creation of space, interweaving perception, movement and affect within a relational structural framework. The performative relationship between art and architecture is thus characterised by a tension between stable structure and processual action. The operative media of textile and sound practices function in such a manner that space is not merely designed, but continuously negotiated and reconfigured.

The transformation of space through research enables the anticipation of spatial atmospheres, utilisation and social interactions without the imposition of permanence.

In this context, it is important to mention that the interactive objects in the setting of an exhibition space are to be viewed as works of art, not as experimental arrangements in a random configuration. The arrangement of objects within the gallery space is dictated by the physical characteristics of the gallery, or alternatively, serves as the basis for the artistic composition. installations are conceptualised as prototypical spaces, characterised by their temporary, reversible and speculative nature.

Figure 1: LOOP 80 x 80 x 80 cm. Fischbacher | Schebella.
Polyester strapping tape, contact microphone, loudspeaker.
Photograph by R. Strobl, 2023.

LOOP

“LOOP” is an interactive sound installation, the initial approach was an inquiry-based methodology focused on the material and acoustic properties of the tape. The investigation revealed a notable capacity for sound transmission through the polyester substrate, which was unexpected given the material's typical use. The sound produced during interaction with the object is captured by a contact microphone and amplified.

The proposition is made that art is a form of attraction, and that it is an offer to the audience to interact and perform. It follows that the interaction design must aim to facilitate meaningful and accessible playability for audiences within the exhibition context.

The audience is explicitly permitted to make physical contact with the object, thereby engaging with the loop on a multisensory level. This enables them to experience tactile-visual and acoustic interaction simultaneously. Motion creates vibration and resonance.

Figure 2: LOOP. Fischbacher | Schebella. Photographs by G. Fischbacher, 2023.

Figure 3: LOOP. Fischbacher | Schebella. Photographs by G. Fischbacher, 2023.

Figure 4: The Wall (Walk On By), 11 x 4,10 m. Fischbacher | Schebella. Veiled nettle, motion sensors, loudspeaker. Photograph by R. Strobl, 2023.

Figure 5: The Wall (Walk On By), 11 x 4,10 m. Fischbacher | Schebella. Veiled nettle, motion sensors, loudspeaker. Photograph by R. Strobl, 2023.

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The Wall

“The Wall” as a site-specific work itself is notably subtle, initially appearing as a textile wall. A membrane made of double-layered veil fabric behind which the technology is concealed. In case that the gallery space is not already familiar to the visitor, the space-changing intervention is not readily apparent. Upon entering the 11-metre-long room, visitors may at first seek visual anomalies and proceed along the wall. At this juncture, the auditory element is initiated. Subsequently, the recipient initiates interaction with the artwork, thereby prompting heightened sensory perception and the discernment of the resulting moiré effect produced by the superimposition of the veil net, the fabrics´ reaction to movement and the sounds´ response to these actions. The auditory experience, characterised by a perception of swelling and crackling, was described by the audience as meditative and almost sacred.

Walk On By

‘Walk on by’ is the winning entry in a competition organised by Kultur Land Salzburg (sculpture, plastic art, object) for the passageway leading to the gallery in the Traklhaus until 2027. It is imperative to establish a definition for the concept of an acoustic and communicating curtain, as well as to comprehend the textile analogy of the frequency response of a space. What is a rough, itchy sound and what is a loud, screaming fabric?

The connection to the Traklhaus and its namesake, the early deceased writer Georg Trakl, is evident in the subtle hints and concealments of the curtain and in the swelling and subsiding intensity of the sound, which evoke parallels to Trakl’s poems. The audience triggers a response in the material, influencing the sound generation through a tracking algorithm, and experiences sonic and visual pleasure in return. The title ‘Walk On By’ refers to the physical movement of passers-by through the passage to the gallery in the Traklhaus, and to the pop song of the same name, which deals with emotional withdrawal and repression.

Curtains, as pivotal elements of architecture, elicit anticipations, demarcate threshold spaces, delineate lines of sight, disclose or obscure content, engender tension and stimulate the imagination. The purpose of these elements is twofold: firstly, they serve to protect from the visually unappealing; secondly, they serve to stage the hidden. In ‘Sommerdämmerung’ a poem by Georg Trakl (Summer Twilight), the silvery curtain is employed as a symbol of the boundary between inside and outside, life and death, and the visible and invisible. Walk On By interprets this concept as an acoustic and spatial experience. Sound is filtered, superimposed and obscured, creating a temporary, immaterial space that can be experienced not only through physical envelopment but also as a sound space. The curtain communicates to the effects of passers-by and existing draughts, resulting in a constant change in its shape.

Figure 6: "Walk On By", 6 x 3 m. Fischbacher | Schebella. Polyester fabric, Motion sensors, loudspeakers. Photograph by R. Strobl, 2025.

The exposure of the material to varying temperatures, attributable to the openness of the entrance and exit of the passage, results in divergent reactions during the seasons and temperature. The polyester fabric exhibits increased rigidity and reduced mobility in air and draught. It has been demonstrated that this also changes the sound of the fabric, which produces a sound ranging from a slight crackling in cold weather to a billowing, fluttering movement. This change is independent of the sound technology.

The following research questions are hereby proposed: firstly, how do textiles and sound interact with spaces and interactions, and secondly, how can they be experimentally interwoven?

In addition, the question of what advantage passive (or active) interaction may bring to the art form remains unanswered.

The purpose of this study is to ascertain how audiences respond to the dynamic interaction.

To what extent did the project result in a shift in sensory processing?

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Recognitions

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www.textileandsound.org

Lines of Transition Walking, Drawing and Research Between Architecture and the City

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#

in-between space; transition and movement; spatial research trajectories; fassade

Abstract

This research emerges from an ongoing attempt to understand transition as a spatial condition rather than a fixed boundary. Starting from the façade, the investigation gradually shifted towards questions of movement, sequence and depth between interior and exterior, public and private realms. The research does not follow a linear path; instead, it unfolds through trajectories shaped by walking, observing, drawing and repeatedly questioning where transition begins and where it dissolves.

Walking through the city constitutes a central research practice. Streets are approached as trajectories in themselves, where everyday interactions, pauses and informal appropriations reveal how façades operate as mediating spaces. Drawing accompanies these walks as a way of thinking through space. The act of drawing exposes uncertainties and limitations: how to represent layered conditions, how to describe transitions towards upper floors, and how to develop a graphic language capable of capturing spatial depth and movement. These struggles are not obstacles but active drivers of the research process. The research engages with urban life at the human scale, drawing on approaches to everyday spatial experience (Jan Gehl, 2011). Through selected urban case studies in Ghent (Belgium) and Braga (Portugal), the investigation combines observation, drawing and photography to trace spatial trajectories from the street towards interior spaces and back again. Rather than aiming at a fixed conclusion, the research unfolds as a situated inquiry into interior– exterior transition, understood as a negotiated and continuously evolving spatial condition. By bringing the trajectory of the research process into alignment with the spatial trajectories it traces, the work positions drawing, walking and uncertainty not as auxiliary methods, but as productive drivers of architectural knowledge within design-driven research. Developed as part of an ongoing doctoral project, the research reflects a PhD process currently at an intermediate stage.

From façade to spatial trajectories

The relationship between building and street is commonly framed as a boundary condition, where the façade operates as a surface separating interior and exterior domains. Yet in everyday urban life, this separation is rarely experienced as a line. Instead, it unfolds through sequences where movement slows down, interactions emerge and thresholds acquire depth.

This research departs from this discrepancy between representation and experience. It proposes to understand façade spaces not as static elements, but as spatial trajectories that connect, mediate and transform relations between exterior and interior, public and private realms, and more broadly between urbanism and architecture. In this sense, the façade is not approached as a discrete object, but as a relational field

Figure 1: Intersecting rhythms of the everyday: Entrance steps projecting into the street create a gradual transition between exterior and interior, revealing the façade as a spatial sequence, Ghent. Photography taken by the author, 2024.

where these domains overlap and are continuously redefined. Rather than reinforcing distinctions between street and building, the research investigates how façade spaces operate through their capacity to negotiate these limits. The interface becomes a space of continuity where spatial, social and perceptual conditions are dynamically constructed (Fig. 1).

Figure 2: Where routes and rooms overlap: Informal occupation of the street and entrance space reveals the façade as a shared interface where circulation, pause and interaction intersect, Braga. Photography taken with permission by the author, 2023.

Developed within an ongoing doctoral project, the investigation evolves through repeated encounters with urban environments. Walking, observing and drawing are mobilised as complementary practices to access, record and analyse these transitions. The research is based on case studies in Ghent and Braga, combining observation, photography and drawing to analyse how transitions between street and interior unfold. Through this process, façade spaces are examined as interfaces that belong simultaneously to building and city, challenging distinctions between architectural and urban scales. Within this framework, the research asks how façade spaces can be understood as spatial trajectories mediating transitions between exterior and interior, public and private realms, between street and building, and more broadly between urbanism and architecture.

The façade as a threshold: walking, perception and spatial transition

Urban space is shaped not only by its physical configuration but by how it is used, perceived and negotiated (Fig. 2). At the interface between building and street, façade spaces play a critical role. Rather than operating as fixed limits, they can be understood as threshold conditions where transitions between exterior and interior, public and private, are continuously mediated.

Approaching the façade as a threshold shifts its understanding from a surface to a layered spatial condition. Entrances, recesses, steps and openings extend the interface between domains, producing varying degrees of accessibility, exposure and interaction. The façade becomes a zone of negotiation where spatial, social and perceptual dimensions intersect.
Walking operates as a methodological and perceptual tool that reveals this layered interface. Through movement and slowness, the observer accesses temporal, informal and embodied dimensions of the threshold, exposing how transitions are experienced in everyday life.
Moving through space reveals moments of transition, such as pausing at an entrance, looking inside or crossing a threshold, where spatial relations become perceptible. As Gros (2015) suggests, walking produces a form of attention grounded in presence.

Ingold and Vergunst (2008) further frame walking as a way of knowing from within space. Rather than encountering fixed objects, movement traces lines through which environments are continuously perceived and constituted. From this perspective, space unfolds as a relational structure. Applied to façade spaces, this suggests that transitions are continuously produced through movement and interaction. The façade becomes part of a lived sequence where perception, action and spatial configuration are inseparable. This extends approaches to urban life focused on human-scale experience (Gehl, 2011), by emphasising how the interface is structured and enacted through everyday practices.

Drawing as a design-driven practice

The research develops through observation and drawing as complementary practices through which spatial sequences are accessed, interpreted and analysed. Fieldwork in Ghent and Braga enables the identification of recurring façade situations, which are examined through drawing. Observation allows the recognition of spatial relations, but remains insufficient to grasp their complexity or support comparison. Drawing enables these situations to be translated, tested and structured into spatial knowledge. Drawing is not understood as representation, but as an investigative device (Charitonidou, 2023), through which spatial relations are actively constructed. As Evans (1997) argues, architectural drawing operates through transformations that introduce distance, enabling interpretation. Through sections, diagrams and sketches, situations are reorganised into spatial structures that reveal sequences and relationships. This aligns with Corner's (1999) understanding of drawing as an operative practice. Façade spaces are thus understood as sequences extending from street to interior, composed of thresholds, entrance areas and semi-public zones that articulate degrees of exposure, access and interaction.

The analysis is structured through concepts such as:

- Accessibility: referring to how spaces can be approached and entered
- Permeability: indicating the capacity for movement across spatial boundaries

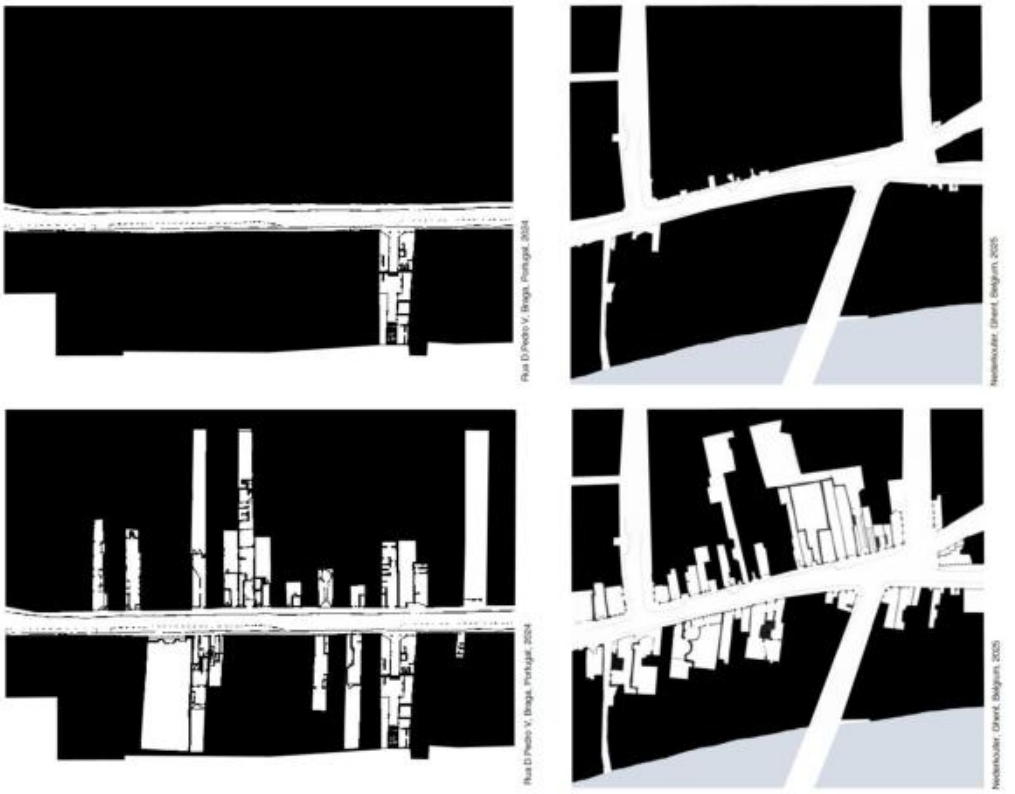

Figure 3: From boundary to accessibility: Comparative diagrams of Ghent and Braga reveal the shift from façade as a separating line to a spatial organisation based on accessible and non-accessible zones. Top plans: The façade as a boundary. Bottom plans: The façade accessibility plan as a transition. Graphic by the author, 2025.

— Depth: describing the spatial thickness and layering of transitions between street and interior

These emerge through drawing as recurring dimensions. Drawing functions as a mediating practice in which spatial complexity is clarified and reassembled into a legible framework. Drawing also introduces an iterative dimension, where partial understandings are revised (Suess, 2020). In this way, incomplete drawings become part of the research trajectory, which evolves through adjustment and refinement. Crucially, this process moves beyond observation. By reorganising spatial relations, it enables the identification of patterns and the formulation of transferable knowledge. It also opens a projective dimension, where façade configurations can be re-articulated through design. If walking traces trajectories through experience, drawing reconstructs them as spatial knowledge. Together, they form a complementary methodological framework through which spatial understanding is produced.

Reading façade spaces

Fieldwork and drawing reveal the limitations of representing the façade as a line. The transition between street and interior unfolds through sequences of spaces. Case studies in Ghent and Braga were selected for their contrasting morphologies while offering comparable ground-level conditions. Routes were identified through repeated walking, allowing recognition of locations where façade spaces intensify transitions.

Certain situations became more evident, particularly where thresholds deepen, entrances extend into the public realm, or interior activities become visible. These were documented and analysed through drawing. The analysis reveals three recurring types of spatial sequences. The first corresponds to direct transitions, where accessibility and permeability enable immediate connection between street and interior (Fig. 3). The second introduces spatial depth through intermediate layers that slow movement and support moments of pause (Fig. 4). The third limits accessibility while maintaining permeability, producing a more distanced and controlled transition (Fig. 5).

Figure 4: Façade depth in Nederkouter: the boundary between street and building unfolds into multiple layers, including visual, accessible and observational spaces, revealing the façade as a stratified sequence rather than a single line. Graphic by the author, 2024.

These patterns are not fixed typologies, but relational structures that emerge across different contexts. They demonstrate how façade configurations organise access, spatial depth and interaction.

From observation to spatial knowledge

Through analysis, trajectories shift from descriptive observations to analytical tools. Façade spaces can be systematically read through their organisation of access, layers and movement. Walking enables recognition, while drawing allows comparison and abstraction. Together, they support the construction of a framework through which façade spaces can be understood beyond individual cases. Accessibility, permeability and depth become operative concepts, enabling comparison and pattern recognition.

The research evolves through iteration, where observation gives way to structured readings. In this sense, the research trajectory mirrors the spatial trajectories it investigates. Façade spaces are no longer

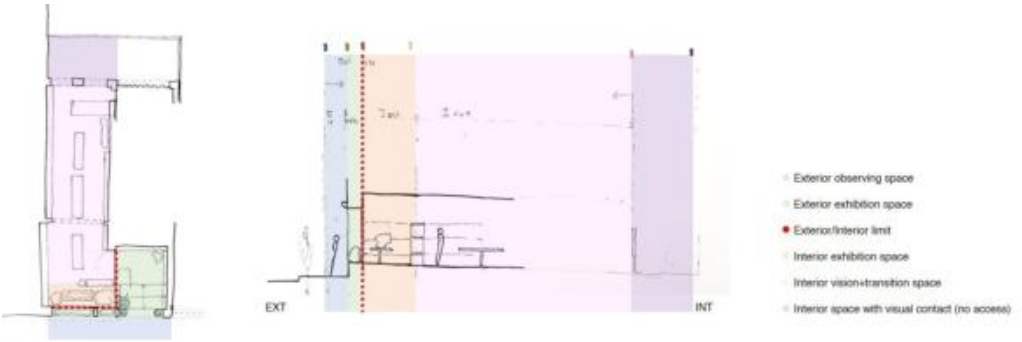

Figure 5: Façade permeability: successive layers, transitions and thresholds create a permeable sequence between street and interior, enabling continuity while filtering and regulating movement and interaction. Graphic by the author, 2025.

approached only as empirical situations, but as structured environments that can be analysed and compared through design-driven research. These trajectories reveal points of intervention through which transitions can be reconfigured. By identifying how concepts are organised, the research opens the possibility to transform how façade spaces mediate between building and city.

Beyond observation: towards architectural understanding

Façade spaces can be understood as spatial systems structuring urban experience. By combining walking and drawing, the research connects experience with analysis. Concepts such as accessibility, permeability and depth enable the production of transferable knowledge, bridging everyday experience and architectural reasoning. Walking and drawing are not the contribution themselves, but the means through which spatial principles are identified.

Designing the façade becomes less about defining a boundary and more about structuring the conditions through which urban life unfolds (Fig. 6).

Figure 6: Façade as inhabitable threshold: informal occupation of the window ledge transforms the interface into a space of pause and social use, revealing its potential to support everyday urban life, Ghent. Photography taken with permission by the author, 2024.

If façade spaces operate as trajectories, design can act upon their thickness, sequence and permeability, shaping how transitions are experienced and negotiated. In this sense, to design the façade is not to define an edge, but to choreograph the relations between interior and urban life.

Conclusion

This research proposes a shift from understanding the façade as a boundary to approaching it as a spatial trajectory mediating between public and private domains. Through walking, observation and drawing, it identifies layered spatial sequences structured by concepts.

By connecting experiential practices with analytical frameworks, the study demonstrates how design-driven research can produce architectural knowledge. Façade spaces emerge as active spatial structures that organise urban experience and offer potential for design.

Ultimately, the façade is not a limit to be drawn, but a condition to be constructed. The interface between building and city is continuously produced through movement, perception and design, and can therefore be critically reimagined.

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Territory, Imaginary, Ecology
A Critical Cartography of the Sky

Alma Grossen, KU Leuven

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hyperobject, sky, territory, encoded relationality, critical cartography

Abstract

The emergence of the manmade technosphere resulting in the Anthropocene has transformed the sky from a metaphorical space of aspiration into a contested geopolitical territory that can be actively designed, commodified and divided. Datafication, referring here to the encoding of atmospheric phenomena through computational platforms, navigation interfaces and live satellite data, has flattened the complex three-dimensional spatial field of the atmosphere into a scalable data surface, hiding the situated, nonscalable dimensions of the sky. The central problem of this research addresses the transformation from sky as social field and elemental media, and historical projection plane for aspiration, to a territory of governance, colonisation and property, and aims to make the co-presence of sky imaginary and atmospheric territory visible and navigable for architectural imagination and practice through the creation of a critical cartography. (Panofsky, 1971; Iwaniszewski, 2011; Tsing, 2012; Kurgan, 2013; Morton, 2013; Parks, 2013; May, 2017; Just, 2024)

Introduction

The atmosphere—part of Earth's interconnected system comprising the geosphere, biosphere, cryosphere, and hydrosphere—has only recently become accessible through the development of advanced technological infrastructures. The emergence of the manmade Technosphere resulting in the Anthropocene has transformed the sky from a metaphorical space of aspiration into a contested geopolitical territory that can be actively designed, commodified and divided. Vacillating between atmosphere and sky, urban territory and social field of imagination, the atmosphere offers the unique quality of being both metaphor and territory simultaneously, a co-presence that contemporary datafication of sky media renders illegible (Tsing, 2012; Kurgan, 2013; May, 2017). (Fig.1)

Therefore, the project title names three lenses of research as analytical registers: ‘territory’, designates the atmosphere as contested, governed and operational space (Parks, 2013; Adey, 2014; Vegetti, 2017; Barrio, 2023; Weizman, no date), ‘imaginary’means the cognitive spatial environment associated with the sky through symbolism, shape and place of aspiration, activated through sky platforms, infrastructures and images, together referred to as sky media (Iwaniszewski, 2011; Peters, 2015; Callard, 2018), whereas ‘ecology’designates the media ecology of the sky as entangled field of infrastructures, media and spatial imaginaries, through which the sky is built and perceived. Following Sy Taffel’s notion of media ecologies as scalar entanglement, media ecologies are never neutral or factual but encode specific power relations between body, technology and territory (Taffel, 2013), rendering the imaginary and its territory entangled with each other.

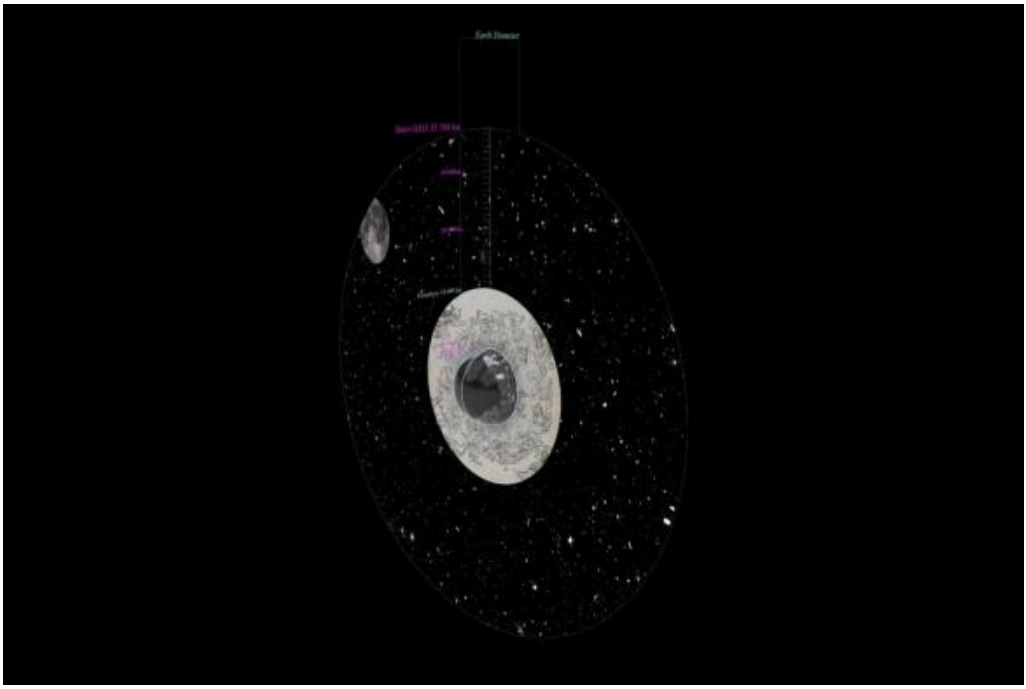

Figure 1: Sky Imaginary and Atmospheric Territory. Drawing by Alma Grossen, 2026.

State of the Art and Research Gap

Architecture, as a human-designed habitat, is always placed within a global outside, the atmosphere (Grosz, 2001; Brenner, 2017). This outside, the planet's Umwelt, is one shared global monospace of very large size (Adey, 2014). As an architectural object it becomes part of the classical typologies and has a domestic quality: it is home, not just in the territorial, the garden, the city and the landscape, but also expands upwards, in a spherical vertical volume of inherently strange dimensions (Harman, 2011; Morton, 2013).

According to the state of the art, the sky as imaginary and territory can be understood through three theoretical lenses. First, as elemental media: a spatial field of cultural, symbolic and navigational meaning through representational systems and their respective scalar logic (Peters, 2015; Horn, 2018). Second, as a social field: a web of cultural concepts of the sky and atmosphere overlap and coincide, and values and meaning are ascribed to spatial qualities and sky objects (Iwaniszewski, 2011). Third, as a space of aspiration: a relational tension between what is projected conceptually and a designed planetary territory, an orientation towards a value not yet fully inhabited. This aspect has gained traction through the possibility of space travel and invention of airflight, peaking at moments of colonial discovery and technological progress. Within architecture, the exotization and othering of the sky is comparable in its semiotic meaning to remote or unknown lands in previous fieldguides, for example the European Grand Tour proposed by Le Corbusier and his peers (Avermaete and Sabatino, 2025), or R.E. Buckminster Fuller's 'Operating Manual for Spaceship Earth.'(R. Buckminster Fuller, 2008).

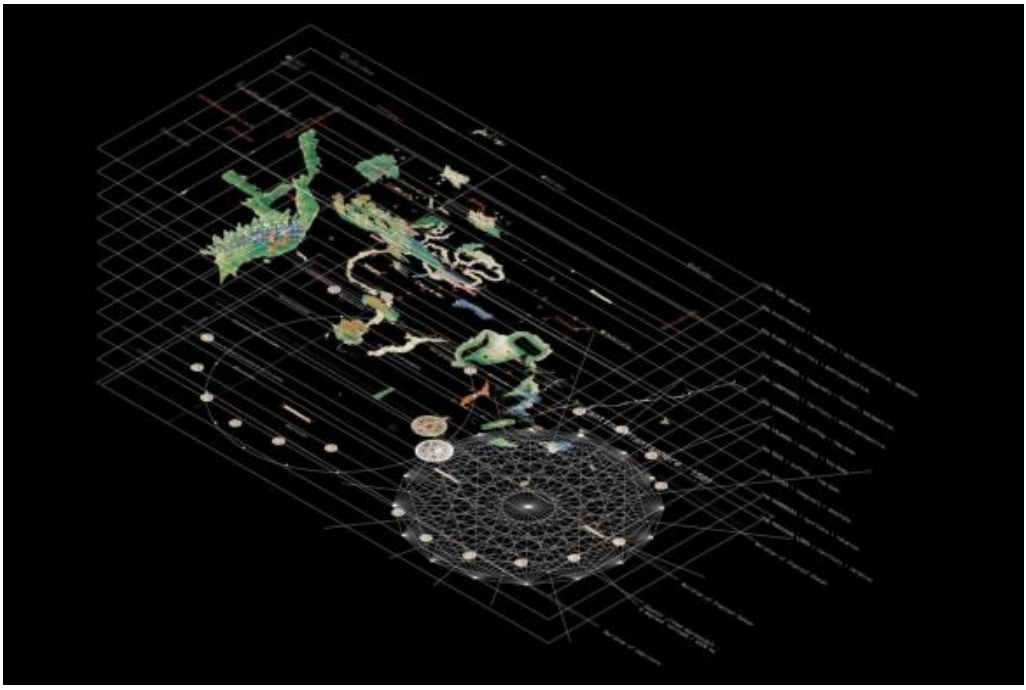

Figure 2: Cantino Planisphere, Encoded Relationalities. Drawing by Alma Grossen, 2026.

With the sky, a unique transformation has taken place, where the civilizational shift from imaginary to territory has produced different forms of encoding relationality. The overarching analytical instrument for this research is Erwin Panofsky's principle of perspective as a symbolic form, where representational systems are a form of encoding cultural assumptions of the culture and society that produced them (Panofsky and Panofsky, 1991). The concept of the transscalar, understood as the simultaneous operation across multiple scales within one spatial field, is the three-dimensional pendent to the encoded relationality embedded in the sky (Brenner, 2001; Tsing, 2012; Taffel, 2013). Shannon Mattern has argued that infrastructure is equally an encoding system for epistemic and technical situations and never neutral (Mattern, 2017). Adding to this, John May's thought on images, as communicators of systems of image production, makes clear that the pixelated surface is a product of the media ecology it was produced in (May, 201). When applying Anna Tsing's concept of nonscalability to the sky, the aspect of scalability is set as a fallible system that misses the precise and nonscalable aspects of this territory that made the sky available to spatial practices before its navigability (Tsing, 2012). The atmosphere has gone through exactly this transformation and loss of readable meaning.

Situating these images within a coherent transscalar model, creates a critical cartography that gives a place to these practices and images — creating a critical field atlas, critical in the sense of counter-cartography (Haraway, 1988; Crampton and Krygier, 2015; May, 2017; Just, 2024): a way of mapping, that makes visible the scalar entanglements of the scalable, datafied atmosphere and the nonscalable, situated conditions they suppress, operating through analytical drawings of contemporary sky media, with historical precedents entering instrumentally, decoding

the scalar logic of atmospheric datafication and making the relationship between territory and imaginary navigable and visible. Adding to this, Donna Haraway's situated knowledges establish that all knowledge production is partial, making situated, embodied encounters with the sky a necessary counterpart to the totalized view of the atmosphere (Haraway, 1988). Together these works establish the atlas a s a legitimate research output, but do not address the sky as a transscalar field of encoded body-sky relationalities. (Fig. 2)

The existing literature establishes that sky representation encode relational logics between body, space and territory, but offers no spatial translation of this logic. Panofsky states perspective as a cultural encoding logic, but does not extend this principle transscalarly. Tsing's concept of nonscalability identifies a relational condition, yet does not translate this into cartographic practice. Mattern points out the culturally encoded infrastructure systems, without offering a field guide. Durham Peters defines and analyses the sky as elemental medium, but does not show the scalar relationship between specific media objects. Kurgan demonstrates that spatial data technologies encode political meaning, but does not extend this argument transscalarly into a drawing method. My research situates itself at this gap, by developing a drawing method (*Sky Inversion*) translating these theoretical frameworks into a navigable spatial field (*Hyperfield*), producing together a critical cartography of the sky.

Methodology

This research develops a critical cartography through a practice of architectural decoding and spatial assembly of the sky as an inhabitable field, searching for encountering the sky as it appears within a bounded, inhabited, body-scaled spatial context, through the accumulation of Sky Inversions, analytical drawing operations that decode the encoded relationalities of contemporary sky media and producing scalar breaks making the co-presence between sky imaginary and atmospheric territory spatially legible. The research is located above Ghent and its connected atmosphere expanding over Belgium, while the sky media operate at a planetary scale. For this reason the model expands from the terrestrial crust to the Exosphere, and proposes spatial readings based on scales of 10, for each sky scalarity.

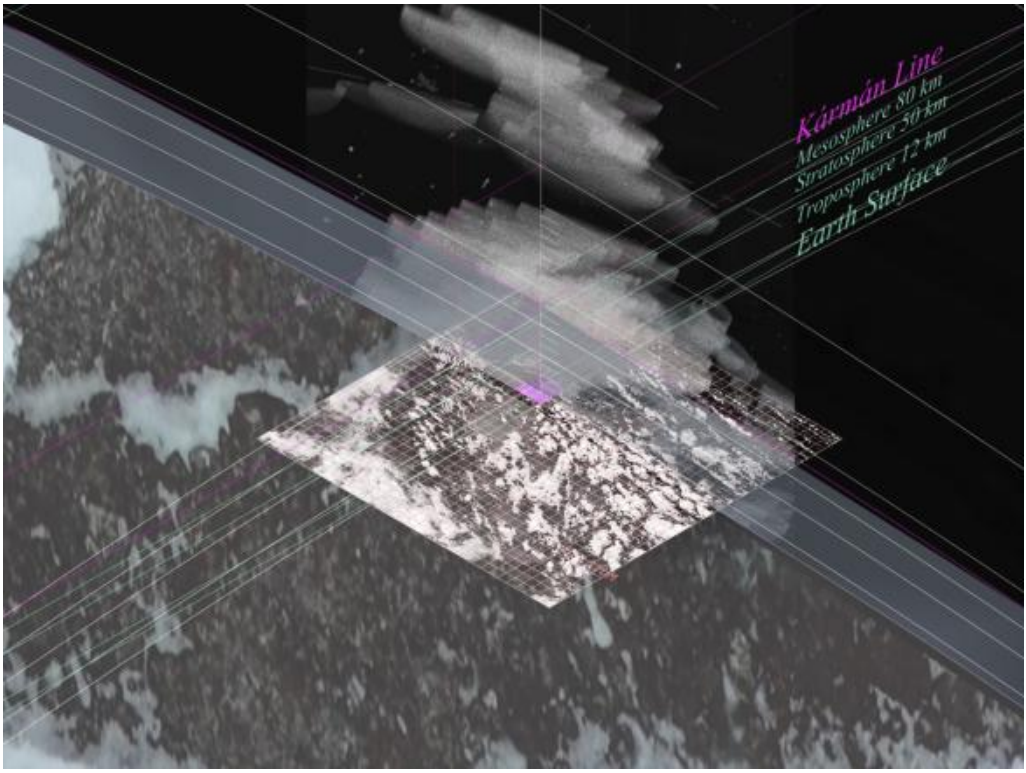

Figure 3: Hyperfield. 3-D Cartography by Alma Grossen, 2026.

Transscalar field modelling: The Hyperfield

The Hyperfield is built in Rhino and situates all Sky Inversions within one transscalar architectural container. This scalable, three-dimensional cartography is the primary spatial instrument of the research. The Hyperfield synthesizes Timothy Morton's Hyperobject and Iwanizsewski's Sky as Social Field into one transscalar architectural condition. (Iwaniszewski, 2011; Morton, 2013).

The Hyperfield holds territorial, imaginary and ecological registers simultaneously, making their tensions visible and navigable. The territorial register contains the decoded scalar logic of contemporary sky media, rendered as weightless, diagrammatic, scalable Rhino lines showing the atmosphere as totalizing, datafied, scalable and surveillant (Tsing, 2012; May, 2017; Barrio, 2023). The imaginary register relies on the decoded scalar logic of historical sky media and situated counter-practices, rendered as sketched, sensed, built, nonscalable environment. This is the sky form below as fragmented, situated, embodied and nonscalable (Haraway, 1988; Just, 2024).

The ecological register functions as layers where preexisting natural conditions are named and placed, opposing the territorial register, where satellites, governance layers and objects of the technosphere are placed. The layer structure of the model corresponds with these conceptual registers of the project and is developed throughout the research process.

When all registers are active simultaneously, their friction produces the critical cartography. (Fig. 3)

Analytical architectural drawing: Sky Inversions

Sky inversionsare analytical operations decoding the internal scalar logic of a contemporary sky medium, revealing the irreconcilable encoded relationalities within in. The drawing operation is analytical and not illustrative, revealing hidden architectural logic embedded in sky media. Dirven by a contemporary sky medium, its encoded spatial logic is drawn out a s a structural diagram situated within the Hyperfield, revealing hidden spatial logic embedded in the medium. In the first case study this principle is perspective as a symbolic form in Panofsky's sense (Panofsky and Panofsky, 1991). This drawing operation produces a Scalar Break: a cognitive spatial event, in which holding both encoded relationalities simultaneously reveal their irreconcilability.

The principles selected constitute a coherent language of sky signifiers (viewports, air, dome, cloud, eclipse, glimmer, text, shadow, trace, horizon, rain), producing principles of encoded relationality (perspective, dome, enclosure, navigation, governance). Thinking of the body itself as part of the media ecology circuit, the scalar break becomes operative: it registers in the researcher's and reader's imaginary as the encoding systems coincide and the sky becomes briefly recognizable as an irreconcilable hyperobject. Historical precedents are not used comparatively, but instrumentally, as they enter as analytical resources by revealing their suppressed relational principle. They constitute the base for deriving a situated practice.

Method derivation: Situated Practice

Each *scalar break* generates a located situated practice, functioning as a method for producing the cognitive event of irreconcilable encoded relationality as a spatial experience for anyone who uses them. Each method makes the suppressed body-sky relation legible through architectural model building, legible beyond the researcher. Following Donna Haraway's situated knowledges, each practice is partial, embodied and located, producing knowledge through diffraction rather than reflection (Haraway, 1988). Hand drawing is used as an instrument for countermapping, because its scalar resolution is not preset, but constructed through the drawing itself. Materiality, thickness, pressure, layering, pace are embedded by the moving line encoding the body's situtated encounter with the sky in a way that no pixel-based medium can reproduce or scale (Ingold, 2008; May, 2017).

Drawing as a research instrument

This research does not use drawing as a tool of illustration, but rather as a form of analysis. Architectural drawing operations: sectioning, bordering, perspectival and optical projection, rendering make visible the spatial logic hidden within sky media.
When a finding is produced through drawing out a principle, the scalar

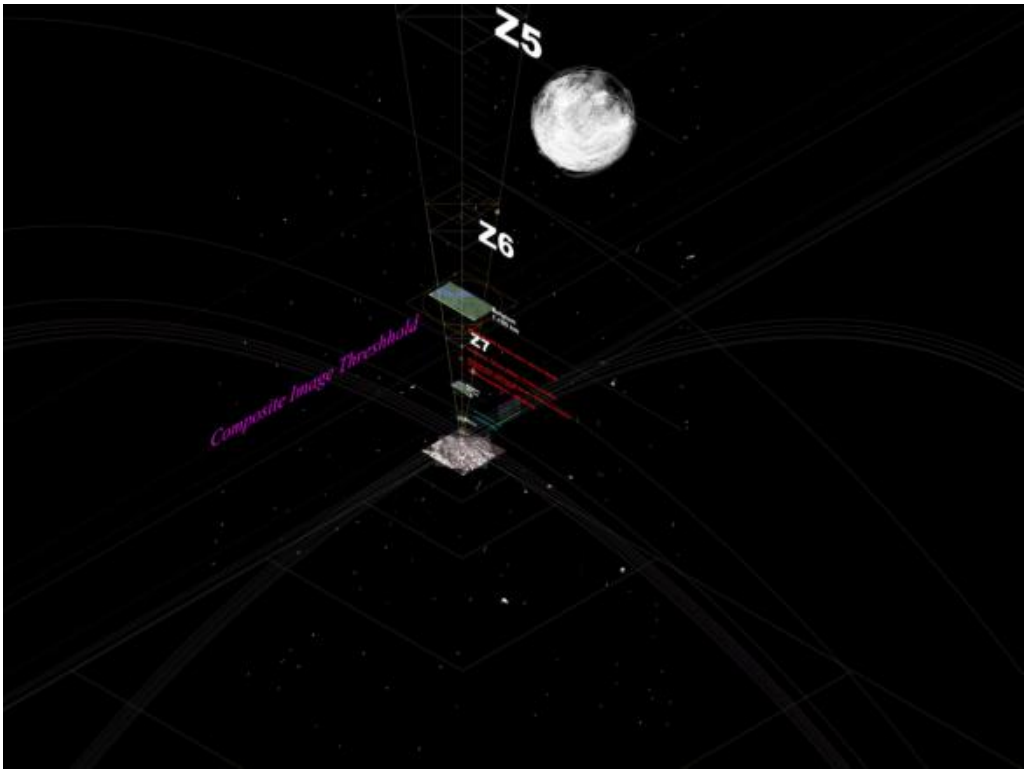

Figure 4: Google Image Zoom, Encoded Relationality. Drawing by Alma Grossen, 2026.

breaks that arise, produce the methods for situated practices as reproducible analytical procedures. This research is not architectural, because it relates to the built environment, but because architectural instruments of drawing, make the unique spatial condition of the sky visible in ways that no other disciplinary method can offer. Hand drawing as a method for situated practice is inherently nonscalable, as the pace, materiality, value is embedded in the body that produces the drawing. Using at as a research practice bases on Tsing's argument of nonscalability, as the drawing cannot be scaled without loss, fulfilling the condition of nonscalability.

First Exemplary Sky Inversion: Zooming

The encoding of the sky through a cultural viewpoint, the symbolic perspective of Jan van Eyck's folded altarpiece located in Ghent's Sint Baafscathedral, situating the body within a nonscalable, non-hierarchical relational field, versus the orthographic post-perspectival Google Earth perspective encoding the atmosphere as scalable data surface, when zooming in on the Iphone, creates the first comparison of relational encoding principles. The Google Earth zoom sequence enters as the primary sky medium. The Ghent Altarpiece enters instrumentally to name the suppressed relational principle the drawing reveals.

The contemporary encoded relationality within Google Earth's orthographic perspective, showing a post-perspectival datafied sky through

a shadow-free viewport (Koenderink, 1984; Lindeberg, 1994; Taffel, 2013; May, 2017), is decoded through an analytical architectural drawing. The embedded scalar zoom principle is in this case the Laplacian pyramid, setting specific resolution for the base of the Google map tiles sized 256 x 256 pixels. By drawing this scalar pyramid as perceived optical pyramid starting at the respective satellites of production and setting each Google Zoom on the respective height, the embedded relationality of sky imaginary is visualised. (Fig. 4)

By drawing all points of perspective and dissecting the altarpiece in its figure planes, the overlap between central and reverse perspective creates a non-hierarchical field of experience centered on the sun and sky space central to the composition of The Adoration of the Mystic Lamb. (Panofsky and Panofsky, 1991; Hockney, 2006; *(99+) The Composition of the Ghent Altarpiece (Divine and Human Perspectives)*, no date) In reverse perspective, where the viewpoint is located behind the image and the perspective beams don't coincide in the viewer, but in this case the sun, include the body within the image and hence, create a tight relationality to the sky, which in this case is coded as a symbolic adoration object of heaven. (Fig. 5)

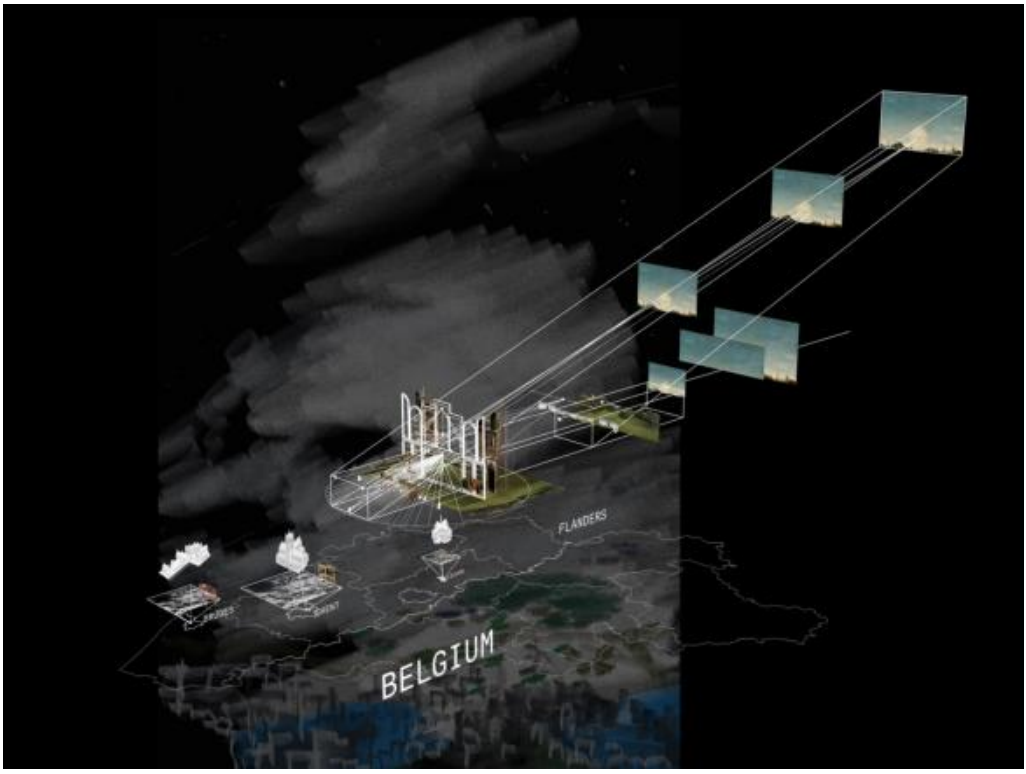

Figure 5: Flemish Sky Imaginaries. Drawing by Alma Grossen, 2026.

The Laplacian Pyramid removes the body as relational center, whereas the altarpiece's reverse perspective includes it by creating a non-hierarchical field. These two perspectival logics applied to the same sky above Sint Baafsplein are irreconcilable.

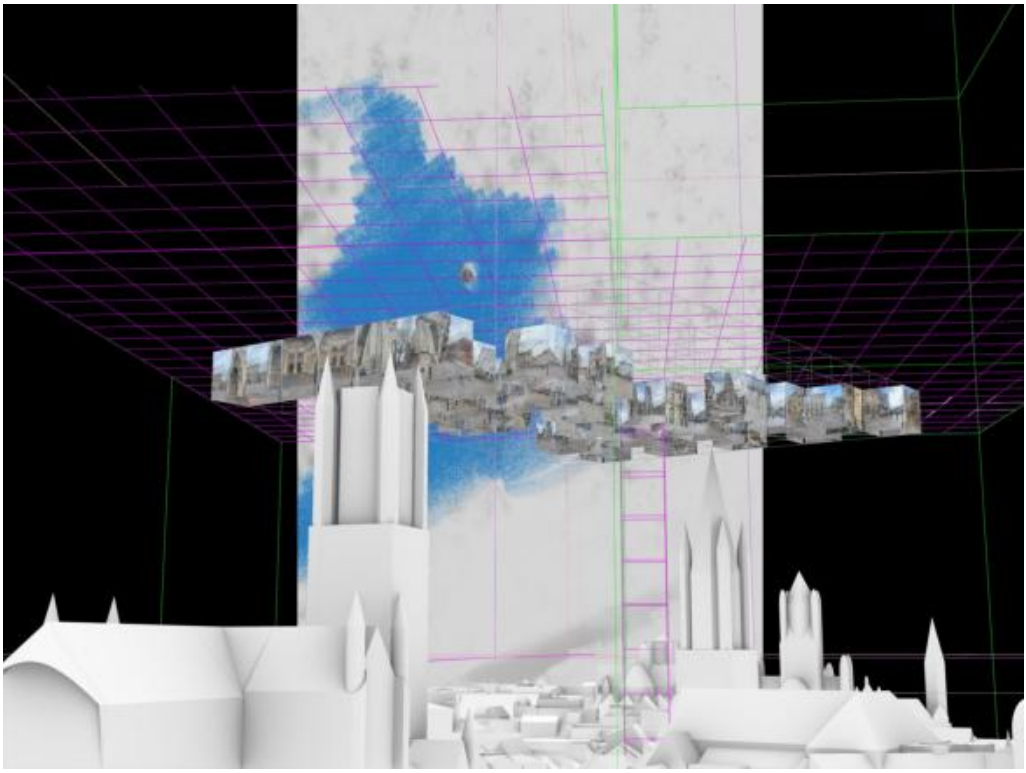

Figure 6: Sky Inversion. Drawing by Alma Grossen, 2026.

As a method for situated practice, the stitching of 33 situated viewpoints on Sint Baafsplein, by creating overlapping panorama images of the sky in all cardinal directions, the viewpoint of the specific perspective is placed behind the image. The multitudes of perspectives looking back create a counter-map the sky over the square, encoding the nonscalable relational field against the orthographic territorial gaze. The model is built in the Hyperfield model and subsequently translated into a physical model revealing the scalar break. (Fig. 6)

Conclusion

Each Sky Inversion produces a method for situated practice, that accumulated, reveal the sky as an encountered form body scale and ground level, assembled through the practice of the developed situated practices located within the Hyperfield, building a critical cartography from the ground up. It is not a pre-existing condition, but a dynamic one produced through theoretical readings decoded through architectural drawings, and countermappings revealing the scalar breaks between atmospheric datafication and shifting collective sky imaginary.

This research produces a critical field atlas leading through the Hyperfield, for reading the sky simultaneously as metaphor and territory. The Lexicon is the portable, repeatable form of the Hyperfield, holding the scalar tensions within to build a critical spatial model of the sky.

The contribution of this research to the field of architecture is epistemological rather than instrumental. It demonstrates that architectural drawing can function as a critical research instrument for decoding the scalar politics embedded within media systems and that the field guide is formed through situated encounter. The Sky Lexicon is not a design manual, rather a method for reading the sky as irreconcilable hyperobject and nonscalable shared space we inhabit.

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Unfolding Demolition of the Family House Entangled Narratives through the Architectural Essay Film

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demolition, urban transformation, architectural essay film, tentacular thinking, witnessing

Abstract

This research investigates an architectural essay film as a form of witnessing rather than aesthetic documentation and constructs through discussions of feminist new materialism. The anticipated earthquake of Istanbul -expected to be destructive and happen in every 250 years- accelerated the urban transformation in the city. The film focuses on the demolition of my family's house which is located in one of the transformation zones and is situated temporally and physically within this experientially elongated demolition; follows materials entanglement, moves through more-than-human worlds, and engages with my memories. It emerges from otherworldly narratives and archives tales of familiar and unfamiliar. Grounded in tentacular thinking, the film seeks to speculate conventional research in architecture by offering a compost of the narratives amalgamating common norms into individual, affective memories.

This visual essay explores an architectural essay film, which I currently work on as part of my postgraduate research. The essay film is treated as a form of witnessing rather than aesthetic documentation and is constructed through discussions of feminist new materialism (Fig. 2). Therefore, the study seeks to speculate conventional research in architecture by offering a compost of the narratives amalgamating common norms into individual, affective memories. This film focuses on the demolition of my family's house.

Our Family House and its Unsafe Structure

Our four-story family house for thirty-five years, was a reinforced concrete structure with no architectural service, the aesthetic qualities and design decisions were made as it was built. Meanwhile, it was the witness of our childhood memories, illnesses, birthday celebrations, and losses.

The anticipated earthquake of Istanbul -expected to be destructive and happen in every 250 years- accelerated the urban transformation in the city. Our family house is located in one of the transformation zones. Core-drilling tests indicated that the structure was unsafe, the building was not worth preserving and was demolished. What may have been a swift decision for urban transformation was extended in time when it was our family house that was demolished. The film is situated temporally and physically within this experientially elongated demolition; follows materials agency, moves through more-than-human worlds, and engages with my

memories. It emerges from otherworldly narratives and archives tales of familiar and unfamiliar (Figs. 2 and 3).

Multiple Temporalities through Material Trajectories

As part of urban transformation, durability and structural reliability are evaluated through core-drilling tests, the resulting data are used to estimate a building's lifespan, and buildings identified as unsafe are demolished (Fig. 4). In this process, these buildings are treated as lifeless, static datasets. Architecture practice reduces multiple temporalities, prioritizing a linear trajectory from construction to demolition and design decisions made without direct engagement with materials. In the Anthropocene era, there are critiques that remind us of the necessity to think beyond the traditional focus on temporal and spatial scales, to approach materials within ecological relationships rather than focusing on form design, and to recognize their agency (Simonetti and Wiegand, 2024). Hutton (2019) invites us to consider the ways in which materials take shape and interact as they move from geological strata or forests to factories, design projects, and landfills, encouraging us to imagine the meaning of materials for landscapes, people, and other places along their trajectory. She argues construction materials are not fixed in terms of time, space, and form; they are affected and affect (Hutton, 2019).

In my research, I approach her argument, considering the tangles of displaced, dismantled, moved, and accumulated materials as a component that invites multiple temporalities (Fig. 5). The decisions to demolish and vacate are made by a series of documents and signatures, quickly taken at offices and clean desks. After these decisions, the windows we clean first for the holiday break, strangers wander inside, the trees we water regularly get damaged and covered in dust. The tangles of material in the research are about the pieces, grains, and dust of these stories that have become knotted together over the years. In a rapidly changing urban environment, the research explores the creativity of slowness and intimacy.

The Heresy of the Essay Film

Touching the Unexpected in Research

In architecture, although alternative and speculative writing have begun to emerge in knowledge production and methodologies, a structure dominated by a text-based, academic style and tone, where a single author holds a privileged position and a rigid theoretical debate is defined, remains dominant (Troiani and Kahn, 2016). In contrast to this understanding, the nature of the essay is *transgressive,* Adorno (1984) argued, is associated with *heresy*; according to him, *'the essay's innermost formal law is heresy.' (*Adorno, 1984).The research embraces the

heresy of the essay film and explores its potential for speculative storytelling in architecture.

Essay film challenges singularity, authority, and comprehensive knowledge; it simultaneously addresses both the external, concrete facts and the internal, variable personal and creates critical fields of thinking. This openness to the unpredictable makes these films process-oriented; thus, research is reconfigured as a journey without a defined destination (Arthur, 2017). Penelope Haralambidou (2015) proposes a hybrid genre for films that intersect architecture and theory -particularly those engaging urban and architectural design- and characterizes these productions as architectural essay films (Haralambidou, 2015).

The research collectively produced by Bihter Almaç and a group of academics (2025), titled *Three Disentanglements for the Exhausted Geographies*, the essay is approached as a mode of resistance against objectification through its productive short-circuit capacity and is enlarged as a feminist and creative research method in architecture. Emphasizing the importance of worlding in order to build egalitarian imaginaries in conventional fields. In contrast to impartial methods, they discover the architectural essay film as a way of *world-making* alongside other bodies and emotions (Almaç et al., 2025).

In my research, building on these practices, I explore the architectural essay film through Donna Haraway's (2016) notion of *tentacular thinking* and experiment with it as an *SF* practice. *SF*, in being a mode of thinking and storytelling, refers to a relational practice; it encourages us to think not from a human-centered position but within entanglements of responsibility and care with more-than-human beings (Haraway, 2016). The essay film enables me to draw reciprocities between stories -between the individual and the social (Figs. 6 and 7). I approach the film through the process of demolition of our house; however, the tentacles of the building touch unexpected places, times, and actors. It extends beyond my memories and emotions, reaching into the material realities that have been overlooked in the production and consumption of architecture, and stays in the present; it characterizes an act of care grounded in responsibility (Figs. 8 and9).

The Embodiment of the Knot

The Crack

My film enfolds thinking and remembering as an act of togetherness, enabling entanglements. I approach this as a knot and attempt to explore through Jane Bennett's (2010) concept of *thing-power* and *vibrant matter*. Bennett (2010) perceives the energetic vitality of the glove, mouse, bottle cap, and pollen she encounters, and describes these objects as *things* that vibrate and shimmer. Matter spreads across all bodies, which cease to be mere objects. According to her (2010), within the distributed power, these bodies become inextricably enmeshed in a dense network of relationships, like *kin* (Bennett, 2010). My research is embedded in the kinship between material and immaterial, human and non-human bodies,

and takes shape within a knot woven of glass, cable, iron, ceramics, the pine tree, my family, myself, contractors, scrap dealers, new settlement plans and thoughts of return (Fig. 10).

Reconstructing Assemblages

Juxtaposition of Sounds, Images, and Texts

In the making of the film, my position is blurred. I move from a former resident, to a witness, then a detective tracing material entanglements, to a researcher, and to a filmmaker. The research process transformed into a touching and embodied journey. I structure the filmmaking process based on these positions with three core actions that are not independent of each other but differ in their unique features: gathering entangled tales, unfolding time, and bendingspace and relations horizontally.

Gathering

Gathering happens in an instinctive way. The first recording is of the iron shutters of the store below my room being dismantled. My witnessing then evolves into an embodied engagement of exploration. I gather and archive minor and ordinary things. My camera becomes an extension of my body and together we are affected by the environments we are situated in. We witness fragile assemblages of material entanglements. We are covered in dust during the dismantling by scrap dealers and soaked by the water sprayed during demolition.

Unfolding

The unfolding of time is a process in which I question the linear notion of time and discover its restructuring. The past, now and future become superimposed, the distances within the simplified notion of time become ambiguous. I attempt to expand the rapid moment of demolition across processes of moving and gathering belongings, waiting in the abandoned house, extracting materials valued by scrap dealers and second-hand traders, accumulating materials in storage, and their sorting on waste mounds (Fig. 11).

Bending

The unfamiliar refers to static and frozen situations we have not previously experienced or have overlooked: cables torn from the wall, metal waste stored in a warehouse, a wheel emerging from the soil; things quite alien to my domestic life materialise along with core memories of my home such as a graphite pencil sketch I did on my bedroom wall when I was a bored teenager. Throughout the film, these scenes become blurred and the distinction between the familiar and the unfamiliar becomes increasingly difficult to sustain. Then, my film becomes a speculative material entanglement compost of narratives through the juxtaposition of sounds, images, and texts, moving beyond being an aesthetic medium of

expression. The boundaries of places become indistinguishable, expanding from the room I grew up in to the warehouse between neighbourhoods and the waste hills. The interweaving of familiar and unfamiliar narratives happens during the montage stage. Places and time bend, expand, and stretch across the horizontal plane of the program interface for editing. The photo of cutting a birthday cake from our family photo archive resurfaces, along with the leaves of a tree casting its shadow onto the road, and a bird nesting in an electrical panel. The familiar responds to states of growth together and caring, and unfolds over time. In this layer, life extends toward more-than-human beings, and their being overlaps with my memories, including the pine tree that grew up with me, the bird I feed that visits my window, and the cat that tries to come inside whenever a door is open.

Conclusion

In this essay, I explore the essay film as an interdisciplinary research method in architecture, engaging it as a form of witnessing entanglements and folded temporalities through the demolition of my family house. This witnessing unfolds through the encounters of the tentacles of our family house, which was dismantled after thirty-five years. I ground this witnessing in *tentacular thinking*. In the essay film, this way of thinking explores the narratives of minor within the context of urban transformation. The film explores the critical potential of positioning far from the form, aesthetics, and future scenarios of the design process in architecture and places other possible tales and affects shaping human and more-than-human bodies within rigid theoretical debates.

This research is part of my ongoing master's thesis, supervised by Assoc. Prof. Dr. Bihter Almaç, Istanbul Technical University.
This research was initiated within the Architecture in Context MTS507E [Architectural Essay Film & Practices: Research and Representation] course taught by Assoc. Prof. Dr. Bihter Almaç in the Architectural Design Master's Program at Istanbul Technical University. The reading list of the course provided the references for this research and was used throughout the study.

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Figure 1: Becoming a Witness. Film still by Berivan Güzel, 2026.

Figure 2: The Metal Sheet. Film still by Berivan Güzel, 2026.

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Figure 3: The Pine Tree. Film still by Berivan Güzel, 2026

Figure 4: After Demolition. Film still by Berivan Güzel, 2026.

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Figure 5: Album. Film still by Berivan Güzel, 2026.

Figure 6: Stranger. Film still by Berivan Güzel, 2026.

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Figure 7: Dismantled. Film still by Berivan Güzel, 2026.

Figure 8: Waste Mound. Film still by Berivan Güzel, 2026.

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Figure 9: Waste Mound. Film still by Berivan Güzel, 2026.

Figure 10: The Crack. Film still by Berivan Güzel, 2026.

Figure 11: Demolition. Film still by Berivan Güzel, 2026.

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Architectural Low Definition Trajectories

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#

architectural form, transformation, indeterminacy, low-definition Systems

Abstract

This essay examines how architectural configuration can maintain structural precision while enabling spatial and temporal change. Since the late twentieth century, architectural discourse has addressed openness and indeterminacy as alternatives to the closed object, often positioning them in tension with architectural definition. How can a spatial configuration be sufficiently defined to constitute architecture while remaining sufficiently open to allow transformation?

Architectural low definition is introduced here as a selective distribution of determination within a spatial structure: precision is strategically concentrated, while other aspects remain intentionally loose. Form thus operates as a structured field that orients relations and potential developments rather than prescribing fixed outcomes.

Within this framework, trajectories are understood as directional capacities embedded in the architectural system itself: structural behaviours through which spatial and temporal evolution unfolds.

Low definition is proposed to describe how spatial determination is differentially distributed within architectural form, allowing trajectories of use and transformation to emerge as intrinsic conditions of the project.

Disciplinary Problem: Indeterminacy and Transformation

In late twentieth century architectural discourse, indeterminacy emerges in response to the increasing difficulty of strictly fixing uses, configurations, and transformations of built space. It is not merely a reaction to contemporary social or technological change, but a problem internal to the discipline itself that affects how the project is conceived and structured. When the project field is marked by programmatic instability, indeterminacy is often managed *a posteriori* rather than incorporated into design practice as a structural component of the project. How can a spatial configuration be sufficiently defined to constitute architecture while remaining sufficiently open to allow transformation?

Architecture Theory since 1968, edited by K. Michael Hays (1998), can be read as a map of the transformation of architectural discourse following the crisis of modernism. The anthology assembles heterogeneous contributions which, although divergent, collectively shift attention from product to process, from object to system, and from finished form to the relations that generate it[1]. Architecture can thus be understood as an operative field in which space, use, event, and transformation do not necessarily coincide[2], and where indeterminacy may be interpreted not simply as a flaw but as a structural condition of contemporary spatial systems.

This broader reconsideration of architectural form and its relation to change is also articulated through distinct positions that, rather than

Figure 1: Untitled, 2010 © Monika Janulevičiūtė.

belonging to a unified theoretical field, register and develop this shift in different ways. In *Planning Criteria* (1976), Oswald Mathias Ungers formulates architecture as a system composed of a stable structural framework and variable elements capable of accommodating different uses over time, establishing an order capable of integrating change[3]. In a different register, Stan Allen's diagrammatic approach develops this condition into an operational logic. In *Points + Lines* (1999), diagrams are understood as organisational devices that structure relations and transformations without prescribing final configurations[4].

Without converging into a unified doctrine, these approaches share a common concern: how architectural form might remain coherent while accommodating transformation. To render this question operative as an internal problem of spatial configuration, this research explores architectural low definition as a relation between a defined structure and a blurred scenario.

Trajectories as Structural Behaviour

Within this theoretical field, architectural low definition is proposed as an operative modality internal to spatial configuration, in which determination is selectively distributed rather than uniformly defined. Certain elements intensify precision and stability; others remain deliberately less prescriptive. The architectural system does not impose definitive configurations but establishes the conditions for transformation. Form is thus recalibrated according to a principle of differential intensity, becoming not only configurative but also regulative: it defines relations, limits, and operative margins without exhausting the system's potential in a fixed outcome. It is important to distinguish architectural low definition from

functional flexibility or generic indeterminacy. Flexibility tends to conceive space as neutral and adaptable while preserving an unchanged structural base. Architectural low definition, by contrast, does not presume neutrality; it entails a precise formal organisation capable of orienting behaviour and transformation without fully determining them. The aim is not interchangeability but a selective calibration of determination so that the structure incorporates latent directions of development.

Trajectories are thus intended not simply as movements through space, nor as contingent effects of use, but as directions of possible development inscribed in the material organisation of the structure—potential behaviours made legible through the distribution of definition. Related concerns appear in the work of Giancarlo De Carlo, whose reflections on participation and process emphasise architecture's temporal dimension and its evolution through use and negotiation[5]. In this perspective, architectural form does not prescribe fixed outcomes but establishes conditions that can transform over time. More recently, similar questions have been revisited through reflections on lo-fi practices[6], where architectural projects are understood less as finished objects than as curatorial frameworks that organise relations and potential developments over time. Becoming *time-specific*, the project constructs conditions that reveal themselves progressively[7].

The distinction between strategies and tactics further clarifies this condition: while strategies establish spatial order, tactics describe the contingent practices that unfold within it[8]. In low-definition systems, however, openness is already embedded in the structure itself: trajectories are not deviations but structurally oriented behaviours emerging from the spatial configuration.

Understood in these terms, trajectories reframe the disciplinary question of indeterminacy. Architecture does not renounce form; it calibrates its degree of definition so that it may orient and evolve. Structures remain open yet directional without prescribing outcomes.

Episodes

The following projects are not presented as case studies, but as selected episodes through which architectural low definition becomes legible. Each articulates a different configuration of the relation between defined structure and open spatial field. Architectural low definition becomes visible when determination is concentrated in specific, high-intensity devices—structural frameworks, geometric matrices, infrastructural elements—while extensive portions of the spatial field remain deliberately less prescribed. What varies is not the presence of form but the distribution of definition across the system.

The competition for the Parc de la Villette (1982–83) provides an early and explicit formulation of this approach. In Bernard Tschumi's winning proposal, the project is structured through the superimposition of independent systems: a grid of folies, circulation lines, and programmatic surfaces. The grid operates as a highly defined regulatory matrix that does not prescribe specific uses but establishes a stable regulatory matrix

Figure 2: Untitled, 2010 © Rasa Staniunaite.

capable of supporting multiple spatial configurations. Architecture functions less as a compositional object than as a relational framework in which events may unfold[9].If the Villette proposals articulate low definition through diagrammatic organisation, the 21st Century Museum of Contemporary Art in Kanazawa (2004) by SANAA demonstrates how similar principles can operate at the scale of the building. Here, a circular envelope contains a constellation of volumes distributed within a continuous interior field. Each volume is precisely defined in its geometry and programmatic identity, yet the interstitial spaces connecting them remain largely undetermined.

Rather than directing movement, the building constructs conditions for its negotiation[10]. A further, yet different, variation of this logic can be observed in the Palais de Tokyo in Paris, redesigned by Lacaton & Vassal, and reopened in 2002. Unlike the previous examples, the project does not introduce a new diagrammatic order but operates through the selective preservation of an existing spatial structure. The intervention maintains the unfinished condition of the former exhibition halls, preserving the building's large continuous volumes while introducing only minimal infrastructural modifications. Here, architectural low definition emerges through the refusal to fully saturate the spatial field. Structural definition is concentrated in circulation elements, services, and infrastructural reinforcements, while most of the building remains available for successive spatial configurations.

The trajectories generated by this configuration operate on multiple levels: in visitors' movements, in changing exhibition arrangements, and in the building's historical evolution[11].

Seen together, these episodes illustrate different ways in which architectural low definition can be articulated: as a regulatory matrix, a relational

field, or an infrastructural framework. In each case, form does not disappear but redistributes its intensity, allowing trajectories of movement, use, and transformation to emerge from within the configuration itself.

Conclusions

Architectural low definition is proposed neither as a style nor as a morphological category, but as an operative modality internal to spatial configuration. It redistributes intensity, concentrating precision in specific devices while leaving other domains deliberately less saturated. Across the episodes discussed, low definition assumes different forms—matrix, constellation, framework—yet in each case form operates as an oriented structure capable of incorporating trajectories of development.

Trajectory thus becomes not a secondary effect of use, but a potential behaviour inscribed in structure itself. It signals a shift in the notion of form: no longer a fixed figure to preserve nor a neutral support to adapt, but a relational field capable of maintaining coherence while remaining open. Rather than resolving indeterminacy, architectural low definition reframes it as an internal condition of the project. In this sense, architecture does not simply accommodate change, but actively structures the conditions through which transformation can unfold over time.

1 Hays, K.M. (ed.) (1998). *Architecture Theory since 1968*. Cambridge, MA: MIT Press. The anthology reconstructs the transformation of architectural theory after the crisis of modernism by assembling texts that rethink architecture not primarily as an object but as a cultural and operative system. As Hays writes in the introduction, architectural theory becomes "a mode of cultural production whose object is not only buildings but the conditions under which architecture is thought and practised" (Hays, 1998, pp. X–XIII).

2 On the dissociation between space, program, and event, see Tschumi, B. (1994). *Architecture and Disjunction*. Cambridge, MA: MIT Press, pp. 121–152. Tschumi's position is important here not because it replaces form with event, but because it redefines their relation as non-coincident.

3 Ungers, O.M. (1976). 'Planning Criteria', *Design Workshop Lotus*, 11. Ungers proposes a conception of architecture as a system composed of a stable structural order capable of accommodating changing uses over time. His argument is relevant here as an example of a framework-based understanding of form rather than as a comprehensive theory of openness.

4 Allen, S. (1999). *Points + Lines: Diagrams and Projects for the City*. New York: Princeton Architectural Press. Allen defines diagrams as organisational devices rather than representations of form, and in the essay *Infrastructural Urbanism*, he argues that contemporary urban design should operate through open frameworks that support future development rather than prescribing final configurations (Allen, 1999, pp. 54–57).

5 See De Carlo, G. (2005). *Architecture of Participation*. Milan: Jaca Book; for a more recent reading of De Carlo in relation to temporality and process, see Marini, S. (2025) 'Giancarlo De Carlo Trajectories', *Vesper*, 13, pp. 6–17.

6 The term 'lo-fi' derives from 'low fidelity', used in audio engineering to describe recording or reproduction systems characterised by a limited frequency range and the presence of noise, distortion, or other perceptible imperfections. Within cultural and design discourse, the term has progressively shifted from a technical description to a conceptual attitude, indicating practices that deliberately embrace incompleteness, roughness, or reduced resolution as

operative conditions rather than defects. In this sense, lo-fi does not simply denote a lower level of quality but a different mode of production and reception, in which partial definition and openness become generative qualities. See Lupano, M., Emanueli, L. and Navarra, M. (eds.) (2010). *Lo-Fi: Architecture as Curatorial Practice*. Venice: Marsilio.

7 See Lupano, M., Emanueli, L. and Navarra, M. (eds.) (2010). *Lo-Fi: Architecture as Curatorial Practice*. Venice: Marsilio, p. 54.

8 de Certeau, M. (1984). *The Practice of Everyday Life*. Berkeley: University of California Press. 'Strategies' refer to the operations of institutions or structures that establish spatial order, while 'tactics' describe the contingent practices that operate within such systems.

9 See Hardingham, S. and Rattenbury, K. (2012). *Bernard Tschumi: Parc de la Villette*. Abingdon: Routledge. For the post-structuralist background of Tschumi's position, see also Derrida, J. (1978). *Writing and Difference*. Chicago: University of Chicago Press.

10 See Idenburg, F. (2010). *Relations in the Architecture of Kazuyo Sejima + Ryue Nishizawa*. Milan: Postmedia Books.Idenburg interprets the spatial organisation of SANAA's projects as relational systems in which architectural form functions less as a hierarchical composition than as an open field of interactions. Plans operate as organisational diagrams that offer multiple spatial possibilities rather than prescribing fixed sequences of movement.

11 Lacaton, A. and Vassal, J.-P. (2015). *Freedom of Use*. London: Sternberg Press. Their intervention at the Palais de Tokyo is described as preserving the unfinished generosity of the existing structure while allowing successive curatorial arrangements and cultural uses to unfold within it.

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Energy and Seismic Retrofit Solutions as Spatial Devices
A Design-Driven Research Trajectory

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#

social housing, renovation, spatial quality, practice-based, real-life implementation

Abstract

This research addresses the challenges of energy and seismic retrofitting in European residential buildings, particularly in Italy, where nearly 70% of dwellings predate 1980. Public renovation programs, such as PINQuA within the National Recovery and Resilience Plan, highlight the limitations of current practices, which focus primarily on technical efficiency while neglecting social, cultural, and spatial aspects. Building on the Horizon-funded MULTICARE project, the study integrates seismic and energy upgrades through a low-carbon, timber-based structural system, tested in a housing estate in Naples. Drawing on Reyner Banham's "well-tempered environment" and architectural tectonics, the research redefines retrofitting as a means to enhance both technical performance and spatial quality. Using a Design Driven Research approach, the study explores how holistic design can bridge the gap between technical and architectural considerations, proposing a critical framework for sustainable renovation that emphasizes experiential and cultural value alongside efficiency.

Introduction

The scale and performance characteristics of the existing building stock represent one of the major challenges Europe will face in the coming years, due to the age. Despite widespread deficiencies in meeting contemporary living standards and significant inadequacies regarding seismic safety and energy efficiency regulations, demolition and reconstruction are rarely viable options. This limitation is primarily due to a structural housing crisis: as new housing construction has become marginal, policy and market attention have increasingly shifted toward the regeneration of existing assets.

However, decades of insufficient maintenance and public investment have intensified the physical degradation of public housing. In recent years, fiscal incentives for refurbishment have revived interest in building renovation. As a result, the construction market is now more focused on refurbishment than ever before. This shift is largely driven by European initiatives promoting renovation and reuse[1]. Nevertheless, the EU's Renovation Wave Strategy primarily addresses technical, material, and economic aspects, overlooking social and cultural dimensions. This omission contrasts with EU policy frameworks that call for equal consideration of architectural cultural values alongside technical standards and material innovation (OJEU, 2008).

Current research on public housing renovation predominantly focuses on energy, structural, and urban issues, while the spatial quality of living—understood as the relationship between space, perception, and well-being—remains largely unexplored in this field (Roderick and Barbey, 2014; Acre and Wyckmans,2015), neglecting spatial and social implications. Bridging the gap between technological upgrading and the quality

of the built environment is essential, requiring the integration of spatial, perceptual, and social parameters into renovation assessment frameworks.

How can energy and seismic retrofit measures be reformulated to enhance the quality of living space, beyond merely fulfilling technical and energy efficiency requirements? How can the architectural—and spatial—quality of design solutions be assessed alongside the technical performance delivered by such interventions? These questions underpin the doctoral research presented in the following sections, which seeks to provide initial answers. The research is conducted at the Department of Architecture (DiARC) of the University of Naples Federico II and within the framework of the Horizon-funded MULTICARE project, with the support of one of the project partners, STRESS S.c.ar.l.

From Technical Performance to Spatial Qualities: A Tectonic Approach to Retrofit

Performance-oriented retrofit interventions in public housing can represent an opportunity to improve residents' well-being when an holistic approach is adopted. To achieve this, architectural design must actively engage with the development and integration of new technologies. In *Architecture of the Well-Tempered Environment* (1969), Reyner Banham argued against the separation of "architectural structures" and "mechanical services" into distinct intellectual domains, where architects focus solely on form while engineers address environmental control. Although deeply interested in technology, Banham criticised the lack of integration between technological systems and architectural form. Banham identified two interrelated principles underlying the generation of the built environment: the "constructional aspect" and the "energetic aspect." The former concerns spatial organisation, material choices, and constructive strategies through which architecture modulates internal environmental conditions, ensuring thermal, acoustic, and visual comfort. The latter refers to active systems for environmental control, such as heating, cooling, lighting, and ventilation. Banham emphasized energy management as a key component of a "generative space," where energy is not merely a means to maintain comfort but a resource capable of producing responsive and dynamic living environments.

In energy-efficient refurbishment, the "constructional aspect" (the existing structure) and the "energetic aspect" (performance enhancement) jointly contribute to the definition of architectural space. This perspective aligns with the architectural concept of tectonics, historically employed as a critical framework to address the architect's responsibility in mediating between technical requirements and aesthetic expression.

Revisiting tectonics through Banham's observations enables an interpretation of energy and seismic retrofitting that foregrounds the relationship between performance-driven interventions and the spatial experiences they generate. The term "tectonic," derived from the Greek *tekton* (builder or carpenter), evolved to describe what Kenneth Frampton defines as a

"poetics of construction," linking the making of space to human perception and experience (Frampton, 1995). Its applicability to retrofit interventions is rooted in nineteenth-century German architectural theory, where tectonics re-emerged as a response to formal eclecticism and as a means to meaningfully incorporate emerging industrial technologies (Semper, 1989; Bötticher, 1852).

Contemporary research has further expanded the concept of tectonics to include ecological and sustainability concerns (Ejstrup 2019; Beim, Jensen, and Arnfred, 2019). Eduard Sekler's etymological and theoretical studies provide a robust framework for addressing the interrelation between technique and spatial quality. In *Structure, Construction, Tectonics*, Sekler (1965) defines tectonics as the "noble gesture" that makes visible the play of forces, load, and support, eliciting empathetic participation from the observer (Sekler, 1965, p. 93). He thus establishes a connection between structural concepts and their perceptual impact through what he terms "spatial gestures" (Sekler, 1965).

Building on Sekler's theory, Hvejsel, Kirkegaard, and Mortensen propose using the notions of structure, construction, and gesture as a vocabulary to articulate not only the visible expression of forces but also the broader spatial implications of technical interventions in energy renovation (Hvejsel, Kirkegaard and Mortensen, 2015). Applied to retrofit contexts, this approach highlights how constructive modifications affect residents' well-being not only through changes in external appearance but also through perceptible spatial actions at a closer scale. Consequently, technical retrofit choices inherently possess spatial potential, which architects may interpret as an implicit value and an opportunity for architectural design.

Generosity and Density as Indicators of Spatial Quality in Retrofit Design

Defining spatial quality remains a complex task, as it is a multidimensional concept encompassing physical, perceptual, and symbolic aspects (Moulaert, Schreurs, and Van Dyck, 2013). The state of the art includes contributions addressing spatial quality at the urban scale, studies focusing on the perception of space and its qualities, and research emphasizing the physical characteristics that influence inhabitants' spatial perception. In parallel, the positive impact of retrofit interventions on residents' well-being has been widely acknowledged, although existing literature predominantly concentrates on indoor climate perception and comfort parameters

Building upon this background, the present contribution proposes an approach to evaluating the spatial quality of retrofit interventions by integrating architectural criteria with technical performance. Rather than treating energy and seismic efficiency as isolated objectives, spatial quality is assessed through a set of qualitative parameters—specifically generosity and density—that are examined in parallel with performance-related improvements. This integrated evaluation framework allows architectural qualities to be considered alongside technical outcomes,

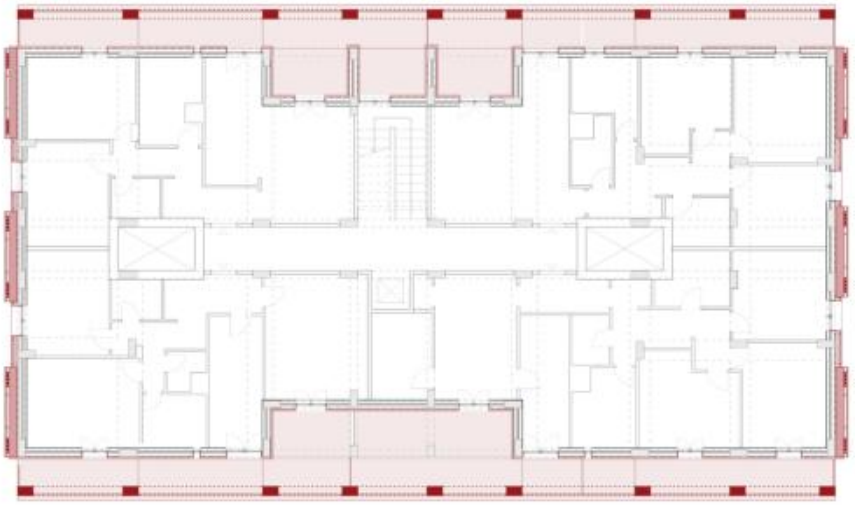


Figure 1: Typical plan of the intervention, Technical and Economic feasibility study on the actual demonstrator in Acerra, Naples. Image by author 2026.

while also acknowledging the historical and material values embedded in the existing building stock, which are preserved and reinterpreted rather than overridden.

The work of Lacaton & Vassal exemplifies the spatial potential of densification as a strategy for enhancing comfort while preserving the inherent qualities of Modern architecture and avoiding demolition. In the Bois-le-Prêtre tower renovation in Paris (2011) and the refurbishment of 530 dwellings in the Grand Parc district in Bordeaux (2017), the addition of a structurally independent spatial layer to the façade generates new open-air domestic spaces that coexist with the original ones. Here, densification does not merely imply an increase in built volume, but an expansion of spatial situations and possibilities for inhabitation.

This understanding aligns with Sarah Robinson's concept of "generative affordances," defined as spatial conditions whose openness enables improvisation and unforeseen uses rather than prescribing specific behaviors (Robinson, 2019). By transforming existing buildings through variations in depth, transparency, and relationships with the exterior, retrofit interventions can create intermediate spaces and vertical and horizontal connections that enrich everyday experience. Movement through these differentiated spaces—from ground floor to upper levels and roof terraces—introduces spatial variety, surprise, and freedom.

Within this framework, architectural quality is evaluated not only through design intent but also from the users' perspective, considering how spatial modifications are perceived and appropriated after implementation. To reinforce this evaluation, visual materials are conceived as analytical tools rather than conventional representations, explicitly illustrating the relationships between spatial transformations, technical interventions, and qualitative outcomes. In this sense, the generosity of dimensions emerges as a key criterion linking architectural design, technical performance, and inhabitants' well-being.

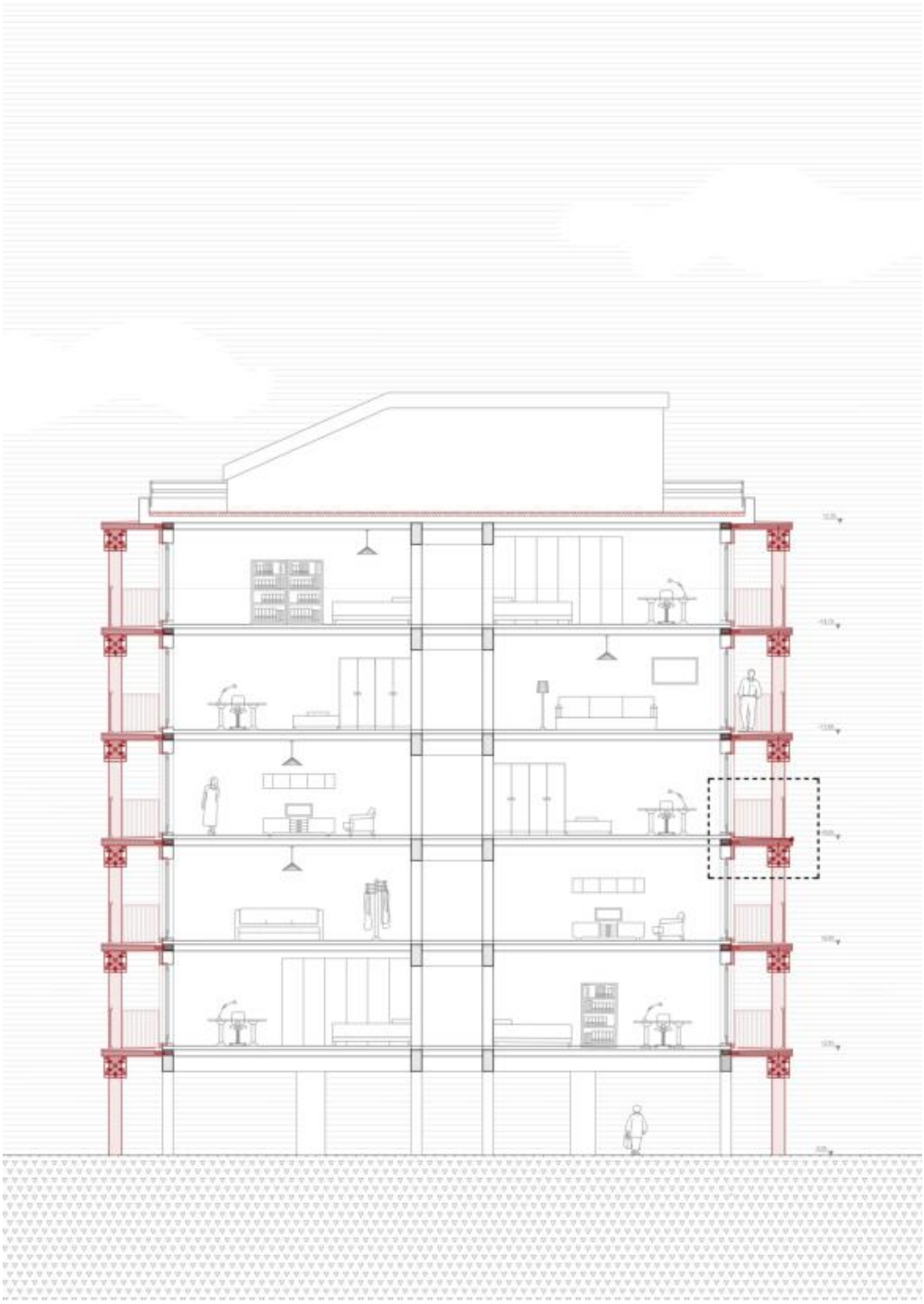


Figure 2: Cross section of the intervention, Technical and Economic feasibility study on the actual demonstrator in Acerra, Naples. Image by 2026.

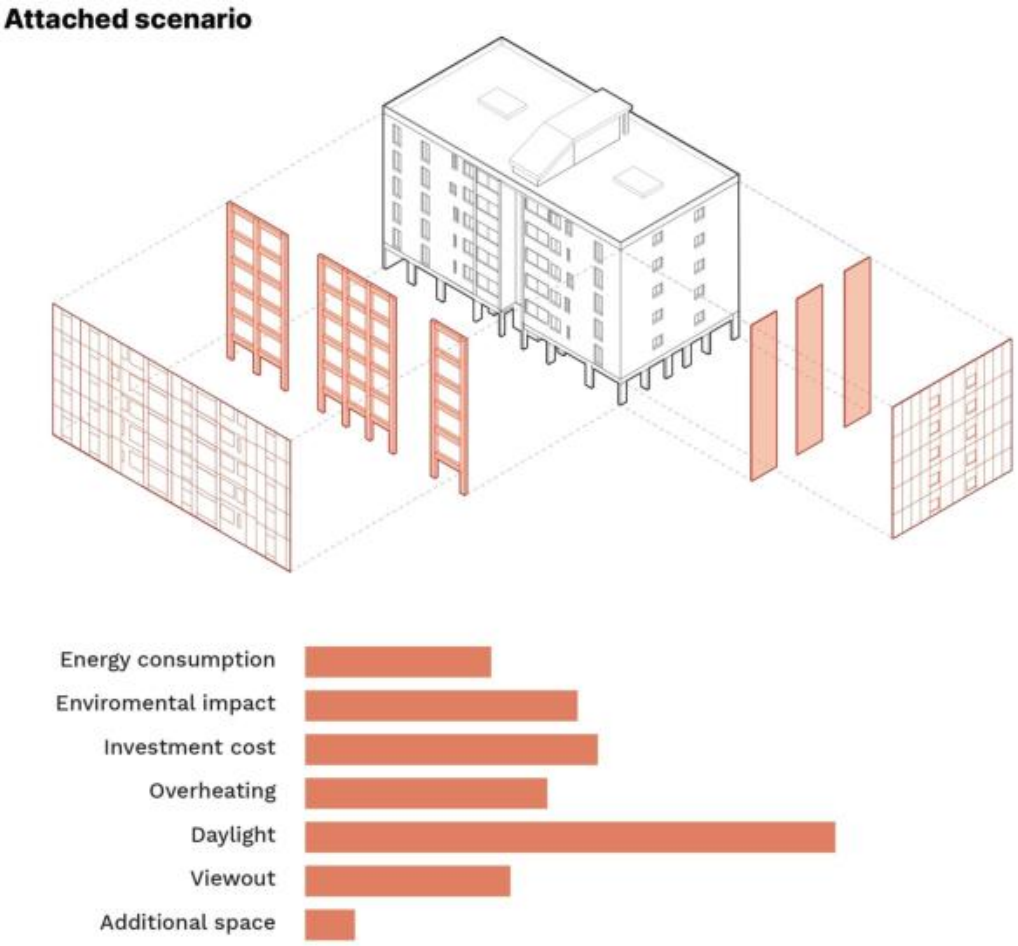
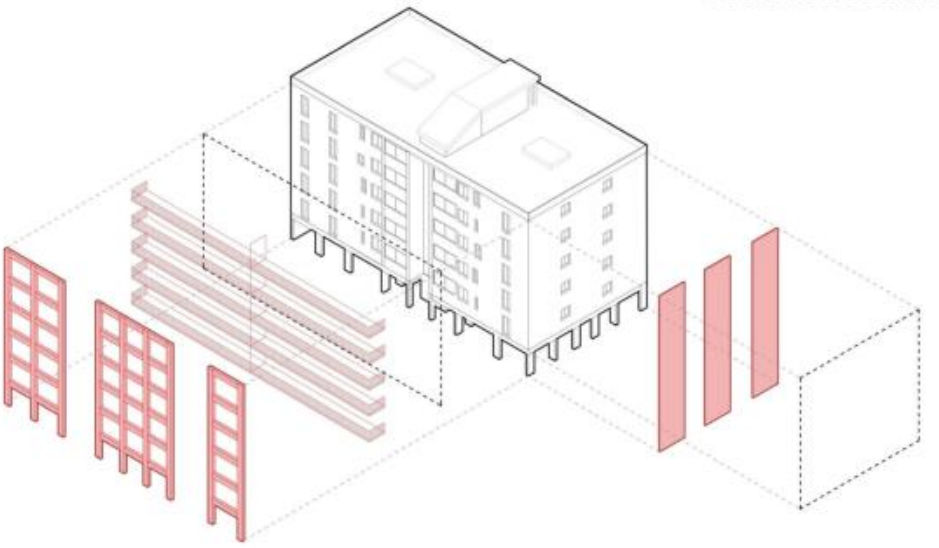
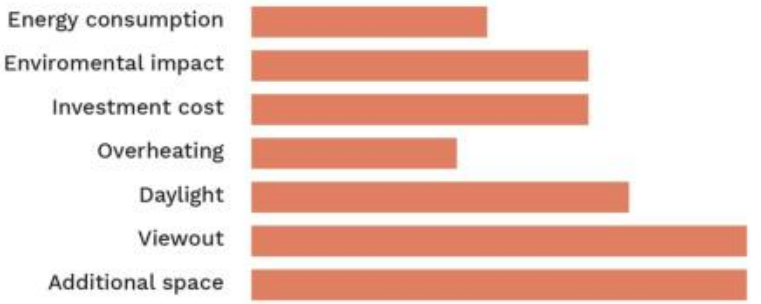


Figure 3: Project scenarios illustrating the possible spatial configurations of the retrofit solution. Image by author, 2025.

Detached scenario





Integrated Seismic and Energy Retrofit in Public Housing: The Acerra Case

To evaluate the validity and effectiveness of the research hypotheses, the study engages with a real-world retrofit project. The selected case concerns a public housing building located in the municipality of Acerra, in the province of Naples. Constructed in 1981, the building features a reinforced concrete frame structure and rises six storeys above ground, with a porticoed ground floor. The block-type layout comprises four dwellings per floor, for a total of 20 housing units and an overall floor area of approximately 2,500 m^2, served by a single stairwell and elevator. From an energy perspective, the building envelope performs poorly due to construction techniques and materials typical of its period.

The owner, the public housing authority ACER (*Agenzia Campana per l'Edilizia Residenziale*), commissioned a combined seismic and energy retrofit. The initial design hypothesis explored the application of a modular exoskeleton capable of integrating both retrofit measures, as developed within the MULTICARE project. However, rather than adopting the most immediate and commonly applied solution—namely, an exoskeleton directly attached to the existing façade—the project deliberately pursued an alternative strategy with broader architectural and spatial implications.

The proposed intervention consists of a structurally independent exoskeleton detached from the existing building façade and connected to it through a structural diaphragm (Fig.1). This configuration enhances both strength and stiffness while opening up new spatial opportunities. The exoskeleton frame is composed of prestressed concrete columns and post-tensioned laminated timber beams employing *PresLam* technology (Fig.2). The exoskeleton also serves as the support for a new ventilated façade on the shorter sides of the building, significantly improving energy performance, while external insulation is applied to the remaining façades. Beyond technical compliance, the decisive design choice lies in the creation of the loggia as an intermediate space between inside and outside. Unlike an attached exoskeleton conceived solely as a technical device, the detached system generates a spatial thickness that enhances daylight access, ventilation, and opportunities for appropriation (Fig.3).

This loggia functions as an indeterminate yet performative space, offering generative affordances that support multiple uses and everyday adaptations by residents (Fig.4). From a spatial and cultural perspective, the intervention redefines the relationship between dwelling and environment, fostering comfort, social interaction, and a sense of ownership. Consequently, the project demonstrates how a more complex understanding of retrofit spatial implications can transform a purely performance-oriented solution into an architectural intervention that meaningfully improves spatial quality and inhabitants' well-being, while fully meeting seismic and energy requirements.

Figure 4: Project rendering by author, 2026.

Tracing the Trajectories of Design-Driven Research Between Theory and Practice

In response to the critical condition of the European post-war housing stock, the doctoral research develops along a trajectory that deliberately intersects technical, spatial, and cultural dimensions of renovation. Energy and seismic retrofitting are reframed not as purely performance-oriented tasks, but as architectural practices capable of producing spatial meaning and improving everyday living conditions. By "throwing across" established engineering-led approaches, the research transfers technical requirements into the domain of spatial quality, lived experience, and architectural interpretation, addressing a gap widely acknowledged in current renovation policies and research agendas.

Rather than following a linear or predetermined methodology, the research evolves through iterative cycles of hypothesis formulation, design action, testing, and critical reflection. In line with the Design-Driven approach, discarded solutions, and incremental adjustments are treated as productive moments that generate knowledge. The use of a real-life case study acts as a situated testing ground (Fig.5), exposing the limitations of conventional retrofit measures and revealing the spatial potential embedded in technical interventions. Constraints related to budget, regulations, and timelines are thus reframed as generative conditions that enable the research to recalibrate its direction and produce transferable insights (Fig.6).

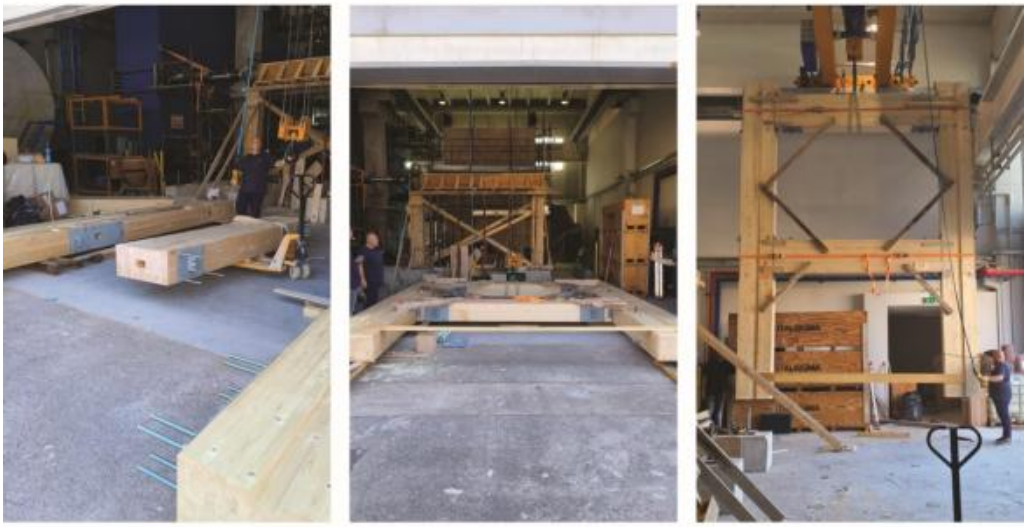


Figure 5: Construction of the full-scale prototype, Image by author, 2025.

Collaboration plays a decisive role in shaping this trajectory. Embedded within a Horizon-funded research framework, the study operates within a heterogeneous assemblage of actors. Continuous interaction with these stakeholders ensures that theoretical positions are negotiated through material decisions and construction logics, allowing the research to remain responsive and context-sensitive.

Ultimately, the trajectories of the research are inseparable from the spatial trajectories it investigates. Retrofit measures are conceptualised as spatial devices that reorganise domestic environments, redefine thresholds, and introduce new layers and relationships between structure, envelope, and inhabitation. Through this lens, retrofit acts simultaneously as a forward-looking projection toward future scenarios of comfort, resilience, and well-being, and as a critical reflection on inherited construction cultures and dominant rehabilitation paradigms. In doing so, the research positions spatial transformation not only as an outcome, but as a core medium through which design-driven inquiry can contribute to a more holistic and human-centered approach to housing renovation.

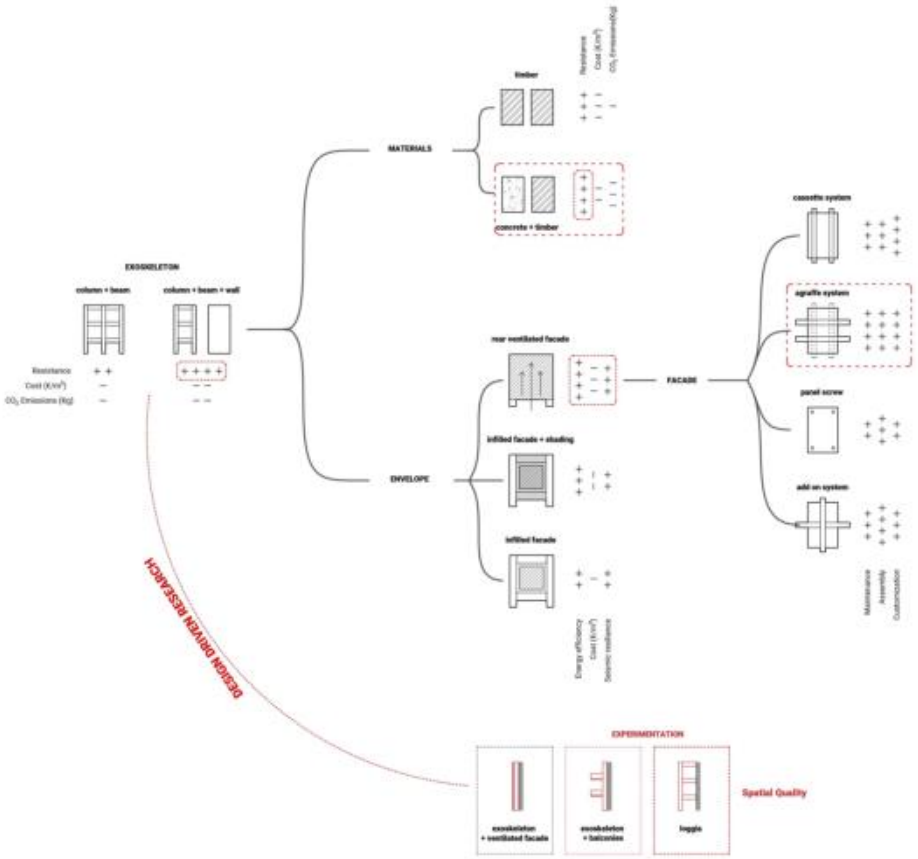


Figure 6: Illustration of design choices and parameters taken into consideration. Image by author, 2025.

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Reconnecting Waste Exploring Digital Fabrication Technologies for Circular Reuse of Demolition Waste Bricks

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circular construction, practice-based research, collaboration, bricks.

Abstract

This contribution presents an ongoing first-year PhD design-led research project investigating how workflows can be designed to support the circular reuse of out-of-spec bricks from demolition. Situated in Hamburg, the research focuses on integrating material irregularities into design and fabrication processes through iterative experimentation.

Rather than defining a fixed technical solution, the project examines how sequences of actions—spanning material sourcing, digital modelling, and fabrication—can be structured to accommodate variability in reclaimed materials. Digital fabrication is approached as a mediator within this workflow, enabling continuous negotiation between material conditions and design decisions.

The research develops through iterative cycles of testing, adjustment, and refinement, in which both material configurations and workflow structures are continuously reconfigured. In this process, contradictions and frictions between material behaviour and computational assumptions become productive moments that inform subsequent steps.

In the project, knowledge emerges through processes of making, prototyping, and spatial experimentation aligning with design-driven and knowledge-by-making approach. Rather than separating analysis and production, the research operates through connected design actions, framing reuse as an active condition embedded within the workflow itself.

Introduction

Construction and demolition waste (CDW) is a major challenge for sustainable urban development. In Germany, nearly 200 million tonnes of CDW are generated annually, with high recovery rates masking a predominance of downcycling processes (Bayram and Greiff, 2023; BMUV, 2023). As a result, significant portions of material lose their structural and cultural value.
Bricks, despite their durability, are frequently excluded from reuse due to irregular geometries, mortar residues, and damage, reflecting broader limitations in current construction and recycling practices (Fořt and Černý, 2020; European Commission. Joint Research Centre., 2023). These conditions reveal a contradiction between conventional standardised construction systems and heterogeneous material realities.

This research, conducted at HafenCity University Hamburg within the RTG *Urban Future-making*, investigates how digital fabrication can mediate between these conditions. Instead of standardising reclaimed bricks, the project explores how their irregularity can be directly integrated into assembly systems. The research develops as an iterative process shaped by material encounters, computational modelling, and testing. It treats variability as a condition that informs how workflows are structured,

Figure 1: Photo of a demolition site on Bahrenfelderstraße in Altona, Hamburg. Project image by the Author, 2026

positioning design as a means of organising interactions between material, digital, and production; rather than resolving irregularity.

State of Research

Recent developments in digital fabrication demonstrate an increasing integration of computational design and construction processes, particularly through parametric modelling and additive manufacturing (Heisel, Schlesier and Hebel, 2019; Johns et al., 2024). These approaches enable customised strategies, highlighting a growing capacity to engage with material complexity within design. However, these operate independently of existing material streams, often only prioritising geometric control. At the same time, research on circular construction emphasises reuse and recycling as key strategies for sustainable practices, highlighting benefits of retaining the existing (CIRCuIT Consortium, 2023; Bellini et al., 2024). Such approaches frequently remain focused on material management and logistics rather than their integration into design processes. As a result, reclaimed materials are often downcycled, limiting the potential for direct reuse and diminishing material specificity (Fořt and Černý, 2020).

Emerging studies begin to address this disconnection by exploring how digital tools can respond to irregular material conditions. Zboinska and Göbel (2025) demonstrate how digital workflows can adapt to the variability of salvaged materials, while Ragazou et al. (2024) and Heisel, Schlesier and Hebel (2019) highlight the role of prototyping and system-based approaches in enabling reuse-oriented strategies. All indicating a shift towards incorporating material variability as an active parameter. However, the connection between material availability, digital workflows,

Figure 2: Photo from a demolition site in Hamburg. Everyday dissolution of brick architectures into undifferentiated rubble. Photo by Author, 2026.

and construction practices continues to be constrained by fragmented supply chains, institutional barriers, and the limited adoption of digital technologies within circular systems (Çetin, De Wolf and Bocken, 2021; Thirumal et al., 2024). In addition, policy frameworks increasingly emphasise the need for approaches that engage directly with material flows, rather than treating reuse as a downstream process (European Commission. Joint Research Centre., 2023). This research is positioned within this gap by focusing on the design of workflows that integrate reclaimed materials into digital fabrication processes.

Research Focus

This research investigates how workflows for integrating irregular reclaimed bricks into architectural production can be designed through iterative, design-led processes. Rather than a single technical solution, the project examines how sequences of actions—spanning material sourcing, digital modelling, and fabrication—can be structured to accommodate variability in reclaimed materials.

Digital fabrication is both a production tool, and a mediator within this workflow, enabling negotiation between material conditions and design decisions. In this context, the recomposition of discarded bricks into spatial assemblies emerges as a result of the process.

The main research question for this inquiry is as follows:

— How can digitally fabricated connector systems integrate irregular reclaimed bricks into construction workflows while supporting circular reuse practices?

This question is explored through the following sub-questions:

— How can material irregularities of reclaimed bricks be translated into design parameters and spatial configurations?

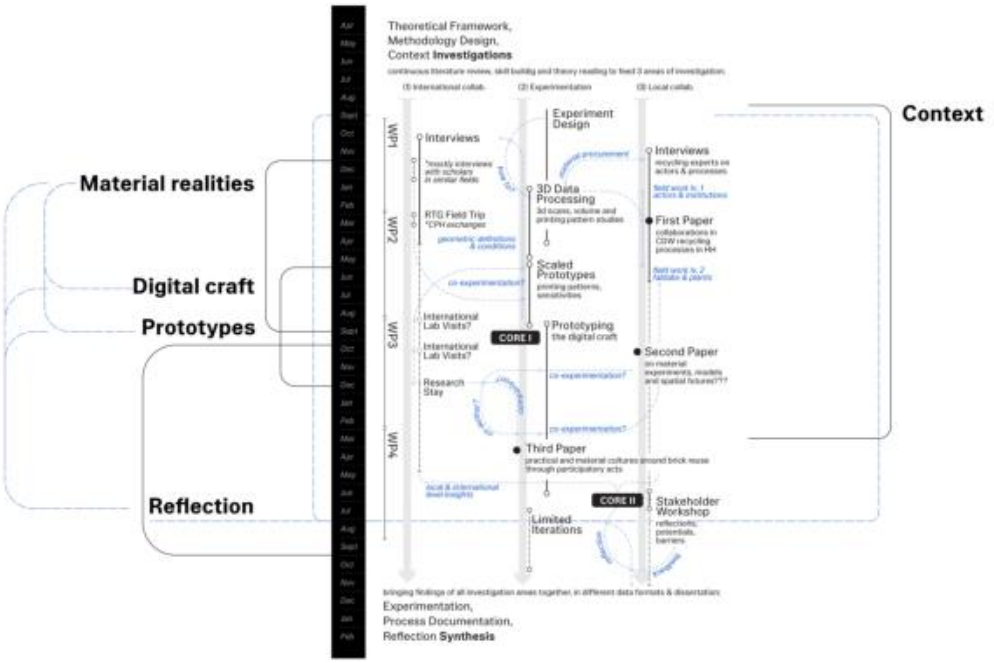

Figure 3: Time plan, work packages, and theories feeding the different processes of the research. Visualization, Graphics: Author, 2026.

- How can assembly strategies accommodate variability while enabling reuse?
- What constraints and tolerances emerge when applying digital fabrication to heterogeneous reclaimed materials?
- How do local material flows and stakeholders influence the realisation of such assemblies?

These questions structure the research around a central design problem, linking material behaviour, digital workflows, and construction practices. The project approaches reuse as an integrated process in which technical, material, and contextual factors are addressed through iterative design experimentation.

Methodological Approach

The project follows a design-led, iterative methodology combining material investigation, computational modelling, and prototyping; developed through successive cycles in which each phase informs the next. Approaching Hamburg as a situated case, where existing demolition practices, material flows, and institutional frameworks provide the conditions for testing and developing workflows, the research is organised into interconnected work packages:

- WP01 – Mapping CDW flows and actors
- WP02 – Digital capture and modelling

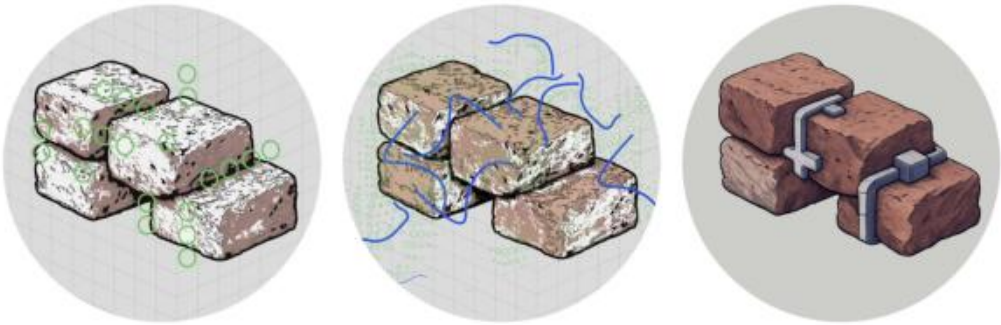

Figure 4: Diagram illustrating process, (1) documentation of reclaimed bricks through digital capture and parametric modeling, (2) exploratory assembly possibilities, and (3) one final stage prototype. . Photo by Author, 2026.

- WP03 – Prototyping
- WP04 – Collaborative reflection
- WP05 – Synthesis

Within this framework, prototypes function as test situations where material behaviour, design assumptions, and stakeholder perspectives intersect (Marres and Stark, 2020). In this sense, they operate as sites where technical feasibility and evaluative criteria are negotiated (Stark *et al.*, 2009), revealing constraints, exposing mismatches, and guiding the ongoing development.

Research Trajectory

The research develops through contextual analysis and material experimentation, rather than following a linear progression from problem to solution. This approach aligns with practice-based research frameworks where knowledge emerges through iterative engagement and making (Jacobs and Merriman, 2011; Farías and Criado, 2018).

Initial phases focus on understanding how CDW is defined, classified, and processed, establishing the conditions under which reuse is considered possible. As the research progresses, reclaimed bricks are treated as active inputs within the workflow. Digital modelling translates material irregularities into parameters that inform fabrication and assembly.

Through prototyping, mismatches between material behaviour and computational assumptions become visible. These moments expose differences between expected and actual performance, leading to adjustments in both design strategies and the organisation of the workflow.

Collaboration also plays a central role in this process. Prototypes act as shared reference points and can be understood as *'boundary objects'* facilitating exchange between different actors (Star, 2010), enabling the integration of multiple perspectives.

Material and Process

Field observations at demolition sites in Hamburg show how brick structures are dismantled and transformed into mixed rubble, reflecting current local practices of material handling and downcycling. This condition defines the starting point of the research.The project investigates how this material can be reintroduced into construction without imposing uniformity. Irregularity is treated as a defining characteristic rather than a defect.

Digital fabrication mediates between variability and assembly requirements. Parametric modelling incorporates material differences into the workflow, while additive manufacturing enables customised responses to specific material conditions. This interaction between material and digital processes shapes the resulting assemblies and the development of the workflow.

Contribution

The research generates empirical insights into tolerance, assembly logic, and reversibility through prototyping, and demonstrates how design processes can be reorganised around irregular conditions. By focusing on the structuring of workflows, the project reframes reuse as a process embedded within architectural production. In this way, reuse shifts from a problem of standardisation to a question of integration, positioning workflow design as a key site of intervention in circular construction practices.

In this respect, the research also contributes conceptually by engaging with perspectives that understand design processes as sites of negotiation between material, social, and technical dimensions (Fratini, Georg and Jørgensen, 2019). While grounded in Hamburg as a case study, the research develops transferable insights into how such workflows may be adapted to other urban contexts.

Conclusion

This research frames reuse as an evolving process shaped by iterative engagement with materials, tools, and actors. By combining contextual analysis with design experimentation, it demonstrates how workflows can support circular construction practices through digital fabrication. The project develops through continuous refinement, where each phase informs the next. Reuse is not treated as a downstream operation, instead positioned as an active condition within the design process, showing how material variability can be integrated into architectural production through carefully structured workflows.In this sense, the research reframes reuse both as a material challenge, and also as a question of how design processes themselves are organised.

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Tracing Hidden Trajectories Researching under the Radar Renovation Practices

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#

role of architects, Flanders, self-organized renovation, housing quality

Abstract

Homeownership has been a focal point in past and current policies in Flanders. At least 4% of households are confronted with inadequate housing quality and major renovation needs without being able to make thorough changes to their living situation. I am looking into informal renovation trajectories among distressed homeowners. The aim is to uncover how these practices emerge outside formal renovation systems, to identify thresholds in existing support initiatives, and to reflect on the potential role of the design community -particularly architects - in this context. The research is taking place in a region near Antwerp. A project with distressed homeowners is already running in the case study area, allowing me to get in touch with residents through a collaboration with the involved organisation. In this essay I will go deeper into the envisaged methodological trajectory - actor mapping, interviews with non-residents and residents, house visits and participatory action research - while leaving several open questions.

About Me

Through my master thesis in architecture three years ago, I explored the topic of affordable housing in the city of Antwerp within a context of energy- and climate transitions (Fig. 1). Seeing how access to qualitative housing is under pressure and looking into initiatives aimed at addressing shortcomings, I began to question the role of architects — which I would soon become — in relation to the government's duty to uphold the constitutional right to adequate housing. Our welfare state provides solidarity mechanisms to meet fundamental rights such as the right to legal assistance supported by pro bono legal services. However, for the profession of architects, there is no equivalent ethical or institutional framework in the architectural profession, despite architects being key actors in construction and renovation works that require building permits. In the field of housing, social housing is intended to fulfil this right, yet its supply remains highly insufficient.

Figure 1: Excerpts from my Master Thesis 'Affordable housing, an exploration in Antwerp.' Graphic by the author, 2022.

At the same time, I became interested in the everyday material outcomes of renovations under constraint. The agency for renovation seems present, but the know-how on interventions that are truly useful often seems overshadowed by the pursuit for better energy scores, not always meeting spatial and visual quality. What if there was some kind of pro bono service to consult spatial practitioners? Would it be thinkable and desirable to democratise access to architects? I will set my assumptions aside and explore. What follows frames the early phase of a doctoral research project started in November 2025.

About the Context

Belgium and the region of Flanders have known an emphasis on home-ownership in past and current policies, resulting in a majority of households being homeowners. Across Flanders, at least 120.000 homeowners are confronted with inadequate housing quality and major renovation needs and have little possibility to make thorough changes to their housing situation (Vanderstraeten & Ryckewaert, 2019). Social housing is not an (immediate) possibility for them, since property makes them ineligible. On top of that, the waiting list has surpassed the number of existing social housing units. The starting point of my research is a status quo of the current market system (Fig. 2) by focussing on these distressed homeowners who can be divided into two groups. Firstly 'noodkopers' (literally translated to distressed home-buyers) can be defined as people who purchased an already substandard house, often with a social

mortgage, but do not have the resources to bring the house up to a decent quality level. Secondly 'noodeigenaars' (literally translated to distressed home-owners) who acquired their house in the past without significant problem but have difficulty maintaining their property due to changed personal circumstances. Some of them started renovation works, in some cases getting stuck in a construction site.

Figure 2: Scheme of the Research Context. Graphic made by the author, 2025.

With the new European Green Deal and a related Renovation Wave (European Commission, n.d.), which impacts renovation policies, low-income homeowners are increasingly challenged by high renovation demands. The research is positioned within the growing emphasis on participatory processes and inclusivity in architectural discourse as articulated by the New European Bauhaus (European Union, 2023). Although policy is implementing measures to also reach the lower incomes when it comes to renovation, distressed homeowners are more likely to encounter barriers to formal renovation pathways and are therefore a focus group for investigating potential under-the-radar renovation practices.

About the Research: Renovation Trajectories

The main sociological study on distressed homeowners, conducted at the Policy Research Centre Housing of the Flemish government, points out the rather high renovation rates among distressed homeowners

(Vanderstraeten & Ryckewaert, 2019). The researcher's survey mentioned that renovation works often did not lead to the desired effect, because carried out with less quality and only covering a small part of the renovation needs. Based on these prudent yet meaningful findings, I put forward the hypothesis that informal networks and renovation practices play a significant role among low-income households (Fig. 3). In research about do-it-yourself of self-build, positive sides such as cost-saving or personal empowerment are often highlighted (Benson & Hamiduddin, 2017), but the possible precarious side effects remain underexplored in a Western institutionalised context. Such refurbishments without professional support, inherent to this institutionalised setting, do they risk being quick-fix renovations? In addition, housing deprivation can affect other domains of life and have material, social and psychological impacts (Coene et al., 2025).

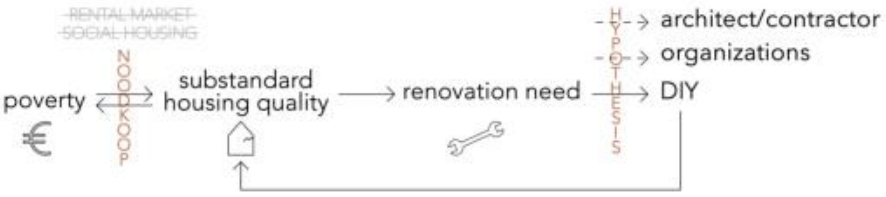

Figure 3: Concept Map. Graphic made by the author, 2025.

My study has the overarching objective of identifying informal undercurrents and the friction with existing projects and initiatives, whether they are policy-driven or led by non-governmental organisations. To then talk about the role of the architect, these informal practices should first be understood. It is therefore that the research in the first place aims to trace self-organised renovations and the involved networks, impact, and resources of knowledge and means. Self-organised renovation in this context can but does not necessarily mean do-it-yourself in the sense of with your own hands. The informal, improvised and sometimes illegal interventions form hidden trajectories of dwelling transformation that challenge dominant, policy-driven definitions of renovation.

About Me as a Researcher: Methodological Trajectories

Informal, self-organised renovations largely remain invisible in quantitative research and datasets, as access to subsidies and official funding requires invoices, permits and professional involvement. Therefore, the research adopts qualitative methods, also to reveal spatial aspects from a tactile, architectural perspective.

The fieldwork will be situated in the Rupel region as a case study, a post-industrial area of five municipalities in the province of Antwerp characterised by high poverty rates, an ageing housing stock of small working-class dwellings, low housing prices, limited institutional proximity, and a superdiverse population. A key entry point into the field is a renovation support project funded by the Flemish Distressed Homeowners Fund (Flemish Government, n.d.), which started in parallel with the research (SAAMO Provincie Antwerpen, n.d.). The collaboration with the involved welfare organisation will allow access to distressed homeowners and follow their renovation trajectories over time. It will hopefully also enable the research to include cases that fall outside the project's scope because of too extensive renovation needs or rigid eligibility criteria.
A challenge with the mentioned project, is that self-organised or DIY renovation might not have taken place before. Still, this absence is meaningful, as it allows us to trace why this was not the case, what factors may have prevented it, and how they have experienced the project's transformations of their living spaces.

The methodology is structured around three approaches within the aforementioned case study. First, actor mapping is used as an ongoing process to identify key individuals, organisations and networks. Second, the study draws on exploratory conversations, in-depth interviews and house visits. The interviews will be held with both non-residents (relevant organisations, policy representatives, architects) and residents who can be identified as distressed homeowners. The conversations will be held before, during and after a potential renovation trajectory, especially embedded in the Distressed Homeowner Fund project mentioned earlier. The goal of the interviews with residents is to gain insight in their past and current housing and renovation trajectories and the obstacles or incentives they came across. They are also about reading how resident's decisions manifest in material traces, spatial configurations, and the lived experience of their homes. Third, participatory action research will be employed to engage directly with residents and practitioners, allowing knowledge to be co-produced. The 'actions' will come forth from the house visits and the identified thresholds. The trajectory of renovation itself reflects the close link between research, planning, action and reflection that PAR emphasises, making it a valuable method within the renovation process. All these phases are complemented by roundtable discussions with a sounding board group. Currently, the research is in the preparatory phase of interviews and house visits, with the actor mapping developing in parallel.

As a researcher, I am aware of the methodological limitations. Informal renovation practices are particularly difficult to trace because they mostly

fall outside official trajectories, yet it is precisely within this informal realm that many of these practices take place. Looking only from the outside, relying on visual analysis alone, does not tell the full story. Much of what matters happens behind façades, in lived-in spaces and are not immediately visible. *Tracing* is therefore a key verb within the inquiry, in the sense of identifying actors, having exploratory conversations, visiting homes when possible, and using drawings and visual tools to understand what is happening (Fig. 4, Fig. 5). Drawings in particular will be used as a tool for analysing, visualising, communicating and storytelling of ethically sensitive and fragile matters of households that might be confronted with multiple vulnerabilities.

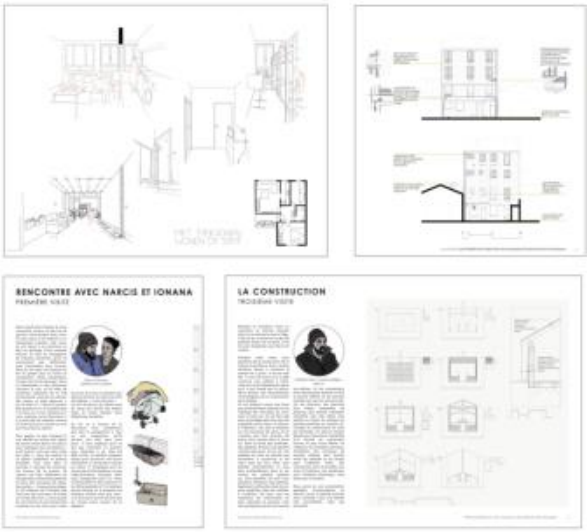

Figure 4: Previous Research on Housing Precarity and its Process of Visualisation. Graphic made by the author, 2021.

Figure 5: Start of a Photographic Series on Traces of Self-Initiated Change. Graphic made by the author, 2026.

About Open Questions

At the same time, the research keeps several questions open. Should for example one specific type of renovation be defined, such as energy improvements to the building's skin? While energy improvements and housing quality improvements are closely linked, they are not identical. The current openness allows the research to develop as an iterative process and to react on issues that come up along the way. This raises a broader methodological question: how can architectural research

methods in particular respond to and learn from the research conditions as stated before when conventional approaches reach their limits or do not reveal spatial practices?

As Julia Heslop argues in the context of participatory housing projects, professionals must shift from being mere problem-solvers to enablers who support residents in leveraging their own abilities, prioritizing lived experience over purely technocratic knowledge (Heslop in Benson & Hamiduddin, 2017). Similarly, as researcher Michele Lancione argues, getting closer to the housing problems themselves, where they are lived and felt, is the only way to imagine a new future for housing. Echoing the research of planner and sociologist Madden and Marcuse in 2016 (Madden & Marcuse, 2016), he hereby makes a plea to "combine the established political-economic analysis with a renewed sensibility to the lived experience of housing precarity" (Lancione, 2019). Although rather abstract, these statements trigger to hit the road and try to engage with everyday realities of housing and transformations of housing.

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Planetary Infrastructures, Terrestrial Ecologies
Non-Formulaic Artistic Research

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Alyson Ogasian

Terrestrial Ecologies, Planetary, Infrastructures, man-made, communication.

Abstract

This work presents an artistic research practice using adaptive, non-formulaic methodologies to investigate planetary infrastructures, terrestrial ecologies, and space exploration mythologies. Situated between contemporary art, environmental humanities, and science and technology studies, the research develops narratives linking distant sites shaped by satellite communication, launch systems, and planetary imaginaries. Space infrastructures are treated as culturally and ecologically charged environments where planetary ambition intersects with fragile ecosystems. The work unfolds through long-term, embedded processes combining fieldwork, material experimentation, and public exchange. Collaborations with scientists generate hybrid knowledge that resists disciplinary boundaries. By foregrounding the ecological entanglements of space infrastructures on Earth, the paper challenges myths of progress and expansion, proposing artistic inquiry oriented toward care, coexistence, and more-than-human futures.

This research investigates artistic practice as a dynamic, non-formulaic process for engaging with ecological monitoring, environmental conservation, and space-related technological infrastructures. Situated at the intersection of contemporary art, environmental humanities, space studies, and science and technology studies, the project positions artistic research as a critical and generative mode of inquiry, capable of responding to complex, entangled planetary conditions. Rather than treating art as a representational or illustrative supplement to scientific knowledge, the research serves as a methodological process, one that is speculative, situated, embodied, and responsive to uncertainty.

The project develops artistic narratives that connect geographically distant terrestrial sites, shaped by space exploration, satellite communication, planetary science, and the imaginaries that accompany them. These sites include launch complexes, telemetry stations, engineered islands, protected wildlife refuges, and communication networks that quietly underpin global communication systems. By tracing the material, ecological, and political dimensions of these infrastructures, the research reveals how planetary ambitions are inscribed into local ecologies, reshaping landscapes, multispecies relations, and modes of habitation on Earth.

Grounded in an embedded and evolving methodology, the research prioritises responsiveness, multimodality, and situated collaboration. Rather than following fixed research models or predetermined outcomes, it unfolds through iterative processes of fieldwork, long-term observation, dialogue, material experimentation, and creative communication. Artistic methods are allowed to shift in response to site conditions, collaborative exchanges, and emerging ecological or political urgencies. This openness resists the instrumentalisation of research and, instead, values attentiveness, uncertainty, and care as methodological principles.

Central to the artistic research process is sustained collaboration with biologists, NASA engineers, oceanographers, environmental scientists, writers, and other specialists. These collaborations do not seek to translate scientific data into aesthetic form, but rather to create shared spaces of inquiry, where different epistemologies can coexist and inform one another. In this context, art operates as a critical interface between scientific expertise, public discourse, and ecological awareness. It enables forms of sense-making that are affective, narrative, and spatial, expanding how knowledge about planetary systems and infrastructures can be generated and communicated.

Conceptually, the research interrogates how space exploration, often framed through narratives of technological progress, innovation, and future human survival, reconfigures terrestrial landscapes and ecologies in the present. Space-related infrastructures are approached, not as neutral or empty zones but as biodiverse, regulated, and politically charged environments, where Earth-bound ecologies coexist with planetary ambitions. Launch pads, antenna fields, and tracking stations become sites where endangered species, protected habitats, and advanced technologies intersect in complex and often contradictory ways.

By highlighting these entanglements, the research challenges corporate and state driven visions of space colonisation that imagine Earth as expendable or merely preparatory for extraterrestrial futures. Instead, it emphasises the fragile, interdependent ecosystems already affected by space activity and planetary scale technological systems. This perspective reframes space exploration as an Earthly practice with profound ecological consequences, calling for forms of stewardship and accountability that extend beyond nationalist or extractive logics.

Another Final Frontier (2018–2021); a multi-year inquiry conducted on a man-made "spoil" island located within the shared footprint of NASA's Kennedy Space Center and the Merritt Island National Wildlife Refuge in Florida. The project examined overlapping histories of dredging, terraforming, environmental modification, military activity, and space infrastructure development. Through sustained fieldwork, archival research, and collaboration with local scientists and conservationists, the project revealed unexpected ecological richness within one of the world's most significant launch complexes.

Another Final Frontier explored how engineered landscapes initially created for industrial and technological purposes had, over time, become critical habitats for diverse plant and animal species. The work highlighted the paradoxical coexistence of extreme technological activity and ecological protection, exposing tensions between environmental conservation and planetary ambition. Artistic outcomes included exhibitions, public talks, and publications, as well as a site-responsive residency that culminated in the construction of a temporary habitat modelled on Mars analogue structures. This ephemeral architecture brought to light, impermanence, vulnerability, and ecological awareness as alternatives to extractive settlement models commonly associated with off world colonisation narratives.

Figure 1: Kitchen and Ogasian in the Field, Grey Island, Merritt Island, Florida, USA
Image Courtesy of Kitchen and Ogasian. Photo by Jessina Leonard.

Figure 2: Imagery Data: 3 February 2020 Google, TerraMetrics 28°45" 22.0"N 80°45'47.0"W

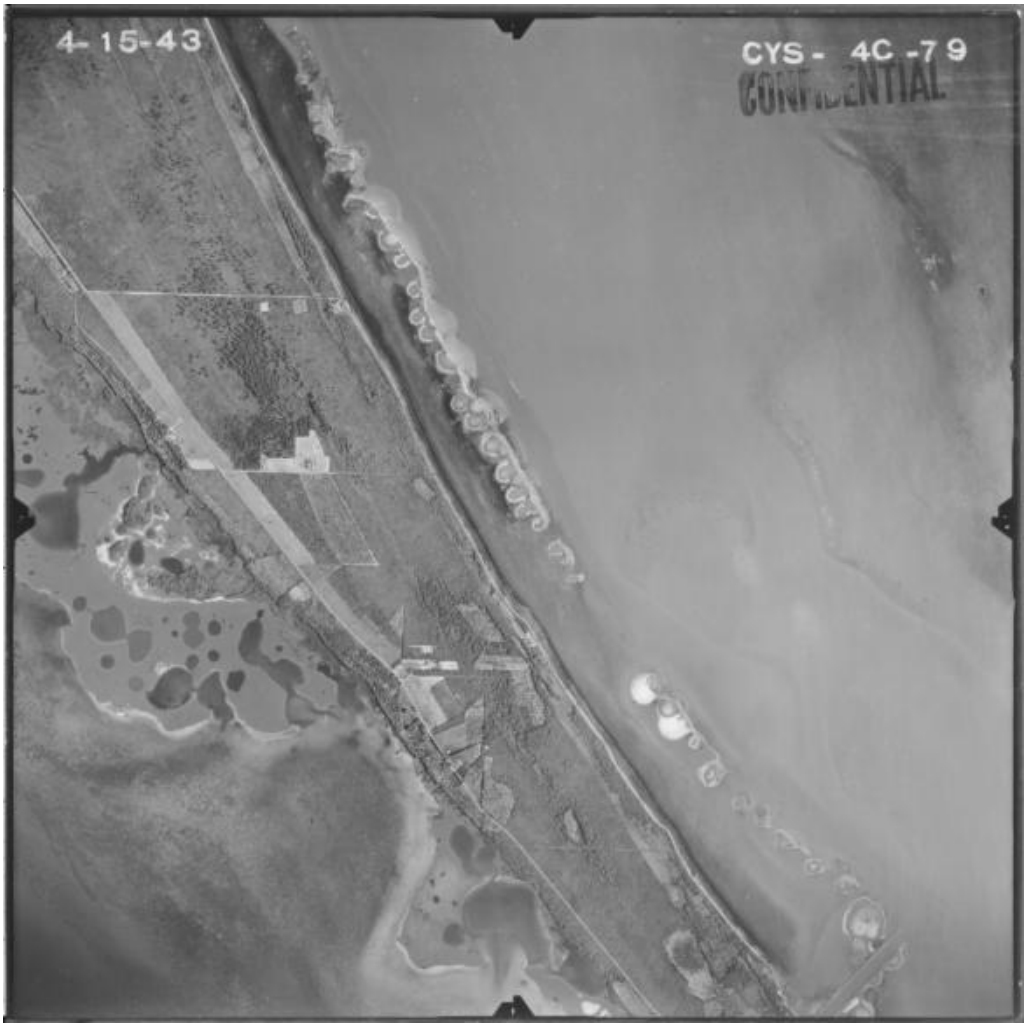

Figure 3: USDA, Flight 3, 18 March, 1951.
Image Courtesy of the University of Florida, Aerial Photography Collection.

Figure 4: Samples Zone 07, Grey Island, Merritt Island, Florida, USA.
Image Courtesy of Kitchen and Ogasian.

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Figure 5: Kitchen and Ogasian take to the water, Mosquito Lagoon, Merritt Island, Florida, USA Image Courtesy of Kitchen and Ogasian.

Figure 6: Habitat Interior View, Grey Island, Merritt Island, Florida, USA. Image Courtesy of Kitchen and Ogasian. Photo by Jessina Leonard.

Figure 7: Public Program Booklet Images. Image Courtesy of Kitchen and Ogasian. Booklet Design by Ji Kim

Figure 8: Made Ground 01 Exhibition Atlantic Center for the Arts, USA.
Image Courtesy of Kitchen and Ogasian, photo by Han Seok You.

This research trajectory extended into *Made Ground 01* (2021), a site-specific public artwork commissioned for Governors Island in New York. Responding to contemporary debates around climate change, sea level rise, and geoengineering, the project addressed artificial land-making as both a historical practice and a speculative strategy for climate adaptation. Governors Island, itself constructed from excavated material, became a lens through which to consider how engineered ground functions as a testing site for future modes of habitation.

Through video, sound, sculptural elements, and stereoscopic imagery of Martian terrain, *Made Ground 01* reframed spoil islands as speculative spaces where terrestrial and extraterrestrial imaginaries intersect. The work invited audiences to consider how strategies developed for space exploration might inform, but also complicate, responses to ecological instability on Earth. Initiating broader conversations on planetary urbanism, climate futures, and the politics of land.

Figure 9: Screenshots of video, Courtesy of Kitchen and Ogasian.

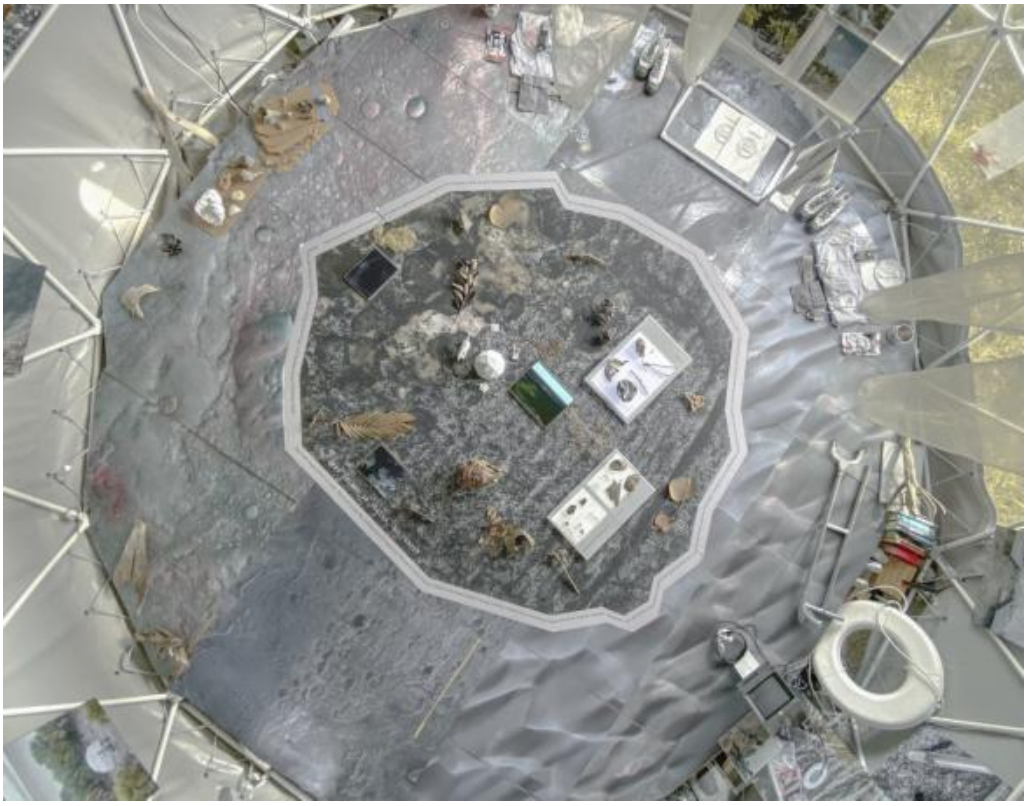

Figure 10: Made Ground 01 Exhibition on Governors Island, NYC, USA. Image Courtesy of Kitchen and Ogasian. Photo by Han Seok You.

Current projects continue this inquiry into space communication infrastructures and ecological monitoring systems. *Networked Gyres* examines technological and ecological entanglement through the narrative device of a fictional island, using the "net" as a conceptual and material metaphor. The net links satellite systems, oceanic currents, marine ecologies, data extraction, and nonhuman communication networks, highlighting how connectivity operates across scales and species. By weaving together fact and fiction, the project questions dominant narratives of control and optimisation embedded in global monitoring technologies.

Figure 11: Artifacts for Networked Gyres, Image Courtesy of Kitchen and Ogasian. Video Editor Sae Oh.

Figure 12: Screenshots of video for Networked Gyre, Courtesy of Kitchen and Ogasian.

Interferences focuses on NASA's Deep Space Network, a global system of radio communication facilities that enable contact with spacecraft exploring the solar system and beyond. The project investigates how these sites function simultaneously as planetary infrastructure and ecological habitat, often occupying remote locations designated as protected zones. Through fieldwork and collaboration with ecologists, the research examines how radio silence regulations, security perimeters, and technological maintenance shape local ecosystems, sometimes inadvertently supporting endangered species.

Drawing parallels between human-engineered signals and nonhuman modes of communication, *Interferences* explores listening as a political

and ecological practice. It considers how attention, care, and restraint might inform alternative approaches to space exploration and technological expansion. By accenting the concept of interference rather than clarity or control, the project critiques the idea of always expanding and suggests more two-way relationships between technology and the environment.

Together, these projects form a coherent and evolving research trajectory in which artistic practice operates as an adaptive methodology for engaging with space infrastructures, terrestrial ecologies, and planetary futures. The research demonstrates how non-formulaic artistic inquiry can generate situated, collaborative, and publicly engaged knowledge that complements and challenges dominant scientific and technological paradigms. By attending to the material realities of space related infrastructures on Earth, the project offers critical tools for rethinking humanity's relationship to the planet, to technology, and to more-than-human worlds in an era of profound ecological transformation.

Fragmented Trajectories Visualising Ideology, Memory and Spatial Re-Inscription in Skopje

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#

fragmentation, reconstruction, architectural representation, city centre Skopje

Abstract

Skopje's core reveals successive layers of political change, architecture, and new symbols, producing a fragmented urban narrative. Early modernist initiatives, such as Nikola Dobrović's unrealised Banovina palace, articulated rational ideas of Yugoslav statehood and modernity. Following the 1963 earthquake, the UN and Kenzo Tange-led reconstruction adopted socialist planning for recovery. Subsequent post-socialist developments, particularly the Skopje 2014 project, shifted the city's ideological trajectory. Over time, the accumulation of styles prevents a unified identity, positioning architecture as a medium for meaning, memory, and contestation. This essay explores these urban transformations through potential design-driven methodologies. Analytical tools such as diachronic maps, diagrams, overlays, and drawings reveal how temporal, ideological, and spatial patterns intersect. Rather than a linear trajectory, Skopje is seen as a palimpsest of ideologies, constantly reinterpreted through the addition, removal, and redefinition of symbols. Architecture both constructs and interrogates collective memory in the post-socialist city.

The central area of Skopje does not constitute a cohesive, gradually developed urban entity; instead, it has evolved through recurrent ruptures, external interventions, and unresolved ideological transitions. The point is therefore not to restore a single image of the city, but to trace how spatial meanings persist, shift, and return across political and architectural moments. Over the past two centuries, various planning paradigms have sought to reshape spatial configurations and redefine political authority, memory, and representation. These paradigms frequently overlapped, diverged, or conflicted, leaving discernible traces within the urban fabric. As a result, fragmentation has become the dominant mode shaping Skopje's urban reality. Early modernist efforts introduced rational planning to stabilise statehood and articulate a modern societal identity within the Kingdom of Yugoslavia, with architecture serving to organise conceptual clarity, institutional order, and civic identity in the post-Ottoman context. The 1963 earthquake abruptly disrupted this trajectory, both materially and symbolically. Subsequent reconstruction, led by the United Nations and Kenzo Tange, situated Skopje within an international narrative of solidarity and socialist advancement. Urban planning during this era pursued large-scale recovery and a progressive vision, projecting unity and order through plans and models, despite uneven implementation. In the post-socialist era, the Skopje 2014 initiative utilised architecture to generate new symbols, emphasising contentious monuments, novel historicist styles, and dramatic visual effects to construct narratives of contested ideology, cultural continuity, and political legitimacy. Rather than integrating previous urban and architectural layers into collective memory, these interventions relied on selective symbolism and the overwriting of the socialist past. Earlier narratives were neither fully erased nor meaningfully reconciled, but neutralised, displaced, or made harder

to access except indirectly, comparatively, or diagrammatically. Consequently, public spaces became saturated with symbolic content while remaining experientially fragmented, functioning as sites of ideological display, memory, and ambiguity. In this context, coherence arises through ongoing reinterpretation rather than linear progression.

Within this fragmented context, ideology is enacted primarily through spatial form and visual order rather than explicit iconography. Architectural representation establishes regimes of visibility that determine what is legible, what recedes, and what is rendered invisible. Ideological content becomes naturalised through aesthetic and spatial conventions, embedding political meaning within ostensibly self-evident forms. Successive regimes have reorganised perception by recalibrating spatial hierarchies, axes, and symbolic focal points, thereby shifting the distribution of visibility and invisibility. Consequently, Skopje's centre functions as a site where ideological authority is continually asserted, contested, and reformulated through spatial means.

Diagrammatic artefacts and methodological calibration

This condition is addressed through visualisation, a design-driven epistemic practice. Drawing is employed not to illustrate predetermined conclusions but to foster knowledge through spatial reasoning. Diagrams operate as analytical devices that construct relational fields in which ideological, temporal, and spatial dimensions are examined simultaneously. Diachronic mappings trace sequences of transformation while deliberately resisting linear developmental narratives, registering moments of interruption, redirection, and coexistence to accommodate multiple trajectories within a single analytical frame. Layered diagrams superimpose planning paradigms, representational regimes, and symbolic programmes, preserving collision and misalignment as analytical material rather than resolving them into synthesis. Interpretative overlays isolate residual and suppressed narratives by amplifying traces that persist beneath dominant representations, thereby revealing processes of ideological neutralisation and mnemonic displacement. Sequential drawings extend this analysis into the experiential domain, examining how movement, perception, and spatial orientation are reorganised across historical periods. Within this methodological framework, architectural projects are considered fragments embedded within broader trajectories rather than isolated case studies. Nikola Dobrović's unrealised project for Skopje occupies a pivotal position in this analysis. Conceived within an early modernist context, the project articulated a rationalist vision of monumental urban order, grounded in spatial hierarchy, institutional clarity, and ideological expression. As established in prior analyses of Dobrović's work, monumentality in this context is achieved through spatial sequencing and organisational logic rather than representational excess. The project's non-realisation suspended this trajectory, leaving it neither materially integrated nor discursively resolved. When examined diagrammatically, Dobrović's proposal functions as a residual inscription, representing a latent spatial logic that precedes subsequent ideological

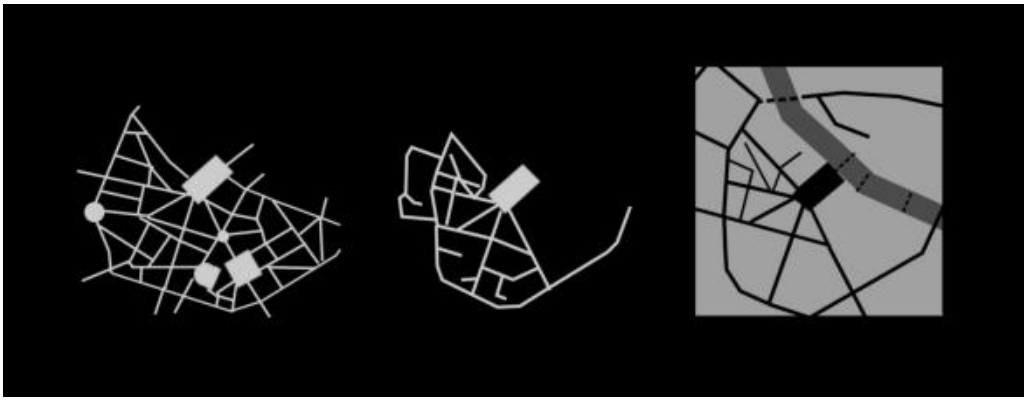

Figure 1: Urban matrices of Skopje from 1918 to 2025. Graphic by the author, 2026

reconfigurations while remaining structurally incompatible with them. The diagram does not reconstruct the project as an architectural solution but situates it within a temporal field shaped by rupture, interruption, and re-inscription. Thus, the fragment serves as an operative analytical unit for investigating broader spatial trajectories.

From this perspective, modernist rationalisation, socialist reconstruction, and post-socialist symbolic retrofitting represent interdependent yet contradictory efforts to stabilise meaning, regulate visibility, and construct collective memory. Fragmentation functions simultaneously as an empirical condition, a methodological approach, and a research outcome. Rather than seeking narrative closure, this research foregrounds discontinuity as the principal means by which ideological transformation becomes spatially legible. Visualisation serves as an active agent in this process, articulating competing trajectories without reducing them to a singular narrative. Skopje is thus not characterised as a failed urban project, but as a field shaped by ongoing negotiation among ideology, memory, and spatial form. Early modernist initiatives in Skopje introduced rationalist spatial frameworks to articulate statehood, administrative order, and modern social relations. Architecture functioned as a mediating apparatus between political ideology and spatial form, translating abstract principles of order, hierarchy, and collectivity into urban structure. This trajectory was abruptly interrupted by the 1963 earthquake, which produced a radical rupture in both material and symbolic terms. Post-earthquake reconstruction, coordinated by the United Nations and articulated through Kenzo Tange's megastructural proposals, repositioned Skopje within an internationalist narrative of solidarity and socialist modernisation. Urban planning operated at the scale of comprehensive systems, projecting a vision of collective recovery and future-oriented progress. Plans, diagrams, and visualisations played a crucial role in stabilising this vision, producing an image of ideological coherence that exceeded the uneven realities of implementation and everyday spatial practice. The post-socialist period introduced a distinct representational regime. Skopje 2014 mobilised architecture as an explicit symbolic apparatus, employing monumentalisation, stylistic historicisation, and scenographic saturation to construct narratives of cultural continuity and national legitimacy. Instead of combining previous spatial layers into a single urban memory, these interventions shifted visibility and

Figure 2: Comparative urban plans and post-earthquake (1965 plan and the current state in 2025) reconstruction model of Kenzo Tange's team project.Graphic by the author, based on Kenzo Tange's Skopje Urban Plan published in The Japan Architect, 1967.

meaning by carefully selecting and overwriting symbols. Earlier narratives were neither fully erased nor meaningfully reconciled, but neutralised through representational excess. As a result, central public spaces became dense with symbols while remaining experientially disjointed, functioning simultaneously as sites of ideological display and spatial disorientation. Fragmentation thus emerges not as an accidental outcome, but as the dominant condition through which Skopje's urban reality is produced and negotiated. In this context, ideology operates through spatial form and visual order rather than solely through explicit iconography. Architectural representation structures regimes of visibility that determine what becomes legible, what is marginalised, and what is rendered invisible. Ideological content is naturalised through aesthetic and spatial conventions, embedding political meaning within seemingly self-evident forms. Successive regimes have reorganised perception by reconfiguring spatial hierarchies, axes, and symbolic focal points, thereby shifting the distribution of visibility and invisibility. The city's centre thus functions as a terrain where ideological authority is repeatedly asserted, challenged, and reformulated through spatial means.

Drawing is utilised not as a supplementary communication tool for textual analysis, but as a primary analytical operation through which spatial relations, ideological tensions, and temporal overlaps are actively constructed and examined. Diagrams function as operative devices that organise heterogeneous material into relational fields without resolving inherent contradictions. Diachronic mappings trace sequences of transformation while intentionally resisting linear narratives of progress or decline. Instead, they register moments of interruption, redirection, and coexistence, demonstrating how spatial form is shaped by discontinuous trajectories rather than stable developmental logics. Layered diagrams

operate through superposition, situating planning paradigms, representational regimes, and symbolic programs within a shared visual field. Collision and misalignment are preserved as analytical material, allowing ideological tensions to remain visible. Interpretative overlays isolate residual and suppressed narratives by selectively amplifying traces that persist beneath dominant representations, thereby exposing processes of ideological neutralisation and mnemonic displacement. Sequential drawings extend this analysis into the experiential domain, tracing how movement, orientation, and spatial perception are reorganised across historical moments. Collectively, these visual operations transform fragmentation from a descriptive diagnosis into a productive methodological framework.

Within this analytical framework, architectural projects are considered as fragments rather than complete case studies. Nikola Dobrović's unrealised project for Skopje occupies a critical position in this context. Conceived within an early modernist horizon, the project articulated a rationalist vision of monumental urban order grounded in spatial hierarchy, institutional clarity, and ideological articulation. As established in previous analyses of Dobrović's work, monumentality in this context operates through spatial sequencing and organisational logic rather than representational excess. The project's non-realisation suspended this trajectory, leaving it neither materially integrated nor discursively resolved. When examined diagrammatically, Dobrović's proposal functions as a residual inscription: a latent spatial logic that precedes subsequent ideological reconfigurations while remaining structurally incompatible with them. The diagram does not reconstruct the project as an architectural solution but situates it within a temporal field shaped by rupture, interruption, and re-inscription. This approach establishes a methodological precedent for interpreting unrealised or marginalised projects as active analytical agents rather than historical footnotes. Through this lens, modernist rationalisation, socialist reconstruction, and post-socialist symbolic retrofitting are understood as interdependent yet contradictory attempts to stabilise meaning, regulate visibility, and construct collective memory. Fragmentation operates simultaneously as an empirical condition, a methodological stance, and a research outcome. Rather than seeking synthesis or narrative closure, the research foregrounds discontinuity as the primary mode through which ideological transformation becomes spatially legible. Architectural visualisation emerges as an active agent in this process, capable of exposing tensions, sustaining complexity, and articulating competing trajectories without resolving them into a unified narrative. Seen in this light, trajectories are not introduced as an external framework, but emerge from the material itself. In Skopje, they appear as deferred plans, incomplete reconstructions, unrealised modernist propositions, symbolic rewritings, and spatial structures that continue to operate after their original political horizon has shifted. The research, therefore, follows these overlapping movements without reducing them to a single chronological narrative. This also situates the essay within a broader doctoral inquiry into how ideology remains spatially legible across architecture, urbanism, and the post-Yugoslav transformation of political space. Skopje thus appears not as a failed urban project, but as

a field structured by ongoing negotiation among post-socialist ideology, memory, architectural and spatial form.

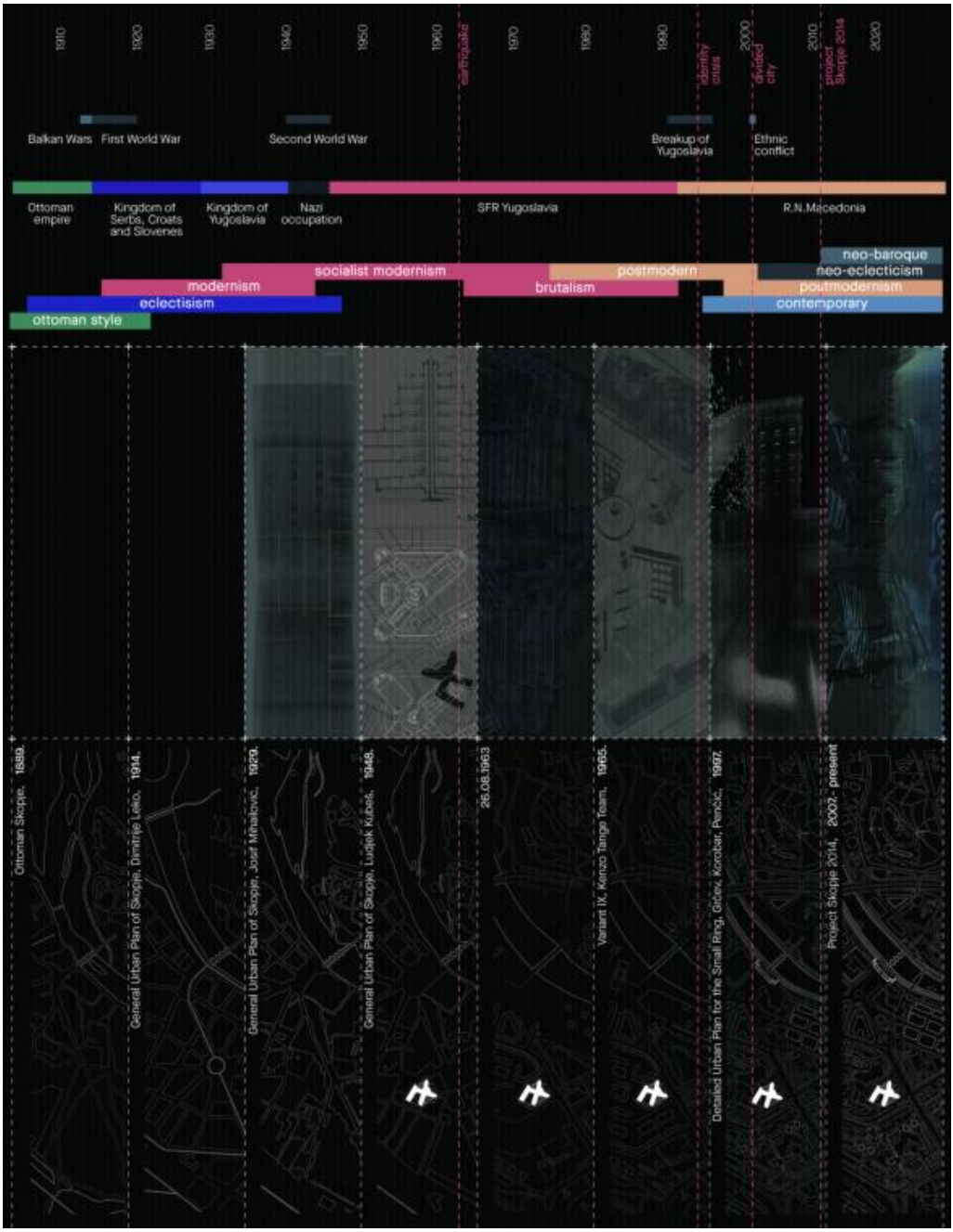

Figure 3: Diachronic and ideological trajectories of Skopje — Nikola Dobrović Sequence. Graphic by the author, 2024.

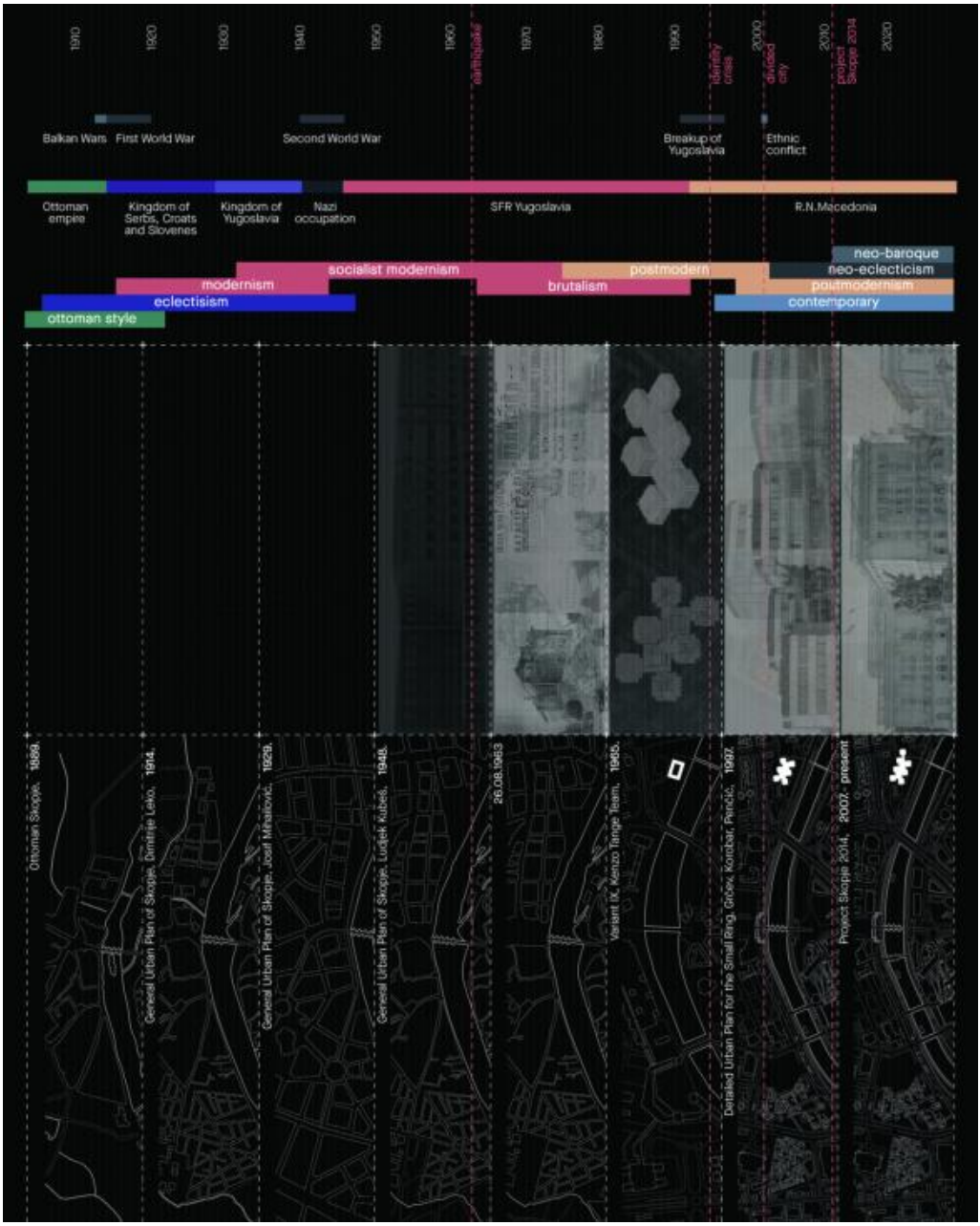

Figure 4: Diachronic and ideological trajectories of Skopje — Central Committee CK KPJ Sequence. Graphic by the author, 2026.

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Loss is More Detailing towards a Media-Based Atlas of Modernist Heritage Fragmentation

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detailing, modernist heritage, adaptive reuse, media-based research, fragmentation

Abstract

The research addresses the transformation of architectural heritage and the problem of extending the life of modernist buildings through contemporary adaptive reuse practices, focusing on the phenomena of modernist heritage fragmentation. It examines how the reconstruction of post-war architecture generates new forms of meaning, value, and continuity, often negotiating between preservation and loss. Additionally, the research outlines how design-driven methods can contribute to reinterpreting the material and cultural layers of modernist heritage.

The work focuses on the transformation of the architectural detail, as a site where architectural identity, material agency, and historical narrative converge. Building upon earlier explorations of speculative detailing and post-tectonic studies, the research develops a media-based atlas as a design-driven framework for tracing and visualizing trajectories of modernist heritage fragmentation. Using the Sava Center in Belgrade as a pilot case study, the research investigates how the erasure of distinctive elements during recent reconstruction reflects broader processes of modernist heritage fragmentation and transformation. By reactivating lost details and tectonic fragments, the project articulates how design can engage with heritage not only as a restorative act but as a form of critical reinterpretation.

Introduction

The research addresses the transformation of architectural heritage and the problem of extending the life of modernist buildings through contemporary adaptive reuse practices, focusing on the phenomena of modernist heritage fragmentation. It examines how the reconstruction of post-war architecture generates new forms of meaning, value, and continuity, often negotiating between preservation and loss. Additionally, the research outlines how design-driven methods can contribute to reinterpreting the material and cultural layers of modernist heritage.

The presented work focuses on the transformation of the architectural detail, as a site where architectural identity, material agency, and historical narrative converge. Building upon earlier explorations of speculative detailing and post-tectonic studies, the research develops a media-based atlas as a design-driven framework for tracing and visualizing trajectories of modernist heritage fragmentation. Using the Sava Center in Belgrade as a pilot case study, the research investigates how the erasure of distinctive elements during recent reconstruction reflects broader processes of modernist heritage fragmentation and transformation. By reactivating lost details and tectonic fragments, the project articulates how design can engage with heritage not only as a restorative act but as a form of critical reinterpretation.

Figure 1: "Loss is More", Collaged page from the brochure representing the loss in the main Lobby. Source: image by the author based on the original image, source: *Jugoslovenska revija. Sava Center in Belgrade*. Special edition. Belgrade: Sava Centar, n.d. p.14-15.

Methodological framework

Methodologically, the research combines interpretive 3D modeling, archival mapping, and critical drawing to re-narrate architectural loss through the lens of architectural detail. It positions detailing as a reflective and media-based mode of inquiry, in which representation operates as an instrument for revealing additional layers of heritage transformation. The process unfolds through iterative cycles of archival research, drawing, modeling, and archival intervention. Each iteration redefines the relationship between representation and material evidence, generating new readings of architectural loss. Through this continuous movement between documentation and speculation, between micro and macro scale, the Media-Based Atlas emerges as a cumulative field of inquiry in which sketches, models, and mappings trace the shifting trajectories between past conditions, current states and speculative emergent futures. Building on the premises of assemblage theory, the research framework defines four interrelated dimensions that interpret fragmentation as both a material and a conceptual condition: spatial, temporal, epistemic, and political (STEP). Within this structure, "Loss is More" becomes a generative concept, thematizing loss as an active field of reflection, learning, and reactivation. This approach repositions the architectural detail beyond its technical definition, framing it instead as a narrative and analytical device through which qualitative values and cultural meanings can be revealed. The iterative process of observing, sketching, modeling, mapping, and reinterpretation forms a temporal trajectory of its own, where each cycle of work becomes both documentation and transformation of the research subject. In doing so, together with the STEP dimensions, the research expands the scope of architectural inquiry toward other disciplinary domains, where design operates as both a critical, ethical and interpretive act.

Figure 2: Research Trajectories (archival research, interviews, detailing, 3D interpretive models)
Source: Illustration by the author.

Reflection On Trajectories

The research investigates the trajectories of transformation within modernist heritage, focusing on how processes of reconstruction redefine the relation between material continuity and cultural memory. Emerging from previous tectonic studies, where the architectural detail was observed as a locus of constructional logic and narrative meaning, the work evolves toward a broader inquiry into the afterlife of modernist buildings. The objective is not the restoration of the lost, but to understand how erasure itself becomes a productive field of knowledge, observed as a condition through which architecture may be critically reinterpreted.

Trajectories in the Pilot Case Study

The Sava Center was selected as the pilot case study due to the continuity of prior research, the availability of original documentation, and the possibility of tracing its transformation across several temporal and material stages. Its scale, programmatic complexity, and symbolic status within Yugoslav modernism further position it as a critical example through which questions of adaptive reuse of post-socialist architecture could be examined. The case study serves as a site of experimentation and reflection, allowing heritage practice to be approached as a living concept with the capacity to inform future design strategies and modes of intervention. The research has evolved through a long-term engagement with the building, beginning in 2018 with access to its architectural archive and extensive on-site observation prior to reconstruction. This early phase provided direct physical insight into the building's material and spatial logic, later complemented by interviews with the original architects and interior designer (2018–2019). As the reconstruction process unfolded between 2021 and 2024, several field visits and a return interview with the new stakeholders in 2025 enabled comparative documentation of the transformation and loss of key architectural features.

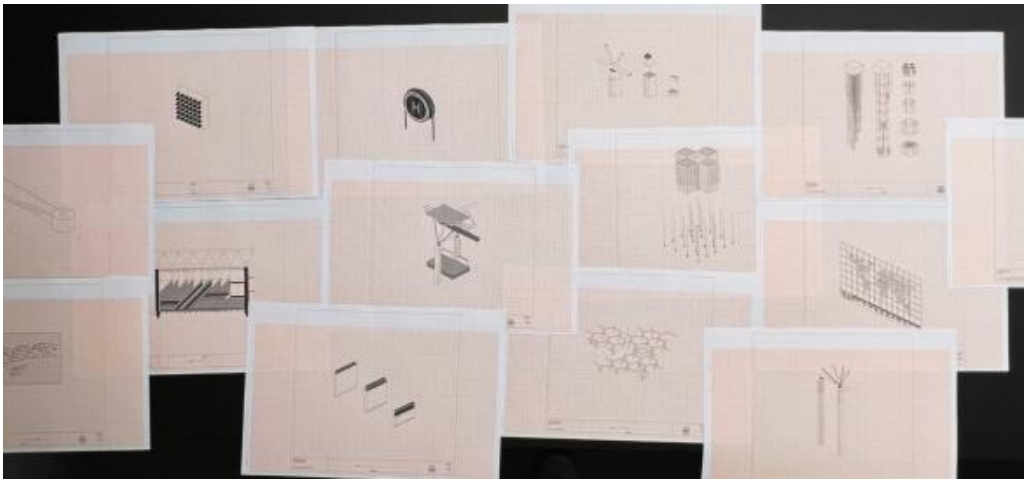


Figure 3: Detail portfolio: Comparative study of transformed and erased tectonic elements
Source: Illustration by the author.

Across these phases, the research gradually shifted from archival analysis and digital modeling toward a broader media-based inquiry into erasure and adaptive reuse. The continuity of these encounters shaped a methodological position where theory, practice, and experience intersect, grounding the development of the Media-Based Atlas within lived trajectories of architectural change (Figure 2).

In transitional socio-political contexts such as Serbia, where modernist architecture faces demolition, privatization, and administrative erasure (Europa Nostra, 2024; University of Belgrade-Faculty of Architecture, 2024; BINA, 2025; Delta Holding, 2024), these questions acquire urgency. The transformation of the Sava Center in Belgrade, while enabling the building's survival, has also resulted in the disappearance of its distinctive material features. The study uses this condition as a framework to inquire how design can operate within, rather than against, the complexity of heritage transformation. The Sava Center thus functions as a pilot case for testing media-based methods of reading, reconstructing, and narrating architectural loss. The theoretical foundation is built upon Manuel DeLanda's assemblage theory, previously explored through post-tectonic analysis, where the architectural detail is understood as an assemblage of relations between material, drawing, and imagination. Its identity is not understood as inherent in the object itself, but emerges through its reconfiguration, through territorialization and deterritorialization to the whole, and the emergent properties that follow. This perspective situates the architectural detail as an active component within a dynamic field of forces, as a position of the continuous negotiation between material presence, absence and conceptual reinvention. In this study, it is regarded as a process that parallels the physical and narrative fragmentation through the adaptation of architectural heritage. Furthermore, Bruno Latour's notion of "drawing things together" is included as an additional conceptual lens for understanding media-based approach as a generative act, where representation itself becomes a site of knowledge production.

Figure 4: Cover of the brochure *Sava Center in Belgrade* (c. 1977.)
Title page of the original publication Sava Center in Belgrade, published by The Yugoslav Review in cooperation with the Belgrade Culture Center Source: Scan of the original publication by the author.

STEP Dimensions as Analytical Framework

The analysis is structured through the STEP framework (**S**patial, **T**emporal, **E**pistemic, and **P**olitical dimensions) designed to trace the relationship between fragmentation and reactivation of the built substance on the scale of detail. In practice, the framework operates as a shifting matrix through which fragments of the Sava Center as a pilot case study are examined. Spatial trajectories map the displacement of interior elements such as ceilings and ventilation clusters, while temporal investigation reconstructs their successive transformations across design, use, and reconstruction phases. Epistemic interpretation addresses how these fragments mediate between drawing and material knowledge, and the political dimension reveals how economic and institutional agendas shape decisions of preservation, erasure, or adaptation. Together, these dimensions situate architectural detailing as both a technical and a cultural act, providing a structure that connects micro and macro scales and exposes how material and conceptual transformations unfold through time. Furthermore, STEP framework contributes to the development of the Media-based Atlas, underlining and extending its function as

a design instrument for mapping the transformations of modernist heritage. The work ultimately positions the architectural detail as both medium and method, a site through which the layered conditions of transformation can be critically observed and reactivated. The Atlas functions as a visual and analytical document that gathers trajectories of loss, mapping the dynamic processes of modernist heritage fragmentation and connecting their spatial and conceptual relations. In this sense, tracing trajectories becomes a double movement: from fragment to system, and from disappearance towards new forms of presence. Within this evolving process, the research recognizes detail as a mediating instrument between form, memory, and heritage transformation. The Media-Based Atlas therefore functions not only as a record of what is lost, but also as a performative tool for understanding how knowledge about architecture is produced, translated, and shared through design.

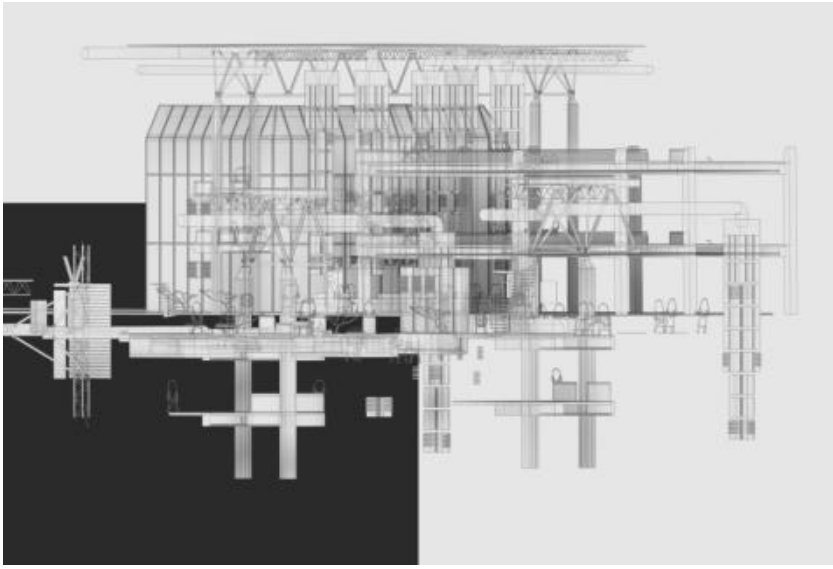
Toward a Media-Based Atlas

The Media-Based Atlas has been recognized within the research as a framework capable of integrating diverse forms of information while maintaining openness to uncertainty and incompleteness. Its structure reflects the dual ambition of assembling a coherent body of knowledge and preserving the fluidity necessary to address ongoing transformations. In the current phase, the research extends toward renewed engagement with public institutions and professionals involved in the reconstruction, adding a new informational layer to the existing material. Many erasures remain interpreted as undefined maps—gaps awaiting further contextualization, explanation, and ethical reflection. These voids are approached through the STEP framework, which provides a structure for articulating and reframing the complex relations between knowledge, responsibility, and transformation.

Experimental Presentation Format

The presentation represents an ongoing phase of the research and focuses on the original architectural brochure *Sava Center in Belgrade*, published by *The Yugoslav Review* and the *Belgrade Culture Center* in the late 1970s (Figure 5). Treated as both document and medium, the publication is reinterpreted through a series of digital and physical interventions (erasure, cutting, and layering) to reveal the spatial and material transformations that occurred during the building's reconstruction (Figure 1). Alongside the portfolio of details (Figure 3) and a set of 3D interpretive proxies (Figure 4), the presentation forms part of a broader investigation into how loss can be recorded and reactivated through design. It is conceived as an evolving experiment, where re-drawing and re-layering operate as design-driven methods that mediate between archival evidence, interpretive modeling and reconstruction (Figure 5). The forthcoming research phase will extend these explorations through new on-site documentation once access to the reconstructed building is granted.

In this process, the Media-Based Atlas emerges as a living document that unarchives knowledge instead of preserving it in a fixed state. It



gathers fragments, relations, and interpretations and brings them into new constellations. Through successive additions and translations, the atlas begins to function as an assemblage in its own right, evolving in form, meaning, and conceptual structure.

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Assembling Disneyland's Trajectories

Mapping the Real and the Imaginary

Joran Kuijper, TU Delft

Disneyland, trajectories, assemblage, (de/re)territorialization, mapping

Abstract

This essay approaches Disneyland not as a representational image of a real and imaginary America but as a field of simulacra, a functioning assemblage, that actively produces America's cultural, spatial, and affective realities and imaginations. By describing how to operatively map three trajectories through attributes and parameters, the essay reveals how Disneyland de-, re-, and territorializes: creatively transforming and metamorphosising America, while simultaneously being reterritorialized by it—a reciprocal process through which each continuously produces the other.

Each trajectory corresponds to a distinct operativity: the Planned Trajectory operates through tracing, the Emergent through mapping, the Expansive through producing. The trajectories are not successive stages but analytically distinct dimensions of *L'Agencement Disneyland*, whose stabilization, variation, or escape becomes legible only through operative mapping.

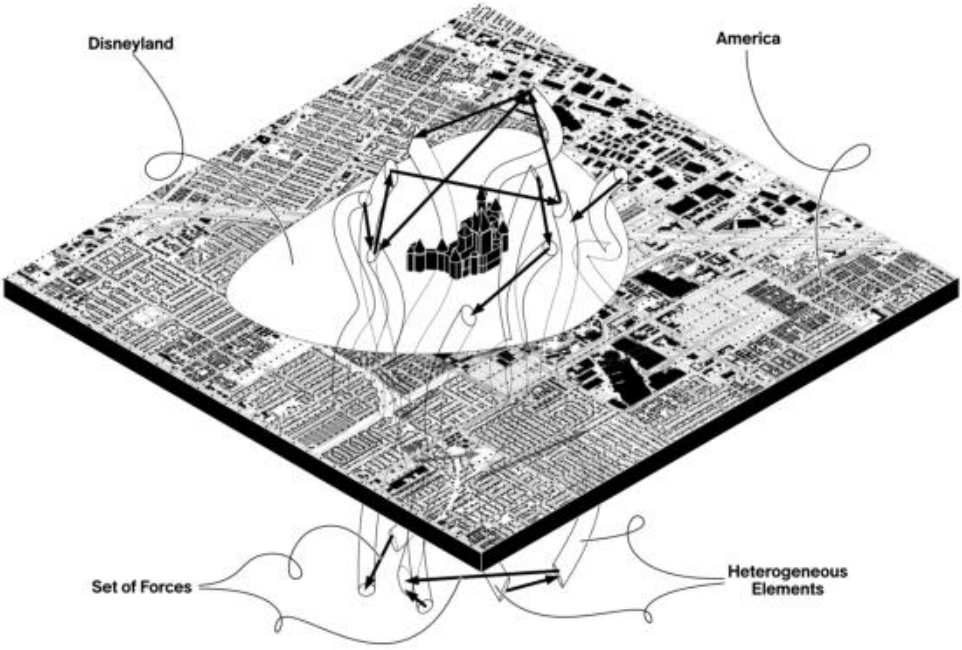

Figure 1: Diagram of the analytical framework on how to interact with L'Agencement Disneyland. Heterogeneous elements and forces constitute the assemblage in which its diagrammatic functioning is made legible through three trajectories: "territorialization" (Planned, tracing operation), de-/reterritorialization (Emergent Trajectory, mapping operation), and creative transformation via lines of flight (Expansive Trajectory, producingoperation). The Expansive Trajectory escapes the assemblage as a mutation in order to produce America and later again, Disneyland.

THEORY: *L'AGENCEMENT DISNEYLAND*
Disneyland is Real and Imaginary

In critical accounts *Disneyland* (1955), Anaheim, California, is often depicted as both mundane and unadorned, while also being celebrated as a representation of American culture. This duality is complicated by the fact that Disneyland is intricately embedded within, and part of, the real-world, while simultaneously constitutes an autonomous, imaginary world, as a produced territory—an artificial world in itself.

Beyond this (im)material embeddedness, Disney's design of leisure spaces, the representation of historic architecture, and urban narratives has profoundly shaped the real-world shopping centres, resorts, and townscape expectations (Olsberg, 1997, p. 9).

Disneyland, then, is not the real America, but represents an ideal America, which could therefore be seen as a hyperreality: a condition in which it is more real or significant than reality itself. (Venturi, Scott Brown and Izenour, 1972)

However, Baudrillard does not describe Disneyland itself as a hyperreality, rather he considers its surrounding America as hyperreal,

Disneyland is presented as imaginary in order to make us believe that the rest is real, whereas all of Los Angeles and the America that surrounds it are no longer real, but belong to the hyperreal order and to the order of simulation (Baudrillard, 1994, p. 12).

America itself is a simulation, that conceals—by presenting Disneyland as an imaginary world—the absence of the real it pretends to represent: "Disneyland exists in order to hide that is the 'real' country" (Baudrillard, 1994, p. 12).

If we now consider that Disneyland can be read as simultaneously real, ideal, and imaginary America, the question arises of what, if anything, could still function as an original America. Is Disneyland merely a *copy* of America, or does America increasingly appear as a copy of Disneyland? Or does this reciprocal mirroring undo the very logic of copy and original altogether? In such a configuration, Disneyland may not be a copy, but a simulacrum that produces the reality it seems to represent.

Following Deleuze's overturning of Platonism, the logic of the copy and original is itself undone. For Plato, according to Smith, the copy is "good" when it participates in the Idea, while the simulacrum is bad, "a deceptive resemblance without foundation" (Smith, 2012, p. 14). Deleuze reclaims the simulacrum as something altogether different: not a degraded copy but a *productive difference* that generates its own reality. According to Smith, the simulacrum "has internalized the differential nature of the Idea" (Smith, 2012, p. 14) and therefore becomes a site of creation rather than a copy, producing reality rather than reflecting it.

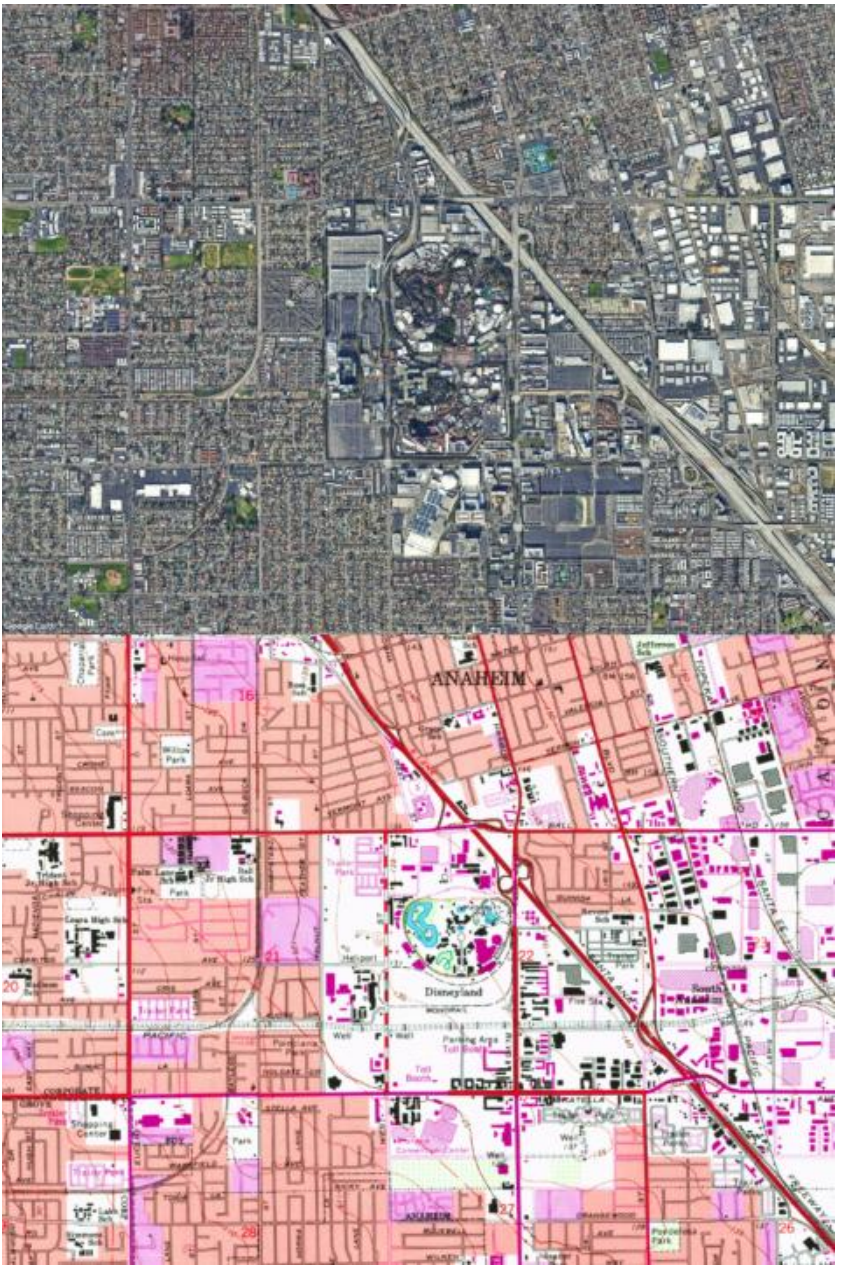

Figure 2: Anaheim, California, satellite imagery (top) and topographic map of 1965 (bottom). Disneyland is intrinsically embedded in the urban fabric of Anaheim. The topographic map reveals this with particular clarity: the magenta planned interventions extend across the park boundary without distinction.
Imagery ©2024 Airbus, Data CSUMB SFML, CA OPC, Landsat / Copernicus, Maxar Technologies, Map data ©2024 Google (U.S. Geological Survey, 1965; Google, 2024).

Disneyland is, opposed to Baudrillard, then, not a mask covering reality, but an *abstract machine* (Deleuze and Guattari, 1987, p. 141) for producing new ones—territories of affect and nostalgia that are every bit as material as its urban surroundings. It is real because it *produces*; imaginary because it *produces the difference*. In this way, Disneyland functions less as a false representation and more as a *field* of simulacra whose relations of production can be approached as a functioning *assemblage*: (Parr, 2010, p. 18) Disneyland ís America and America ís Disneyland, continuously producing each other.

Disneyland as a Functioning Assemblage

Considering Disneyland as a functioning assemblage, *L'Agencement Disneyland*,[1] enables Disneyland to emerge from the arrangement of heterogeneous elements into a—albeit temporarily—diagrammable productive entity. Disneyland's diagram is therefore the map of its functioning (a "map of destiny"); it is "the code or arrangement by which an assemblage operates." To map a diagram, we must identify not only the heterogeneous elements that compose it, but also a set of forces that arrange these elements into productive relations (Parr, 2010, p. 18).

Some *Heterogeneous elements* that constitute Disneyland as a functioning assemblage could, among others, include:

Heterogeneous Elements	*Forms of Manifestation*
Built forms and spatial structures	Disneyland's physical existence expressed architecture, urban design, landscape architecture, and their supporting infrastructures
Infrastructural and technological systems	Road, railroad and monorail networks, supporting utilities, sound installations, lighting, all in the realm of the built environment
Semiotic materials	Signage, narratives, intellectual property, branding, recognizability, and archetypification
Bodies and populations	Humans and non-humans: visitors, employees, crowds, performers, animatronics/robotics, and animals
Material artifacts and instruments	Merchandise, media, tickets, labour, and globalization (analogue and digital supply chains)
Institutional structures	Regulatory frameworks, corporate governance, and negotiations with (inter)local actors such as governments, councils, and neighbouring communities

Table 1: Possible heterogeneous elements and their forms of manifestation through which Disneyland materially and immaterially substantiates as an assemblage.

Figure 3: Themed lands Grizzly Peak Airfield (top) and Hollywood Land (bottom) in Disney California Adventure, Disneyland Resort, Anaheim, California. Not only is Disneyland located in America—America is also located in Disneyland, as an idealized projection of itself. This makes Disneyland a hyperreality: a condition in which the simulation becomes more real, or more significant, than the reality it represents. The proximity of the real Hollywood—30 miles away, an hour's drive—only sharpens the point. Photographs by Joran Kuijper, June 2006.

A *set of forces* that circulate through and arrange these elements in Disneyland could be, among others:

Forces	*Operational Modalities*
Desire	Longing, immersion, escapism, and commercial acquisition
Affect	Nostalgia, enchantment, fantasy, comfort, safety, immersion, and wonder
Capital	Accumulation, circulation, and investment
Regulation	Crowd movement, behavioural management, spatial control, and safety
Operation	Narrative construction (discursive and material), branding, semiotic modulation, and coding

Table 2: A possible set of forces and their operational modalities through which Disneyland's assemblage operates and exerts effects.

Through the interrelation of heterogenous elements and a set of forces, Disneyland directly produces a *territorialized*world: a space in which bodies, affects, meanings and the like are operationalized and regulated. The assemblage, for example, *captures* desire and channels it into consumable spatial narratives for visitors and employees. As a result, *L'Agencement Disneyland* produces new realities, affects, and therefore indirectly *de-* and *reterritorializes*, and ultimately facilitates *creative transformation*.

From Lines to Trajectories

Creative transformation becomes intelligible when we consider, following Deleuze and Guattari, that assemblages contain three simultaneously operating lines, providing its productive topology: the "molar line," the "molecular line," and the "line of flight that ruptures the other two lines" (Parr, 2010, p. 147).

It is by the line of flight that assemblages may be transformed, because the line of flight "systematically privileges processes of creative transformation and metamorphosis" (Parr, 2010, p. 118). Transposed to Disneyland, we can conceptualize three different trajectories: the *Planned Trajectory*, the *Emergent Trajectory*, and the *Expansive Trajectory*to prove that the *L'Agencement Disneyland* contains the power to reterritorialize:

1. *The molar line* [territorialization, the real-world] describes Disneyland as a static, physically confined, designed and crafted urban architectural environment with carefully designed paths, queues, and attractions: a coded order. This line also prescribes how visitors consume fantasy (which in itself is real-built and economically embedded, tangible and assessable) and (should) experience happiness.[2] We can consider this line as a *Planned Trajectory*.

2. *The molecular line* [deterritorialization that permits reterritorialization, the imaginary ánd artificial (as is everything produced by human) world] is embodied by Disneyland's human and non-human occupants:[3]

visitors, employees, and animals, all with their individual and collective itineraries, emotional responses, and unexpected deviations. Disneyland needs this spontaneous appearance to maintain a territorialized stability. The visitors mediate between participating and destabilizing this system. We can consider this line as an *Emergent Trajectory*.

3. *The line of flight* ["creative metamorphoses" (Parr, 2010, p. 147), the successive real-world, after Disneyland] is the rupture, the escape,[4] or the transformation that will exceeds Disneyland's coded and decoded boundaries. It is the moment and how the visitors and employees take experiences, as life-changing memories by producing their affect by being the embodiment of a molecular line. Or how the Disney model leaks into urban reality—influencing malls and. We can consider this line as an *Expansive Trajectory*.[5]

Line	*Composition*	*Territory*	*Geography*	*Trajectory*	*Operativity*
Molar	Heterogeneous elements (what stabilizes)	Territorialization	Real-world	Planned	Tracing
Molecular	Set of forces (what circulates/varies)	De/reterritorialization (within the assemblage)	Real and imaginary world	Emergent	Mapping
Flight	Escaped element-force relations (what mutates)	Creative transformation and metamorphosis (outside of the assemblage)	Successive real-world (beyond Disneyland)	Expansive	Producing

Table 3: Correspondence between the six attributes—Line, Composition, Territory, Geography, Trajectory, Operativity—and their parameters, through which Disneyland functions as an assemblage.

The columns of the table above function as attributes—Line, Composition, Territory, Geography, Trajectory, Operativity—each taking specific parameters per line. Their configuration at any given moment constitutes a diagrammatic snapshot of the assemblage, through which operative mapping becomes possible.

The relationship between heterogeneous elements, forces, and the three lines is not arbitrary. The molar line corresponds to the material stability of heterogeneous elements—what is built, regulated, and fixed. The molecular line corresponds to the circulatory dynamics of forces—what flows through, animates, and varies those elements. The line of flight emerges when element-force relations escape the assemblage and mutate into new configurations elsewhere, producing successive territories beyond Disneyland's physical boundaries.

Because of their rhizomatic behaviour, lines of flight are productive and mappable. They indicate that even within controlled environments, imagination and desire escape their respective codification. This essay considers the line of flight as an analytical lens: a way to study Disneyland (and therefore America) as it simultaneously produces and is undone by its own logics of immersion and control.

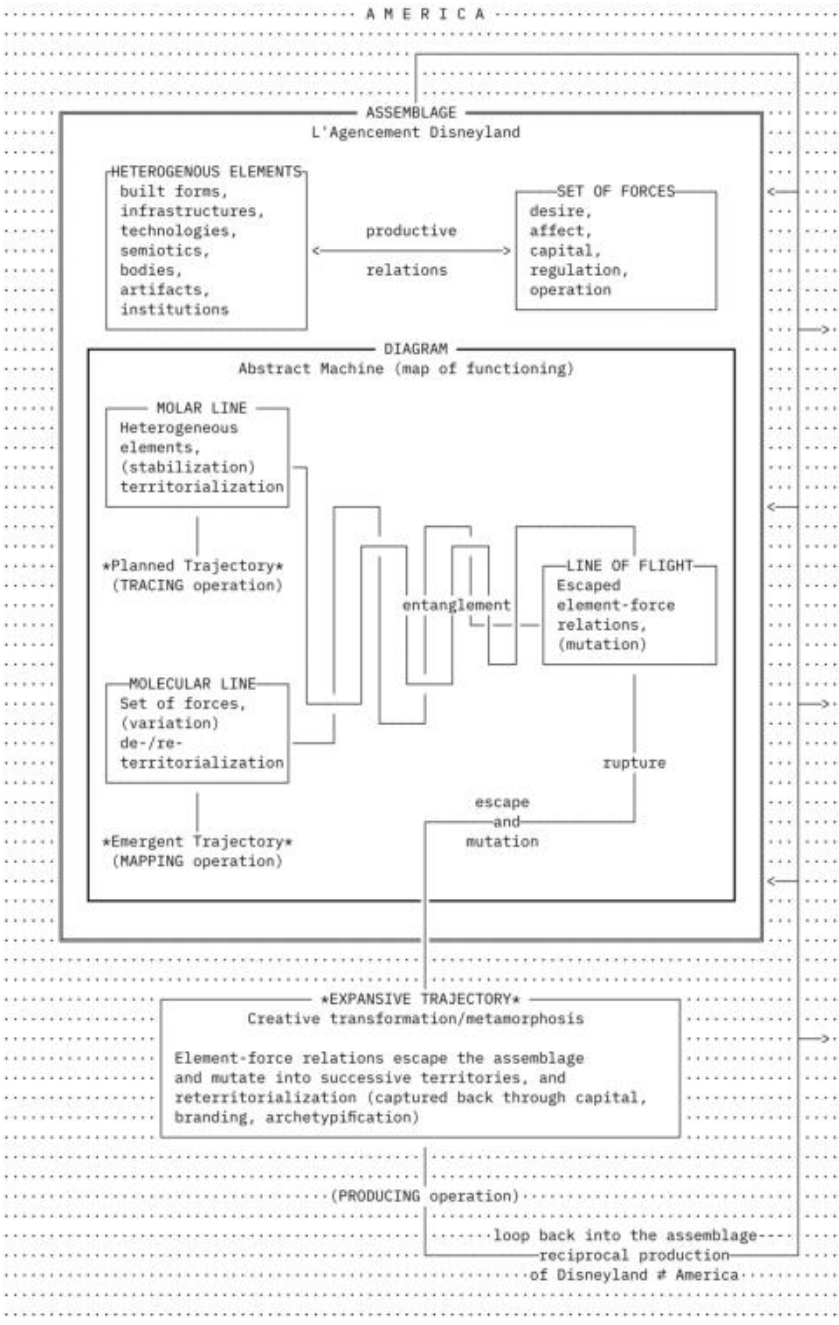

Figure 4: Visualization of heterogeneous elements and set of forces apparent in Disneyland. In order to make a diagram of this, one or more heterogeneous elements and a subset of forces need to be isolated and their trajectories can be operatively mapped in order to get an insight of Disneyland as a functioning assemblage. Figure by Joran Kuijper, 2026.

METHODOLOGY: FROM SIMULACRUM TO OPERATIVE PRACTICE

Mapping Assemblages

Because *L'Agencement Disneyland* is by nature not representational,[6] a shift from a representational *tracing* practice toward an operative *mapping* practice is required. This shift is necessary in order to engage with Disneyland's diagram, understood not as a form to be depicted but as an arrangement of elements and forces that organize the functioning of the assemblage.[7] Mapping is therefore not employed to reproduce or depict this diagram, but as an operative activity that constructs trajectories through which the diagram's functioning can be engaged. Henceforth, by making three trajectory-based mappings, spatial knowledge can be obtained about *how* Disneyland *produces*, territorializes, destabilizes, and transforms space within and beyond its boundaries.

Following Paez, (Paez, 2019, pp. 23–28) mapping is understood here as an open and performative system oriented toward experimentation,[8] while the diagram refers to the abstract machine or functioning that organizes relations within an assemblage (Deleuze and Guattari, 1987, p. 141). Drawing on critical cartography, (Harley, 1989; Wood, 1992; Crampton and Krygier, 2006) the mappings that will be developed through this essay operate as critical and operative constructions that articulate Disneyland's diagrammatic functioning.

In line with the assertion of Corner (1999) that maps are not passive mirrors of reality but active agents in their construction, mapping is deployed here as a performative, design-driven research practice. Maps do not simply passively record spatial conditions; they intervene, speculate, and produce new relations (Corner, 1999). As Paez argues this toward operative maps, they "expand the field of the real and promote its transformation" (Paez, 2019, p. 19).

Disneyland's trajectories can be mapped because they are rhizomatic rather than arborescent in nature. Arborescent structures produce rooted (pun not intended), hierarchical paths that can only be traced, whereas rhizomatic structures generate dynamic and non-hierarchical trajectories that emerge through mapping (Deleuze and Guattari, 1987, pp. 12–13). Diagrammatic clarity emerges through the feedback between mapping and tracing, where provisional stabilizations are continually disrupted by further mapping. The diagram thus presents forces rather than forms—not depicting what Disneyland looks like but revealing how it operates (Deleuze and Guattari, 1987, p. 141).

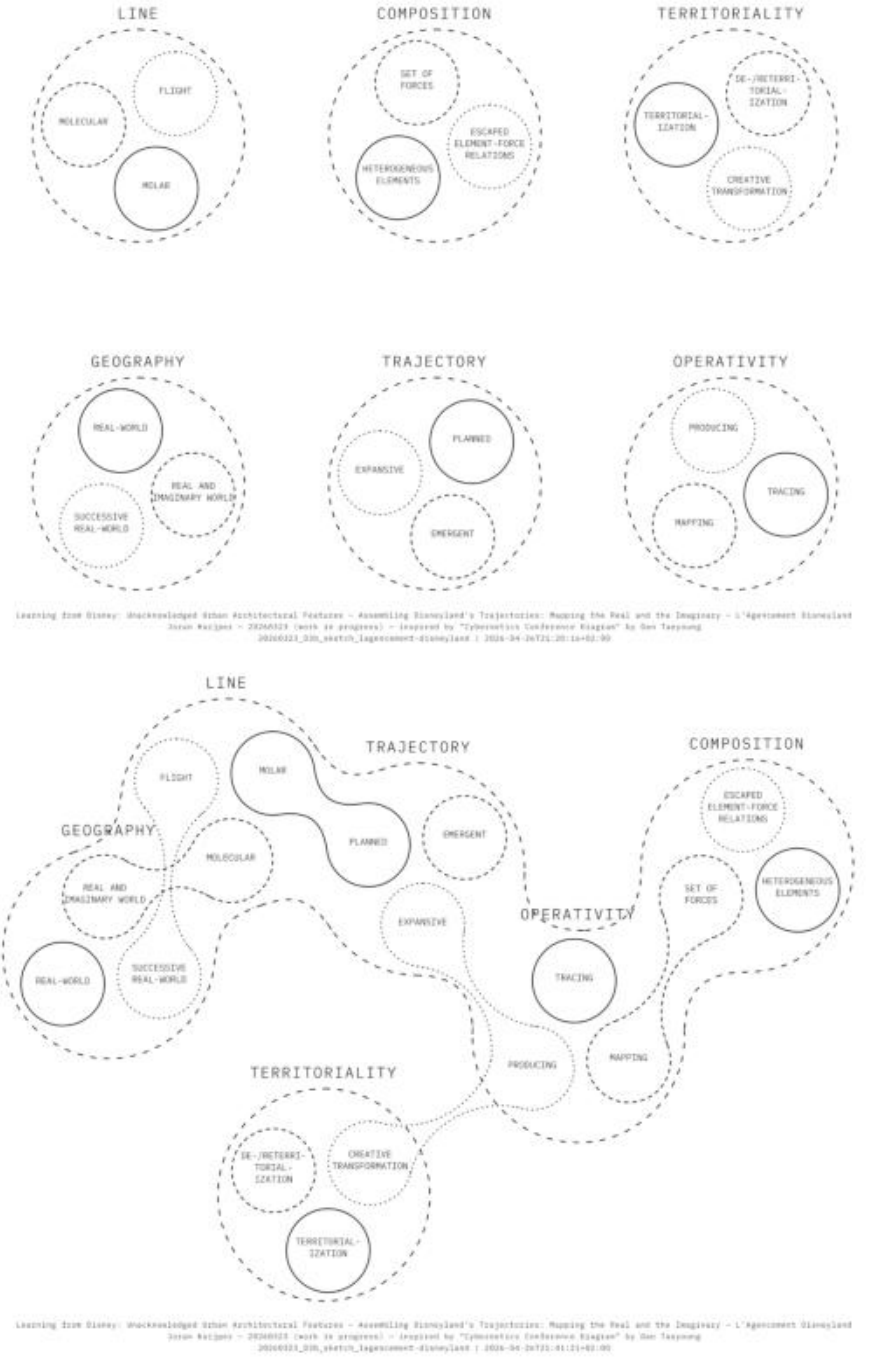

Figure 5: The position of the assemblage within a larger constellation of assemblages (top). The assemblage fed by molar lines and releasing molecular lines, one of which is the Line of Flight informing a new assemblage (bottom). Sketches by Joran Kuijper, 2026.

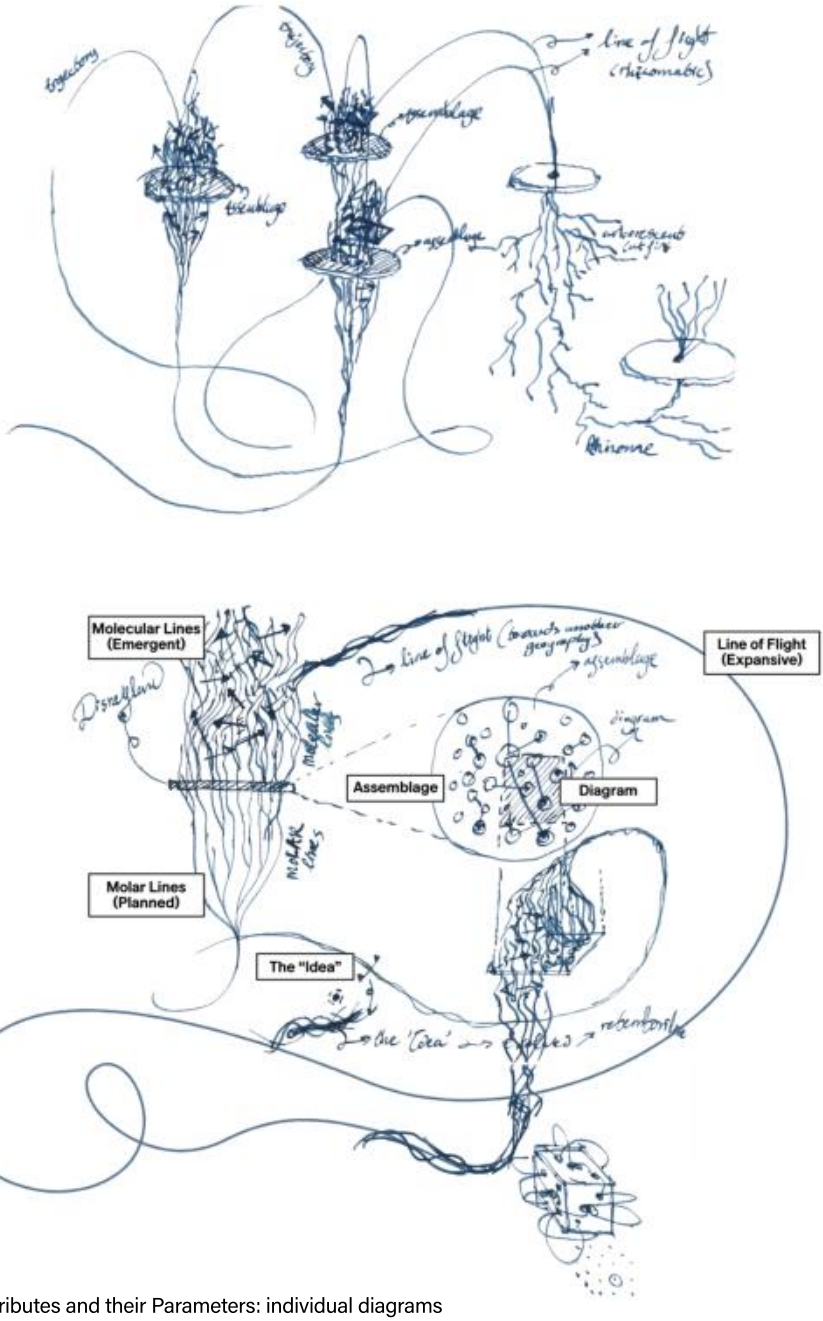

Figure 6: Attributes and their Parameters: individual diagrams per Attribute (top) and a dynamic constellation as a single snapshot (bottom). The dynamic relationship between Attributes and Parameters generates varying diagram constellations that structure and guide the mapping process. Diagrams by Joran Kuijper, 2026.

Mapping the Three Trajectories

The mapping practice is structured around the three simultaneously operating trajectories, each corresponding to a distinct analytical operation and producing a specific form of spatial knowledge. Together, these mappings articulate the diagram of *L'Agencement Disneyland* revealing how Disneyland stabilizes, varies, or mutates.

Mapping the *Planned Trajectory* addresses territorialized and coded spatial orders through stratigraphic and comparative spatial analysis. It is operationalized through *tracing*. By juxtaposing heterogenous elements, these mappings reveal how Disneyland's spatial order is stabilized. What can be known through these maps is how reassurance, control, and legibility are a spatial product and are subsequently are spatially produced, maintained, and normalized.

Mapping the *Emergent Trajectory* addresses variations and deviations defined by a (sub)set of forces. It is operationalized through *mapping*. This trajectory allows for processes of de- and reterritorialization within the assemblage, but without escaping it. Rather than producing morphological representations, these mappings register intensities, frictions, and (in)formal practices as they occur within Disneyland. What can be known through these maps is how prescribed spatial narratives interact with (un)expected variations within Disneyland's controlled environment.

Mapping the *Expansive Trajectory* addresses lines of flight through which spatial logics escape the assemblage, followed by processes of reterritorialization in new spatial contexts, mostly beyond, but also within Disneyland's physical boundaries. It is operationalized through *producing*. This trajectory constitutes the condition through which de- and reterritorialization become possible. Mapped element-force relations become productive as they mutate into the world beyond Disneyland, such as resorts and urban developments. What can be known through these maps is how Disneyland's spatialities translate across contexts, cause creative transformation and metamorphosis, and are ultimately recaptured through capital, branding, and archetypification.

1 *Assemblage* is the English translation of the original word *Agencement* used by Deleuze and Guattari.

2 "The Happiest Place on Earth" and "Discover a place that has all the happy you never knew could exist—so you're a new kind of happy every time you visit" (*Discover Your Happiest Place on Earth | Disneyland Resort*, 2026).

3 Like the Barbarians, see (Deleuze and Guattari, 1987, p. 222)

4 As the opposite of the initial capturing done by the assemblage.

5 This touches upon the 4th method (Peter Gall Krogh, Thomas Markussen and Anne Louise Bang, 2015), Expansive: "Mapping new areas" in not a particular order. It is about widening the perspective, not deepening the knowledge.

6 See section *Disneyland is Real and Imaginary*.

7 See section Disneyland as a Functioning Assemblage.

8 Simplified: "[…] maps are generative, not illustrative" (Paez, 2019, p. 25).

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OFF COURSE
On Situational Overwhelm and Context Exposure

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#

mistakes, imperfection; as found, processual design; improvisation; aesth-ethics

Abstract

Meaningful Mistakes investigates how architectural “errors”—including inconsistencies, the idiosyncrasies of existing conditions, improvisations in material use, compromises, or deviations from the original plan—can be understood not as flaws but as disruptive yet productive forces. The research treats mistakes as a recurring motif, reflects on contemporary theoretical positions, and experiments with design methods that embrace loss of control and being off course as integral to the creative process. This engagement unfolds through projects involving existing structures, as well as collective and self-initiated approaches that respond to intuition, context, and collaboration. In doing so, conventional paradigms of authorship, precision, and perfection are questioned, while a mode of architectural practice is explored that recognizes ambiguity, and poetic gaps as generative qualities. Conceptual anchors include approaches such as Open Form, Glitch, Bricolage, New Materialism, and metamodern perspectives. The research argues that, when approached with care, attention, and openness, mistakes become productive tools and act as cultural and aesthetic markers, making social, ecological, and economic realities legible.

Architecture is often framed as a discipline of control and predictability, oriented toward the realization of predefined intentions. Yet practice persistently resists this linearity: every design contains irregularities, every plan harbors inconsistencies, and every construction process inevitably diverges from its projection. Mistakes are typically treated as deficits to be corrected or avoided. However, detours and adjustments are integral to learning processes, and accidents or coincidences are inherent in every form of evolution.

Furthermore, a mistake is not an objective condition but a relational one: it is a deviation from an intended trajectory, shaped by cultural, social, and psychological conventions. It contains notions of inconsistency, incompleteness, and friction. For this reason, it often resonates emotionally—appearing honest, disarming, even relieving. In contrast to an “error,” understood as a systemic malfunction, or a “defect” as an inherent flaw, the “mis-take” implies the possibility of another “take.” It is precisely this unexpectedness that gives it a particular charm, tension, and effectiveness: it reveals moments of situational overwhelm, exposing the contingencies of time, constellation, and space. Processes appear as having “gone off track,” teasing interpretation and empathy.

Rather than viewing deviations as failures, the research project Meaningful Mistakes—grounded in observations of everyday moments of irritation and temporary loss of control within the design process—explores mistakes not merely as flaws, but as forces that are simultaneously disruptive and productive for spatial practice. Operating across design studios, realized projects, urban interventions, and discursive formats, it poses the question: How can engaging with mistakes recalibrate architectural

perception and decision-making? And what spatial, material, and aesthetic qualities emerge, particularly in relation to broader questions of sustainability, collectivity, and resonance?

With these questions in mind, motifs and experiments explore "going off course" and design methods that treat loss of control and imperfection as integral to the process, thereby challenging conventional ideals of precision and mastery. Instead, this research examines an architectural practice that values openness, ambiguity, and poetic gaps; interrogates authorial control; and integrates open-ended approaches characterized by material resonance and reduced authorship.

Such dynamics become particularly visible in spatial production that works with existing structures whose preconditions precede and sometimes resist new interventions; in collaborative or interdisciplinary contexts where multiple intentions meet and frictions emerge; and under material constraints that require situated decision-making and exceed the capacity of linear planning. Established sequences and relationships between form, material, and production are deliberately unsettled, while affective and relational dimensions are taken seriously. A deliberate surrender to surrounding conditions or a loosening of control does not imply disorientation. Rather, imperfection and "faulty" processes are understood as preconditions for a more open, attentive, sustainable, inclusive, and adaptive architectural practice. In these contexts, irregularities multiply, and recurring patterns and procedural shifts in the design process become discernible. "Inconveniences"—material limitations, restricted resources, or situated social negotiations—are not treated as constraints to be overcome but as generative starting points.

Comparable to improvisation within defined parameters in music or dance, the observed design practice can be described as structured spontaneity. Consciously surrendering to environmental conditions does not imply a loss of orientation; rather, it involves cultivating moments of deliberate *not-yet-knowing*—embracing provisional, unresolved, or "still ugly" states. Another strategy for integrating uncertainty involves the use of scores or prompts—open instructions rather than fixed plans. Borrowed from performance practices, such frameworks define parameters while allowing situational variation. Especially in collaborative or collective contexts, a score that outlines possibilities rather than prescribes outcomes enables slow development, simultaneous working, doubt, and collective reflection rather than efficiency-driven production. It tolerates disorder while remaining open to users, craftspeople, materials, and temporal change. The built artifact is no longer conceived as the endpoint of a linear process but as a provisional state.

Material selection constitutes a decisive and unusual early phase, often guided by intuitive attraction or resonance. The notion of the "found object" describes an item "*found (or sometimes bought) by an artist and kept because of some intrinsic interest the artist sees in it*."[1] The focus shifts from executing a predetermined plan to actively engaging with available conditions. In a broader sense, as the Smithsons articulated in the early 1950s:

Figure 1: *Everyday urban irritation, Istanbul*: Found urban handrail post echoing the form of an antique column. Painted in neon green and pink, surface partially chipped, yet still structurally connecting two railings. An ordinary infrastructural element producing an unintended composition between ornament and infrastructure, where functional logic is exceeded through decay, repair, and informal intervention, 2023 ©Luise Leon Elbern

> *"Setting ourselves the task of rethinking architecture, we meant by the 'as found' not only adjacent buildings but all those marks that constitute remembrancers in a place and that are to be read through finding out how the existing built fabric of the place had come to be as it was... Thus the 'as found' was a new seeing of the ordinary, an openness to how prosaic things could re-energize our inventive activity."*[2]

Collected materials then form what may be described as a "poetic storage"—not a rationalized inventory, but a provisional constellation of

speculative potentials. This willingness to delay definitive use introduces risk, as materials may acquire function or meaning only later in the process, leading to the bricolage of idiosyncratic materials that demand situation-specific decisions. As these materials are reinterpreted and repositioned, the process oscillates between intention and response. The design begins as a curatorial act: selection, collection, reflection, anticipation, and making become intertwined. Classical notions of linearity and aesthetic coherence are thus placed under tension and ultimately destabilized.

Under such conditions, structures may emerge that are internally composed and relatively balanced, yet whose forms and expressions could not have been fully anticipated. Architecturally—particularly at the seams, joints, and collaged zones—buildings must absorb shifts, contradictions, and visual displacements. Sometimes the "mis-take" remains subtle, sometimes it is clearly legible. These specificities and tensions reveal the conditions of production; unexpected forms and spatial constellations arise. The resulting surprises or irritations in form and use may initially appear confusing, yet it is precisely through their ambivalence and everyday aesthetics that they gain persuasive power—through embedded narratives, legibility, and proximity to lived experience.

More broadly, this stance aligns with a metamodern sensibility, defined by oscillation between conflicting positions or attitudes. This tension corresponds to what Vermeulen and van den Akker describe as "*ironic sincerity*" or "*pragmatic idealism*": a careful and sincere engagement with the world that avoids naivety—a serious and reflective commitment that remains aware of its own limits and potential failure.[3]

A stool made from discarded stage-set elements, constructed on a participatory building site, features an irregular hole in the left leg, unevenly shaped supports, and a contrasting color—all sculptural results of a collective design process involving students, passers-by, and theatre staff. A restroom partition wall placed on a granite plinth—chosen simply because the material was locally available—similarly demonstrates how situational decisions shape form. Such idiosyncrasies also appear at larger scales: a water pipe becomes the organizing element in an apartment refurbishment; an extension engages structural decay as a creative agent; a ramp built in one day from leftover timber results in an absurdly high handrail designed merely to minimize offcuts.

The theoretical framework draws on artistic and architectural positions that engage with deviation, polyvalence, and processuality. Concepts such as the *glitch* or *open form* understand form as emerging through exploration rather than imposed control. The project also resonates with postmodern critiques of progress and mastery, as well as positions within New Materialism, which emphasize relationality and reciprocal interaction between human and nonhuman agencies.

Figure 2: *Lustgarten stool:* Sculptural stool produced within a participatory and performative construction site with the collective CollColl, using recycled stage set elements from the Staatstheater Stuttgart. An irregular opening in one leg, an asymmetrical leg configuration, and a non-standardized color application emerged through the collective design and assembly process, 2022 ©Luise Leon Elbern

Figure 3: L*Unfinished Detail, Versuchsgut Dornburg*: Restroom partition wall placed on a granite plinth, selected due to local material availability. Constructed in the RealLab project "Versuchsgut Dornburg" within the design studio at the Chair of Constructive Design and Experimentation (Jun.-Prof. Tim Simon-Meyer), Bauhaus-Universität Weimar. The detail demonstrates how situational decisions and material contingencies shape form, structure, and spatial expression, while introducing a subtle displacement: a typically lightweight partition element—usually executed in materials such as gypsum board or laminate panels—is combined with a heavy, monolithic base. This juxtaposition reflects principles of pragmatic, simple construction and generates both functional solutions and unexpected aesthetic qualities, 2025 ©Luise Leon Elbern

In this light, dominant paradigms such as standardization, predictability, and singular authorship are critically reconsidered. Architecture is reframed as a situated, relational, and process-based practice. Imperfection and "faulty" processes are understood as preconditions for a more open, attentive, sustainable, inclusive, resilient, and adaptive form of making. As Denise Scott Brown remarked:

"Bravely considering the implications of what you see around you and learning from them. Doing so may make your work look incredibly ugly—even to you. But that is the way aesthetic sensibilities change. New patterns and new societies tend to produce things we find ugly (...). But people grow to love them because they are, in the end, right."[4]

Inspired by this thought, "mistakes" and a design-oriented "tolerance for error" can be understood as cultural markers that reveal contemporary social, ecological, and economic realities—a kind of "structure of feeling" of our time. The British cultural theorist Raymond Williams (1921–1988) coined this term to describe a collective, often unconscious mood or sensibility characteristic of a particular historical moment. Unlike ideology or official culture, a structure of feeling is implicit and manifests in everyday practices, art, and language before it is formally articulated or politically systematized. It conveys how people experience and feel the world—and often signals emerging social transformations. Artistic expressions are particularly significant in this regard, as they reveal such inarticulate sensibilities before they find conceptual form.

Against the backdrop of contemporary socio-ecological crises, these modes of spatial production acquire renewed urgency. Rethinking architectural practice requires not only technical innovation or regulatory reform but also a profound cultural transformation. It calls for greater generosity and an expanded sensibility capable of articulating new aesthetic and ethical paradigms—ones that embrace unplanned trajectories and cultivate conscious responsiveness to situational conditions.

In this light, mistakes and a cultivated tolerance for error can be understood as cultural indicators that record present socio-ecological realities—a contemporary structure of feeling. When approached with care, attention, and openness, mistakes become tools of possibility. They articulate a flawed yet deliberate aesth-ethical position: an architectural practice that finds relevance not in perfection, but in its capacity to recalibrate direction while moving off course.

1 https://www.tate.org.uk/art/art-terms/f/found-object (09.02.2026)

2 Alison and Peter Smithson, 'The "As Found" and the "Found"', 1990.

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4 Marta Nowak, "Architecture, Signs, and Social Values: In Conversation with Denise Scott Brown," 2013

Obscuri loci
The reclaimed cinema

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#

cinema hall, adaptive reuse, architectural typology, collective space, urban regeneration, architectural memory, rituality, 20th century architecture

Abstract

The cinema hall, understood as both a social space and an architectural device, represented one of the most significant building typologies of the twentieth century, contributing in a decisive way to the construction of collective urban life. Today, due to socio-economic, cultural, and technological transformations, many of these spaces are in conditions of abandonment or marginalisation, raising critical issues both at the urban scale and within the field of protection of twentieth-century architecture. This contribution investigates cinema halls as places charged with memory and collective rituality, yet lacking full recognition as heritage. The research proposes critical-transformative reuse as a mediating approach between restoration and adaptive reuse, capable of avoiding both musealisation and the erasure of spatial memory. Through a hybrid methodology, historical-critical and project-based, and the comparative analysis of both abandoned and reused case studies, the paper explores strategies for the recovery of cinema halls as urban devices and social catalysts. The aim is to restore centrality to these architectures as public places, capable of generating new forms of community within the contemporary city.

The Cinema Hall as a Twentieth-Century Architectural and Social Typology

The cinema hall, understood both as a social place and as an architectural work, can be counted among the building typologies that most strongly defined and animated the twentieth century. A point of reference for both metropolitan and more provincial communities, cinema halls today find themselves in a dangerous condition of oblivion and marginalisation, which entails critical issues both in the physical reality of the city and in the dimension of protection and patrimonialisation of twentieth-century architecture. From architectural typologies present in every urban project, and spaces of aggregation and social cohesion, cinemas have today, due to both socio-economic and historical reasons, been relegated to a marginal position: a luxury, a *nice-to-have*, to be included in urban projects no longer for the intrinsic capacity of these places to generate community, but rather for cultural ambitions or mere entertainment purposes. As already noted, this condition produces not only problems at the urban scale, generating voids within the urban fabric due to the abandonment of cinema halls, not only issues related to the transmission and enhancement of twentieth-century architecture, of which cinemas constitute a form of memory, but also economic problems linked to the

Figure 1: Cinema La Clef, Paris. Photo by Giovanni Manfolini, 2025.

decline of an entire entrepreneurial sector, namely cinema and projection halls. When combined with the critical condition of the urban voids generated by their abandonment, this process risks deteriorating entire urban areas, producing a cascading effect on both adjacent activities and everyday social life. Considering this, a series of questions naturally arise: can the cinema hall once again become a public space of value? What trajectories should research on this theme pursue? This article aims to address precisely these questions by identifying architectural design, architectural history, and the architectural artefact as epistemic tools inherent to the theme, with the intention of repositioning these places in a no-longer marginal role within urban reality, assigning them public functions capable of generating community.

Figure 2: Cinema Ambasciatori (interior), Rome. Photo by Giovanni Manfolini, 2025.

Historical Development and Crisis of the Cinema Hall

The cinema hall is probably one of the architectural typologies that best represents the history of twentieth-century architecture. Directly derived from nineteenth-century theatres, the cinema hall as we know it today emerged in the 1920s, with the advent of the first motion pictures. From their very genesis, these architectures fulfilled a dual, if not triple, function: first and foremost, as collective spaces, secondly as instruments of cultural transmission, and thirdly as places of entertainment. In Italy, this triple potential was first grasped by the Fascist regime, which began to exploit these spaces for propagandistic purposes. Indeed, many Italian cinema halls were constructed precisely during the Fascist dictatorship, which established institutions for the protection and financing of both cinema as a medium and cinema halls as architectural spaces, having recognised how this triple potential constituted a powerful auxiliary tool

Figure 3: Outdoor Cinema, Perugia. Photo by Giovanni Manfolini, 2020.

for mass control and propaganda. Nevertheless, cinema halls continued to be recognised as communal spaces and places of exchange in the decades that followed, both in Italy and abroad. In many urban and social housing projects that characterised the Italian architectural season of the 1960s and 1970s, spaces and architectures intended for collective use were conceived and included, specifically designed for film screenings and relational exchange.

Observing the Roman context, it becomes evident that many cinema halls currently in a state of abandonment are located within residential neighbourhoods developed in the post-war period. A paradigmatic example is the Cinema Airone, designed by Adalberto Libera and inserted within the dense San Giovanni district, demonstrating how such places were previously naturally conceived and programmed as integral components of urban design.

Figure 4: Cinema Ambasciatori, Rome. Photo by Giovanni Manfolini, 2025.

Cultural Centrality and Processes of Marginalisation

Twentieth-century literature likewise confirms the centrality of cinema halls in everyday life. From Pier Vittorio Tondelli to Italo Calvino, numerous intellectuals have addressed, explicitly, the cinema hall in their writings, describing it as an extraordinarily ordinary and quotidian place. It was during the 1980s, with the emergence of an increasingly individualistic social model, that cinema halls began to enter into crisis, both economically and as an architectural typology. Many of them, prior to definitive closure, were converted into second- or third-run cinemas, or into adult film theatres. Although destined for decline and subject to processes of social marginalisation, their intrinsic capacity to generate relationships remained strong, turning these spaces into sites of cruising and, consequently, clandestine encounters. In the early phase of globalisation, a further significant transformation occurred with the insertion of large

multiplex cinemas within shopping mall typologies. Conceived as indoor commercial and aggregative spaces, the inclusion of multiplex cinemas within their functional programmes, intended for mass distribution, once again confirms the indissoluble relationship between cinema halls, community life, and commercial activities. A final, and particularly severe, crisis for the cinema hall followed the COVID-19 emergency, which drastically limited moments of physical and collective sociality worldwide, thereby triggering yet another crisis for all those places traditionally devoted to social relations.

Research Framework and Methodological Approach

While in European academic contexts, such as the French one, architectural research on cinema halls has begun to be developed and systematised through doctoral theses and scholarly articles, the situation in Italy is markedly different. Although the topic has been activated repeatedly across different periods, the publications and doctoral theses currently available remain discontinuous and unsystematised, addressing the theme almost exclusively through historical-architectural or conservation-oriented perspectives. At present, there are no scientific publications that analyse this subject by following trajectories of architectural recovery capable of considering design as an epistemic tool, while simultaneously reading cinema halls as a typological memory of the twentieth century. The research therefore moves along a dual trajectory, converging towards a single outcome: the first is project-based, the second historical-architectural. It is not possible to conceive architectural design as detached from the history of architecture itself, precisely because architecture, as a human expression, is the only discipline capable of translating its historical context into space. Architectural design thus becomes the object of analysis which, if read critically through both historical and design-based codifications, is capable of providing answers regarding the desired outcomes and of framing the problem within its reference context. Moreover, when analysing a typology that constitutes a memory of recent history, a combined project-based and historical approach proves to be a fundamental and necessary condition. From a methodological standpoint, the research adopts a hybrid structure: on the one hand, a historical-critical dimension; on the other, a design-based dimension, thus bringing multiple design case studies into comparison and analysis. At this stage, the possibility of employing authorial design as an analytical and epistemic tool within a case study is not excluded, an option that remains to be evaluated.

Case Study Selection Criteria

The selected case studies are divided into two macro-categories. The first category includes case studies, currently limited to the Italian context, that have not yet undergone any form of recovery, while the second category comprises case studies that have already been reused. The

Figure 5: Cinema Flora, Florence. Photo by Giovanni Manfolini, 2025.

cinemas belonging to the first category were selected according to four criteria: absence of heritage protection, an age equal to or less than seventy years, a precarious state of conservation, and architectural features of particular interest. All the selected case studies share a common condition: being in a state of danger. Indeed, as they are not protected by Italian heritage regulations, are less than seventy years old (and therefore not automatically eligible for protection), and are in a precarious state of conservation, they risk demolition or inappropriate conversion, leading to the definitive loss of both the architectural work as a cultural asset and its potential role as an urban polarising element. The cinemas belonging to the second category, those that have already undergone a recovery process and where design has therefore already intervened, were selected on the basis of three criteria: first, recovery projects that maintain the original function as a cinema hall; second, recovery projects that instead introduce a new function; and third, projects of critical-transformative recovery, a mediating category between restoration and adaptive reuse, which considers, within the aesthetic-perceptual dimension of the project, the "ghosts" of the past lives of the recovered object.

Figure 6: Cinema Corso, Spoleto, Photo by Giovanni Manfolini, 2023.

Trans-Scalar Analytical Approach

The analytical approach to the case studies will follow a trans-scalar trajectory. Analyses will be conducted at the architectural scale (internal spatiality and atmospheres, the relationship between plan and section, and any technological systems), at the urban scale (accessibility, thresholds, and the creation of urban flows; the relationship with the surrounding context; the capacity, or potential capacity, to regenerate adjacent urban areas), and at the territorial scale (the urban areas in which cinema halls are located, the creation of a territorial network of reused cinemas, and functional diversification in relation to the needs of broader urban macro-areas). This analytical approach will enable a comprehensive understanding, and subsequent recovery, of cinema halls, maximising their collective and cultural potential.

Research Tools and Trajectories

The research makes use of a plurality of investigative tools: the digital platforms of the Italian Ministry of Cultural Heritage; archival sources of various kinds, graphic, photographic, and textual; a reasoned bibliographic corpus; interpretative diagrams; a photographic apparatus; and, as previously stated, a possible design hypothesis. It is therefore possible to state that the research moves along four distinct trajectories, which can be considered as organisational parameters of the research itself: a temporal trajectory, a spatial trajectory, a typological trajectory, and a social trajectory.

The first trajectory, the temporal one, allows the research to investigate the history of the cinema hall itself and, consequently, the transformations it has undergone over time, from its emergence at the beginning of the twentieth century to the contemporary condition, thus framing the problem within a historical dimension. The second trajectory, the spatial one, examines the object of research in its purely spatial dimension, adopting a trans-scalar approach. Case studies will be analysed both at the architectural scale, at the urban scale, and at the territorial scale, in order to move beyond the consideration of the cinema hall as an isolated *unicum* capable of generating spatial relationships across scales, and instead to systematise these architectures in a solid manner within their reference contexts. The third trajectory, the typological one, analyses the case studies from the perspective of recovery. Cinema halls can thus be critically transformed through an in-depth study based on the compatibility between function, space, and the memory of the place. Finally, the last trajectory, the social trajectory, investigates the cinema hall as a social place, that is, as a space inherently capable, due to its spatial nature, of generating aggregation and community, to the extent that it became, within the everyday life of twentieth-century society, a place of secular ritual.

Contemporary Relevance and Future Perspectives

It is therefore legitimate to ask whether cinema halls, as an architectural typology, still have a role and a function within everyday contemporary society. The research also originates from this question. As extensively illustrated, the cinema hall is intrinsically linked to a dimension of aggregation and cultural transmission, largely due to its architectural and spatial characteristics. The strong public function embodied by these places has always constituted the vital force of cinema halls themselves, precisely because society once possessed a much stronger and more structured public and collective dimension. With the shift in social paradigms, the emergence of an increasingly individualised society, and the occurrence of health-related events that have undermined places of relational exchange, the need for collective spaces has gradually diminished, and, consequently, so has the presence of cinema halls within urban fabrics. Is a return to the original cinematic function within the cinema hall

therefore desirable? Clearly, imagining the recovery of these spaces without a change in use would appear utopian and anachronistic, as it would fail to take into account the aforementioned shifts in social paradigms. Nevertheless, it is necessary to maintain coherence between any new uses and the social and cultural character of these places. This principle should therefore guide future design choices when defining new functions for cinema halls. The introduction of an inappropriate function, or one that is not consistent with the typological characteristics and intrinsic aggregative potential of cinema halls, would not only result in a serious historical-architectural, and thus cultural, loss, but would also fail to address the problems affecting the urban spaces surrounding these sites. In post-COVID society, spaces dedicated to collective functions are more necessary than ever, precisely in response to the need of the contemporary post-globalised society to feel part of a community defined through urban space.

Conclusion

The research therefore aims to demonstrate how cinema halls, places of secular ritual in the everyday life of the twentieth century and monuments of twentieth-century architecture themselves, are both endangered and still potentially capable of acting as social catalysts within the contemporary city. One of the objectives is also to raise awareness regarding the study of twentieth-century architectures not so much as relics of their period of origin, but rather as spatial units that, while already undergoing a rapid process of historicisation, nonetheless, due to their chronological proximity to everyday life, their frequent insertion within urban fragments that are still active and vibrant, and their typological and constructive features that remain fully usable, require a renewed historical-critical approach. Such an approach should be capable of recognising their social value and of translating and codifying the impact they had in shaping twentieth-century society, a societal model to which we still remain closely connected. This historical-critical investigation must be strongly accompanied by a design-based study, in order to define future perspectives and trajectories capable, as far as possible, of minimising inappropriate or incomplete recovery projects, particularly those lacking a meaningful relationship with the urban context within which cinema halls are embedded.

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From Hidden Modernism to Hidden Architecture

Testing a Rhizomatic Mapping–Project along the Douro Riverbanks

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heritage, hidden modernism, informal construction

Abstract

The heritage complex of the Picote Hydroelectric Dam and its supporting village, Barrocal do

Douro—known in architectural discourse as Hidden Modernism—was conceived as an “ideal city” during the dam’s construction between 1953 and 1957, designed to support the daily lives of thousands of workers.

In parallel, spontaneous and precarious constructions emerged—primarily dwellings partially

embedded in rocky cliffs and often roofed with cement paper bags. Remnants of these informal structures still coexist with the designed “ideal city,” revealing what may be described as the hidden behind Hidden Modernism.

Lines of flight are adopted as analytical and critical tools to explore this transforming landscape—its aesthetic, social, and ecological layers—and to preserve memory through the creation of visual and written essays that evolve into a map-project for design interventions. Both mapping and process operate in a rhizomatic manner, crossing multiplicities anchored in historical and documentary analysis, site visits, testimonials, affective and aesthetic interpretations, and modernist architectural heritage theory.

Introduction: A Rhizomatic Site and Process

During the critical analysis of the Barrocal do Douro case study—developed through a Research by Design methodology in order to promote design interventions on the site — it became evident that both the site and the research process are inherently rhizomatic. Barrocal do Douro can be interpreted through the notion of 'lines of flight' from Deleuze and Guattari (2009): processes of deterritorialization and reterritorialization that organize space, context, and meaning across multiple systems. Within just five years, the site transformed from a sparsely occupied pastoral landscape into a projected village designed for over 5,000 inhabitants.

The dam construction site attracted a nomadic workforce moving between hydroelectric projects. This population far exceeded the planned capacity of the city, leading to the flourishing of improvised dwellings. Following the dam’s completion in 1958, a rupture occurred: most workers relocated, temporary structures were dismantled, and the majority of spontaneous constructions were demolished (Martins, 2018). Today, the site is largely uninhabited due to remote digital operations, leaving behind a mix of occupied houses, abandoned temporary buildings, and significant modernist heritage.

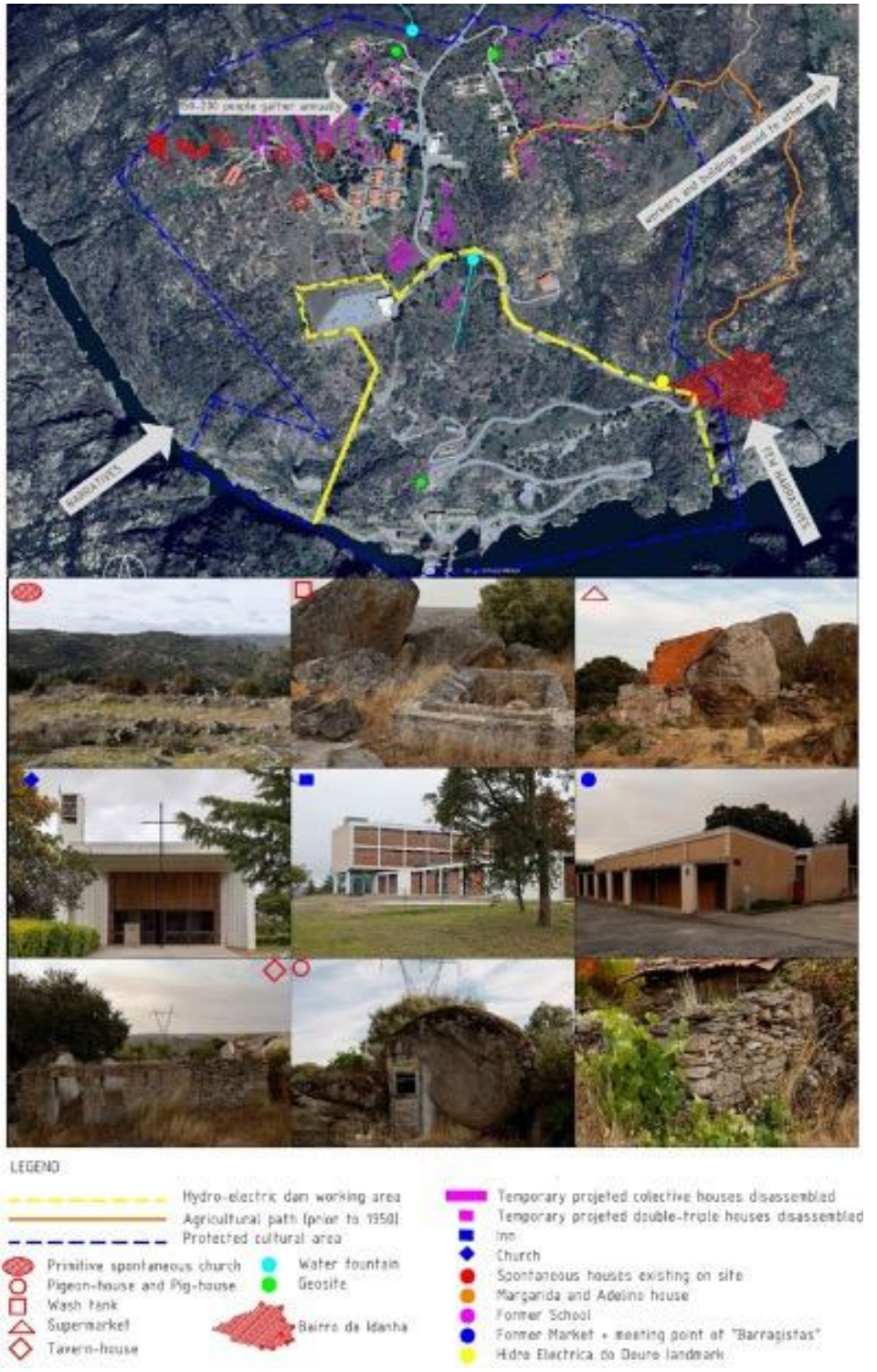

Figure 1: Map of a rhizomatic reading of the territory. Graphic by the author, 2026. Photos by Duarte Belo, 2026.

During the survey, a second spontaneous settlement was identified: Bairro da Idanha (or *Bairro dos Sacos de Papel*). Documented in a 1956 report (Pequito, 2015), this hidden settlement survived due to its peripheral location from construction site and Hidroeléctrica do Douro properties and remains a cohesive example of unplanned dwelling. The site thus represents a fluid system where highly organized and architectural designed spaces coexist with temporary non projected shelters and nomadic occupations.

Furthermore, the site is integrated within the Douro International Natural Park (designated in 1998), a protected area renowned for its exceptional natural and cultural heritage. The territory presents a complex, multi-layered environment characterized by low population density, high avifaunal diversity—including several cliff-breeding species—and dramatic, high-value aesthetic landscapes that foster contemplation.

In this context, the concept of a rhizomatic map allows for a critical and analytical equalization of the planned and the unplanned, transitory and permanent, crossing the physical territory with narratives and testimonies, flows of people, personal desires, in a protected natural landscape setting, highlighting in which spaces to intervene and how to do so, thus supporting design decisions.

Methodology: Assemblage and Cartography

Methodologically, the research unfolds in stages, crossing fixed objectives with visual essays to construct a rhizomatic reading of the territory, treating modernist heritage and unprojected (spontaneous) spaces with equal analytical value. This process functions as an assemblage—a collection of multiplicities anchored in historical analysis, site visits, and affective interpretations. Two forces operate simultaneously:

Strata: Layers contributing to the formation of a subject.

Body without Organs: A concept used to disassemble the 'site-machine', intersecting it with flows moving at different speeds.

In addition to its cultural and modernistic architectural significance, the site boasts complex granite geology and geomorphology and given the unusual morphology of the Douro canyon, characterized by large crags and "arribas" (Rodrigues, Dias and Alves, 2009), cartographic analysis is essential. This includes interpreting geology, vegetation, and systems of views, alongside a detailed topographic survey of Bairro da Idanha using EDP archives [1].

Site Visits and Testimonials

Five site visits were conducted between 2024 and 2026, including participation in the 18th *Encontro de Barragistas do Douro*. This event involves descendants of workers who maintain a shared sense of belonging (Pequito, 2015). Testimonials from siblings Adelino (b. 1944) and

Margarida (b. 1947) provided insight into daily life in the 1950s. They identified remnants of temporary structures—a market, tavern, and washhouse—and described "hollow rock" shelters used as temporary accommodation. Notably, despite living in Barrocal do Douro, they possessed little knowledge of the peripheral Bairro da Idanha.

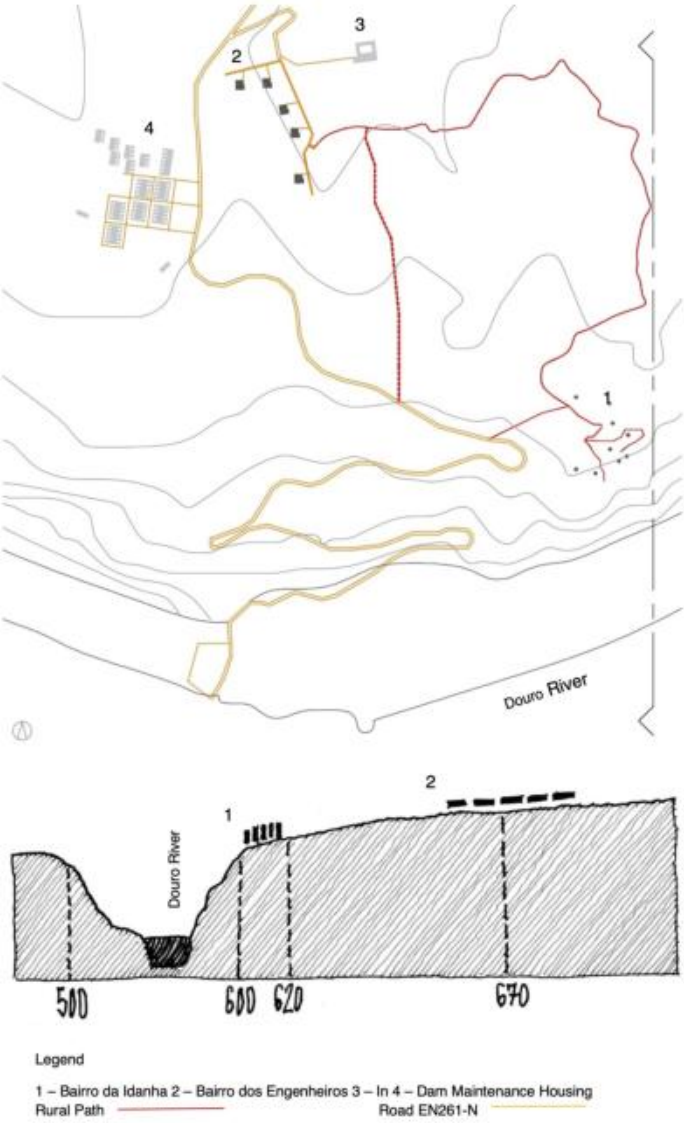

Figure 2: Plan and Section of existing housing, paths and roads according to topography in Barrocal do Douro. Graphic by the author, 2026.

Barrocal do Douro and the "Ideal City"

Before construction, the site — known as Barrocal due to its granite boulders (barrocas [2]) — was sparsely occupied. Hidroeléctrica do Douro appropriated the land, employing architects [3]who designed an "ideal city" inspired by Brazilian Modernism and the work of Le Corbusier (Fernandes, 2015). The project included high-standard housing, a cinema, an inn, a church, a market, a school, a nursing and medical office, sport facilities. However, recent studies reveal a significant discrepancy: while the village was designed for 1,100 workers, census data suggests between 4,000 and 6,000 people lived on-site at the peak of construction (Martins, 2018). This gap explains the proliferation of informal structures that today coexist with the modernist nucleus.

Bairro dos Engenheiros and Bairro da Idanha

Situated on an elevated topography that commands unobstructed, individualised views of the Barrocal do Douro facilities, the five houses of Bairro dos Engenheiros are defined by horizontal roofs, pure volumes, and the use of *pilotis*. As Fernandes (2015) notes, these elements "constitute a plastic expression of the modern language". The surrounding gardens were designed without physical boundaries, eliminating barriers between the domestic sphere and nature. These gardens were designed without boundaries, using native species merging nature with the dwellings. A pioneer in the region, the complex introduced piped water and sewage systems long before the neighbouring villages. After two decades of disuse, the neighbourhood underwent a full renovation in 2023.

In contrast, Bairro da Idanha—named after a community from Idanha-a-Nova established during the dam's construction—occupies approximately 5,000 m² on a precarious, liminal platform overlooking the Douro River. Located outside the official property of *Hidroeléctrica do Douro*, it is accessible via the EN221–6 and a pedestrian agricultural path that predates the dam. The settlement consists of the ruins of at least eleven dwellings, primarily built against rocky outcrops using dry stone and originally roofed with cement paper bags. One ancient agricultural shelter stands out due to its higher elevation, rock-cement walls, and probable ceramic roofing.

Although categorised as a type of "Semi-natural Shelter" (Oliveira, Galhano and Pereira, 1994), Bairro da Idanha gains theoretical relevance when placed in dialogue with Bairro dos Engenheiros, as both represent homogeneous yet contrasting residential clusters (Fig. 3). Currently in a state of disappearance and largely devoid of formal narratives, the site invites landscape and architectural intervention. This raises a critical preservation dilemma: should it be conserved as a memento of its temporary essence, or reinforced? If the latter, should cement—the symbolic material of the dam—be used, or an invisible alternative to ensure its

perenniality? Near the EN221–6, the agricultural shelter suggests an architectural essay on *Hidden-therio*: a minimal space serving as a shelter, birdwatching post, or a site for contemplation.

	BAIRRO DA IDANHA	BAIRRO DOS ENGENHEIROS
TYPOLOGY	SEMI-NATURAL TEMPORARY SHELTERS	UNIFAMILAR DWELLINGS WITH GARDENS
LOCATION	NEAR CONSTRUCTION SITE	LOCATED AT A HIGH LEVEL
	ENCLOSED BETWEEN RIVER, ROAD, TOPOGRAPHY	AWAY FROM THE CONSTRUCTION SITE
	PEDESTRIAN ACCESS	GOOD CAR AND PEDESTRIAN ACCESS
TYPE OF DESIGN	NON PROJECTED, SPONTANEOUS	CAREFULLY DESIGNED BY A TEAM OF ARCHITECTS AND ENGINEERS
DIMENSIONS	APPROX. 7 m2 AND 2.5 m HIGH	APPROX. 336 m2 AND 7m HIGH
MATERIALS/ SOLUTIONS	LEFT AGAINST ROCKS	STONE-CLAD WALLS - GROUND FLOOR + MASONRY - FIRST FLOOR
	FLOOR IS THE EXISTING GROUND	GROUND FLOOR WITH MAID'S WALL AND GARAGE
	CEMENT BAGS FROM THE CONSTRUCTION SITE TO BE USED AS ROOFING	FLAT ROOF
	WALLS MADE OF DRY STONE	VERY COMFORTABLE BALCONIES AND LARGE GLAZED AREAS
	1 DOOR	PILOTIS
	PANELS USING INTERIOR PARTITIONS	
	FIRE INSIDE	
SANITATION	NO	FIRST DWELLINGS WITH SANITITATION
TYPE OF USE	TEMPORARY / OCCASIONAL HOUSING	PERMANENT HOUSING
	UP TO 6 YEARS - DURATION OF THE DAM CONSTRUCTION	FOR MAINTENANCE OF THE HYDROELECTRIC POWER PLANT
USERS	DAM WORKERS FROM IDANHA-A-NOVA	ENGINEERS ASSOCIATED WITH MODERNITY AND TECHNOLOGY
	CULTURAL PROXIMITY	CORPORATISM
	MUTUAL AID	
PARALLELS	SOLUTION EQUIVALENT TO CAHRAPATELO DAM	NATIONAL AND INTERNATIONAL PARALLELISMS
		INSPIRED BY LE CORBUSIER AND BRAZILIAN MODERNISM
PHOTOS	Photo by Pereira dos Santos, 1956	Photos by Duarte Belo, 2026

Figure 3: Dialogue between Bairro da Idanha and Bairro dos Engenheiros
Graphic by the author, 2026.

Intermezzo Path

The pre-dam path operates as an intermezzo, as articulated by Deleuze and Guattari (2009, p. 25): "A rhizome does not begin and does not end;

it is always in the middle, between things, inter-being, intermezzo". Rather than a linear connector, the path is a relational field unfolding between Bairro dos Engenheiros (670–680m) and Bairro da Idanha (610–620m). It retraces ancestral pastoral routes, promoting the practice of walking as an aesthetic act and a form of anthropo-geographical connection (Careri, 2017).

Near Bairro dos Engenheiros, a quarry that once supplied stone for the construction site emerges as a "kink", a concept used by Ingold (2013) to reveal the process parallel to the result: "Builders, in practice if not in principle, inhabit this kink". This site operates as a moment of disassembly, exposing the material substrata typically rendered invisible within infrastructural narratives. The 1,7 km walk offers a scenic experience, rich in diverse avifauna and flora.

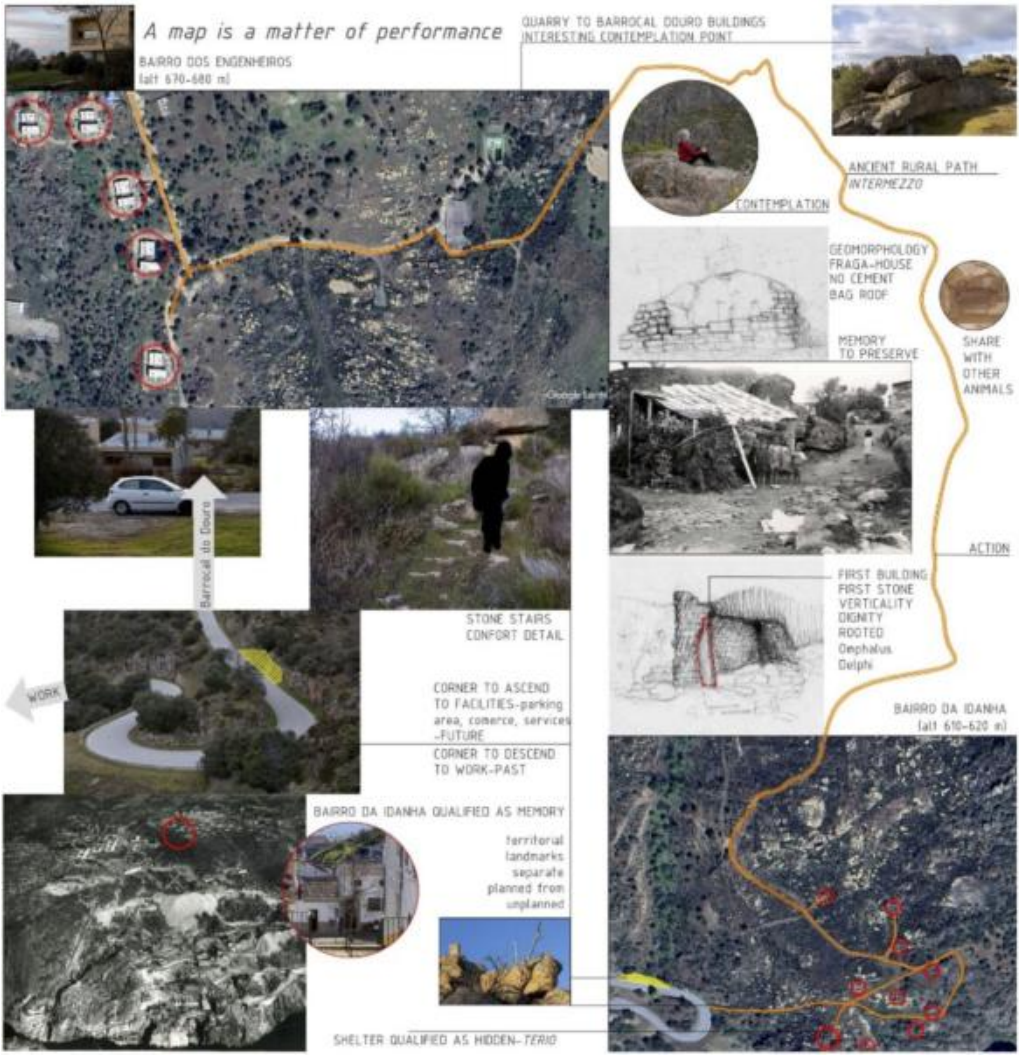

Figure 4: Map of the Intermezzo Path. Graphic by the author, 2026.

As the descent progresses, the first encounter with Bairro da Idanha is marked by a stone arch—an *omphalos* anchoring the site and evoking a convergence between past, present, and future. Here, interventions are

tested not just for their cultural value, but for their capacity to operate as an intermezzo. These emerge from an analytical comparison between modernist housing and precarious dwellings, producing a map that functions simultaneously as analysis and project (Fig. 4).

Conclusion

Bairro da Idanha foregrounds questions of heritage that exceed the material artefact, extending into memory and lived experience. Heritage is approached here as a relational condition, valued in critical dialogue with the modernist legacy of Bairro dos Engenheiros. This dialogue is articulated through the intermezzo path, an in-between device that exposes the "Neighborhood of Paper Bags"—a spontaneous typology concealed within dominant narratives.

The notions of *strata* and the *Body without Organs* (Deleuze and Guattari, 2009) serve as open-ended processes for reinterpreting the territory as a field of forces rather than a bounded entity. This design intervention incorporates local contributions; during the *Encontros da Primavera* in June 2026, a collective performative action will take place at Bairro da Idanha. By reenacting the communal gesture of erecting a roof made of cement bags, the action will serve as both documentation and a device for reactivating collective memory.

1 Former *Hidroeléctrica do Douro* company

2 Derived from the Latin *verruca*, meaning wart or protuberance

3 João Archer de Carvalho (1928-2023), Rogério Ramos (1927-1976) and Manuel Nunes de Almeida (1924-2014)

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Neglected Walls Contact Zones of Architectural Matter and Spontaneous Vegetation

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Hamburg HafenCity, socio-ecological urban environments

Abstract

This paper investigates neglected urban walls as socio-ecological formations that challenge conventional architectural conceptions of stability, authorship, and control. Focusing on three case studies in Hamburg, it examines how built matter, spontaneous vegetation, and professional practices co-constitute one another across uneven temporalities and spatial scales. Rather than treating walls as static artefacts, the research traces trajectories of material transformation, biotic inhabitation, and institutional negotiation shaped by built matter, plant agency, and regulatory frameworks. Methodologically, the study combines multimodal site analysis, experimental prototyping, and anthropological inquiry to render visible interactions that typically remain marginal to architectural knowledge. Drawing on posthuman and relational theories, the paper foregrounds indeterminacy as a productive condition of urban environments and proposes an architectural mode of inquiry attentive to socio-ecological relationality. The contribution lies in articulating transferable methodological and conceptual tools for design research that engages with biodiversity, material agency, and uncertainty in contemporary urban transformation.

Introduction—Spatiotemporal Relations of Built Matter and the Environment

When looking out of my office window, I can see the southern quay of Hamburg's Baakenhafen, a water body shaped in the late nineteenth century to integrate the city of Hamburg into a rapidly growing international trade network. This artificially filled and structurally secured strip of land, now surrounded by HafenCity—Europe's largest inner-city development project—has received considerable attention in recent months. The reason lies in plans, now contractually agreed, to build Hamburg's new State Opera House at this location, financed and initiated by the billionaire and philanthropist Klaus-Michael Kühne. The project has been met with substantial critique, as Kühne, who built his enormous wealth through international trade, refuses to structurally investigate the involvement of his inherited family business in crimes committed during the Nazi regime (Matthies, 2025).

Beyond the whitewashing of a problematic corporate history, the new opera house threatens to overwrite a multitude of further material and historical layers closely bound to this site. It was precisely from this quay that German soldiers departed to perpetrate the first genocide of the twentieth century against the Ovaherero and the Nama in what is now Namibia (Todzi, 2024).

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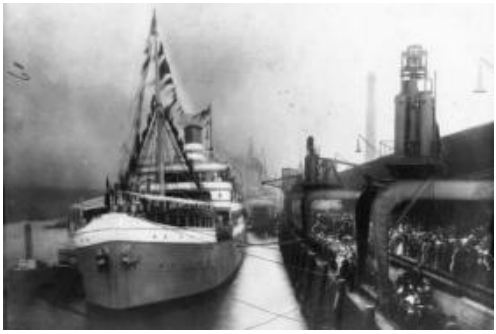

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Figure 1: Neglected Quay wall at Hamburg´s Baakenhafen: Photo by the author, 2025.

Figure 2: Departure of german troops to Deutsch-Südwestafrika from Peterskai in 1904. Photo © Bundesarchiv, Bild 146-2008-0180 / Spenker, Franz, licensed under CC BY 2.0

Figure 3: Recent photograph of the Peterskai, taken from the opposite direction. Photo by the author, 2025.

At the same time, as one of the last historic quay walls, the so-called Peterskai represents a unique socio-ecological monument—a stratified materialisation of reciprocally influencing anthropogenic and natural forces inscribed across different temporalities and scales.

As part of a large network of dikes, weirs, canals, and fairways, the Peterskai contributes to extensive hydrodynamic changes in the River Elbe, resulting in an increase in tidal range of almost two metres over the past century (Fickert and Strotmann, 2007). When observing the quay wall during low tide, it becomes clearly recognisable how the twice-daily fluctuation of the water level has inscribed itself into the granite and brick surface, producing a spectrum of accumulated sediment, erosion, and other material traces. Simultaneously, the slight inclination of the wall, its composition of granite blocks and lime mortar, and its regular irrigation by brackish water have enabled the development of a valuable and functioning ecosystem (Haacks, Heisterkamp and Schulze, 2025)—one that is simultaneously highly specific and a confluence of global traces. Endangered 'native' plant species, such as wall rue or hart's-tongue fern, have established habitats here. They coexist with migratory species such as narrow-leaved ragwort, originally native to South Africa, which have travelled along global trade routes. While ferns are restricted to existing crevices, other plant species possess the capacity to chemically or physically transform the built matter of walls—paradoxically erasing initial material configurations while adding unforeseen complexity (Parry, 2019) —what Simmel referred to as the 'vitality of opposing tendencies'(Simmel and Meyer, 2008).

Research Interest

In the current moment of superimposed crises, the linear trajectories through which architects and planners once imagined the modern city have become misaligned (Grubbauer, 2024). Urban areas, in particular, are disproportionately affected by the unexpected consequences of climate change, calling for urgent action that must navigate unforeseeable paths in the evolution of the socio-ecological assemblages constituting living environments for humans and others.

This doctoral research seeks to engage neglected walls—represented through three specific case studies—as epistemic tools, challenging established architectural ontology and practice in the context of the global biodiversity crisis. Following a recursive methodological structure, the research addresses three interrelated domains of neglected walls:

The built matter and the affordances it creates, enabling vegetative growth to inhabit walls.

The plant constellations inhabiting neglected walls.

Cultural negotiations and practices addressing the selected walls.

Tracing the trajectories of the observed walls and the underlying environmental and anthropogenic influences allows awareness of conditioning skills, practices, and concepts—across time and scale—that are frequently overlooked when adopting a static, singular perspective on the built

environment. By untying this dense network of interwoven threads, the research does not aim to reconcile architecture and ecology, but rather to render their frictions productive. Through the observation of three neglected walls, it seeks to explore how architecture might work with indeterminacy and openness, and thereby contribute to the unfolding of non-human agency and ecological mediation in times of biodiversity crisis.

Methodology

The research observes processes of hybridisation through what Donna Haraway has termed a 'contact perspective.' Building on the linguistic concept of the 'contact zone,' this approach focuses on how subjects are constituted in relation to one another (Haraway, 2008). While remaining attentive to processes of spatial displacement, emphasis is placed on the diversity emerging from unintended socio-ecological encounters, rendering non-human actors—such as vegetation and building materials—active agents in the co-constitution of unforeseen spatial trajectories.[i]

1: Hamburg's harbour, one of the most intensively altered areas of the city, also hosts the greatest diversity of plant species compared with other quadrants

Yet how can influences and traces unfolding across contradictory scalar and temporal dimensions be followed and traced? Drawings, as the conventional epistemic devices of architecture, pose clear limitations when attempting to depict buildings as dynamic assemblages. What could—paraphrasing Latour and Yaneva—constitute the equivalent of Marey's photographic gun: an epistemic device capable of visualising neglected walls as a series of indeterminate transformations (Latour and Yaneva, 2008)?

Research Design

In line with the three research domains outlined above, a methodological structure has been developed that intentionally positions the project at the intersection of architecture, landscape studies, and anthropology—based on the assumption that none of these domains can be analysed in isolation without destabilising the whole. Each discipline contributes a specific set of partial and necessarily insufficient methods. The research design seeks to operationalise these methodological sets in a reciprocal, non-hierarchical manner, allowing them to support and recalibrate one another, and enabling global reconfiguration in response to local change. This constellation, which intentionally remains open to unforeseen trajectories, translates into three specific work packages.

WP1: Multimodal Site Analysis

Work Package 1 develops a detailed understanding of the material-ecological composition of the investigated case studies through methods

drawn from landscape studies. Mappings of plant species and their relative abundance document existing plant constellations and their spatial distribution. These mappings are overlaid with photogrammetric models of the built structures, allowing dependencies between material composition, surface condition, and structural configuration to be examined across scales.

Based on the generated models, environmental simulations are employed to investigate site-specific conditions—such as exposure, moisture, and microclimatic variation—that contribute to the establishment and persistence of spontaneous vegetation. Visual methods addressing the architectural scale complement these analyses by situating material-biotic relations within broader spatial and constructive logics.

The work package remains methodologically open and responsive, as insights gained through interviews and, where possible, observations of built environment professionals[ii] inform both the focus of analysis and the interpretation of findings. Within the reciprocal research structure, Work Package 1 establishes an empirical basis that not only supports subsequent experimentation, but is itself continuously refined through feedback from the other work packages.

WP2: Experimental Prototypes

Work Package 2 is rooted in architectural design and explores the mutual dependency of built matter and vegetation through experimental prototypes that reproduce and selectively reconfigure conditions observed in the case studies. Informed by the empirical findings of Work Package 1, the prototypes draw on documented plant constellations, material compositions, and spatial configurations identified as enabling spontaneous biotic inhabitation. Conceived as composite assemblies rather than controlled experiments, they allow material properties, surface conditions, and vegetative growth to interact under constrained yet indeterminate conditions.

The prototypes investigate how architectural matter and vegetation co-constitute one another over time, producing material trajectories that resist full anticipation. Vegetation is approached not as disruptive, but as an active agent shaping processes of weathering, porosity, and material transformation. Prototyping thus probes thresholds of adaptability and conflict between architectural and biotic agencies, rather than aiming for optimisation or resolution.

Insights from Work Package 3 regarding the temporal evolution of observed walls and shifting professional framings further inform the design and interpretation of the prototypes. Within a reciprocal methodological structure, Work Package 2 both builds upon and feeds back into the empirical and interpretative work of the other work packages, contributing to an understanding of neglected walls as dynamic, co-produced formations with fundamentally open trajectories.

Figure 4: Asplenium ruta-muraria or Wall rue, a red-listed fern species growing on a retaining wall of the Alster canals, a protected cultural monument. Photo by the author, 2025.

WP3: Conceptual Analysis and Refiguration

Work Package 3 draws on methods from anthropology to analyse cultural practices and framings that shape the perception, regulation, and transformation of neglected walls across past and present. Archival research and policy analysis are combined with ethnographic fieldwork to examine how the investigated sites are described, evaluated, and acted upon by municipal authorities and built environment professionals, including monument preservation agencies, environmental departments, and biological experts.

The selected case studies exhibit markedly different degrees of institutional attention. While two sites remain largely unnoticed and unmanaged, the embankment walls of the Alster canals are protected as historic monuments and have recently undergone renovation processes involving environmental authorities and heritage regulations. This contrast enables a comparative analysis of how architectural and ecological conditions are interpreted within different institutional frameworks and translated into distinct courses of action.

The work package aims to identify intersecting value regimes, terminologies, legal implications, and constructive practices as they are enacted in response to the material, ecological, and historical characteristics of the sites. These normative, processual, and instrumental framings are analysed in relation to the empirical and experimental insights generated

in Work Packages 1 and 2. Together, they inform a critical reorientation of architectural practice that remains attentive to indeterminacy, socio-ecological relationality, and the shifting agency of human and non-human actors across scales.

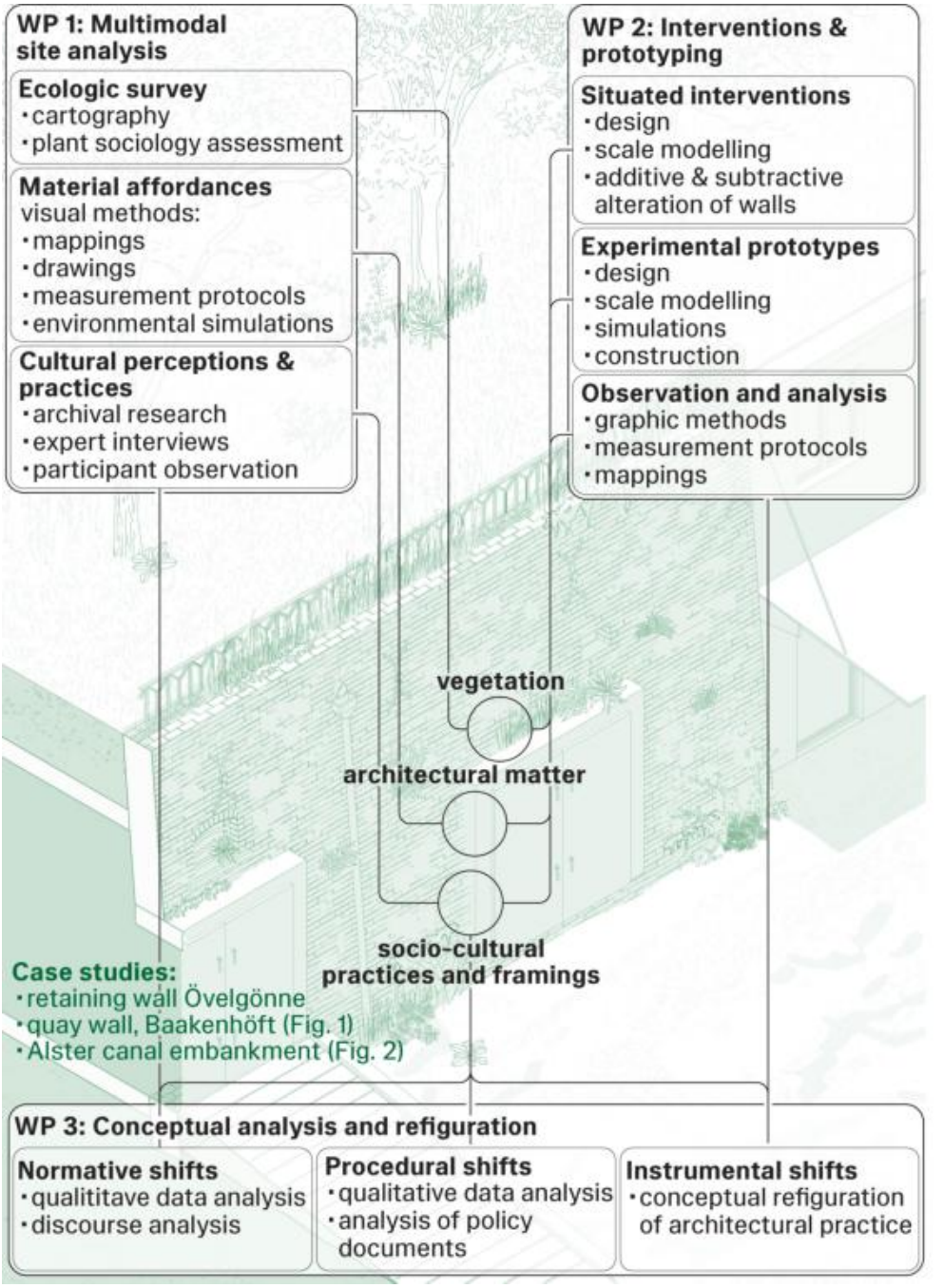

Figure 5: Research design. Graphic by the author, 2026.

Conclusion

Rather than stabilising neglected walls as a fixed object of inquiry, the research traces trajectories of material transformation, biotic inhabitation, and professional negotiation as they unfold across uneven temporalities and spatial scales. By attending to the reciprocal entanglement of architectural matter, spontaneous vegetation, and cultural framings, the research foregrounds indeterminacy not as a deficit to be resolved, but as a constitutive condition of socio-ecological urban environments. Trajectories are thus understood as emergent and situated, shaped by material resistance, biotic agency, and institutional practices that continuously redirect both the sites themselves and the research process. The expected contribution lies in articulating a mode of architectural inquiry capable of engaging with such complexity through responsive representation, experimental intervention, and critical reflection, offering transferable methodological impulses for design-driven research that operates within the uncertainties of urban transformation.

1 Hamburg's harbour, one of the most intensively altered areas of the city, also hosts the greatest diversity of plant species compared with other quadrants

2 I define 'built environment professionals' as all professional actors involved in the evaluation, negotiation, construction, or demolition of urban space, and who therefore hold agency within the domains of governance, planning, and execution.

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A Tectonic Study on Wool

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regenerative architecture, wool, design research, sensory ethnography

Abstract

This visual essay examines how Norwegian wool can serve as an active agent in regenerative architecture. Using a practice-based research-*through*-design approach, combined with research *for* and *about* design, the project develops artefacts ranging from models to full-scale demonstrators, which are studied through sensory ethnography and a reflective field diary. A series of architectural experiments—where wool is joined, layered, and exposed—reframes questions of comfort and care. The essay argues that wool's cultural significance, local origin, and ecological properties make it a promising material for regenerative architecture. It proposes a tectonic approach to membrane, framework, and technical layer for exploring wool in architecture. Furthermore, it shows how integrating sensory inquiry with research-through-design can surface embodied knowledge about regenerative materials and support attentive, circular practices.

Figure 1: In Norway, most sheep graze freely in the mountains or forests. Image by Author.

Wool between Landscape and Building

The story of this research does not begin in an architecture studio. It begins in the mountains. Late summer. The sheep are gathered, and their wool is shorn in fast, practised movements. Piles of raw, greasy fleece build up on the ground: warm, tangled, full of lanolin, earth, and the memory of weather. Most of the white wool is packed and sent to a wool station for sorting (Berg and Klepp, 2025). However, more diverse fibres are often discarded, burned, buried, or thrown into the sea, seen as a by-product of meat rather than as a resource (Klepp et al., 2019).

For a country with a strong wool tradition, this underuse is hard to ignore. It does not align with how we like to talk about circularity and regenerative design. This project grows out of that tension. It asks what happens when we treat Norwegian wool not as leftover but as a starting point for architecture. Image by Author.

Research as Making and Listening

The project is built on doing. The work is structured as a practice-based investigation. It grows out of a loop of drawing, making, and looking back at what has been done. I start with wool in my hands and see what happens. Each artefact—a sketch, a model, a prototype, a full-scale demonstrator—is envisioned as an embodied question: What can wool do here? How does it behave? How does it feel?

I work within a three-part design research framework (Frayling, 1993):

- **Research for Design** means reading and gathering what is already known and done about wool: its technical performance, environmental properties, and how it is processed. This includes work on moisture regulation, non-flammability, and how the fibre can act as fertiliser at the end of its life (IWTO, 2020).
- **Research through Design** happens in the studio and on site, where I draw, build models, and make demonstrator structures that test wool in different tectonic roles; weaved, stacked, clamped, framed, or left loose.
- **Research about Design** examines how others experience the artefacts, through observation, conversation, and a reflective field diary.

Together, these strands form a methodological triangulation (Denzin and Lincoln, 2011), in which knowledge grows from moving back and forth among material experimentation, theory, reflection, and lived experience.

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Figure 2: Freshly sheared wool from the sheep.

Figure 3: Model study of exterior cladding in 1:10 scale

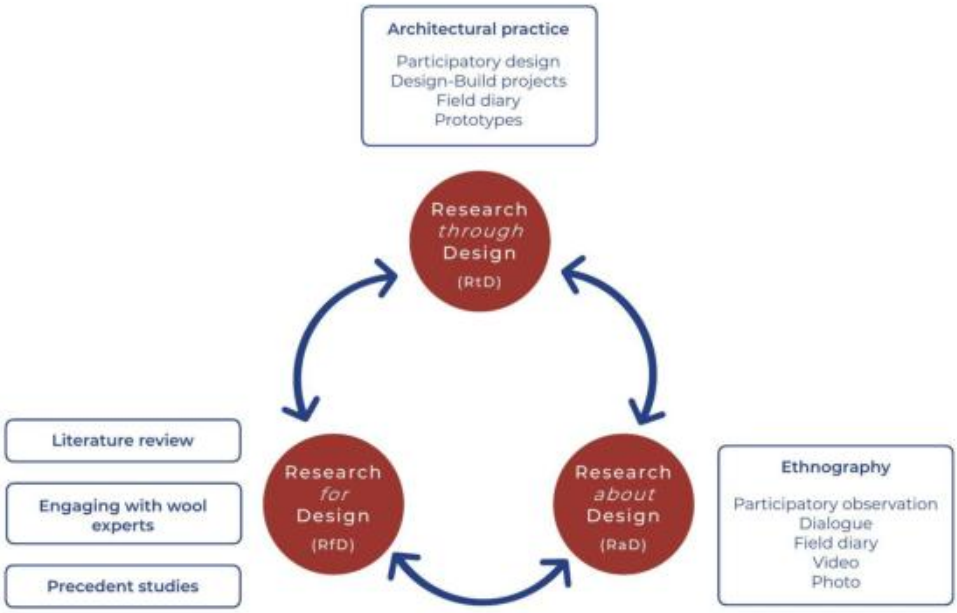

Figure 4: Methodological triangulation of the design research exploring wool in buildings. Image by Author.

A Tectonic Study on Wool

This study looks closely at how wool meets other materials: in knots and seams, at the edges of walls and roofs, in the small details you feel when you run your hand along a surface. A tectonic perspective offers a way to understand how materials are joined, expressed, and given meaning in construction (Frampton, 1995). The focus is not on formal innovation, but on these meetings between wool and other materials—in layers and edges, in small but telling details that give a structure its character. The architectural models in this study explore wool in three main roles:

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Figure 5: 1) As an enclosing membrane, wool appears as a visible and tactile surface—a cladding that is soft to the touch yet robust.

Figure 6: 2) As part of a framework or structural system, wool is twisted, braided, or knitted, sometimes in combination with other materials such as timber or soil, to explore how fibres can support a framework.

Figure 7: 3) As a technical layer, wool functions as insulation, sometimes deliberately exposed so that what is usually hidden becomes part of the bodily experience.

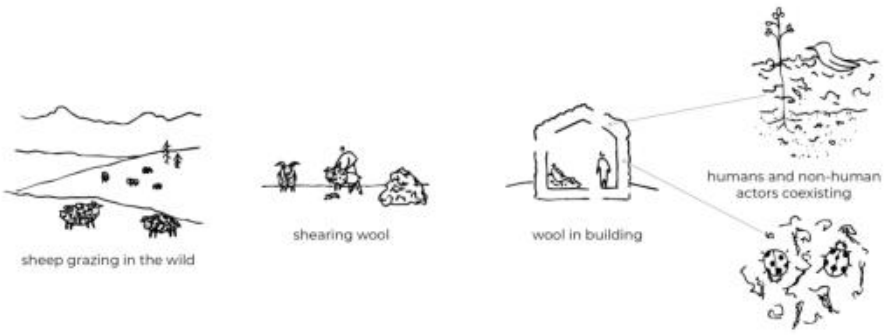

Figure 8: Visions for wool for regenerative architecture. Not a finished design, but a way of thinking with the material – a diagram of how wool might move through cycles of use, decay, and renewal. Image by Author.

These roles come together in a speculative building section: a simple structure where wool appears in the cladding, roofing, insulation, and flooring. Insects find their way into the façade, birds tuck grass and twigs into the roof and make nests there, and the top layer of wool slowly breaks down into compost that feeds worms and plants. In visions like this, regenerative design feels less like a theory and more like a description of what is already going on around us in the living world: slow, patient processes that restore and thicken ecological life, giving back more to the land than is taken from it (Cole et al., 2012).

Artefacts as Cultivators of Knowledge

Over time, the project fills up with pieces of work: a field diary, hand drawings, 1:10 models, full-scale section models, and eventually a building you can walk into. Each one teaches something different.

The 1:10 models allow for close attention to joint, thickness, and sequence of layers. In some, wool is packed tightly between timber, in others it hangs loosely, changing over time.

The full-scale prototypesintroduce the scale of the body. Standing in front of a wool-clad wall or beneath a wool-insulated roof, it is no longer possible to treat the fibre as an abstract material. It smells faintly of animal. It softens sound. It invites touch–or, in some cases, avoidance. Here, wool is no longer just a line in a specification, but an atmosphere that surrounds and affects us. The models show how gravity, density, and fibre length shape what the material can do. Some configurations hold their form; others slowly deform over time, raising questions about maintenance, repair, and what kinds of change we are willing to accept.

The field diarycollects these encounters. Short notes capture impressions and reactions: *warm*, *itchy*, *quiet*, *friendly*, *smelly*. Sketches record how people lean against the surfaces, press their hands into the fibres, or hesitate before approaching. Photographs and video stills are later revisited to trace patterns in these interactions. By explicitly treating artefacts as carriers of knowledge, the project demonstrates how different scales of making can yield complementary insights: constructive (1:10), atmospheric (full-scale), and relational (field diary).

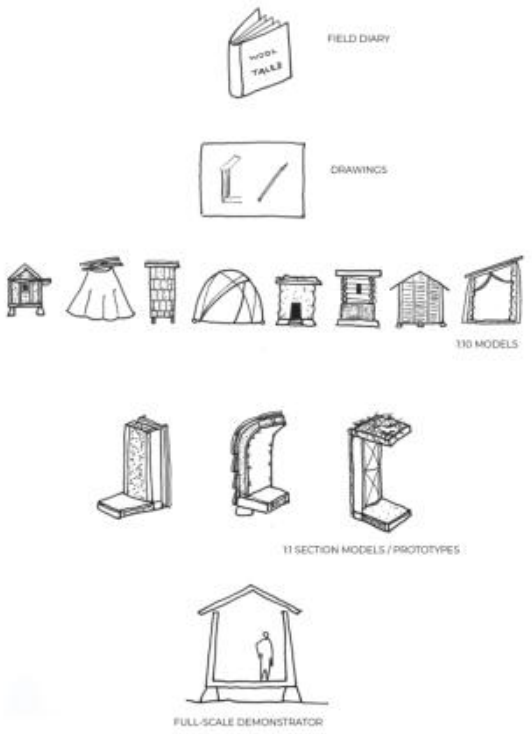

Figure 9: Variations of artefacts from the research-through-design. Image by Author.

Sensory Ethnography: Experiencing Wool Together

To understand how wool affects people, I spend time with them near and inside the small demonstrators. I watch how they move, listen to what they say, and notice what my own body feels like in those spaces. This way of paying attention–called sensory ethnography–treats seeing, touching, smelling, and remembering as all bound up together (Pink, 2009).

Conversations unfold in front of the models or within the structures themselves. Instead of structured interviews, there are shared moments: someone buries their fingers in the wool, comments on childhood memories of sheep; another compares it with knitted garments and worries about itchiness; a third notes how safe it feels. Over time, patterns emerge: a recurring urge to touch and lean, a sense of warmth and protection, occasional discomfort at the closeness to animal origin. These observations feed back into new design decisions–adjusting fibre types, densities, or the degree to which wool is left exposed.

Figure 10: Extracts from the field diary. Image by Author.

Regenerative Potentials and Open Questions

The combined analysis of models and sensory accounts suggests that wool can meaningfully support the three roles explored here. As a **membrane**, it contributes to tactile and visual richness and opens possibilities for façades and roofs that weather and age in dialogue with local ecologies. As part of **frameworks**, its fibres can bind and stabilise other elements in low-tech ways that favour disassembly and reuse. As a **technical layer**, its thermal and acoustic properties enhance comfort while remaining compatible with composting and soil enrichment at the end of its life.

At the same time, the wool pushes back. Some people find it itchy or smelly. Some think of dirt, animals, and the work of the farm. These reactions are not just technical problems to solve; they show what kinds of closeness to animals and land we are willing to accept in our everyday lives.

This study does not offer definitive solutions. Instead, it proposes one trajectory for working with an underutilised local fibre within regenerative architecture. By making wool visible, tangible, and discussable, the project aims to reframe how materials are chosen, detailed, and cared for. The next steps involve further full-scale experiments, where wool is inhabited for longer periods and studied in more depth.

For design research, the contribution is twofold. Conceptually, the project frames regenerative architecture as a relational practice in which local fibres act as active agents connecting landscapes, buildings, and bodies. Methodologically, it articulates an approach that combines tectonic experimentation and sensory ethnography as an iterative design instrument. Together, these elements position the work not only as a demonstrative case but as a way of working with regenerative materials that others can adapt and test.

In the end, this work suggests that regenerative architecture is about more than performance. It is about relationships: between the hills where sheep graze and the walls we live inside; between animals and people; between fibres and hands. In this sense, wool becomes more than insulation or cladding. It becomes a way of paying attention and a quiet demand to take responsibility for how our buildings are tied back to the land that carries them.

Figure 11: Model study of wool as interior cladding and insulation. Image by Author.

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From Externalisation To Metabolism
Outlining Design-Driven Research for Shared Domesticities

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domestic space, typologies, metabolic flows, circularity, scenario

Abstract

This research investigates the relationship between contemporary urban domesticity and the externalisation of metabolic processes from a socio-ecological perspective, exploring how domestic infrastructures can be reconfigured as sites of engagement, care, and collective inhabitation. It hypothesises that architectural design that accommodates metabolic processes can reshape everyday habits and values, foster socio-ecologically conscious subjectivities, and strengthen community. The study employs a research-by-design approach, developing critical design interventions within existing residential typologies and testing them through–or against–participants in workshop settings. These workshops examine cultural acceptance, perceived resistance, and the potential for inhabitants to appropriate and engage with new metabolic practices. This paper reflects on the initial workshops, discussing intermediate findings and design insights that inform the iterative development of design proposals

Contemporary urban domesticity, originating from a project of societal restructuring to nuclear households with externalised economic production, and architecturally supported by the still-influential modernist movement, prioritises private family living over other forms of kinships (Gotby 2025, pp.21–22). Furthermore, industrialisation and advancements in domestic technologies have widened the 'metabolic rift' between human bodies and the organic waste they produce, concealing waste into neatly hidden pipes to such an extent that their co-habitation has become unimaginable (Kaika and Swyngedouw 2000, p.121), clashing with our sensory and hygienic norms (Otter 2025, p.10).

Nowadays, both reforms, in their rationalised, optimised, and streamlined versions, are inscribed into urban policies and building standards, thereby materialised in the built environment. The resulting cultural embedding of these normative configurations of urban living renders different modes of habitation increasingly difficult to conceive (Srnicek and Hester 2024, p.113). However, what we are witnessing today is that these socially alienating and environmentally detached domestic models not only fail to cultivate socio-ecologically conscious subjectivities, but they also fall short of addressing people's needs (Puigjaner 2018) and planetary flourishing (Otter 2024).

In response to this contradictory setting that we all inhabit and drawing on literature from environmental humanities and posthumanities, I argue that these socially and environmentally exclusionary mechanisms are intertwined. My doctoral research understands domesticity as a container technology (Frichot and Runting 2018; Otter 2024), which ideologically insulates and seals off the interior from the exterior, the private from the public, cleanliness from neglect. This ideological separation, however, contradicts material reality: our domestic space is inevitably interconnected with the outside via the air we breathe, water we drink, soil,

produce from which we eat, and other human and non-human bodies and matters that are intrinsically part of our habitation (Alaimo 2016, p.11). In Container Ontologies, Otter (2024) argues that the humans' affinity to self-containment undergirds the production of societies, power relations, inequalities and planetary exploitation. Similarly to Alaimo, he also recognises the contradiction that despite all the containment, we have not managed to contain all our production, namely, we have failed to contain waste: "New planetary containers of heat-trapping gases and trash are formed from the waste of containerized society" (Otter 2024, pp.70–71). The fact that containment produces and conceals planetary-scale leakage demands rethinking the container itself and the ways how it is inhabited.

Research Challenge, Questions and Hypotheses

In contemporary culture, waste functions as a valueless by-product requiring immediate externalization from domestic space. Yet architecture operates bidirectionally: its typologies both reflect and constitute cultural practice. Spatial configurations structure inhabitation, which in turn reinforces normalized uses and disposal patterns (Till 2013), a cycle that reproduces existing approaches to waste and constrains alternative possibilities.

What is needed is therefore exploration of architectural models that reorganise habitation in a manner which cultivates attention, responsibility and ethics of care in everyday practices, in order to challenge the culture of metabolic externalisation. In this context and recognising all the harm that externalisation of waste has caused locally and globally, I propose to re-imagine domesticity as a space shifting from externalising waste to internalising and metabolising it instead. Housing and domesticity in this framework are seen as a socio-ecological system linking everyday practices with metabolic flows. This research hypothesises that reframing domestic metabolic flows from systems of removal into sites of inhabitation, can trigger shift in habits and that way cultivate caring praxis.

The research question asks how can the architectural design of domestic spaces cultivate the praxis of building and living that consciously engages with domestic metabolic processes in an engaged and entangled way, contributing to the socio-spatial quality of living? What types of spatial configurations and typologies could emerge from internalisation of metabolic flows? And how to make these sites experiential in order to promote their appropriation by the inhabitants? Can such architecture help to counter the individualistic nature of contemporary housing and help to build stronger communities beyond the nuclear family? And what does it mean for architectural norms, regulations and institutions?

Methodology

My methodological approach is design-driven research, developed on prototypical case studies and tested with–or against–participants

through participatory workshops. The process of designing and subsequently testing with participants is cyclical, structurally resembling action research. The workshops function as a site for critical inquiry, generating reflection and feedback that inform further phases of the research and contribute to the iterative refinement of the design proposals (Bowen 2008, pp. 55–59).

In terms of genre, the designs draw on two design approaches: transition design and critical design. Aligned with transition design, my research engages with so-called wicked problems (Rittel and Webber p.160). Addressing such problems requires transformations across multiple levels including cultural and regulatory frameworks and anticipates lifestyle changes. Grounded in an understanding of the interconnectedness of nature and culture, they point toward alternative socio-economic systems (Irwin 2015, p.231). At the same time, the designs share key characteristics with critical design. They are deployed in participatory workshop settings, where they function as probes to test participants' underlying assumptions, values, and expectations. Drawing on Dunne and Raby's notions of the 'post-optimal' (Dunne 2005, p.20) and the 'para-functional' (Dunne 2008, p.42), the designs deliberately challenge conventional notions of functionality, opening up space for values beyond purely instrumental concerns. Therefore, I consider critical design in my research as a method in a broader intention of design for transition (Jakobsone 2023, p.325).

The purpose of the designs in my research is twofold. First, they function as tools through which the acceptance, tensions, and frictions emerging among workshop participants can be examined. Second, they operate as concrete, materialised expressions of socio-ecological approaches to building and living, from which insights can be distilled for architectural theory and practice.

The cases selected for these design explorations are the most prevalent residential typologies in urban Belgium, where this research is situated,namely the row house and the apartment block. In the current phase of the research, I have begun developing design interventions for the latter, which constitutes the focus of the rest of this paper. The apartment block is part of a recent urban renewal project with a strong emphasis on sustainability, circularity, and urban greenery, and is presented as the first circular neighbourhood in Flanders.

The technologies that enable circularity are located in the building's basement. In these hidden and secured spaces, which are inaccessible to residents, various containers collect organic waste as well as grey and black water from the apartments above. These materials are subsequently processed to generate heat and fertilizer. My design explorations intervene in this condition by seeking to bring circularity and metabolic flows closer to inhabitants in an engaging and experiential way.

Initial Empirical Data: First Tests

Following the first design cycle, I organised two initial workshops to test how the proposals might encounter professional settings, engaging academics with experience in architectural and urban practice. Both workshops followed the same structure and instructions, differing only in perspective: participants in the first assessed the proposals from an architectural standpoint, while the participant in the second approached them from an urban perspective. At the workshops, two design ideas for shared domesticities were presented. The first one explores a system for rainwater filtration through plants located in the staircase. This proposal is developed through three scenarios that differ in their relationship to architectural norms, ranging from the easiest to accommodate within today's norms to the one with a para-functional relationship to the norm. This means that the artefact's purpose has changed so much that the norm cannot be stretched to fit it. The first one, *Staircase with a Rainwaterfall,* is a system of plant containers placed in a central part of the staircase. Water drips from one level to another, yet the staircase remains clean, dry and passable. In the second scenario, *Staircase with a Rainwaterfall–but Muddier*, plants extend onto the stairs, compelling users to find their way through. The third design, *Staircase as a Playground Island*, confines the staircase to the minimum necessary for passage, transforming the remaining space into a watery playground.

The second design intervention–*Compost-Fuelled Wintergarden*–consists of a single scenario that reconfigures one floor of the apartment building into a shared living arrangement for three households. The intervention centres on a communal kitchen located within a newly designed wintergarden, heated by compost fed with the kitchen's organic waste. Some of the questions workshop participants received:

1. "Where would you expect the strongest resistance to these proposals: at the regulatory, cultural, or professional level?"

2. "At which phase of a project could such proposals be most effectively employed to stimulate a shift in building culture?

a) the initial phase, to stimulate imagination when formulating a brief for a commissioner;

b) the building permit phase, to engage authorities responsible for approvals;

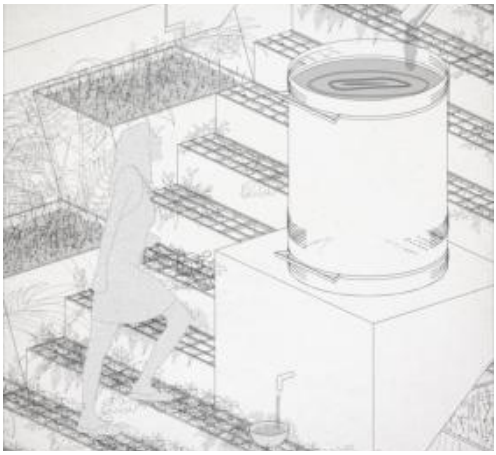
c) the competition preparation phase, to influence the definition of criteria;

d) participatory processes or public inquiries, to articulate alternative demands to citizens;

e) the design process, to inspire architectural practice;

f) policymaking contexts."

3. "How might the proposals be improved to increase their productive potential in these contexts, and what would be required to do so?



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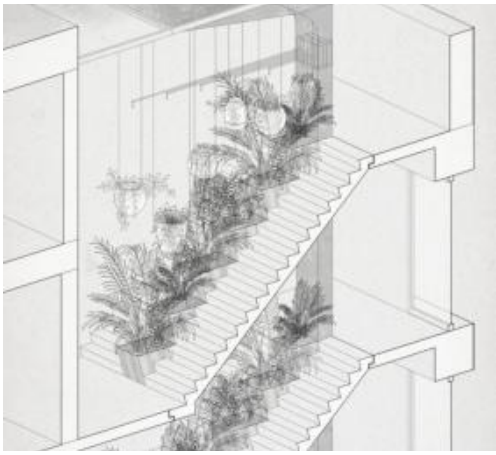

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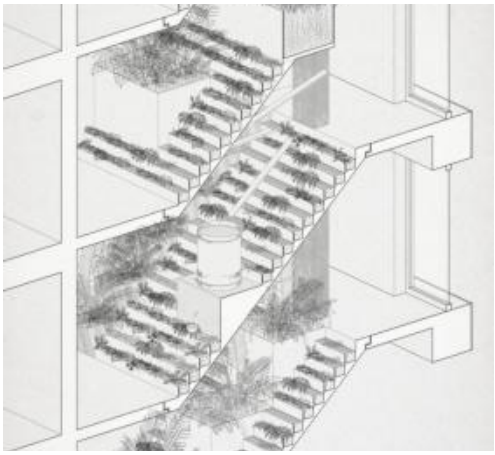

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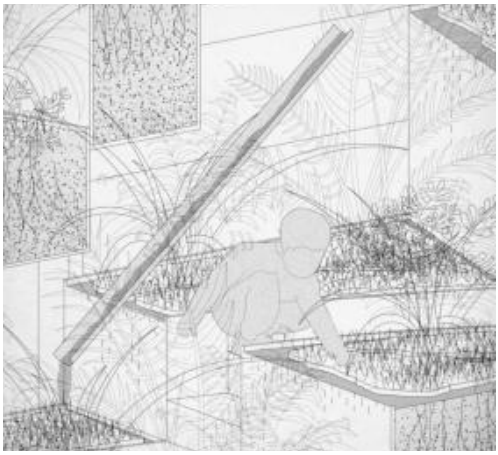

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Figure 1: Staircase with a Rainwaterfall, Drawing by Ema Soukupová, 2025.

Figure 2: Detail of Staircase with a Rainwaterfall–but Muddier, Drawing by Ema Soukupová, 2025.

Figure 3: Staircase with a Rainwaterfall–but Muddier, Drawing by Ema Soukupová, 2025.

Figure 4: Detail of Staircase with a Playground Island, Drawing by Ema Soukupová, 2025.

Figure 5: Staircase with a Playground Island, Drawing by Ema Soukupová, 2025.

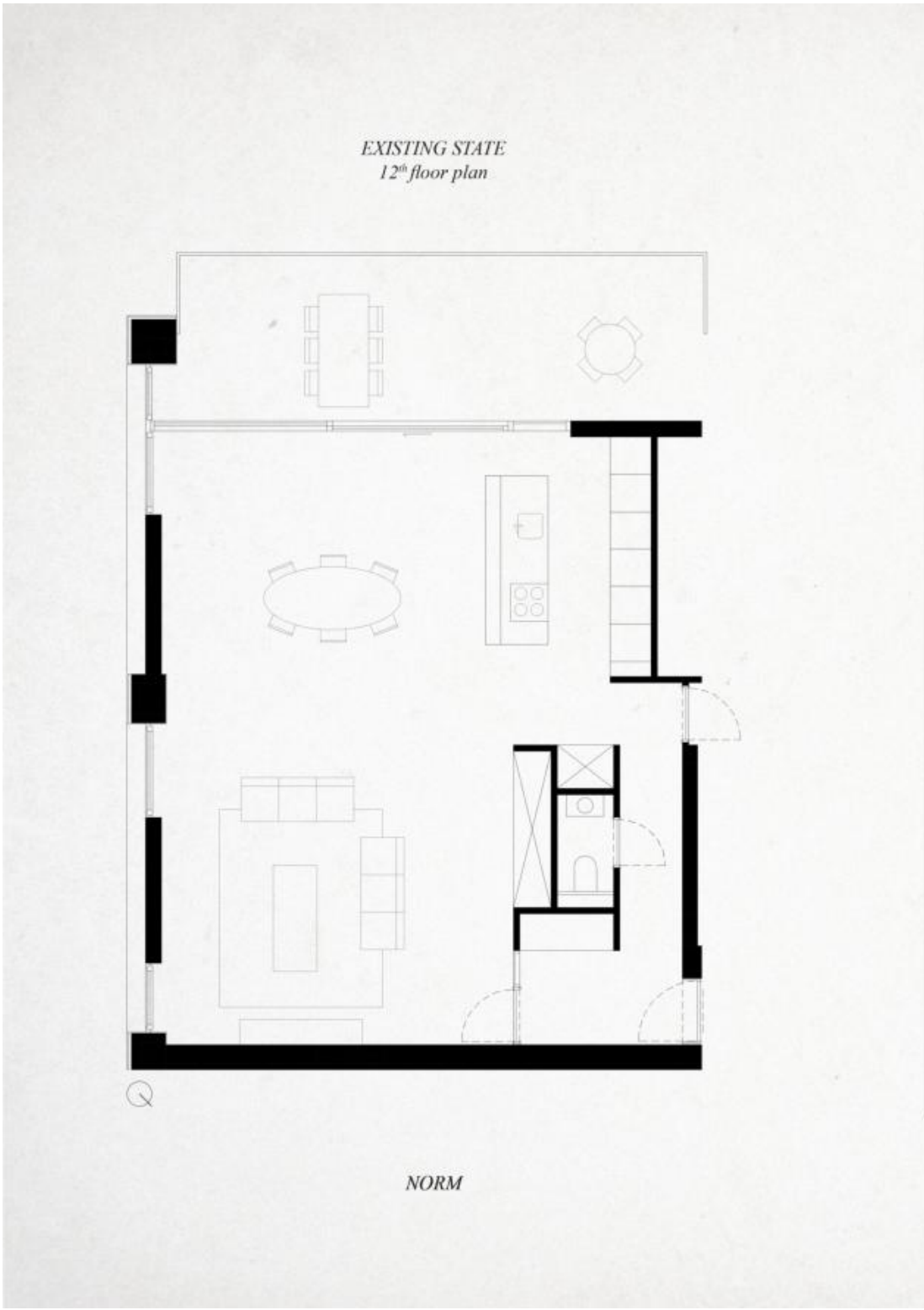
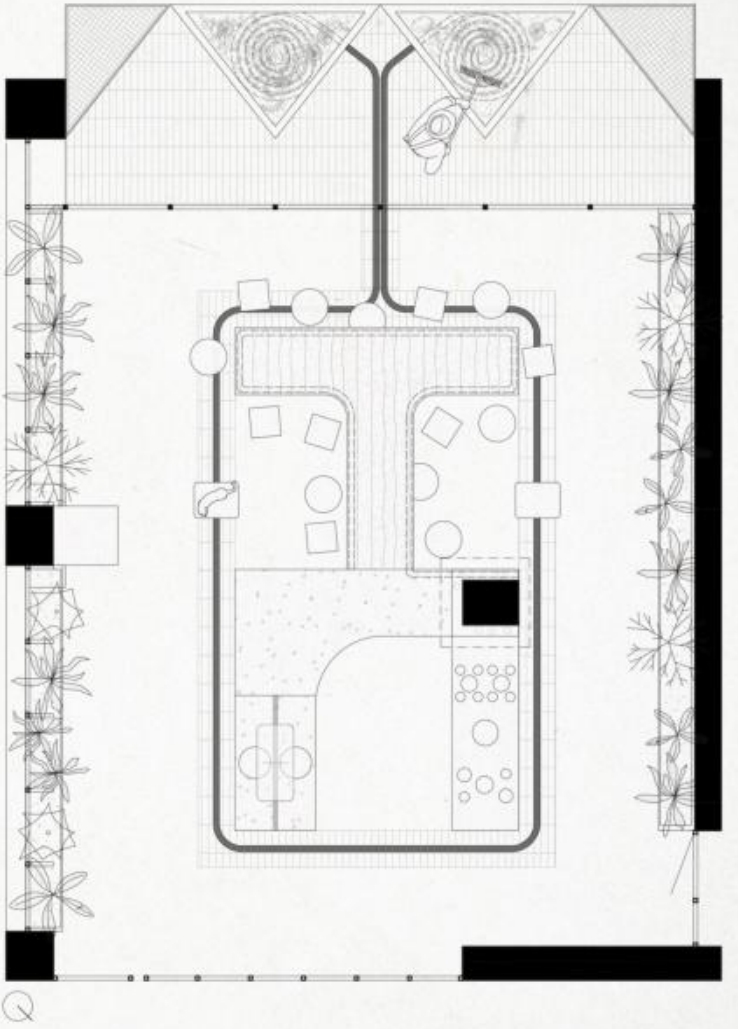


Figure 6: Compost-fuelled Wintergarden (left: existing state; right: proposal), Drawing by Ema Soukupová, 2025.

DESIGN PROPOSAL
12th floor plan



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Preliminary Findings and Reflections for the Next Phase

To discuss participants' responses, the following acronyms are used: A1 and A2 refer to participants with architectural training, and U1 refers to the participant with a background in urbanism.

1. Resistance

Across all participants, the most significant concerns related to the financial constraints of the proposals. This response was anticipated, given that the discussion explicitly engaged with contemporary professional practice. Opinions diverged, however, regarding potential cultural resistance from inhabitants. While A2 anticipated resistance across all levels, A1 and U1 suggested that potential inhabitants, particularly younger generations, could be relatively easily engaged. In U1's view, resistance at the level of inhabitants would be the easiest to overcome. Relatedly, all participants emphasised the importance of allowing inhabitants to appropriate spaces as a key strategy for cultivating engagement and building relationships with them.

2. Project phases

All participants agreed that the proposals would be most effective when introduced during the early phases of a project, particularly when defining a brief for a commissioner or establishing criteria for a design competition. This finding will inform the selection of participants for the next round of workshops.

3. Suggested improvements

a) Scales of sharing: Participants noted that the designs should more clearly articulate different scales of community, for example, what is shared at the level of a single floor versus the entire building. The capacity and configuration of metabolic elements should correspond to these scales, establishing clearer expectations, responsibilities and maintenance for the inhabitants.

b) Visualisation: A critique was expressed related to drawing. A1 and A2 thought that they should be more suggestive, reflecting the possibility of appropriation of the metabolic elements and sites.

c) Use of language:

— Positive affirmation: A2 proposed that clearly articulating what inhabitants gain from the proposals could help mitigate concerns about financial feasibility.

— Multipurposeness: U1 suggested that avoiding functionally fixed labels, such as kitchen, living room, or corridor, could help circumvent regulatory constraints.

— Narratives: The use of stories was proposed as a way to make the designed experiences more relatable and accessible for workshop participants.

Further Reflections for the Next Phase

Participants indicated that variations between scenarios were too subtle, making them focus on the changes among them, rather than on the design idea itself. Therefore, presenting distinctly different interventions proved more effective than showing multiple scenarios of the same intervention. Additionally, drawings at a larger scale such as full-floor plans were better received than detailed views (e.g. staircases). This may be because zoomed-out representations allowed participants to identify familiar spatial elements, making unfamiliar interventions less disruptive. In the second workshop cycle, I intend to invite both the original participants and new groups, including practitioners, inhabitants, and architectural students, in order to test the hypothesis that increased exposure to such proposals leads to greater acceptance over time. Refined designs will be presented.

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The Future Line of Cinema(tic) Spaces

Diego Terna, Politecnico di Milano

#

cinema hall, rituals, public space, projection, frame

Abstract

Gilles Deleuze describes cinema through a geometric system, closely resembling a vector: a sum of instants, constructing a line of visual temporality. To render this temporal line—this trajectory—it relies on another linear vector, another trajectory: the projection line, which brings images to life on the screen. Cinema is a continuous flow that fundamentally orients architectural and urban space, establishing a necessary geometric identity, as an assemblage of moments/movements.

This reflection thus proposes a brief journey of discovery towards the future of the cinema hall, using conditions/references from art's universe: on the one hand, the cinematic ritual rupture, the absence of spectators, and the emptiness of cinema theatres; on the other, the linearity of cinema. Between these two domains lies the cinema hall of the future: the rediscovery of what cinema is as a substantial matter and a renewed interest in experimental forms of spectatorship, glimpses of possible futures.

"But for now it's time to run, it's time to run!"[1]

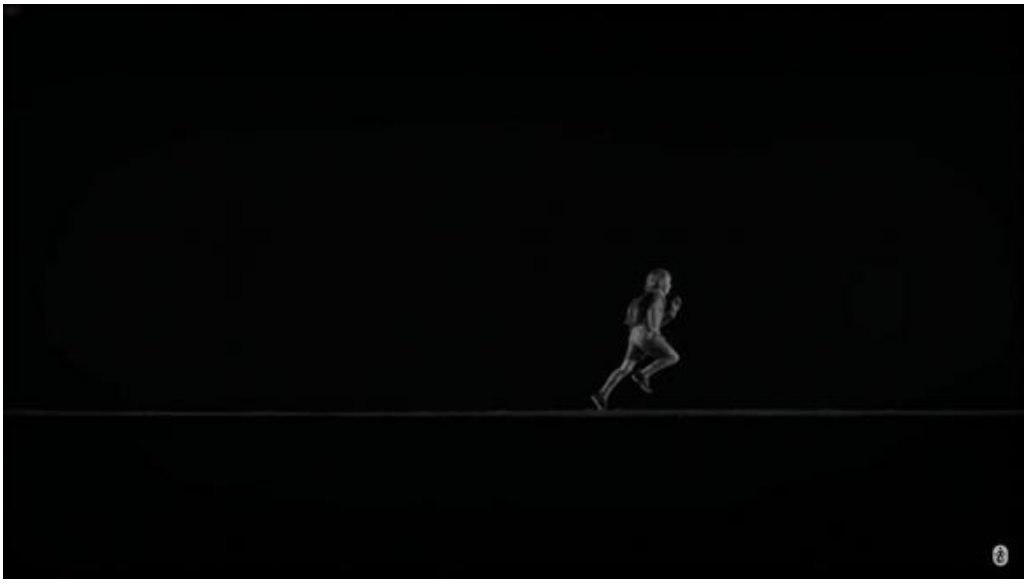

Figure 1: Woodkid, Run Boy Run, The Golden Age, 2013, Frame from the video directed by Yoann Lemoine / Iconoclast.

A boy runs nonstop, falls, gets up, accompanied by strange creatures emerging directly from the ground, as if the Earth itself decided to take animal form and escort the boy in his battle, until they reach the building where they will fight: it is a short video directed by Yoann Lemoine / Iconoclast in 2013, accompanying the song *Run Boy Run* by Woodkid (a pseudonym for Yoann Lemoine), featured on the album *The Golden Age*.

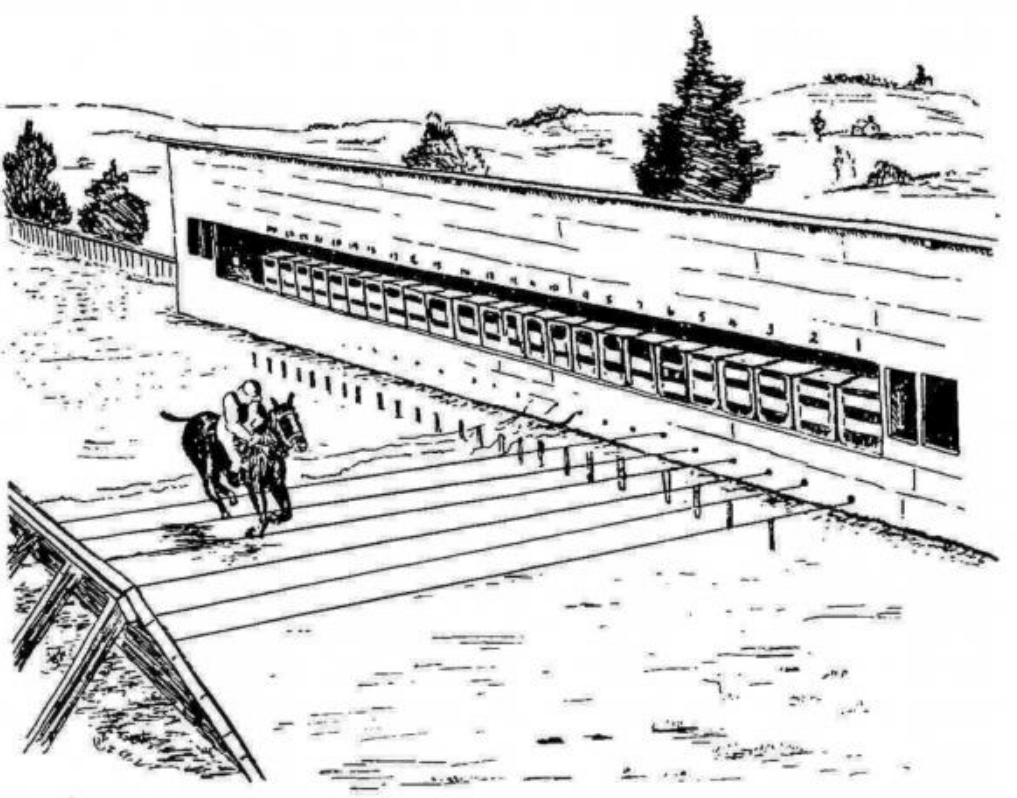

Figure 2: Eadweard Muybridge's Equipment for Motion Photography at Palo Alto, 1878.

The video unfolds along a line, like Abbott's Flatland, without three-dimensional developments, but insisting on this continuous *trajectory* from which there is no escape, only movement in one direction, forward, forward, towards the goal. The video is a relentless emphasis on a vector, a merciless line of fire, which leaves no other possibilities than that of a path to be followed.

It is a line of projection that echoes Gilles Deleuze's words, who, in 1983, described cinema through a geometric system closely resembling a vector.

Linearity

"[...] the cinema is the system which reproduces movement as a function of any-instant-whatever that is, as a function of equidistant instants, selected to create an impression of continuity"[2]. Cinema, the sum of instants, constructs a line of visual temporality, but to render this temporal line—this *trajectory*—it relies on another linear vector, another *trajectory*: the projection line, which brings images to life on the screen.

The very birth of cinema derives from a linear insistence: a series of photographs of galloping horses, taken through sophisticated shutter systems activated by the animals themselves, which seem like the analogue counterparts of the running boy in Woodkid's video.

Figure 3: Richard Serra, Áfangar, 1988, photo by Slawojar CC BY-SA 4.0.

Cinema is a continuous flow that fundamentally orients architectural and urban space, establishing a necessary geometric identity. An assemblage of moments/movements which, to complete the geometric formation of space, requires a surface against which the vector may stop.

In 1988, only a few years after Deleuze's depiction, Richard Serra created Áfangar, a striking sculpture on the island of Viðey in Iceland,composed of two simple pillars that framed the immense vastness of the natural landscape. Thus, this landscape acquired a new meaning through the artist's framing gesture, which directed the gaze (along a *trajectory*) only to arrest it on the ideal geometric plane the two pillars define.

It's a powerful act precisely conveying the essence of cinema and its spatial condition. A linear movement that projects. A frame that defines the field of action and visualisation. These two elements together construct the *cinema hall*.

Rupture

In 2007, Doris Salcedo introduced a slight crack into the floor of the Tate Modern Turbine Hall. This fissure, running along the entire length of the hall for weeks, split violently open the walking surface, creating an uninterrupted linear chasm. The artwork's disarming simplicity placed visitors in a condition of profound destabilisation, prompting them to question how the surrounding physical environment might influence their own being and behaviour.

Figure 4: Doris Salcedo, Shibboleth, 2007, photo by Gdobon
CC BY-SA 3.0.

Salcedo's artwork, called *Shibboleth*, transformed visitors into actors, bodies in action within a space where they confront an unforeseen, yet highly cinematic, situation. Through a physical *trajectory* (the crack on the surface), the Colombian artist offered a compelling example of a *line of flight,* as a process of *deterritorialization* based on a physical vector, a line of force capable of tearing apart the architectural space, and compelling spectators to reflect.

Recomposition

"I tend to regard cinema in an architectural sense, whereby the environment (the space), the screen, and the projection can be combined or pushed forward to create another space 'beyond'"[3]

In 2025, at Milan's Fondazione Prada, the filmmaker Alejandro González Iñárritu designed a fractal material, a physical line, and an immaterial visual line that reassembled in a unique movement. His artwork, titled

Figure 5: Alejandro González Iñárritu, Sueño Perro, Fondazione Prada, Milano, 2025, photo by Diego Terna.

Sueño Perro, working on these two opposites, attempts to compose a new spatiality, once again bringing cinema — its movements and spectators — into an innovative spatial experience.

Within the museum spaces, the Mexican director staged the immateriality of cinema by revealing the projection line itself. Smoke saturating the void allows the projected light to be seen, with its tonalities, colours, and the very movements Deleuze once described — just before they reach the screen and become perceptible once more.

The future of cinema(tic) spaces

The Ca2re call theme, *Trajectories*, enables me to position my doctoral research on the "Cinema Hall of the Future," which, in response to the need to redefine the public entertainment hall as an innovative audiovisual space, aims to investigate the relationship between lines of force and fields of attraction shaping cinematic reality. This paper thus proposes a brief journey of discovery—a narrative and spatial line of flight—towards the future of the cinema hall.

The entertainment hall of the future navigates between opposing conditions. On the one hand, the cinematic ritual rupture, the absence of spectators, and the emptiness of cinema theatres; on the other, a renewed interest in experimental forms of spectatorship. This is a dilemma between the rupture Salcedo prefigured as a trajectory that divides, versus the reassuring linearity Deleuze described as a trajectory that unites. Between these two domains lies the cinema hall of the future: the rediscovery of what cinema is as a substantial matter. Iñárritu reveals it through moving filmstrips, through the flickering of light in the smoke, through the dazzling colours of the luminous vector.

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Figure 6: Kino Kika Informal Cinema Hall, Krakow, Poland, 2012, photo by Diego Terna.

Figure 7: Cinema Velabro, Rome, Italy, 2023, photo by Diego Terna.

Today, new forms of cinema emerge within spatial conditions in which Deleuzian linearity is less prominent. Recently, we have observed a rise in microcinemas[4] — places where attendance is deliberately limited, as seen in *Kino Kika* in Krakow, Poland, *Noise Il Cinemino* in Milan, or *Cinema Velabro* in Rome, Italy. Such venues foster intensely intimate viewing conditions where, rather than the technical quality of the screening, the emphasis lies on privacy and fellowship with a handful of viewers[5].

New cinematic spaces also emerge in the revival of open-air cinemas, which reclaim parts of cities for the community, echoing traditions such as the *Cine de Verano* (*Summer Cinema*) in Córdoba, Spain. In Rome, Italy, during the event *Schermi Pirata* (*Pirate Screens*), a student collective projected films directly onto the facades of ancient buildings, restoring a sense of communal experience and urban curiosity. This spatial experimentation expanded even to water, as in *Cinema Galleggiante* (*Floating Cinema*) in Venice, Italy, where screen and audience drifted on the lagoon's surface, or the *Milan Film Fest*, which organised public screenings in social housing courtyards, offering a discovery journey into often unseen public realities

We may also find the cinema of the future in urban experiments such the ones *Futura* proposed screening alternative movies in parallel to the Venice International Film Festival inside prefab construction-site cabins, or in self-managed rooms such as *Unzalab* did in Milan, merging the cinema hall with a darkroom, a laboratory, and an archive or, finally, holding dance classes in the cinema hall as happens in *Faro Cosmos*, a public multifunctional space in Mexico City.

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Figure 8: Pirate Screens - The Rocky Horror Picture Show on Castel Sant'Angelo, Rome, Italy, 2016, Courtesy Fondazione Piccolo America.

Figure 9: Riccardo Banfi, Cinema Galleggiante - Acque Sconosciute 2023, Venice, Italy, 2023, Courtesy Riccardo Banfi & Microclima.

Figure 10: Futura Association, Cinema is in the toilet, 2025 Venice Film Festival, Italy, Courtesy Futura Association.

Figure 11: Faro Cosmos, Ciudad del Mexico, Mexico, photo by Diego Terna.

1 Woodkid, *Run Boy Run*, The Golden Age, 2013

2 Deleuze Gilles, *Cinema 1, The Movement-Image*, University of Minnesota Press, 1986

3 Rosa Barba, *On the Anarchic Organization of Cinematic Spaces*, Hatje Cantz, 2021

4 The term *Microcinema* has been invented in 1994 by Rebecca Barten and David Sherman, an experimental filmmaking couple, who began showing avant-garde films in a space underneath their Mission District apartment.

5 <The big screen provides a "no distractions zone", as opposed to the experience of watching a film at home. "It's nice to switch off," says Sophia Crothall, 23. "I don't touch my phone the whole time I'm in the cinema. At home, I'm probably scrolling."> Campbell Sinéad, *'I don't touch my phone. At home, I'd be scrolling': why young people are flocking to independent cinemas*, The Guardian, 13.08.2025

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Architectures of Proximity Building as Research and the Experience of Living Together

Hinnerk Utermann, University of Applied Arts Vienna

co-existence, installation, hosting as spatial practice, relationships

Abstract

Architectures of Proximity is an artistic research project that explores how we live together through shared spatial experience. It proposes that modes of coexistence can only be understood experientially and develops a practice-based methodology of "building as research." Through 1:1 architectural models, the project creates constrained environments for encounters between two people, making proximity, interpersonal distance, and human interaction tangible.

Four installations serve as experimental settings for ephemeral, undocumented encounters, following the principle *ichigo ichie*. Grounded in personal, embodied experience, the project investigates how spatial situations can enable attentiveness, hospitality, and relational exchange, and how architectural models can function as open frameworks for gathering and reflection.

This essay builds on and extends the findings published in my dissertation Architecture of Proximity, Utermann, Hinnerk: Architectures of Proximity, artistic research (PhD), Universität für angewandte Kunst Wien 2025, PHAIDRA Repository, URL:

Architectures of Proximity is an artistic research project that investigates a fundamental question of being human: *How we live together.*[1] Rather than approaching this question through theory, statistics, or abstract models, the project proposes that modes of coexistence can only be understood experientially—through the act of sharing space. Living together is not something that can be fully described, measured, or prescribed; it must be encountered. This conviction forms the basis of a practice-based methodology that understands building itself as a form of research.

The project departs from the assumption that living together or coexistence is primarily a spatial and bodily phenomenon. How close can we be to one another? How much distance do we require? How are these distances negotiated, sensed, and altered through spatial situations? *Architectures of Proximity* addresses these questions by focusing on proximity as a relational condition that unfolds between bodies, materials, and architectural structures. Proximity here is not understood as a fixed metric, but as a dynamic, situational phenomenon that is continuously recalibrated through interaction.

To investigate proximity, the project develops a series of 1:1 architectural models—constrained environments designed for encounters between two people. These installations function as experimental apparatuses rather than as buildings in the conventional sense. They do not provide comfort or neutrality, but introduce spatial resistance. By limiting movement, vision, and distance, they heighten awareness of bodily presence and interpersonal relations. Within these situations, proxemics—the subtle negotiation of distance and closeness—becomes tangible and experientially accessible.

This approach emerges from a fundamental critique of architecture as a discipline. Architectural education and practice largely focus on the design and construction of physical structures: walls, floors, envelopes, and technical systems. The tools of architecture—drawings, plans, models, simulations—anticipate future realities of living, yet they operate at a high level of abstraction. The lived spaces that emerge between people—spaces of interaction, communication, conflict, and care—are often treated as secondary effects, regulated through norms and standards rather than explored as central concerns.

Architects wield considerable power in shaping environments, yet the relational consequences of architectural decisions often remain insufficiently examined. There is a tendency within the profession to overestimate control while underestimating the complexity of lived experience. *Architectures of Proximity* responds to this gap by shifting attention from form to encounter, from projection to presence. It asks what architecture can learn if it does not merely plan for life, but enters into it.

Within this framework, the project proposes an expanded role for the architect: not as a distant planner or problem-solver, but as a host. The „architect-artist" does not deliver a finished building, but offers a situation—an invitation to gather. Hosting becomes a spatial practice that requires attentiveness, responsibility, and vulnerability. The host does not remain neutral, but is implicated in the encounter. Architecture, in this sense, becomes a relational practice that unfolds between people, materials, and spaces.

Several references inform this approach. Edward T. Hall's concept of proxemics[2] provides an initial framework for thinking about human spatial behavior and the culturally conditioned distances we maintain. Architectural traditions such as the Japanese tea house offer examples of spaces that intensify presence through modesty, transience, and imperfection. The tea house functions as a niche within the city, a place of retreat and heightened awareness, where social relations are carefully choreographed through space.

Artistic references, particularly Absalon's *Cellules*[3], play a crucial role. Absalon designed small, highly constrained living units as environments for isolation and self-discipline. His work demonstrates how spatial constraints actively shape behavior and subjectivity. While Absalon's focus was solitude, *Architectures of Proximity* adapts this logic toward interpersonal encounters. It explores how spatial limitation can foster attentiveness, intimacy, and responsibility toward the other rather than withdrawal.

Architectures of Proximity is an artistic research project that investigates a fundamental question of being human: How we live together.[1] Rather than approaching this question through theory, statistics, or abstract models, the project proposes that modes of coexistence can only be understood experientially—through the act of sharing space. Living together is not something that can be fully described, measured, or prescribed; it must be encountered. This conviction forms the basis of a practice-based methodology that understands building itself as a form of research.

Figure 1: *Der Nächste* Plug-in model 1:10 (book binding board, 2022) on plate. Photo Arryn Snowball, Berlin, 2024.

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The project unfolds against the backdrop of contemporary social fragmentation. Political polarization, armed conflict, forced migration, climate crisis, and the algorithmic reinforcement of echo chambers have profoundly altered how people relate to one another. Public discourse is increasingly marked by aggression and simplification, while opportunities for attentive, embodied encounters diminish. Understanding the other—the stranger—becomes increasingly difficult.

Architectures of Proximity counters this condition by proposing what might be described as a "miniature utopia." These are not utopias in the sense of ideal societies, but small-scale, temporary situations that allow for encounters between acquaintances and strangers alike. They do not promise harmony or consensus. Instead, they create conditions for attention, presence, and mutual exposure. The installations ask what kinds of relationships architecture can enable when it does not seek to optimize efficiency or comfort, but prioritizes encounter.

Occupying a central, active role[4] as designer, builder, host, and participant, the author grounds the research in personal limitations and embodied experiences.Dyslexia, a preference for one-to-one encounters, sensitivity to sensory overload, and a background in craftsmanship all shape the spatial outcomes. Rather than treating these limitations as deficits, the project embraces them as productive constraints. Abstract signs are replaced by physical models; making becomes a mode of thinking. The installations can thus be understood as prosthetic structures—supportive frames that enable specific forms of proximity and exchange.

Four installations constitute the core of the project: Space Compartment One, Hochsitz, Talking House, and Der Nächste. Each installation proposes a distinct spatial script that guides interaction without determining its content. They introduce thresholds, zones of contact, and moments of exposure. Importantly, the encounters that take place within these spaces are not documented. Following the Japanese principle of ichigo ichie[5]—one time, one meeting—they remain ephemeral and unrepeatable.

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Figure 2: Volumetric models of Absalon Cellules (oak wood) Hinnerk Utermann (2017). Photo Hinnerk Utermann, 2017.

Several references inform this approach. Edward T. Hall's concept of proxemics[2] provides an initial framework for thinking about human spatial behavior and the culturally conditioned distances we maintain. Architectural traditions such as the Japanese tea house offer examples of spaces that intensify presence through modesty, transience, and imperfection. The tea house functions as a niche within the city, a place of retreat and heightened awareness, where social relations are carefully choreographed through space.

Artistic references, particularly Absalon's *Cellules*[3], play a crucial role. Absalon designed small, highly constrained living units as environments for isolation and self-discipline. His work demonstrates how spatial constraints actively shape behavior and subjectivity. While Absalon's focus was solitude, *Architectures of Proximity* adapts this logic toward interpersonal encounters. It explores how spatial limitation can foster attentiveness, intimacy, and responsibility toward the other rather than withdrawal.

The project unfolds against the backdrop of contemporary social fragmentation. Political polarization, armed conflict, forced migration, climate crisis, and the algorithmic reinforcement of echo chambers have profoundly altered how people relate to one another. Public discourse is increasingly marked by aggression and simplification, while opportunities for attentive, embodied encounters diminish. Understanding the other—the stranger—becomes increasingly difficult.

Architectures of Proximity counters this condition by proposing what might be described as a "miniature utopia." These are not utopias in the sense of ideal societies, but small-scale, temporary situations that allow for encounters between acquaintances and strangers alike. They do not

Figure 3: Space Compartment One, Life-size model, exterior (HDF, MDF, lath, screws, tape, 2017-2018), at Studio Rungestraße Berlin. Photo Hinnerk Utermann, 2018.

promise harmony or consensus. Instead, they create conditions for attention, presence, and mutual exposure. The installations ask what kinds of relationships architecture can enable when it does not seek to optimize efficiency or comfort, but prioritizes encounter.

Occupying a central, active role[4] as designer, builder, host, and participant, the author grounds the research in personal limitations and embodied experiences.Dyslexia, a preference for one-to-one encounters, sensitivity to sensory overload, and a background in craftsmanship all shape the spatial outcomes. Rather than treating these limitations as deficits, the project embraces them as productive constraints. Abstract signs are replaced by physical models; making becomes a mode of thinking. The installations can thus be understood as prosthetic structures—supportive frames that enable specific forms of proximity and exchange.

Four installations constitute the core of the project: Space Compartment One, Hochsitz, Talking House, and Der Nächste. Each installation proposes a distinct spatial script that guides interaction without determining its content. They introduce thresholds, zones of contact, and moments of exposure. Importantly, the encounters that take place within these spaces are not documented. Following the Japanese principle of ichigo ichie[5]—one time, one meeting—they remain ephemeral and unrepeatable.

This refusal of documentation raises fundamental questions about research and knowledge production. If encounters are not recorded, where does the knowledge reside? Architectures of Proximity argues that knowledge is not only stored in texts or data, but in bodies, memories, and altered perceptions. It is tacit, situated, and relational. What is

Figure 4: Invitation Card *Hochsitz*, frontside. Photo Hinnerk Utermann, design Hinnerk Utermann, 2019.

learned in these encounters cannot be fully translated into language without loss.

To reflect this epistemological position, the project's documentation takes the form of a hybrid, polyphonic book. It combines autobiographical notes, images, guest commentaries, theoretical excursions, and detailed descriptions of the modeling process. Rather than presenting a linear argument, it creates an open structure that allows different trajectories—personal, spatial, social—to intersect. This structure mirrors the research itself, which unfolds through crossings and overlaps rather than through a single line of inquiry.

Central to this methodology is the notion of "building as research." Crafting and constructing are understood as epistemic practices shaped by tools, materials, and the spatial context of the workshop. Knowledge emerges through resistance, adjustment, and repetition. Architectural models—site models, life-size models, and plug-in models—are not merely representational tools, but active frameworks for gathering, reflection, and archiving shared experience.

Architectures of Proximity ultimately understands research as an assemblage of trajectories. Human trajectories intersect with spatial trajectories; personal histories meet collective situations. Research happens where these lines cross: in built space, in shared moments, and in the reflective gaze upon one's own practice. By building, hosting, and reflecting, the project seeks to expand architecture's capacity to engage with the subtle, fragile, and deeply human dimensions of living together.

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Figure 5: Talking House, Plug-in model 1:10 (book binding board, 2022) on Site Model (plywood, 2022). Photo Arryn Snowball, 2024.

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Figure 6: Hochsitz, Life-size model interior construction process, at Studio Gerichtshöfe Berlin. Photo Hinnerk Utermann, 2019.

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Recognitions

This essay builds on and extends the findings published in my dissertation Architecture of Proximity, Utermann, Hinnerk: Architectures of Proximity, artistic research (PhD), Universität für angewandte Kunst Wien 2025, PHAIDRA Repository, URL: https://phaidra.bibliothek.uni-ak.ac.at/o:74076

1 The question refers to a lecture series given by Roland Barthes at the Collège de France in 1976–77, with the title "Comment vivre ensemble" (How to Live Together), which was published posthumously. The lecture explores how people live together in different situations and how close or distant people are in certain places and situations. In his exploration, Barthes undertakes a literary search for places such as the island, the chamber, and the desert. See: Roland Barthes, *Wie Zusammen Leben. Simulationen einiger alltäglicher Räume im Roman*, Éric Marty, Claude Louis Coste and Horst Brühmann (eds.), Frankfurt a. M.: Suhrkamp, 2007.

2 "*People like to keep certain distances between themselves and other people or things. And this invisible bubble of space that constitutes each person's 'territory" is one of the key dimensions of modern society [...]*" Edward T. Hall introduces the science of proxemics to demonstrate how man's use of space can affect personal and business relations, cross-cultural interactions, architecture, city planning, and urban renewal." Edward T. Hall, *The Hidden Dimension,* New York: Anchor Books, 1990, back cover.

3 *"Absalon's main work consists of six different cabins, which he designed and planned to live in, in six different cities around the world. Each cabin, built in relation to his own physical body, was to act as a constraint to shape his behavior and as a place of seclusion. The work shows an understanding of the mutual shaping of people and spaces, residents and their houses, which in my view is an underexplored area in architecture."* Utermann, Hinnerk: Architectures of Proximity, Künstlerische Dissertation (PhD), Universität für angewandte Kunst Wien 2025, PHAIDRA Repository, URL: https://phaidra.bibliothek.uni-ak.ac.at/o:74076. Further reading: Pfeffer**,** Susanne (ed.), *Absalon.* Cologne: Walther König, 2011.

4 In *Architectures of Proximity*, the author is not an observer but the creator of the research situation. Acting as designer, builder, and host, the author actively shapes and inhabits the spatial setting, becoming an integral part of the encounter. This central involvement precludes detached scientific inquiry and instead situates the work within artistic research, which is inherently subjective. *„My Body is truly the navel of the world, not in the sense of the viewing point of the central perspective, but as the very locus of reference, memory, imagination and integration. All the senses, including vision, are extensions of the tactile sense; the senses are specialisations of skin tissue, and all sensory experiences are modes of touching, and thus related to tactility. Our Contact with the world takes place at the boundary line of the self through specialised parts of our enveloping membrane*." Juhani Pallasmaa, *The Eyes of the Skin. Architecture and the Senses*, 3rd edition, Chichester: Wiley, 2012, p. 14.

5 The motto derives from the Japanese Way of Tea (Tea Ceremony), emphasising the uniqueness of the encounter in the tea room. Further reading: Franziska Ehmcke, *Der japanische Tee-Weg. Bewusstseinsschulung und Gesamtkunstwerk*, Cologne: DuMont, 1991, p. 180.

Walton Hall
An Artistic Inquiry into the Nature Reserve as a Layered Wntity

Sarah Van Marcke, LUCA School of Arts – KU Leuven

#

nature reserves, essayistic film, ecological entanglement, colonial legacy, situated knowledge

Abstract

This artistic doctoral research starts from the concept of the nature reserve as a layered spatial, historical, and ideological entity. The project investigates how political, social, ecological, and military forms of control shape such sites over time, and how the legacies of imperial and capitalist systems continue to inform their present conditions. Rather than approaching nature reserves as fixed ecological spaces, the research examines how their multiple layers can be articulated through visual and artistic practice.

The presentation at CA²RE focuses on Walton Hall (UK), widely considered the world's first nature reserve, established in 1826 by Charles Waterton and now transformed into a luxury private golf club. Through a multidisciplinary and intermedial approach combining archival research, fieldwork, moving image, sound, text, and installation, the research explores how the layered histories of this site persist within its contemporary landscape.

The video work *Dear Anne*, developed from the Walton Hall case study, is shared at CA²RE as both artistic output and research method, and as a case study of intermedial artistic practice as knowledge production in research on spatial transformation.

Introduction

This visual essay is anchored in *Dear Anne*, a video installation developed within an artistic doctoral research project that examines nature reserves as layered spatial, historical, and ideological formations. Its central site is Walton Hall (UK), widely regarded as the world's first nature reserve. Established in the early nineteenth century by Charles Waterton as a walled sanctuary for birds, Walton Hall is today repurposed as an exclusive golf club—an evolution that already signals the site's shifting regimes of protection, access, and ownership.

The visual essay unfolds through two letters addressed to Anne Edmonstone, a young woman of Guyanese descent who arrived at Walton Hall through an arranged marriage to Waterton and lived at the core of the enclosed estate. Despite her central presence, Anne remains largely absent from the dominant historiography of the site. By addressing her directly, the letters trace the transformation of Walton Hall while foregrounding its entanglement with colonial plantation economies that contributed to the estate's formation. Past and present collapse into a landscape where historical violence remains materially and symbolically inscribed.

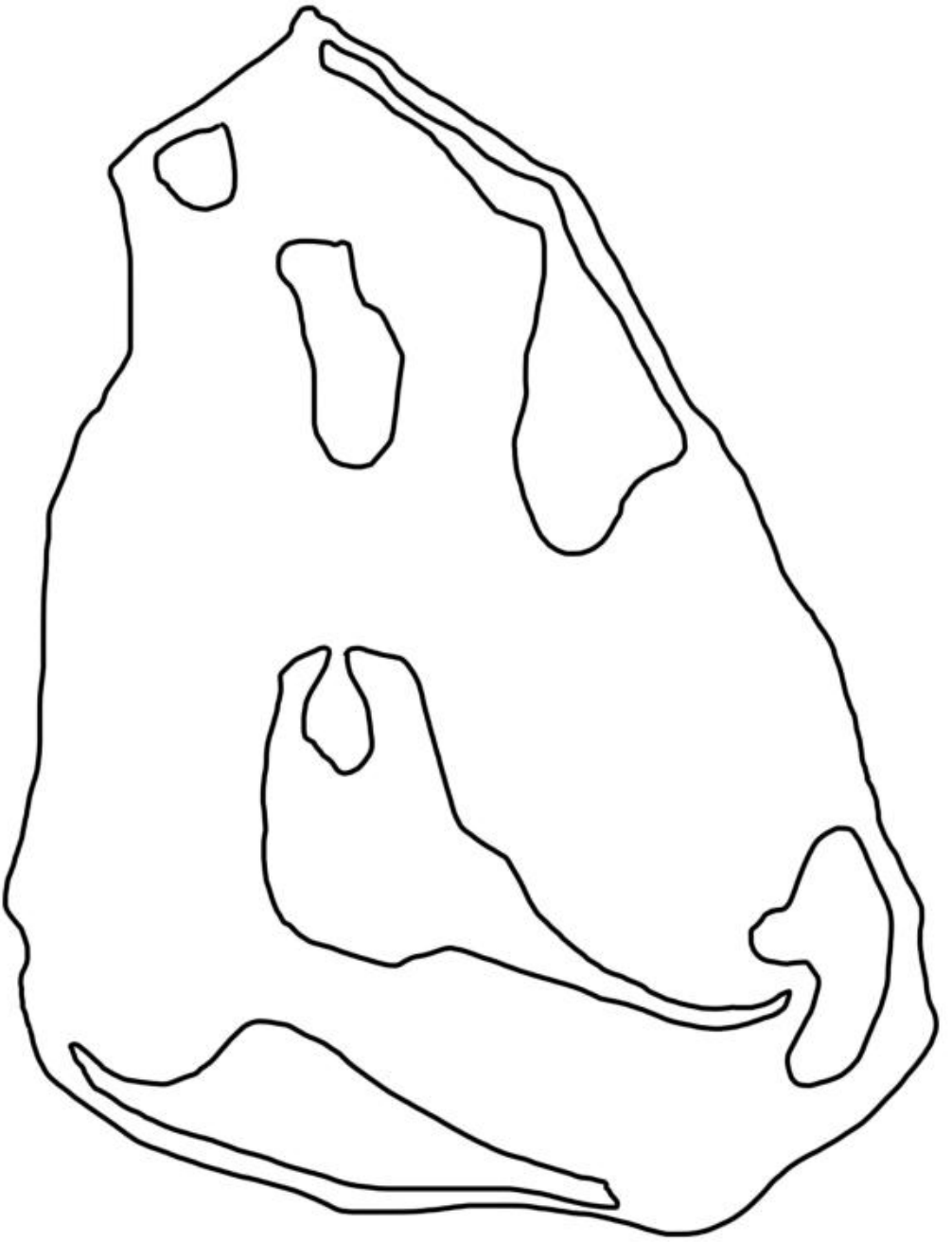

Figure 1: Schematic top-view map of Walton Hall (UK), drawing by Sarah Van Marcke, 2025.

Rather than treating the reserve as a stable ecological entity, the research approaches it as a site in continuous transformation, shaped by ecological idealism, gendered erasure, colonial legacies, and contemporary land-use regimes. The letters operate not simply as narrative devices, but as a situated research method, opening up a space in which speculative, affective, and historically grounded modes of knowledge can coexist, allowing the site to be read through multiple, entangled perspectives. This visual essay builds on a prior video installation in which the letters were originally presented as voice-overs. In this iteration, they are reworked into a visual essay format, where the letters are brought into relation with a sequence of film stills. Together, these elements form an intermedial research apparatus through which the site is explored across multiple temporalities, scales, and more-than-human agencies.

Figure 2: Still from multi-channel film-installation Dear Anne, 25', Sarah Van Marcke, 2025.

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Waterton Park Hotel,
Walton, UK

Dear Anne,

I'm writing from what I've decided is your bedroom. The hotel staff didn't know who you were, let alone where you might have slept. So, from the remaining vacant rooms, I've chosen this one and declared it your former bedroom.

The house is a hotel now and the surrounding grounds an exclusive golf club. What was once the cradle of the world's first nature reserve has been turned into a green desert, a playground for the well-to-do. I'm sitting on the window seat next to the bed. I've closed the curtains around me, so the space I occupy is just as wide as the window. It is only here that I've finally managed to write. The house, these grounds, they are so vast and cold.

I have a photocopy of one of your last letters, written in October 1829, a few months before you passed. It is different from your earlier ones—less polished, more urgent. About halfway through, you turned the paper 90 degrees and began writing over your own words, creating a sort of word grid, layer upon layer, as if it were a secret code or a frantically drawn map.

In the letter, you speak about your pregnancy, the frequent vomiting and the changes in your body. Isolated within this sequestered domain, cut off from the world, so immensely distant from your life in Guiana, from the places and creatures that once grounded you, you were ashamed and unable to grasp what was happening to your body.

When I was pregnant, I remember I had this strange, unsettling feeling as my joints and bones loosened. There's a hormone that softens your body, making it more flexible, like that of some shapeshifting being. I recall standing up, feeling like all the bones of my pelvis were held together only by the skin of my abdomen, like those plastic woven bags for firewood you find at petrol stations.

This room has witnessed your pregnancy, the birth of your child and your untimely death that ensued from it. I imagine the air in this house thick with hormones during your labour. Oxytocin flooding the rooms, pheromones drifting out the windows, weaving into the trees, the water, the sky. Maybe even calming the otherwise territorial swans and geese.

After you, thousands of women gave birth here; a century after your passing, this house became a maternity home. The walls are imbued with contractions and first cries. The wooden floors saturated with amniotic fluids and sweat.

There's a local city archive here in Walton that holds only a few scraps of you, in the form of letters. That is where I made the photocopy of your letter. In the same archive there are also estate records, notes about the biodiversity of this place and the birds that lived here. It states that the mistle thrush began singing in October, when you wrote your letter. And when you went into labour, the sand martins arrived, announcing the birth of your son and your passing. They travelled from afar, crossed oceans and arrived here to nest and care for their offspring, just as you did.

I wonder which bird you loved best. I like the mistle thrush, as they sing in a melancholic minor key.

Love, Sarah

Figure 3: Still from multi-channel film-installation Dear Anne, 25', Sarah Van Marcke, 2025.

Figure 4: Still from multi-channel film-installation Dear Anne, 25', Sarah Van Marcke, 2025.

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Waterton Park Golf Club, Walton, UK.

Dear Anne,

I like watching the golfers. Observing their choreographies. A miniature society unfolding before me.

If I'm being truly honest, I must admit that I might prefer watching golfers to watching birds. It's a troubling thought, I know, and I wish it were the other way around. I usually sneak into the Walton estate by slipping through the gaps in the wall and hiding among the shrubs and bushes that divide the fairways. I'm neither a golfer, nor a member of the exclusive club.

I'm not allowed inside these walls—unless I book a room in the overpriced hotel that was once your home. Then I'm free to lounge around in the wellness centre and gym with the golfers' wives.

So, I devised this clandestine route, hopping from one bush to another, slipping through the remnants of your heritage. I circumvent the green, so no one notices. The brambles covering the bushes make it impossible for golfers to track me. It's dense, dark and damp in there. Protected by thick plastic rainwear, I make my way to the parts of this domain that resist human control. And I watch the golfers.

Yesterday, on my way back to the bus station just outside the domain, one of the golfers drove next to me at walking speed. He rolled down his window and asked, 'What are you filming the whole time? Are you some kind of ornithologist?' So, no, I'm not as invisible as I'd like to be. But I was flattered. I would love to be an ornithologist. I seized the opportunity. 'Yes, I'm an ornithologist,' I replied.

Patiently observing creatures from a distance—tracking their movements, studying their behaviour. A notebook always in hand, filled with tiny, precise sketches of how they inhabit space, alongside a few carefully noted Latin names. It may come as a shock to hear that birds are no longer the central figures in this domain. The wall around the estate, marking the first world's nature reserve, no longer protects the birds from poachers—it protects the golfers and their habitat. An ecosystem of manicured lawns, collared shirts and gentle applause.

The birds' eggs have been replaced by stray golf balls. I find them scattered on the ground around the bushes and scrubland where I roam. Some bearing brand names, others imprinted with slogans that echo some values of this new ecosystem: 'Productivity', 'Challenge', 'Pro Power', 'Top Elite', 'Titanium'.

Once, while crawling through the bushes, I bumped into three kids, about eleven years old. We startled each other, froze for a second, staring into each other's eyes—like four small mammals caught crossing into marked territories. They had crawled through the same hole in the wall as I had and were searching for lost golf balls. A popular hobby among the kids living just outside the wall.

Figure 5: Still from multi-channel film-installation Dear Anne, 25', Sarah Van Marcke, 2025.

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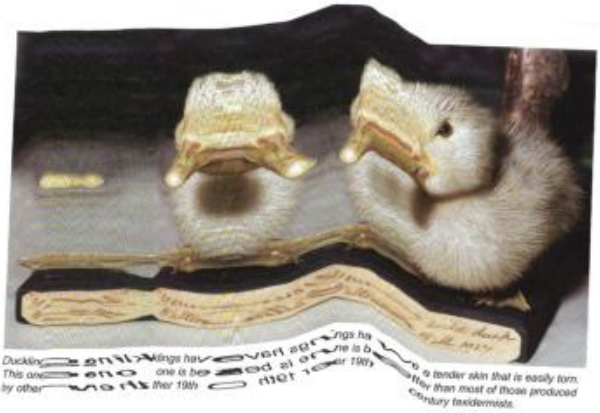

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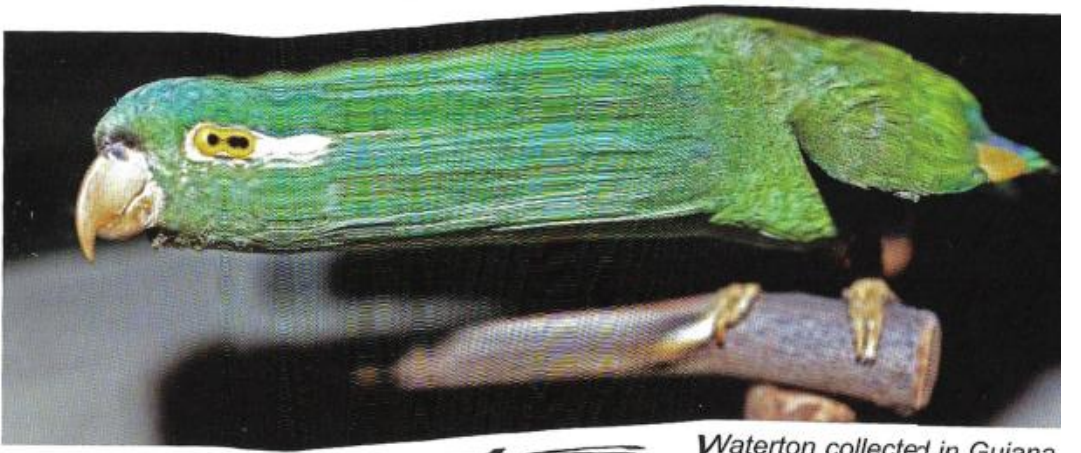
Figure 6: Still from multi-channel film-installation Dear Anne, 25', Sarah Van Marcke, 2025.



One of the many birds Waterton collected in Guiana, in 1820.

I read that in the nineteenth century, when you were living here, British boys had a hobby called 'egging', which mirrored colonial behaviours like appropriation, classification, and objectification. They would steal eggs from bird nests—an organised mass abortion of unborn birds, veiled as a pastime as innocent as collecting stamps. This led to the decimation of some bird species. Today, the small boys have returned to the scrubland, hunting and crawling, in search not of eggs but of golf balls. I tagged along with them for a while as they talked about their favourite balls—the golden ones or those from Titleist, which I found to be less rare than they claimed, but valuable in their eyes.

With all this nattering on about balls and eggs, I'm reminded of how one of the million eggs in your young body fused with a sperm from your husband.

Though I struggle to call him 'husband'—it sounds too romantic. Let's just keep it at 'the man you were married off to', 'the man who brought you from Guyana to Britain.' When he writes about you, it is as though he's describing a small, exotic bird, as if you were scarce and fragile. But know you are not. I hear you in the loud, raucous calls of crows. I can feel you in the brambles' thorns that keep golfers out of the untamed corners of this domain and in the rich black soil beneath this land—now smothered by monotonous grass, but waiting to one day revitalise this domain, to sprout from its fertile core.

Love, Sarah

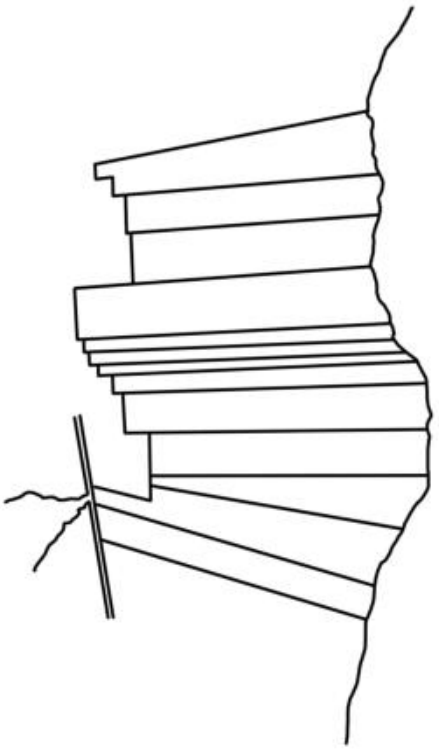


Figure 7: Schematic top-view map of Walton Hall (Guaiana), drawing by Sarah Van Marcke, 2025.

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Wakefield Museum, UK. Archive of Charles Waterton.

American Philosophical Society Library. Archive of Charles Waterton.

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Participant Space Spatial Experience between Installation, Art and Architecture

Paula Vidal, TU Berlin

#

perception, installation, participation, movement

Abstract

This doctoral research analyzes how space can act as an active agent, producing conditions for embodied experience in cultural public spaces. While contemporary artistic practice, especially installation art, has explored space as a condition activated through spatial experience and the viewer's involvement, this research extends this understanding to movement, sequence, and bodily engagement.The project focuses on museums and galleries, where visitors are often framed as passive observers. It examines how spatial configurations activate movement, perception, and decision-making. The research adopts a qualitative, practice-based methodology, in which installations are understood as experimental environments and instruments for knowledge production. This approach enables the exploration of spatiality through conditions such as ambiguity, constraint, and instability, and their influence on bodily behavior.
Through observation, spatial mapping, and comparative analysis, the project identifies patterns of interaction and develops a relational framework. The aim is to translate this knowledge into architectural design principles.

Introduction

Contemporary artistic practices have progressively transformed the understanding of space from a neutral container into an active condition capable of generating experience. Particularly within installation art, space is no longer conceived merely as a background for objects, but as a relational environment activated through movement, perception, and bodily engagement (Rebentisch, 2012). Visitors do not simply observe the work; rather, they become part of a spatial situation that unfolds through their presence and trajectory. This shift has significantly redefined the relationship between artwork, viewer, and environment. Rosalind Krauss's concept of the "expanded field" (1979) already identified the dissolution of disciplinary boundaries between sculpture, architecture, and landscape, opening the possibility for spatial practices that operate beyond object-based logic. Since then, installation practices have increasingly focused on constructing situations of experience rather than isolated aesthetic objects.

In many contemporary installations, experience emerges through sequence, orientation, hesitation, adaptation, and bodily negotiation within space. The visitor's movement becomes constitutive of the work itself. Spatial perception is therefore not static but temporal and relational. This understanding of space has been extensively explored within artistic practice, yet it has not been systematically translated into architectural design methodologies. Within architecture, discussions on spatial experience have traditionally focused on perception, atmosphere, ergonomics, or sensory qualities (Pallasmaa, 2005). Although movement has always been implicit in architectural space, it has often remained

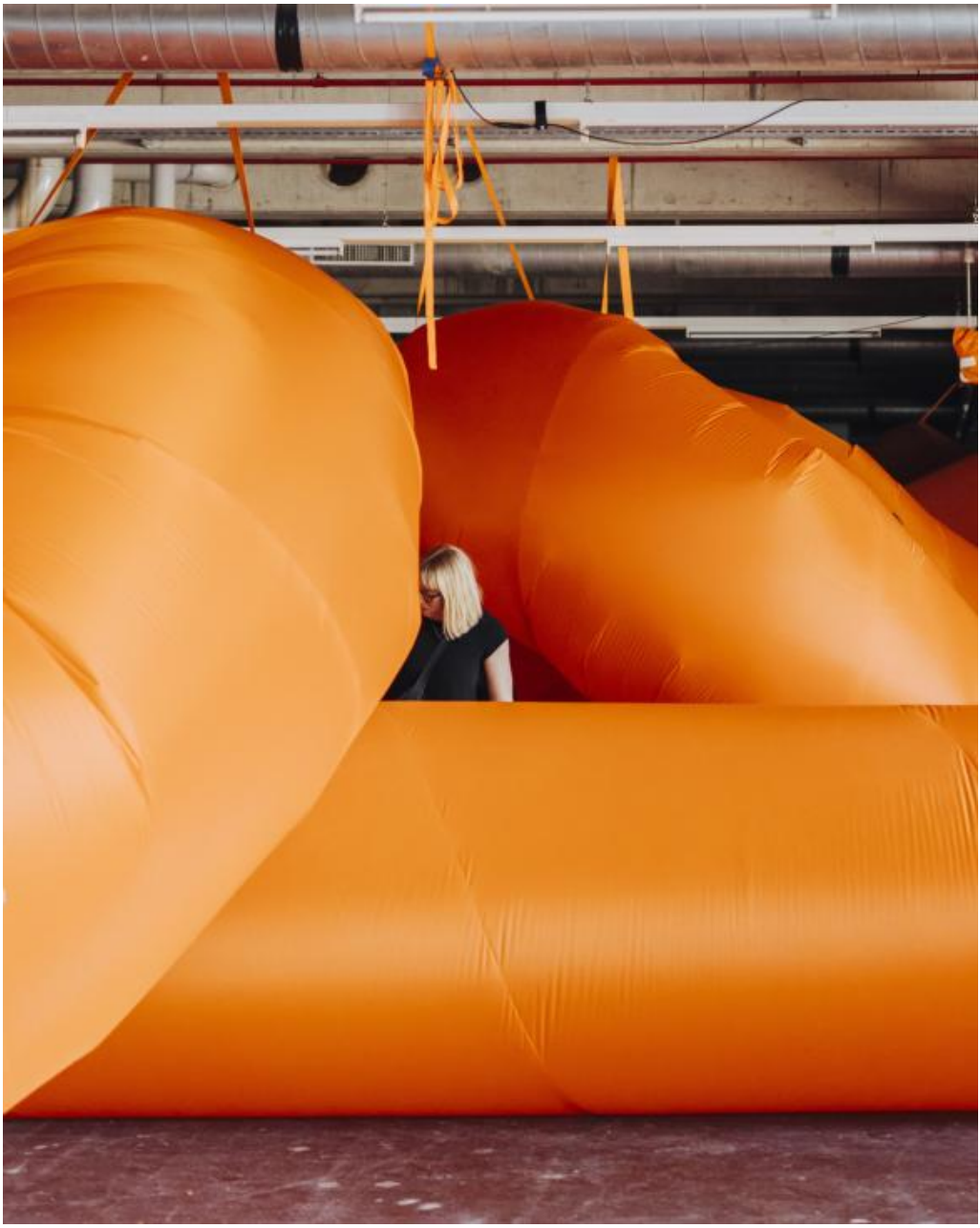

Figure 1: Snoring. On Air Installation by Paula Vidal. Festival 48 Stunden Neukölln. Picture by Savannah van der Niet, 2024.

secondary to form, function, or visual composition. As a consequence, the experiential dimension of movement as a generator of spatial knowledge remains comparatively underdeveloped within architectural research.

This article positions itself within the intersection between artistic spatial practices and architecture. It investigates how spatial configurations can actively produce embodied experience in cultural public spaces such as museums, galleries, and exhibition environments. Rather than understanding visitors as passive spectators, the research examines how

Figure 2: Dis/Order Installation by Paula Vidal. KSTN Projektraum. Picture by Joanna Piechotta, 2020.

spatial conditions can activate movement, decision-making, exploration, and participation. The article proposes the concept of *Participant Space* as a framework for understanding spatial experience as something produced through the interaction between body and environment. In this context, space is not considered a passive container or a reactive technological system, but an active structure that generates conditions requiring bodily negotiation and spatial engagement.

The research emerges from a practice-based methodology combining artistic experimentation, spatial design, observation, and analysis. Through the construction of pneumatic installations and the systematic observation of visitor behavior, the project investigates how ambiguity, instability, restriction, and uncertainty influence movement and perception. By situating itself between artistic research and architectural inquiry, the article seeks to contribute to current discussions on participation, embodied experience, and spatial agency within contemporary cultural spaces.

Space As Experience

The relationship between space and experience has occupied a central position within both spatial theory and artistic practice throughout the twentieth century. Henri Lefebvre (1974) argued that space should not be understood as a neutral physical entity but as a social production shaped through lived practices and relations. Space is therefore continuously produced through interaction, movement, and experience.

Within artistic practice, installation art intensified this understanding by transforming the spectator into an active participant within spatial environments. Rebentisch (2012) describes aesthetic experience as a relational condition in which meaning emerges through the encounter

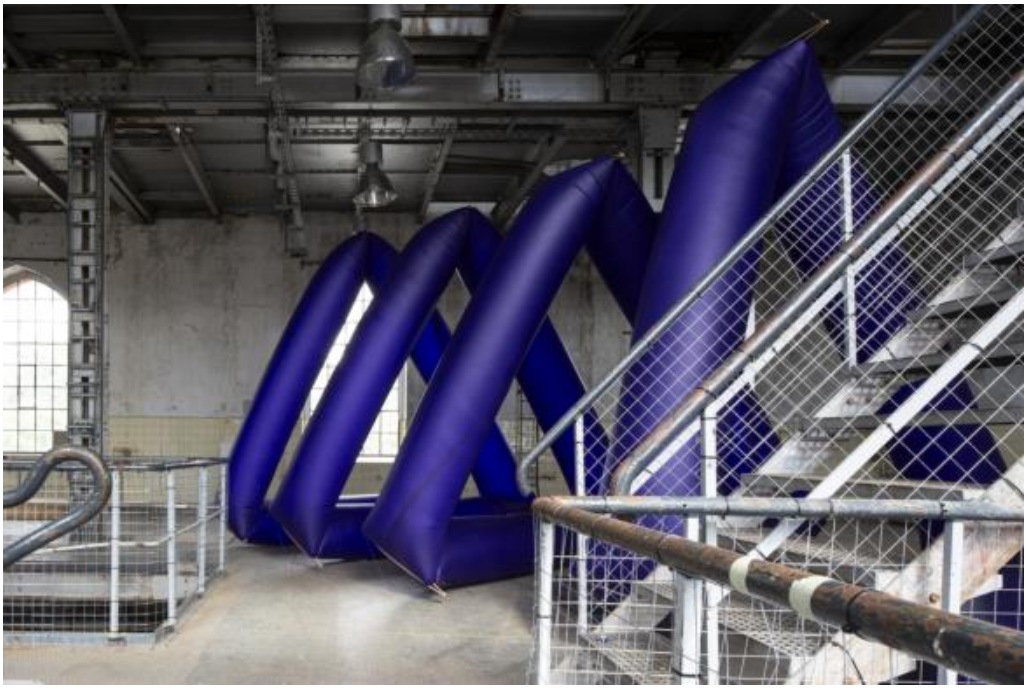

Figure 3: Deriva by Paula Vidal. Monopol Space, Berlin. Picture by Sara Sagui, 2024.

between subject, object, and space. In installation art, the work cannot be separated from the bodily presence of the visitor moving through it. This perspective challenges traditional distinctions between observer and artwork. The visitor becomes implicated within the spatial situation itself. Experience unfolds through bodily negotiation: entering, crossing, orienting, hesitating, adapting, or choosing paths through space.

At the same time, spatial perception theories developed by Rudolf Arnheim (1977) emphasize how spatial organization structures visual and cognitive understanding. Movement through space is not merely physical displacement but also a perceptual and interpretative process. Similarly, Manfred Lehmbruck (1965) highlighted the physiological and rhythmic dimensions of movement within exhibition spaces, suggesting that spatial sequences directly affect bodily awareness and perception. However, many contemporary participatory or immersive environments rely heavily on technological systems, digital interaction, or mediated responsiveness. While these approaches produce forms of participation, they often shift attention toward reactive systems rather than toward the spatial configuration itself.

The present research focuses instead on how spatial conditions alone may generate participation and embodied engagement. The question is not how technology responds to users, but how space itself can structure behavior, perception, and decision-making through material, geometry, sequence, scale, instability, or ambiguity.

Participant Space

The concept of *Participant Space* emerges from this investigation as a way of describing spatial situations in which experience is actively produced through bodily interaction with the environment. Participant Space differs from conventional exhibition space because it does not position the visitor as an external observer. Instead, the visitor becomes spatially implicated within the construction of the experience itself. Movement is not secondary to the work but constitutive of it.
Within this framework, experience is generated through the relationship between two interconnected spatial conditions:

- **Host Space**: the architectural or environmental system that structures spatial conditions.
- **Visitor Space**: the artistic spatial field that generates dynamism in the user throughout bodily movement, perception, orientation, and action.

The interaction between these two dimensions produces the experiential condition of the space. Rather than being fixed, experience emerges relationally through negotiation between body and environment. The research proposes that certain spatial conditions tend to activate participation more intensely than others. Ambiguity, instability, compression, uncertainty, restricted visibility, sequential transitions, and changing orientations can provoke hesitation, exploration, adaptation, and decision-making processes. These conditions are particularly relevant because they reveal how space may act as an active agent without relying on technological responsiveness. Spatial configuration itself becomes capable of structuring behavior and generating experience.

Practice-Based Methodology

The research adopts a qualitative and practice-based methodology in which artistic production functions simultaneously as experimentation and knowledge generation (Candy & Edmonds, 2018). Rather than applying theory to finished designs, the project develops through an iterative process in which design, construction, observation, and analysis continuously inform one another. Spatial experimentation becomes a method for producing questions as well as results.
Central to the methodology is the design and construction of pneumatic installations used as experimental environments. Pneumatic structures are particularly relevant because of their perceptual ambiguity. Unlike conventional architectural structures, they challenge stable spatial expectations and require continuous bodily adaptation. These installations function not merely as artistic objects but as epistemic instruments through which spatial behavior can be observed and analyzed. The methodology combines several forms of investigation:

- direct observation of visitor movement and behavior;
- spatial mapping of trajectories and sequences;
- visual documentation through drawings, diagrams, photography, and video;

- comparative analysis across different installations and exhibition contexts;
- embodied experience of the researcher within the installations themselves.

Observation focuses on moments of hesitation, adaptation, uncertainty, exploration, resistance, and decision-making. Rather than treating behavior as measurable data alone, the research interprets these actions as indicators of how spatial conditions structure experience. The analysis develops through comparative interpretation between projects, identifying recurring patterns of interaction between body and environment. From these observations, an emerging taxonomy of spatial relations has been developed, including intrinsic, eccentric, and mediated-intrinsic conditions between Host Space and Visitor Space. This process seeks to transform experiential and intuitive knowledge into transferable architectural understanding.

Figure 4: OSS Installation by Paula Vidal. GlogauAir Artspace, Monopol Berlin, Vorfluter Projektraum. Graphic by Paula Vidal, 2026.

Preliminary Experiments

The preliminary phase of the research has involved the development of multiple experimental installations exhibited across different cultural contexts in Germany, Spain, Austria, and Italy. These installations investigate how unconventional spatial environments influence bodily behavior and visitor engagement. Their presentation within museums, galleries, festivals, and public cultural spaces has provided opportunities to compare visitor responses under varying spatial conditions.

The experiments revealed recurring behavioral patterns associated with particular spatial situations. Ambiguous transitions often generated hesitation and exploratory movement. Compressed spaces increased bodily awareness and negotiation between visitors. Instability and perceptual uncertainty provoked slower movement and intensified attention toward spatial surroundings. The comparative observation of these installations

also demonstrated how architectural context significantly affects participation. Variations in ceiling height, circulation systems, thresholds, visibility, and institutional framing altered the ways visitors approached and navigated the installations. Through these experiments, the research began developing diagrammatic tools capable of mapping spatial interaction and bodily trajectories. These representations function both analytically and projectively, allowing spatial relations to be compared across different environments. Importantly, the preliminary work suggests that participation may emerge not only through explicit interaction but also through the spatial conditions that require bodily adaptation and decision-making.

Figure 5 : Dis/Order and OSS Installation by Paula Vidal. GlogauAir Artspace, KSTN Projektraum. Pictures by Joanna Piechotta, 2020-22.

Toward Architectural Transferability

One of the central aims of the research is to investigate how knowledge derived from artistic spatial practices may contribute to architectural design. Contemporary cultural spaces frequently position visitors within predetermined circulation systems optimized for observation and efficiency. However, installation art demonstrates that movement itself may become a generator of experience, perception, and engagement. The project, therefore, proposes that architecture can move beyond the conception of space as static form or neutral support. By understanding space as an active system capable of structuring embodied experience, architectural design may develop new approaches to participation and public engagement.The notion of Participant Space does not propose a singular design strategy but rather a relational framework for analyzing

Figure 6: Snoring. On Air Installation by Paula Vidal. Festival 48 Stunden Neukölln. Picture by Savannah van der Niet, 2024.

how spatial conditions affect bodily behavior. This framework may offer architects new tools for thinking about circulation, thresholds, sequence, orientation, ambiguity, and spatial agency. The transfer of these insights into architecture is particularly relevant for cultural public spaces, where experience increasingly plays a central role in how institutions engage audiences. Museums, galleries, and exhibition environments may therefore be reconsidered not simply as containers for cultural production but as active spatial systems capable of generating knowledge through experience itself.

Conclusion

This article has explored how contemporary artistic spatial practices, particularly installation art, provide important insights into the relationship between space, movement, and embodied experience. By examining space as an active agent rather than a passive container, the research proposes the concept of Participant Space as a framework for understanding how spatial configurations generate experience through bodily engagement. Through practice-based experimentation with pneumatic installations, the project investigates how ambiguity, variability, sequence, and spatial restriction influence movement, perception, and participation. The research combines artistic practice, observation, and architectural analysis in order to develop transferable forms of spatial knowledge. Situated between architecture and artistic research, the project contributes to ongoing discussions surrounding participation, spatial agency, and embodied experience within contemporary cultural spaces. Ultimately, it argues that architecture can learn from artistic spatial practices not only formally or aesthetically, but methodologically — by understanding movement and bodily negotiation as fundamental generators of spatial experience.

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At the Confluence

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flooding, climate adaptation, grassroots, environmental justice, theory of change

Abstract

"At the Confluence" reflects on the practicalities of transferring theoretical knowledge on environmental stewardship into tangible design outcomes during a community-led design process for the Mathare River in Nairobi, Kenya.
Part of a practice-based research project, this exploration examines how theory and practice contribute to one another and how concepts become practical outcomes. As any urban project is unavoidably composed of many such Trajectories – oscillating between best practice and regulations, between innovation and 'business as usual', … – the moment when these decisions are solidified merits attention. I call it the Confluence of Trajectories and use it as a checkpoint to observe how the 'perfect' theories from research become heavily negotiated and transformed.
Taking a methodological lens, I illustrate how the Theory of Change became an actionable tool to recognise, make tangible, and legitimise local environmental stewardship.

Introduction

With the emergence of new epistemologies and formats of research, the boundaries defining scholarly work are continuously shifting. New forms of knowledge production, like artistic or practice-based research, are an invitation to re-establish what a contribution to academic scholarship is and how such knowledge production is undertaken (Candy et al., 2021). Interrogations on practice-research links are particularly of interest in urban fields where the consequences of climate change are increasingly pressing. This urges to accelerate the implementation of state-of-the-art research. Positioning practice as a testing ground for cutting-edge ideas can bridge the theory-implementation time gap, particularly significant in urbanism, where projects can take decades (Scaini et al., 2024; Ahern, 2011).

Inspecting a specific moment of my research, I reflect on how urban climate adaptation is implemented, how the 'perfect' and 'weightless' (McNay, 2014:4) theory is negotiated, and what methods could solidify it during this transformation. In this case, I use Theory of Change (ToC) – a process tool establishing connections between activities and outcomes of a given project (Stein and Valters, 2012; Drabble et al., 2021) – as a methodological device to assist and evaluate the process. The stage of transformation from holistic vision to detailed plan illustrates how ToC can have significant impacts on practice-theory linkages.

Community-led river stewardship

In a global race towards resilience, urban climate adaptation has become a widely endorsed objective (Quigley et al., 2018). Climate adaptation is

Figure 1: Urban farming initiative in Mathare. Image by Vija Viese, 2025.

largely tackled in a planned and formal manner, especially in the formalised governance systems of the Minority World. Yet, in the generally informal contexts of the urbanising Majority World, a lot of adaptation is done at the community level (Galvin, 2019; Mitlin, 2008). Community-based adaptation (CBA) has particular transformative potential in informal settlements where state power is weak or absent (Fox et al., 2023; Bayat, 1997). In development research, substantial advocacy for CBA expresses its strengths in engaging local knowledge, increasing participation, and addressing underlying social issues (Haque, 2021; McEwen et al., 2017; Seebauer et al., 2019). While remarkable in theory, community resilience projects often come with unintended consequences like forced professionalisation, maladaptation, romanisation self-help, and socio-economic exclusion, among others (Puzyreva, 2022; Coates, 2015; Beilin and Wilkinson, 2015). Thus, scholars have argued for mixed, mosaic, or flexible practices (Maskell et al., 2025; Buijs et al., 2016; Fransen et al., 2024) to negotiate resilience.

Within this complexity, my research considers these in-between spaces to draw bridges between the sources of the climate risks and the people best placed to lead adaptation efforts. Observing flood-prone urban rivers around the world, people spontaneously take up environmental stewardship (ES) practices – actions "to protect, care for, or responsibly use" (Bennett et al., 2018) these natural resources. This is enacted through diverse ecological and social activities, like tree-planting, urban farming (Fig.1), combating soil erosion, nurturing biodiversity, education, waste cleanups, pollution monitoring, and many more. Yet much of this

everyday adaptation labour, while benefiting all, is unpaid and unrecognised by the formal authorities, oftentimes the real responsibles for these tasks (Johnson et al., 2023).

Aiming to tackle this injustice, my research imagines shifting perceptions on stewardship from a free resource towards an incentivised and legitimised adaptation practice. I position urban design as the driver in recognising, giving space, and promoting ES that could persist long term without fears of eviction, illegality, or political power dynamics.

This essay focuses on one moment in the design process – the shift from the 'theoretical space' of paper designs towards the 'concrete practical space' of realised urban project. This transition is what I call the **Confluence of Trajectories**. This is where the different Trajectories – intentions, needs, resources, best practices, local regulations, stakeholder agendas, and habits – meet and interact. While *paper does not refuse ink*, the same cannot be said about implementation. Difficult, contested, or even unpleasant, it is an inevitable stage linking the wide potentialities of paper to the restricted choices of reality. Using a methodological lens, I observe how ToC allowed the ambition of ES integration to take shape.

Mathare

While it's not uncommon for river flooding to interrupt the daily workings of the Mathare informal settlement in north-eastern Nairobi, the disaster of 2024 was unprecedented. Sweeping through the settlement in the dead of night, the floods took the community unawares and ravaged the banks of the Mathare River. Although the water subsided, the disaster continued as the government – seeing opportunity in a tragedy – organised a river clearance campaign. All informal constructions in a 30-meter buffer zone along the 3 rivers of the city were demolished. Resistance is written in the DNA of the residents here, with the rebellious spirit inhabiting the community since colonial times. Thus, seeing the neighbouring Nairobi River be hastily transformed with little to no public participation, alarm bells were rung in Mathare.

A decision was made by the residents, with supporting NGOs, to not sit back and watch their community spaces be shaped without their input, but rather to take matters into their own hands. This started a process of a community-led spatial design, centring the economic, ecological, and social activities in the riparian areas. What set this project apart was its ambitions – community-designed (Fig.2), locally adapted, and environmentally-conscious – ideas largely missing in the official masterplans.

Joining this process in the initial stages, I had the opportunity to contribute as both an urban designer and researcher by assisting, facilitating, and informing the process. Bringing in knowledge and theory on the benefits and pitfalls of everyday climate adaptation, ES practices could be centred in the spatial plan.

Figure 2: Community co-design workshop in Mathare. Image by Vija Viese, 2025.

Experiencing the Confluence

The community-led design process was a series of workshops on mapping, ideation, design, and validation, split into 5 sections of the river. It brought together the residents, local community-based organisations (CBOs), youth groups, small businesses, NGOs, local leaders, and researchers. While resulting in a holistic plan for the 9km length of the Mathare River, it represented an idealised version of the future (Fig.3). One that could not be realistically implemented, due to technical, financial, and legal restrictions. Rather, this 'community wish list' served as a guide to produce more comprehensive and pragmatic detailed plans.

While defined since the initial stages, ToC became a decisive tool in the conception stage of these plans. Setting clear ambitions, priorities, and procedures (Fig.4) kept us from losing track during the different steps. Through snippets of experiences from Mathare, I illustrate the use of ToC in a design case to reflect on the various ways it helped to address problem situations.

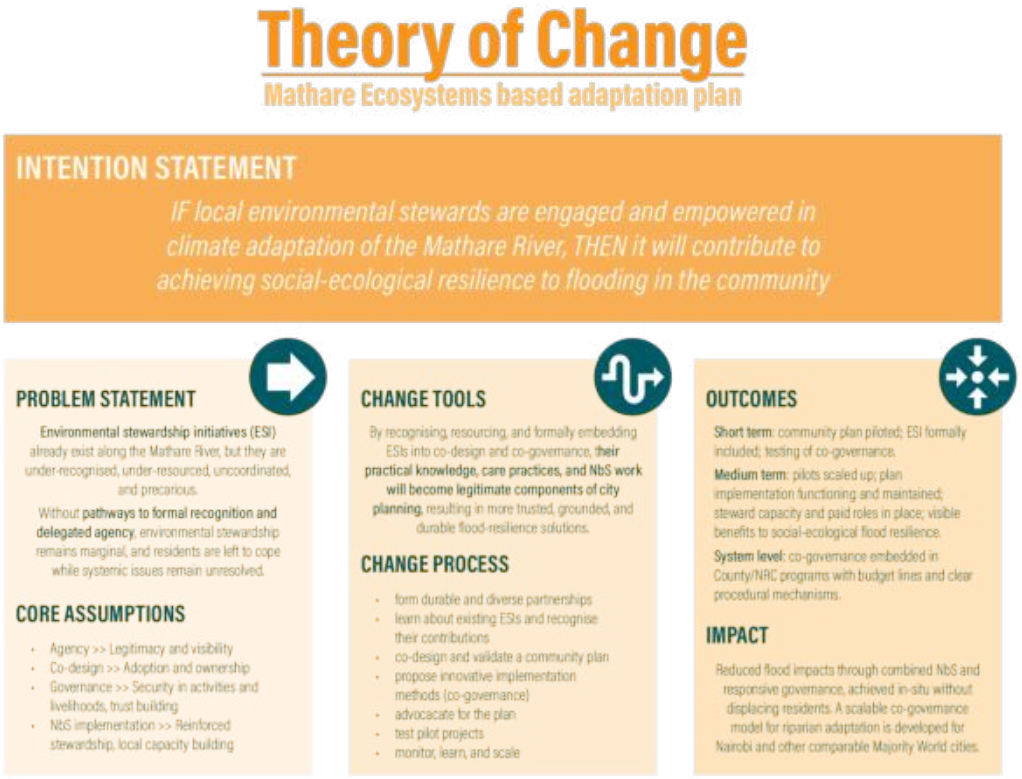

Figure 3: Theory of Change model. Vizualizations by Vija Viese, 2025.

Upholding ambitions

Early in the design process, the question of implementing the best practices in climate adaptation needed to be addressed. Academic literature often advocates for embracing local knowledge and experiences as the basis for design (Toomey et al., 2021). Yet it became clear that not only had local adaptive practices occasionally led to maladaptation, but that local knowledge had considerable gaps. In the informal setting, changes in climate conditions can be fast and multifaceted, resident turnover can hinder knowledge accumulation, and data collection can be irregular.

For the adaptation Trajectory to persist **[P]** (Fig.5), we needed to bring in external knowledge and experts to consolidate the gaps on both climate challenges and solutions. With adaptation defined as a cornerstone of our ToC, it allowed us to justify the additional efforts and resources in thoroughly addressing the issue.

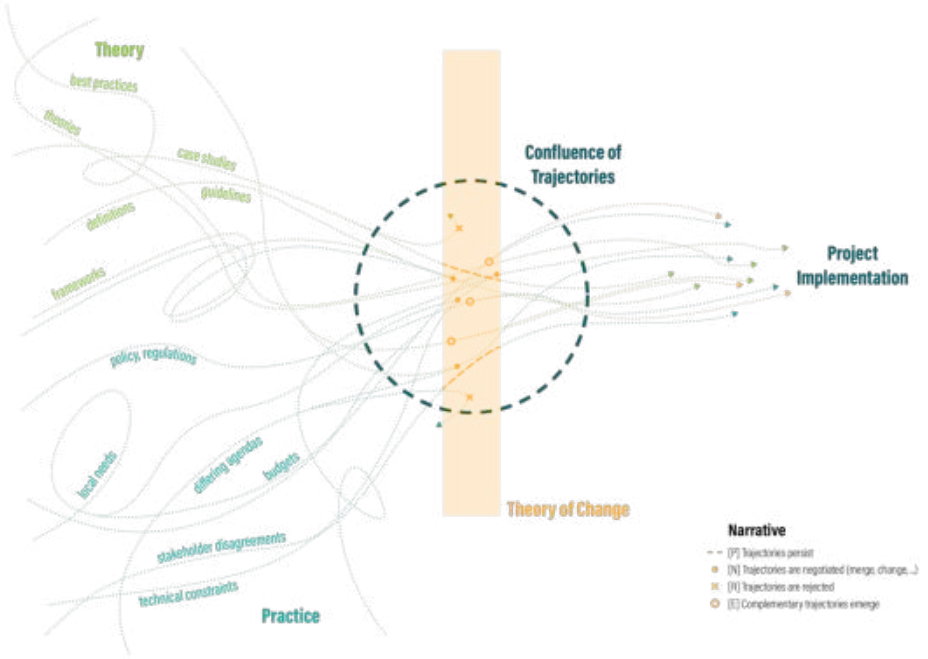

Figure 4: The Confluence of Trajectories – a visual representation by Vija Viese, 2025.

Legitimising decisions

During a discussion session with local authorities, scepticism was expressed about implanting urban agriculture into the plan, citing legislation that forbids animal husbandry in these spaces. While currently such activities do occur, our proposal could not promote illicit uses, even indirectly.

By presenting a collection of best practices of CBA with cases directly from Nairobi, as well as research indicating their positive impacts on physical and socio-economic challenges (e.g. Muchiri and Opiyo, 2022), we showed our vision of river ES. Positioning spatial manifestation of ES as a core need for achieving our ToC ambitions allowed these Trajectories to persist **[P]** in the detailed plans, even if in somewhat negotiated **[N]** forms.

Allowing innovation

Similarly, certain initial solutions needed to be revised when confronted with reality. While adapting the general plan to the contextualised flood impacts, we recognised that not all locations could be sufficiently protected only using green and nature-based solutions, as the community had initially intended. Additionally, local authorities upheld the opinion that all flood protective measures should be infrastructural.

Learning from local cases of mixed infrastructure efficiency (Mulligan et al., 2020) opened the doors to identify space for innovation. We could

collectively pinpoint where the 'business as usual' functioning was mandatory (e.g. high flood impacts) and our Trajectories would be rejected **[R],** as well as spaces where green and innovative solutions could be imagined **[N]**.

Making the intangible tangible

If integrating an intangible idea like ES into a design proposal was exciting and significant, its implementation into a spatial plan was no obvious task. Guided by the steps defined in our ToC, we mapped and surveyed the CBOs active in the area to understand their operations. Seeing commonalities between the actions, spaces, and installations that these groups used, the decision was made to allocate specific spaces that would be designed and dimensioned according to these activities. This allowed for our main Trajectories to continue in negotiated forms **[N]** and new solutions to emerge **[E]**.

Identifying (and acting on) gaps

Finally, ToC led us to identify gaps in our knowledge and provided us with an 'excuse' to fill them with new, emerging **[E]** Trajectories.

For instance, drawing the allocated plots for CBO activity made us realise that putting these ideas on paper would not be sufficient as new conflicts of use, tenure, or decision-making could arise (Rivero-Villar and Vieyra Medrano, 2022). There was a need to accompany the spatial plan with robust co-governance mechanisms (Fransen et al., 2024) that would not only dictate fair ways to distribute and use these parcels but also appease tenure insecurity – often an obstacle for residents' time and resource investment (Mulligan et al., 2017). Not having well-established examples of such governance mechanisms within our partnership, we opted for conducting additional surveys with local stakeholders who shared their experience and innovations. Thus, we established a set of pathways for co-governance that could be further negotiated with the local government.

While this illustration of ToC use is by no means exhaustive, I consider it to be a relevant contribution in discourse on theory-practice linkages in urban design practice-based research.

Conclusion

This essay provides a snapshot of how the knowledge on climate adaptation and environmental stewardship was translated, negotiated, and transformed during a community-led urban design project in Mathare, Nairobi. By focusing on the moment of transition from abstract plans to realised interventions – the moment I call the Confluence of Trajectories – it shows how the use of Theory of Change as an actionable methodological tool allowed us to resolve the frictions that arose in this 'translation' process.

From its onset, the community positioned the process as particularly ambitious, centring ecological, economic, and social futures into the riparian spaces. Concretely, this meant that the notions of environmental stewardship – usually a form of spontaneous and individual environmental activism – were to become a tangible, encouraged, and legitimised part of the design.

Rather than aspiring to the faithful execution of 'perfect' theories, the essay argues that implementation necessarily produces imperfect, negotiated outcomes shaped by local constraints, power relations, regulations, and lived realities. In this sense, practice cannot and should not aim to be the physical manifestation of theoretical knowledge. During this process, I learnt to see the negotiated design pathways as a situated form of theory where the multiplicity of Trajectories meets and intertwines within the Confluence.

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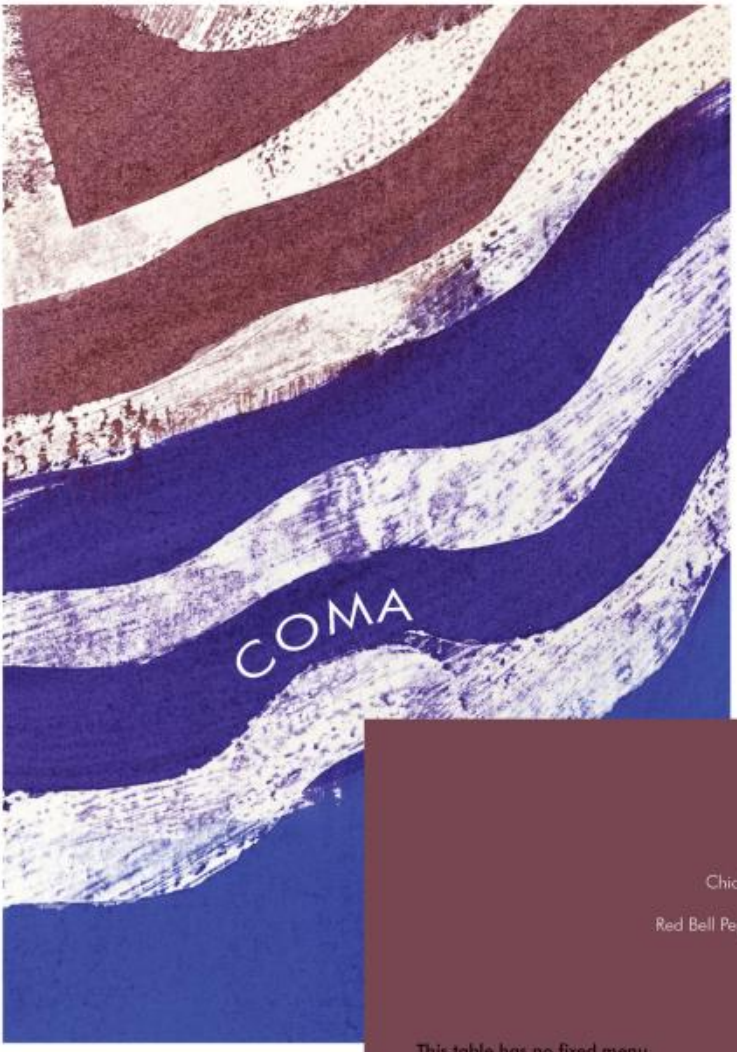
COMA — Pick up, dig, combine, Layer

Max Neumann
Constanze Böhm

Photo: Busra Balaban

Photo: Rebekka Wandt



Spreads:

Bean | Garlic | Lemon

Chickpea | Date | Tumeric | Orange

Red Bell Pepper | Tomato | Walnut | Cumin

This table has no fixed menu.
Pick up, dip, combine, layer.
Follow your own trajectory through the flavours
— or let yourself be surprised by an unexpected combination.
The spreads, pickles, breads and bites are an invitation
to compose rather than consume.
There are no wrong choices.

Enjoy the journey.

Çiğ Köfte (With bulgur support from Veggiebabe <3)
Sesame and Black Cumin, Pistachio,
Chili and Sumach, Parsley

Roasted Carrot and Mushroom

Sourdough Bread

Ka'ach (Savory rings)

Roasted Nuts, Rosemary

Coriander Zhoug

Fried Capers

contact: info@max-neumann.com

Photo: Büşra Balaban

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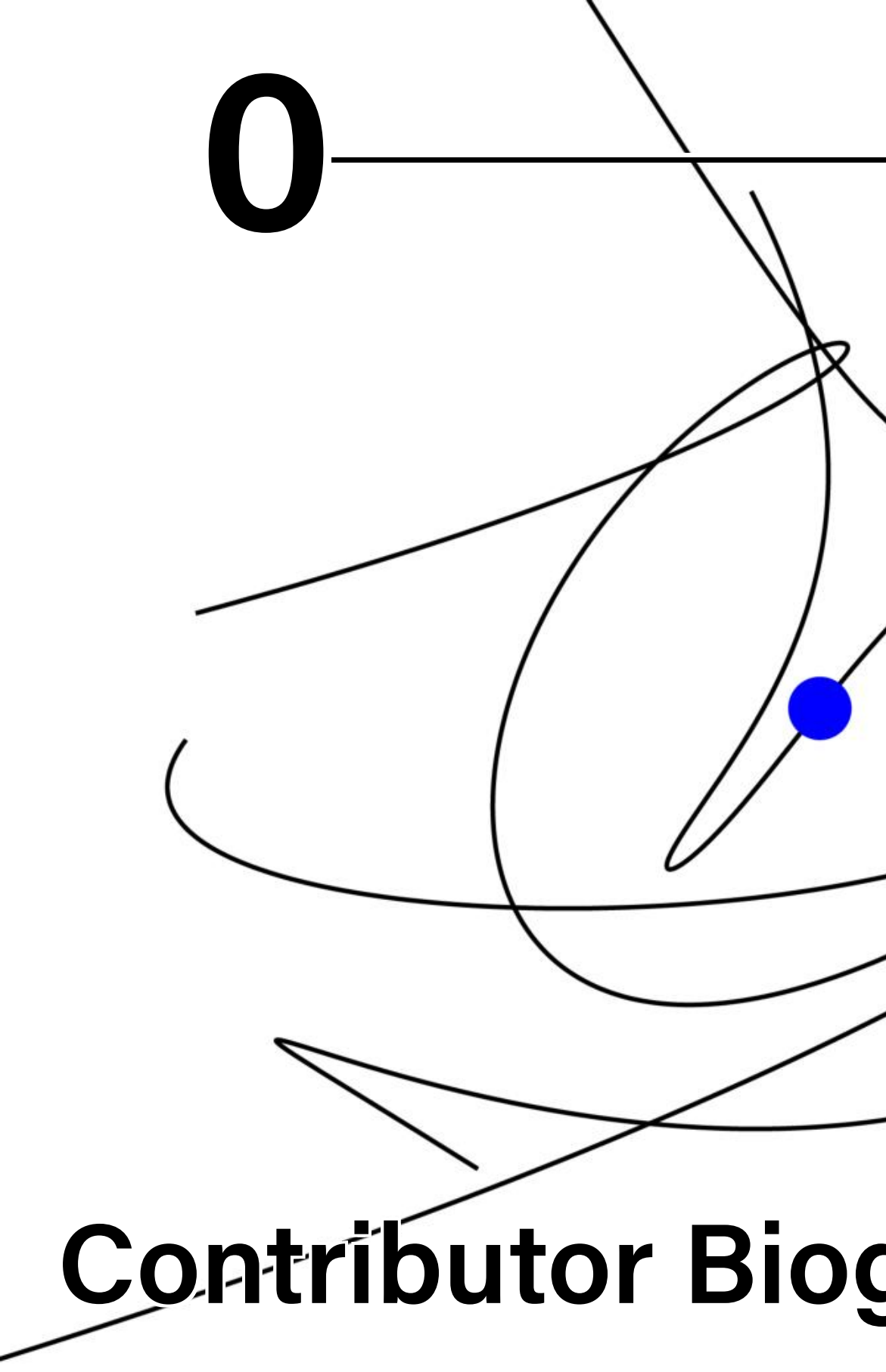

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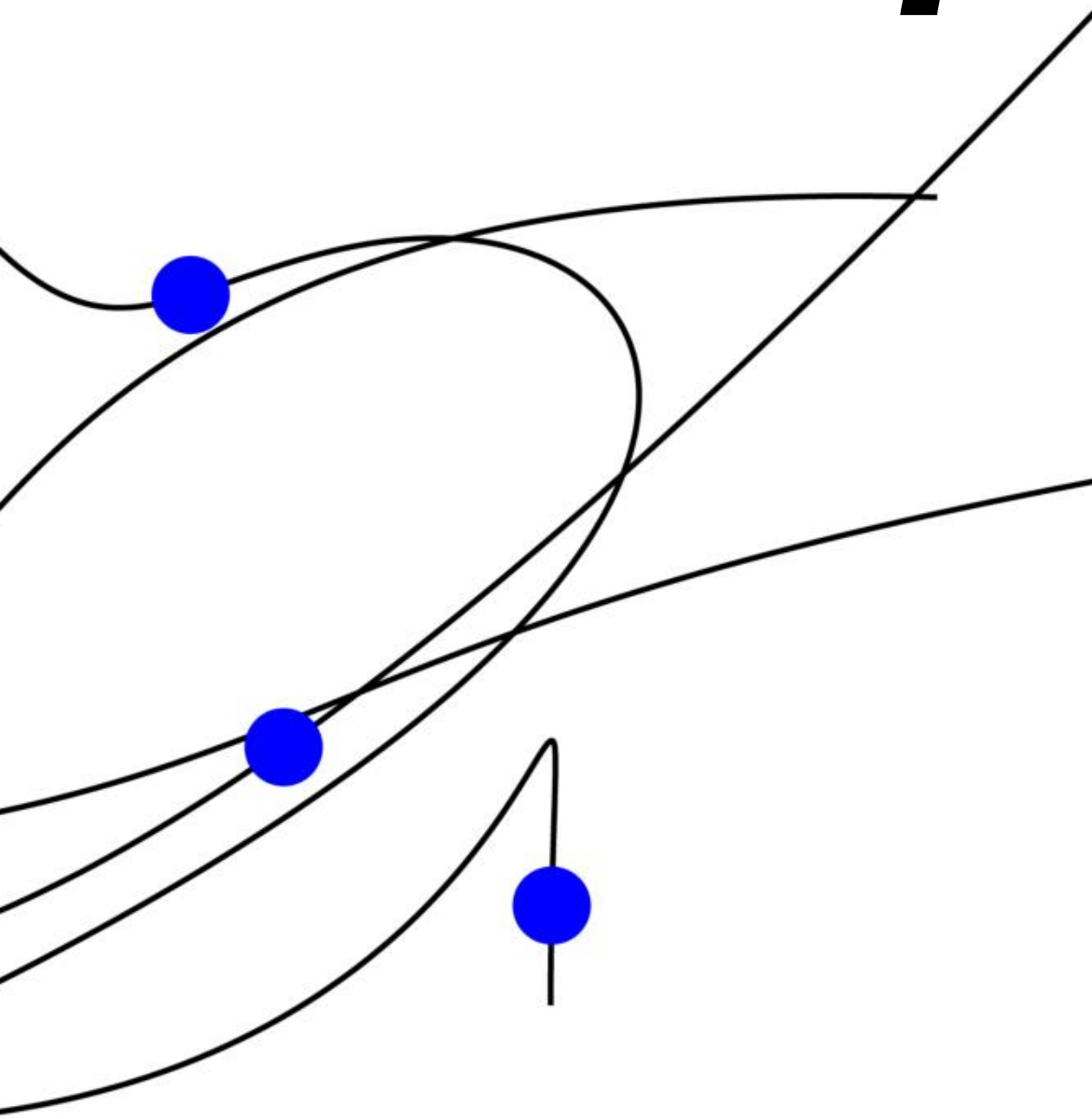

graphies

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Riccarda Cappeller is an architect, author, visual sociologist and curator working across design research, processes of urban transformation, spatial practices and artistic creation. From 2018 to 2026 she was assistant professor at the Chair for Territorial Design, Leibniz University Hannover (LUH) and developed international workshops for the Circular Design Innovation Alliance (CiD), MA Coop Design Research Dessau, ETSAV Barcelona, UNIVPM Ancona, ETSAB Barcelona among others. Her awarded doctoral dissertation, *Cooperative Architecture* (2024), frames architecture as a performative practice and proposes new methods for grasping urban contexts and creating spatial experiences. Further work includes publications with Politik & Kultur, Baunetz, and IBA Thüringen, curatorial projects and short films.

Sabine Hansmann is an architectural theorist working at the intersection of architectural theory, architectural anthropology, and design research. Trained as an architect, she studied in Stuttgart and Tokyo and received her PhD from Technische Universität Berlin in 2019 with a dissertation

exploring the potential of Actor-Network Theory for architectural understandings of space. She has taught and conducted research at HafenCity University Hamburg, TU Berlin, TU Braunschweig, Bauhaus Dessau, and the Manchester Architecture Research Group. Her work investigates the socio-material production of space and develops ethnographic approaches to architectural research. She is currently Acting Professor for Architecture, Space and Society at HafenCity University Hamburg and will take up the position of Acting Professor of Architectural Theory at Karlsruhe Institute of Technology (KIT) in April 2026.

Irati Irulegi is Idensitat's coordinator of projects. She has a degree in Art History from the University of Barcelona (2010). She holds a postgraduate degree in Exteriorism, Events and Ephemeral spaces from Elisava and a Master of The Dutch Art Institute, DAI (2017–2019). She considers mediating and curating as part of the artistic process, understanding it as a collaborative work with artists, related to a contextual framework.

Thierry Lagrange graduated from the University of Ghent with a Master of Science in Civil Engineering Architecture (1993) and earned a PhD, *Look Here Now, Mapping Design Trajectories*, in 2013 at KU Leuven, Faculty of Architecture. He is a professor at KU Leuven, Faculty and Department of Architecture, and a practising architect since 1997, running the office ALT architectuur. He teaches architectural design (master dissertation studio *The Double Look* and master studio *Care-ful Architecture*) at KU Leuven. He also heads the Architecture & Design research division. In his current Design Driven Research, he develops so-called Analogous Spaces, where intangible and mental elements become explicit.

Enrico Miglietta is an architect with a double PhD in Architectural, Urban and Interior Design (Politecnico di Milano) and in Architecture (KU Leuven). He is a Research Associate at KU Leuven, Department of Architecture. In 2024, he co-founded Atelier Vetia with Arch. Briselda Calliku—critical reflective practice bridging professional, academic, and research experiences. Their work focuses on dwelling, exhibition design, and architectural restoration, with particular attention to reuse and heritage enhancement. Since 2016, he has taught in design studios and international workshops at Politecnico di Milano, KU Leuven, and Università Iuav di Venezia, focusing on preservation and regeneration of the European city's cultural heritage.

Claus Peder Pedersen is an architect and professor whose research is grounded in design methodologies and Research through Design as critical tools for advancing architectural knowledge. His work explores how architecture operates across scales—from material assemblies to urban infrastructures—through an investigation of media, representation, and form. He is particularly interested in how design processes and the use of representational tools (both analog and digital) shape spatial thinking, inform aesthetic and experiential outcomes, and contribute to interdisciplinary research contexts.He is currently Professor MSO in Research by Design and Head of the PhD School at the Aarhus School of Architecture.

Ramón Perramón is an associate professor and researcher at the Faculty of Fine Arts at the University of Barcelona. He is the head of the

Department of Visual Arts and Design (2025–). He is also the director and founder of IDENSITAT (1999–), a collective project through which he develops his research practice as an artist and cultural manager. His research focuses on the interrelation between artistic practices and social space, with particular emphasis on collaborative methodologies and context-driven pedagogical frameworks.

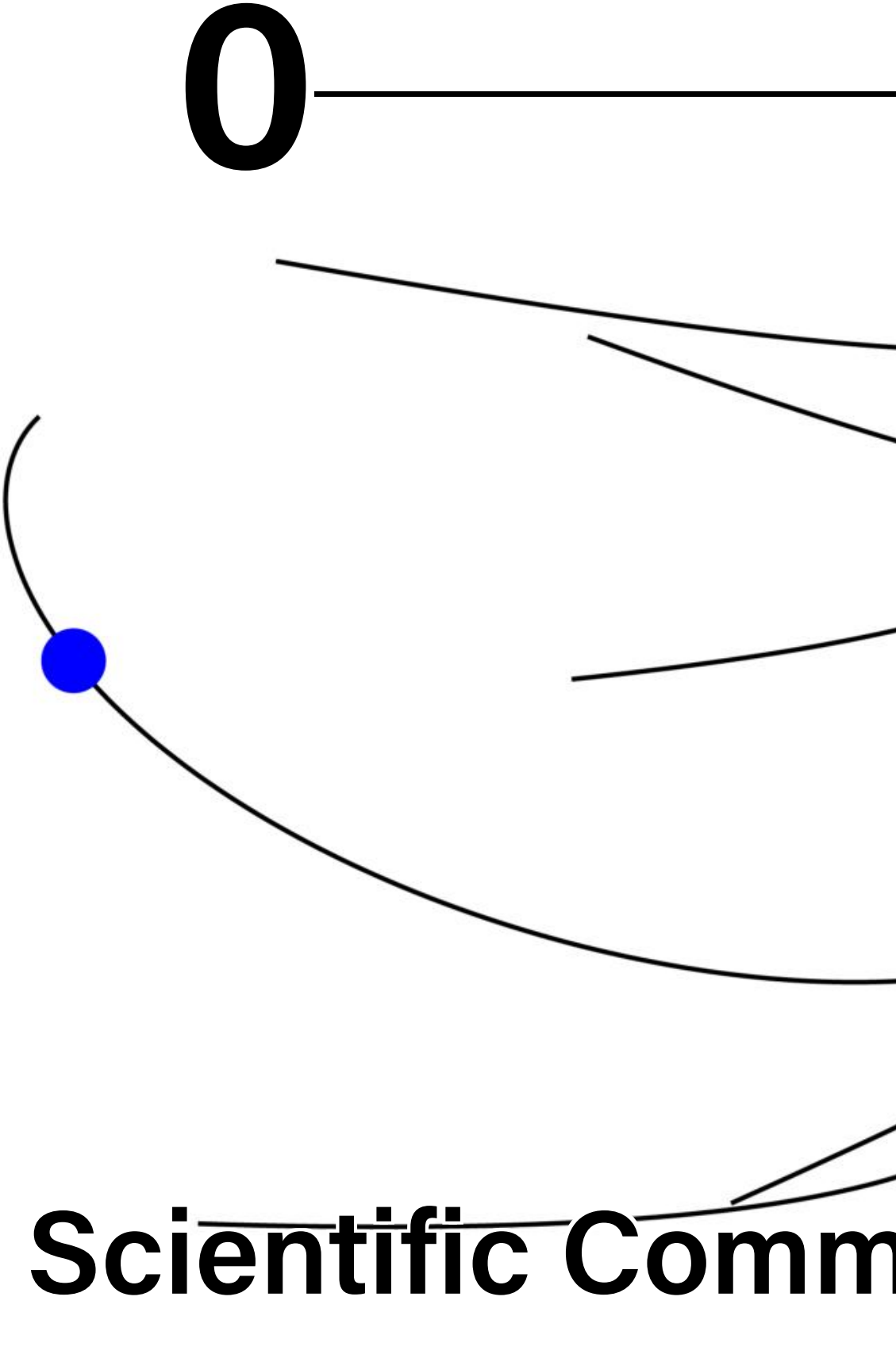
Jörg Schröder is an architect and urban planner, full professor for Territorial Design and Urban Planning at Leibniz University Hannover (LUH), and Dean for Research of the Faculty of Architecture and Landscape. His focus is on urbanism for sustainable transition, circularity, design research, and territorial innovation. He is the coordinator of the Circular Design Innovation Alliance (CiD), funded by the European Union. Further projects include reCITYing and CFC in the EU Creative Europe Programme.

Jo Van Den Berghe is a Belgian architect with a critical reflective practice since 1986. He graduated from Sint-Lucas School of Architecture (1984) and was a collaborator of Juliaan Lampens Architect (1984–2019). His work has been selected for the Venice Biennale of Architecture in 2012 and 2016. He obtained a practice-based PhD (RMIT University Melbourne 2012) and teaches experimental architectural design (Studio Anatomy (www.studio-anatomy.org) at KU Leuven Faculty of Architecture), researching the tension field between Techné and Poiesis in making architecture (the poetics of making) through innovative drawing methods. For Van Den Berghe the moment of drawing is the locus of investigation. He has been the program director of KU Leuven Faculty of Architecture (2017–2022), and a visiting professor at Politecnico di Milano, EPFL Lausanne, Queen's University Belfast, RMIT University Barcelona.

Liselotte Vroman is an architect and research fellow at KU Leuven Department of Architecture. She obtained her interdisciplinary PhD *Make Room for Play: Questioning the Role of the Moving Body between Thinking and Making* (2021) at KU Leuven Faculty of Architecture. Her research explores how (urban) design influences human behaviour and embodied experience, focusing on movement, play, and spatial interaction. Since 2011, she has contributed to a wide range of educational programs and workshops at KU Leuven, the School of Arts Ghent, and Howest University of Applied Sciences Kortrijk. Her work has been published internationally, bridging architecture, urban design, dance, and movement science.

Tadeja Zupančič is a professor at the University of Ljubljana, Faculty of Architecture. She is Vice-Dean for research, teaches, supervises PhD-s/-post- PhD-s, coordinates EU projects and the doctoral programme at the faculty. She studied architecture at UL and finished her Ph.D. in 1995. Her Ph.D. was a manifesto in favour of urban university integration. Her actual main research themes are promoting practice-based and research through design within the integral research tradition in architecture. Her interests are also the cultural dimensions of sustainability and public participation in urban design as an opportunity for life-long action-based learning of all the actors involved. She represents Slovenia in the evaluations of architectural diplomas (Subgroup for Architecture / Group of

Coordinators for the Recognition of Professional Qualifications / European Commission). After the eCAADe presidency period (2017–19) she continued as Vice-President of eCAADe (Education and Research in Computer Aided Architectural Design in Europe; 2019–21). She is leading the Erasmus+ strategic partnership CA²RE+ (Collective Evaluation of Design-driven Doctoral Training), which supports the CA²RE community (Conference for Artistic and Architectural Research).



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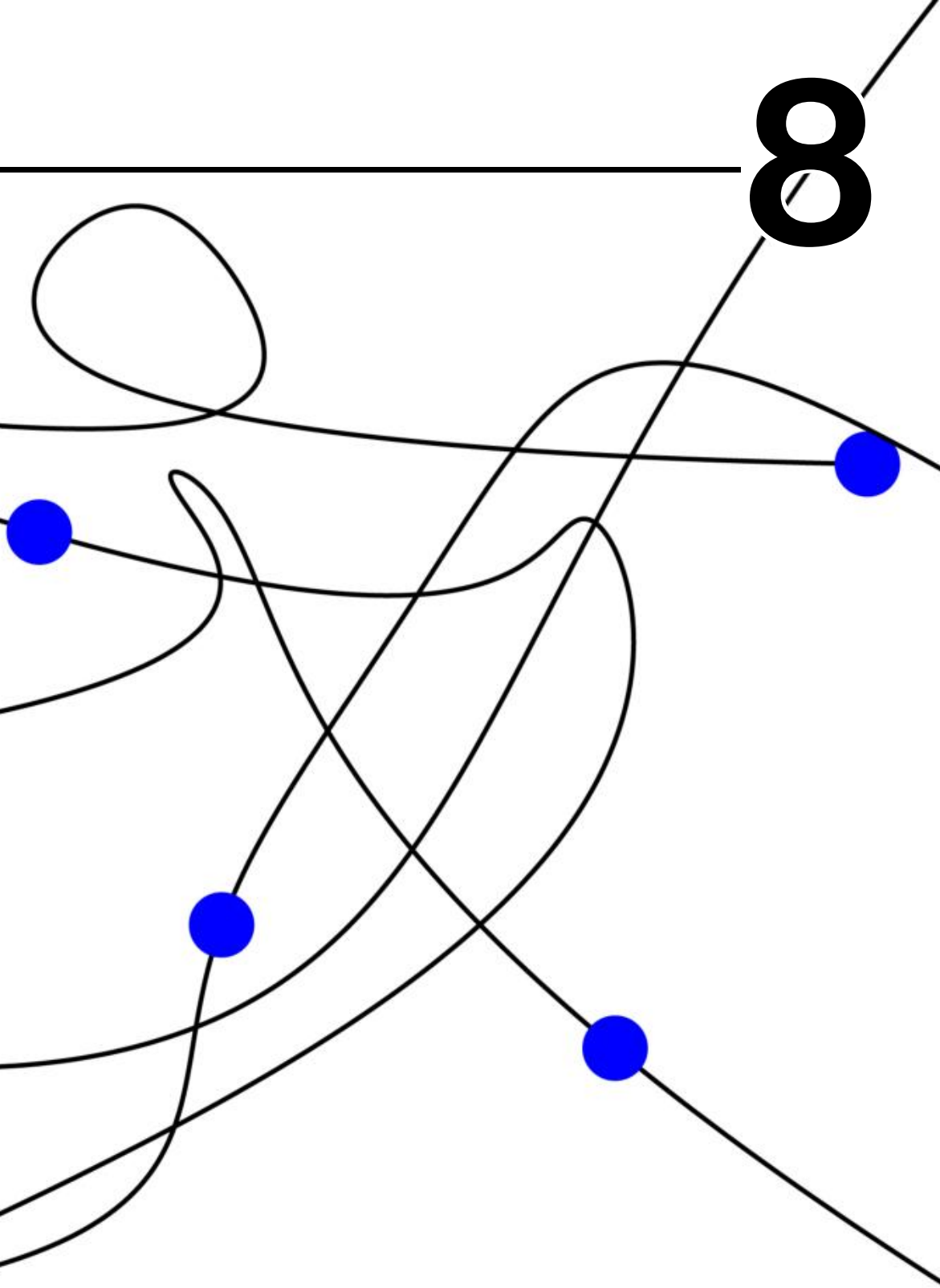

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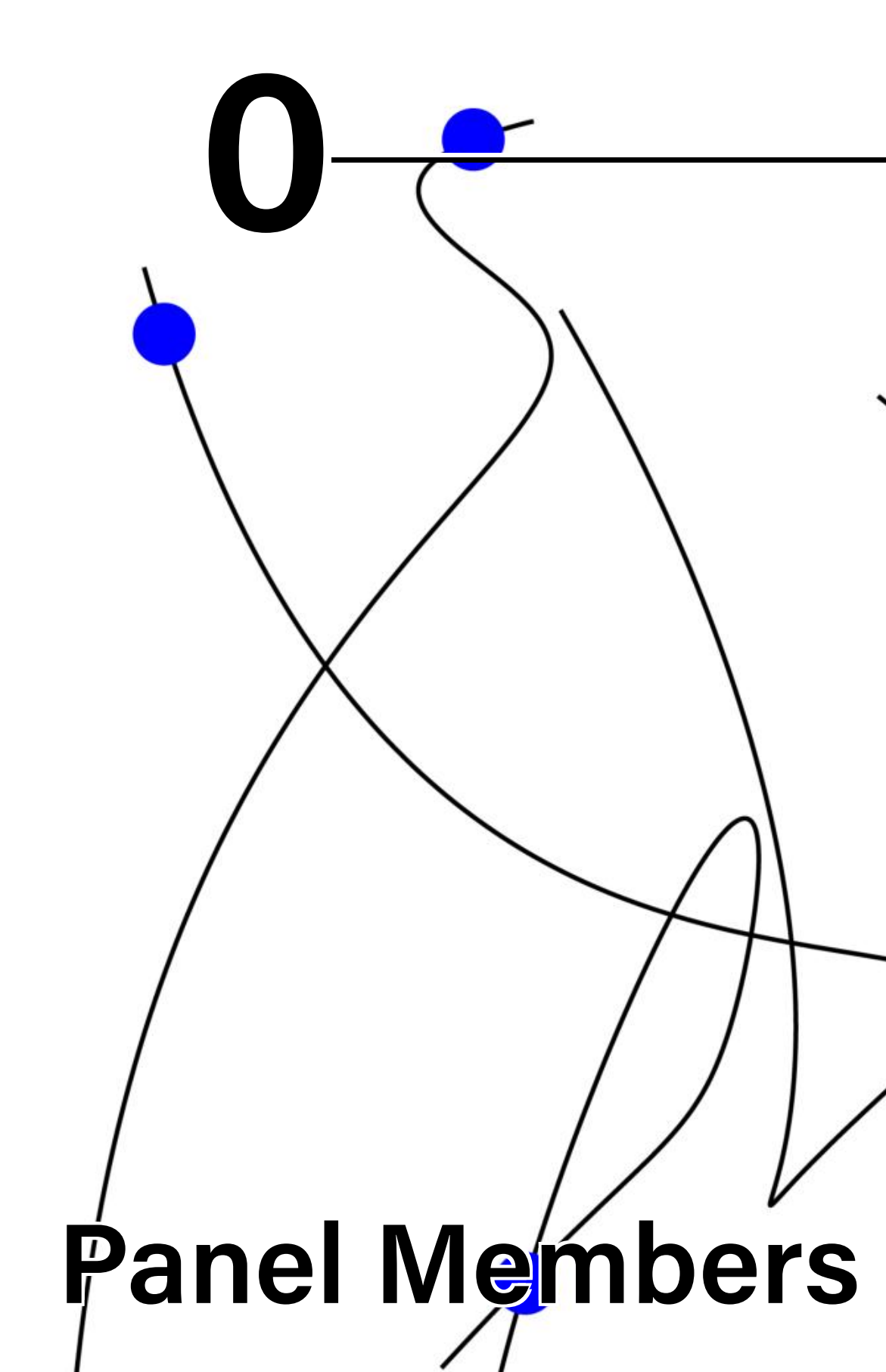

Panel Members

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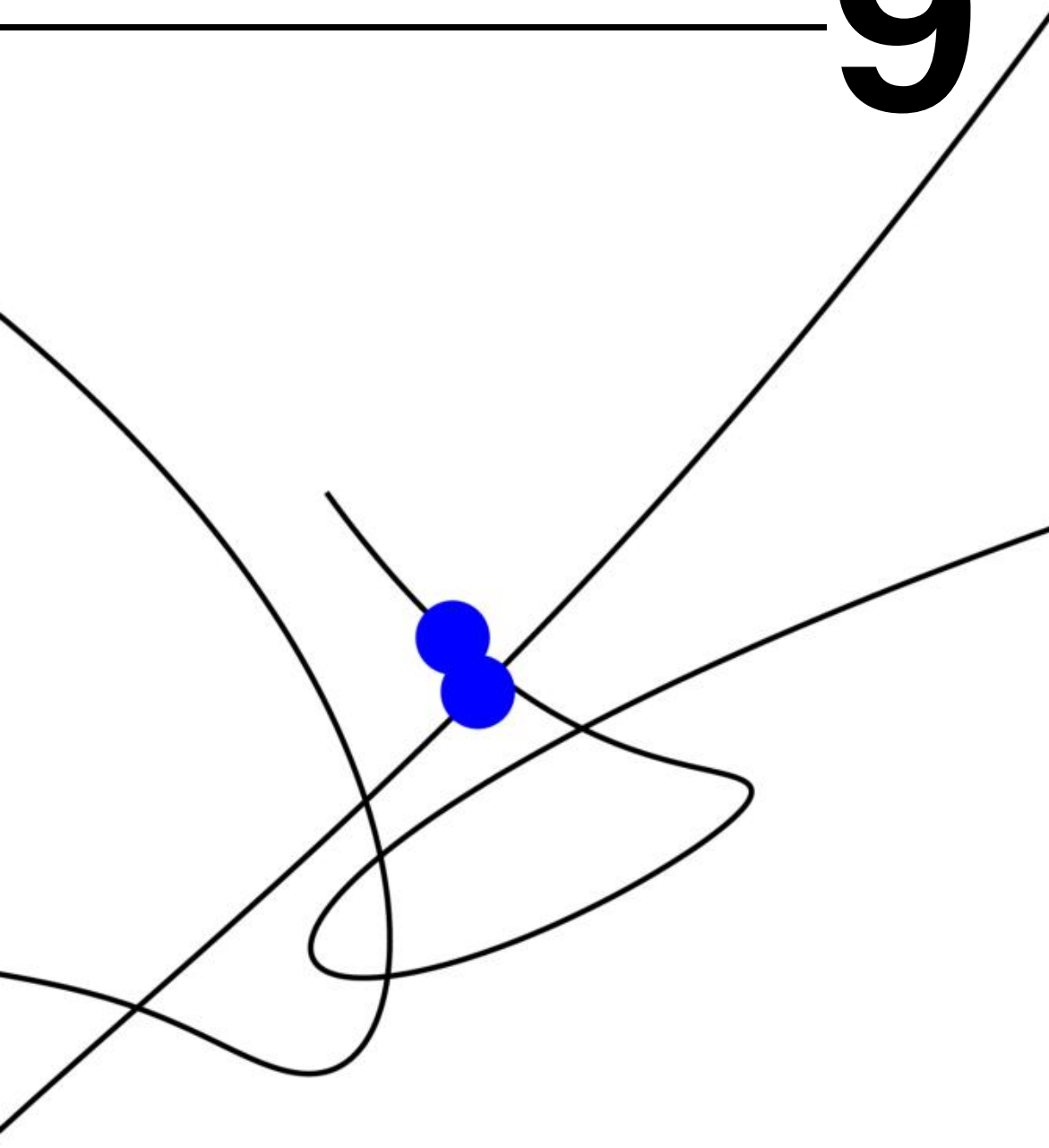

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Photo: Jackie Williams

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