



Hamburg

Reflection

**Book of
Proceedings**

CA²RE / CA²RE+ Hamburg Conference for Artistic and Architectural Research
Book of Proceedings
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Conference for
Artistic and
Architectural
REsearch



Collective
Evaluation of
Design Driven
Doctoral Training

Partners



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01 Introduction

Network, Partnership, Platform

CA²RE is a joint platform for research in all fields of architecture, design and arts, and supports early-career researchers and PhD students in improving the quality of their research within the realm of Design Driven Research. CA²RE+ is supported by Erasmus+ as a Strategic Partnership. It builds on the experience of the CA²RE community. It comprises 9 European Universities in association with ARENA (Architectural Research European Network Association), EAAE (European Association for Architectural Education) and ELIA (European Network for Artistic Research). The project, running for 3 years, develops a collective learning environment through Evaluation of Design Driven Doctoral Training. Design Driven Doctoral research (DDDr) is taken as a multidisciplinary example of an experiential learning-through-evaluation model, appropriate for identifying and promoting the relevance of singularity in research, its transparency and recognition, to award excellence in doctoral training for creative and culturally rooted solutions of contemporary design driven developments. Design Driven Research (DDr) comprises various forms of research in architecture, design and the arts, in which design results are implemented as a means of generating and disseminating knowledge. This includes contemporary alternative formulations of the field, like: Artistic Research, Research by Design, Practice Driven/Based/Led Research, and creative Practice Research.

CA²RE+ explicates the transformative and innovative power of highly individual strategies in artistic research, the diversity of research traditions and the integrative nature of architectural design research, able to face the contemporary knowledge fragmentation from humanities, social sciences and technology. It explicates the interdisciplinary relevance of convergent thinking, mastering wicked problems, open-ended processes, resilience and risk, as well as orientation to future, all present in Design Driven Doctoral Research (DDDr). It explicates the didactic relevance of DDDr for training creative professionals on how to use the integrative power of design-thinking to master open-ended processes while solving contemporary spatial dilemmas (sociological, climate-change related, political, etc.).

This book gathers the content material of the 9th CA²RE conference together with the 4th Intensive Study Programme for Doctoral Candidates within the Erasmus+ Strategic Partnership CA²RE+ for Practice & Design Driven Research. The conference was hosted by HafenCity University Hamburg from March 24 – 28, 2021. CA²RE/CA²RE+ HAMBURG was a five-day online event.

CA²RE/CA²RE+ is intended to bring together senior staff, advanced researchers and early-career researchers to understand, scrutinize and improve research quality through an intensive peer review at key intermediate research stages. The conferences are platforms to develop a Collective Learning Environment through the Evaluation of DDDr Training; to create evidence of DDDr Learning Environment and Evaluation Materials; to identify the DDDr Strategies, to explicate the DDDr Evaluation process and to prepare the DDDr Framework. We wish to contribute to the open and diverse fields that exist in architectural, design and artistic research, to include subjects such as environmental design, sustainable development, interior design, landscape architecture, urban design/ urbanism, music, performing arts, visual arts, product design, social design, interaction design, etc. The project's backbone is a series of biannual international and intercultural Intensive Study Programmes for doctoral candidates, guided by experienced evaluators from participating universities and invited experts. This event is part of the CA²RE+ Erasmus+ Strategic Partnership. It is the 4th of 6 Intensive Study Programmes for Doctoral Candidates within the Strategic Partnership running 2019-2022.

Reflection - Conference Theme and Program

In the tradition that established itself over the course of the adapt-r and CA²RE conferences, the CA²RE/CA²RE+ HAMBURG program included research colloquia organized in panel sessions, workshops, invited lectures, and an online exhibition of the presented research projects.

The six CA²RE+ events are conceived with a sequence of themes (OBSERVATION, SHARING, COMPARISON, REFLECTION, REFORMULATION, RECOMMENDATION) aiming at the formulation of a common framework for DDDr programs at universities in the European Union. Building on the themes of the previous CA²RE+ events – OBSERVATION, SHARING and COMPARISON – CA²RE/CA²RE+ HAMBURG focused on REFLECTION.

During the event, two workshops were dedicated to the conference theme that studied and practiced reflection. Reflection was studied as a method in DDr in a workshop for and with the participating PhD candidates and researchers on the first day of the conference. And Reflection was practiced at the end of the event in a 2nd workshop together with the panel members and members of the partner institutions, discussing and synthesizing the diverse approaches to DDDr in the conference presentations.

The first workshop “Methods of Reflection in DDr” was about the moments of looking back in the design process at what has been created; Of analyzing, comparing, grouping, valuing, detecting, understanding, sorting out, conceiving, and projecting. Reflection as a method of orientation that is able to frame the creative richness of divergent, implicit and intuitive design steps anew again and again, make them explicit and, like a hinge, realign them anew and purposefully for the next necessary steps in the project. In a more general perspective, thinking and rigorous questioning is essential to make the implicit visible in the design process. Thus, instead of idealizing reflection, it is treated as a set of material practices related to drawing, to language, as well as to image and model production. The workshop started with two keynote lectures. Margitta Buchert introduced her understanding of “Reflexive Design” in relation to the conference theme. Then, Kathrin Wildner spoke on “Reflect on Reflections - How to rethink our own doings? An anthropological perspective”, before the participants worked together in groups to explore and visualize their own practices of reflection along their research projects.

In the 2nd workshop “REFLECTION on CA²RE+”, the results of the first three events were evaluated by comparing the approaches to DDr between the participating disciplines and institutions. With regard to the overall goal of the CA²RE+ project, the questions were investigated, which DDr approaches, methods and techniques are established across institutions that can be formulated as a common basis. How does DDr distinguish itself from other research practices, and where are overlaps and similarities to other practices and disciplines? How is the diversity of DDr compatible with a common framework? What are the core elements that need to be described in the framework that are specific to DDr and to its relevance and the way that knowledge is produced?

In the evening event with invited lectures, as conceptual framing of the discussion, we departed from the thesis that in architecture, design and art practice, each project is a “Particular Case”, defined by the complexity of a dynamic context in a specific period and involving a singular group of people. It “deals with individualized and unique situations which are never exactly duplicable and about which, accordingly, no complete assurance is possible” (J. Dewey). It is in this muddy context of the project, where new knowledge in our disciplines is produced. Reflection in DDr therefore is necessarily focused on the particular case, aiming at explicating and relating specific findings and knowledge to a broader, different or similar, context. In the evening event, Cornelia Escher + Lars Fischer spoke on “Negotiating Ecologies”, Iman Issa on “Proxies, With a Life of Their Own” and Hilary Sample “On Making”.

On the following pages, this book offers impressions from the event, material of the presented and exhibited research projects, as well as reflections and observations on the workshops, lectures, and the panel discussions. Many, many thanks to all the contributors that made this event possible and helped to compile this comprehensive documentation. And to all of you interested and critical readers - enjoy!

02 Program

Wednesday, 24 March Opening, Workshop, Exhibition

time zone
UTC +1

09:30 - 12:00

Virtual Exhibition Setup

14:00

Room 1

Conference Opening

Matthias Ballestrem, Conference Chair
Annette Bögle, HCU Vice President Research
Oya Atalay Franck, EAAE President
Jørn Mortensen, ELIA Vice President
Urs Hirschberg, ARENA coordinator

14:30

Room 1

Workshop

Methods of Reflection in DDR

Invited Introductory Lectures:

Margitta Buchert

Reflexive Design

Kathrin Wildner

Reflect on Reflections: How to rethink our own doings? An anthropological perspective

18:00

Room 1

Exhibition Vernissage and Reception

Hamburg and Music with Maximillion

Thursday, 25 March
Panel sessions, City Tours and Invited Lectures

time zone
UTC +1

09:00	Room 1	Introduction	
9.30	Panel sessions (c) = chair, (p) = panelist, (o) = observer		
	Room 1	Room 2	Room 3
9:30	Daniel Norell and Einar Rodhe Under Construction: A Real-World Fiction Mona Mahall (c), Michael McGarry (p), Jacopo Leveratto (p), Cassandra Cozza (p), Fabrizia Berlingieri (o)	Mar Muñoz Aparici Public Thresholds: Experimenting with Public Value Creation through Spatial Interventions in Public Buildings Johan De Walsche (c), Paul Robinson (p), Pier Paolo Tamburelli (p), Kathrin Wildner (p)	Claudia Mainardi Investigating the 21st Century Emerging Agencies: Codification of Architectural Epistemes, from Discourses to Practices Claus Peder Pedersen (c), Graça Correia (p), Johan Liekens (p), Gesa Ziemer (p)
10:30	Mariacristina D'Oria, Gianluca Croce and Valentina Rodani Archrypt Jo Van Den Berghe (c), Mona Mahall (p), Kathrin Wildner (p), Paul Robinson (p)	Ivana Krmpotic Temporary Urban Space: Limits and Possibilities Alessandro Rocca (c), Matevž Juvancic (p), Monika Grubbauer (p), Cassandra Cozza (p)	Eva Sollgruber Artefacts of Design: The Significance of Analytical Drawings in Design Driven Research Oya Atalay Franck (c), Gesa Ziemer (p), Jens Christian Pasgaard (p), Manuela Triggianese (p), Matthias Ballestrem (o)
11:30	Daniel Springer Los Angeles: Fragments of Four Ecologies Paul Robinson (c), Jens Christian Pasgaard (p), Pier Paolo Tamburelli (p), Nela Milic (p), Claus Peder Pedersen (o)	Sinan Mihelcic Barutana Creative Gunpowder Factory Roberto Cavallo (c), Jo Van Den Berghe (p), Bernd Kniess (p), Margitta Buchert (p)	Susana Campos and Rui Barreira Ariadne's Thread: A Research Method of Literature Review in Design by Drawing Markus Schwai (c), Cassandra Cozza (p), Riet Eeckhout (p), Anders Kruse Aagaard (p)
12:30	Aida Espanol Vilanova Faults, as part of the PhD project The works of the Danish architect Hans Cristian Hansen (HCH 1901-1978): Tectonic matters Margitta Buchert (c), Pier Paolo Tamburelli (p), Paul Robinson (p), Matevž Juvancic (p), Christoph Heinemann (o)	Mirjana Lozanovska Abandoned Space and a Post-Socialist City: Transformative Potential of Former Industrial Sites in Skopje Jürgen Weidinger (c), Florian Dombois (p), Markus Schwai (p), Monika Grubbauer (p)	Rui Grazina Sensation and Weight: a Study on the Drawing of Richard Serra Riet Eeckhout (c), Lidia Gasperoni (p), Ignacio Borrego (p), Jens Christian Pasgaard (p)

13:30	Lunch Break		
14:30 - 15:30	Virtual City Tours		
	Room 1	Room 2	Room 3
14:30 - 15:30	Bernhard Hermkes (exteriors only)	HafenCity + Elbphilharmonie (exteriors only)	Kontorhaus District (exteriors only)
17:30	Room 1	Invited Lectures: Particular Case Cornelia Escher + Lars Fischer Negotiating Ecologies Iman Issa Proxies, with a Life of their own Hilary Sample On Making	

Friday, 26 March
Panel Sessions

time zone
UTC +1

09:15	Room 1	Introduction	
9.30	Panel sessions (c) = chair, (p) = panelist, (o) = observer		
	Room 1	Room 2	Room 3
9:30	Martin Roth and Marcus Kopper Utopian Imagery of Housing in the Context of the Anthropocene's Cultural Concept Eli Støa (c), Lidia Gasperoni (p), Florian Dombois (p), Marcel Bleuler (p), Markus Schwai (o)	Ana Belcic Community Based Ageing in the Land of Homeowners Mark Pimlott (c), Alessandro Rocca (p), Bernd Knies (p), Petra Cerne Oven (p)	Aileen Iverson Sensor Models: towards a Hybrid Modeling Technique in Architecture Mia Roth-Cerina (c), Oya Atalay Franck (p), Johan Liekens (p), Margarete Jahrmann (p)
10:30	Anita Szentesi It Depends on the Lens: Film as Experiential Teaching in Architectural Design and Design Representation Margarete Jahrmann (c), Lidia Gasperoni (p), Riet Eeckhout (p), Markus Schwai (p), Jacopo Leveratto (o)	* panel cancelled *	Mara Trübenbach A Remote Ethnographic Study: Between Model Making and Mediation of Material in Architectural Practice During Covid-19 Thierry Lagrange (c), Johan Liekens (p), Petra Cerne Oven (p), Ignacio Borrego (p), Jo Van Den Berghe (o)
11:30	Miljana Nikovic Belgrade on Screens: Visions of Continuous Discontinuities Lidia Gasperoni (c), Andelka Bnin-Bninski (p), Nela Milic (p), Johan Liekens (p)	Alberto Geuna Learning from Dementia Villages: Examining End-of-Life Care Spaces as XXI Century Collective Living Types Eli Støa (c), Anders Kruse Aagaard (p), Mark Pimlott (p), Thierry Lagrange (p)	Wiktor Skrzypczak Movement and Drawing Improvisation Scores in Architectural Design Ana Telles (c), Riet Eeckhout (p), Esther Venrooij (p), Alessandro Rocca (p), Tadeja Zupancic (o)
12:30	Lunch Break		

	Room 1	Room 2	Room 3
14:00	Gonalo Pacheco The Sense of an Architectural Place in the Mediated Experience of Photography Fabrizia Berlingieri (c), Marcel Bleuler (p), Tadeja Zupancic (p), Roberto Cavallo (p)	Annelies De Smet, Nel Janssens, Jo Liekens and Manon Persoone J for Jewel Andelka Bnin-Bninski (c), Mark Pimlott (p), Claus Peder Pedersen (p), Ana Telles (p), Sally Stewart (o)	Matthew Crabbe, Nina Pawlicki and Max Pfeffer Agile Collaborations in Spatial Practice: Applying an Agile Approach in a Mid-Pandemic Design Studio Alper Alkan (c), Anke Haarmann (p), Jacopo Leveratto (p), Manuela Triggianese (p)
15:00	Dirim Diner The Nodes, Trajectories, Territories: Decoding and Reassembling the Atlas as a Critical Spatial Investigation Manuela Triggianese (c), Nela Milic (p), Pedro Guilherme (p), Mia Roth-Cerina (p)	Tamara Relic Multi-storey Housing as a Place of Work Edite Rosa (c), Fabrizia Berlingieri (p), Roberto Cavallo (p), Jacopo Leveratto (p)	Jurij Lichen, Tadeja Zupancic and Tomaž Slak Computational Design Tailored for Fabrication with 3D Printed Concrete Marcel Bleuler (c), Kathrin Wildner (p), Anders Kruse Aagaard (p), Sofia Salema (p)
16:00	Coffee Break		
16:30	Yelta Km Data, Architecture, Surveillance: Visual Regime of Spatial Oppression Sofia Salema (c), Daniel Dubowitz (p), Anke Haarmann (p), Dbora Domingo Calabuig (p)	Kaja Delezuch Design Strategies Relating to the Perception of Ownership, Porosity and Property Boundary Bostjan Vuga (c), Alper Alkan (p), Johan De Walsche (p), Tadeja Zupancic (p)	Anne Romme and Jacob Sebastian Bang Islands Elena Montanari (c), Edite Rosa (p), Anders Kruse Aagaard (p), Marcel Bleuler (p)
17:30		Silvija Shaleva Beyond the Divided City: Policies and Practices of Defining Common Space through the Review of Spatial Development in Skopje Anke Haarmann (c), Alper Alkan (p), Jens Christian Pasgaard (p), Andelka Bnin-Bninski (p)	Taufan ter Weel Territorial Machines and Integrated Circuits Tadeja Zupancic (c), Dbora Domingo Calabuig (p), Mia Roth-Cerina (p), Michael McGarry (p)

Saturday, 27 March
Panel Sessions and Conference Dinner

time zone
UTC +1

09:15	Room 1	Introduction	
9.30	Panel sessions (c) = chair, (p) = panelist, (o) = observer		
	Room 1	Room 2	Room 3
9:30	Dirk Bahmann Hacking the sacred Jacopo Leveratto (c), Jo Van Den Berghe (p), Johan De Walsche (p), Mia Roth-Cerina (p), Sally Stewart (o)	Joni Fernando Carvalho Teixeira and Edite Maria Figueiredo E Rosa Internal Colonization in Montalegre: Architectural Revaluation Daniel Dubowitz (c), Boštjan Botas Kenda (p), Oya Atalay Franck (p), Ralf Pasel (p)	Berilsu Tarcan Nonhuman Approaches on Wool in Design Practices Petra Cerne Oven (c), Bostjan Vuga (p), Manuel Bogalheiro (p), Ignacio Borrego (p)
10:30	Daniela Bergmann Generic Structures and Specific Spaces Jens Christian Pasgaard (c), Bostjan Vuga (p), Mia Roth-Cerina (p), Johan De Walsche (p)	Xiaoyun Liu Adaptive Renovation Research of Traditional Dong Dwelling in China Boštjan Botas Kenda (c), Markus Schwai (p), Michael McGarry (p), Sally Stewart (p)	Silke Hofmann Need Based Clothing Design Ralf Pasel (c), Mona Mahall (p), Petra Cerne Oven (p), Manuel Bogalheiro (p)
11:30	Lena Ehringhaus See beyond Thought : Spaces of Contemplation Elena Montanari (c), Jo Van Den Berghe (p), Ana Telles (p), Ignacio Borrego (p)	Sara Ghirardini Designing Preservation: Multi-scale Architectural Project as an Integrated Tool to Tackle Territorial Fragility in the UNESCO Management Plan of Villa Adriana e Villa d'Este Manuel Bogalheiro (c), Edite Rosa (p), Daniel Dubowitz (p), Maria Topolcanská (p)	Sandra Felix Playing with Fabric: Design Research Reflections on Colour, Materiality and Texture in Architectural Projects Jacopo Leveratto (c), Boštjan Botas Kenda (p), Mona Mahall (p), Petra Cerne Oven (p)
12:30	Lunch Break		

	Room 1	Room 2	Room 3
14:00	Amath Luca Diatta Underground hubs. Interiors: Design Quality Effect on User Experience Edite Rosa (c), Manuela Triggianese (p), Margitta Buchert (p), Ralf Pasel (p), Roberto Cavallo (o)	Pietro Quattropani The Concept of Copy in Arts and its Application in Architectural Projects. Rebuilding Proposal of Villa Deliella in Palermo Thierry Lagrange (c), Christoph Heinemann (p), Ana Telles (p), Mark Pimlott, Sally Stewart (o)	Felix Rasehorn Tessellated Material Systems: A Workflow towards Designing Surfaces with Distinct Kinematic Properties Débora Domingo Calabuig (c), Alper Alkan (p), Graça Correia (p), Pedro Guilherme (p)
15:00	Kristina Maria Szeifert Expose and Assemble - The Poetic Narrative as a Design Principle Fabrizia Berlingieri (c), Bernd Kniess (p), Thierry Lagrange (p), An elka Bnin-Bninski (p)	Pietro Brunazzi (Re)Architecture: Project of Reconstruction as Project of Evocation Pier Paolo Tamburelli (c), Daniel Dubowitz (p), Margitta Buchert (p), Débora Domingo Calabuig (p)	Fanny Kranz Unfolding the Making-of: This Is not an Abstract but an Attempt to Getting Things Started Roberto Cavallo (c), Christoph Heinemann (p), Graça Correia (p), Maria Topol anská (p)
16:00	Coffee Break		
16:30	Roland Poppensieker Ambiguity in the context of Image, Sign and Recollection Graça Correia (c), Lidia Gasperoni (p), Fabrizia Berlingieri (p), Pedro Guilherme (p)	Adrian Moredia Valek Cooling Cities: Innovative Water-Based Cooling Systems in the Era of Urban Heat Michael McGarry (c), Maria Topolcanská (p), Sofia Salema (p), Markus Schwai (p)	Marie Boltensstern Fine Jewelry: Coded by Hand, Crafted by Technology Anelka Bnin-Bninski (c), Elena Montanari (p), Claus Peder Pedersen (p), Christoph Heinemann (p)
17:30	Adnan Hadzi Immersive Experiences in Social Shared Spaces Maria Topolcanská (c), Pier Paolo Tamburelli (p), Anke Haarmann (p), Sofia Salema (p)	João Branco and Paula del Rio Timeless Construction: Thermodynamic Prototypes of Regional Architecture in Portugal Pedro Guilherme (c), Christoph Heinemann (p), Jürgen Weidinger (p), Elena Montanari (p)	
19:00	Room 1	Hamburg Virtual Conference Dinner	

Sunday, 28 March
Reflection, Feedback Session and Conference Closing

time zone
UTC +1

10:00	Room 1	Reflection on CA²RE+
12:30	Lunch Break	
14:00	Room 1	Feedback Session and Conference Closing

Marta Fernández Guardado,
Tim-Simon Meyer
HafenCity University Hamburg

Experiential Conference Map

The following map intends to be a representation of the personal experience of two of the organizational team members of the CA²RE/CA²RE+ HAMBURG conference, both Doctoral Candidates at HafenCity University, Tim and Marta. The map is a subjective collection of fragments, in the form of screen-shots and texts, extracted from the 52 presentations of the research of the candidates, the discussions that followed them, and the comments of the observers of those panels. The displayed material has been selected half by each of us, through the reviewing of the recorded presentations and discussions, and the observers' reports, by simply stopping at moments of our interest. Some extracts post fundamental questions on and around Design Driven research that often arise along the dissertation process; thus, they address, visualize shared moments among candidates, with very different answers for each of us. Other materials point to particular concepts of specific research interests, that triggered our curiosity and that remain in our heads, which we bring back for further discussion with the corresponding speakers. An important number of selected instants direct to the conference main focus on Reflection in DDr and DDDr, and reflect the wider frame of the event beyond the presentations. Screenshots and sentences have been processed by us, perhaps losing part of their original meanings but gaining new ones through our own interpretations. They have been laid-out during a one-to-one conversation we were both having not about the specific meaning of each fragment but about our understanding of the relations between them. Our aim is to share with the viewer our impression of the event through a dialogical diagram that intuitionally responds to thematic logics, representational relations, conceptual links, timelines and our dear own memories. Thank you to each and every contributor to it.

What's the purpose of the research in the development of the researcher/practitioner? That's a lovely question to be able to ask a candidate.

For whom are you doing the work you are doing? Who are you helping?

There is a big difference between a mapping and an analysis: for an analysis you need to pose a question.

The language used also supports a deeper exploration of developing design driven techniques and thinking.

The potential for working together as a family of researchers needs to be more fully teased out, to reveal and assert the full potential and approach of collaboration. This wasn't discussed in the presentation in any depth, but in terms of the development of new methods of working this is a potential way of new thinking.

Start designing could be your opportunity to develop your critical assessment.

In your design process you are situating yourself inside the house. Is the house a camouflage or a protected shield? House as a situational object, that creates an own in society in a phenomenological sense.

It would be useful on the side of research to be as rigorous as you are in design – so choosing words like elements, it's not just about writing but it also helps you to think.

Architects used to say there is something complex but I'm interested what is this complexity about.

How can we push heritage forward? Beyond the visual recreation of something of which there are other non-visual reasons. Which aspects of heritage are transferable?

Can the buffer zone embrace the life that happens in the area rather than restrict it? It is time to have a position: is it a bottom-up urbanism in conjunction with the top-down master planning in heritage sites?

The production of public space is not neutral, it is conflictual, both materially and symbolically.

Public space may become a dirty space sometimes, and you have to deal with that.

Let us use the time to find out about possibilities and what that doesn't work is a limitation.

There is a question of scale in space. Contemplation includes the minuscule (the object) and the majuscule (the universe), and both collide in domestic space.

Our archive recollects projects, theories, manifests related to different disasters.

This criticism suggested that the researcher should pay more attention to personal motivation and fascination with the subject in design explorations and self-reflection on the nature of the fascination.

The possibility of a new pedagogy, contrary to that one "from abstraction to concretization", inverting the process and starting from the reuse.

I think it is urgent to declare your political position: what is your objective working with the commons?

Only if you accept that design means drawing it would in my view qualify as design driven research. If not, this method would rather be categorized in the field of research on design.

The aura of the work of art, namely its authenticity, cannot be duplicated, the aura is the here and now of an artwork. It is not an intrinsic property; it is linked to the relationship to its context in a precise moment.

Maybe there is also the potential of developing a practice of rephrasing these drawings in order to show how you are thinking through drawing, and not on drawing.

There are two levels of what the PhD can be about: the representational nature of drawing and its mediating agency – how drawing generates new knowledge; as placeholder and as content. What is your role as drafter?

A critique that I got from one of my supervisors was to be very careful when talking about precision related to digital and lack of precision connected to analogue.

The question always comes, almost at the end: to whom I am speaking?

We directly work with accidents. Intent and accident are married.

Can they act by their own to communicate their sense? Are they devices for translation? Are they reactive and depending on the atmosphere?

Can you historicize your research? Perhaps with a theoretical reflection on your field: are there similar products in the history of product design that help people with disabilities to be more included, in a society that always starts from the notion of the normal? How can your product be reflected in relation to such a history?

The presenter tried to be comprehensible for a non-specialist audience. He was clear and confident. Panelists tried to put him at ease, by asking which kind of suggestion he could have expected by such an audience, and how this suggestion could contribute to the development of his research.

It is a good moment to include less and go deeper.

Maybe something that is not so general or philosophical but maybe something that can help you in your research is trying to define the effects of your research – what do you want to make visible?

The presenter has been made aware of the importance of making a clear distinction between presence (of real works), presentation and representation, both on an operational (methodical) level of her research, and on her epistemological level of understanding and communicating about her research on a meta level.

What possibilities of representation can photography establish in the recent history of contemporary architecture?

Go back to discontinuity and understand it as a change or stop that means that something does not continue in the same way.

Think with your body and the drawing gets out of you.

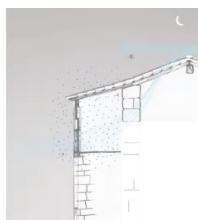
How much can human creativity and digital tools interact?

It is like a digital soap-film similar to experiments by Frei Otto.

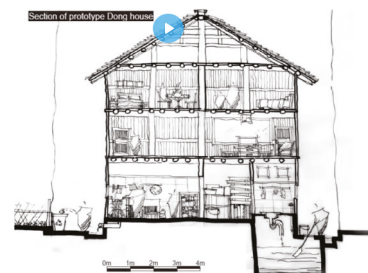
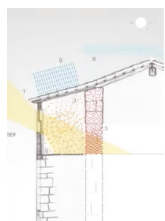
I never wanted to do jewelry but then I heard about a 3D printer that could print from golden powder this actually motivated me.

In the field of communication, the visual can be explained through other senses, like smell touch and sound, the visible is not only visual.

In my opinion a completely perfect object is not beautiful because it does not relate and there is no an exactness.

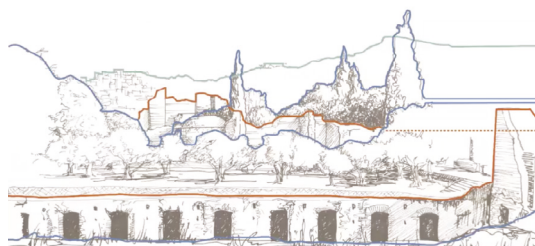


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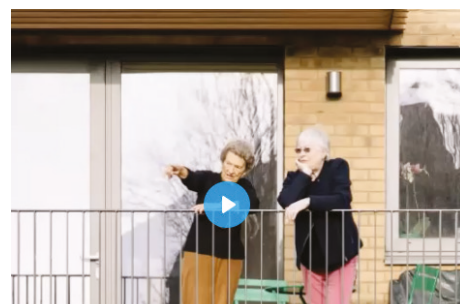


There is a big difference between a mapping and an analysis:
for an analysis you need to pose a question.

Can the buffer zone embrace the life that
happens in the area rather than restrict it? It
is time to have a position: is it a bottom-up
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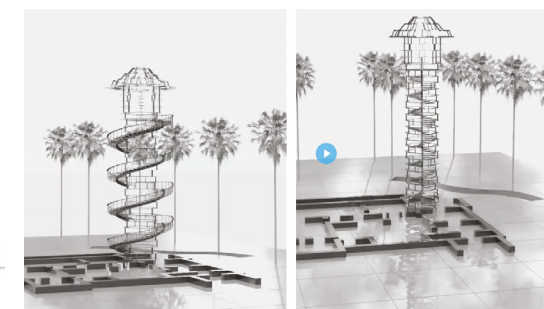


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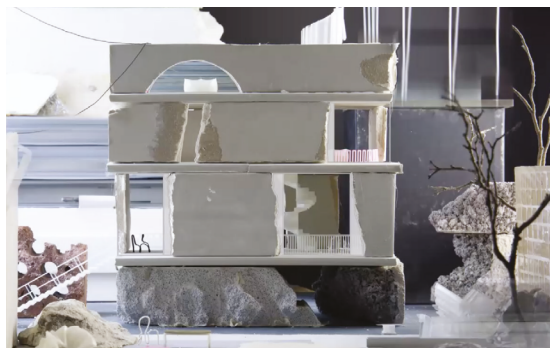
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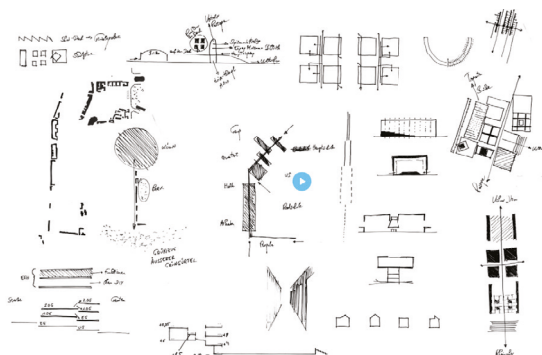
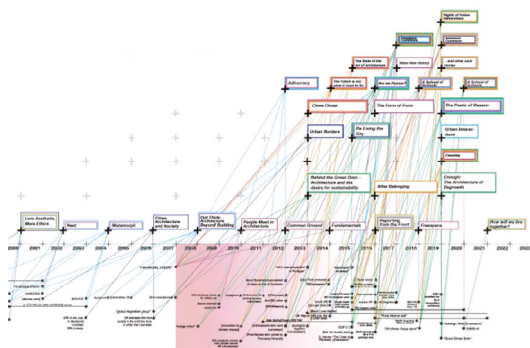


The era of climate crisis is a new cultural condition that can address questions of design.



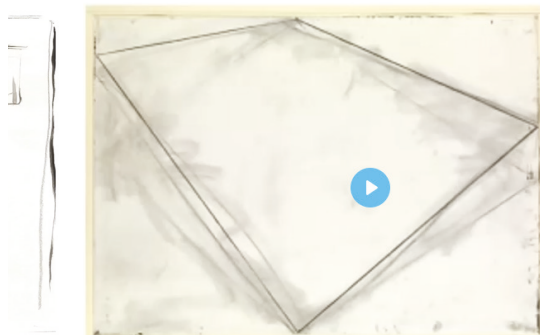
In search for a method of reflection, we started to call them speculative imagery or utopian because they represent a non-existing situation.

The aura of the work of art, namely its authenticity, cannot be duplicated, the aura is the here and now of an artwork. It is not an intrinsic property; it is linked to the relationship to its context in a precise moment.



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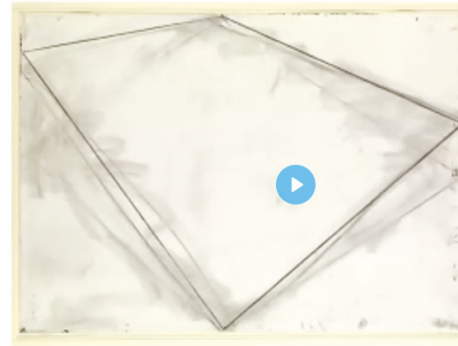
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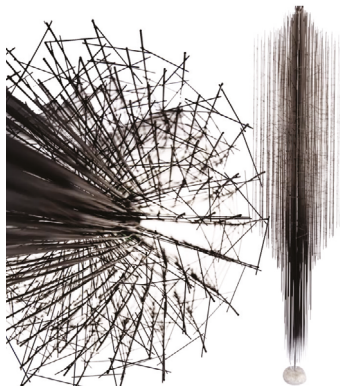


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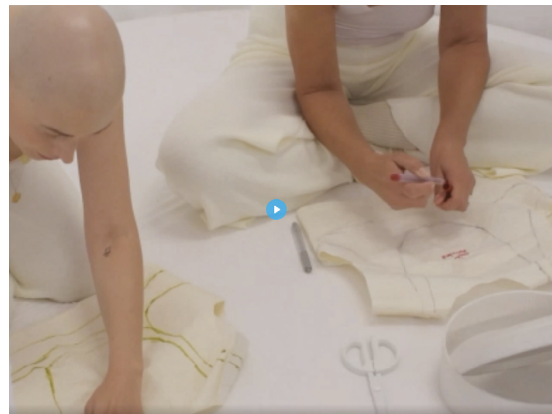
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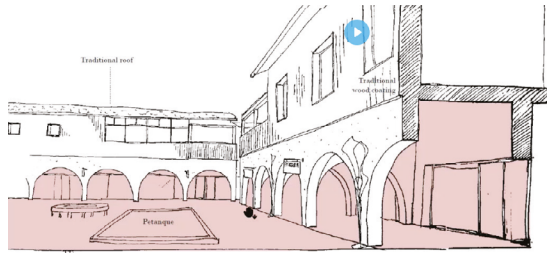


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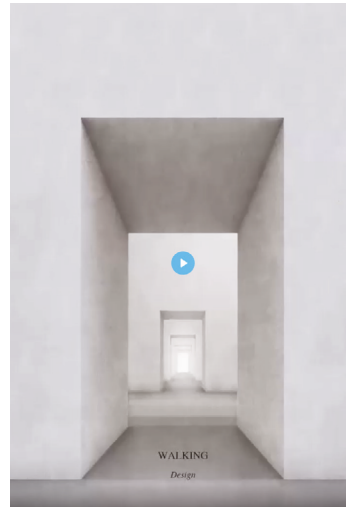
Can you historicize your research? Perhaps with a theoretical reflection on your field: are there similar products in the history of product design that help people with disabilities to be more included, in a society that always starts from the notion of the normal? How can your product be reflected in relation to such a history?



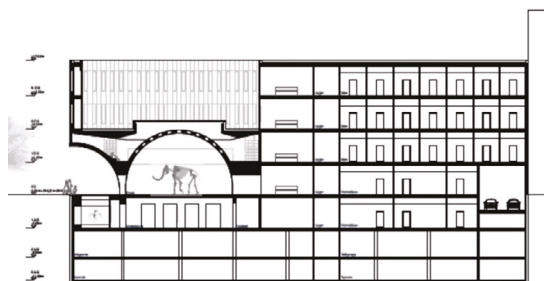
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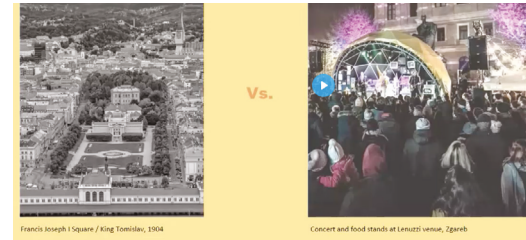
In your design process you are situating yourself inside the house. Is the house a camouflage or a protected shield? House as a situational object, that creates an own in society in a phenomenological sense.



It would be useful on the side of research to be as rigorous as you are in design – so choosing words like elements, it's not just about writing but it also helps you to think.



Architects used to say there is something complex but I'm interested what is this complexity about.



Let us use the time to find out about possibilities and what that doesn't work is a limitation.

How does it feel to be located exactly at this standpoint and in this body?



There is a question of scale in space. Contemplation includes the minuscule (the object) and the majuscule (the universe), and both collide in domestic space.

Our archive recollects projects, theories, manifestos related to different disasters.



This criticism suggested that the researcher should pay more attention to personal motivation and fascination with the subject in design explorations and self-reflection on the nature of the fascination.



03 Reflection

in DDr

Workshop and Position Statements

The following chapter contains a summary of the conference workshop on Reflection in DDr together with position statements. These statements are the result of an internal call to the members of the CA²RE+ partner institutions and invited lecturers, who were asked to contribute a short text on methods for Reflection in DDr. Methods from their own research in practice or that are trained with their doctoral students should be named, explained and documented in their employment and outcome in relation to the involved media and techniques. The resulting collection of texts served as a basis for learning about and discussing in depth a variety of methods together with the participating presenters during the workshop.

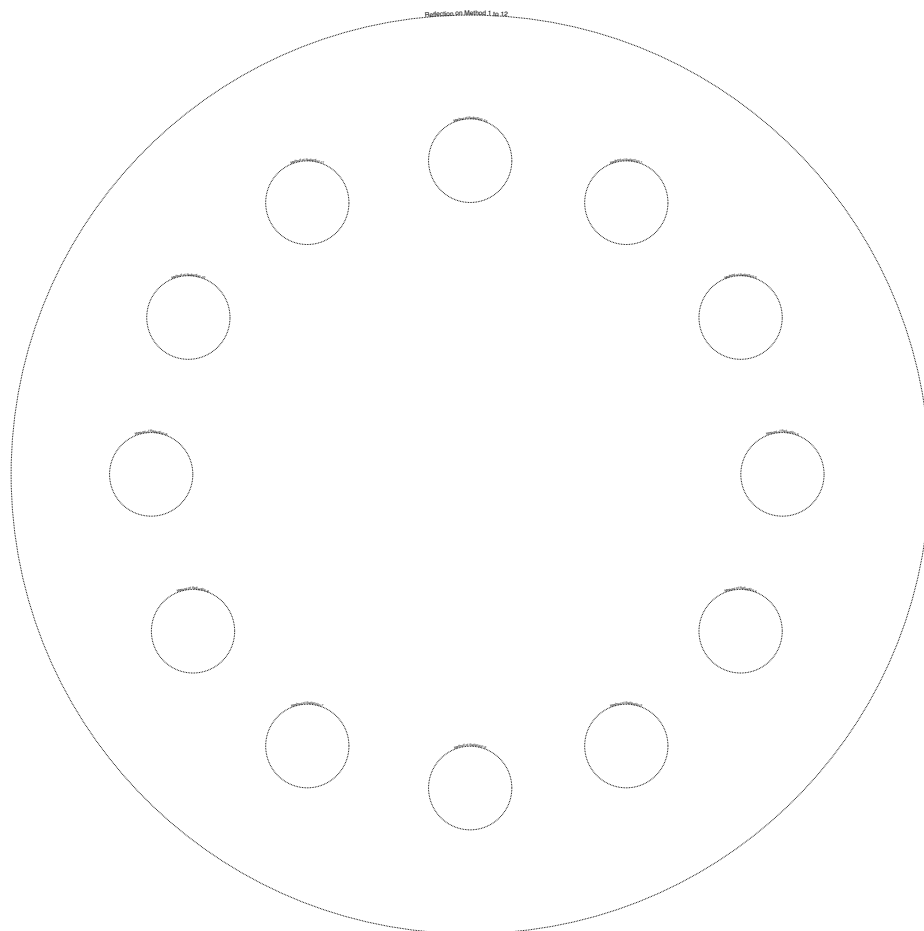
Methods of Reflection and Reflection of Methods in DDr and DDDr

Marta Fernández Guardado,
Tim Simon-Meyer
 HafenCity University Hamburg

The opening event of the CA²RE/CA²RE+ HAMBURG conference was a workshop about methods of reflection and reflection on methods in DDr and DDDr. The workshop arose from a call for statements on this topic written by the representatives of the CA²RE+partner institutions. The statements aimed to answer the following questions: What exemplary methods of reflection are trained at your institution in order to produce knowledge in design-based and design-driven research? How are these methods of reflection employed by the candidates and what is their outcome? How do employment and outcome relate to the involved media and techniques?

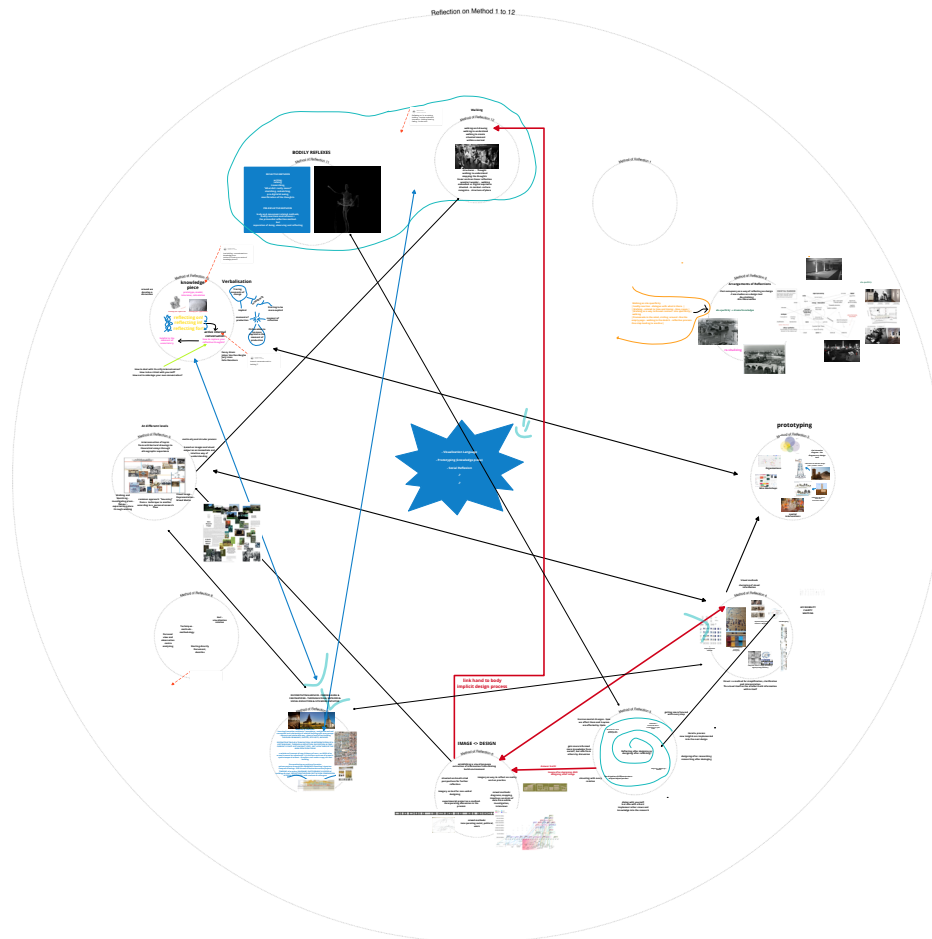
Together with Prof. Dr Kathrin Wilder and Prof. Dr. Matthias Ballestrem, we studied the statements of all participant consortium members, with the initial intention of tracing specific institutional approaches that could structure the exchange of methodologies among different partners, both peers and candidates. Rather than achieving a clear reading of guidelines, our discussion led to the unfolding of a multiplicity of particular experiences, rich in details and singularities, based on coincidences, opposites and contradictions. On one hand, the abstraction and classification of the collection of statements could perhaps bring a sense of relative clarity, but on the other, its simplification would surely reduce the unique value of its overall complexity. Therefore, by approaching reflection as a situated experience, best shared and received from one's particular position, we decided to dedicate the workshop to widen even more the offered perspectives through the contribution of all participants.

The workshop started with two introductory lectures on reflection on design-based and design-driven research. In her lecture "Reflexive Design", Prof. Dr. Margitta Buchert unfolded some of the ideas of her book with the same title, and posed crucial questions of reflection: Is the research directed towards the acquisition of knowledge? What are the research questions? How are these questions researched? How is the conducted research recorded? Is the knowledge transmittable? The investigation of these questions was followed by the lecture "Reflect on Reflections – How to rethink our own doings? An anthropological perspective" by Prof. Dr. Kathrin Wildner, who elaborated on the role and performance of reflection ("why to reflect" and "how to reflect"), overviewing possible strategies and tools that triggered the debate on the actual multiplicity of "reflections" among the participants, which further unfolded on the second half of the workshop. The second half of the workshop was a collective discussion organized in two rounds: methods of reflection and reflection



on methods. The two levels of discussion corresponded to two scales of the workshop ConceptBoard: twelve independent circular areas for the methods of reflection and one enclosing circular area for the reflection on methods

Aleatory groups of participants came together, introduced themselves and spontaneously chose one method from their own practice to discuss within their independent circle and present collaboratively. Through situated comparison of methods, singularities were re-described, re-defined and re-enforced. From a dialogical perspective, intuitional concepts were verbalized and even named, while very personal notions were identified in the practice of dialogue partners, being whether present, absent or anything in between. After the first round of presentations, each group moved to the content area of the following group, to collectively reflect on the material displayed, and relate it to other(s) content(s) all over the workshop board. Comments, connections, associations, criticisms... weaved a net that tied the isolated areas of content together, as graphically bold and irregular as its underlying logic. The particular and microscopic case served as a means for reflecting on the universal and macroscopic topic of reflection, deepening its understanding across partner institutions, and, what is more important, across each and every participant's practice.



Walking as a reflective conversation with the environment

The following investigation on methods of reflection departed from the conversation among the members of our group (a panelist, a middle stage candidate, two early-stage candidates and a PhD applicant). Our conversation circled around two bodily actions that we consider methods of reflection: sketching and walking - seen independently but also in relation to each other.

The sketching and - in a wider context - the analogue drawing are tools that are being used in our researches. By emphasizing intentions that go beyond documentation or visualization, we noticed their potential to propose new ways of understanding a subject of investigation. But more intensively we focused our discussion on the idea of walking as a way of reflection. Walking, not considered as the fastest connection between two places, but instead, walking as an interaction with our environment.

Can walking in itself be a method of reflection? How can it be considered as such? Does it need a transfer through visualization or expression such as text, photos or drawings? Several approaches and thoughts on walking as a method of reflection came to our minds and could be linked in one or another way to our researches. Those we considered to be relevant were discussed by making use of the virtual Whiteboard:

Walking to understand – Exploring a place by strolling around reveals its characteristics and its structure becomes legible.

Walking to create – Producing a work that is perceptible. For instance, referring to works of Richard Long that are done by walking and a direct visualization of the action.

Mapping the thoughts – Reflecting on ideas/designs/thoughts by confronting them with the real situation of a place.

Walking as a situated action – Being embedded in a specific space and time and by this in a physical, geographical, cultural and social context.

Walking as embodied knowledge – Saving the experienced through the interdependence of the body and the mind.

Linear and nonlinear action – Walking as a linear action by following a predefined path or as a nonlinear action that reacts to given circumstances.

To represent our investigation, we used an image showing one of Lucius Burkhardt's strolls in the city of Kassel. By carrying windshields, the participants call attention to the impact of traffic on the perception of the city. His concept of the "strollology" supports our idea of "walking as a method of reflection" as it forces the conscious perception and the understanding of a place or a situation that goes beyond the superficial surface of a screen.

In the second part of the workshop, our conversation focused on the reflection of methods by discussing the Investigation of the neighbouring group that was paying special attention to the site specificity of reflection. By doing so, our conversation moved from the very particular case of walking to a more universal understanding of bodily actions as a way of understanding and engaging with our environment. Which again relates to the concept of "Reflection in Action" by Donald Schön that was mentioned several times during the conference. Accordingly, we considered these actions as reflective conversations with a certain situation, in this case a place or a building. Such consideration wants to understand our environment, and in particular the built one, not as object but as a dialog partner.

Referring to Kathrin Wildner's denotation of methods of reflection into "Contextualization (discursive), Visualization (non-discursive) and Interaction (dialogical)", we can consider walking as a dialogical investigation as it is based on interactions not between humans but between the human and its environment.

Since architectural experience is a focus of my research, our investigation on walking as a method of reflection made me reflect about the meaning of bodily actions for my own work. The participation in the workshop gave me confidence to acknowledge the role of the bodily experiences within the process of understanding the particularities of a built work, especially referring to my own.

Reflexive Design

Margitta Buchert

Leibniz Universität Hannover
Faculty of Architecture
and Landscape Sciences

References:

- Bourdieu, Pierre (2001): Science de la science et réflexivité. Paris: Raisons d'agir Éditions.
- Buchert, Margitta (ed.) (2014): Reflexive Design. Design and Research in Architecture. Berlin: Jovis.
- Cross, Nigel (2006): Designerly Ways of Knowing. London: Springer.
- Lawson, Bryan (2006): How Designers Think. The Design Process Demystified. Amsterdam et al.: Elsevier 2006.
- Merleau-Ponty, Maurice (1994): Das Sichtbare und das Unsichtbare (The Visible and the Invisible), 2nd ed. München: Fink .
- Schön, Donald (2003): The Reflective Practitioner. How Professionals Think in Action (1983), 3.ed. London: Ashgate.
- Simon, Herbert (1996): The Sciences of the Artificial, 3rd ed. Cambridge: MA 1996.

The reflexive and reflexivity could act as generators in both epistemological and empirical pursuits. They are in many ways an indication of the reciprocal nature of perception of and references to the world and the self. They also can reveal the foundations, premises, and potential of design and research practices in architecture, landscape and urban design with projective ambitions. By explicitly striving for clear awareness of intentions and embeddedness and by provoking distant viewpoints they conduct the uncovering of the interplay of the explicit, the implicit and the unknown in the creative formation of knowledge for future action and reflection.

An opportunity to step back from specific expectations and requirements of given definitions of science and to provide a base for specificities of architectural research is being proposed with the concept of Reflexive Design. By going beyond the widespread tripartite of research for, into or through design and opening up diverse mixing of research-based design and design-oriented research as well as of self-inquiry and common ground it is characterized through a high degree of openness and for increasing individual and collective competence and possibilities to handle complexity. Reflexive Design points out in a nutshell a western and international tradition that sees the specific strength and potential of architecture in the fact that it is able to combine art and science, theory and practice, thoughts and feelings, analysis and imagination in syntheses in exceptional ways. This should also characterize methodological implications of research. With the reflexive and with reflexivity the routes get a kind of systematicity, an invitation to transfer and the potential to generate discourse. Simultaneously the creative forces are kept alive and the diverse interplays build impulses for continuous active renewal of the discipline with innovative ideas and high- quality concepts and projects. This can ultimately bring about changes in the built environment through the spaces and places shaped by architecture. Thus, the reflexive emerges as an important source of perception and understanding, as a particular type of insight and cognitive content.

Kathrin Wildner
HafenCity University Hamburg

Reflect on Reflections

How to rethink
our own doings?
An anthropological
perspective

Nested Perspectives on Design Driven Research

Claus Peder Pedersen
Aarhus School of Architecture

References:

- Blythe, R. & Schaik, L. (2013): What if Design Practice Matters? In: Murray F. (eds) Design Research in Architecture: an overview. Ashgate.
- Cross, N. (2006): Designerly Ways of Knowing. London: Springer.
- Frayling, C. (1993): Royal College of Art Research Papers Vol 1 No 1 1993/4: Research in Art and Design. Royal College of Art.
- Krogh P.G., Markussen T., Bang A.L. (2015): Ways of Drifting—Five Methods of Experimentation in Research Through Design. In: Chakrabarti A. (eds) ICoRD'15 – Research into Design Across Boundaries Volume 1. Smart Innovation, Systems and Technologies, vol 34. New Delhi: Springer.
- Kruse Aagaard, Anders (2017): Bespoke Fragments: Materials and digital fabrication in architectural design. Arkitekt skolens Forlag.
- Stangeland, Siv Helene (2017): Wilding and weaving: a relational design practice. Arkitekt skolen Aarhus.

At the Aarhus School of Architecture (AAA), we aim to support our doctoral fellows in developing confidence in their design skills and competencies as research tools. Drawing on seminal texts such as Nigel Cross' 'Designerly Ways of Knowing' (Cross, 1982), we invite fellows to reflect on the knowledge contributions made possible by design. Cross makes distinctions between the synthesising solution-focused problem-solving of designers and the analytic approach to generalised problem-solving imposed by scientists. He points out that designers focus on satisfactory solutions for specific contexts rather than general solutions for global contexts. That designers deal with 'wicked problems' without ideal or correct solutions. That they tend to act on available and piecemeal information rather than from a state-of-the-arts understanding of existing knowledge. That they often work simultaneously on problem-defining and problem-solving. Following Cross' argumentation, we help fellows develop a critical awareness of design-driven research's limitations. But, first of all, we aim to strengthen their confidence in using design as a research methodology. We encourage them to start designing as soon as possible and reflect on the knowledge contribution as the research develops, rather than construct a comprehensive intellectual framework before starting to design.

To guide the research development, we ask fellows to engage with the design from different perspectives throughout the doctorate. At times the fellow may be fully immersed in the design process without being concerned with the overall research outcome. At other times the fellow might step back from the actual design to reflect on the design process or outcome. Or, contextualise design activities with practices or theoretical positions that resonate with the work. The 'zooming' in and out of the design process opens up nested reflections and meta-perspectives that informs and qualifies the research.

AAA's participation in the ADAPT-r Marie Curie ITN has informed the focus of nested perspectives on design-driven research. The ADAPT-r network invited experienced and peer-recognised practitioners to enrol in doctorates to research their practice. The fellows mapped the development of their practice and identified key moments and projects. They explored their motivations and design processes, identified relevant peers and studied the reception of their work. Often, these findings would challenge the fellow's long-held narratives and beliefs about their practices. It would lead them to change their working methods or take up new projects that would form new layers in the research process. The research would weave these nested perspectives to intriguing insights into creative practices as unfolded in 'What if Design Practice Matters?' (Blythe & Schaik, 2013).

Siv Helene Stangeland's PhD Wilding and weaving: a relational design practice (Stangeland, 2017) is one of the most exciting examples of practice-based research that we have hosted at AAA. Siv is one of the founding partners in the architectural practice Helen & Hard that has gained peer recognition for its socially conscious and playful engagement in sustainable, user-involving architecture. She enrolled in a practice-driven doctorate through the ADAPT-r ITN to examine the practice's design DNA. She aimed to identify the practice's core values and beliefs to share responsibilities with a growing staff. Siv mapped the practice and selected projects through hand-drawn maps and diagrams. The investigation gradually led her to focus on the act of drawing, and she developed a series of processual and explorative drawings. The shift of focus from the practice to personal expression might seem counterproductive to the research's initial aims. However, it led her to reflect with more depth on the practice's design processes and her contribution. She simultaneously developed the explorative drawings as research tools, and she re-drew selected projects to uncover new relations and intentions. The process also led her to experiment with drawing sessions at the practice and develop new ways of presenting projects to clients. Siv's doctoral dissertation documented the research process: the mapping and analysis of the practice and selected projects, the immersive creative drawing process and the changes in the practice stimulated by the research. It also wove the different research strands together to a meta-reflective narrative.

The PhD of Siv Helen Stangeland forms a particular instance of design-driven research based on an already established practice. However, it also makes sense to approach doctoral projects that do not build on an already established practice in similar ways. 'Ways of Drifting – 5 Methods of Experimentation in Research through Design' (Krogh, Markussen & Bang, 2015) argues for an approach to research by design that recognises the importance of an open-ended approach to design experiments. The authors study ten PhDs from the design field and identify five knowledge production typologies through design experimentation: 'accumulative', 'comparative', 'serial', 'expansive' and 'probing'. The typologies operate according to different logics and rationalities. The 'accumulative' typology repeats the same design experiment to understand better and refine a particular approach. The 'expansive' typology modifies one experiment's focus or methodology as starting points for the next to cover new ground. The 'probing' typology is perhaps the most radical as substantially different design experiments probe a field without a unifying systematic. The authors argue that all the typologies are legitimate ways

of carrying out design experiments in a research context. However, to qualify as research, mapping and reflection are needed to link the design experiments to explain how they contribute to knowledge as an aggregation.

Anders Kruse Aagaard's PhD 'Bespoke Fragments: Materials and digital fabrication in architectural design' (Kruse Aagaard, 2017) is not included in 'Ways of Drifting' but represents a probing typology. Anders' research focused on digital manufacturing and materiality at the intersection of craft and technology. He carried out a diverse range of design experiments framed by an open matrix organised by machining techniques (subtractive, additive and transformative) and material properties (wood, steel and concrete). The experiments grew out of hands-on experiences with different digital manufacturing tools and typical building materials. Some experiments were left as initial explorations, while others were further developed and combined to more complex assemblages. However, they all fed different perspectives into a general discussion of control and uncertainty in digital design and manufacturing.

At AAA, we have experienced that consciously shifting between different perspectives on designing provide a constructive mental framework for design-driven research. It allows fellows to adapt and develop their design competencies in a research context. When used successfully, it helps fellows disseminate rich and complex insights into designerly knowledge without losing the design works' individuality and specificity.

Reflexion About Drawing as a DDDr Tool

Edite Rosa
Lusófona University of Porto

The R&D center and the Architecture Doctoral Program of the Lusófona University of Porto aims to ensure Third Cycle Studies qualified training having architectural design as central, as its title “Design Branch” and written intentions illustrate. “The expressed objectives (...) aim to satisfy the need for innovative and creative training, in the country and in the Lusophone Community, in its area of specialty Architecture. In this sense, the thesis to be carried out by those enrolled in the doctorate studies may be of a theoretical or theoretical-practical nature centered on the architectural design project.”

The structure of the first curricular year in different units, comprise common teaching-learning scope in the field of architecture of advanced knowledge of theory and methodology. The following two years include seminars and the preparation of the thesis. The development of the thesis work is monitored individually through tutorial framework and training.

The central Units reveal the design based orientation, namely “Architectural Conception”, “Architectural Design Conception”, “Constructive Methods I and II” and “Research Methods in Architecture”. These units taught, “Architectural Design Conception” and “Research Methods in Architecture” deepen specific issues of the design practice as of art, culture, politics, sociology, science, mathematics, philosophy, history and drawing, contributing to the definition of a multidisciplinary field that sustain design research.

However, the focus on this text is upon a research technique that we use in these units, drawings as a research tool. This use is due to drawing as a common element used in practice and in these third cycle unit. In this process, we may inquire its pertinence as a DDDr tool.

The “Architectural Design Conception, Theory and Practice: Designing Space and its Forms” unit aims to research within the conceptual and operative scopes of design, starting from the idea, problems, processes, solutions and techniques from which its disciplinary implications, theoretical and practical, are deduced.

The study support itself on the theme of space and its forms inquiring upon its design options. The definition of spatial devices, as well as the selection of tools, inherent to design processes is based on the assumption of consistency between the visual form objectives until their materiality resolutions through the design-project - making process. The analyses and syntheses are carried out mainly through drawing being graphic demonstrations as the preferential tools of research.

The drawing has the ambition of searching the practice to theorize effectively in the understanding of design conceptions, their productive processes, as well as their supporting references. These units aim to build a vocabulary in the conceptual, formal, spatial and of materiality scope that allows the doctoral student to be able to interpret solutions both from theoretical knowledge as from their empirical and practical support.

The “Architecture Methodologies - Research in Design: Theory and Practices.” unit studies through the themes of Research in design: Theory and Practices. Students study its main methodological design mechanism, through the comprehension of design theory and of design practices and simultaneously the ability to use its basic methods, the analysis and synthesis, inherent to both.

The design practices is used as forms of making in architecture, which produces the craft expressive body of an era embodied in the act of drawing and in the knowledge of building. For the students this implies a synthetic and critical reflection and the domains of disciplinary representation.

The design theory is the “soul” of the ancestral craft body in continuous (re) questioning that can only be built at the expense of an ongoing critical reflection upon its body making. It involves the student’s domain of disciplinary methods, of design thought, analysis and synthetic criticism and its transdisciplinary communication, writing and graphic.

This Research in Design methodologies in theory and practices in architecture implies that doctoral students question the creative processes underlying the act of designing and its results. In this sense, students use the analytic methods inherent to the theories combined with several process and technique of the practice and its character of selective synthesis as support for architectural thinking in research.

Students’ assignments start from the architectural practices process as design driven research methods supported in drawing as research techniques. These tools and methods consist of: several types of drawing as survey, recording or speculative (to question or create architectural problems); the search for options and hypotheses drawn and written for structuring or deconstruction of examples; a trial-error method in the search for partial solutions; the analyses and syntheses through drawing and its various aspects of investigation; as well as graphic experiences in the relations between design conceptualization and construction with the theory and history of architecture.

The classes take place in the form of discussion groups. The focus is to relate the disciplinary contents the systematization and originality of the studies and the relevance of the topics covered in terms of research in design, theories and practices, the use of drawing as relevant support tool for the proposed or raised problems and the methodologies used in each individual research. These students use drawings in their studies in diverse possibilities of use accordingly to its purpose.

In this sense, in their design research some students use survey drawings for determine or measure existing elements (structures, buildings and land), as accurate elements a basis for research working process, for example in the field. Other student use observation drawings to elect existing elements, an analytic but also syntactic drawing selection, of what seems more relevant, an initial process for research theme or object study election. All of them are encouraged to use, as a speculative method, experimental drawing, through simultaneous two types, sketches or diagrams, that are useful to research design method validity. Students explore these speculative drawings are as a rough design research question or a particular design problem or object studying and used to develop research principles of a design, a trial-error or speculative hypotheses. All students also use as a support method, analytic record working drawings in order to understand or document the existing architecture. Sometimes student use record working drawings to document the course of a construction other to document the research process for analyses of specify case-study or even creating new drawings (for example to compare architectural entities such as typologies, creating a new research bases design, et al.).

We can see, in the third cycles of studies units, the uses of the drawing as tool of design research showing diverse levers of approach from the abstract to the real, meaning drawings acting as research tool and instrumental method.

Dismantling, Reassembling, Composing Anew

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Politecnico di Milano

References:

Harrowitz, Nancy (1983): Il modello del detective. Charles S. Peirce e Edgar A. Poe, in U. Eco, T. Sebeok (eds), Il segno dei tre. Holmes, Dupin, Pierce. Milano: Bompiani.
Poincaré, Jules Henri (1908): Science and Method, it.tr. Scienza e Metodo (1997). Torino: Einaudi.
Rocca, Alessandro (2017): Lo spazio smontabile. Siracusa: Lettera 22.
Sullivan, Louis Henri (1906): What is Architecture. A study in the American people of today, The American contractor.
Young, Edward (1759): Conjectures on Original Composition in a letter to the author of Sir Charles Grandison. London: Millar.
Zingale, Salvatore (2004): "Immagini e modelli per l'invenzione", in M.A. Bonfantini e M.T. Terenzi (eds.), Come inventare e progettare alla maniera di Poe. Filosofia della composizione. Bergamo: Moretti Honegger, 99-128.

ἔϋρηκα (*èureka*) in Greek means discovery and it comes from the verb εὕρισκω (*heurískō*) that is the act of finding, 'to find,' and indeed means 'I found it.' Similarly, the term ἰδέα (*idea*) comes from εἶδον (*éidon*), aorist of the verb ὁράω (*oráo*) that means 'to see,' also eidon means 'form' itself. Both the terms, which we usually consider as depending on our intellectual and interior activity, have another meaning related to the exterior condition, 'to re-find/to re-see,' i.e., something already present outside us.

Reflecting on the Milano CA²RE conference's results about Comparison, several aspects emerge as central cores for a deeper debate within this international stage that encloses a plurality of research perspectives and traditions. Without the ambition to be considered in-depth and exhaustive, this brief contribution aims to open a frank discussion, moving through a kind of oscillation between constraints and overcomings about DDR. Three specific aspects are presented here in the form of notes and through an unavoidable personal perspective, concerning the balance between individual talent and collective knowledge framework, the research scopes and objectives, and the working method.

(Design Driven) Research is not a solitary journey

In any field, the research process is a constellation of obstacles and saltos, failures, and dead ends. In short, it is a non-linear process that reminds us of the first *Canto dell'Inferno incipit*, where Dante describes this context as «a gloomy wood, that the straight way was lost» (Dante, Inferno, 1-4).

But Dante's journey is not a solitary one; it is not even an individual path. For the Italian poet, indeed, the path towards knowledge has a broader frame embodied by his ideal mentor Virgilio, the only one who can guide and instruct him in his discovery process. Virgilio's allegoric figure represents the knowledge background, elected by Dante, in which the action (of research) must be placed in. In Design-Driven Research, the relation between personal inclinations and the necessity of tracing enlarged cultural and disciplinary perimeters is even more crucial. Obviously, we are not talking about tracing "the state of art" within a design-driven research, where a high degree of individuality is present since research interest could be based on personal practices. Yet, it is about the research positioning within a shared spectrum and in the scientific community to question the real relevance of the (personal) research work. It refers to a critical selection about the starting perspectives and frameworks in which the research question is posed, and it should be a strongly oriented and partial selection.

Originality vs. Relevance

«Originals are, and ought to be, great favourites, for they are great benefactors; they extend the republic of letters and add a new province to its dominion: imitators only give us a sort of duplicates of what we have, possibly much better, before» (Edward Young, 1759).

In 1852 the first patent office was established in England, and later on, in 1883, the Paris Union Convention signed the

protection of industrial and intellectual properties. The patent system defines a new research relevance as a quantifiable expansion of scientific knowledge, whose requirements respond, *inter alia*, to the sphere of originality and intrinsic novelty, set by international conventions. It gives value to invention rather than to continuity, to novelty rather than to tradition, and this new setting ultimately succeeded deep influencing our cultural routes. However, in a wider scope, the problem of originality is not about 'the new' but about the rediscover¹. In *Meno*, the Socratic dialogue on the production and transmissibility of knowledge, Plato states that knowledge occurrence is not a linear or original product. Instead, there must be a preexistent condition that comes to light in the form of re-finding, a circular process «because to search and to learn are in their whole reminiscence (anamnesis)».

This is a significant move because, along the research process, we usually address originality as a precondition, where actually it is just a result of the process itself, even if based on an initial intuition. In that sense, the term eureka, 'I found it', remembers us that originality is the answer to a research question but should never be placed as premise. At the very least, we should be aware that research must have the potential to be effective in its disciplinary domain, leading to results that can be implemented. Indeed, research relevance is the capacity to bind the knowledge production and the society avoiding the effect of 'lost in translation' or the failure of its possible implementation.

An internal perspective

«If it is assumed that the art of reading is confined to the printed page, we cannot go far. But if we broaden and quicken our sense of reading until it appears to us, in its more vital aspect, as a science, an art of interpretation, we shall go very far indeed. (...). Then will our minds have escaped slavery to words and be at liberty, in the open air of reality, freely and fully to deal with things. Indeed, most of us have, in less or greater measure, the gift of reading things. » (Sullivan, 1906)

Architectural research primarily refers to 'phenomena', to society and its related dynamics. This is even particularly clear when we look at architectural theories and practices that mainly use external references. In that sense, architectural and design-driven research, even when looking to their statutes and generative codes, inevitably merge with several other disciplines, finding the specific value in the ability to intersect and bind a plurality of voices and to re-conduct them to the internal discourse. But this implies, quoting Pierce, «a working method able to cut the various levels of reality»,

not just interdisciplinarity. The attempt we usually make, as architects and as 'reflective practitioners', to understand phenomena or to read things, is to reduce their complexity to singular or simpler facts. It can be described as a process of dismantling the whole to re-ensemble it by different parts. This working method starts from an internal perspective and acts by a combinatory process, which is quite common in creative thinking as the «ability to combine pre-existing elements into new combinations, which are useful» (Poincaré, 1908).

More than defining it as an interdisciplinary approach, it can be addressed as a way to proceed from margins to the core of design research by combinatory actions. This working method, or research process, has also been recently pursued by several philosophers (Zingale, 2004) and primarily applied in design-driven (architectural) research and practice (Rocca, 2017), using instruments such as analogies, metaphors, and montages to explore the potential and critically transposing and combining figures, methods, or external theories to rethink, and composing anew, the internal debates.

Methods for Reflection for Design Driven Research

**Ignacio Borrego, Ralf Pasel,
Jürgen Weidinger**
Technical University Berlin

This text illustrates the methodology for design-driven research that is developed in the design-based doctorate program [PEP- Programm Entwurfsbasierte Promotion] at the Technical University of Berlin.

The design-based doctorate program [PEP] is organized and executed by Prof. Dr. Ignacio Borrego, Prof. Ralf Pasel, Prof. Jürgen Weidinger (TU Berlin); Prof. Donatella Fioretti (Kunstakademie Düsseldorf) and Prof. Dr. Matthias Ballestrem (HCU Hamburg). It is dedicated to the design disciplines, in particular architecture and landscape architecture. The design-based doctorate creates a direct reference to architectural practice and other design practices, which drives the further development of research methods, especially through the interaction of theory and practice.

Design is a means of acquisition scientific knowledge especially specific to prospective disciplines such as architecture and landscape architecture. The goal is to use this capacity as a research tool. PEP pursues an integrative approach to design, education and research, in which the design process provides a new access to knowledge.

The aim is to examine the interface between architectural design, construction methods and materiality, taking into account their spatial, social and ecological consequences, and to develop and demonstrate suitable, innovative research methods.

In design-based research, the implicit knowledge that is inherent in the creation process of design, which is mostly based on practice, is made explicit.

Design-based research reflects on self-design practice as such and is reflected on the basis of one's own projects and design processes.

Both design-based and the more specific practice-based approaches are suitable to produce knowledge. The materialization implied in a practice-based research introduces a deeper immersion in the design process, but the core of the knowledge production is situated at any design level.

This design-based doctorate is ultimately about iteratively encircling a topic area through continuous design and through the design process to such an extent that a concrete and well-founded discourse result becomes explicit.

The fundamental question of a research work, i.e., the actual doctoral topic, consequently results from precisely this compression process of creative work, which is carried out,

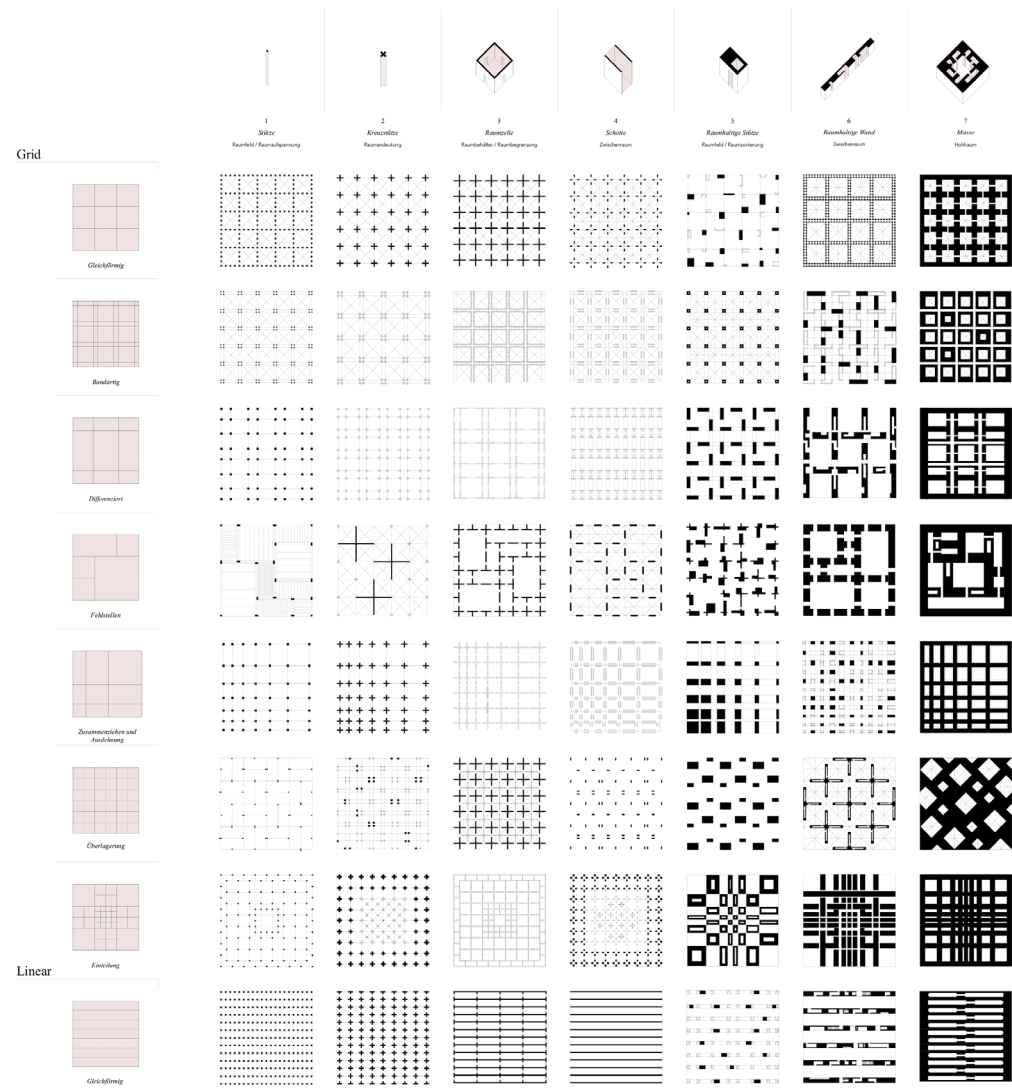


Image title: Taxonomic Association Field

Author: Simon Banakar

PhD title: Robuste Strukturen. Autonomie und Raumbildung
horizontaler Raumstrukturen

tested, simulated and, if necessary, implemented based on the development of new and thematically relevant design projects. It is crucial that the design-based doctorate goes beyond the subjective approach to knowledge and makes a concrete contribution to the respective research field.

In our case of design-based research in PEP, Doctoral candidates must have already produced a body of work, i.e., a sufficient number of very good designs or very good realized projects. A design-based doctoral project within the framework of PEP consists of two intertwined and interdependent parts, i.e., a design part and a written part. The design components of the design part are not only illustrative, but represent independent research results.

For design-based research, PEP has formulated a procedure that structures the process of extraction of knowledge from design practice, makes it comprehensible and assessable. The doctoral candidates must pass through the following steps, i.e., presentations with specific objectives:

PEP 0: Application presentation.

The applicants present the outline of their proposed doctoral studies.

PEP 1: Design projects, leading interest, outline of the research question and corresponding methodological approach.

The doctoral candidate presents the deepening of the doctoral studies. It should be shown how and which new projects are employed to answer the research question. Criteria for investigating the research question are being elaborated.

PEP 2: Specification of the research question by old and new projects.

New projects contribute to the clarification of the research question. Reflections on the new projects sharpen the argumentation and form the basis for those questions that will be investigated through the next projects.

PEP 3: Clarification of the argumentation by old and new projects and initial comparison of the found results with existing knowledge stocks on the research topic.

New projects contribute to the clarification of the research question. Reflections on the new projects and initial comparisons of the found results with existing knowledge stocks on the research topic sharpen the argumentation and form the basis for future studies.

PEP 4: Further specification of the argumentation by old and new projects and in-depth comparison of the found results with existing knowledge stocks on the research topic, draft of a structured presentation of the entire investigation.

More projects, repeated reflection on the projects and an in-depth comparison with related knowledge stocks to sharpen the candidate's own results. In preparation for PEP 5, a structured presentation of the entire study is to be prepared.

PEP 5: Presentation of the entire study as a milestone presentation.

The milestone presentation has the structure of approx. 75 % of the doctoral studies, including preliminary studies through the candidate's own body of work, working out the topic of the doctorate (research question), examination of the doctoral topic by means of at least three projects developed in the process of the doctoral studies and reflection on the projects until the research question has been clarified and comparison of the results with related positions of the discourse in theory and practice.

PEP 6: Scientific defence including an exhibition.

Furthermore, the combination of the scientific defence with an exhibition is requested, which includes preliminary work and those design results that have made significant contributions to the gain in knowledge. The exhibition must include at least three projects relevant to the topic of the doctoral thesis, which have been developed within the framework of the doctoral studies and which show the design-based development of the work.

With this research-by-design approach, the design projects serve as case studies and sources at the same time, with your own design work being constantly compared to existing references and practices and using methods that go beyond that are suitable for locating the project thematically and in the context of the state of the question. The other way round, the findings out of design-based research can have an impact on the design practice and, in turn, promote a reciprocal sharpening of architectural creativity.

It is particularly illuminating that this form of knowledge production through research-by-design complements established scientific practices and that expanded knowledge can be achieved through this form of knowledge. The potential of creative and design-based or practice-based research that emerges here impressively shows the extraordinary possibilities that can be combined with this young form of knowledge generation in the future.

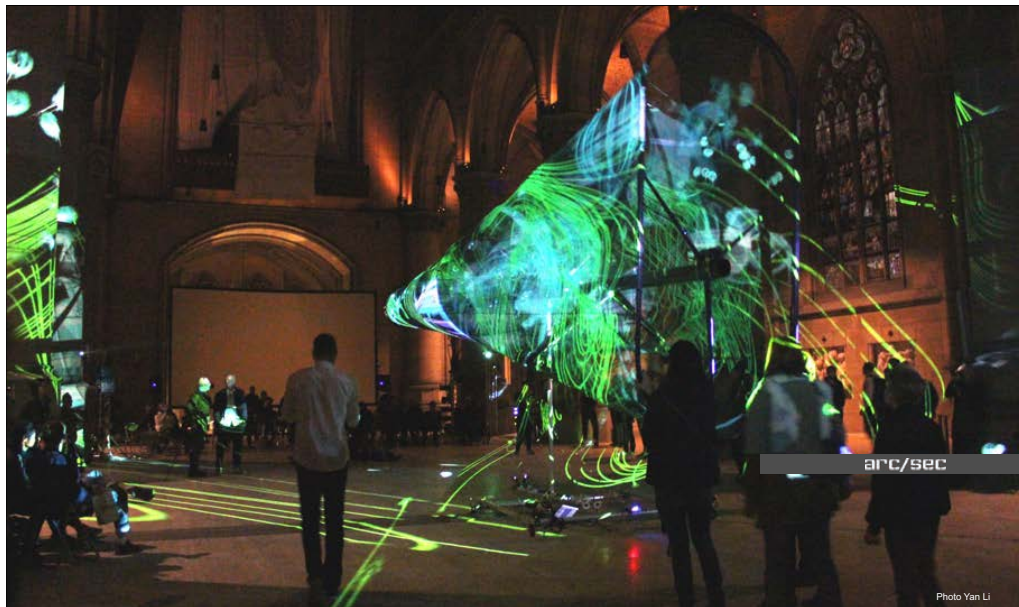


Image title: LightScale II
 Author: Uwe Rieger
 PhD title: Real Time Reactive Architecture and User Interaction
 in Tangible Data Environments



Image title: 3D printing on a custom knitted fabric with tuck stitch and drop stitch pattern

Author: Agata Kycia

PhD title: Self-Shaping Textiles: Form Finding of Tensile Surface Structures through 3D Printing on Prestressed Fabric

What Kind of Reflection Should We Look at?

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References:

Charmaz, K. (2006): Constructing Grounded Theory. A Practical Guide through Qualitative Analysis. Sage Publications.

Corbin, J., and Strauss, A. (1990): Grounded Theory Research: Procedures, Canons, and Evaluative Criteria, Qualitative Sociology, Vol. 13, N° 1. New York: Springer.

Schön, D. (1983): The Reflective Practitioner: How Professionals think in Action. New York: Basic Books.

Van Den Berghe, J. (2012): Theatre of Operations: Construction Site as Architectural Design. PhD Dissertation. Royal Melbourne Institute of Technology University.

van Schaik, L., Blythe, R., Stamm, M. (2012): Creative Practice Research: What We Do, How We Do It, and What We Discover. Keynote lecture at the Graduate Research Conference, Sint-Lucas School of Architecture, Ghent.

Reflecting on reflection in Design Driven Research entails that different kinds of reflection come to the fore.
What kind of reflection should we look at?

1. Reflection in action?

In the way Donald Schön presents it (Schön 1983).

2. Reflection on-in-for Design?

- According to the Reflective Model Ideogram, that Leon van Schaik, Richard Blythe and Marcelo Stamm presented in Ghent (Blythe 2012)? In which they pointed at three stages:
- Reflecting-on Design as looking back at past design work
- Reflecting-in Design as observing ongoing design actions amidst the present action itself
- Research-for Design as a reflection of future design based on the two previous stages. Their scheme is mainly applicable in Practice Based Research, maybe less so (but not excluded from) other forms of Design Driven Research?

3. How did I develop my own insights, through developing the following method?

(Van Den Berghe 2012)

- a cyclical process of design actions and observations starting with design actions
- and observations on design actions
- verbalization of these observations
- leading to improved (captured through field notes and memo writing)
- improvement of design actions in a second iteration of design - actions
- etc...
- in a cyclical process of iterations, of which the number is depending on saturation in the way as described in Constructivist Grounded Theory (Corbin & Strauss 1990) (Charmaz 2006).

The verbalization in each iteration is a gradual process towards cognition:

- additive process of cognition that loops into new cycle of
- design actions
- observations on design actions verbalization
- etc ...

The Reflective Model Ideogram

(van Schaik, Blythe, Stamm 2012) is the final stage of this research in which “then is the moment when this research can be overseen, observed from the outside (by me, by other people), commented on, communicated/explicated in terms of: what is this research about, and where did the shift(s) take place? It is the moment when dissemination starts through the exhibition, the DVR (Durable Visual Record), and through my spoken word in the Ph.D presentation, and later, when I will be philosophing about it, having doctored it all out through this research. Doctor of Philosophy” (Van Den Berghe 2012, p. 21).

Methods of Reflection in Design-Driven Research: The Contextual Map

Matthias Ballestrem,
Marta Fernández Guardado
HafenCity University Hamburg

The design driven doctoral proposals of practicing architects often begin with a mere inkling of a theme or motif embedded in their own work. In this initial stage, it is not yet clear if it will become a research topic sufficiently profound to carry their thesis; on the one hand fundamental to their own work, and on the other, with enough substance to produce a relevant and original contribution to knowledge. At this point, doctoral students not rarely focus on tangent aspects that are not relevant for the research topic that eventually emerges, and usually they are not yet able to formulate a clear hypothesis.

As a helpful methodology in this phase, we propose to produce a contextual map that visually and conceptually relates their own original work to relevant discourses and other practices in various creative, historical and theoretical fields, awakening the memory of old and maybe forgotten projects, and with them, reoccurring influences. This initially less comprehensive map becomes a method of reflection within the process of its making that can potentially be further developed in following steps.

The selection of reference materials – their own's and others' – and the internal debate of their conceptual descriptions, together with the question on where and how to place them in the map of their community of practice, will trigger a process of reflection resulting in a new clarity already when the map has reached its first draft stage. The exercise of lay-outing, grouping, spreading and articulating works and thoughts in the form of images and texts will help the student to construct lines of thought or detect gaps in their argument.

Once a first version is drafted, the map becomes a good dialogue partner that can be almost-endlessly bombarded with hypothetical ideas and concepts. Its editing will lead to widening the scope in order to ideally eventually narrow it down: in every attempt of making space – either for adding a new reference or by removing an existing one –, the map will response by rearranging and consolidating more and more the selected material, and doing so, the major concepts, routes and connections within them.

In this sense, the contextual map offers a dialogical and intuitional approach to reflection that serves as both open archive and semantic board. Its permanent malleability provides a multiplicity of possible and accumulative valid results that support students during their open-ended early-stages of research. Its nature as articulated sequence allows it to be used in initial phases when the topic is rather tackled from its inner fragments or details through

their relations towards a comprehensive positioning. The contextual map tends to remain inconclusive, and to ultimately become a meaningful visual representation of the doctoral students' process for the progressive specification of their argumentation.

Fig. 1 shows an example of such a contextual map by Marta Fernández Guardado. Her doctorate began with the obvious observation that her own practice showed a reoccurring interest and occupation with the domestic. Her small-scale design proposals reinterpret the common practice of living through estranged versions of generic furniture and furnishing based on particular rituals, aiming to identify and consolidate the personal experience of inhabitation so it can be celebrated and shared. Her work negotiates the use and balance of design standards in architecture and related fields on the search for a more sensitive production, reproduction and renovation of domestic space. The map from this initial phase shown here weaves her own design history into a web of references. It juggles visual material of things, bodies, homes, representation techniques, statistics on the one hand, and theoretical concepts like home, revolution, intimacy, estrangement, diversification on the other. It is made in a loose order, without a fixed grid, with various sizes of images and fonts, allowing multiple non-linear routs for the gaze as well as for the associations that it forms. And it is dense and exuberant, not made for rigorous categorization, but for making visible and opening up.

Marta presented her contextual map in 2018 at CA²RE Berlin. The progress of her thesis since can be tracked in the CA²RE+ database on <https://ca2re.eu/cognition>



Fig. 1 Contextual Map by Marta Fernández Guardado

Reflection in DDr at the Faculty of Architecture and Design, NTNU

Markus Schwai

Norwegian University of Science and Technology Trondheim

At the Faculty of Architecture and Design, at the Norwegian University of Science and Technology (NTNU) in Trondheim, Norway, Design Driven Research, or practice-based research, is a young field of attention. In the past, (reflective) practice-based activities were often executed through the National Program for Artistic Development or solely as practice, as a private initiative. In the latest years, an international reorientation towards new, different, and holistic approaches led to a focus on this direction also in Norway. When talking about reflection at the faculty, there are at least three respective tendencies visible and strengthened. All of them have reflection as an integral part.

One are the live-studio projects activities, which are guided, but student-driven projects in the urban and private realm. The live studio activity is guided and organized by Professor Steffen Wellinger at the faculty. (<https://ntnulivestudio.org/>) The activities are also used as cases for learning and experimentation, and pedagogical reflection for involved employees and students. The spiral process, designing, reflecting, varying, and redoing is Reflection in practice – practice in reflection.

The second direction at the faculty is the realization that writing is an essential part of the architects' profession. Be it to describe, encounter or to investigate. This realization led to more activities, which introduced, highlighted, and supported



Live studio project: BØLGEN, process, Trondheim - Foto: Kristin Solhaug Næss, 2014

academic writing in the pedagogical set-up. This, and here especially the combination and mutual supplement of drawing and writing, is not only accompanying education but also actively used as a reflective tool. First, when you write your thoughts down, they become evident and real. Writing as a reflective practice.

A third direction at the faculty was and is the work with artistic research. Three years ago, the first architects entered the program, which last year became the PhD program in artistic research. An educative core-activity is the collective presenting, reflecting and discussions of the participants work. This philological intercourse is happening twice a year at the national PKU meetings. Here the combination of a “challenged” presentation results in reflection on the candidates work.

As named in the beginning, Practice-based or design driven-research is a young field of attention at the faculty. We are still searching for our track, but we know that there is a lot we are missing. A start for the ongoing work in establishing a methodological approach for the PhD education in practice-based research, a combination of the before named three fields of reflection is our starting point:

1. Reflection in practice – practice in reflection
2. Writing/drawing as reflective practice
3. Presenting/ discussion as reflective practice



Live studio project: BØLGEN, Trondheim – Foto: Markus Schwai, 2020

The Key Issue and Its Many Facets

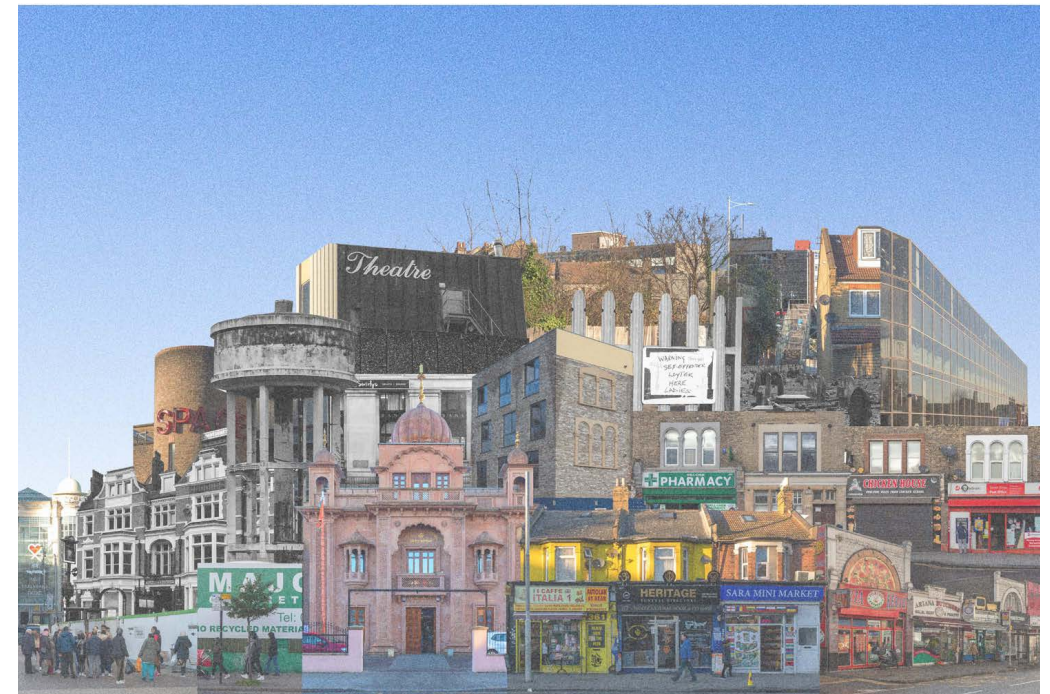
Roberto Cavallo
Technical University Delft

Being an architect, an educator, and a researcher, I find myself constantly thinking and reasoning out of various angles, intertwining at the same time several perspectives and playing different roles simultaneously. If somebody would ask me why I experience what I do in this way, my first answer would be: because I'm trained as a designer. Reflecting on this first thought brings me to a second one: reasoning as a designer feels almost like a built-in feature to me, and it is most probably also the linking thread between many things that I do. However, I don't sense this to be happening in a linear way. As conditions, inputs, impulses, triggers, and many more matters change all the time, one of the recurring challenges is for me grasping the key issue, the most important aspect, the *raison d'être*, and, depending on the specific case or situation, try to make it visible, evident, and steer it towards the desired result. Both the key issue and the specific case or situation are related to one another, though reliant on a variety of intentions, implications, moments in time, deriving choices, etcetera. Another commonly recurring fact is that the key issue has many facets, some of them more apparent than other ones. Also, the punch line I see may differ from the one somebody else can get to see, making the way towards the desired result quite bumpy. Therefore, I have to admit that the question of writing a contribution explicitly on 'one' specific method for 'reflection' looks somehow slippery to me. It depends on the matter at stake, the specific case, the people involved, their intentions, agendas, acts, etc. Sometimes it is about something that I wish the interlocutors to comprehend the same way I do. Some other times can be different, wishing the counterparts to interpret it in another way. But a good way to proceed is to keep chasing the key issue and reach out to its various facets, making use of images, drawings, diagrams, other visuals and leveraging on a sensible verbal explanation.

A reflection in design-driven research should start with the consideration of the key issue, the project proposition, the design 'drivenness', and how it relates to research. The design-driven components may also be personal, moved by intuition or tacit knowledge, whereas the relation with research should be ultimately leading to uncovering the knowledge and making it suitable for transferability. In doing this, objective and subjective matters play both their roles and should be conveyed to the interlocutors by the design itself, by means of drawings as well as through a thoughtful verbal account. In his book 'I racconti del progetto', published by Skira in 2018, Vittorio Gregotti talks about the materials for the project being very important for the process of narration. Materials for the project are intended not only as the ones actually utilized for its realization but in particular meant as the inventory of

relationships and findings fueling the creative process of the project. The relation between the project and the context, history, uses, interior / exterior relationships, the normative, the rules, but also the representation tools, the critical reflections, the exceptions and their interpretations, and the link to some artistic practices, are all considered choices like in the case of actual materials. According to the author, we shouldn't interpret creativity as pure and delusively free subjective expression, because whatever we do as designers is susceptible to external forces. Throughout the book, Gregotti's main intention is narrating the possible phenomenology that every time is behind the construction of a specific project, also as an expression of artistic practice.

Following his line of reasoning, in a design inquiry, drawings play a fundamental role. Drawings are both tangible signs of the creative process and mode of communication, just like writing, functioning as indispensable connections between the thoughts, their interpretations and direct translations. I find the ideas shared in the above-mentioned book quite interesting, even if considering that are related to projects which took place in the past. One clear warning is coming forward as well from the book. Nowadays there is a serious risk, namely that artistic practices and architectural project pathways are being identified merely with the search towards spectacle and success in communication, keeping out of sight the unmissable link to the real matters, like the existing place, context, its history and memory. Taking into account the key issue, and understanding its many facets using, in Gregotti's words, the 'materials' of the project, it can not only be very useful, but it will help to reflect upon the design research process. To do so, each 'material' needs to be unraveled, charting cross-connections as well between 'materials'. This can be done systematically along with the development of the project, or only in (pre)determined moments. Last and not least, although perhaps not always very convenient, trying to reflect in the first place as a designer while deploying design-driven research, may be the best way to go.



Collage photographs - author William Guild

Reflection on Originality, Relevance and Rigour in Design-Driven Doctoral Training

Tadeja Zupancic
University of Ljubljana

References:

EAAE Research Academy: Research Impact Diagram, August 2019. http://www.eaae.be/wp-content/uploads/2019/08/Reserach-Impact-Diagram-2019.08.26_ok.pdf

Tamke, Martin, Nicholas, Paul, Ramsgaard Thomsen, Mette: What does it mean to make an experiment? In: VERBEKE, Johan (ur.). Impact by designing: proceedings of the 3rd ARENA Annual Conference, 6th-7th April 2017 at KU Leuven, Faculty of Architecture, Campus Sint-Lucas, Brussels. Leuven: KU Leuven, Faculty of Architecture, Sint-Lucas Campus. 2018, pp. 219 – 238. https://arch.kuleuven.be/onderzoek/publicaties/copy_of_2018-proceedings-impact-by-designing-sec.pdf.

Zupancic, Tadeja: Design as a Hybrid Driver of Research. In: Fabrizia Berlingieri, Pier Paolo Tamburelli, with Chiara Pradel, Beatrice Balducci, Francesca Zanutto, Enrico Miglietta and Claudia Mainardi (editors): Ca2re/ca2re+ Community for Artistic and Architectural Research / Collective Evaluation of Design Driven Doctoral Training: Comparison: Book of Abstracts. Milano: Politecnico di Milano, CA²RE and CA²RE+, 2020, pp. 30-32. http://www.auid.polimi.it/wp-content/uploads/2020/10/201027-Book-of-Abstracts-Ca2re-Milan_def.pdf

This reflection text intends to share the evaluation framework from my own supervisory and evaluation activities, including the CA²RE/CA²RE+ reviewing. It is about reflection as a part of the evaluation process. It builds on the work on many generations of researchers (see the list of references in T. Zupancic, 2020). What are the starting points and the questions I use for myself and the people I'm dealing with in the doctoral training?

There are some general criteria for research quality. Perhaps the wording is different and coloured differently in various cultural contexts and evaluation frameworks, but the essence is somewhere there, it needs to be:

- original,
- relevant, shareable,
- rigorous (investigative, focused, contextualized, logical, argued).

In the doctoral training (especially at the University of Ljubljana), I usually ask the main evaluation question from these three (sets of) criteria. I address these criteria a bit differently in the initial stage, at the mid-term review and the final stage of the doctoral research.

Initial stage:

- Does the initial research idea (motivation) carry the potential for relevant and rigorous research, leading to original knowledge contributions in relevant cultural/research contexts?

Mid-term review:

- Is the research disposition relevant and rigorous enough to enable original knowledge contributions in relevant cultural/research contexts?

Final stage:

- Does the dissertation rigorously contribute original and relevant knowledge to relevant cultural/research contexts?

At the mid-term review, the candidates from the University in Ljubljana need to create a 5-page proposal with a clear description of how they see their path and the end of their research training. And we need to state that we see the potential that they can achieve originality their proposed way. That their research is well-rooted and well-directed. There we evaluate the proposals cross-disciplinary. I can get examples from the economy, law, cultural studies, sociology, philosophy, civil engineering, regional planning... The proposals from architecture are reviewed by a civil engineer, by musicologist, somebody from cultural investigations. Recently we decided to try to look beyond the horizon, for me that would mean

chemistry, medicine, etc. Social medicine still works, in (to me) more distant fields I usually stay fully on the surface. However, in some cases, the candidates can offer me some hints that I believe I can understand something so that I can agree with others who believe that research is original, relevant and rigorous. In chemistry, visual abstracts are a great tradition and even designers could learn from that ability to summarize the research context in diagramming. I must admit that the mid-term question, stated above, has been defined through those exercises. And I contributed to the discussion about the essential elements of the 5-page proposal: not only the hypothesis or a set of research questions but also a set of aims is now acceptable depending on the research approach.

In design-driven research, design plays an essential role in research strategies and the sensitivity of contribution to cultural development is essential in the:

problem background definition,

- problems/aim(s) identified and evidenced through design/ artistic theories and practices,

approach/method choice and development,

- future orientation, open-ended-ness, risk-taking, convergent thinking, artistic sensitivity; analytical/ interpretational methods, design experimentation in the studio or field-actions,

relevance discussion,

- social contextualisation: socio-spatial responsive design of objects, processes, systems; depending on knowledge transferability.

Research, where the problem background and the field-work case study is the designer's/artist's practice, is usually called practice-based research. Where/when the focus is on design field-work and relevance, practice-led research is perhaps a better already established 'label'. Research, addressing design issues, relevant for design, is design research. The emphasis is on research on design (design-based research) or for design (design-led research). Research through design experimentation is usually called research by design.

In design-driven research, a very high level of research hybridity in architecture/arts is acknowledged. Instead of focusing on the approach and methods, it follows design (understanding and acting) as the driving force of research. It enables questioning the dynamic and hybrid role of design (or any other artistic endeavour) in research strategies.

Design is not only the leader of research (design-led research), it is the motivator, the energy, the researcher's faith, and on the other side, playground of curiosities. It embraces design or practice-based, by design, design or practice-led research, including theoretical meta-level interpretations, as long as they are future-oriented, open-ended, risk-taking, based on convergent thinking and deriving from artistic sensitivity. In other words: it is not so much about setting the boundaries as defining the core. Using design for critical reflection can incorporate a variety of methods, and yet design taken as a driver is what separates this research form other investigations. Thinking about the initial stage research, mid-term review and the final stage, I can specify the following set of evaluation questions for design-driven doctoral training.

Initial stage:

- What is the role of design in this research idea/aim (motivation)?
- How do you contextualize your work in similar contemporary research?
- How do you see your research/design trajectory?
- What are your potential next steps and where they can lead you?
- Do you need experiments to work with your ideas? If yes, why? As a speculation, as reflection, for evaluation, as an interface or as an integrated inquiry? (M. Tamke et. all, 2017)

Mid-term review:

- What is the role of design in your problem statement, approach/method, discussion of potential relevance?
- When and how do you develop relevant research questions that cannot be answered otherwise than through design?
- In the case of field-work experiments: how do you build the evidence of socio-spatial impact during and immediately after your experimentation?
- In the case of lab-isolated experiments: what are the limitations of design simulations; how to overcome them to ensure the results are relevant for everyday or extreme socio-physical contexts?
- How do you see your research trajectory growing?
- How can you improve the shareability of your investigations?
- How can you develop your research impact monitoring?

Final stage:

- How do you interpret your research results building on the work of others?

- How do you relate to your first phase research (answer your initial questions or develop new ones or reflect on your initial aim(s)?
- How do you see your research trajectory growing?
- How do you address and reach the audiences beyond your communities of research?
- How do you learn from your research impact monitoring?

While at the doctoral level the questions about research impact monitoring are rarely applicable because the candidates are not fully aware of their impact while researching, and they see only long-term impacts, this aspect becomes more relevant at the post-doctoral level. From my point of view, it opens many new evaluation questions. How to develop a framework for socio-spatial impact evidencing is nowadays on the agenda of the ARENA, EAAE, ELIA and other discussions, for example the EAAE Research Academy Policy Paper development – see Research Impact Diagram, 2019).

04 Particular

Cases

Invited Lectures

Dialogue on 'Particular Cases'

Mona Mahall, Christoph Heinemann
HafenCity University Hamburg

Mona Mahall (MM): I introduced 'particular cases' to the discussion on artistic research, borrowing the term from a publication with the same title by the philosopher and art theorist Boris Groys. It should help us reflect on the relational and situational character of architecture. In the introduction to the book with various essays on modern and contemporary artists, Groys describes his way of writing as moving from one particular case to others. It can, he explains, be compared to English instead of French law. Thus, it does not arrive at decisions from some general principles (a Civil Code of art), but rather by keeping in mind earlier decisions (an artistic precedent).

I think that this analogy helped us frame artistic or architectural acting and thinking as relational in a specific way: a way that does not impose an abstract organizing principle: a pattern, an arrangement, or order on space, stone, and flesh. Rather a way that begins with a particular thing, site, or moment to (re-) produce a form. There is no objectification nor solutionism. Relation is not a method to replace the old concept of the universal by another approach with the aim of providing legitimacy to attempts at domination. We see it as a singular access, a personal responsibility, a desire towards a specific situation that we thereby interpret or better: (re-)produce as a particular case.

In this sense, I also understand the quote by post-colonial writer Eduard Glissant, maintaining that "relation is only universal through the absolute and specific quantity of its particularities."

Christoph Heinemann (CH): I completely agree with you (and Groys) concerning the situational and relational initiation of artistic (spatial) production. To explore the capacities of architecture through one case to another is thereby more than an option - it is a necessity, reflecting the diversity and plurality of our society, our methods, and means. We understand particular cases as iterations, and each case is a story of its own. Thus, it seems right to compare the relational approach, its knowledge production and ways of transmission to the organisation of English law as a learning system. At the same time, I think, that the (universal) freedom to be particular and act particularly is the basis of all this.

In this sense, I am a big fan of French law. It does not tie cases one to another creating a complex body of interdependencies. French law allows for a fresh start each time and thus to 'make a case' - independence is at the base of progress, I might say. Less pathetically put: a major concern of a research on and through particular cases can focus on how particularity,

iteration, narration is enabled - as a fundamental requirement of our society and a crucial point in the transfer and further development of knowledge. I also think that 'reflection' as a term framing the discussions at the conference and as a step in the development of DDr might be discussed in this field spanning between inter- and independence.

MM: Concerning reflection, we talked about how we can describe it against any idealism, but as a material process that is open in at least two dimensions: it keeps available every project to all who reproduce it through comments, use, maintenance, or destruction –through a revaluation of values. Reflection is also open as a material process that finds whatever medium might be appropriate or at hand: building, drawing, writing, models, video, audio, or living perhaps. Reflection is then an active impulse within particular cases, within the discipline, but also and importantly something that traverses disciplines and borders to relate to other fields, to places and events, be they feminist and post-colonial, most importantly.

In this sense, we perceive the three guests as truly impulsive, as instigators with their various processes across image, object, text, drawing, and building; their particular practices relate to histories, forms, and interpretations. Artist Iman Issa frames her installative work as studies, as propositions at a certain point in time, on how to re-interpret an existing (historical) artwork. Without naming it, she develops her displays (as she calls them), using texts, images, and objects, composed as a set of elements relying on and relating to each other and the specific exhibition space. Besides her practice, architect Hilary Sample publishes books, among others "Maintenance Architecture," exploring re-production processes of buildings, and the traces left by diverse inhabitants, visitors, weather, and time, beyond the technical.

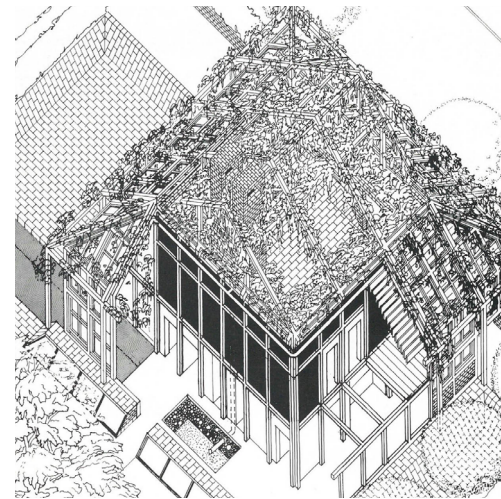
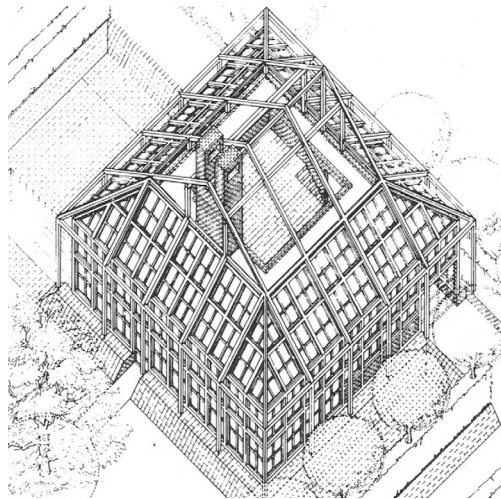
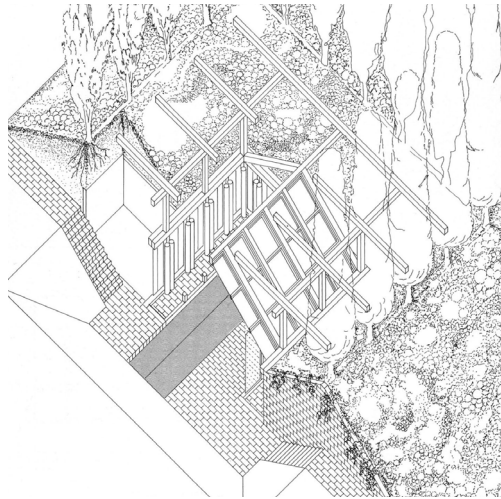
CH: With their project Negotiating Ungers Cornelia Escher and Lars Fischer are offering insights on multiple forms of reflection. There is O.M. Ungers reflecting contemporary questions of sustainable design and new technologies through his own means and techniques of drawing and ordering, integrating the research in a broader architectural body and discourse. There is Cornelia and Lars reflecting his work with their students by staging an exhibition which itself is constituted by different individual projects.

All three approaches negotiate and produce through reflection, being particularly specific while at the same time relating to things, people, and stories, in the past and future. In our view,

design driven research is closely linked to or even based on particular cases - if only because designing is a form of acting that relates each time differently to time and space. Research by design through particular cases certainly is an important way to deal with the complex interdependencies that our world is constituted of. There, transversal reflections are key ...

Negotiating Ecologies

Cornelia Escher, Lars Fischer



O.M. Ungers, Solarhaus Landstuhl, 1980
Ungers Archiv für Architekturwissenschaft, Köln

Negotiating Ungers is a research and teaching project that looks at some of German architect Oswald Mathias Ungers' less well-known projects. The research takes a threefold approach. We depart from a specific theoretical question at the intersection of the environmental, the social and the mental. Secondly, we confront this question with the interpretative frameworks established by Ungers himself, examining some of his given assumptions about architecture. And finally, the analytical research is expanded towards the spatial and aesthetic exhibition of the results. Through these processes of negotiating, we aim to reconsider the broader historical contexts and activate a design's potential to contemporary discussion.

Cornelia Escher teaches the history and theory of architecture at the Kunstakademie Düsseldorf. Her research and publications focus on architecture in the 19th and 20th century, the global history of architecture and the architecture's mediatization and materiality. Her publications include the book *Zukunft entwerfen* [Designing the future] (gta Verlag 2017) as well as articles in *Arch+*, the *Journal of Urban History* and the *Journal of Architecture*.

Lars Fischer is an architect and a founding member of *common room*, a socially engaged architectural and cultural practice concerned with the built environment, art and politics. He is currently teaching at KU Leuven, Faculty of Architecture, Campus Sint Lucas with a focus on the mediation of an ecological architecture. *common room* has been published in numerous publications, such as *Volume*, *Oase*, *Perspecta*, *Artforum* and the *New York Times*.

Proxies, with a Life of Their Own

Iman Issa

Can you do justice to the independent life of forms, while employing them? In this lecture Issa will discuss a series of her own works dealing with forms tasked with a function, such as monuments, historical narratives, films, artworks and artifacts, thinking through their presumed legacies, as well as the subject positions that bring them into being.

Iman Issa is an artist and professor at the Academy of Fine Arts in Vienna. Her work has been exhibited widely, including at the Whitney Museum of American Art, New York, Hamburger Bahnhof, Berlin, MoMA, New York, the Solomon R. Guggenheim Museum, New York, MACBA, Barcelona, and Beirut Art Center among many others. She has been named a 2017 DAAD artist in residence, and is a recipient of the Vilcek Prize for Creative Promise (2017), the Louis Comfort Tiffany Foundation Award (2015), HNF-MACBA Award (2012), and the Abraaj Group Art Prize (2013). Her most recent publication *Book of Facts: A Proposition* was published by the 13th Sharjah Biennial in 2017.



Masks for a Multiple-Role Actor, 2020, from the series
Surrogates 3D-prints, wood, steel, thread, metal wire, acrylic,
epoxy, paint TAXISPALAIS Kunsthalle Tirol Courtesy the artist
and Rodeo, London / Piräus Foto: Günter Kresser

On Making

Hilary Sample



School No. 1 (Krabbesholm Højskole), Skive, Denmark, 2012,
foto © Florian Holzher
https://drive.google.com/drive/folders/1SFUee53hFnis1r1e_vKykQuwL3zIET6W

At MOS, Hilary Sample's completed projects include Petite École in France, a public pavilion for teaching design to children, Laboratorio de Vivienda in Mexico, a housing-focused education center, and the Krabbesholm School in Denmark, a complex of four art studios. She will present her approach to constructing an immersive, educational environment for the three schools, which vary widely in scale, use, and context. Complementing the buildings, book-making illuminates design research as an extension of architectural practice.

Hilary Sample is the IDC Professor of Housing Design and Sequence Director of the Core Architecture Studios at GSAPP, and Co-Founder of the New York-based architecture and design studio MOS. Since its establishment in 2003, MOS has won major national and international awards and been recognized in significant publications. Monographs about the studio include an issue of *El Croquis* and *Selected Works* (Princeton Architectural Press, 2016).

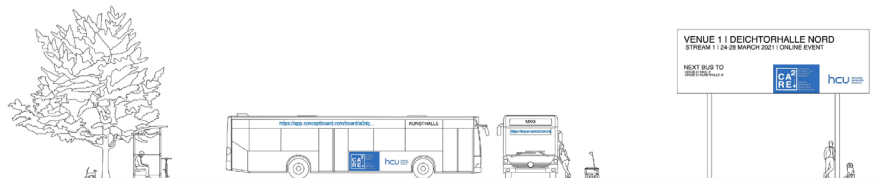
Sample published *Maintenance Architecture* (MIT Press, 2016) and has taught at Columbia GSAPP, Harvard GSD, Yale SoA, and the University of Toronto. She, along with Michael Meredith, is a recipient of Cooper Hewitt, Smithsonian Museum's National Design Award in Architecture (2015) and the United States Artists Award (2020).

MOS undertakes projects diverse in scale and type, spanning throughout North America, Europe, and Asia. Recent projects include the Petite École in France, a public pavilion for teaching design to children (2019); Laboratorio de Vivienda in Mexico, a housing-focused education center (2018); Krabbesholm School in Denmark, a complex of four art studios (2012); and a photographer's studio (2020). A collective affordable housing residence in Washington, D.C. is scheduled for completion in 2022.

05 Exhibition

Venues

Deichtorhalle,
Museum für Kunst
und Gewerbe
and Galerie der
Gegenwart

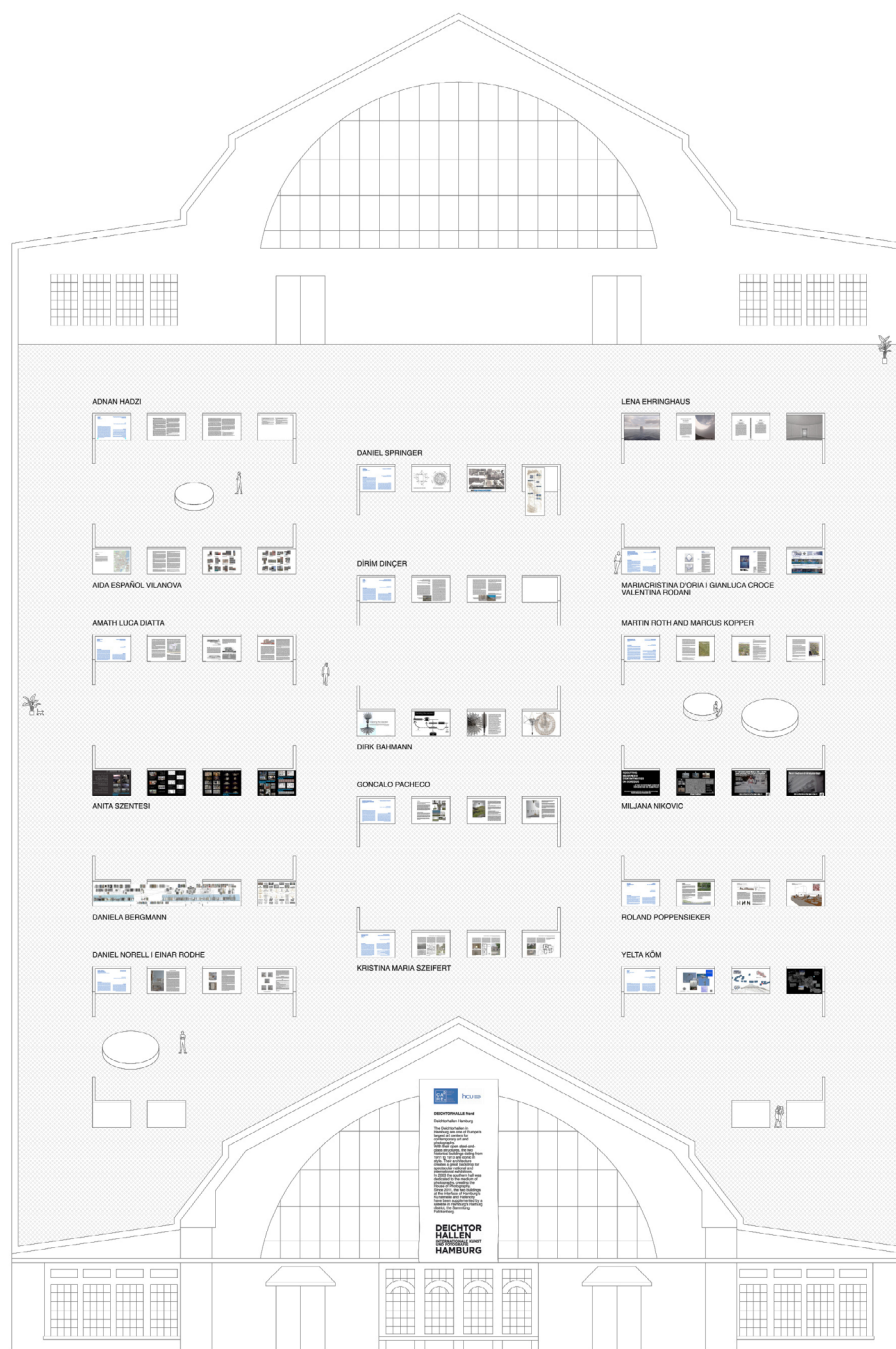


In times of digital imposition, we tried to find the best possible formats that give us the feeling of bond and familiarity. One of the formats during CA²RE/ CA²RE+ HAMBURG was an online exhibition working as a virtual foyer.

What defines the visit to an exhibition is strolling, drifting and looking at the exhibits together. Therefore, we endeavoured to translate these experiences into digital format on a collaborative online whiteboard.

To frame the exhibition space on the whiteboard, we selected three of the most famous exhibition venues in Hamburg, each of them for one of the 3 streams of online presentations of the conference. In our Egyptian isometric drawing of the buildings, one can see both the façade and the interior space in which we created our own exhibition layout using display walls. To switch between the venues, hop-on-hop-off busses were waiting next to the entrance of the buildings that functioned as links to the other venues. Each presenter or group of presenters had a defined area in its corresponding venue that could be filled as desired, with the default display of its contribution to the Book of Abstracts. Before the conference started, presenters could adapt or complement their content. Besides the content in the Book of Abstracts, they had the chance to show more or different aspects of their research work, such as references, links and videos.

The exhibition vernissage on Wednesday evening was the opening of our virtual exhibition venues. In Zoom, we provided some rooms to chat and mingle while everyone was able to browse through the individual contributions of the presenters. In the main zoom room, DJ Maximillion gave an audible insight into his personal Hamburg music world and was able to retrieve a joyful and relaxed atmosphere.



Deichtorhalle

The Deichtorhallen in Hamburg are one of the largest art centers for contemporary art and photography in Europe. The historical buildings, dating from 1911 to 1913, were originally built as market halls. Their industrial architecture with the open steel-and-glass structures creates a great setting for spectacular national and international exhibitions. Thereupon Deichtorhallen's international art exhibition program opened in 1989.

In the northern hall artistic positions of the present time are presented in major projects. Solo exhibitions of painters, sculptors and designers of international repute are the focus. In 2003 the southern hall was dedicated to the medium of photography, creating the House of Photography and showing international temporary exhibitions of works from the 19th and 20th centuries to young contemporary photographers and the aspects of the digital revolution.

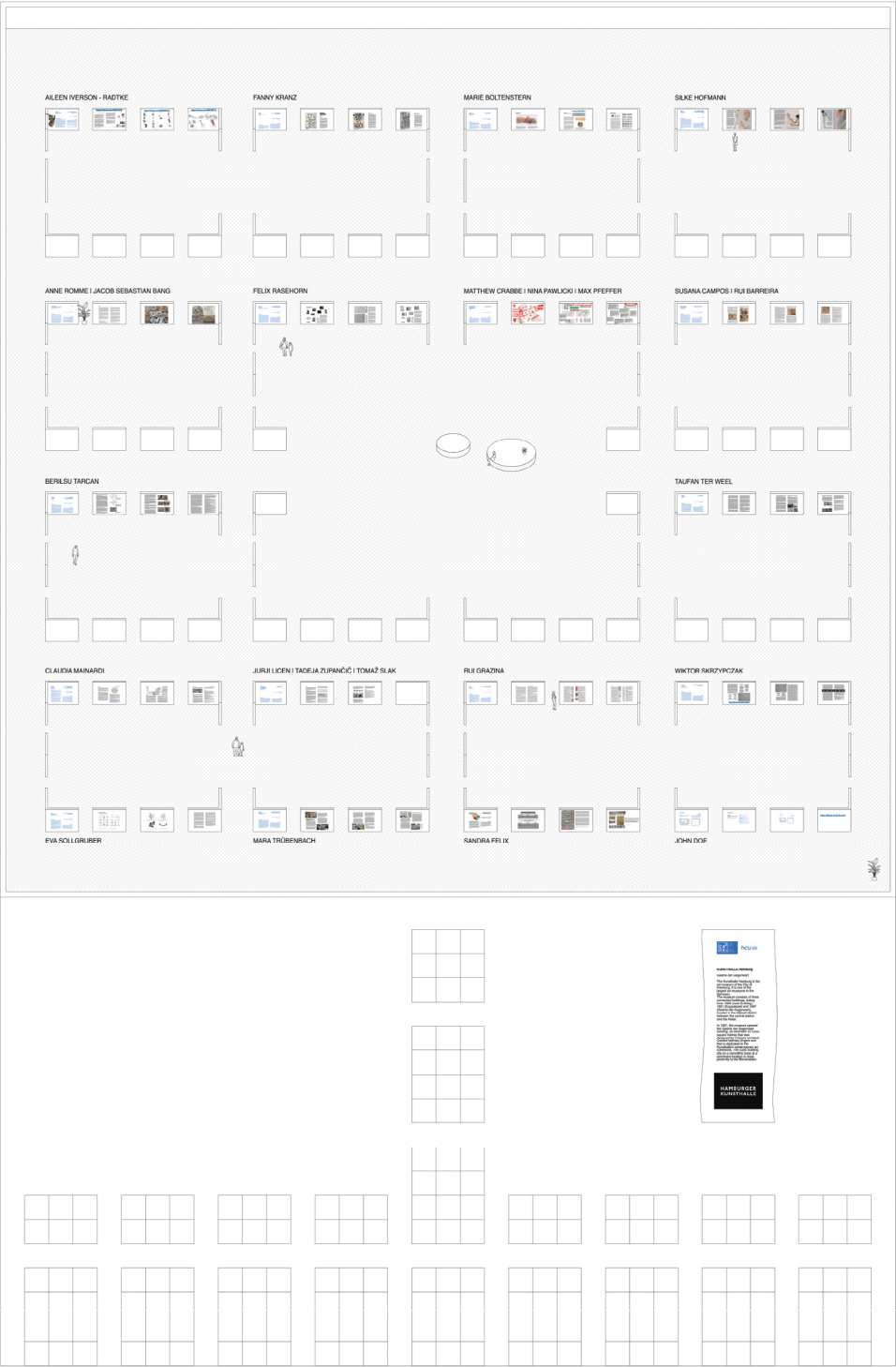


Museum für Kunst und Gewerbe

The Museum of Art and Design Hamburg is the museum of fine, applied and decorative arts.

It is based in the city center close to Hamburg's central station. The museum originated in 1874 mimicking its counterparts in London, the 'Victoria and Albert Museum', the 'Museum für angewandte Kunst' in Vienna and the 'Kunstgewerbemuseum' in Berlin.

The museum aims at being a facility for culture, particularly for the applied arts. The collection is separated into fourteen areas. Especially the Period Rooms deserve a mention, they include everything from the hall of mirrors of the Budge-Palais to a replica of Dieter Ram's office at the HFBK (University of Fine Arts Hamburg). The latest addition to the Period Room Collection is that of the famous 'Spiegel'-canteen from the former headquarters of the publishing house, the Pop Art cafeteria, designed by Verner Panton in 1969, was installed in October 2012.



Galerie der Gegenwart

The Kunsthalle Hamburg is one of the biggest art museums in Germany. It incorporates three connected buildings: the main building originating from 1869, the Kuppelsaal built in 1921 and the Galerie der Gegenwart from 1997. It is positioned in Hamburg's Altstadt enclosed by the central station and the Alster. The Kunsthalle is part of the so-called Museumsmeile, a group of several musea that circle the old-town in the area once part of the fortifications before their removal.

The Galerie der Gegenwart is an extension of the museum, that is dedicated to the contemporary art collections. From the beginning, the goal was to present the Galerie der Gegenwart and its collection as a living museum that does justice to the constant changes and expansions of contemporary art - both in the variety of media and in socio-political issues. German architect Mathias Oswald Ungers designed the cubic building with a white sand-stone façade sitting on a monolithic base at the prominent location in close proximity to both the Binnen- and Außenalster.

05 Extended
Abstracts,
Artefacts and
Papers

Contributions of
the Presenters,
PhD and Doctor
Candidates

Immersive Experiences in Social Shared Spaces

Audio/Visual Artistic Research in European Immersion Labs

DDR Statement

This paper analyses the use of Immersive Experiences (IX) within artistic research, as an interdisciplinary environment between artistic, practice based research, visual pedagogies, social and cognitive sciences. This paper discusses IX in the context of social shared spaces. It presents the Immersion Lab University of Malta (ILUM) interdisciplinary research project. ILUM has a dedicated, specific room, located at the Department of Digital Arts, Faculty of Media & Knowledge Sciences, at University of Malta, appropriately set-up with life size surround projection and surround sound so as to provide a number of viewers (located within the set-up) with an IX virtual reality environment. The set-up is scalable, portable and provide easy to use navigation and allow the user to move around within the virtual environment. The paper discusses how ILUM combines and integrates three research strands that are part of a major, sustained artistic or scientific focus of the partnering academic institutions, namely the Visual Narratives Laboratory (VNLAB at the Centre for Interdisciplinary Research, Filmschool Lodz), the Instytut Kultury at Jagiellonian University, Krakow, Poland, and the Spatial Media Research Group (SMRG) at the National and Kapodistrian University of Athens, Greece. In those labs researchers, artists, film-makers investigate and create different kinds of IX. ILUM provides the opportunity to situate artistic research in the context of scientific. The thematic backgrounds of these research strands and the infrastructure of ILUM serve as starting points from which the partners collaboratively create new communication content, exhibition settings and research as well as teaching materials.

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Paper

Keywords: immersive experiences, social shared spaces, virtual/augmented reality exhibitions, media arts
cognitive sciences / social sciences

Abstract

The paper discusses how ILUM combines and integrates three research strands that are part of a major, sustained artistic or scientific focus of the partnering academic institutions:

- 1) The original development of the ILUM as being oriented towards practice-based research in Media Arts: Interdisciplinary Immersive Experiences within Media Arts.
- 2) The second scenario and field of expertise is established through collaborative work with the Department of Cognitive Science, Faculty of Media and Knowledge Sciences, University of Malta, on Interdisciplinary Immersive Experiences within Cognitive Sciences. For the researchers, the key element is that the subjective experience can be challenged using new technologies and IX media that induce perceptual bodily illusions.
- 3) The third scenario is the application of techniques, tools, and processes of ILUM in Interdisciplinary Immersive Experiences within Social Sciences, such as Heritage Dissemination activities and finally an outlook on envisaged IX productions within migration studies.

Immersive Experiences in Social Shared Spaces Audio/Visual Artistic Research in European Immersion Labs

This paper discusses the use of Immersive Experiences (IX) within artistic research, as an interdisciplinary environment between artistic, practice based research, visual pedagogies, social and cognitive sciences. This paper examines IX in the context of social shared spaces. It presents the Immersion Lab University of Malta (ILUM) interdisciplinary research project. ILUM has a dedicated, specific room, located at the Department of Digital Arts, Faculty of Media & Knowledge Sciences, at University of Malta, appropriately set-up with life size surround projection and surround sound so as to provide a number of viewers (located within the set-up) with an IX virtual reality environment. Throughout the project, scientists collaborate to transfer scientific experimentation settings into the Immersion Lab that enable visitors to actively engage with and learn about these topics and methods of investigation. The paper discusses how ILUM combines and integrates three research strands that are part of a major, sustained artistic or scientific focus of the partnering academic institutions:

- 1) The development of the ILUM as being oriented towards practice-based research in Media Arts: Interdisciplinary Immersive Experiences within Media Arts.
- 2) The second scenario and field of expertise is established through collaborative work with the Department of Cognitive Science, Faculty of Media and Knowledge Sciences, University of Malta, on Interdisciplinary Immersive Experiences within Cognitive Sciences.
- 3) The third scenario is the application of techniques, tools, and processes of ILUM in Interdisciplinary Immersive Experiences within Social Sciences, such as Heritage Dissemination activities and finally an outlook on envisaged IX productions within migration studies.

1) Interdisciplinary Immersive Experiences within Media Arts

In *Genius Loci* [1], Towards a Phenomenology of Architecture, Norwegian architect and theorist Christian Norbert-Schultz re-interpreted the ancient notion of *Genius loci* advocating a more sensitive approach to architecture in the direction of the symbolic understanding of places. Going back to taking into consideration the value of the ‘character of place’, and understating it in terms of heritage, would – Norbert-Schultz suggested – offer insights to a more sensitive and dialectic relationship between society, the environment and the forms of human living. In *Computers as Theatre* Laurel [2] introduced a totally new perspective on the then rather new domain of human-computer interaction [3], by combining drama studies with video-game design at the Atari corporation. Laurel’s work brought a refreshing perspective to the emerging field of interface design. Laurel advocated to look for advice in formulas from the classic world noting how “designers of human-computer activities can borrow concepts and techniques from drama in order to visualize and orchestrate the structural patterns of experience” [2]. From a different perspective, interesting insights in this area can also be found in Char Davies’ early experiments in Virtual Reality [4], like in Davies’ *Osmose* [5] immersive VR installation. In a general context in which technology radically modifies the relationships between the visible boundaries – that we, at large, consider as a “screens” – and the moving image artifacts they are meant to display, the idea

behind the traditional immersive VR setup is being questioned. A key area of investigation is, on the grounds of a long-established history of orchestration between spatial, visual components and storytelling, hence that of the possible contaminations between the diegetic space [6] of the audiovisual field and the narrative power of an expository medium. Furthermore, the very practice of sharing and creating information on social media, so characteristic of our times, tends to introduce a new space in which the real and virtual dimension overlap, interacting in new and unexpected ways.

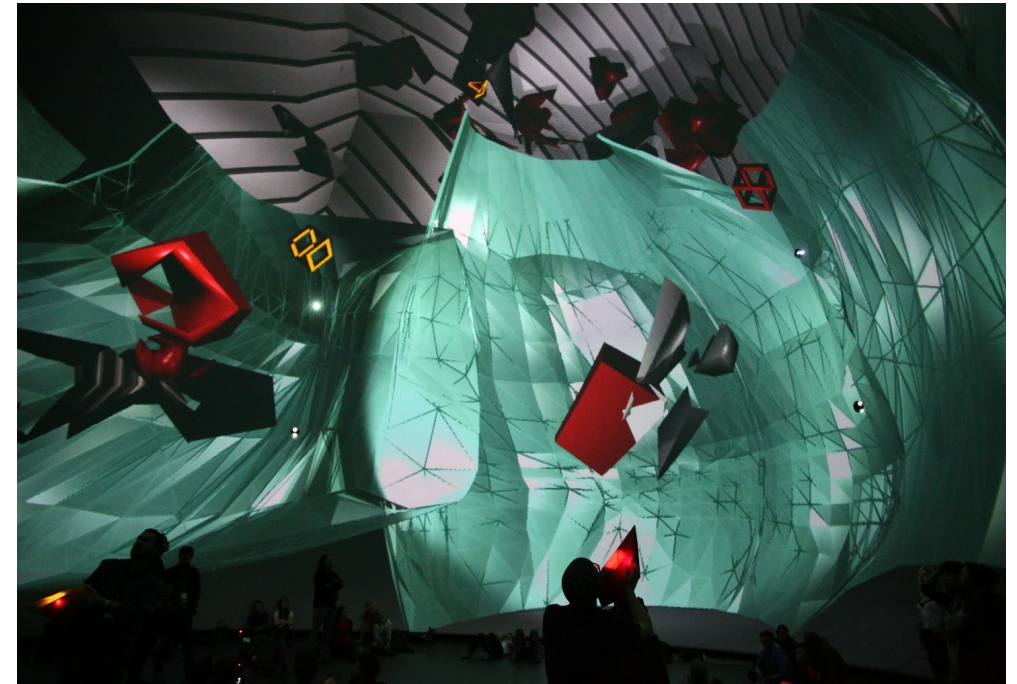


Figure 1: Multi-user interaction with immersive artwork titled “Frachitectures” by Spatial Media Research Group” in SAT, Montreal, 2015, inducing social interaction amongst participants. This artwork was created and presented in the context of the EMDL Culture project.

2) Interdisciplinary Immersive Experiences within Cognitive Sciences

For the researchers, the key element is that the subjective experience [7] can be challenged using new technologies and IX that induce perceptual bodily illusions. Such illusions are interesting to study for cognitive neuro-scientific research of self-consciousness and provide an

excellent way for communicating and explaining our scientific questions. Work in ILUM implements the experimental conditions for visitors to experience these bodily illusions and provides the public with a better understanding of the fundamental mechanisms of self-consciousness [8]. The main goal of the science communication project is to showcase exemplary research at the intersection of art and science. An example for such a field of expertise is established through collaborative work with Cognitive Sciences. The design of the User Experience [9], through cognitive analysis, is the first fundamental step to create an immersive experience.



Figure 2: Expanded Cinema presentation by Dr Karel Doing, 2018

The cognitive science potential for researchers of the ILUM project are in researching and implementing content production pipelines at ILUM, concentrating on the creative aspects of IX research through (serious) game-like experiences using ILUM, disrupting dominant narratives, often unwittingly, promoting – by embedding stories, perspectives and artefacts representing cultures and communities that were previously hidden, or indeed (due to past prejudice in what might constitute legitimate historical narratives) altogether missing. Those stories, perspectives and artefacts will be positioned in juxtaposition to the most popular narratives. The new connections, meanings and nuances that will emerge from those juxtapositions will help demonstrate novel uses of IX technologies. ILUM develops a method in prototyping an experience for the inclusion of cultural perspectives and artefacts, which represent communities and groups that are currently missing or under-represented in the collections of cultural institutions.

3) Interdisciplinary Immersive Experiences within Social Sciences

One major aspect for ILUM is the engagement with Maltese cultural and historical sites. Museums are sites of knowledge and memory, heritage and culture. Museums and historical sites in the Malta also are publicly funded institutions that have a social responsibility to reach out to a wide range of demographics. However, participation in culture is often significantly lower among those from a lower socio-economic background [10]. There is strong evidence of arts and culture's intrinsic, social and economic value. The government expects that all publicly-funded arts organisations must increase access for people from disadvantaged backgrounds and open up arts and culture for all. Furthermore, even when visiting museums and sites of cultural heritage, many

visitors only engage with the 'star' exhibits, missing out on other, equally important if less celebrated or spectacular elements of the exhibition, either because they do not have an incentive to visit certain parts of the exhibition or because items are hidden in the storage. This can lead to educationally limited visits of cultural and heritage sites. Therefore ILUM focuses on learning to set up IX solutions to counter key challenges faced by Maltese cultural institutions today:

1. Diversity of audiences and narratives displayed. The diversity of audiences does not currently reflect the demographics of Malta as a whole. A contributing factor to this challenge is a widely-held perception that the story of the past, as the dominant narrative currently presented by mainstream cultural institutions, is primarily that of wealthy, heterosexual, white males. As a result, audiences from different ethnic and religious communities, or with particular protected characteristics, can feel disconnected from this cultural narrative. Maltese heritage sites, museums and galleries are urgently seeking to address this through examining how cultural sites can better contribute to cultural and social developments by encouraging and facilitating diverse communities to contribute to culture within Malta.

2. Visitors only engage with 'star' exhibits, resulting to educationally limited experiences. According to Waltl "the process of establishing museums for the many goes hand in hand with transformation of museums which (...) 'change from being product-led to audience-centred'" [11]. Cultural institutions today seek to offer more engaging, enriching and relevant experiences to visitors, encouraging them to extend and diversify their visits. They want visitors to engage with the wider collection beyond the star exhibits, which would enrich the visitors' experience, offering a broader contextual understanding and instigating 'surprise encounters' with objects or ideas they might have not previously encountered, thus audiences would learn more and deepen their enjoyment of visits.

3. Physical space and resources limit the range of collections and archives that can be displayed. Cultural institutions tend to only display a proportion of their collection to visitors at any time. A great deal of it remains 'hidden' either because of a lack of space or because of the fragility of the artefacts. However, the 'hidden' artefacts [12] are often those which are most pertinent to the under-represented communities [13]. ILUM enables immediate accessibility and provides direct experiences for general audiences that range from school-age children to adults. The ILUM researchers have the opportunity to retrace the process with a possible adaptation to the Maltese context [14]. Crucial is that by bringing together images, sounds, and movement through interaction, an embodied relationship arises from reconstructed shapes of palaeolithic art [15], [16] and their synthesised movements. Critical points of development are the translation of heritage content [17], [18] into digital interaction modules, providing uninhibited access via animated media scenarios.

Another Social Sciences research project which benefits from the ILUM project is the Platform for Migration [19] at the University of Malta. In an increasingly integrated world, migration presents opportunities and challenges to communities, institutions and individuals alike. The mission of the University of Malta Platform for Migration is to offer a dialogical space in

which researchers from different academic disciplines can work towards understanding all the evolving aspects of international migration, including that of belonging across generations. The long-term goal is to thereby contribute to an equitable, more sustainable and more inclusive society that brings benefits to migrants and their families, communities of origin, destination and transit, as well as their sending and receiving countries. Today the migration crisis renders the Mediterranean an opaque space, removed from the public eye, where the key founding values of the European Union (as per Art 2 TEU) are put under strain, making the Platform for Migration initiative all the more necessary. The Platform for Migration can help to shed light and raise awareness among stakeholders, policy makers, and the general public about the unfolding crisis at the common maritime borders of the Member States. ILUM supports the Platform for Migration in data visualisation within immersive space for awareness raising purposes.

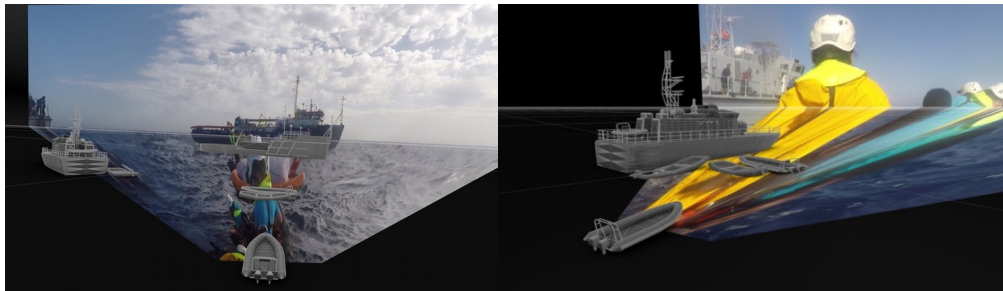


Figure 3: 3D models of Sea Watch vessels by Forensic Oceanography

ILUM, considering the above discussed case studies, serves as a vehicle for the exploration of new narratives for spatial media-arts work, combining the modalities of musical and visual surround presentation with a full-scale interaction surface. A core idea is to provide a platform for a wide variety of researchers and artists to experiment in and develop artistic works specific to this multi-modal configuration. The installation system intended for a variety of research scenarios that include researching in the domains of social and cognitive sciences, and media arts, such as creative coding, interactive media, as well as computer music and algorithmic composition. Furthermore ILUM allows for experimentation in the artistic research domain, as well for generating experiences to be investigated from the point of view of composition, systems theory, and above all interaction and social behaviour within media environments.

References

- [1] C. Norberg-Schulz, *Genius Loci: Towards a Phenomenology of Architecture*. Rizzoli, 1980.
- [2] B. Laurel, *Computers as Theatre*. New York ; London: Addison-Wesley, 1993.
- [3] D. P. Voorhees, 'Introduction to Human-Computer Interaction (HCI) Design', in *Guide to Efficient Software Design: An MVC Approach to Concepts, Structures, and Models*, D. P. Voorhees, Ed. Cham: Springer International Publishing, 2020, pp. 251–259.
- [4] O. Grau, *Virtual art: from illusion to immersion*. Cambridge, Mass: MIT Press, 2003.
- [5] C. Davies, *Osmose*. 1995.
- [6] D. Kirby, 'The future is now: Diegetic prototypes and the role of popular films in generating real-world technological development', *Soc. Stud. Sci.*, vol. 40, no. 1, pp. 41–70, 2010.
- [7] C. Heeter, 'Being There: The Subjective Experience of Presence', *Presence: Teleoperators and Virtual Environments*, vol. 1, no. 2, pp. 262–271, 1992.
- [8] J. Luis Bermúdez, 'Nonconceptual Self-Consciousness And Cognitive Science', *Synthese*, vol. 129, no. 1, pp. 129–149, Oct. 2001, doi: 10.1023/A:1012603425585.
- [9] M. Hassenzahl, 'User experience and experience design', *Encycl. Hum.-Comput. Interact.*, vol. 2, 2013.
- [10] D. Fleming, 'Positioning the museum for social inclusion', in *Museums, society, inequality*, London: Routledge, 2003, pp. 233–244.
- [11] C. Walzl, 'Museums for visitors: Audience development-A crucial role for successful museum management strategies', *Intercom*, vol. 2006, pp. 1–7, 2006.
- [12] F. Dal Falco and S. Vassos, 'Museum experience design: A modern storytelling methodology', *Des. J.*, vol. 20, no. sup1, pp. S3975–S3983, 2017.
- [13] B. Onciul, *Museums, heritage and Indigenous voice: Decolonizing engagement*. London: Routledge, 2015.
- [14] A. Bonanno and D. Cilia, *Malta : Phoenician, Punic, and Roman*. Malta: Midsea Books, 2005.
- [15] C. Gamble, 'The Social Context for European Palaeolithic Art', *Proc. Prehist. Soc.*, vol. 57, no. 1, pp. 3–15, ed 1991, doi: 10.1017/S0079497X00004849.
- [16] E. Palacio-Pérez, 'The Origins of the Concept of "Palaeolithic Art": Theoretical Roots of an Idea', *J. Archaeol. Method Theory*, vol. 20, no. 4, pp. 682–714, Dec. 2013, doi: 10.1007/s10816-012-9135-6.
- [17] G. E. Raptis, C. Fidas, C. Katsini, and N. Avouris, 'A cognition-centered personalization framework for cultural-heritage content', *User Model. User-Adapt. Interact.*, vol. 29, no. 1, pp. 9–65, Mar. 2019, doi: 10.1007/s11257-019-09226-7.
- [18] E. Ruffaldi, C. Evangelista, V. Neri, M. Carrozzino, and M. Bergamasco, 'Design of information landscapes for cultural heritage content', in *Proceedings of the 3rd international conference on Digital Interactive Media in Entertainment and Arts*, New York, NY, USA, Sep. 2008, pp. 113–119, doi: 10.1145/1413634.1413659.
- [19] A. Azzopardi, 'University of Malta sets up Platform for Migration', University of Malta, 2020. <https://www.um.edu.mt/newspoint/news/2020/07/platform-for-migration-um> (accessed Oct. 08, 2020).

Cooling Cities

Innovative Water-Based Cooling Systems in the Era of Urban Heat

DDR Statement

The study incorporates a design-driven research approach to develop innovative water-based cooling prototypes, able to intervene in the public space and respond to peak temperatures in summertime, improving the overall microclimate conditions of selected urban areas. The prototypes are designed and provided by the author. The chosen methodology entails using a mixed strategy to explore by quantitative methods the relation between the variables, and test them in two different scenarios, comparing and analysing the effects to human thermal comfort in a “before and after strategy”. Meanwhile, the qualitative method implies organising a series of roundtables with experts to learn, analyse, evaluate and optimise the prototypes within a preestablished criteria for each roundtable (design, efficiency, costs, scalability). This process is considered a triangulation (validation) between relevant stakeholders, supported by a research through design methodology. Where each round serves as the starting point for the next round, and all the rounds constitute an iterative approach to maximise the prototypes overall feasibility. The different round tables consider at least one participant of the public and private sectors, academic institutions and international organisations. The importance of such an approach is to design, test and optimise innovative cooling prototypes based on experts knowledge and contributions.

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Extended Abstract

Keywords: research through design, urban heat island effect, human thermal comfort, climate sensitive, urban design, evaporative cooling

Abstract

The Climate Change phenomenon continues to affect urban areas and their populations. Some of the most pressing climate impacts are related to sea-level rise, changes in rain precipitation patterns (droughts and floods) and incremental heatwaves. The focus of this research is to understand the urban heat islands effect (UHI) causes, its characteristics and impacts on the health and the thermal comfort of citizens. The study analyses the state of art in urban cooling techniques, prioritising the use of water and evaporative cooling, but not limited to other passive techniques, design strategies and technologies to maximise the cooling effect at the local scale. The research uses a design-driven approach to develop innovative water-based cooling prototypes adequate to specific urban areas and microclimate conditions. Meanwhile, applying a research through design approach to optimise and document the results of each of the prototype's performance in a series of iterative design-optimization process.

2nd Stage Submission

Revised Extended Abstract (1263 words)

Background, Context and Problem Statement

The so-called urban heat island (UHI) effect refers to the difference in temperature between surrounding rural and urban areas, mainly due to the absorption, creation, and retention of heat in the cities. It mainly occurs due to the substitution of the natural landscape with an urban layout (ex.-built assets such as buildings, streets and public areas) that usually retain heat during the day and release it back to the atmosphere above the city during night (8).

Climate Change affects human health, both directly and indirectly (4). The direct impacts have physical effects, such as exposure to high temperatures during heatwaves (dehydration, cardiovascular diseases, and heatstroke's) or diseases, injuries, and fatalities from extreme weather events (flash floods, droughts, heatwaves, wildfires). The indirect effects include changes to systems that support life, such as natural ecosystems and the services they provide to humanity (regulatory, provisory, supportive and cultural), or may also be a societal response to climate impacts, such as displacements of population and international migration.

The world has reached 7.7 billion inhabitants (2019), adding one billion people since 2007 and two billion since 1994. The prospects for the global population in 2030 are 8.5 billion and 9.7 billion by 2050 (medium-variant projections) (10).

In 2019, about 9% of the world population had 65 years or more. That percentage is expected to increase by 12% by 2030 and 16% by the year 2050. The projections entail that by 2050, people over 65 years (1.5 billion) will outnumber children and adolescents (1.3 billion), and they would be twice as many as children under five years. Meanwhile, the number of people over 80 years is growing even faster than those above 65 years. Between the years 1990 and 2019, this age group tripled to 143 million and will triple again to 426 million by 2050 (10). See Figure 1.

Such a situation is concerning, considering the total amount of people in vulnerable situations from heatwaves exposure (like senior citizens and children) increased by 125 million from 2000 to 2016 (12). Europe has already experienced the catastrophic effects of heatwaves; in the summer of 2003, about 25,000 to 70,000 fatalities were heat-related (13).

More than half of the world's population is living in cities (55% in 2018), is estimated that by mid-century, two-thirds of the world's population would be residing in urban areas (68% by 2050). In contrast to the 70% living in rural settlements in 1950. In 2007, the global urban population exceeded the rural population for the first time.

Various factors impact city dwellers' thermal comfort; the morphology and climatic parameters of an urban area are among the most important (6; 7; 12). Urban morphology is mainly conformed by public spaces, buildings shape and scale, street geometry, vegetation cover, and the typology of materials used to build them. Such unique configurations are determinant to the city's microclimate, as it influences wind speeds and direction, solar reflectivity and absorption (albedo), shadow availability, global temperature, and the air relative humidity (8).

Research Topic

Research on cooling outdoor microclimates has gained much attention in the last decades due to the continuous increase in global temperature and the amount and increasing intensity of heatwaves striking cities worldwide (3).

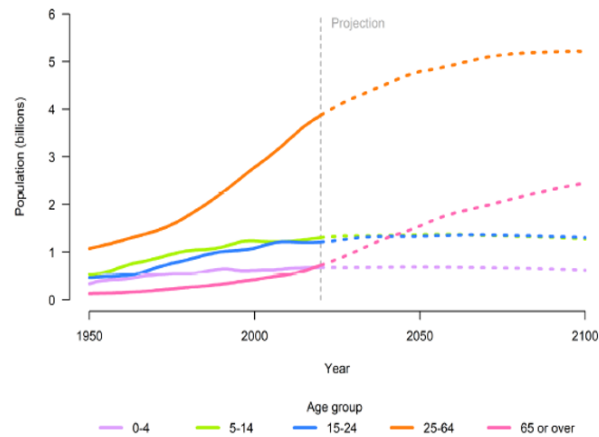
Spatial planning principles and techniques are typically used for cooling outdoor urban environments. Some of the essential principles for cooling outdoor environments are ventilation, blocking solar radiation, improving albedo properties of materials, geothermal cooling, water evaporation and evapotranspiration from green areas.

Table 1. Urban Cooling Principles and Techniques Typically Described in Literature.

Authors	Oke (1978); Nikolopoulou (2004); Klok (2012); Santamouris (2015).	Taha, et al. (2002); Pomerantz et al. (2003); Santamouris, and Karlessi (2011); Santamouris (2012); Camielo et al. (2013).	Santamouris (2016).	Domínguez and Sánchez (2016); Nakayama and Fujita (2010); Steenneveld et al. (2014); Gunawardena et al. (2017)	Nakayama and Fujita (2010); Gunawardena et al. (2017); Ulpiani (2019).
Principles	Ventilation	Blocking Solar Radiation & Improving Albedo	Geothermal Cooling	Water Evaporation	Evapotranspiration
Techniques	Heat Dissipation Design & Morphology of Urban Areas	Shadow Projection Cool Materials, Pavements, Roofs and Facades	Geothermal Cooling	Evaporative Cooling	Urban Greening

Source: Author, 2020.

Figure 1. Estimated and projected world population by age group (UN medium-variant projection).



Source: United Nations Department of Economic and Social Affairs, Population Division (2019). UN, 2019.

Many academics (5; 9; 1; 2) have established in their research that the presence of water in urban areas constitute a natural cooling technique, especially in hot/dry summer conditions. Their study reflects the relevance of water systems and their applicability to reduce air temperature due to the cooling potential of water evaporation.

Two main principles steer the cooling effect; the first is the evapotranspiration from vegetation; the second is the evaporation of exposed water sources. The absence of such principles in urban areas has been identified as the main reasons causing the UHI effect (6) and are directly related to urbanisation processes.

The fundamentals of evaporative cooling rely on the evaporation of water. Some of the most important principles to consider for successfully using water evaporation as a cooling technique are within the principles of surface-area, volume-ratio and heat transfer from air to water or vice versa. Considering that water requires high amounts of energy to evaporate and that the highest the exposure of the surface area is, the higher the energy transfer due to evaporation may occur.

The energy necessary to evaporate water is taken from the surrounding air, which ideal conditions are dry/hot, resulting in an exchange of energy between them in the evaporation process (heat transfer), cooling the non-evaporated water and the surrounding air; as well as increasing the relative humidity. The total energy used to arrive at an evaporation point is known as latent heat ($\lambda_{\text{water}}=2453 \text{ KJ/kg}$). The minimum reachable temperature output from this process is called the air wet-bulb temperature (1). Table 2 shows the common advantages and disadvantages of evaporative cooling.

Table 2. Advantages, Disadvantages and Limitations of Evaporative Cooling.

Advantages	Greatly reduces the air temperature (1kg of water = 2000m³ of cooled air in 1°C)	Very low economical costs (natural process)	high thermal comfort and psychological perception	Supports multifunctional spaces, urban regeneration and climate resilience	Easy maintenance
Disadvantages & Limitations	Energy can only flow from a higher energy state to a lower energy state	When air reaches a humidity saturation point, evaporation processes are no longer possible	Cooled air needs confined spaces to avoid spread	Excessive use of freshwater or proliferation of harmful agents (ex: legionella)	Needs infrastructure changes (ex. pipes, water storage, etc)

Source: Author, 2020.

Architects and urban planners are more frequently including evaporative cooling in their spatial designs; what mainly hinders their comprehensive implementation is their reliance on specific microclimate conditions (relative humidity and global temperature) and their capacity to self-adjust to changes in the climate (11). For simplicity purposes, it is necessary to divide the water-based solutions into two categories.

The first category is horizontal elements, and they contemplate solutions on the ground floor designed in the form of water bodies, canals, ditches, water-mirrors, fountains and others. Meanwhile, vertical elements compose the second category and designed to function from a certain height. Indeed, it is easy to find many examples where both categories are combined to create a robust system. Table 2.2 shows the most common design categories in literature.

Table 2.2. Evaporative Cooling Principles & Techniques. Design Categories

Horizontal Elements	Water Bodies	Canals	Ditches	Water Mirrors	Fountains
Vertical Elements	Water Curtains	Water Nebulization	Downdraft Cooling		

Source: Author, 2020.

A well-known example of water-based cooling systems was showcased at the CIEMAT, EXPO 92-Seville. The exhibition focused on evaporative cooling techniques to refresh visitors under hot/dry summer conditions in Seville, Spain. One of the main cooling systems was developed by installing water spraying systems (nebulisers) in several towers of about 30m high, spraying micro-droplets of water to the air and inducing down-draft currents of cooled air.

Image 1. Application and Use of Water for Urban Cooling. Down Draft Cooling (modified by author).



Source: Expo Seville, 1992 and Santamouris, 2016.

Research Aim and Objectives

The research initiates by understanding the various causes originating the urban heat islands effect (UHI), it's characteristics and the impacts on human health and thermal comfort. Performing the "state of the art" in urban cooling techniques and principles, prioritising the use of water, but not limited to other passive principles, techniques, design strategies and technologies to maximise the cooling effect at the local scale.

The purpose of the research is to innovate in the field of climate-sensitive urban design, focusing on the use of evaporative cooling strategies and techniques to reduce the impacts caused by the "urban heat-island effect" on citizens health and thermal comfort.

Applying a research through design approach as methodology to design, test and optimise innovative cooling prototypes that reduce climate impacts on different urban areas and microclimates, analysing diverse parameters at the local scale. Focusing on enhancing the capacity of the selected areas to withstand the impacts related to heatwaves, and simultaneously to heavy precipitations according to the period of the year, working as a bridge to tackle the dichotomy between seasonal droughts and floods in localised urban areas, improving its overall resilience and the quality of life of citizens. Such an approach promotes further integration among resilient public space, urban design practices, academic research, and climate policies.

Image 2. Urban Cooling Principles and Techniques. Geothermal Cooling, Earth Pipes System and Niche for the Water-Based Cooling Prototype.

Earth Pipes System, Santamouris, 2016.



Geothermal (Water-Based) Cooling Prototype Niche, Author based on Santamouris original design, 2021.



Source: Santamouris, 2016; Author, 2021.

References

- (1) Domínguez, S. and Sánchez, F., 2016. The Effect of Evaporative Cooling Techniques on Reducing Urban Heat. Santamouris, M. and Kolokotsa, D., Urban Climate Mitigation Techniques, pp:113-130. Routledge-Earthscan. Available at: https://books.google.nl/books?hl=es&lr=&id=irpYCwAAQBAJ&oi=fnd&pg=PA113&dq=effects+of+evaporative+cooling+techniques+on+reducing+urban+heat+servando+alvarez&ots=alw6B8PliL&sig=51pW9un8H5law-xCrsSr_hnNHA&redir_esc=y#v=onepage&q&f=false
- (2) Gunawardena, K.R., et al., 2017. Utilising Green and Blues pace to Mitigate Urban Heat Island Intensity. ELSEVIER, Science of the Total Environment, vol. 584-585, pp:1040-1055. Available at: <https://www.sciencedirect.com/science/article/pii/S0048969717301754>
- (3) Levermore, G. et al., 2017. The Increasing Trend of the Urban Heat Island Intensity. ELSEVIER, Urban Climate (2018), 360-368, pp: 1-9. Available at: <https://www.sciencedirect.com/science/article/pii/S2212095517300111>
- (4) McGregor, G.R., M. Pelling, T. Wolf and S. Gosling, 2007: Using Science to Create A Better Place: The Social Impacts of Heat Waves. United Kingdom Environment Agency Report SCHO0807BNCW-E-P. Available at : https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/291052/scho0807bncwe-e.pdf
- (5) Nakayama, T. and Fujita, T., 2010. Cooling Effect of Water-Holding Pavements Made of New Materials on Water and Heat Budgets in Urban Areas. ELSEVIER, Landscape and Urban Planning, vol. 96, pp:57-67. Available at: <https://www.sciencedirect.com/science/article/pii/S0169204610000344>
- (6) Oke, T.R., 1978. Boundary Layer Climates: Halsted Press, New York. Available at: https://books.google.nl/books?hl=es&lr=&id=RVyIAgAAQBAJ&oi=fnd&pg=PP1&dq=Oke,t.r.,+1978.+Boundary+Layer+Climates&ots=sBJBipbVbg&sig=Rpe2r00QA_Vl2dJyWk12Xz9umpY&redir_esc=y#v=onepage&q=Oke%2Ct.r.%2C%201978.%20Boundary%20Layer%20Climates&f=false
- (7) Salata, F. et al., 2017. Relating Microclimate, Human Thermal Comfort and Health During Heat Waves: An Analysis of the Heat Island Effect Mitigation Strategies Through a Case Study in the Urban Outdoors Environment. Sustainable Cities and Society, SCS 565 (2016), pp: 1-45. Available at: <http://dx.doi.org/doi:10.1016/j.scs.2017.01.006>
- (8) Santamouris, M. et al., 2002. Energy and Climate in the Urban Built Environment. James and James, London, pp: 1-399. Available at: <https://books.google.nl/books?id=zCLTFA7flmsC&dq=Santamouris,+M,+2002,+Energy+and+Climate+in+the+Urban+built+Environment.+London,+James+and+James+Publishers.&hl=es&lr=>
- (9) Steeneveld, G.J. et al., 2014. Refreshing the Role of Open Water Surfaces on Mitigating the Maximum Urban Heat Island Effect. ELSEVIER, Landscape and Urban Planning, vol 121, pp: 92-96. Available at: <https://www.sciencedirect.com/science/article/pii/S0169204613001801>
- (10) UN, 2019. World Population Prospects 2019: Highlights. Department of Economic and Social Affairs, Population Division (2019). ST/ESA/SER.A/423, pp: 1-46. Available at: https://population.un.org/wpp/Publications/Files/WPP2019_Highlights.pdf
- (11) Ulpiani, G. et al., 2019. Water Nebulization to Counteract Urban Overheating: Development and Experimental Test of a Smart Logic to Maximise Energy Efficiency and Outdoor Environmental Quality. ELSEVIER, Applied Energy 239 (2019), pp: 1-23. Available at: <https://www.sciencedirect.com/science/article/pii/S0306261919302600>
- (12) WHO, 2018. Health and Climate Change. COP24 Special Report. World Health Organization (2018), ISBN 978-92-4-151497-2, pp: 1-73. Available at: <https://apps.who.int/iris/bitstream/handle/10665/276405/9789241514972-eng.pdf>
- (13) Zuo, J. et al., 2015. Impacts of Heat Waves and Corresponding Measures: A Review. Journal of Clean Production. 92:1–12. 40. Available at: <https://doi.org/10.1016/j.jclepro.2014.12.078>

Learning from Dementia Villages

Examining End-of-life Care Spaces as XXI Century Collective living Types

DDR Statement

The research is composed of a reflective and projective phase. The reflective phase methods aim to investigate the principles and practices that define the case studies' architecture. The investigation of the principles is mainly tackled with archival research, while the analysis of the practices takes the shape of observation on-site and interviews with architects and developers. The investigation of the objects is paired with the continuous development of appropriate representational techniques that allow for the establishment of a graphic interpretation of the phenomena at hand.

The projective phase will consist of drafting a model for contemporary collective living based on the reflective phase results. The two moments are not envisioned as separate but rather as a continuous generation of a body of knowledge. The representation techniques developed in the current reflective phase will establish the tools for generating the following design. Design hypotheses thus stem from the observation and representation of the case studies.

The shift from observation and reflection to the architectural project is not envisioned as abrupt, but rather as an incremental process determined by superimposing layers of drafting, as described by Peter Zumthor in *Thinking Architecture*:

"After a certain time, the object I am designing takes on some of the qualities of the images I use as models if I can find a meaningful way of interlocking and superimposing these qualities the object will assume a depth and richness."

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Paper

Keywords: assisted living facilities, end-of-life care, dwelling forms and practices, collective living

Abstract

In recent years various trends have reignited a broad interest in community living, particularly in the developed world. One of the main aspects of this current is that an aging population increases the demand for assisted living facilities in most nations. The emerging importance of assisted living facilities corresponds with the rise of healthcare architecture in both the academic and professional sectors.

This Ph. D. research project focuses on end-of-life facilities as emerging collective living types in the West, focusing specifically on Dementia Villages, a recently developed end-of-life care facility type. The subject of the research consists of the ensemble of architects and developers involved in their construction. This work will provide insights regarding the logics underpinning these spaces and the skills architects and developers acquired during construction, allowing for examining these building types' influence on the broader field of collective living architecture.

The research is structured in three interlinked moments. The first moment focuses on studying specific examples of housing for the elderly designed and built starting from the 1960s.

These test cases aim to provide the necessary context for the study of Dementia villages, constituting a thematic benchmark founded methodologically in the discipline of architectural history. A second moment consists of the in-depth investigation of the Dementia Village through a study of construction documents and interviews with architects and developers. The third phase involves producing an interpretive design aimed at the critical consideration of this emerging architectural type.

1 / STRUCTURE

The Ph.D. research illustrated here began in November 2019 and will be completed by 2023. A partial representation of the status of the study at this stage, this paper extends and revises my contribution on the same subject to the November 2020 CA2RE Milan conference.

The structure of the research develops in three interlinked phases. The first phase focuses on studying selected historical test cases and provides the necessary context for the approach to a recent case study. The second phase consists of the in-depth investigation of the current case study: the Dementia Village, a recently developed end-of-life care facility type. The third phase consists of producing an interpretive design aimed at the critical consideration of this emerging architectural type. The research develops gradually from a reflective to a projective moment through each phase of the study. With the first stage primarily completed, the research is now entering the second phase.

A set of distinct investigation methods characterizes each phase. Each determines a set of interlocking tools. Descriptive writing and compiling illustrate the first and second phases, while interpretive drawing and argumentative essays mark the second and third phases. Physical model making becomes a tool leading to the third and last phase.

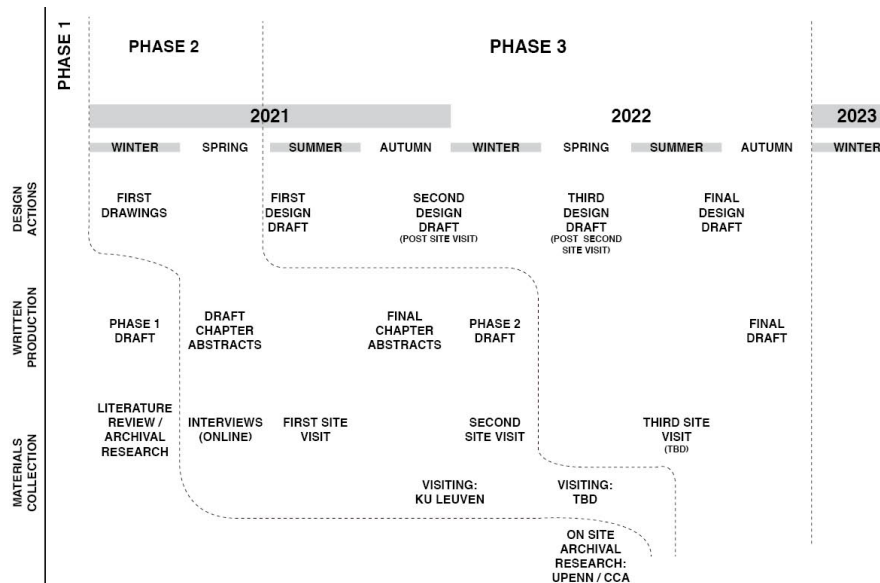


Fig.1 - Synthetic thesis timetable. Drawing by the author.

2 / CONTEXT

A recurring aspect of recent architectural literature is attention towards the body - human or other - and its relations with the space that surrounds it. In the introduction to *Warped Space*, published in the year 2000, Anthony Vidler writes: “ever more often space has been defined as the product of subjective projection and introjection, thus the opposite of a stable container for objects and bodies².” This research builds upon this body of work, intending to test its potential ramifications in contemporary design. If “design always represents itself as serving the human, but its real ambition is to redesign the human³,” the creation of end-of-life care facilities puts architecture in a situation of extreme stress that allows for a reconsideration of its effectiveness in this domain.

As reported by Beatriz Colomina in her 2019 book *X-Ray Architecture*, Robert Musil wrote

in *The Man Without Qualities* that “Modern Man is born in a hospital and dies in hospital - hence he should also live in a place like a hospital⁴.” Colomina sees this sentence as a representative statement of how healthcare architecture contributed to developing the modernist imagination. In the same way, recent developments in healthcare architecture, set in an interdisciplinary realm in conjunction with neurologists, psychiatrists and others can drive the architectural discipline in new directions.

Yet, as Fabiola Lopez-Duran exposed, medical discourse is often materialized in architecture imperfectly, distorted through an ideological lens⁵. Thus, this research is not limited to detecting medical influence on architectural spaces but instead considers end-of-life facilities as examples of collective living. Following the categorization illustrated by ETH Wohnforum in their *History of Collective Living*⁶, end-of-life facilities are, in fact, cases of sharing based on social intentions.

Locating these facilities within this realm also allows for the contextualization of end-of-life facilities as intentional communities, or “self-contained, planned communities that attempt to pursue a peaceful ideal instead of a community created and run without an organizing principle⁷.” This notion positions this work within the disciplinary platform of architectural literature on the subject, particularly of publications such as *Kommunen in der Neuen Welt* by Liselotte and Oswald Mathias Ungers and, more recently, *Young-Old: Urban Utopias for an Ageing Society* by Diane Simpson.

Looking at this topic through this lens enables a genealogy that links a series of reform movements with the development of assisted living facilities, materializing therapeutic practices into distinctive architectural types. Assisted living facilities often stem from religious or otherwise spiritual or idealistic organizations dedicated to philanthropic work and the care of vulnerable strata of the population.

3 / TEST CASE: DESIGNING FOR LATER LIFE FROM THE 1960s

An article titled “The Elderly” appears in the May 1967 issue of *Progressive Architecture*. It consists of an atlas of architecture for the elderly, an emerging subject in the architectural debate of the 1960s. Its incipit states:

Until fairly recently, the average urban American devoted himself so mercilessly to work, and spent the larger part of his life-span so frenetically engaged in the pursuit of his livelihood, that the problem of retirement and growing old were always farthest from his mind. Today, however, the problem has become a national one. The elderly population has increased significantly. As statisticians are fond of reminding us, one out of eleven persons in the U.S. is 65 or older: the projected total for the year 2000 is 28,500,000. Until the 50's the problem of housing the elderly remained largely untouched.⁸

The emerging issue of an aging population in the 1960s spurred the development of new public policies and therapeutic concepts. These, in turn, materialized into new housing types that replaced outdated facilities such as almshouses, sanatoria, and convalescent homes. Contemporary assisted living facilities for the elderly emerged in the 1960s, a defined architectural type underpinned by dedicated regulations.⁹

The issue of housing the elderly generated an important disciplinary debate, which mirrored advancements in the field of gerontology, as described by Deane Simpson in his article *Gero-topias*¹⁰. Most iconically, this discussion was employed by Robert Venturi to illustrate his position towards modernism in *Learning from Las Vegas*, where he pitted his own Guild House

against Paul Rudolph's Crawford Manor. Both buildings are examples of independent living facilities for the elderly appearing in the Progressive Architecture issue mentioned earlier. Here Venturi elevates the use of "the ugly and the ordinary" in the Guild House design as a whole design theory. While he does not make the connection between the use of the building and the design strategy explicit, it is clear that such a position represents a particular sensibility towards the building's specific user. Referencing the windows of the Guild House, Venturi writes:

*The windows look familiar; they look like, as well as they are, windows, and in this respect, their use is explicitly symbolic. But like all effective symbolic images, they are intended to look familiar and unfamiliar. They are the conventional element used slightly unconventionally.*¹¹

Aiming to promote a deliberately contradictory and complex architecture Venturi consciously expressed the will of creating "inclusion, inconsistency, compromise, accommodation, adaptation, super adjacency"¹². As housing for the elderly, the Guild house constituted the ideal testing ground.

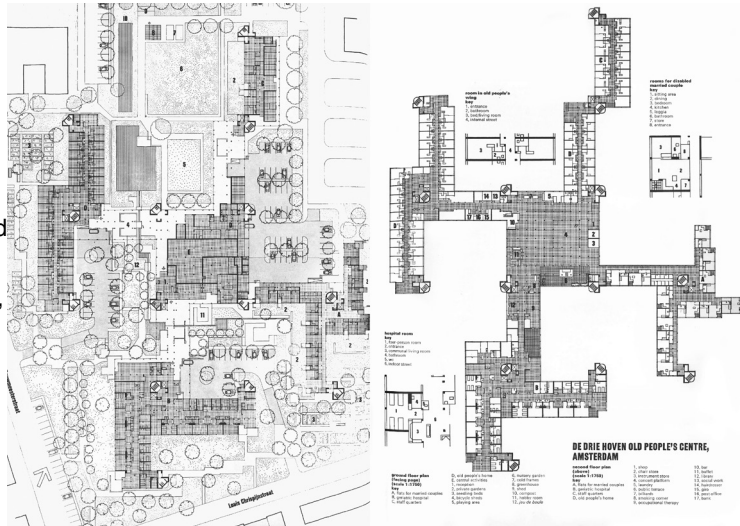


Fig.2 - Herman Hertzberger, De Drie Hoven, groundfloor and second floor plan. Photo: Willem Diepraam

The disciplinary discussion on elderly housing in this era constitutes a benchmark for studying comparable current phenomena. The use of vernacular, ordinariness, mundanity, and inclusivity remains a crucial aspect of the discussion. Yet, for this research, the central recurring element in the debate on the subject remains the attempt at creating quasi-urban conditions within assisted living facilities, aiming to support community life. This tendency, originating in the 1960s¹³, has evolved over the decades and has been translated recently in creating so-called "villages" dedicated to elderly residents in various age brackets and physical conditions.

4 / DEMENTIA VILLAGES, A CASE STUDY FOR CONTEMPORARY END-OF-LIFE CARE FACILITIES

The research focuses on contemporary manifestations of the debate discussed previously, focusing specifically on emerging assisted living facilities and dementia treatment centers known as "Dementia Villages."

As discussed in the following paragraph, these facilities are selected for their instrumental use of architecture in a therapeutic environment and the consequent innovations in spatial layout and construction. These aspects, this thesis argues, qualify Dementia Villages as an emerging architectural collective living type.

Dementia Villages are nursing homes dedicated to the specific treatment of dementia. Despite their high degree of specialization, Dementia Villages are end-of-life facilities as they

primarily host patients affected by an advanced and often terminal disease.¹⁵

Dementia Villages replicate community life in a controlled setting.

Their nature as simulated environments leads some to define them as Truman Show-Esque

¹⁶. The dementia village model appeared in the Netherlands in 2008, the first example being De Hogeweyk in Amsterdam's suburbs. Since then, the model has spread all over the world.

Today there are numerous active Dementia Villages in Europe. They are located in Germany, Italy, France, Netherlands, Denmark, Ireland,

and Norway, while similar facilities also exist in Singapore, India, Canada, and the U.S.A.

Their number is growing as more villages are to initiate construction in Switzerland and U.K. Dementia Villages take the shape of gated communities, most often located in the outskirts of cities or the countryside. Architecturally, Dementia Villages consist of low-rise buildings organized around one or more open spaces. These open spaces define neighborhoods within the village, each composed of a series of "bungalows" or "cottages" containing 6 to 8 individual rooms, in line with recent guidelines and practices regarding assisted living facilities¹⁷. Yet, in addition to the housing units, specific village sections have shared services that include restaurants, barbershops, and other amenities situated in open spaces that mimic urban environments. The thesis argues that this specific innovative aspect qualifies Dementia Villages as an emerging collective living type.

A crucial aspect of the Dementia Village is the instrumental use of the architectural language in fostering patients' well-being. Developed cooperatively by physicians, nurses, and architects, Dementia Villages are designed to promote a sense of comfort in people affected by neurodegenerative diseases.

From an architectural perspective, this intention materializes through the extensive use of the vernacular register. Despite being entirely newly built due to technological and economic concerns, Dementia Villages often mimic a simplified version of traditional architectural languages, which provides their distinctive "fake"¹⁸ quality.

In the case of the Hogeweyk (the first dementia village, built in the Netherlands), a strategy of comprehensive design is employed to provide specifically crafted interior environments:

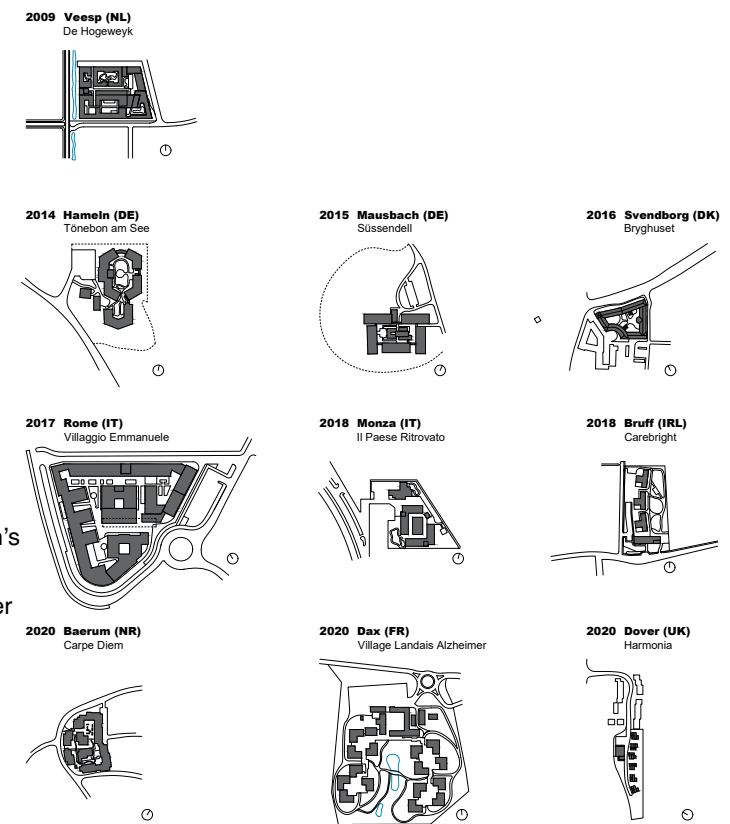


Fig.3 - Plans of Dementia Villages. Drawing by the author.

Individual interior decoration is intended to make residents feel at home in familiar surroundings. The residential areas are divided into different lifestyles allocated to the elderly based on their past preferences. An opinion research institute analyzed the seven most common environments in the Netherlands for this purpose, resulting in the following categories: traditional, city, wealthy, cultural, Christian, Indian and homely.¹⁹

This architectural agenda advances under the auspices of neurological research. Part of this work is aimed at critically understanding and evaluating this transdisciplinary influence. While numerous sources have critically analyzed dementia Villages, most of the existing literature focuses on the case study's efficacy as a treatment center, thus focusing on the patient. This thesis aims to examine the potential relevance of the Dementia Village for the architectural discipline, therefore concentrate specifically on the learning process that architects and developers undergo in the design and construction of these facilities.

5 / DESIGN APPROACH

Since architects have realized that the perception of space is no longer an objective, immutable, and universally agreed-upon reality, architecture can now be seen as a phenomenon imbricated with the instruments that allow humans to perceive it. As clearly pictured by Peter Zumthor in his book *Thinking Architecture*, inhabiting is a sensory experience in which space relates to the brain through the senses and, crucially, through memory. The process of reminiscence, in particular, is described here by Zumthor as unconscious:

*There was a time when I experienced architecture without thinking about it. Sometimes I can almost feel a particular door handle in my hand, a piece of metal shaped like the back of a spoon.*²⁰

The act of reminiscing is an uncanny sensorial journey that leads Zumthor back to a familiar place: in this case, a doorway in his aunt's house. The design of facilities dedicated to Alzheimer's care puts the architectural project in a situation of extreme stress that forces it to reconsider a series of established disciplinary practices, from the use of form to the choice of materials. At the core lies a debate around the therapeutic role of reminiscence that pushes architects to produce familiar, reassuring spaces tailored to the needs of people with impaired intellectual capacities. On the subject, phenomenologist Dylan Trigg writes in his book "The Memory of place":

Over time, those places define and structure our sense of self, such that being dis-placed can have a dramatic consequence on our experience of who we are, and even leave us with a feeling of being homeless in the world. Equally, the memories we acquire of the places we

*inhabit assume a value that is both immeasurable and vital. Without the memory of places, memory itself would no longer have a role to play in our conscious lives.*²¹

The proposed design approach aims to structure instances from the phenomenology of memory into the architectural project, mainly through the graphical tool. The thesis's outcome will consist of an interpretive design aimed at synthesizing instances regarding the connection between memory, place, and the creation of a therapeutic architecture.

Starting with the ongoing survey and redrawing of available architectural documents and interviews with architects, the process will intensify with the first site visits, which will take place in the Summer of 2021.

Currently, the work on architectural design consists of the progressive generation of a drawing set. At the moment, this is made of two parts: typological plans, sections, and interior sketch perspectives. These allow for a comparative experiential study of the space in terms of openings, natural light, and spatial configurations. These drawings represent a projective impression based on documentary evidence, as no site visit has happened thus far.

TEXT REFERENCES

1. Zumthor, Peter (2006): *Thinking Architecture* – Second, expanded edition. Basel: Birkhäuser, p.26.
2. Vidler, Anthony (2000): *Warped Space - Art, Architecture, and Anxiety in Modern Culture*. Cambridge: MIT Press, 10.
3. Colomina, Beatriz and Mark Wigley (2019): *Are we Human? - Notes on an Archaeology of Design*. Zurich: Lars Müller Publishers, 23.
4. Musil, Robert (1965): *The Man without Qualities*, trans. Eithne Wilkins and Ernst Kaiser. New York: Capricorn Books, p.16.
5. Lopez-Duran, Fabiola (2018): *Eugenics in the Garden - Transatlantic Architecture and the Crafting of Modernity*. Austin: University of Texas Press.
6. Schmid, Susanne, ed. (2019): *A History of Collective Living. Forms of Shared Housing*. Basel: Birkhäuser, p. 21.
7. Young, Nigel, ed. (2010): *The Oxford International Encyclopedia of Peace*. Oxford: Oxford University Press.
8. Rowan, Jan C. (1967): "The Elderly", in *Progressive Architecture*, Vol. 22, No. 5, pp. 124 - 148.
9. Institute of Medicine Committee on Nursing Home Regulation (1986): "History of Federal Nursing Home Regulation", in: Sydney Katz (ed.), *Improving the Quality of Care in Nursing Homes*, Washington, DC: National Academies Press (US).
10. Simpson, Deane (2011): "Gerotopias", in Giovanna Borasi and Mirko Zardini (ed.), *Imperfect Health*, Zurich: Lars Müller Publishers, pp. 347 - 364.
11. Venturi, Robert, Denise Scott Brown and Steven Izenour (1977) *Learning from Las Vegas - the forgotten Symbolism of Architectural Form*. Cambridge: MIT Press, p. 91.
12. Ibid.
13. Probably the most notable example of this tendency is the nursing home "De Drie Hoven", designed by Herman Hertzberger and completed in Amsterdam in 1971. A critical evaluation of the building by Lyall Sutherland was published on *Architectural Review* in 1976:
14. Sutherland, Lyall, (1976): *Hertzberger's Framework for Care*. *Architectural Review*, <https://www.architectural-review.com/essays/february-1976-hertzbergers-framework-for-care> from April 3, 2015.
15. The subject has been extensively covered, particularly in the North American context, here: Simpson, Deane (2015): *Young/Old - Urban Utopias of an Aging Society*. Zurich: Lars Müller Publishers.
16. Jonathan Harris, Leigh-Ann Topfer, Caitlyn Ford (2019): "Dementia Villages - Innovative Residential Care for People with Dementia" in: *CADTH, Issues in Emerging Health Technologies*, No. 178, p.5.
17. Tobias Haeusermann (2018): "The Dementia Village - Between Community and Society", in: Franziska Krause and Joachim Boldt (ed.), *Care in Healthcare: Reflections on Theory and Practice*, London: Palgrave Macmillan, pp. 135 - 167.
18. Regnier, Victor (2018): *Housing Design for an Increasingly Older Population: Redefining Assisted Living for the Mentally and Physically Frail*, Hoboken, NJ: Wiley Publishers.
19. Tobias Haeusermann (2018): "The Dementia Village - Between Community and Society", in: Franziska Krause and Joachim Boldt (ed.), *Care in Healthcare: Reflections on Theory and Practice*, London: Palgrave Macmillan, pp. 135 - 167.
20. Isabelle Rupprecht (2012): *Dementia Village 'De Hogeweyk' in Weesp*. Detail Online, <https://www.detail-online.com/article/dementia-village-de-hogeweyk-in-weesp-16433/> from September 6, 2012.
21. Zumthor, Peter (2006): *Thinking Architecture* – Second, expanded edition. Basel: Birkhäuser, p.7.
22. Trigg, Dylan (2012): *The Memory of Place - A Phenomenology of the Uncanny*. Series In Continental Thought, Athens, OH: Ohio University Press, p. 1.

IMAGE REFERENCES

- Fig.1 - Synthetic thesis timetable. Drawing by the author.
 Fig.2 - Herman Hertzberger, De Drie Hoven, groundfloor and second floor plan. Photo: Willem Diepraam
 Fig.3 - Plans of Dementia Villages. Drawing by the author.
 Fig.4 - Common Facilities in Carpe Diem Dementia Village, Baerum, Norway. Photo: Inger Marie Grini
 Fig.5 - Collective Living Room, Brightcare Dementia Village, Limerick, Ireland. Sketch by the author.



Fig.5 - Collective Living Room, Brightcare Dementia Village, Limerick, Ireland. Sketch by the author.

Underground Hubs

Interiors: Design Quality

Effect on User Experience

DDR Statement

In a Design Driven Research approach, the primary importance of analyzing an object from multiple points of view emerges, keeping the choices made in the field of design as a common thread. This research investigating the world of underground hubs follows an inductive methodological approach, within the field of action and related sub-themes, followed by a careful and targeted study of the bibliography and case studies. From the analysis of the case studies (selected by specific geographical, functional and design criteria) and their taxonomic comparison, it is possible to extrapolate data that can be evaluated as design components that are effective or not in guaranteeing a satisfactory user experience. The data will be discussed and related to reflections on the quality of the interior space and the ability of the hub to manage in-transit flows between surface and underground. The data observation will be supported by a careful overview and redesign of the project sections of the case studies, from which important information about the spatial relationships between the different areas of the hub can be extrapolated. This will be combined with the consultation and contribution of experts in the field, who will be able to provide key information regarding some of the choices applied. The conclusion of the research sees the elaboration of project guidelines that will allow, at an international level, to approach the hub system by fully exploiting the potential of transport infrastructures, taking the user experience into account from the design phase onwards.

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Paper

Keywords: user, interior, quality

Abstract

The research investigates those spaces of the city located underground and daily functional to the transit of vehicles, users, and services. The whole research follows two directions, one investigating the architectural role of the interconnecting spaces between the ground and the subsoil, and a second one focusing on the design of the hub's interior. In this paper we will focus on this second issue. Particular attention is paid to the relationship between the user and the space and to the factors that influence positively or negatively the user experience. The research starts by questioning how and how much the quality of the interior space affects user satisfaction and seeks to extrapolate from an immersive field survey universal tools to achieve high standards of user experience in similar contexts by making changes and improvements to the hub design approach.

The term **Hub** gathers a multitude of concepts and information united by the aim to express an idea of network and interconnection between the parties. We usually hear about it in computer language, when we talk about big data storage related to each other, or even in the field of urban planning when we identify a city as a centralizer of services. The research concentrates on a hub typology that is widespread in many international metropolises and that has generated a substantial change in the habits of mobility within them. I am referring to the major metropolitan transport hubs that, through the complexity of the engineering work, connect the city on the surface to an artificial underground network of transport and communication routes. A physical place made up of engineering, architectural and IT components that are linked together to ensure the movement of large masses of users and information from one place to another in the city in a rapid, efficient, safe, and controlled way.

Referring to the time/space contest the research makes an excursus from the beginning of the twentieth century, with the appearance of the first underground transport systems, to a more specific investigation of the design choices of the twenty-first century. Geographically, the field of action focuses on international metropolises and then on large Italian cities comparable in terms of users' number and complexity of the transport network.

The research follows two directions, one investigating the architectural role of the interconnecting spaces between the ground and the subsoil, and a second one focusing on the design of the hub's interior. In this paper we will focus specifically on the relationship between the internal space of the hub, the user and the environment.

Depending on the design process that leads to the definition of a project we identify some key steps that precede the reflections on the interiors. The space in many cases is nothing more than the result of a complex system of morphological and landscape characteristics of a place, engineering choices, and logistical needs to be satisfied. The role of the designer is to convey these aspects into a project that responds effectively to these requirements. The complexity of this action lies in having to guarantee high standards of quality, performance, and aesthetics at the same time. When looking at an interior space, it is necessary to consider some basic factors that define its quality: light, form, and matter above all.

Light acts on the space, shaping it and enhancing its architectural character. It provides comfort and, depending on how it is used, ensures a high standard of performance. Its ability is to become a fully-fledged architectural component that shapes surfaces and space in a dynamic process requiring a careful design. These observations are evident when we look at an example such as Santiago Calatrava's Oculus at the World Trade Center in New York (*fig. 1*), where the infrastructural engineering component is proposed as a tool for conveying light, which filters rhythmically through the large steel wings that rise towards the sky, infusing the hub with an ethereal and dynamic atmosphere.

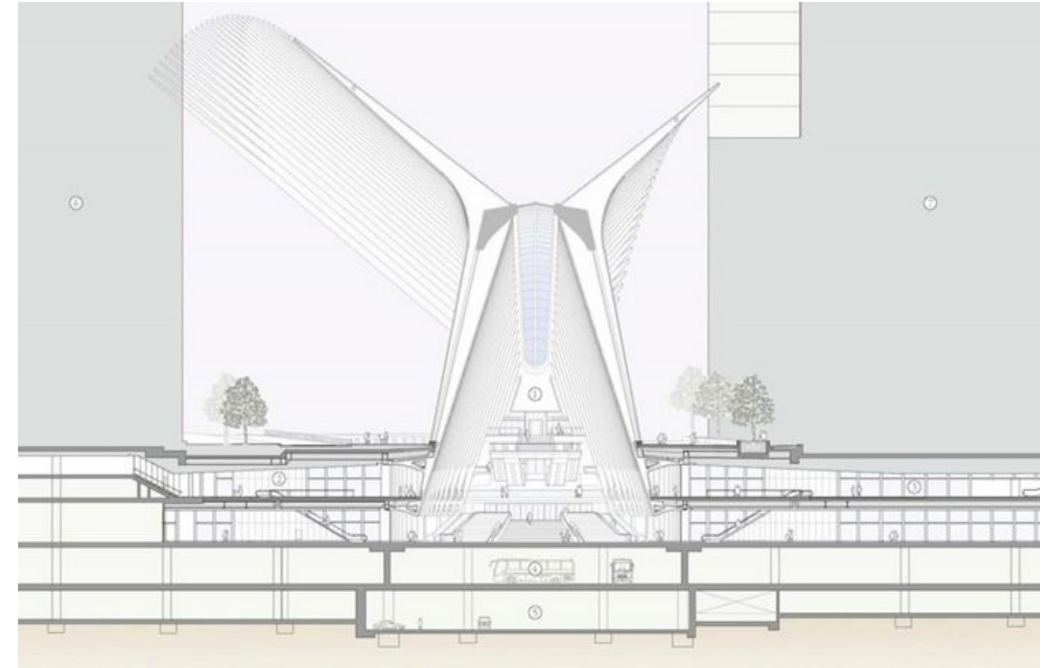


fig.1
Oculus - World Trade Center Transportation Hub
New York, USA | 2016 | Project section | © Santiago Calatrava Architects & Engineers

The shape is the element that, more than any other, can twist an environment and determine how it is used. In a hub is very interesting to understand the influence of the shape on the internal flows. Is the shape necessary to direct flows or are there other elements that can play this role within the hub? Let us take the example of the large King's Cross St. Pancras transport hub in London (*fig. 2*), where the form welcomes the user and cradles him inside; only later it would be directed through a complex but systematic scheme of corridors, drops and focal points. The most evident characteristic of the large international hubs is that they include mixed functions belonging to the commercial, infrastructural, and service sectors, which coexist in harmony with each other and, through height differences and large free-standing plants, guarantee harmonious circulation between the different areas.

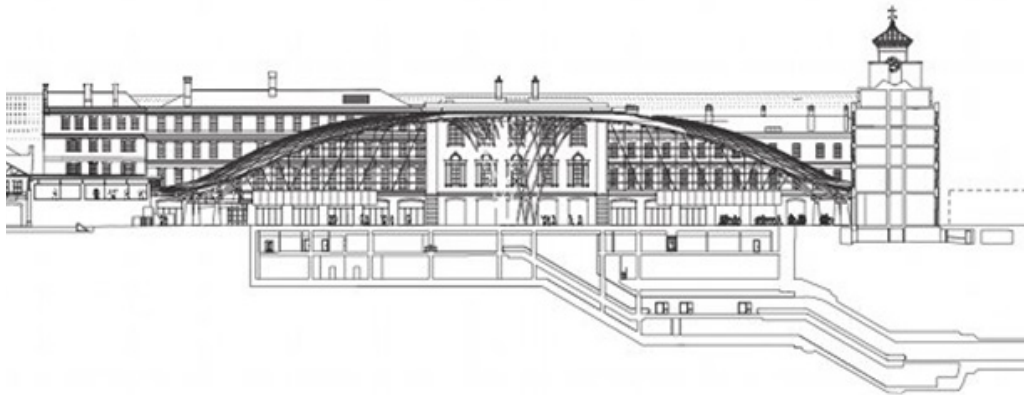


fig.2
King's Cross station
 London, -UK | 2012 | Project section | © John McAslan + Partners

The matter constitutes a complex aspect of the hub affecting the spheres of design, construction, and perception. The choice of materials influences first the engineering choices and immediately afterwards the Interior design solutions. It would not be possible to define the character of a space without materials, and so in the hub, structure and trims are firmly linked, underlining the unique character of each structure, and demonstrating the high efficiency and performance of the materials. Without going into too much detail about the numerous international debates on the construction of the Canopée des Halles in Paris (*fig. 3*), I would like to emphasize that in designing this work, because of its complexity and the constant search for approval, the designers evaluated numerous material solutions, finally selecting products that respect the structure, guarantee high performance and ensure a balanced aesthetic ratio with the context.

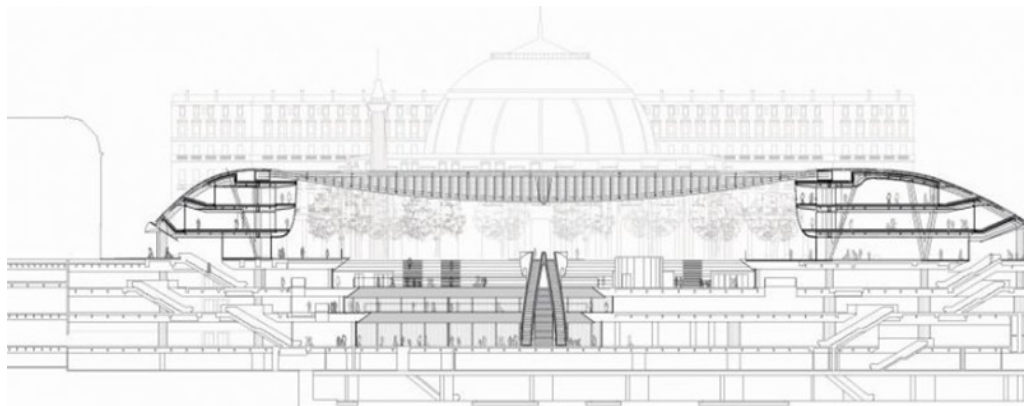


fig.3
Forum des Halles
 Paris, France | 2016 | Project section | © Berger Anziutti Architectes

The three engineering works mentioned in the previous paragraphs (King's Cross St. Pancras in London, Oculus in New York, and Chatelet Les Halles in Paris) have been selected as international examples of large transport hubs which, in their sectional development, demonstrate the complexity of the interconnections and show how the internal space is not only the result of structural choices but the real core of the hub. These international case studies will therefore be compared with three Italian case studies: Tiburtina Station in Rome (*fig. 4*), Garibaldi Hub in Naples (*fig. 5*), Stazione Centrale Milano in Milan (*fig. 6*), in which a very different design and logistics approach is found.



fig.4
Stazione Roma Tiburtina
 Rome , Italy | 2011 | Project section | © ABDR Architetti Associati

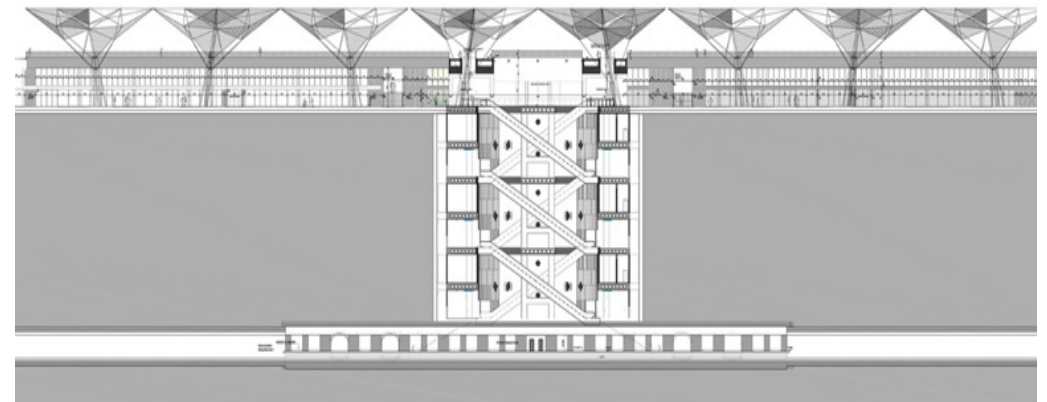


fig.5
Piazza Garibaldi Hub
 Naples, Italy | 2016 | Project section | © Dominique Perrault Architecture

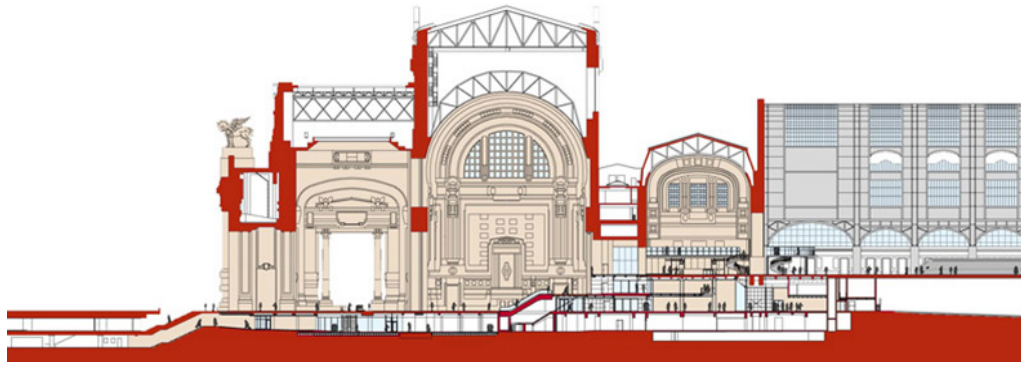


fig.6

Stazione Centrale Milano

Milan, Italy | 2010 | Project section | © Ingenium Real Estate - Marco Tamino e Fabrizio Graziani

“When the point of contact between the product and the people becomes a point of friction, then the industrial designer has failed. On the other hand, if people are made safer, more comfortable, more eager to purchase, more efficient — or just plain happier — by contact with the product, then the designer has succeeded.” In his 1955 book *Designing for People*, Henry Dreyfus makes us aware of how the success of a product (in this case a hub) lies in the satisfaction and comfort perceived by the user by placing greater emphasis on the importance of the design product experience. One of the objectives of the research is to investigate the characteristics of the internal space of the hub and how it is firstly designed and subsequently experienced. The questions arising from this investigation want to focus on the interaction between the hub and the user, and in particular on the design of the interior space and its use. How far, then, does the quality of the hub's interior design affect the user experience? Could a correct and preventive analysis of the user experience guarantee a more efficient design of these complex structures? Which design solutions can universally guarantee a satisfactory user experience in the hub?

The research applies a user-centred design methodology called ‘contextual inquiry’, in which the user is observed and involved in the researcher’s processing of the data. The user and the analysis of the context are the starting points of the investigation. Direct observation of the case studies, on-site visits, and a careful study of the bibliography, as well as the involvement of figures who have played a key role in the design of these structures, constitute a fundamental contribution to answering the questions. In order to better understand the interaction between the user and the space, we turned our attention to an ethnographic research method, based on the researcher’s analysis of the symbolic and relational dynamics observed in specific contexts of use and consumption, in this case in hubs. This method of

observation analyses the use of space and the ways in which it is used by groups and communities, whether large or small, more or less structured, and subsequently provides the researcher with qualitative data of extreme importance for improving or modifying the design approach in these socio-spatial contexts. For each of the case studies, test groups will be defined in which the participants will be divided into expert users (those who frequent the hub spaces on a daily basis) and non-expert users (those who do not frequent the hub on a daily basis). The group of experts will be asked a series of questions in order to understand the interaction between space and user, while the non-experts will be given a short guided experience in the hub and then asked questions. This type of observation, which is very close to the anthropological field, requires the researcher to be immersed in the context of analysis, to become familiar with it and to become part of it, so that the information will be collected and processed in a more natural, spontaneous and therefore more faithful to reality way. The results of the survey will form a basis of fundamental importance for the definition of general guidelines in the design of future hubs and the adaptation of existing ones.

Underground hubs, intended as places of interconnection between flows of people, information and transports, constitute a sort of unique “ecosystem”, regulated by well-defined balances, whose alteration could lead to the malfunctioning of the entire network. Precisely for this reason, these spaces are designed with attention to every minimum detail, without neglecting the needs of anyone and trying to guarantee users maximum comfort in terms of well-being. But often in these complex spaces engineering or design choices have prevailed, without taking into account possible implications on the environment, or vice versa on the effects of the environment on this “urban ecosystem”. Hubs can be both an advantage in spreading positive messages of sustainability and a disadvantage in terms of consumption and waste produced by the hub itself. The future action to be taken will be to enhance the hub as a meeting place for the masses and concentration of transport services, improving its performance from an environmental point of view by making increasingly sustainable design choices. This last thought might appear off-topic, but I believe that in order to understand the effects of hubs on user experience, it is essential to consider both endogenous (with the user) and exogenous (with the environment) interactions, defining a hub model as a generator of positive experiences.

The conclusion of the research sees the elaboration of design guidelines that consider not only the space but also the relationship between it and the user inside the hubs, with reference to the components light, form and matter, and their variation from the surface to the underground. In support of this decalogue, design components will be extrapolated from the case studies that would allow to exemplify metaprojectually each of the guidelines.

Community Based Ageing in the Land of Homeowners

DDR Statement

The simplified shape grammar method - defining and expanding on the steps and stages of design development - allows us to explore various spatial options possible within the context of single-family houses. A range of variations helps us observe the potential social relationships that can be formed within, which can immediately be used as a talking point with potential inhabitants. We can use them as a tool to evaluate the architectural compositions and their effect on the relationships between communal and private spaces and speculate on the impact they have on lifestyles. This can also aid communication with potential inhabitants to help determine their wishes and expectations. Does one need a private bathroom, or is sharing one an option? Can the bedroom space be opened up during day to allow for communication during long periods of illness or recovery from injuries? What about the use and management of communal spaces? Spreading out all the options can be helpful for both planners and future inhabitants to help them evaluate their needs and recognize the broadness of the options available, even within the limitations of a typical single-family house. The methodology has been chosen in order to facilitate design development beyond the method of finite case-studies, using a system that can continue to expand upon those cases. Developing transformative shape grammars helps us explore and categorise solutions, adapt the input data and fed it back into the design language, making it more insightful and therefore more useful and applicative with each iteration.

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Abstract

Organized old age accommodation in Slovenia is mostly institutional, taking the form of large retirement homes often seen as unattractive due to lack of personalization, crowdedness and a limiting social environment. Older people, mostly homeowners, thus prefer to continue dwelling in large single-family houses even if they have become difficult to maintain with the departure of children and the onset of old age. Loneliness is a prevalent issue and an additional indicator of the need to develop community-based ageing housing alternatives. Nevertheless, single-family houses have the potential to be transformed into small co-housing communities for older people. Despite local specifics, certain typical spatial characteristics of single-family houses can be observed throughout the country. This implies that rather than a limited series of case studies, a system of solutions can be developed and widely applied as a support framework for both planners, potential inhabitants and other stakeholders, using simplified transformative shape grammars.

In the past 150 years, the number of people over the age of 65 in Slovenia has increased from 5 percent to almost one fifth of the population (1, 2, 3). Data implies that the Slovenian population is ageing at an even faster rate than the European average (4). Slovenian organized elderly housing appears mostly in the form of large institutions – retirement homes that house over 200 inhabitants on average (5). This has proven unattractive due to the fact that it uproots people from their local environments and severs their social networks, as well as failing to recognize older people as individuals, rather than mere representatives of a homogenous group. Another issue is the irregular geographic distribution of retirement homes and a lack of available rooms (6). This is why older people mostly choose to continue dwelling in their privately owned apartments and single-family houses even after any potential children have moved away. Research shows that they can frequently struggle due to lack of spatial, functional and technological adaptations and are generally more prone to dwelling in older buildings that often exceed their needs in size. Surveys have also exposed the problem of widespread loneliness that has ties to spatial obstructions older people face in and around their homes (7). Nurturing social networks impacts health by providing feelings of acceptance and a sense of value, whereas social isolation produces a chronic stress response that can speed up ageing. Relationships with neighbors appear to be particularly important for older people in Slovenia, frequently acting as a source of informal caregiving (8). For these reasons, this study focuses on *community based housing for older people* as an alternative to institutional dwelling.

Roughly speaking, non-institutional and community based housing for older people usually appears in literature as *assisted living*, *extra care group housing* and *co-housing* that can be *mono-generational* or *multi-generational* (9, 10, 11, 12). This study focuses in particular on *co-housing communities* – a solution that brings together people who are not bound by familial ties, but are seeking to address their communal housing problem through collaboration. Co-housing combines the autonomy of private dwellings with the advantages of community living (13). It is a non-hierarchical and socially, economically and ecologically sustainable housing form that gives inhabitants sufficient private spaces as well as providing communal areas that promote socializing. The inhabitants participate in co-managing as well as co-designing the space in some cases (14). In this study, *participatory design* is seen as an important concept – just as architects are experts in designing spaces, inhabitants are experts in their own lives. Without collaboration, it is impossible to take into account all of their dwelling needs and desires (15).

At the moment, 90% of older people in Slovenia inhabit privately owned dwellings, the owners being either themselves or other household members. (16). Over 71.800 people live in single-family houses where the only inhabitants are persons over the age of 65, almost 70.000 of Slovenia's older people live alone, making the average per-person surface areas of their dwellings (53,7 m²/person) almost twice the size of those in the general population (28,6 m²/person) (3). This can make maintenance costly and difficult for older people who are especially prone to having lower incomes or are even facing poverty (16, 17). Dwellings can become unsuitable to house older people due to their size, deterioration, general design layout and lack of adaptation. They are also more prone to dwelling in spaces that are poorly furnished and have fewer contemporary infrastructural elements involving plumbing, electronics etc. (3, 16). Taking this information into account, it becomes clear that constructing new, potentially costly purpose-built co-housing is less plausible in our environment, whereas existing typical single-family houses bear potential for redesign and reuse.

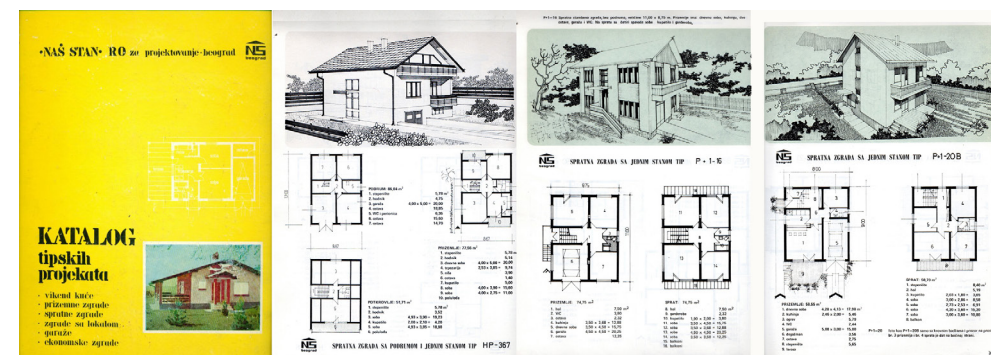


Fig. 1 – A catalogue of 1300 pattern book houses used throughout Yugoslavia

Many older people dwell in single-family houses constructed roughly after WWII. *Pattern-book houses* became popular in this period, being up to 6 times cheaper than having a unique plan drafted by an architect. To narrow our scope, the focus will be on houses constructed in the 1970s – corresponding with the span of projects published in one of the most extensive pattern books in what was at that point Yugoslavia, *Katalog tipskih projekata*, that lists over 1300 projects, as seen in Fig. 1. Homeowners (often self-builders) usually adapted the floor plans according to their own needs and desires, which is why this study refers to them as *typical Slovenian single-family houses* rather pattern-book houses. They usually take the form of a free-standing building at the center of the plot with a footprint size between 8x8m and 12x12m providing between 120m² and 200m² of habitable surface area. The floor plan usually includes a basement, a ground floor (often somewhat elevated) a first floor and/or attic, topped by a gable roof. The usual plot size is between 400m² in 1000m² and can be used for gardening, parking and keeping pets (18, 19).

METHODOLOGY

The assumption is that favorable, socially catalyzing spatial qualities for designing older people's co-housing communities can be recognized, assessed, evaluated – and used in further planning. Williams (2005) refers to them in her co-housing study as *design for social interaction*: proximity, population density, softening transitions between private and communal spaces, the ratio between private and communal spaces, community size, the quality of communal spaces, positioning of key facilities, activity sites, surveillance opportunities and activity clustering, to name the ones relevant to this case. These factors can be taken into account and further developed to attempt to extract the architectural qualities that can form the basis for new older people co-housing communities, in our case inserted into typical Slovenian single-family houses.

Redesigning single-family houses will be attempted using a simplified version of *transformative shape grammars*. Shape grammars were developed by Stiny and Gips in 1972. It is a systematic design approach that determines the elements of architectural vocabulary, priorities and the rules of syntax, enabling a wide variety of combinations and possible spatial solutions while taking into account the desired limitations and criteria (20). They can be defined as algorithmic systems that are powered by a set of rules that are applied step-by-step to generate designs (21). In this case, the input data will comprise of a) the geometrical properties of typical single-family houses and their



Fig. 2: Example of a simple shape grammar for re-designing the pattern-book house type 2HP-188A into a co-housing unit



Fig. 3: Two possible floor plan outcomes for the pattern-book house type 2HP-188A, generated using the simplified shape grammar

plots, and b) parameters for redesign according to the desired architectural qualities, involving older people as active participants. This generates a variety of solutions forming a new *design language* for the transformation of typical single-family houses into older people co-housing communities can be adapted in accordance with the local cultural and geographic context, spatial legislation and the needs and desires of the users. The example shown in Fig. 2 is a preliminary study of a shape grammar using a pattern-book house and shows a possible set of spatial compositions, two of them developed further in Fig. 3. More similar studies need to be conducted in the future through the gathering and analysis of floor plans throughout the different regions in Slovenia to help further develop the design language. The basic grammar consists of rules to be applied in order to form spatial compositions by defining accessibility criteria, the number, type and self-sufficiency level of private units, shared or private bathrooms that can accommodate for declining mobility, identifying communal or shared spaces and allocating one or more kitchen spaces. The application of each rule produces a variant that gives the spatial solution a unique character. Rules can be expanded and the design language further developed to go beyond compositions and incorporate locating sets of furniture or accessibility aids, for example, making it an expanding system that can grow in complexity.

GOALS, OPORTUNITIES AND CHALLENGES:

The goal of this study is not only to discover an array of key architectural elements that influence the success of co-housing communities, but to organize them into a coherent system that allows for application among a wider community of planners, designers, institutions, investors and also the key users – older people. The intended result is to develop a consistent methodology for addressing the problem of community based housing for older people through the development of a design language for redesigning typical single-family houses. Additionally, a co-housing unit can be aimed at older people exclusively, or it may include other age groups in need of affordable housing, such as young graduates, single mothers, students or migrants. Older people would thus be able to nurture their social networks, receive support, address safety issues and achieve financial sustainability.

At the moment, dwelling opportunities for older people in Slovenia are generally organized on a local level - by municipalities that usually opt for simply building a retirement home, often unaware of other options in the field. The main challenge is informing the legislative bodies on the municipal level of the benefits of older people's co-housing communities, combined with the simultaneous regeneration of neighbourhoods and lowering costs of home care assistance – this way a carer could accommodate multiple older people living in the same building in just one visit. The considerable funds that are usually used to construct a retirement home can be, however, distributed among multiple communal housing projects. With the national legislation expected to boost home care assistance organization in the following years, this is becoming a much more realistic prospect than it was in the previous decades. The main challenge remains in persuasion – municipalities can be reluctant to take on something they deem to be an “experiment”. Dialogue could be achieved through active collaboration of planners with older people societies – over 500 are active in Slovenia at this moment, making them out-number registered municipalities (212) by more than twice. In the future, the hope is to organize pilot projects aided by municipal or national co-financing and in collaboration with older people's societies assisted by architects and other spatial planners. This way, older people could participate in the design process on multiple levels – transforming the organisational framework on a local level, as well as having more control over their personal space rather than relying on the planning of officials. Old people would thus assume more active role and higher levels of autonomy when it comes to co-designing their housing and shaping the way of life they wish to maintain or further develop in their old age.

IMAGES:

Fig. 1: A catalogue of 1300 pattern book houses used throughout Yugoslavia
Source: **Mihailović, Živadin (1979):** Katalog tipskih projekata sa preko 1300 tipova : vikend kuće, prizemne zgrade, spratne zgrade, zgrade sa lokalom, garaže, ekonomske zgrade. Naš stan, Beograd

Fig. 2: Example of a simple shape grammar for re-designing the pattern-book house type 2HP-188A into a co-housing unit. Based on Mihailović (1979), page 682.

Fig. 3: Two possible floor plan outcomes for the pattern-book house type 2HP-188A, generated using the simplified shape grammar. Based on Mihailović (1979), page 682.

SOURCES:

- (1) **Vertot, Nelka, Križman, Irena (2010):** Starejše prebivalstvo v Sloveniji, Republic of Slovenia Statistical Office, www.dlib.si/?URN=URN:NBN:SI:DOC-BZ3DXFBF (3.1.2021)
- (2) **Miklič, Erna (2012):** Stanovanjska problematika v Republiki Sloveniji - produced for the Ministry of Infrastructure Republic of Slovenia, www.stat.si/doc/sosvet/Sosvet_25/Sos25_s1900-2013.pdf (3.1.2021)
- (3) **Republic of Slovenia Statistical Office – SURS (2015)** – requested data sent via e-mail (25.3.2019)
- (4) **Kerbler, Boštjan Kefo (2011):** Trajnostno bivanje starejših. Revija za geografijo, letnik 6, št. 2, str. 41-52.
- (5) **Mali, Jana (2008):** Od hiralnic do domov za stare ljudi, Ljubljana: Fakulteta za socialno delo UL
- (6) **Mali, Jana (2013):** Dolgotrajna oskrba v Mestni občini Ljubljana, Ljubljana: Fakulteta za socialno delo UL
- (7) **Sendi, Richard; Černič Mali, Barbara; Jakoš, Aleksander; Filipovič Hrast, Maša (2002, [i.e.] 2003):** Stanovanjske potrebe upokojencev in drugih starejših oseb, Ljubljana: Urbanistični inštitut RS
- (8) **Hlebec, Valentina et al. (2009):** Starejši ljudje v družbi sprememb, Maribor: Aristej
- (9) **Homes and Communities Agency (2009):** HAPPI: The Housing our Ageing Population Panel for Innovation Report, 110 Buckingham Palace Road, London. <https://www.housinglin.org.uk/Topics/type/The-Housing-our-Ageing-Population-Panel-for-Innovation-HAPPI-Report-2009/> (29.3.2019)
- (10) **Rosenfeld, Jeffrey P.; Chapman, Wid (2008):** Home Design in an Ageing World, New York, Fairchild books
- (11) **Andersson, Jonas E. (2011):** Architecture and Ageing – on the interaction between frail older people and the built environment, Stockholm: KTH, School of Architecture and the Built Environment, www.kth.diva-portal.org/smash/record.jsf?amp;dsid=9233&pid=diva2%3A441455&dsid=-4324 (8.10.2019)
- (12) **Leung, Monica (2019):** HOME: Housing Our Mature Elders. Harvard: Society of Architectural Historians, H. Allen Brooks Travelling Fellowship 2018, https://issuu.com/monica2792/docs/brooks_report-issuu (5.12.2019)
- (13) **Williams, Joanna (2005):** Designing Neighbourhoods for Social Interaction: The Case of Cohousing, *Journal of Urban Design*, 10:2, 195 - 227 (9.12.2020)
- (14) **Jakobsen, Peter; Gutzon Larsen, Henrik (2019):** An alternative for whom? The evolution and socio-economy of Danish Cohousing - Department of Human Geography, Lund University, Lund, Sweden. *Urban Research & Practice*, Vol. 12, No. 4, 414–430
- (15) **Bakr, Ali Fouad; El Sayad, Zeyad Tarek; Thomas, Sara Makram Shokralla (2018):** Virtual reality as a tool for children's participation in kindergarten design process, *Alexandria Engineering Journal*, Volume 57, Issue 4, 3851-3861
- (16) **Majcen, B., Uršič, S., Srakar, A., Mašič, S. (2017):** SHARE: Kako Slovenci živimo v drugi polovici življenja. Ljubljana: Inštitut za ekonomska raziskovanja, www.share-slovenija.si (5.1.2020)
- (17) **Republic of Slovenia National Assembly (2013):** Resolution on the national social assistance programme 2013-2020 <http://www.pisrs.si/Pis.web/pregledPredpisa?id=NACP68> (14.10. 2019)
- (18) **Brezar, Vladimir (1995):** Stanovanjska gradnja v Sloveniji včeraj in danes. *Urbani izziv*, številka 28/29, str. 98-108. (11.12.2020)
- (19) **Brezar, Vladimir (2011):** Pragmatično graditeljstvo ali sindrom 4 metrov. *AR. Arhitektura, raziskave*, letnik 11, številka 2, str. 85-90. (11.12.2020)
- (20) **Eloy, Sara; Duarte, José Pinto (2014):** Inferring a shape grammar: Translating designer's knowledge - Intelligence for Engineering Design, Analysis and Manufacturing, 28, 153-168
- (21) **Coimbra, Eugénio; Romão, Luís (2013):** The Rehabilitation Design Process of the Bourgeois House of Oporto: Shape Grammar Simplification, Computation and Performance – Proceedings of the 31st eCAADe Conference – Volume 2, 677-685

It Depends on the Lens

Film as Experiential

Teaching in Architectural

Design and Design

Representation

DDR Statement

This practice-orientated PhD research project involves practice-led research, where the research leads to new understandings about practice through new teaching methodologies that are proposed in architectural pedagogy. It also deals with practice-based research in that the new methodologies result in student work which become the artefacts that form new contributions to knowledge (Candy, 2002, p.3). This is a qualitative research that engages with the knowledge embodied in the architectural design process as well as the knowledge embodied in the products of designing (Cross, 2006, p.224). This is also a performative research where the data collected expresses the research and the expression becomes the research itself (Haseman, 2006, p.6). The experiential starting point of the research is the introduction of film and its processes to probe the traditional ways in which Design and Design Representation are taught. The design driven approach to my research is a practice reflection which focuses on film and filmmaking as process in architectural education, as well as film and filmmaking as the medium of my reflection. The practice reflection process explores student projects as case studies and unpacks how students were taught, the processes that they encountered and what the emergent outcomes were. The practice reflection medium includes a document whose format uses filmic narrative to stitch my processes together, which then becomes the script, that is the foundation to a rich presentational film, which I will produce, that further reports on the findings of the research.

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Extended Abstract

Keywords: practice-based research, interdisciplinary, architecture and film, character-led architecture, architectural pedagogy, narrative in the design process, film and design representation, story telling, historical narrative, postcolonial, decolonial

Abstract

With a background as an Architect, Filmmaker and Lecturer in the Wits School of Architecture and Planning in the University of the Witwatersrand in Johannesburg, South Africa, I intend to contribute new theory through the introduction of film and filmmaking into the architectural design process and explore how the interdisciplinary relationship between architecture and film creates new methods of experiencing and representing architecture. Filmmaking techniques are introduced into the subjects of Design and Design Representation with the aim to transform the existing curriculum. The research explores student projects as case studies and unpacks how these techniques transformed parts of the curriculum and what the emergent outcomes were.

The background of this PhD research project proposal stems from the Master of Arts Film and TV that I undertook whilst lecturing in the Wits School of Architecture and Planning. In my Masters' Research Report, I explored the relationship between architecture and film through the notion that the human-place connection exists in both the disciplines of filmmaking and architecture. My study aimed to explore the narrative-spatial relationship between narrative (screenwriting) and the construction of mise-en-scene (that which appears inside the film frame), and the architectural considerations of place-making, to offer conceptual insights into how the idea of the human-place connection could be explored in the reading of selected film texts about Johannesburg, South Africa.



(fig.1)



(fig.2)

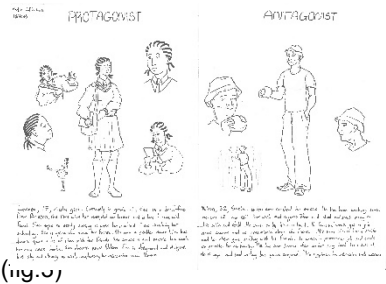
I was inspired to contribute the knowledge that I gained from my Masters' towards architectural pedagogy. I introduced techniques from filmmaking into the subjects of Design and Design Representation with the full support and encouragement from my colleagues. This openness for change and collaboration occurred as a result of the #feesmustfall protests in South Africa when students asked for free tertiary education and for a decolonised curriculum. As lecturers, we felt the need to explore inventive methods of teaching in response to these protests. An inventive method is described as "...an inventory of methods or devices that may be used to conduct research that is explicitly oriented towards an investigation of the open-endedness of the social world." (1) The filmmaking processes that I introduced aimed to make necessary changes to the architectural curriculum, as well as giving me the opportunity to explore the relationship between architecture and film further. The idea was to transform the pedagogy by enabling an inclusive collaborative environment where people learnt from each other to produce new outputs as well as an awareness of the other. Students were encouraged to teach and learn through the processes of their productions, and not exclusively from a top-down teaching method.

In the first year design studio, I worked closely with my colleague who is an indigenous South African. I grappled with questions that I also put forward to him. I asked, how do I, as a non-indigenous person, engage with indigenous methodology and decolonising methodology? What is my position as a lecturer as I engage with indigenous students? Neither one of us had answers to these questions, but we agreed that in asking them already demonstrated a willingness and an openness to recognize necessary change. Decolonial methodology is a mentality which constitutes an active learning strategy which requires careful design and curation by educators. (2) There is a vulnerability that the educator needs to address in the sharing of personal lived experience and the equal exchange of knowledge. (2) My experience with engaging these methodologies allowed me to become vulnerable, to be taught and become open to learning and listening. "Instead, vulnerability can foster a self-reflexive, safe, and inclusive learning environment, where class members' interactions are based on mutual respect." (2)

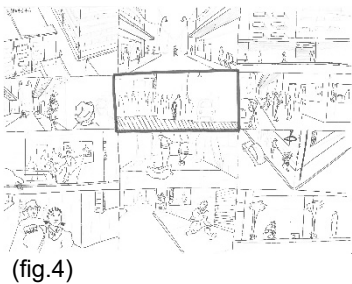
I proposed to approach the design process through narrative which I connected to the decolonising methodologies of story telling. Linda Tuhiwai Smith (3) makes reference to story telling as one of the indigenous research projects. "Story telling, oral histories, the perspectives of elders and of women have become an integral part of all indigenous research. Each individual story is powerful. But the point about the stories is not that they simply tell a story, or tell a story simply. These new stories contribute to a collective story in which every indigenous person has a place." (3)

I linked screenwriting, from the field of film, as a story telling method to engage narrative in the design process. A character-driven story is one which the audience invests in and believes in. Syd Field states "Character is the essential foundation of your screenplay. It is the heart and soul and nervous system of your story. Before you put a word on paper, you must know your character." (4) I imagined that a character-led story could achieve **a character-led architecture**; a notion that I have coined. A screenplay as the starting point in the design process, could enable a design driven from the point of view of characters. It could also enable the reading of a place from multiple subjective character's points of view, which could include the indigenous voice, previously unrecorded. This approach was explored in projects in the first-year Design studio, as well as in second-year Design Representation. Results yielded emotional and experiential narratives in the form of films, architectural

representations, and performances, which intentionally blurred fiction and history, creating counter and diverse narratives to oppose the hegemonic view.



(fig.3)



(fig.4)

These projects were initially introduced in 2018, so, this study will explicate methodologies and artefacts that have already been produced and may explore ongoing iterations for the duration of the research. The projects have a sociological, ethnographic and anthropological focus, specifically exploring the relationship between architecture and identity through the relationship between architecture and film. In the first-year design studio, students did not partake in deep urban studies, therefore their narratives mostly evolved within imaginary worlds. However, I designed the second-year Design Representation course around the relationship between architecture, film and identity to explore a specific neighbourhood in Johannesburg. The course introduced the neighbourhood and characters to the students through a film which I produced in my Masters as well as a historical library project.



(fig.5)



(fig.6)

Having watched the film and doing some archival research, the students then visited the neighbourhood, experienced it in its present day, and met and interacted with the characters from the film. Students then created their own narratives and animations based on what they had read, seen and experienced. This process enabled multiple ways of reading the neighbourhood as well as extracting methodologies from local

culture to inform future design processes. Below are the summaries of these two projects.

The Utopias Project is the first-year Design project where my teaching methodologies were initially introduced. It contains a large group work component and an individual design component. Each group writes a script about the genesis of a cosmos and a community which is visualised into a storyboard. A cosmos model is conceived and built, including the scaled model figure of a protagonist, who experiences the spatial journey. The cosmos model includes three regions that represent three stages of the cosmogenesis and relate to each other visually, conceptually, and spatially. The students are required to think about the key elements in each region. The story unfolds from the point of view of the characters, whose images are captured to make stop-frame animations. In the next step of the project, each student designs their own stage set for the three acts of performance and rewrites the script so that they become the characters who re-enact their cosmogenesis on stage.



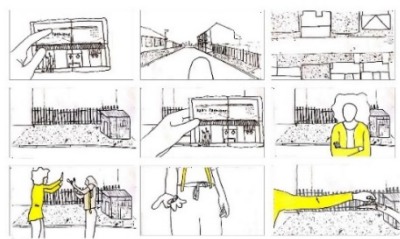
(fig.7)



(fig.8)

Script-Sketch-Animate is a second year Design Representation project which employs filmic techniques to open new ways of architectural access to a specific neighbourhood in Johannesburg. Fietas, a once vibrant multi-cultural, multi-racial neighbourhood, was forced apart under the apartheid regime by the Group Areas Act. Urban design strategies evicted people and houses were demolished. The students develop imaginary and visually presented personal stories that allow for an empathic analysis of past and present social, political, and cultural environments which could inform future place-making. Each story is initially sketched by hand, then digitally edited and animated. In the process of the animated film, the architectural design and design presentation is understood through the dimension of lived experience. Film as a creative method offers a new approach to filter and read the South African Urban fabric and its traces of trauma as a result of apartheid. This

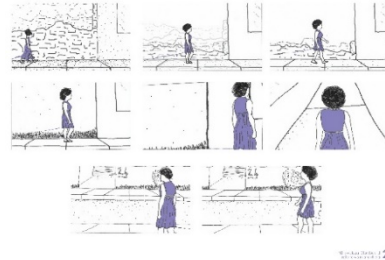
project wields a “sociospatial” approach using new interdisciplinary and multivalent methods in which “to explore the full depth of how society and culture intersect with the material world of buildings” (5)



(fig.9)

Film opens new ways of reading and representing architecture and its relationship to people and its situatedness to its context. Film can situate a character and viewer in a real or imagined setting which makes it accessible on multiple levels. Film and other filmic representations reach a wider audience than traditional architectural representation. Teaching these skills could enable new ways of looking at architecture and could develop skills to engage with the existing architecture of the apartheid city in a new way. This new knowledge contribution could answer my research question which could possibly be: *What if the personal stories of architectural students informed future place-making and architecture in Johannesburg?*

This PhD research project will develop in the form of a practice reflection, conducted by me, in a format that follows a filmic narrative process which includes screenwriting, storyboards, diagramming and accompanying text. My position as an architect, filmmaker, lecturer and researcher situates me in the reflection. The practice reflection becomes the script that is the foundation to a rich presentational film, which I will produce, that further reports on the findings of the research.



(fig.10)

End Notes:

- (1) Lury, Celia/Wakeford, Nina (eds.) (2014): *Inventive Methods: The Happening of the Social*. Chapter 1: Introduction (p. 1–24). (p.147-162). UK: Routledge Taylor and Francis Group. pp.2
- (2) Sendra, Estrella (2020): >>Video Essays: Curating and Transforming Film Education Through Artistic Research<<, in: *International Journal of Film and Media Arts*. Vol., No2, (pp.65-81). pp.69
- (3) Tuhiwai Smith, Linda (2012): *Decolonizing Methodologies Research and Indigenous Peoples*. London: Zed Books Ltd. New York: Room 400. pp.146
- (4) Field, Syd (1982): *The Foundations of Screenwriting*. New York: Publishing Co. p.22
- (5) Mack, Jennifer (2019): >>Working the Field<<, in: *Architecture in Effect: Rethinking the Social Vol 1*. Barcelona: Actar. pp.347

References for Title Page:

- Candy, Linda (2002): *Practice Based Research: A Guide*. Sydney. Creativity and Cognition Studios.
- Cross, Nigel (2006): *Designerly Ways of Knowing*. UK. Springer Press.
- Haseman, Brad (2006): *A Manifesto for Performative Research*. Media International Australia incorporating Culture and Policy, theme issue "Practice-led. Research"(no. 118). pp. 98-106.

Figure References:

- (fig.1) Axis Johannesburg (2018): Anita Szentesi. [Film] Authentic Studio
- (fig.2) Axis Johannesburg (2018): Anita Szentesi. [Film] Authentic Studio
- (fig.3) Territorial Characters Storyboard (2018): Merlin Love. Wits School of Architecture
- (fig.4) Territorial Characters Storyboard (2018): Merlin Love. Wits School of Architecture
- (fig.5) Fietas Soul of the Suburb (2017): Anita Szentesi. [Film] Authentic Studio
- (fig.6) Fietas Soul of the Suburb (2017): Anita Szentesi. [Film] Authentic Studio
- (fig.7) Utopias Performances (2018): Anita Szentesi. [Film] Wits School of Architecture
- (fig.8) Utopias Performances (2018): Anita Szentesi. [Film] Wits School of Architecture
- (fig.9) Threadcount Storyboard (2020): Salma Jawoodeen. Wits School of Architecture
- (fig.10) Khawuleza Storyboard (2020): Rotondwa Manavhela. Wits School of Architecture

J for Jewel

DDR Statement

Architecting as Design Driven Research (DDr) in our interpretation appeals to the intra-relationality of thinking, feeling and acting, to multiple levels of literacy and polyglot. DDr in our work entails the study of (interior-) architecture as an unruly practice of sense-making by actualising yet-to-become worlds. A profound interest in inhabitation as an erring and messy relational environment is our point of departure. Questionings that deal with becomings, wickedness, cultivating, matter that starts mattering, monstrous entanglements, mythical thinking and interiority drive our research undertakings. As these topics encompass a diverse range of practices, theories and (hi-)stories, this research group takes a post-disciplinary approach to resist the pressure of single and stable knowledge of change to foreground transformative and engaging knowledging by change. We use a speculative-projective approach. We design projects that bring general matters to a concrete and situated level by making them material and embodied (e.g. our series of 26 artefacts, of which we present the first). From that we again extract and abstract insights and ideas. We aspire to address full-on the wickedness of problems we are dealing with and maybe out to deal with. In this light, we consider the development of a wicked method-apparatus a serious and urgent task and centralize artistic and design research in what –in a post-disciplinary context– have become necessarily hybrid forms of knowledge production.

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Paper

Keywords: toilet, wicked matters, care

Abstract

In this paper we introduce a first artefact of a recently initiated research line founded through twenty-six artefacts. These artefacts will assemble, as vehicles of inquiry, matter(s) for re-figuring architecture as a practice of making worlds. Seemingly paradoxical, the research undertaking of this re-figuring quest does not venture from what usually are considered the primordial elements of architecture. Conversely, we take the architectural element toilet as our seat of discovery, of learning and ultimately of re-figuration. The toilet we recognize as a locus ideal as it is the ultimate spatial setting of exchange between body and world, the body being the most bare and basal site and scale for exploring the making of and caring for worlds. It is a locus where matters of matter spontaneously and abundantly congregate with matters of concern. We end by projecting the emerging design briefs surrounding two more artefacts of our research line in-the-making.

The language of this paper is distinctly polyglot, expressing the multi-literacy proper to the various types of design thinking active in our research endeavors. There is a discursive voice, grappling and toying with concepts to draw a frame of thought. Interweaving with it there are other voices, some coinciding with the making of an artefact, a first artefact in a series of twenty-six that together will substantiate a vector in our research. These latter voices speak as or through work(s) and practice(s) situated on the level of direct embodied immersion in a messy territory—that of a contraction of toilet and architecture; of toilet and world(-making). A thick territory we enter through a speculative and projective research approach, exploring how concepts of waste, dirt, bodies, architecture, architecting, and earth can and must be re-figured. Hence we intend to induce a movement away from the banal as well as the destructive habitual spatializations and logics these concepts now have been chained to.

The movements and inflections of the voices of work(s) and practice(s) are to be heard as a way of instantiating within the space of this paper the concrete design acts that start probing this territory. The multiplicity of voices start a re-figuring of architecture. The voices of artefacts, of drawings, of words and the many other voices and languages present in this paper or more generally in our research undertakings, these require an agility of switching between different registers of literacy needed to grasp the insights generated by the designerly inquiry we set out for through J for Jewel.

SETTING UP A PRACTICE OF RE-FIGURING ARCHITECTURE

The notion of *care*, of *matters of care* and *ethics of care*, is situated at the heart of the undertakings of our research group Architecture & Wicked Matters, as well as our academic design office The Wicked Home [1]. In these, we understand and inquire matter as lively, vital and *vibrant*, recognizing the agency of the myriad of the other-and-more-than-human entangled in the processes and ecologies of making world(s) [2]. Thus we investigate the twin pair matter, in which aspects of matter/materiality are seen as inextricably bound to socio-spatial matters of concern. We follow currents away from an anthropocentrist conception to join a shared challenge of thinking world(s) through post-human perspectives. We consider architecting herein as a design driven research activity appealing to the intra-relationality of thinking, feeling and acting; to multiple levels of literacy and polyglot. Architecting thus conceived entails the study and deployment of architecture as a practice of sense-making, this by substantiating and actualising unruly because yet-to-become worlds. A profound interest in inhabitation as an erring and messy relational socio-spatial activity is our recurrent point of departure. Questionings that deal with becoming-s, wickedness, cultivating, matter that starts mattering, multiplicity of entanglements, mythical thinking and interiority are recurrent motors of our research undertakings. As these topics encompass a diverse range of practices, theories and (hi-)stories, we take a post-disciplinary approach to resist the pressure of single and stable knowledge of change to foreground transformative and engaging knowledge-ing *by* change.

The notion of *care* being pivotal in our practices, when thinking about contributing

to this conference we sensed a resonance with its underlying blueprint, the blueprint of *CA(2)RE*. The cipher two we interpret here twofold. First, in our explorations we venture from a close alliance between art and architecture. Second, pursuing a squared interpretation of the notion of care: *CA²RE* or care leveled up *to the second*. This leveling up in our understanding entails the development and deployment of *re-partitioning* practices of architecture; practices of *re-figuring* the logics we create by too often left unquestioned [3]. Our contribution does not retroactively look into work already produced. Conversely, we have taken it as a challenge to substantiate a new series of *re-figuring artefacts* close to one specific architectural element—the toilet, a series we conceive of as vehicles for propelling a new line of inquiry within our research undertakings. That said, the idea of working with this architectural element is not new to our research group, and has slumbered and fermented in our minds and some of our projects up to this point [4].

In the space of this conference, a first investigative artefact is unfolded: J for Jewel. It serves as a particular conversation piece and vehicle of inquiry within the space of this conference as well as within our research line, where it invokes other artefacts to come into being. We show this artefact in its fragility and uncertainty of being developed. Hence, we present it *within* its—*snow-crystal—morphogenesis* of emerging from entanglements with and speculations within a web of matters and/of concern(s); of a multiplicity of connecting and colliding thoughts, concerns, inspirations, ideas, and intermediate propositions [5]. We present it as a *bird-in-flight* [6]. This kind of gaining substance we also see underlying the overall research line to come as well as the other artefacts this line will be propelled and assembled by. It is to be noted then that not only the research line to come is *assembled* in nature, but also this first artefact itself. Introducing another aspect of fragility to J for Jewel, our point of departure ventures from the bare and basal body as a site and scale for exploring the making of world(s). This choice is not coincidental, as we consider the idea of a re-figuring of architecture to necessarily depart from the bare and basal. This is, as has been suggested, the bare and basal of the notion of inhabitation, of the site that is the body, and of the toilet as the specific architectural element we deliberately choose to graft our research on.

A RESEARCH LINE ASSEMBLING TWENTY-SIX ARTEFACTS

Within the newly founded research line which aims at substantiating or rendering present more-than-human perspectives in the field of architecture, our ground zero takes at its center the toilet. As pointed out in the AMO publication *Elements of Architecture*, no architectural treatise declares the toilet as the primordial element of architecture. Hence no such treatise considers the toilet to be at the center for re-thinking or re-figuring (through) architecture, not to mention for re-figuring the—making of—world(s). However, as the same publication stipulates, the toilet as an architectural element also of literal regenerative habits may be regarded to be the ultimate element for such re-thinking and aesthetical-political re-figuring activity [7].

We understand this characterization of being the ultimate here in the aforementioned sense that the toilet and how it is made to matter can productively congregate scales

and concerns. These are small scales (e.g. the body), grand scales and matters of concern (e.g. an ecological collapse), as well as infra-small scales (e.g. the microbiome), which involve also actively the agency of the other-and-more-than-human. The toilet as an element and matter of matters is the ultimate spatial setting of an exchange between body and architecture, between body and earth, her soil we massively stir and colonize by it, the night soil we bother her with. It is a place of an ambiguous reading: from the closed water closet to conceptualizations of the toilet as a sublime shadow landscape [8]; from a private retreat to a public convenience; from an infinitely primal to an excessively technical apparatus fundamental even in colonizing deep space; between the mundane and a universe with its own proper gods and spirits; from a locus of comfort to a stage of societal conflict.

It is a germinal space also, and we introduced this as pivotal, for the revalorization of *care* and *taking care* as or supported by *material practices* [9]. The toilet seat, and the series of artefacts we intend to substantiate, may then be learning seats assisting in such re-thinking, re-figuring and re-partitioning activity in their own particular way. As Thomas More has suggested, any projection of future needs a good idea about sanitation [10]. Reformulated as a challenge, any projection of future needs an intriguing explorative series of toilets.

Challenged by Peter Greenaway's short film *Inside Rooms, 26 bathrooms, London & Oxfordshire*, we will in the research line develop over time a series of twenty-six architectural artefacts thinking from the toilet [11]. In Greenaway's montage, there is a bathroom for each character of the alphabet. Similarly, there will be one toilet or related architectural artefact for each character of our alphabet (research line). For this conference as said we start up that series with the J for Jewel. This artefact takes as its challenge the intimacy of a human body as a private setting for the design of a series of sanitary jewels. As a first artefact it sets in motion next artefacts, with different complexity and scope, roving in between critical and problem-solving approaches. Accompanying the artefact, there is the gradual formation of a design brief, as said for next artefacts in the series but eventually also for assembling an overall design brief to be raised as a challenge to architecture as a practice of re- and configuring the relation between (human and non-human) bodies to the earth.

The research/work presented through the present artefact and artefacts to follow intend to showcase a specific architectural practice of curating and poesis with a speculative-projective approach towards reality and the design of world(s), reflecting as said the research perspective we deploy more generally in our research undertakings [12]. The research line with the series of twenty-six artefacts brings general matters to a concrete and situated level by making them material and embodied. From that we again will extract and abstract insights and ideas. As such we aspire to address full-on the wickedness of problems we (as inhabitants of worlds; as disciplines assisting in their making) are all affected by and maybe ought to deal with. In this light, we consider the development of a wicked method-apparatus a serious and urgent task and centralize artistic and—architectural—design research in what in a post-disciplinary context have become necessarily hybrid forms of knowledge production.

A GROUND ZERO: J FOR JEWEL



EXPANDING OUR GROUND ZERO TO THE SOILS OF THE SEMOIS AND BEYOND: T FOR THIGMOPHILIA & S FOR SOIL TIMES

[21] T for Thigmophilia.

In the master dissertation studio linked to our academic design office The Wicked Home, one of the students and co-author to this paper is developing a design brief that addresses toilet spaces in relation to the concept of *Thigmophilia*. The term *Thigmophilia* originates from the Greek *Thigmos* and *Philia*, respectively meaning the touch and to love. [22] As a valuable counterpart to the dreaded claustrophobia, our bodies' need for touch provides us with a secure feeling when enclosed. This familiar feeling is typically exemplified by the bed where, safely tucked under our

duvet, our tactile bodies feel at ease. We get confronted with our human need for security from the moment we leave our mothers' womb, to being nested in our bed after a long and stressful day. Especially when living in a world that is typified by its pressure and burn-out society, where stress and information overload are part of our daily life, *thigmophilic architecture* can care for our body and mind by providing us with a moment of rest.

In this context, the design hypothesis that is being developed depicts the archetypical toilet as an important thigmophilic space, where being at ease is a condition in order to be able to actually make use of this sanitary object. Allowing us to keep the whole world at a distance by simply hanging the occupied sign. It sets off the ideal position in order to perform this bodily ritual, together with what sanitation is obliged to offer us, according to *The United Nations' Human Right to water and sanitation*. [23] Inspired by Gottfried Semper's *The Four Elements of Architecture* [24], *Four Elements of Sanitation* are selected as the primary needs which our bodies depend on in order to relieve ourselves.

How will these *Four Elements* adapt to challenges posed by the very specificity of different environments it might be placed in and designed for different human bodies instead of standardized ones? Or is it simply impossible if not undesirable to use *a standard* as the one and only solution for sanitation? Shouldn't we in any case, critically question this taken for granted standard when moving towards an ecological era, and in need of a renewed sustainable solution?

[24] S for Soil Times.

Spinning from J for Jewel's body-mind-soul covered in off-white materialities of soil, in scope come the soil times of a landscape as a site of more-than-human architecting. Seeking its way and carving in geological time through vast masses of Early-Devoon slate formations, the Semois valley is a meandering matter, extremely compacting its overall length as the bowels in a body. Mounting up the hydrographic net through stream and streamlet, a prairie on this and that side of the latter further demarcates the site of exploration. Being non-constructible in legal terms, the prairie allows only for an ultimately small, unfounded human interference, no larger than two square meters. Consisting of five legal entities, the prairie then can stage five times two square meters of fragmented interference, if necessary. Not needing anything but the toilet though to make the landscape a space of temporal sojourn, this architectural element is made pivotal for exploring relationships of *care* in between human and more-than-human. As sources meandering with the project serve Jane Bennet's *vibrant materiality* [25] and María Puig de la Bellacasa's inquiry into *the living web of care* threading through *more-than-human-world*. Herein, humans are considered *part of soils*, conceived as *living organisms consisting of a multispecies community of biota* [26]. To think and work in soil times at this point becomes a challenge raised to material practices such as architecture. Practices that de la Bellacasa has characterized as the necessary vehicles for unfolding practices of care.

NOTES

[1] Both our research group and academic design office are part of the larger research environment Material Narratives, KU Leuven Faculty of Architecture, Campus Sint-Lucas, Ghent & Brussels.

[2] The notions of vibrant materiality and of ecologies understood as political ecologies of matter we borrow from Jane Bennet. Bennet, J. (2010). *Vibrant Matter: A Political Ecology of Things*. Durham, North Carolina: Duke University Press.

[3] Jacques Rancière has characterized aesthetics as a political re-figuring practice. Rancière, J. (2010). *Dissensus: On Politics and Aesthetics*. London: Continuum International Publishing Group.

[4] We have in earlier projects proposed the architectural element that is the toilet as an ultimately fertile element for re-thinking architecture, by intertwining it in a variety of research proposals. One of these has been the Microbial Urbanism project proposal led by Prof. Rachel Armstrong (2020).

[5] The notion of snow-crystal morphogenesis has been proposed by Sanford Kwinter, foregrounding a conception of architectural becoming not merely as spatialized but as radically embedded in time, taking in all kinds of—sensitivity to—aleatory conditions. Kwinter, S. (2002). *Architectures of Time*. Cambridge MA: The MIT Press.

[6] Albená Yaneva advocates for architecture and architectural artefacts to be seen more as birds-in-flight, in which architecture is formed along the controversies it attracts to its processes of emergence. Yaneva, A. (2012). *Mapping Controversies in Architecture*. London: Routledge.

[7] Koolhaas, R. and the Harvard Graduate School of Design. (2018:1557-1559). *Elements of Architecture*. Cologne, Germany: Taschen GmbH.

[8] Junichiro Tanizaki has described the toilet as a phenomenally thick space, putting it in tension with Western approaches to that architectural element. Tanizaki, J. (1977). *In praise of Shadows*. New Haven, Connecticut: Leete's Island books.

[9] María Puig de la Bellacasa stresses that the affective and ethical dispositions involved in care, in *caring about* or *taking care of* need to be or can only exist if supported by material practices. De la Bellacasa, M. P. (2017). *Matters of Care: Speculative Ethics in More than Human Worlds*. Minneapolis and London: University of Minnesota Press.

[10] Thomas More cited in: Koolhaas, R. and the Harvard Graduate School of Design. (2018:1579). *Elements of Architecture*. Cologne, Germany: Taschen GmbH.

[11] Inside Rooms, *26 bathrooms*, London & Oxfordshire (1985), Peter Greenaway.

[12] From the Greek *poiesis*, referring to a making activity as well as an activity of making up.

[13] A white middle-aged woman covers her body-mind-soul with off-white DFB mud (30% chamotte of 1 mm) from Saint-Aubin, unearthed 26 hours walking and 147 steps upstream from her place of residence, masking the scent of her skin while becoming the site of her architecting.

[14] This is her story of descent: 'in heaven there are beings who do not eat; in this lower world of stomachs and fish there are mortals who eat [and excrete] constantly'. Hyde, L. (2017:27). *Trickster Makes this World: How Disruptive Imagination Creates Culture*. Edinburgh/New York: Canongate Books.

[15] I press my bum into the mud of existence. Eating and pooping become self-eating and self-excreting. Architecting *J for Jewel* is to invent a daily ritual of becoming-passageway.

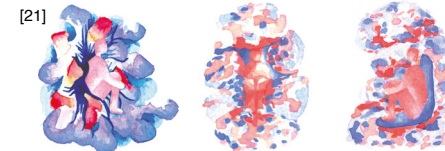
[16] When *Raven becomes Voracious*, he sings Patti Smith's *Pissing in a River* (1976): 'My bowels are empty, excreting your soul. What more can I give you? Baby I don't know. What more can I give you to make this thing grow? Don't turn your back now, I'm talking to you'.

[17] This muddy porous body-mind-soul becomes compost by her necklace. Heeding Haraway's 'we are humus, not Homo, not Anthropos; we are compost.' Haraway, D. (2016:55). *Staying with the Trouble. Making Kin in the Chthulucene*. Durham, London: Duke University Press.

[18] A braid of her lover's hair connects four artefacts made of sediment from a time where human presence was non-existent. These chunks of clay allow reaching out to other soil times: from the Early Oligocene (33,6 – 28,4 million years ago) to the Late and Middle Devoon (360-400 million years ago).

[19] 'Matter, mater, mutter make me – make us, that collective gathered in the narrative bag of the Chthulucene.' Haraway, D. (2016:121). *Staying with the Trouble. Making Kin in the Chthulucene*. Durham, London: Duke University Press.

[20] 'I will piss in the urinal you pissed in. A young man's cursing existence. I will squat and rise. And piss. And tears. And urine. And rain. [...] I will butter my hair. I will unfasten the last. I will tremble like you when I glimpse the visible ink peeling at the edge of my cheek. I have danced at an edge of ignorance. I have wept impossible dreams. I have melted nothing. I have stood in the warped curve of a light that should have taken me away yet left me with humankind that I have never been. Everything here is a small offence. Is an attempt to peel the mud of a putrid skin. I'll be ok. Go away'. *Mummer Love with Patti Smith & Souldwalk Collective* (2019).



[22] Excerpted from the chapter Een Innig Genoegen: Dekkers, M. (2015) *De Thigmofiel. Het Verlangen naar Geborgenheid*. Amsterdam: Atlas Contact.

[23] 'The human right to water and sanitation' as human right essential to the full enjoyment of life and all other human rights, July 28th 2010 by the United Nations



[25] Bennet, J. (2010). *Vibrant Matter: A Political Ecology of Things*. Durham, North Carolina: Duke University Press.

[26] De la Bellacasa, M. P. (2017). *Matters of Care: Speculative Ethics in More than Human Worlds*. Minneapolis and London: University of Minnesota Press.

Nonhuman Approaches to Wool in Design Practices

How Can a Practice-Based Design Research Help Understand Other Entities?

DDR Statement

I work with design driven research (DDR) methods for the way that they allow me to understand craft-design relationship first hand. DDR is useful not only because it is appropriate for making-design practices, but also allows to have a better understanding of the material, as it refers to a better connectivity and process of working with it. Therefore DDR and my practice with the material becomes a tool for me to broaden and produce knowledge and understand agencies other than human in a making practice.

I am using a mixture of theoretical and practical elements to conduct the research. With autoethnographical documentations of the making process, material experiences and reflective diaries, I aim to have a better understanding of the felting practice and the wool material. In the initial process, I came to an understanding that thinking about wool without doing the felting practice also helps with my process, therefore the reflective diaries not only consist of the felting process, but also my thought process about the material. Therefore, DDR is not only useful while felting and dealing with wool, but also strengthens the thought process. DDR and practice-based approaches allow a better understanding of human/nonhuman interactions in a making practice. I think that these practice-based approaches strengthen the position of making in product design. It also underlines the practical elements in craft/design relationships and maker/designer practices.

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Paper

Keywords: nonhuman, sustainability, sustainable design, material in design, making, wool, design driven research

Abstract

This research focuses on human-material connections in design and making practices based on experimental trials and processes, to find ways to develop materials and artefacts that are more suited for living together with the world. Although designing objects/artefacts/things from human needs has been the main approach in the current design discourse; influences from more-than-human approaches amongst others emphasize the need that we should include nonhuman entities (the earth, materials etc.) in our design process. Current environmental issues demonstrate that we should find ways to coexist with nonhumans. I work with wool and use felting as a designing/making activity for this approach. To include nonhuman entities into design, I connect nonhuman theories with traditional ecological knowledge, which also provides a connection to older traditions and lifestyles that can make our living more sustainable today. In this paper I emphasis how a nonhuman approach, both from the material and the environment is related with making and sustainability.

In this paper I discuss how design practice can bring alternative approaches to material and making, specifically felting wool, and explain my initial research that consists of a nonhuman agency research in design studies.

The start of my practice-based study aims to understand wool material from nonhuman perspectives using felting technique. Current environmental issues all demonstrate that we should find peaceful ways to live with nonhuman things in the world. Bratton states with “the looming ecological consequences of what is called the Anthropocene”, in future decades “we will need to terraform Earth if it is to remain a viable host for Earth-like life”.¹ Tsing writes, “human nature is an interspecies relationship” (p. 144)². Thus, to study humanity accurately, there is a need to situate “humans within historically and culturally specific networks of interdependence with animal, plant, microbial, and object others” (p. 16)³. Wakkary⁴ states, “in phenomenological terms, humans, as a notion, cannot be seen in isolation but rather in relation to the world” (p. 123). As the world is facing many issues with climate and the ecological crisis, it is necessary to consider nonhuman things as a part of design for sustainability.

Nonhuman, in the most basic sense consists of every “thing” that is not human. Although the main approaches in design field have been human-centred since 1980s⁵, there is an ongoing interest in posthuman theories, nonhuman and more-than-human agencies in design⁶. Perspectives related to the notion of nonhuman in design may focus on different elements, such as environmental or technological agencies. For instance, Smitheram and Joseph’s Phenomenal Dress project⁷ demonstrate a more-than-human relationship, where material thinking, making-with approaches and posthuman theory from Māori perspectives were used, and the collaborator for the project was the environment-the ecosystem itself. Other studies in design field for nonhuman agency, mainly from technological perspectives, involve artificial intelligence, digital agencies and human computer interaction. Giaccardi and Redström⁸ emphasize the need to go into a more-than-human design practice from a technological approach, by suggesting that outcomes and experiences would be the result of people and networked computational things.

As design industry and practices are mainly based on western traditions, what is missing from much of the research on nonhuman agency is a design for sustainability approach that takes issues such as climate, traditional ecological knowledge, craft and making knowledge into account. Also, there is a need to emphasise that designing only for human needs can make us ignorant of the other entities we live together with. Drawing from these, in this research, practice-based methods will be explored to trigger possibilities for working with material sustainably, and this mentioned “nonhuman” approaches focus on the environment and material.

Approaches for Making with Entities Other Than Human

I mostly use nonhuman agency and more-than-human approaches together as I believe they should be explored more through design and making practices. Additionally, many other concepts are being used, related with ‘not centralising humans’, that include non-anthropocentrism, multispecies, posthumanism, decentring of humans (4). The terms already underline the obvious, that working with the material requires more than “human”, as it is always a creation process with the material. However, as humans our humanly needs mostly command what to create from the material. I aim to shift the thought process further than that, to rethink my currently human needs-based decision-making process, while working with the material.

Craft, design, making practices⁹ and materiality all have relations to sustainability studies, which include¹⁰ perspectives on craft and sustainable design¹¹, sustainable craft¹². Craft-design relationship and making practice was explored from a sustainability approach by Bak-Andersen¹³, where she takes material dialogue from craft and applies it to contemporary design processes.

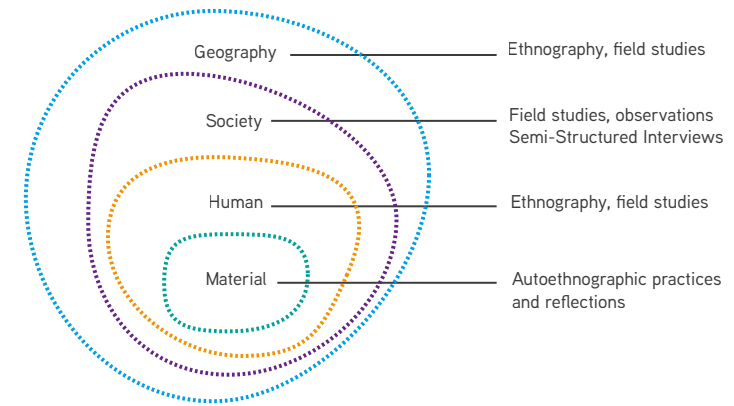


Figure 1. Key concepts, within the scope of design studies: Wool and felting will be analysed according to design studies, keeping the key concepts of material- human-society and geography.

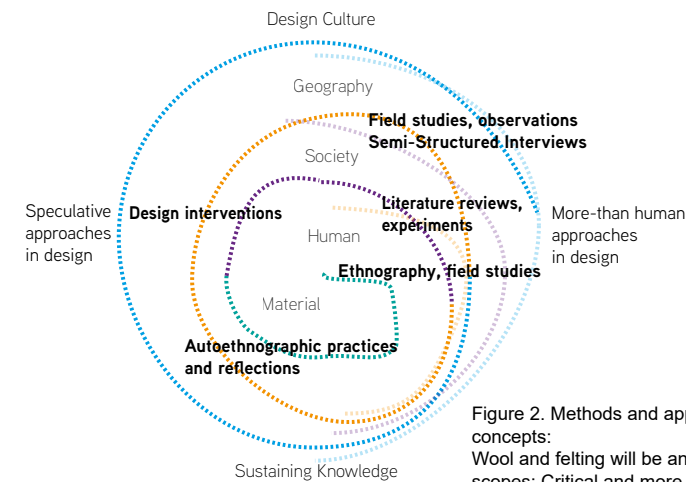


Figure 2. Methods and approaches that will be used with key concepts: Wool and felting will be analysed according to the mentioned scopes: Critical and more-than-human approaches are linked with sustaining knowledge and design culture, and refer to practice-based approaches in sustainability.

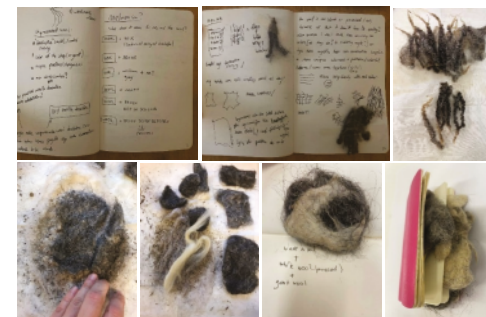


Figure 3. Reflective diaries and workspace for wool. Initial explorations with different wool types (waste wool, unprocessed goat and sheep wool, processed wool) and trial reflective diary

There is also a need to address material further from design domains. As Tonuk and Fisher¹⁴ state, material has been worked on by scientists and engineers to discover their potential, innovate or suit them better to everyday life by positivistic methods, however from design perspective there are other needs to see human interactions, as “humans are cultural and emotional as well as physical beings, and always encounter materials through social practice” (p. 122). Materials experience researchers also deal with issues of sustainability and design, for instance through biodesign.¹⁵ Likewise, I base my research on making practices and nonhuman approaches. I claim nonhuman and posthuman theories can facilitate in finding shifting ways for the problematic relationship between sustainability and making, and reinterpreting craft and design relations through materials.

The emphasis on the ways to coexist with the rest of the world outlines a need in the design field to perceive the world through other’s eyes. It also underlines that working from nonhuman perspectives can make us see designing artefacts from a holistic perspective, which can shift our thought and decision-making processes while designing for others, including humans.

There are numerous studies about felting as a practice and process of felting from different geographies, from various fields of studies, such as crafts. From design studies, Ovacık and Gümüşler¹⁶ have emphasised the ecological value of traditional felting, and the disappearance of this practice due to industrialisation and globalisation. Gumus Ciftci and Walker¹⁷ have conducted a practice-based study in Eastern Turkey with three existing crafts, one of them being felting, to investigate how design can contribute to the development of crafts sector. Aktas and Mäkelä^{18 19} have explored felting from field studies with eight felting practitioners in Turkey, to understand the practice and how it can be empowered with design, and from a studio environment. My research also explores fields related to wool material and felting, taking relevant studies on felting as a base.

Exploratory Phase: Working with Autoethnography and Reflective Diaries

The main focus in the research (fig. 1) is material in design culture. Human, society and geography are elements to understand material in the design field. Planned methods (fig. 2) are developed considering the relations of key concepts (material, human, society and geography) and considered interventions (sustaining knowledge, more-than-human, critical and speculative approaches in design, design culture). Finally, the key concepts and methods are planned as a spiral to emphasise that it is not a linear process.

These mentioned methods also allow me to define a clearer connection between sustainability, design and making practices in context of nonhuman agency. I am in the process of researching the human-material interactions through autoethnographic practices and reflections, and literature reviews. I plan to include wool’s relation to society and geography into this process, which will allow me to see how they affect my making practice.

I chose to study felting wool to understand the basics of human interaction and technique, for many reasons: The material and production method itself emphasises the relation of geography and traditional craft/making knowledge with wool. Felting requires minimal additional tools (wool, hot water and soap are the basic ingredients), so it is relatively easy to relate to the material itself, which underlines the interaction with wool. Production with felting can be finished without using additional core materials other than wool. Felting wool was presided in craftsmanship from early ages and is a well-known, ancient traditional cultural practice in Turkey, which means that there is a significant indigenous knowledge that exists in felting practice itself. Felting wool for design research is also relevant in Norway, as wool is known to have a strong place in daily life, and wool supply can be found through local farms and establishments. There has been relevant studies on wool in Norway where researchers explore how to make better use of the Norwegian wool, also as the society has a general knowledge about wool, there is a ‘wool culture’ that can be further explored. In this research felting is taken as a starting point from a designer/maker’s perspective, to introduce felting wool (making practice) as a method in the design process. By doing this, I intend to affirm

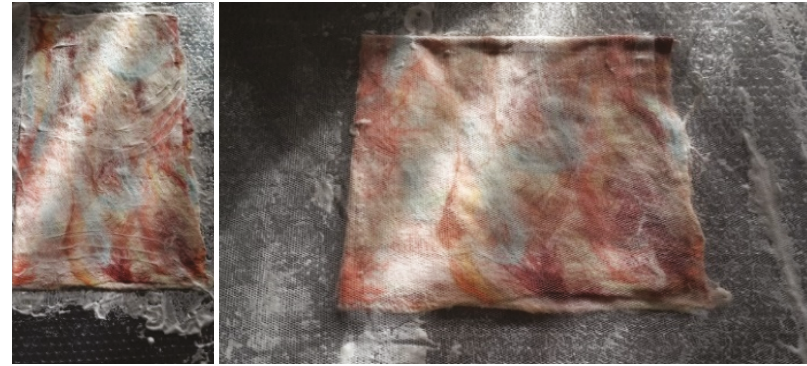


Figure 4. 2016, Izmir, Turkey. Form and pattern trials with processed (cleaned and dyed) wool. (forms and patterns are being created by me-the maker).



Figure 5. 2021, Trondheim, Norway. Form and patterns creating themselves by the wool itself, in pre-felting process.



Figure 6. 2021, Trondheim, Norway. Form and patterns creating themselves (by the wool and felting process itself), during and after felting.

that making practices can contribute to the design field and be used in the design processes. To explain more briefly, I seek to bring out a conversation with the material itself, that exists in craft and design practices, to the current contemporary design field and design process.

Reflective diaries and autoethnographical documentations (fig. 3) allow me to follow the changes between working with processed wool in my DIY practice and unprocessed wool that did not lose its qualities and is sourced from local farms. For instance, according to diary entries as the unprocessed wool is not dyed and consists of many different colours on its own (for crafts, it is generally dyed, or sorted according to colours before starting felting process), it shapes forms and patterns during and after the felting process: "These forms, shapes and patterns would be designed and made by me, if it was already processed wool. But now that I am already working with sheep's wool that does not have one colour, the shapes form themselves by the wool" (diary log, 10.02.2021). This defines a difference between working with DIY tools for felting and working with crafts methods and with unprocessed wool.

There is already a distinction between working with processed and unprocessed wool (fig. 4, 5 & 6) Apart from suggesting more possibilities, unprocessed wool has several characteristics that differs from processed wool. Some of these characteristics make working with it more difficult and time consuming. According to a diary log, 'some differences I feel are related to my sensorial experiences, such as the smell of unprocessed wool that is very specific and strong, and the tactile experience is more fluid: Although the unprocessed wool is from a specific source, different fibres of wool have different traits of softness or untidiness. With wool for DIY (processed wool), the tactile experience was more stable/durable for me, as there was only 1 type of fibre' (12.02.2021).

Concluding Remarks on Material and Practices

In practice based or led research, personal and past experiences of the researcher is part of the research process. For my research as I was already practicing felting, this past experience and knowledge is from design and making practices, wool and felting; but I would also argue that my background not related to design or making practice, for example personal observations also intertwine within the research process. These practice-based elements also emphasise a relation to tacit knowledge, explained famously by Polanyi as "we can know more than we can tell"²⁰. Dormer states, "tacit knowledge is practical know-how, and it exists in people" (p.147).²¹ Therefore, it is learned through practice, which is expressed as an ability in the making process (p.14).²² I currently identify as a researcher who has design knowledge and is a novice practitioner of felting. My interest in felting started because it was one of the traditional craft practices in Turkey that has endured to continue to be part of daily life. I learned the practice as a Do-It-Yourself'er (DIYer), from online sources and with DIY felting materials. I then acquired and integrated this knowledge for my own making/designing practice. Thereupon, I saw it is possible to see how methods of making allow designers to be in a relationship the materials. Moreover, I observed that when working from perspectives other than the human, makers' understanding of the world expands. What I have studied and applied to my practice so far has been some felting practices from Turkey and DIY practices.

In the early stage, I aim to explore the nonhuman perspectives more, and I believe it can be beneficial in creating a more sustainable making/ designing practice. The issues I raise about understanding the material and design processes are in relation with and involve reflection-in-action and reflection-on-action, described by Schön as the types of reflection making²³.

Designing from material's and other nonhuman's perspective could also benefit our current practice of designing for other humans, and lead to more sustainable and ethical design approaches. Also, knowing the material from a making practice helps designers in the process of designing, and this approach could trigger changes in human behaviour itself. In the end, I aim to find out how acquiring knowledge of making and traditional ecological knowledge affect contemporary product design, and how these characteristics can be adapted according to contemporary societies.

¹ Bratton, Benjamin H.: The Terraforming (Strelka Press, 2019).

² Tsing, Anna. (2012). Unruly Edges: Mushrooms as Companion Species For Donna Haraway. *Environmental humanities*, 1(1), 141-154.

³ Magnone, Sophia Booth. (2016). The Speculative Agency of the Nonhuman: Animal, Object, and Posthuman Worldings (Doctoral dissertation, UC Santa Cruz).

⁴ Wakkary, Ron. (2020). "Nomadic practices: A posthuman theory for knowing design". *International Journal of Design*, 14(3), 117-128

⁵ Forlano, Laura. (2017). "Posthumanism and design. She Ji: The Journal of Design, Economics, and Innovation", 3(1), 16-29.

⁶ Jönsson, Li. (2014). Design Events: On explorations of a non-anthropocentric framework in design. (Doctoral dissertation, Royal Danish Academy of Fine Arts, Copenhagen).

⁷ Smitheram, Miranda/ Joseph, Frances (2020). Material-aesthetic collaborations: Making-with the ecosystem. *CoDesign*, pp.1-18.

⁸ Giaccardi, Elisa & Redström, Johan. (2020). "Technology and more-than-human design". *Design Issues*, 36(4), 33-44.

⁹ For an example of maker practices and sustainability relations, see for instance Walker, Stuart/ Evans, Martyn / Mullagh, Louise (2019). "Traditional Maker Practices and Sustainable Futures: The implications of expertise". *The Design Journal*, 22(Suppl. 1), 835-848. <https://doi.org/10.1080/14606925.2019.1595403>

¹⁰ Tung, Fung-Wu. (2012). Weaving with Rush: Exploring Craft-Design Collaborations in Revitalizing a Local Craft. *International Journal of Design*, 6.

¹¹ See Zhan, Xiaofang /Walker, Stuart. (2019). Craft as leverage for sustainable design transformation: A theoretical foundation. *The Design Journal*, 22(4), 483-503.

¹² See for instance Väänänen, Niina / Pöllänen, Sinikka. (2020). Conceptualizing sustainable craft: Concept analysis of literature. *The Design Journal*, 23(2), 263-285. Retrieved from <https://search.proquest.com/scholarly-journals/conceptualizing-sustainable-craft-concept/docview/2369488630/se-2?accountid=12870>

¹³ Bak-Andersen, Mette. (2019). From Matter to Form: Reintroducing the material dialogue from craft into a contemporary design process. *The Royal Danish Academy of Fine Arts, Schools of Architecture, Design and Conservation*.

¹⁴ Tonuk, Damla / Fisher, Tom. (2020). Material Processuality: Alternative Grounds for Design Research. *Design and Culture*, 12(2), 119–139. <https://doi.org/10.1080/17547075.2020.1717779>

¹⁵ Karana, Elvin / Barati, Bahar / Giaccardi, Elisa. (2020). Living artefacts: Conceptualizing livingness as a material quality in everyday artefacts. *International Journal of Design*, 14(3), 37-53.

¹⁶ Ovacık, Mine / Gümüşler, Tulay. (2016). Geçmişten Günümüze Keçe:Ayfer Güleç İş Modeli Üzerine Bir Analiz. *Yedi: Sanat,Tasarım ve Bilim Dergisi* (5), 155-171.

¹⁷ Gumus Ciftci, Hazal / Walker, Stuart. (2017). Design for Grassroots Production in Eastern Turkey through the Revival of Traditional Handicrafts. *The Design Journal*, 20(sup1), S2991–S3004. <https://doi.org/10.1080/14606925.2017.1352808>

¹⁸ Aktaş, Bilge Merve / Mäkelä, Maarit (2017). "Craft dynamics: Empowering felt making through design". In *Proceedings of the 7th Conference of Nordic Design Research* (pp. 15-17). Aarhus, Denmark: Nordic Design Research.

¹⁹ Aktaş, B. M. & Mäkelä M. (2019). "Negotiation Between the Maker and Material: Observations on material interactions in felting studio". *International Journal of Design*. 13(2), pp. 55-67.

²⁰ Polanyi, Michael. (1966). The tacit dimension. Garden City, NY: Doubleday

²¹ Dormer, Peter. (1997). Craft and the Turing Test for Practical Thinking. In Dormer, P. (Ed.), *The Culture of Craft*. New York: Manchester University Press.

²² Dogan, Cagla. (2007). Product design for sustainability: integrated scales of design and production (Unpublished doctoral thesis). University of Calgary, Calgary, AB. doi:10.11575/PRISM/1280 <http://hdl.handle.net/1880/102281>

²³ Schön, Donald. (1991) *The Reflective Practitioner: How Professionals Think in Action*, New York: Basic Books.

Investigating the 21st Century Emerging Approaches to Practice

Codification of Architectural Epistemes, from Discourses to Practices

DDR Statement

Given the present history object of study, the research proposes an empirical approach that does not aim to achieve a definitive response. On the contrary it has the intention to disentangle processes while being formed, thus requiring an experimental approach that accepts mistakes and approximations –aware of the possibility of failure–, and adopting reflection as an opportunity to step back from specific expectations and requirements, through a high degree of open-endedness. The reflexive design approach inherent to the DDR is used –even if in different ways– both in the first and third phase of the research. On one side, the first phase, given the amount of data to be processed, adopts unconventional forms of restitution –multilayered thematic maps/interpretative cartography, diagrams, and timelines–, which are themselves contributions and research tools as mediums to enable reflections on practice and to communicate the relevant findings between a researcher and a possible audience. The third phase instead sees the reflexivity as inherent to the ethnographic investigations –structured around “biographies of practices–” of a series of architectural offices object of study. The research, which began a year ago, sees the occasion of CA²RE Hamburg as an important moment for discussion and collective reflection on the possible evolution of the project. The intention will be to focus mainly on the above-mentioned methodologies disentangling the design-driven research approach inherent them.

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Keywords: 21st century, architectural practice, tacit knowledge, architectural codes, emerging approaches to practice

Abstract

Given the timeframe of the last 20 years, the research investigates the codification of diverse forms of tacit knowledge in architecture, its transfer, and translation from institutional narratives to principles and conventions that are crystallized in the everyday practice of selected design offices. Positioned into the lines of theories that see architecture as “a product” of a socio-political-economic condition, the aim is to understand how events that have occurred/are occurring in current times influence the professional practice and, consequently, its codes. The work is imagined to be developed through three phases. A first part –conceived as macro-analysis– is proposed as an attempt to reconstruct a historical framework of events not yet historicized; a second and intermediate one identifies the protagonists –or the practices that the research is interested at–; and a third one –as micro-analysis– made of in-depth investigations of case studies selected through the protagonists of the second phase.

The research is part of the EU-funded network “TACK: Communities of Tacit Knowledge. Architecture and its ways of knowing” involving 10 PhD candidates over 10 European universities, and 12 non-academic partners between cultural institutions and architecture offices. The general aim of the program is to investigate the tacit-knowledge, or the specific type of knowledge that architects employ when designing, focusing on its particular characteristics, dissemination and heuristic potential within the architectural design practice.

Background

If, following the position outlined by Petra Čeferin and Cvetka Požar, it is assumed that architectural production is the result of the effort to respond to complex sets of socio-economic, political, cultural, and technological conditions (10), nowadays “geopolitical forces, legislative anomalies, environmental situations, and economic and social contradictions redefine every assumption about how to practice architecture” (11).

In this sense, the economic crisis of 2008 has represented a major factor in accelerating these tendencies (12) and it is assumed by the research project as a line of demarcation that questions the consolidated structures of the profession. In addition, technological advancements in communication have encouraged exchanges between architects, producing an unprecedented condition of shared *epistemes* across the globe. In this sense, the argument by Michel Foucault in *The Archaeology of Knowledge* (1971) on the need to understand a social constructed knowledge (13) beyond individuals and cultures, in recent years has not only demonstrated its validity, but it has also become a global phenomenon that can be taken as reference for the analysis.



The research aims to disentangle the transfer of implicit forms of knowledge between discourses and practices by isolating the process of codification, from institutional narrations to the everyday work of architectural offices. Considering the evolution of the contemporary socio-politic-economic conjuncture (14) and due to the possibility to have access to first hand sources, the research assumes the last twenty years as the frame of the investigation.

Even if the exact chronological boundaries have still to be defined, the chosen time-frame –moving in the lines of *Ecrire l'histoire du temps Présent* (1993) by François Robert as theoretical and methodological reference– will allow to enrich a reflection on the contemporary, reaching relevant, meaningful, and useful discoveries for present times: providing an uncharted knowledge, a theoretical framework and some categories of interpretation for architectural critics, defining new design tools for practitioners, and opening up a reflection on terminology that highlight the emergence of a set of concepts, notions and words as a brand new vocabulary for pedagogy.

The work is imagined to be developed through three phases complementary in terms of structure, object and intentions.

The first one –conceived as horizontal macro-analysis– is proposed as an attempt to reconstruct a historical framework in which to outline a system of events not yet historicized aiming to produce tentative cartography of the practice (16) in the 21st century, building up the context of the contemporary debate in architecture –ideally expanding Charles Jencks' *Evolutionary Tree Diagram*–.

Within this phase, selected institutional occasions such as Biennales and Triennales held since 2000 are used as the research ground, conceived as an observatory on the current practice in order to highlight major themes, recurring protagonists, emerging “epicenters” and geographies (17), and eventually marking paradigmatic shifts (18) in the discourse. These occasions, due to their recurrence, represent an objective source of information and an instrument of confrontation in its interrelation with the context through time, providing an homogeneous body of knowledge.

Among a long list, that in the last decade has grown exponentially making these events act as “new



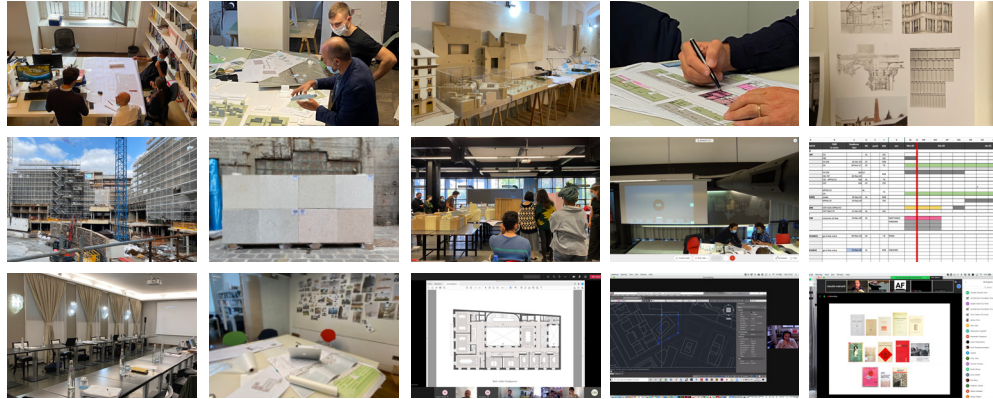
The selection of the offices is based on their recurrence in the selected edition in Biennales and Triennales, which indicates an interest in their practice by curators, critics and the public. These practices are subsequently analyzed according to several parameters such as: typology of contribution to the events, general built production, role in academies, and critical engagement in the architectural debate

Such agencies have been subsequently classified according to two couple of opposed parameters: the impact of theory and practice in their production (from built projects to research—either unsolicited or outlined within academies and international exhibitions—), and the impact of disciplinary and transdisciplinary preoccupations in their agendas (i.e., either using the historicism as a form of resistance to global markets (23) or looking at other disciplines and current socio-political-economic urgencies as a field to draw upon to define new approaches to architecture). This led to the definition of four macro-approaches:

1. Offices whose production is mainly theoretical and responds in a trans-disciplinary way to current issues;
2. Offices whose production is both theoretical and design based, responding in a trans-disciplinary way to current issues;
3. Offices whose production is mainly theoretical responds to current issues in a disciplinary manner;
4. Offices whose production is both theoretical and design based, and responds to current issues in a disciplinary manner.

The research, finalized at investigating the studio's method and approach, aims to look on the one hand at the actual design process, while on the other at a whole series of collateral elements that influence it, such as: the workspace, the background of the people participating in the process, the positioning of the firm within the discipline, the real estate market, the reference system and the networking, to name a few. All these subjects will constitute a blueprint eventually reiterated with the other practices. The intention is to place as few a-priori limitations as possible, favoring greater flexibility and adaptation to local contingencies. Rather than following a project vertically, the study is being developed transversally involving as many activities as possible, introducing a certain degree of subjectivity relying on a tacit relationship between research, researched and the final product. As will be shown over the CA2RE + conference in Hamburg, due to COVID-19 restrictions, the investigation has in fact undergone some changes, extending its action between the physical and digital realm: construction

sites visits, face-to-face meetings, day-to-day observation of the office routine and design processes, and investigation of the physical archive, but also on-line meetings (both internal and with clients), interviews, production of surveys, on-line server survey, access to the study agenda, etc. All these elements are useful to outline a personal yet multifaceted picture of the design process of the office object of investigation, beyond the constructed image through which they publicly self-represent themselves.



(fig.3)

Product

The above research activities, beyond a volume that will collect the main outcome of the methodological achievements, could lead to two additional distinct products referring respectively to the first and third research phases.

Given the amount of data to be processed, the first phase proposes the use of unconventional forms of restitution: –multi-layered thematic maps/interpretative cartography, diagrams, and time-lines–, which are themselves contributions and research tools. The diagrammatic exercise is seen as a search for a position and orientation through an expanded reading of relationality, experimenting methods and tools of the digital humanities (26). The diagrams are not intended as a final product, but rather as a research instrument and database, a medium to communicate the relevant findings and to serve as mediator between the researcher and possible readers.

The third phase instead, as a consequence of the ethnographic investigations conducted on select architectural offices, is proposed to be organized in publications consisting of statements and volumes, one per firm object of study. On the one hand, such format could reinforce the comparative nature of the investigation, on the other the series could embody the multiplicity of contemporary agencies. The objective of each publication should be in fact to extract the codes of each office, ideally offering an overview of today's ways of practicing.

Finally, positioning myself as a researcher with ten years' experience (27) in exhibition design as an instrument through which to communicate a research/project, in order to recollect the heterogeneous products (from interviews to publications, from videos to photographs, etc.), findings, and methodologies, the format of the exposition could be capable to implicitly unpack the codification process that the research project is looking for. On this purpose, Inge Daniels in her last publication(28) explores the potential of exhibitions as methodological tools to create forms of knowledge questioning two main points: on the one hand, the common opinion that exhibitions are the final outcome through which researchers disseminate their findings; on the other hand, the fact of being neutral arrangements of material culture with a primarily didactic purpose.

The dissertation sees in fact in the exhibition product the possibility to unfold the project globally, still preserving the heterogeneous nature of its different components. The exhibition could be considered as a site of production, capable of bridging theory and practice, as a medium of experimentation, providing an alternative to the built project as a bearer of the practice of architecture (29).

REFERENCES

Text References

- (1) Mota, Nelson and Agarez, Ricardo (2015): "The 'Bread & Butter' of Architecture," in: Footprint 9, no. 17.
- (2) Robert, François (1993): *Écrire l'Histoire Du Temps Présent*, Paris: CNRS.
- (3) Jencks, Charles (1971): *Architecture 2000: Predictions and Methods*, London: Studio Vista.
- (4) Picon, Antoine (2016): *From Authorship to Ownership: A Historical Perspective*, London: Architectural Digest.
- (5) Zaera-Polo, Alejandro (2016): "Well Into the 21st Century: The Architectures of Post-Capitalism," *El Croquis*, no. 187.
- (6) Cupers, Kenny and Doucet, Isabelle (2009): "Agency in Architecture: Rethinking Criticality in Theory and Practice," in: *Footprint*, no. 4, pp. 1–6.
- (7) Grossman, Vanessa, Malterre-Barthes, Charlotte, and Miguel, Ciro (2021): *Everyday: A Discreet Power in Architecture*, Berlin: Ruby Press.
- (8) Nowadays, the most evident challenges of the current societal shift, such as an increased awareness of equality at large –with a particular attention towards the role of women and minorities–, a search for alternative solutions to globalization and a critical take on the environment and technology after the optimism that had characterized the beginning of the new millennium (Roberts, Bryony (2020): "Expanding Modes of Practice," *Log* 48, p. 10.), are the preoccupations that inform the architectural discourse.
- (9) Foucault, Michel (2001): *The Order of Things: Archaeology of the Human Sciences*, New York: Routledge.
- (10) Čeferin, Petra and Požar, Cvetka (2008): *Architectural Epicentres: Inventing Architecture, Intervening in Reality*, Ljubljana: Architecture Museum of Ljubljana.
- (11) Garutti, Francesco (2020): *From Within an Ecology of Practice*. CCA, <https://www.cca.qc.ca/en/articles/issues/28/with-and-within/73634/from-within-an-ecology-of-practice>.
- (12) Zaera-Polo, Alejandro (2016), cit.
- (13) Foucault, Michel (1971): *The Archaeology of Knowledge*. London: Routledge.
- (14) Piketty, Thomas (2020): *Capital and Ideology*. Cambridge: Harvard University Press.
- (15) Cuff, Dana (1992): *Architecture: The History of Practice*, Cambridge: MIT Press.
- (16) Požar, Petra and Čeferin, Cvetka (2008), cit.
- (17) Kuhn, Thomas S. (1996): *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- (18) Szacka, Léa-Catherine (2020): *Biennials/Triennials: Conversations on the Geography of Itinerant Display*, New York: Columbia University Press.
- (19) which indicates the penetration of the concepts described in a single edition among practitioners and the general audience.
- (20) Epstein-Jones, Dora, Davidson, Cynthia, and Roberts, Bryony (2014): "New Ancients," *Log* 31.
- (21) Dunham-Jones, Ellen (2013): "The Irrational Exuberance of Rem Koolhaas," in: *Places Journal*, no. 2013.
- (22) Zaera-Polo, Alejandro (2016), cit.
- (23) defined a-priori by the TACK board as part of the PhD offer.
- (24) Mills, Daniel (2010): *Stuff*, Cambridge: Polity Press.
- (25) Marshall, Anne (2019): "Timeline Drawing Method," in: *Handbook of Research Methods in Prenece Liamputtong* (Ed.), Health Social Sciences, Singapore: Springer.
- (26) Practicing both as employee in various offices –ranging from Rem Koolhaas' OMA/AMO to Stefano Boeri's Multiplicity.lab passing through the Het Nieuwe Instituut, MVRDV and The Why Factory, among others–, well as with my collective Fosbury Architecture.
- (27) Daniels, Inge (2020): *What Are Exhibitions For? : An Anthropological Approach*, London: Bloomsbury.
- (28) Van Gerrewy, Christophe, Vandeputte, Tom, and Patteeuw, Véronique (2012): "The Exhibition as Productive Space," *OASE*, no. 88.

Image References

(fig.1)

The full political compass diagram (Version 0.1). ©Alejandro Zaera-Polo & Guillermo Fernandez Abascal

(fig.2)

The set of all the selected editions of the various Biennales/Triennales object of study will be able to map the rise of new topics/preoccupations, or their evolution over time, and more specifically the ways in which these are approached in relationship with the socio-political-economic context. © Claudia Mainardi.

(fig.3)

Excerpts from the first ethnographic investigation at *onsitestudio* chosen a-priori by the TACK executive board. Such occasion has been used as a pilot case to define the blueprint for the research, whose analytical categories will be assessed and eventually reiterated with the other practices in order to extract a consistent body of sources. © Claudia Mainardi.

Under Construction

A Real-World Fiction

DDR Statement

Under Construction is aligned with methods commonly used within design driven research. The conception of the project has intentionally drifted between several types of research activity. It has involved design exploration, field trips, as well as scholarship of design precedents and theory. The project has been developed in relation to academic research environments as well as in close proximity to a design practice. It uses artistic inquiry as a means to formulate alternative scenarios and concepts, as well as a vehicle for dissemination of research. Artistic research can provide tangible experiences of an issue such as the flows of waste, as opposed to acquiring an understanding of the same issue through gathering of data. The experience of collecting materials by visiting demolition sites, recycling centres, and active landfills, as well as of sorting materials and assembling them, gives a visceral rather than statistical understanding of existing flows of used building materials. This process investigates reuse in architecture as a design problem rather than as a technical problem. The direct and intuitive engagement with a stock of used objects and materials has shaped the design process, the outcome of the project, as well as the formulation of more general possibilities for architectural representation and reuse.

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Extended Abstract

Keywords: anthropocene, fiction, model, representation, reuse

Abstract

The climate crisis has prompted new imaginaries in architecture and design that go beyond technical responses to issues of sustainability and into critical and creative practice. Recent discourse suggests that architects and designers can intervene in this cultural condition by constructing and materialising alternative realities. Models, as means of representation, hold particular promise for such intervention, as they can accommodate both theoretical concepts and material interventions. These concerns are explored through Under Construction, a design project that imagines a city that is constantly being rebuilt using a limited stock of materials. Consisting of a scale model of a neighbourhood constructed from demolition waste, the project explores how salvaged pieces of material can be situated in “real” material flows while simultaneously representing something other than themselves. The project argues that the ambiguities that the blending of the real and the fictional result in can unlock new possibilities for architectural representation.

Under Construction: A Real-World Fiction

The contested concept of the Anthropocene has not only collapsed distinctions between nature and human culture, it has in addition prompted new imaginaries in architecture and design (1). In the context of architecture and design, this era of climate crisis should be understood as a cultural condition that can address issues of form, materiality, organization, and practice, in turn tied to larger ontologies. As architect Elisa Iturbe recently has argued, sustainability “is not solely a question of technology and buildings systems, but also a theoretical question for architecture and the city, one that questions carbon modernity as an obsolete cultural and material foundation for architecture” (2). This proposition resonates with design theorist Tony Fry’s concept of “The Sustainment”, an epochal shift that “speaks to the thinking, designing, and making that has to be done in the face of this situation” (i.e., the climate crisis) (3). The Sustainment seeks to move beyond a reductive technological framework by turning issues of sustainability into “cultural content through critical inquiry, argument, literary and visual creative projection” (4).

So how can one intervene in this emerging cultural condition? Both Iturbe and Fry suggest that architecture and design have the capacity to project scenarios and concepts. Designers Anthony Dunne and Fiona Raby have recently referred to this as an ability to construct alternative realities: “A story or an idea becomes a constructed reality at the moment it is given form and materially embodied whether as an object, stage set or photograph” (5). By materialising fictions, design can challenge the binary of “real” and “unreal” and rethink reality as something that is continuously under production rather than something that is static and given. This mode of operation is familiar to architecture as a practice and as a discipline, as means of representation such as drawings and models refer to the real world while at the same time working as platforms for speculation. Recent discourse suggests that architectural models have the potential to be particularly effective in this regard, as they can be located “in those spaces between theoretical representation and more direct intervention into the material stuff of the world” (6). A model can go beyond representation and become a mediator that provides some insight on a material process. Because of this ability to straddle concept and material, a model can establish “a model” for alternative approaches to representation as well as for material practice.

As a meditation on these concerns, *Under Construction: A Real-World Fiction* imagines a city that is constantly being rebuilt using the same stock of materials. A city where nothing is added or taken away, where materials and elements are just shifted around and appropriated for new, sometimes unexpected uses. Exhibited at the 2019 Oslo Architecture Triennale, themed “The Architecture of Degrowth” (7), the project takes the form of model of a fictional neighbourhood, constructed from discarded materials (fig. 1). It begins with a scavenger hunt where we visit demolition



Fig. 1: *Under Construction*, 2019



Fig. 2: *Under Construction*, stock of materials



Fig. 3: *Under Construction*, flash fiction by Josefin Wangel

sites, recycling centres, and active landfills, to collect used materials such as concrete rubble, plastics, bits of plaster board, steel studs, and a sink. The stock of materials becomes a kit of parts for the design and construction of houses, streets, and squares at the scale of a model (fig. 2). This exercise involves a play with representation. Qualities belonging to the collected pieces of material, such as rough materiality and patina, reinforce a reading of them as “real” and undisguised, while the scale of the model makes clear that they should simultaneously be read as representing something other than themselves. The model establishes a fictional reality, but its construction is at the same time a product of direct interaction with the material flows that the project seeks to address.

To use “real”, salvaged materials for the model becomes a way to engage reuse in architecture as a design problem, rather than as a problem of legislation, codes, or logistics. One of the most persistent architectural conventions is to consider abstract space before material entities. Building elements and materials should be subservient to a larger whole. This approach is aligned with a view on the world that is inherited from industrialism, in which any materials could be sourced anew and moulded into shape indefinitely. The design of *Under Construction* flips the order around by departing from an already established stock of materials. Objects and chunks of material take priority over organisation and composition, and each piece for reuse comes with a set of qualities – a character – that may be amplified, subverted or altered. Depending on the relation between the context of the original structure and that of the new structures, the reading of the reused objects may oscillate between the original object and a building element in a house, at scale. In exploring how meaning and associations undergo change as objects are transferred from one context to another, the project draws from historical approaches to reuse in architecture, such as *spolia* and *ad hocism* (8). These approaches establish precedents for design processes that rely on improvisation and that are contingent on encounters with specific and limited collections of materials.

The *Under Construction* neighbourhood centres around a local market crowned by a soft, sculptural roof, or an upside-down porcelain sink, depending on the gaze of the viewing subject. As a further response to principles of reuse and recycling, each one of the five houses in the neighbourhood is constructed from a single type of material (fig. 4). The mono material approach corresponds to thinking of materials in terms of fractions throughout their lifecycle, something that significantly increases possibilities for disassembly and recycling. The model is complemented with a flash fiction in the form of a short narrative with a building as subject (fig. 3). Integrated into the model, the flash fiction tells the story of an abandoned shopping mall that transforms into a series of mixed used buildings. It narrates how a building might experience the process of being dismantled and reassembled into new structures.



Neither dystopic, nor futuristic, *Under Construction* imagines an alternative urban condition shaped by a scarcity of raw materials and energy – a city where reuse and redistribution has replaced endless extraction and demolition. Upon reflection, *Under Construction* suggests some more general possibilities for representation as a vehicle for speculation in this new cultural condition prompted by the climate crisis. By playfully blending the real with the fictional, and the abstract with the material, the project argues that it may no longer be possible, nor desirable, to separate these binaries from each other. Models, as a means of representation, can thrive by intentionally exploring the slippage between the manifestation of an idea and chunks of material that come with a real-world genesis.

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Endnotes

1. E.g., Turpin, Etienne (Ed.) (2013): *Architecture in the Anthropocene: Encounters Among Design, Deep Time, Science and Philosophy*, Ann Arbor: Open Humanities Press. For a critique of the concept of the Anthropocene, see e.g., Malm, Andreas (2016): *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*, London: Verso.
2. Iturbe, Elisa (2019): "Architecture and the Death of Carbon Modernity", in *Log 47*, pp. 10-24 (p. 23).
3. Fry, Tony (2003): "The Dialectic of Sustainment", in: *Design Philosophy Papers* 1, No. 5, pp. 289-297 (p. 290).
4. Fry, Tony (2003): "The Voice of Sustainment: An Introduction", in: *Design Philosophy Papers* 1, No. 1: 41-48 (p. 47).
5. Dunne, Anthony, and Fiona Raby (2018): "Design for the Unreal World", in: *Future Fictions in Art and Design*, Z33 House for Contemporary Art, pp. 48-65 (p. 58).
6. Hunter, Matthew C. (2019): "Modeling: A Secret History of Following", in: Zeynep Çelik Alexander and John May (Eds.), *Design Technics: Archaeologies of Architectural Practice*, Minneapolis: University of Minnesota Press, pp. 45-70 (p. 46).
7. "Enough: The Architecture of Degrowth". Oslo Architecture Triennale 2019, <http://oslotriennale.no/en/aboutoat2019>
8. Spolia see e.g., Brilliant Richard, and Dale Kinney (Eds.) (2011): *Reuse Value: Spolia and Appropriation in Art and Architecture from Constantine to Sherrie Levine*, Ashgate Publishing. Adhocism see Jencks, Charles and Nathan Silver (2013 [1972]): *Adhocism: The Case for Improvisation*, Cambridge: The MIT Press.

All images by the authors.

Fig. 4: *Under Construction*, single fraction houses, 2019

Los Angeles

Fragments of four Ecologies

DDR Statement

The dissertation proposal aims to combine artistic practice and research with scientific research on the City of Los Angeles through methods of collecting data (archives), personal observations, and the re-reading of an architectural book by Reyner Banham. Regarding the methodological framework, personal observations play an important role in order to describe specific characteristics of a place. For example, the notebook, the drawing book, the Wunderkammer (objects) or the diary (text, film, etc.) acknowledge artistic interpretation and attribute fragmentary perception to personal observations. Through the methodological lens of fragments, the Californian City will be observed in its contemporaneity with the help of a systematic search for significant traces (via text/image) in regard to exemplary urban elements (e.g. architectural and infrastructural structures/leftovers), whereby Banham's layout of the Four Ecologies serves as a starting point. In this regard, the Idea/concept of the fragment – which is well acknowledged in literary studies – will be revised in the architectural and artistic discourse and expanded onto the work with text, image and object. Through this combination, the dissertation contributes to the discourse regarding the fragment (in architecture and art) and how we (mis-)understand narratives and also interpret the experience a city differently through the means of contemporary media, as well as how we create and tell narratives of such experiences.

The architectural fragment as a carrier of significant information regarding (broken) promises and failures of the past is important to mention here as well. As a result, the aim is to create critical narratives, which highlight distinctive key moments in regard to climate urgencies, failures of modernity, its social implications and future potentials.

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Extended Abstract

Keywords: Los Angeles, fragment, artistic research, postmodernism, ecology, dystopia

Abstract

The proposal “Los Angeles: Fragments of Four Ecologies” refers to the publication “Los Angeles: Architecture of Four Ecologies” by architectural historian Reyner Banham from 1971, where he observed the area of Greater Los Angeles as a network of highways, a landscape of urban villages and an exercise in suburban life. In response to Banham's observations 50 years later, I propose to appropriate, re-evaluate and re-frame his outline through the conceptual and theoretical lens of the fragment. In particular, the concept of the fragment offers also methodologically valuable insights regarding multiplicity, simultaneity and ambiguity. Hereby, the emphasis will be set on artistic research along with personal, archival and appropriated observations by identifying the “Fragments of Four Ecologies” with distinctive attention to recent developments such as climate urgencies, failures of modernity and certain social implications – at which the city of Los Angeles is likewise especially worth revisiting.

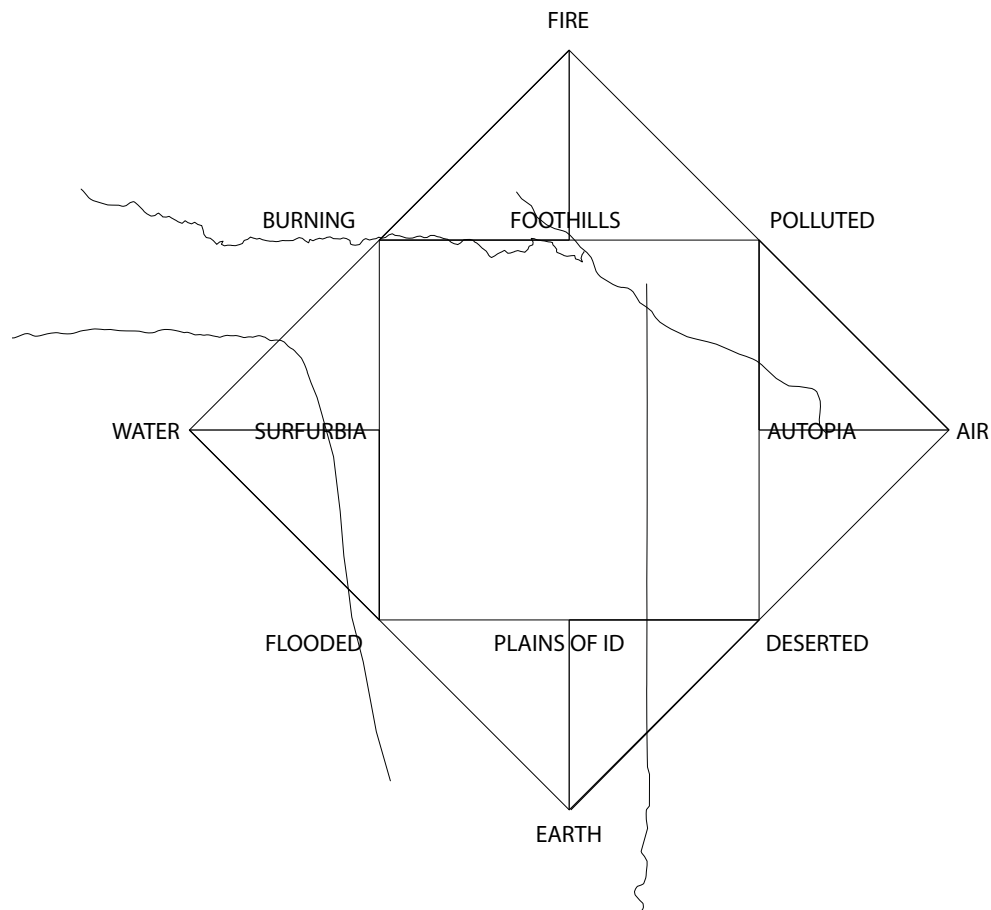


Fig 1: Diagram „4 Ecologies; 4 Elements , 4 Streets; 4 Collapses“

The project “Los Angeles: Fragments of Four Ecologies” refers to a publication by architectural historian Reyner Banham from 1971, where he observed the area of Greater Los Angeles as a network of highways, a landscape of urban villages and an exercise in suburban life. In his “Los Angeles: The Architecture of Four Ecologies”, he identified four ecologies – Surfurbia, Foothills, The Plains of Id and Auto-
pia – in order to structure his research. In contrast to contemporary urbanists at the time, he further praised the Californian city along with its interconnected freeway system, for which he said to have “learned to drive in order to read Los Angeles in the original.” (1)

Within my doctoral thesis, Banham’s approach and structure serves mainly as a starting point which provides raw material to expand on (fig.1) and artistically engage with through the means of various media. Through this appropriation and engagement, the conceptual and methodological framework of the fragment will be tested and further explored in order to identify (architectural) leftovers from the 20th Century and to project the experience of a postmodern city while at the same time propose a need for rewriting and also undoing. At the end, this will then not serve as a further historical observation, but rather as a performative and speculative extrapolation into potential futures, because the remaining fragments and the voids between fragments naturally leave space for interpretation and rewriting; just as the curator and art critic Nicolas Bourriaud demands for 21st Century artistic production: “To rewrite modernity is the historical task of this early twenty-first century: not to start at zero or find oneself encumbered by the storehouse of history, but to inventory and select, to use and download.” (2)

Numerous authors have already highlighted a seemingly fragmented experience in Los Angeles, which correlates generally to the notion of fragmentation within the discourse of postmodernity since the 1980s (cf. Los Angeles School, Soja, Jameson). The American writer Frederic Jameson describes the layout and buildings of a typical postmodern city through identifying a “heterogeneous fabric of the commercial strip and the motel and fast-food landscape of the postsuperhighway American city.” (3) According to his description, one can think of few prototypical cities in the US with similar facets and Los Angeles could be surely considered as one of them. In a more provocative manner, Jean Baudrillard presents his vision of Los Angeles as an extensive structure, which is merely an inhabited fragment of the desert (cf. Baudrillard, 2010). Here, Baudrillard proposes a perspective from a bigger picture in which the city receives simply the consideration of a “fragment” itself – meaning that the notion of a fragment depends often on framing and viewpoint.

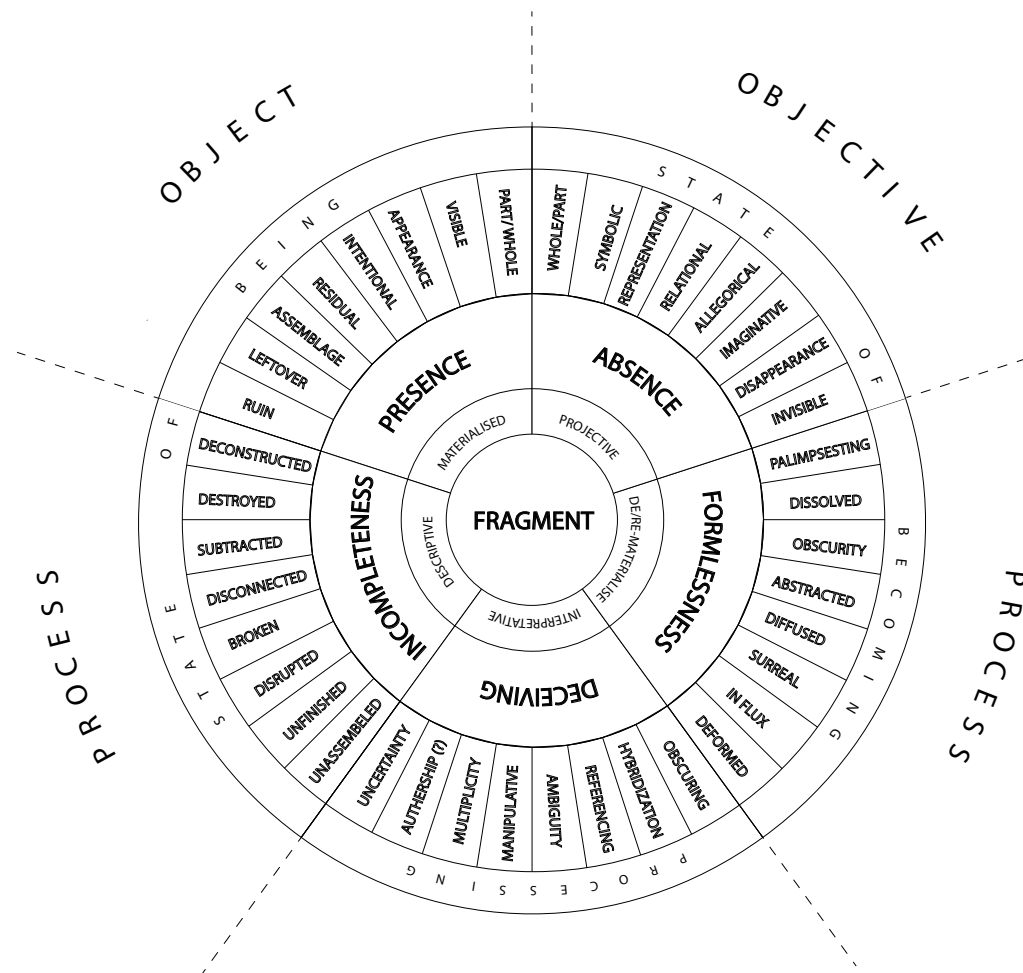


Fig 2: Diagram „Theoretical contextualization: Fragment“

Against the backdrop of certain postmodern perspectives and their distinctive attention on fragmentation and rupture, the study of the fragment plays a central role in the dissertation – not only due to its rich historical references and theoretical background, but also due to its ambiguity and implicit artistic potential. (fig.2) Especially in the 18th Century when the modern understanding of the fragment emerged, Italy and Greece were the point of reference while searching for classical order in architecture as well as literature. At the time, German philosopher Friedrich Schlegel cultivated this fascination for ancient ideals and started to publish his own journal together with his brother August W. Schlegel under the name “Athenaeum”. The journal’s title indicates a place for literary and scientific studies by referring to Athens and the city’s high standing in intellectual reputation. In his Journal, Schlegel published treatises of philosophical aphorisms which were then labeled as the “Athenaeum Fragments”.

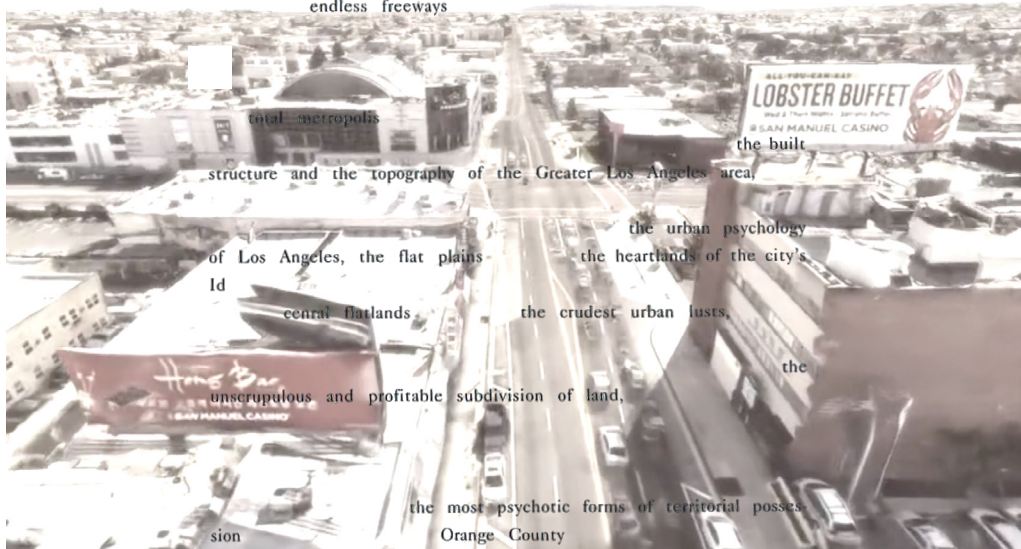
By highlighting the historical reference to the Athenaeum Fragments, the strong connection of Schlegel’s notion of the fragment in relation to ancient ideals (e.g. Athens) falls into place. In this regard, his understanding of the fragment is identified with an appreciation of a lost place and past. Los Angeles in turn could be considered as the equivalent of such a place regarding the 20th Century in retrospective. Prototypically, Hollywood is considered as its image or dream factory par excellence. American art critic and writer Rosalind E. Krauss calls “Hollywood, the beehive of the media at the center of Los Angeles,” (4) while science-fiction author J.G. Ballard acknowledges the “real ‘America’ lies not in the streets of Manhattan and Chicago, or the farm towns of the mid-west, but in the imaginary America created by Hollywood and the media landscape.” (5) In this regard, Los Angeles got stigmatized as the center of constant media production from where potential realities seem to be perpetually (re-)produced, evaluated and distributed.

Additionally, it has been stated that the 20th century was dominated by the distribution of the image through the invention of photography and the moving image by the late 19th century (cf. Benjamin, 1935). Since then and until today, the (moving) image seem to have gradually overtaken the form of knowledge production and opinion making. There are even claims that foresee a post-text future in the 21st century: the New York Times provocatively tackled this issue in various articles under the title “Welcome to the Post-Text Future.” In his essay “The Rise of a Visual Internet”, the editor Farhad Manjoo starts with the claim, that “[t]he thing you’re doing now, reading prose on a screen, is going out of fashion.” This is followed by the argument that “[t]he defining narrative of our online moment concerns the decline of text, and the exploding reach and power of audio and video.” (6)

The Plains of Id

The world's image of Los Angeles

Hollywood or Malibu) endless plain
 endlessly gridded with endless streets, endlessly with tacky-
 tacky houses indistinguishable neighbourhoods,
 endless freeways



steading

patterns of land manipulation

the horrors of Los Angeles.

the San Gabriel

Fig.3: Film still & Testings.

The resulting dystopic tone is one potential direction within the practice-based part of the dissertation as it relates characteristically to the fragment (through its distinctive attributes such as obscurity and ambiguity), but also to the city of Los Angeles regarding gloomy future predictions due to current climate change realities. Furthermore, the city presents already a rich source and long tradition of literary destruction due to its delicate location and expansive human manipulated landscape (cf. Scott's „Blade Runner“, 1982; Davis, 1996). While Banham still praised the city layout by acknowledging the domination of its four ecologies in 1971, one year later the publication of „Limits of Growth“ by the Club of Rome already projected a grim future and as a result demanded higher ecological aspirations globally.

In contrast to Banham's observations fifty years earlier and aligned with the theoretical contextualization of the fragment, the dissertation is on the one hand meant to be an recontextualization and appropriation of his outlines and on the other hand a proposal to re-evaluate and re-frame – through the lens of Los Angeles – the concept of the fragment at the intersection of today's physical, imaginary and digital sphere. Methodological emphasis will be hereby set on artistic research along with personal, archival and appropriated observations by identifying the „The Fragments of Four Ecologies“ as a collection of (moving) images, (architectural) objects, and (fragmentary) writings (fig.3). Because as Camelia Elias theorizes on the fragment: „[it] proves its universality insofar as it proposes new perspectives. The fragment's poetics is the poetics of perspective [...]“ (7)

- (1) Banham, Reyner: Los Angeles: The Architecture of Four Ecologies, London: Allen Lane.
- (2) Bourriaud, Nicolas: Postproduction, New York: Lukas & Sternberg.
- (3) Jameson, Fredric: Postmodernism, or the Cultural Logic of Late Capitalism, London: Verso.
- (4) Bois, Yve-Alain & Krauss, Rosalind E.: Formless: A User's Guide, New York: Zone Books.
- (5) Ballard, J. G.: Hello America, New York: Liveright Publishing.
- (6) Manjoo, Farhad: Welcome to the Post-Text Future. New York Times, <https://www.nytimes.com/interactive/2018/02/09/technology/the-rise-of-a-visual-internet.html> from February 14th, 2018.
- (7) Elias, Camelia: Fragment. Towards a History and Poetics of a Performative Genre. Bern: Peter Lang

Hacking the Sacred

A Heterotopic, Auratic Library of the Sacred

DDR Statement

Methodologies within research have a significant impact on colouring the outcomes(1) and could likely structurally limit the thinking within the research(2). This Design Driven Research acknowledges that research is productive(3). Through a creative sculptural praxis, it attempts to describe and enact new social realities, relations and worlds (3). This research seeks to engage spheres of human knowledge and experience where language tends to become problematic. Its linear structures distort, constrain, and poorly translate the nature of the experience under study. Here, other ways of thinking, knowing, and reflecting have been sought out. Practices that intentionally deform the status quo, what is known, and habitual ways of thinking will be explored. This research recognises that the body plays a crucial role in creating an embodied understanding and discourse around spatial experience, which ultimately generates existential thinking. In seeking other forms of knowledge, it has sought to develop embodied practices such as Making. Making as a “space of encounter” allows for non – human agencies to impact and contribute to the outcomes. Making generates understandings through the intersections of the body, material, and spatial relations. Sculptural artefacts as a practice allows for nonverbal direct experiences. These set up complex nonlinear relationships offering a layered and nuanced understanding. The sculptural artefacts act as “thinkables”, as a tool to think within the milieu of the realm of powerful unconscious forces that define sacred space.

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Extended Abstract

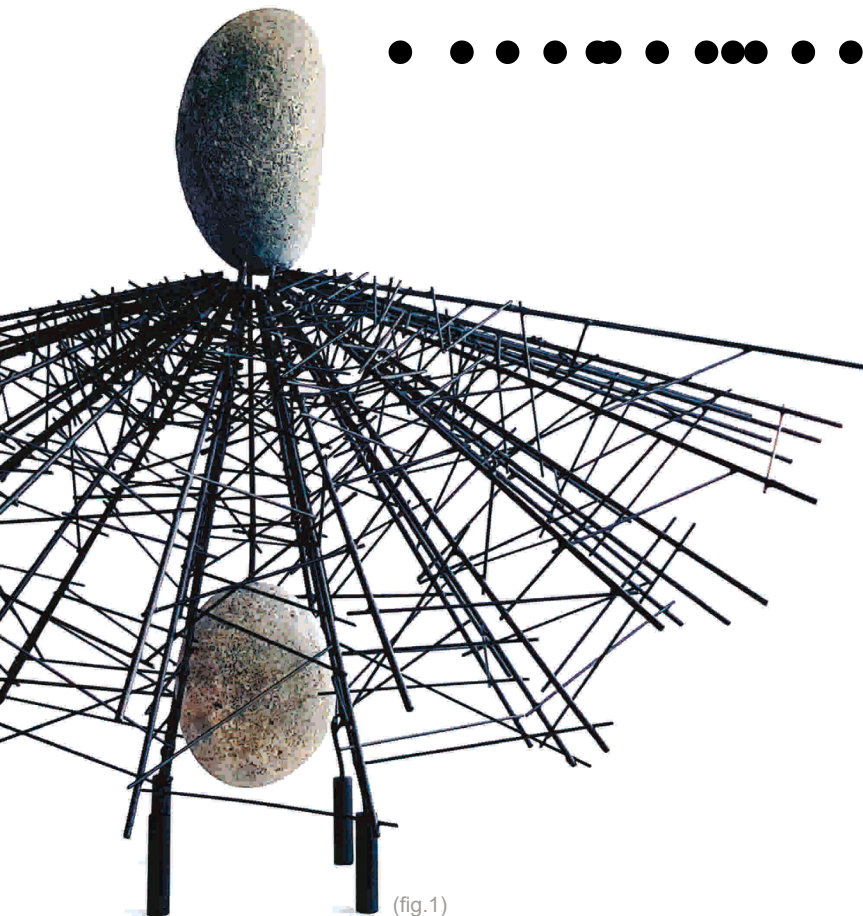
Keywords: sacred space, religious architecture, Gestalt, library of the auratic, heterotopia, sculpture, making, thinkable.

Abstract

This research posits that religious architecture and sacred space specialise in creating charged psycho-spatial environments. They utilise a range of architectural devices to create rich embodied experiences. As human culture, consciousness, and architecture are entangled they form valuable existential experiences and meaning. Sculptural artefacts and making are tools used to read, think, and enter into a dialogue with these experiences and spaces. This conversation and its translation is then crystallised into an Auratic library, that attempts to maintain similar psychological charges. The aim of the process is to seek out other ways of an embodied understanding, thinking and articulation of architecture.



A heterotopic, auratic library of the sacred



(fig.1)

This creative practice research seeks to explore embodied ways of knowing, understanding, and thinking as useful tools for exploring the atmospheric in architectural praxis. This study focuses on the ineffable psycho-spatial experiences embedded within religious architecture. Using the frameworks of Making as a “space of encounter” and sculptural artefacts as “Thinkables,” it seeks to mine the emotive and psychological charge inherent in these edifices. There will be an attempt to distil and reflect these qualities into sculptural artefacts, not as representations but as forms that attempt to give one direct access to the experience. These are collected together as a Heterotopic exhibition that focuses on the existential discourse that emerges out of the relationship between the body and spatial experiences.

The typology of religious architecture and sacred spaces as a spatial expression has a long history in our ancestral past, forming an active ingredient and facilitator of ritual, magic, religion, and spirituality (5). The erection of these edifices are often lavished with inordinate amounts of resources, materials, and time - with construction periods occasionally spanning across centuries. Their ubiquitous

appearance in culture and time, and the inordinate amounts of energy bestowed upon them suggests that they occupy a fundamental position within the collective psychological landscape. They serve as a valuable archive of powerfully effective psycho-spatial tropes that have evolved through centuries of architectural experimentation. These spaces could be understood as specialized atmospheric vessels designed to affect the senses, the body, and the mind. Unfolding scenographic experiences modulate the qualities of building form, space, light, scale, materials, sound, acoustics, temperature, and scent to create complex experiences and atmospheres – a Gestalt.

The Gestalts, are experienced as highly charged affective spatial experiences that target deep structures of the psyche (6). Current, cross-disciplinary findings from anthropology, philosophy, aesthetics, biology, and neuroscience are pointing to the entangled nature of human experience, emotion, culture, consciousness, and the built environment. These findings indicate that highly emotive spaces affect our being by altering our perceptions, influence our thinking and condition our consciousness. (7) Neuroscience is beginning to suggest that aesthetic experiences are universally mirrored in the brain and stimulate actions, emotions, and bodily sensations. (7) This mirroring indicates that the gestalt is felt directly - both intimately and personally. These experiences are simple, and every day in their character, instantaneously apparent and felt directly by all users. Paradoxically, through their charge they evoke and point to another reality and way of being. Existential meaning begins to emerge from these encounters generated by the gestalts. Through creating embodied and lived experiences, architecture concretises and structures our being, it mediates between the world and our minds, reflecting to us who we are. (8) As an internal experience it becomes integrated with our self-identity, body and being (8). However, these are not characterised as single fixed solutions, but remain dynamic through a continuous cultural production (9).

The articulation, representation and understanding of these gestalts presents a difficulty. Architects are intensely enmeshed in the language of traditional representational tools. These allow them to see through the mind's eye during the design process. As a powerfully intimate experience, architects routinely conflate this with a lived

reality of space. They are in the habit of imagining that perspectival, orthographic, paraline drawings, models, photographs and videos depict a spatial reality. (10) Actually, they are communicating a conventional notation that renders the architectural space static and flat, silently extinguishing its authenticity and aura. (5) In addition, these are tools of communication, whilst important in practice they are apt to empty themselves out into empty signifiers, that short-cut mass-produced affects designed for ease of circulation. Communication, assumes an already defined world of things available for mirroring (10). Obviously, these representations are useful, but they deny us direct access to an authentic embodied experience of the nuanced, ephemeral, and unstable Gestalt.

In an attempt to directly access the gestalt, iterative sculptural artefacts will be used as a tool, a mirror, a probe, a tuning instrument to “read” the characteristic psychological charge of the sacred space with its ecology of enmeshed networks of architectural experiences, material, culture, and unconscious psychic expression. Initially this process will dissect and distil singular experiences, seeking their essential characteristics. Later this vocabulary will be compiled as combinatorial assemblages that allows it to draw close to the original emotive content of the gestalt. The methodology of sculptural artefacts is thought to be apt as it maintains the crucial body and space/scale/materiality discourse of the gestalt rather than translating it into a representation or a communication. It allows one to work directly in the medium of the gestalt effectively facilitating the ability to test the power of the experiences in their assemblages and combinations.

The artifacts are understood as “Thinkables,” as a means to engage the delicate and complex intersections of body, space and emotion.(10) Frichot describes a thinkable as a flash of thought that briefly rises up, destabilising what we already know, the status quo and habitual patterns. “Thinkables” seem to bypass the limited, rational, and linear thought processes. They are closer aligned to the psychic milieu of the unconscious, dream, vision, and the collective unconscious, the forces that I believe are propelling humanities urge to create sacred spaces. The “Thinkables” are not a thought that we think but rises out of an encounter, here, as an intersection between the actors and agents of the sacred space under study, the sculptural materials



(fig.2)



(fig.3)

and the making process. The “Thinkable” is not reassured by what we believe we know but asks what we can know. (10)

This vocabulary and combinatorials are aimed at building an auratic library, a type of Heterotopia that simultaneously mirrors and inverts religious and sacred spaces but continues to fulfil these psychological roles.(11) As an archaeology, rather than explaining, it meticulously shows and describes "(12) the emotive qualities allowing for direct access to the deep structures of the psyche. Because the relationship between the body and spatial experiences is maintained it encourages the emergence and cultural production of existential discourse.

Humanity has always been immersed in powerful inescapable psychological forces that shape our culture, language, architecture and being. This research attempts to expand the design methodology so that it can become more engaged and conscious of these processes. It seeks a methodology that situates design thinking in direct access to embodied experience rather than mediated through architectural languages. It seeks a deeper understanding of the way architectural experiences impact us, and how these assist in, and form our world and being.

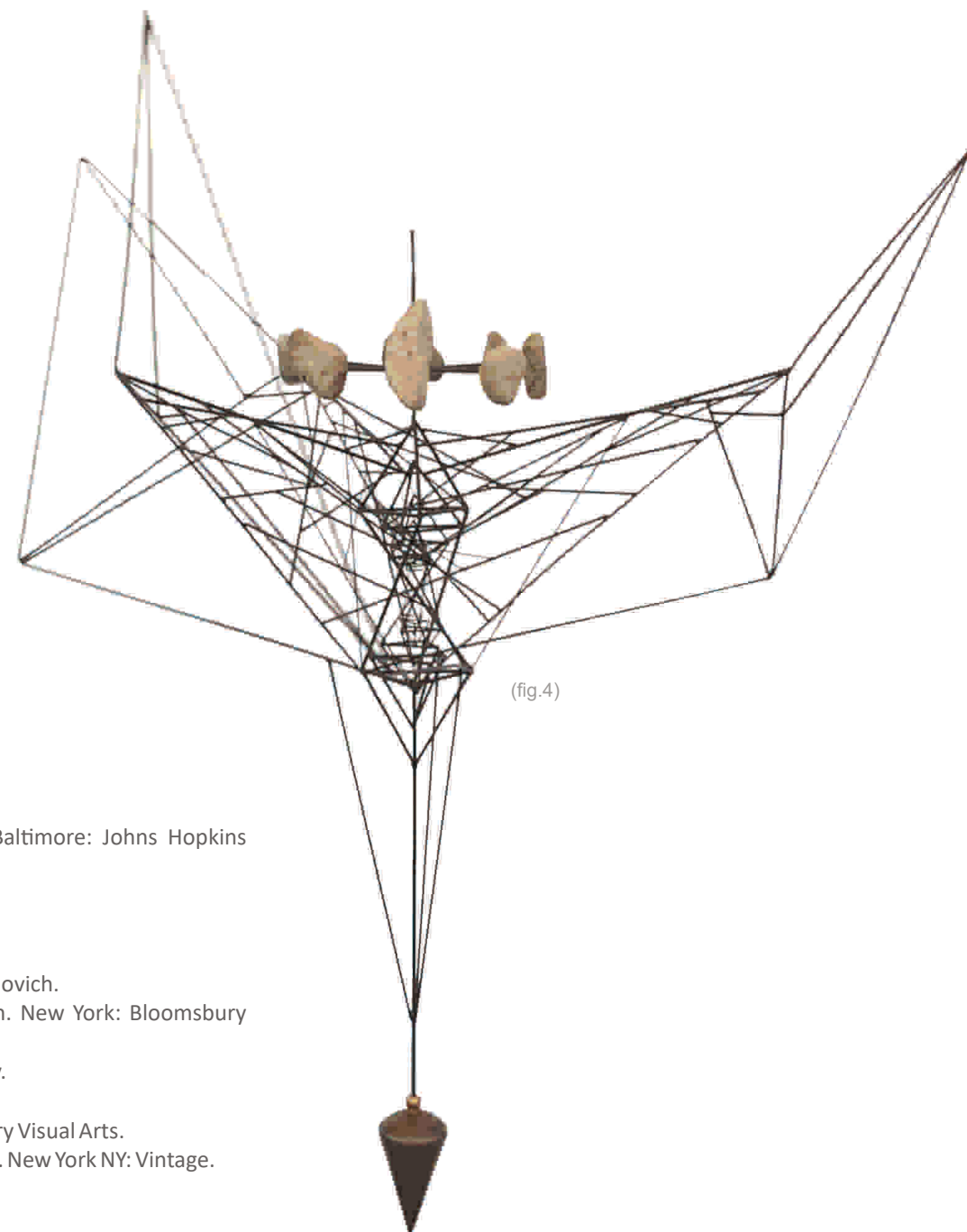
Embedded in the text are images of an initial sculptural exploration investigating the process and aspects of the Gestalt of gothic architecture. The process was intuitively driven and explored the role of making and non-human agencies and assemblages in the generation of understanding. As an initial probe, it is attempting to develop an embodied understanding and vocabulary of verticality, the sieving of light, the relationship between the materiality of stone and light, dynamism (as typically seen in rose windows) and the holding of volume. Whilst not always successful, it serves as a useful platform for further refinement and analysis of the process.

Endnotes

1. Lury, Celia, Wakeford, Nina (2013): *Inventive Methods: The Happening of the Social*. Devon: Routledge.
2. White, Hayden V (1973): *Metahistory: the historical imagination in nineteenth-century Europe*. Baltimore: Johns Hopkins University Press.
3. Law, John, and Urry, John (2004): »Enacting the social.«in *Economy and Social* 33, pp. 390-410.
4. Wittgenstein, Ludwig (2007): *Tractatus Logico-Philosophicus*. New York, NY: Cosimo Classics.
5. Benjamin, Walter (2008): *The Work of Art in the Age of Mechanical Reproduction*. Penguin UK.
6. Eliade, Mircea (1959): *The sacred and the profane: the nature of religion*. New York: Harcourt, Brace Jovanovich.
7. Mallgrave, Harry Francis (2018): *From object to experience: the new culture of architectural design*. New York: Bloomsbury Academic, An imprint of Bloomsbury Publishing Plc.
8. Pallasmaa, Juhani (2012): *The Eyes of the Skin: Architecture and the Senses*. 3rd edition. Chichester: Wiley.
9. Buck-Morss, Susan (2008): »Theorizing Today: The Post-Soviet Condition«in, *Log* 11, pp. 23-31.
10. Frichot, Hélène (2018): *Creative Ecologies: Theorizing the Practice of Architecture*. New York: Bloomsbury Visual Arts.
11. Foucault, Michel (1994): *The Order of Things: An Archaeology of the Human Sciences*. Illustrated edition. New York NY: Vintage.
12. Johnson, Peter (2013): »The Geographies of Heterotopia«in, *Geography Compass* 7, pp. 790-803.

Figures

- 1 Bahmannm Dirk 2020. *Sieved light*. 53(B) x 70(W) x 116 (H) cm. [Powder coated welding wire, Yzerfontein rocks]
- 2 Bahmannm Dirk 2020. *Lightness of stone*. 20(B) x 20(W) x 114 (H) cm, [Powder coated welding wire, Yzerfontein rocks]
- 3 Bahmannm Dirk 2020. *Nave*. 120(B) x 116(W) x 120(H) cm. [Powder coated welding wire, Yzerfontein rocks.]
- 4 Bahmannm Dirk (2020). *Trefoil*. 69(B) x (W)69 x 69(H) cm, [Powder coated musical + welding wire, Yzerfontein stones, plumb line]



Artefacts of Design

The Significance of Analytical Drawings in Design Driven Research

DDR Statement

Using genuine architectural and designerly methods and instruments in research means recognising the reality of the diversity in different modes of generating and communicating knowledge. For the strengthening of the research culture of architecture it is important to employ the discipline's own methodologies in research projects. These methodologies stem from design practice but correlate with modes of generating knowledge also in other disciplines (e. g.: abstraction of issues through models, translation of knowledge in different media of representation etc.).

Both the existing design artefacts, which are investigated in this research, and the newly produced artefacts, which are the result of the research, are considered in this work as material forms in which design knowledge is generated and illustrated. These are not only a passive depiction of ideas, however, but retroactive design tools, which influence future ideas.

This dynamic transfer of design knowledge also informs my own design teaching in architecture. Analysing projects from architecture history and understanding their inner logic is an important part of fuelling the imagination and design process of students, especially when the analysis is conducted with the instrument of the drawing. Hereby the research is interwoven with the actual design process since both, the search for architectural ideas and their expression are conducted by drawings. The drawing functions as a design tool, a medium of communication of design ideas and a method of research. The importance of this combination of Design Driven Research with design teaching in architecture for the training of young creative professionals cannot be stressed enough.

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Extended Abstract

Keywords: artefact, architectural analysis, design teaching, architecture history, Oswald Mathias Ungers

Abstract

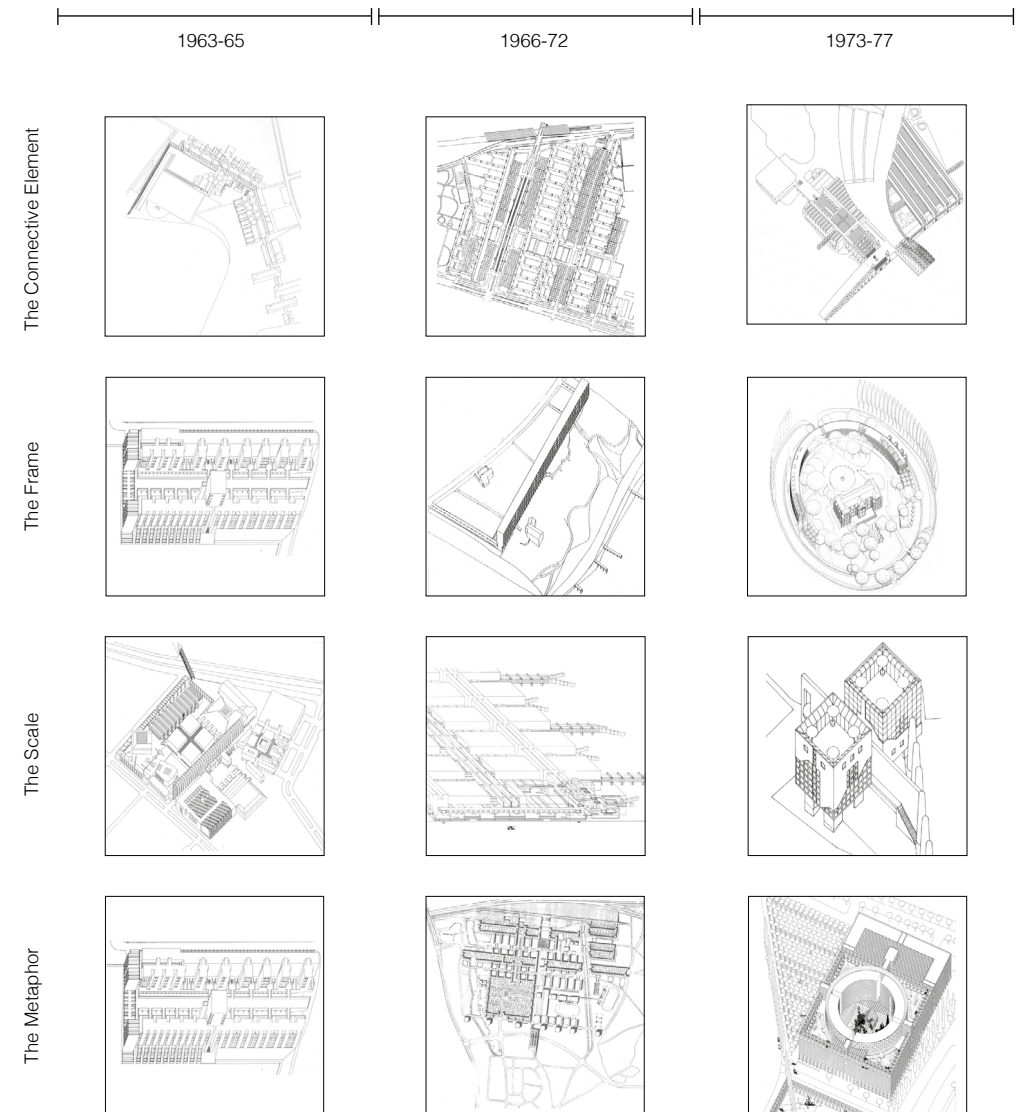
In this research selected projects by the German architect Oswald Mathias Ungers from the 1960s and 1970s are analysed by drawing, with the aim of excavating the conceptual core of the projects and hereby giving new insights on the design thinking of one of the most influential architects of the second half of the 20th century in Europe. Sketches, plans, and axonometric drawings – in particular unpublished drawings and images from the Ungers Archiv für Architekturwissenschaft Köln – build the basis for this research. Firstly, these artefacts enable the analysis of the projects and secondly, new artefacts are produced during the process of analysing: sketches and drawings, which are analytical tools as well as tools of production in architecture. These produced artefacts depict new findings about the design thinking of Ungers and at the same time can fuel the design process and thinking of professionals as well as students in architecture.

‘When analysing, one already invents.’¹

With the method of analysis, issues are broken down into its individual components in order to depict their inner logic. In architecture, projects are analysed with the aim of organizing them in theoretical concepts and spatial categories and thus putting them into historical, social and/or political contexts. Analysis alone enables a reflection on a design and the enrichment of the existing corpus of architectural knowledge by describing and illustrating the findings of this reflection. This analytical reflection can be conducted with the medium of the word but in architecture particularly also with the medium of the drawing. In the hereby-presented research, projects from architecture history are analysed using architectural methods and the results of the research are communicated by drawings. Thus a historical-theoretical research is carried out using instruments of design practice.

The investigation of the design thinking of the German architect Oswald Mathias Ungers and his understanding of the architectural principles of “structure” and “form” constitutes the theoretical framework of this research. These principles coincide in the term “Großform” Ungers used in his texts throughout the 1960s. The research is conducted in two stages: firstly, key texts about the concept of Großform by Ungers are analysed and linked to theories and projects by his contemporaries such as Shadrach Woods or Peter and Alison Smithson. The findings of this historical and theoretical investigation are classified in four categories: “The Connective Element”, “The Frame”, “The Scale”, “The Metaphor”. The first two categories are related to the principle of structure, the latter two to the principle of form. In the second stage of the research selected projects by Ungers from the 1960s and 1970s are examined according to these four categories, with the aim of excavating the conceptual core of each particular project and hereby shed light on the concept of Großform and thus on Ungers’ design thinking. (fig. 1)

The analysis of the projects helps to reveal concepts and theories that remain abstract in Ungers’ theoretical texts but find their concrete architectural expression in plans and axonometric drawings. These artefacts of Ungers’ designs are the basis for this second phase of the research that is conducted with the method of drawing. Thus the result of the research is a theoretical as well as architectural analysis of the design thinking of one of the most influential architects of the second half of the 20th century in Europe.



¹ Translated by the author. Original in German: “Bei der Analyse erfindet man bereits.” (1).

Fig. 1: Overview of the selected projects analysed.

With the instrument of the drawing, firstly, Ungers' projects are examined, secondly, new findings about the projects and Ungers' design thinking are communicated, and thirdly, conclusions can be drawn by practitioners in architecture on their own design processes. Knowledge is fixed and new design knowledge is generated at the same time. Since the projects are not analysed by word but by drawing, material products are created – artefacts – that can stimulate new design thinking and processes. The drawings have a dual nature: they are understood both as an analytical instrument and as an instrument of production (2).

Archived material of the selected projects, which is accessible at the Ungers Archiv für Architekturwissenschaft in Cologne (UAA), built the basis of this research. In addition to the existing plans of the projects, which are largely published in monographs about Ungers, above all unpublished sketches and images from the archive are formative for this research. (fig. 2) Both the sketches drawn by Ungers during the design process and the drawings of the finished project, not only *represent* a design, but most notably *enable* the analysis and further development of what they represent. The fixation of the generated knowledge of the research is illustrated with newly produced drawings. While “reading” the stock footage of the projects in the archive sketches were produced representing the researcher’s process of analysing. (fig. 3) Sketching enables to express architectural ideas without having the words for it yet. Gradually the examined projects are structured, categorized and the quintessential conceptual ideas for each project are illustrated, first by hand then by digital drawings. These drawings are an addition to the existing stock of artefacts of Ungers’ designs and illustrate new aspects of his design thinking. (fig. 4)

The corresponding analytical drawings are placed next to Ungers’ plans or axonometric drawings for each analysed project. (fig. 5-6) This juxtaposition of artefacts enables the observer to retrace the translation of the tacit knowledge residing in Ungers’ drawings to the newly produced analytical drawings. The meaning of the artefact is two-fold in this research: on the one hand Ungers’ drawings are the artefacts that enable the analysis of his projects, on the other hand new artefacts are produced during the process of analysing which again can inform the design thinking of the observer.

This research formulates a new view on Ungers’ work of the 1960ies and 1970ies by investigating the concept of Großform theoretically as well as architecturally. The analytical drawings of the research depict new findings about the rather vague concept of Großform and at the same time contribute to a further development of the analysed projects – they “stay alive” and can fuel the design process of today’s practitioners.

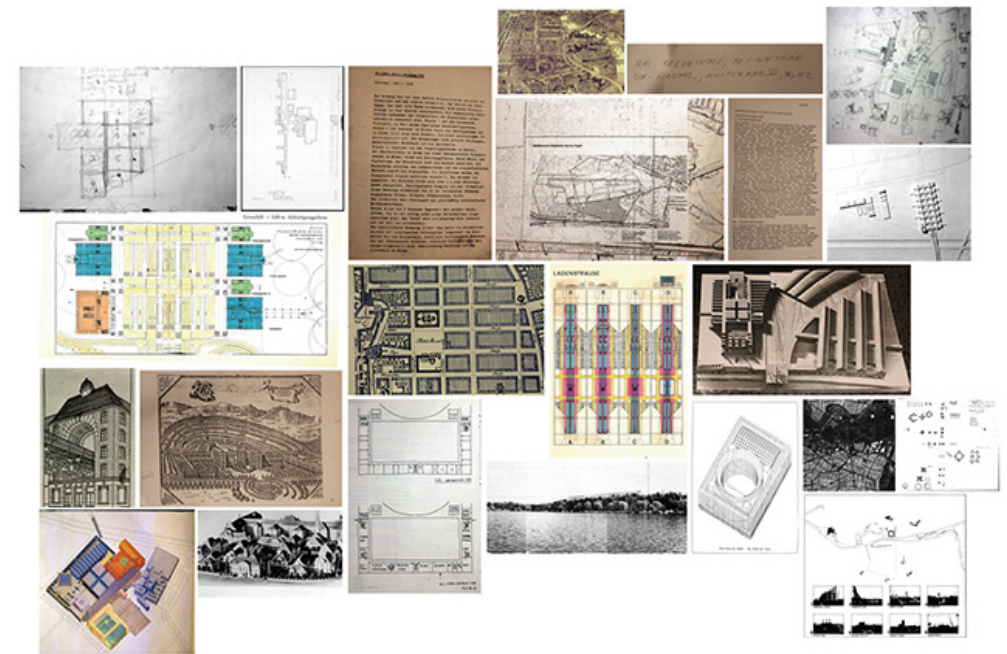


Fig. 2 Compilation of examined archived material.

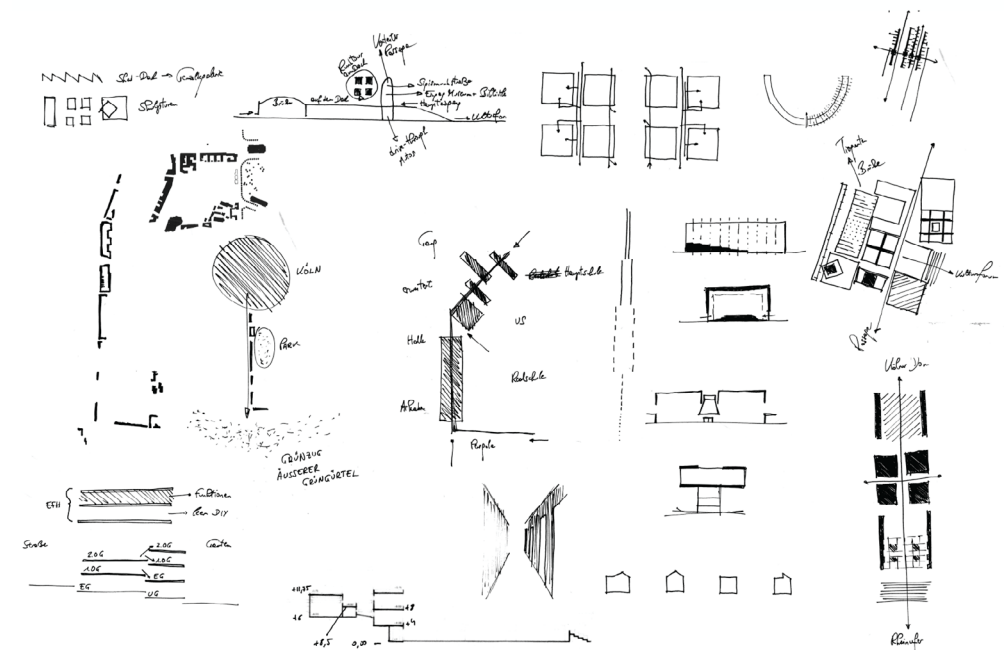


Fig. 3: Sketches produced by the author during the process of analysis.

Thinking about architecture means designing, thus drawing, it. The drawing is a medium of communicating as well as a tool of developing architectural ideas. Using this language and method of design practice for research means to make the results and the methods of the research immediately accessible for design practice and teaching.

Today, the practice of many contemporary architecture firms is characterized by a turn to the history of architecture and art: design intentions are historically referenced, design decisions are theorized and knowledge inherent in the discipline is reactivated.² Since the references frequently used derive from Postmodernism the curator of the DAM in Frankfurt, Oliver Elser, describes this contemporary tendency as 'Neo-Postmodernism' (4); Ungers being one of its idols.

The research presented here not only contributes to this debate in architecture theory and history, but also enriches the design knowledge of the discipline of architectural practice. The drawings produced are not solely passive and represent newly gained knowledge: The artefacts produced in this research can actively fuel the design thinking and process of professionals as well as students in architecture. The results and the methodology of this type of architectural-historical Design Driven Research can be directly applied to design teaching and used for a professional understanding of and communication about knowledge inherent in the discipline.

REFERENCES

- (1) Ungers, Oswald Matthias (2006): „Die Rationalisierung des Bestehenden. Oswald Mathias Ungers im Gespräch mit Rem Koolhaas und Hans Ulrich Obrist“, in: ARCH+ 179, pp. 6-11.
- (2) Lyngsø Christensen, Rikke et. al. (2021): Artefakte des Entwerfens. Skizzieren, Zeichnen, Skripten, Modellieren (= Forum Architekturwissenschaft 4), Berlin: Universitätsverlag der TU Berlin.
- (3) Zaera-Polo, Alejandro (2016): Well into the 21st Century. The Architecture of Post-Capitalism?, in: El Croquis 187, pp. 252-287.
- (4) Elser, Oliver (2017): Ein neues Narrativ. 3 Thesen zur Aktualität der Postmoderne, in: ARCH+ 229, p. 62-69.

IMAGES

Fig.1: Overview of selected projects by the author, © Eva Sollgruber.

Fig.2: Compilation of examined archived material, © Ungers Archiv für Architekturwissenschaft Köln (UAA).

Fig.3: Sketches produced during the process of analysis, © Eva Sollgruber.

Fig.4: Overview of analytical drawings by the author, © Eva Sollgruber.

Fig.5: Axonometric drawing by Ungers, in: Ungers, Oswald Mathias (1991): Architektur 1951-1990, Mailand/Stuttgart: Deutsche Verlags-Anstalt, © Ungers Archiv für Architekturwissenschaft Köln (UAA).

Fig.6: Analytical drawing by the author, © Eva Sollgruber.

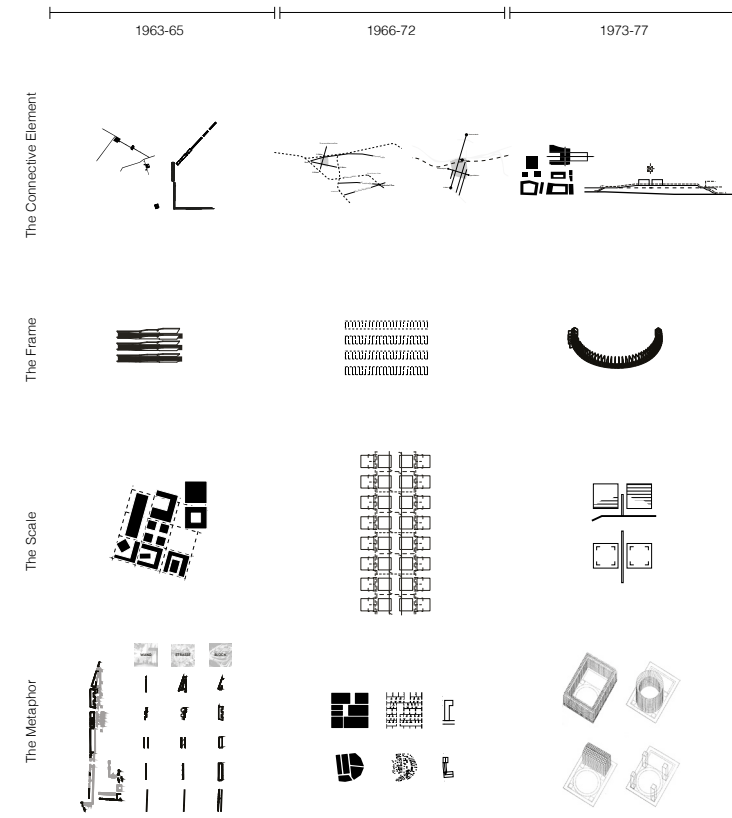


Fig. 4: Overview of analytical drawings.

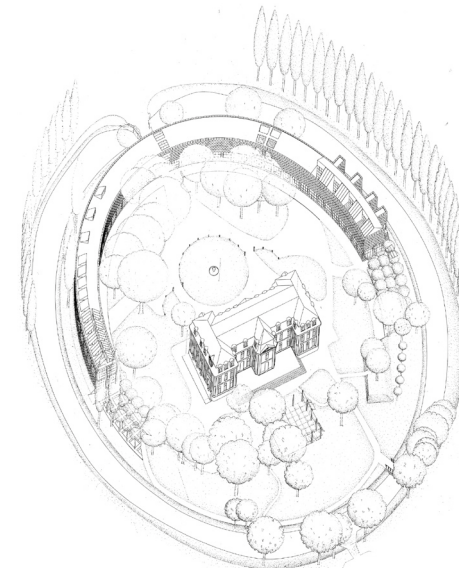


Fig. 5: Axonometric drawing by Ungers of the project "Museum Schloss Morsbroich" from 1976.

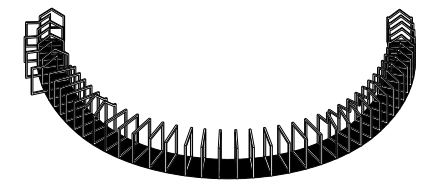


Fig. 6: Analytical drawing of the project depicting the concept of "The Frame".

² The architect Alejandro Zaera-Polo (3) calls this movement in architecture practice 'Pièce de Résistance' and names offices like Dogma, OFFICE or Caruso St. John.

Tessellated Material Systems

A Workflow towards Designing Surfaces with Distinct Kinematic Properties

DDR Statement

Tessellated material systems are relevant to a range of scientific disciplines. At “Matters of Activity” we formed an interdisciplinary group (consisting of researches from morphology, material science, engineering and design) to collaboratively explore tessellation systems. Within the group my background as Industrial Designer adds new possible modes of investigation. The notion of prototyping and iterating with materials and software, supported the natural scientists in the creation of classes, relevant for categorizing natural tessellation systems. Further does the presented workflow rely on a degree of abstraction that is modulated by the choice of material and materialization. The material driven investigation embraces that prototypes might sometimes not be able to answer questions but even pose new ones. Within the group physical prototypes are used as mediators. These research objects help to communicate across disciplines and to define a common ground of knowledge. Through the process of prototyping aesthetic decision making and intuition are made productive, resulting in objects that carry information. A constant and regular exchange between disciplines is necessary to ensure the added value of the created research objects. To investigate further aspects of tessellated material systems, new modes of material and materialization will be developed. Through the multi-disciplinary exchange new needs and levels of complexity are addressed towards the production of prototypes leading to a development of tools essential for design driven research.

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Artefact

Keywords: bioinspired design, form-function, morphology, tessellation, textile design

Abstract

Nature provides a vast variety of patterns and material solutions. Tessellated material systems are surfaces composed of individual plates, with distinct functions. Such systems occur across species and taxonomic groups. Despite the biological diversity morphological variations are so similar that overall formal principles can be identified.

In natural tessellation systems rigid plates interact vividly with flexible, soft interfacing membrane to form functional surfaces. This results in a complexity of properties that is difficult to simulate digitally. To overcome limitations in simulation, analogue prototypes have been developed. Mechanically rigid elements are laminated to pre-stretched textiles using 3D printing. In these prototypes the textile simulates the soft interfacing membrane between the hard plates as observed in natural systems. This workflow is used to investigate the form-function relationship between pattern and textile surface. With the goal of designing textile surfaces to cover, fit and protect complex three-dimensional shapes.



TESSELLATED MATERIAL SYSTEMS

A workflow towards designing surfaces with distinct kinematic properties



1



3



2



4



5



6



7

SPECIMENS

1. CHELONIA MYDAS - Green turtle
2. LEPIDOSTEUS OSSEAS - Longnose gar
3. TESTUDO DENTICULATA - Forrest tortoise
4. LACERTA VIRIDIS - Green lizard
5. MANTIS - Pangolin
6. DASYPUS NOVEDECINCTUS - Armadillo
7. GYMNOPTERODON - Caecilian

CITATION

(1)
Peter Fratzl and others,
'The Mechanics of Tessellations – Bioinspired Strategies for Fracture Resistance', Chemical Society Reviews, 45.2 (2016), 252–67

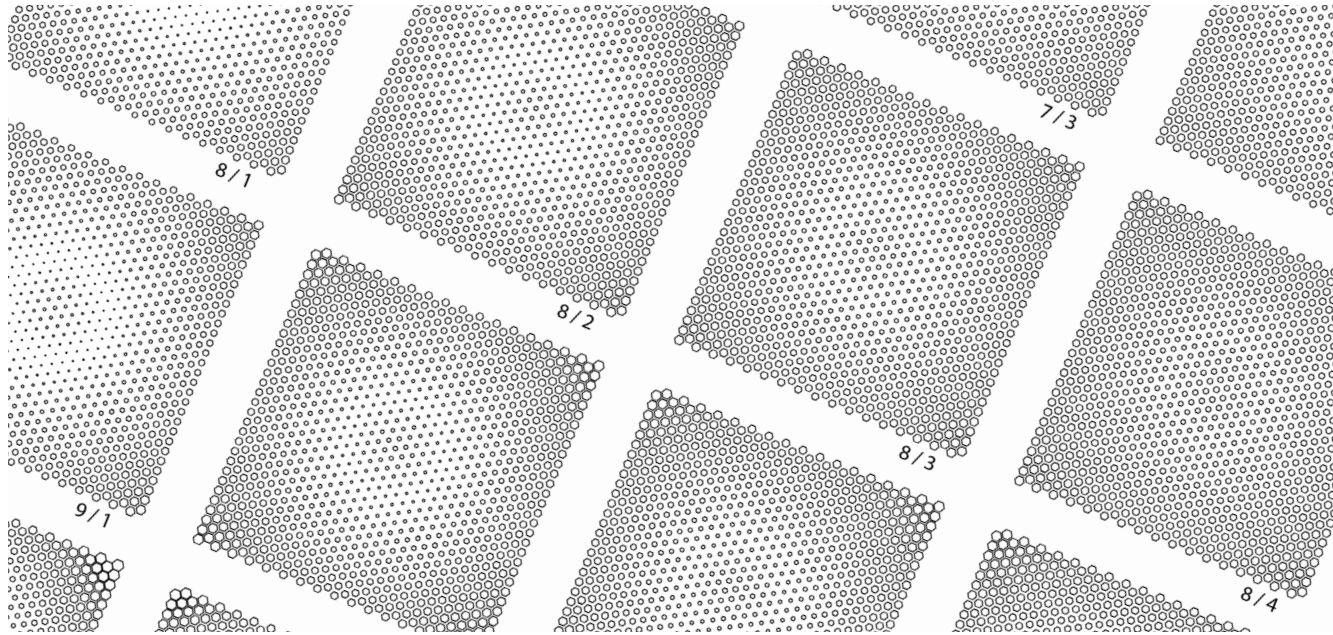
(2)
Chao Gao and Yaning Li, 'Mechanical Model of Bio-Inspired Composites with Sutural Tessellation', Journal of the Mechanics and Physics of Solids, 122 (2019), 190–204



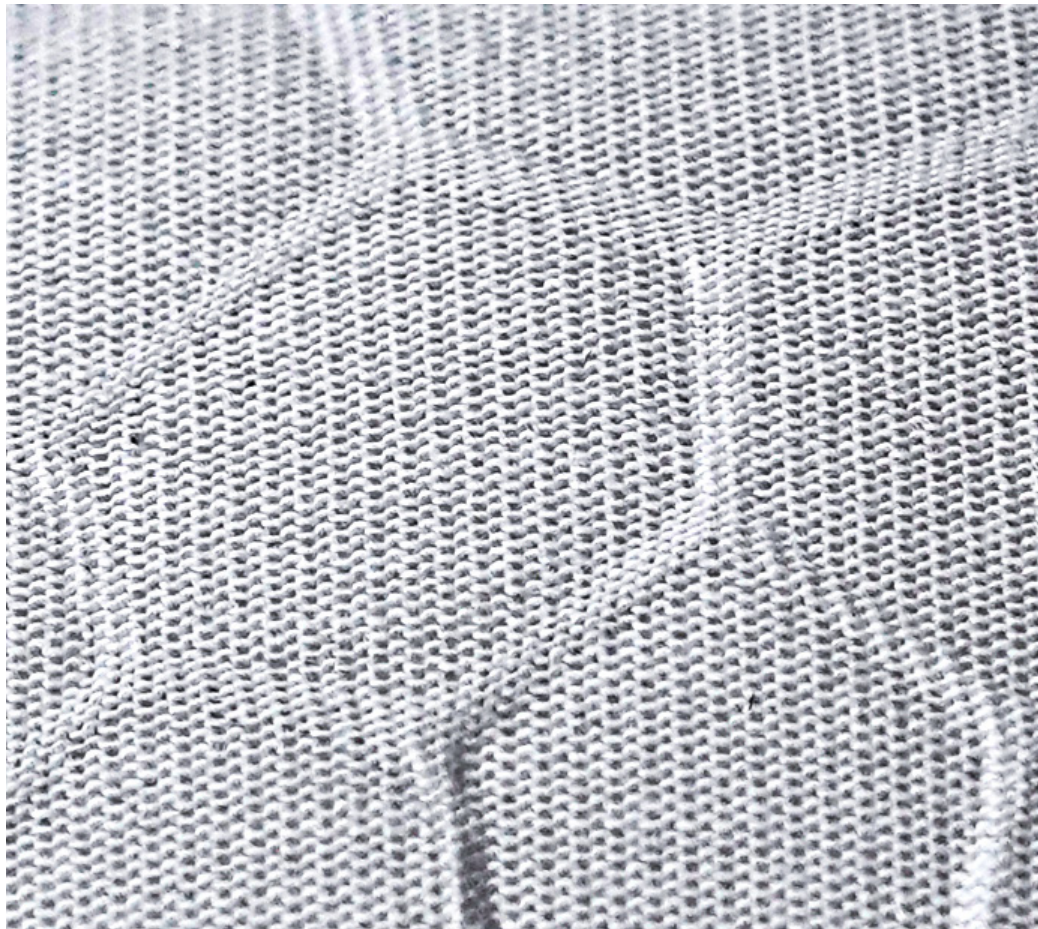
Biology provides a huge variety of patterns and material solutions. This research focusses on tessellated material systems, precisely on surface systems composed of relatively hard tiles with soft interfacing membrane. Such systems occur in nature at all scales, from molecular arrangements to macroscopic units. Tessellated systems unify various functional properties such as prevention of cracking, flexibility and protection in armors. (1) (2)

As an interdisciplinary group of researchers (morphology, engineering, material science and design) we are commonly interested in finding similarities in natural tessellation systems appearing across species and scales (fig. 1 - 7), in order to review form-function relationships. Despite the diversity of patterns, many of the observed morphological variations exhibit overall formal principles. The following categories have been developed to describe and distinguish tessellation systems: Tile Shape, Tile to Tile Interaction, Tile Granularity and Tessellation Pattern.

T M S



8



9

CITATION

(3)
Daniel Piker. Space Symmetry Structure - blog (2014) <https://spacesymmetrystructure.wordpress.com/> (from Feb. 2021)

(4)
Self-assembly lab, MIT. website. Active Shoes. <https://selfassemblylab.mit.edu/active-shoes> (from Feb. 2021)

(5)
Nervous Systems. blog. Self Forming Structures: An Exploration into 3D Printing on Pre-stretched Fabric (2018) <https://nervous-systems.com/blog/?author=38> (from Feb. 2021)

(6)
Peter Fratzl and others, 'The Mechanics of Tessellations – Bioinspired Strategies for Fracture Resistance', Chemical Society Reviews, 45.2 (2016), 252–67

This design driven research project focusses on developing a workflow to generate parametric tessellation patterns and simulate how these patterns prescribe the kinematic movement in a surface system. The developed workflow relies on two well established design tools: 1st: The parametric pattern generation is performed with Rhinoceros 7 and its plugin Grasshopper, as well as the Kangaroo Physics extension develop by Daniel Piker. (3) 2nd: The simulation of surface kinematics is performed with 3D printing on pre-stretched textiles, as presented by Christoph Guberan (MIT Self-assembly lab) and others. (4) (5)

The computational approach translates the developed categories (fig.8) into parameters to create the functionality for parametric iterations, and the systematical exploration of parameter spaces. The process also allows to analyze double curved target surfaces, and generate individualized tessellation patterns for the analyzed surface. The resulting pattern can further be adjusted and iterated according to the categories.

In nature a rather reduced variance in build materials (mostly minerals and organic polymers), results in structurally advanced solutions that balance the mechanical trade-offs. (6) Tessellated Material Systems achieve diverse functions through the prescribed interactions performed between soft interface and hard tiles. Such a complexity of properties is difficult to simulate digitally. To overcome limitations in computer-based simulation, analogue prototypes have been developed.

Mechanically rigid elements are laminated to pre-stretched textiles using 3D printing. The textile therein simulates the soft interfacing membrane between the hard plates as observed in natural systems. (fig.9) A suitable textile with elastic properties was selected (jersey 94% cotton, 6% elastane). The textile traps surface tension, that can (after 3D printing) be applied to the whole system (activation power).



10



12



13



11



14

EXPERIMENTAL ROWS

- 11. TILE SHAPE - vertical stretch
- 12. TILE SHAPE - horizontal stretch
- 13. TILE -TILE INTERACTION - hard fall off
- 14. TILE -TILE INTERACTION - inverted fall off
- 15. TESSELLATION PATTERN

T M S



15

COLLABORATORS

Dr. Mason Dean (Max-Planck Institute for colloids and interfaces)

Binru Yang (Max-Planck Institute for colloids and interfaces)

Dr. John Nyakatura (Zoological Department HU Berlin)

Thanks to:

Ines Drescher (Zoology teaching collection - HU Berlin) for the preparation of specimen

Once the tension of the fabric is released, those areas covered by 3D printed material are hard enough to resist the shining force while the rest of the fabric shrinks back to original size. The elasticity of the fabric and the rigidity of the printed plastic allow regions of the textile to shrink more than others, resulting in three-dimensional surface deformation. (fig.10)

Recent research around 3D printing on textiles was geared towards developing new perspectives in additive manufacturing or finding relevant use cases in products. This research project uses 3D printing on textiles as a tool to evaluate the relationship between pattern and function in natural tessellated systems. The observations through physical prototypes are used to prove coherences between pattern and surface deformation (leading to functions) (fig.11-15).

Experimental rows according to natural specimen can be performed and the parameters that are not represented in natural systems can be mapped, displayed and physically tested. The presented workflow of mapping pattern formations to kinematic behaviors aims for the possibility of producing structures with distinct kinematic properties. The produced prototypes embody knowledge that can be activated in discussions with other scientific disciplines. The materialization of patterns forces to adapt to a certain degree of abstraction, but proved to be a sufficient tool in exploring the continuity and coherence of tessellation parameters.

Archrypt

The Time Capsule as Design-Driven Method for the End Times

DDR Statement

The research project investigates the time capsule device as a design-driven method – referring to the Crypt of Civilization developed by Thornwell Jacobs in 1937-40. The research adopts the collecting/archiving approach to explore its specificity in the design field. It firstly questions architecture as a time capsule ante litteram, acknowledging its genealogy from the ancient pyramids, crossing Le Corbusier's Mundaneum to contemporary seed banks and long-term waste geological repositories. Secondly, it explores the potentiality of time capsule as a design-driven methodology, reinterpreting the strict procedure used by Jacobs to collect his “message in a bottle” for posterity, identifying a design process articulated in these stages:

- to choose an expiring date;
- to elect an archivist;
- to select the content and design the container;
- to signify a location.

The exploration of this device as design-driven method resulted in two consequent outputs and artefacts.

The first is Archrypt, an archive where the relation between the selected content and the designed container generates a ready-made architectural medium. While the second is Apocalipsis cum figuris, a multimedia installation and performance. As an ephemeral archive, this artefact experimented with the transformation of the digital-conceptual repository into a performative medium. Both the artefacts drove a direct correspondence between archive content and container, between meaning and signifier, that becomes a device for transmitting and communicate design knowledge itself.

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Mariacristina D'Oria,
Valentina Rodani**

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Department of Engineering
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University of Trieste

Artefact

Keywords: apocalypse, time capsule, archaeology of the future

Abstract

Welcome to End Times!

While on the one hand, there is a debate on what strategies could be put in place to avert or postpone the advent of the catastrophe, on the other hand, there is the question of preserving the traces of a world that risks disappearing or being definitively compromised, with the aim to transmit to posterity the signs of our existence as instruments of knowledge for the archaeologists of the future.

Is it possible to organize a repertoire of knowledge, theories, and projects so that this heritage constitutes not only a cultural archive but also a potential operational kit capable of offering our disciplinary relevance even in a remote and uncertain future? Archrypt aims to be a critical-operational work on the need to transmit the memory of architecture through an architecture of memory. Archrypt refers to the ancestral dimension of architecture connected to its function of time capsule ante litteram.

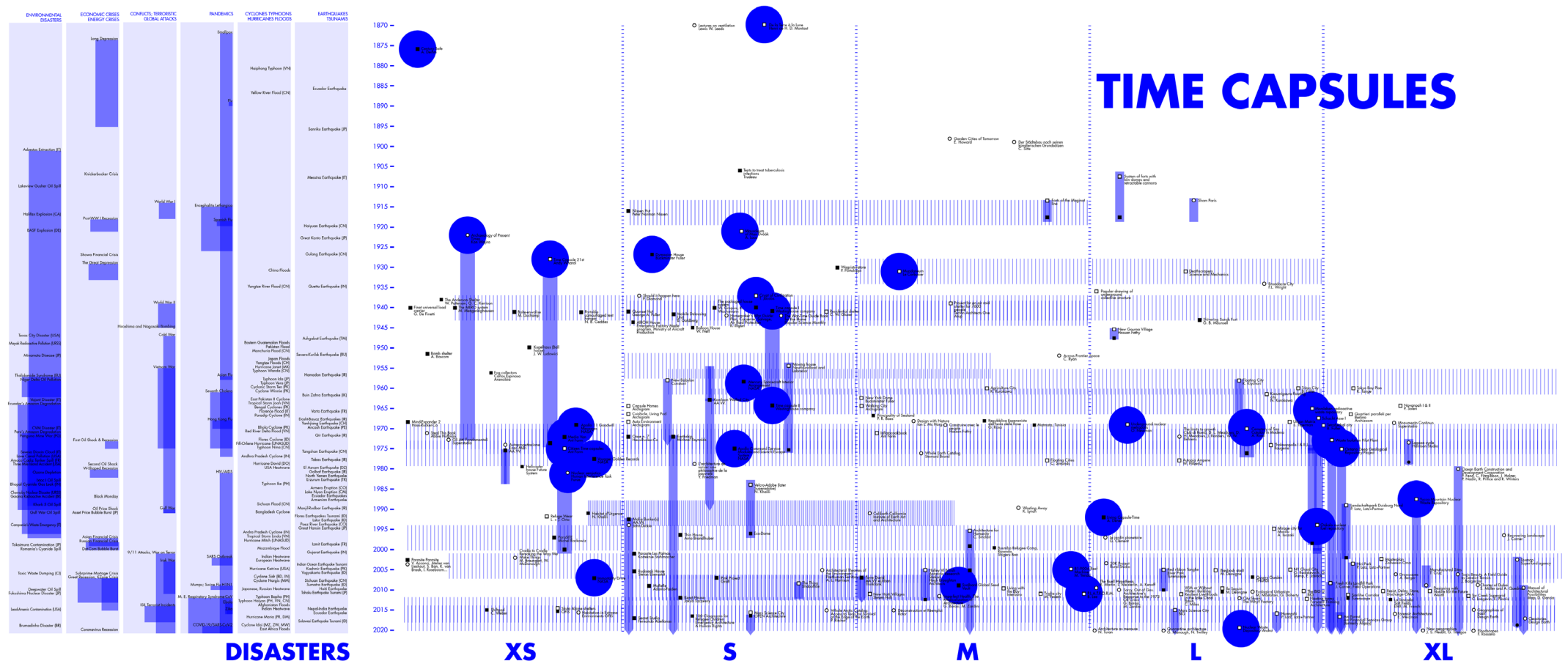
The time capsule as Design-driven Method for the End Times

The project: archive as content and container

>
(fig. 1) Thornwell Jacob
(1939), *Crypt of Civil-
isation interior, photo-
graphed prior to sealing*,
Ogelthorpe University,
[https://crypt.oglethor-
pe.edu/](https://crypt.oglethorpe.edu/)



(fig. 2) *Archive contents*,
image by authors.



conflictual urban contexts, to cross the extreme settlement scenarios of the desert, water, hypothetical glaciation, or even beyond the limits of planet earth. The selection of theories and projects falls within a possible categorization of the architecture of the end of time. Starting from this selection, we traced a series of projects and theories that somehow related to these disasters, organizing them according to the space-scale factor, from the XS dimension (the individual object) to the XL dimension (from the territory to the entire planet), and also according to a time-scale factor, from the ephemeral to the geological.

The same construction principles of the archive contents determine the container's spatial and dimensional organization: the project's size organizes the vertical scan. In contrast, the vertical nexuses connect the different scales identifying the thematic paths relating to the six catastrophic themes. Our design approach reworks archetypal forms – the ziggurat as well as the stepped skyscraper – reversing its direction and density, obtaining a cavity in which to organize an articulated scanning of architectural contents. Moreover, at the top and bottom of this void, a pyramid and a space shuttle are superimposed in ready-made operation (fig. 3). The pyramid's choice derives from the need to have a landmark recognizable and accessible exclusively through underground routes. Finally, the space shuttle becomes the symbolic device for accessing the system (figg. 4-5).

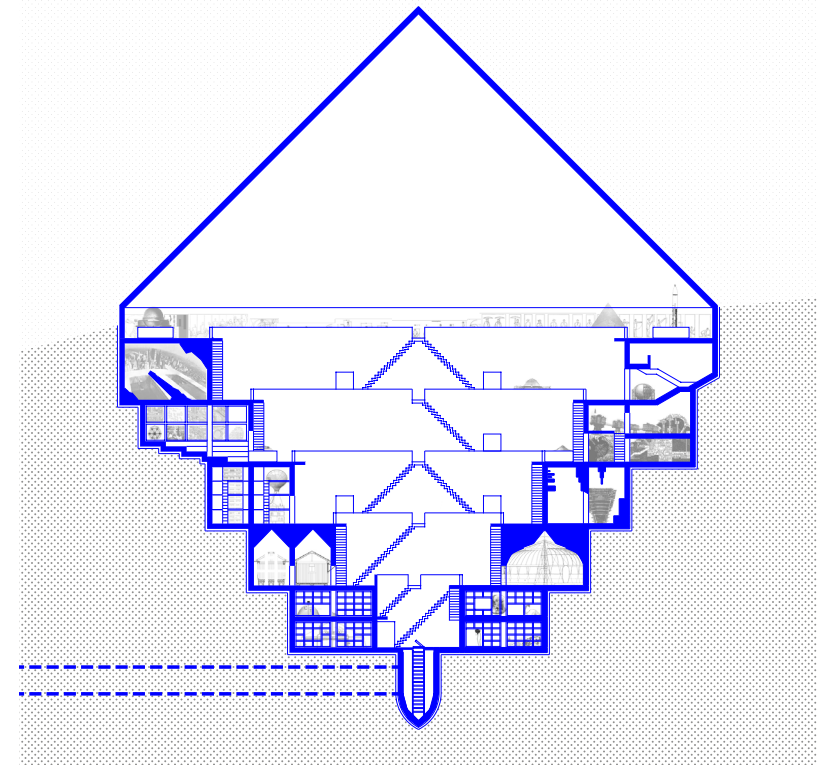
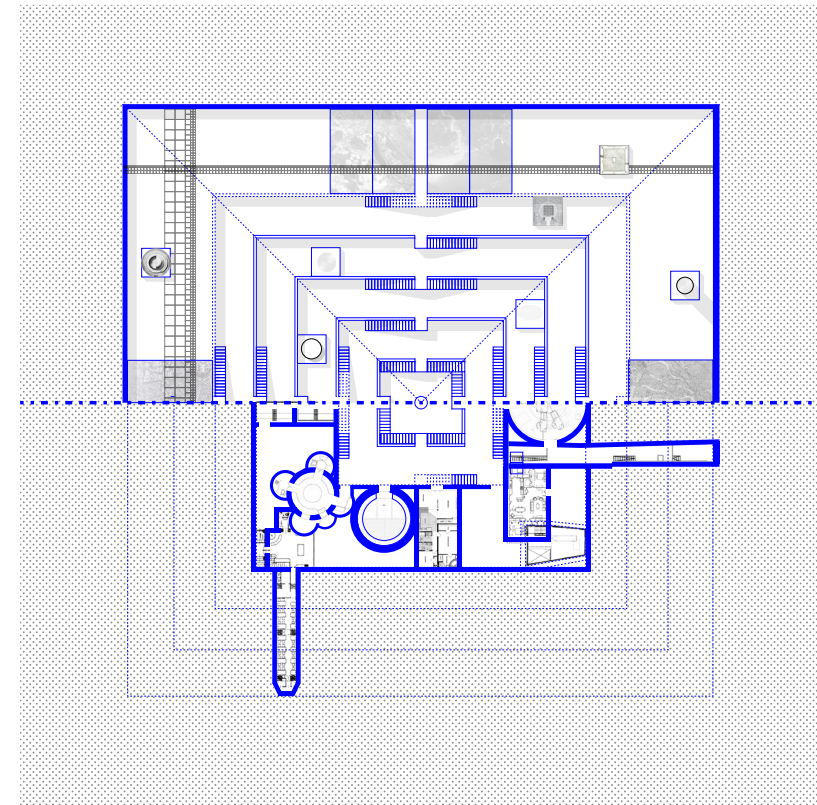
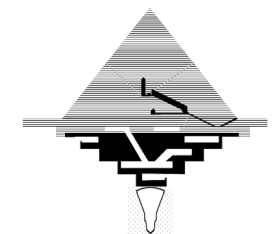
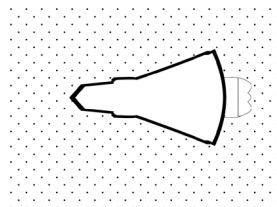
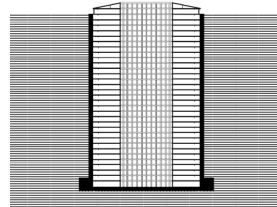
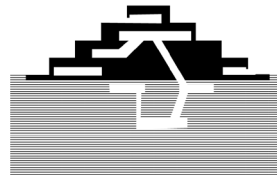
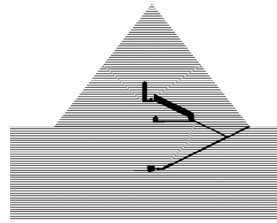
Transmission and decoding

“How to write a message that anyone, even in ten thousand years, can understand?” One position is exemplified by Carl Sagan, who included, before the launch of his Voyager Golden Record into outer space, a deciphering key, a sort of Rosetta Stone, to translate his message. In our case, we foresee spatial decoding consisting of a dimensional reference system to different units (metric system, modulator, etc). Moreover, the question of interpretation concerns not only verbal communication but also the visual one, which is addressed by exploiting the materiality and spatiality of dismountable models and maquettes.

The performance: Apocalipsis cum figuris

The first occasion to transmit the project and, therefore, to investigate its transmissibility was *Apocalipsis cum figuris*¹, a performative multimedia installation, realized by applying four main design principles, described below.

> **Inaccessibility.** The time capsule itself is an inaccessible dispositif by definition. Moreover, the social distancing imposed by the pandemic circumstances implied inaccessibility as a precondition for the artifact design. Once identified Stazione Rogers as the container, the design process established conceptual and concrete contiguity between the container and its content. Furthermore, inaccessibility implies the experimentation of new logics of fruition, from a traditional exhibition spatial sequence to a multimedia installation and performance: transfiguring Stazione Rogers into a modern



<< (fig. 3)
from the top:
Egyptians, *Great Pyramid of Giza*, Egypt, 2550 bC. Sumerian, *Ziggurat of Ur*, Iraq, 3000 bC. *Depthscrapers*, Japan, 1931. *Mercury Spacecraft*, Cape Canaveral, Florida, USA, 1959. *Archrypt ready-made design*. diagrams by authors.

< (figg. 4-5)
Archrypt's plan and section, image by authors.

time capsule and virtual magic lantern.

> **Extension.** Above all, architecture is here intended as an extreme media, both hardware and software of representation. No longer limited to enveloping a static spatial exhibition sequence, the sinuous cloak permeable to the eye has been extended and amplified through the layering and assembly of moving images, drawings, and models enhanced by flashing lights, light rays, and videos, but also an apocalyptic as well as an iridescent sound contour – all ingredients speaking a complex interweaving of figurative layers. The extension's principle, modulated according to daylights change, produced the context's transformation into a field of influence to interact with.

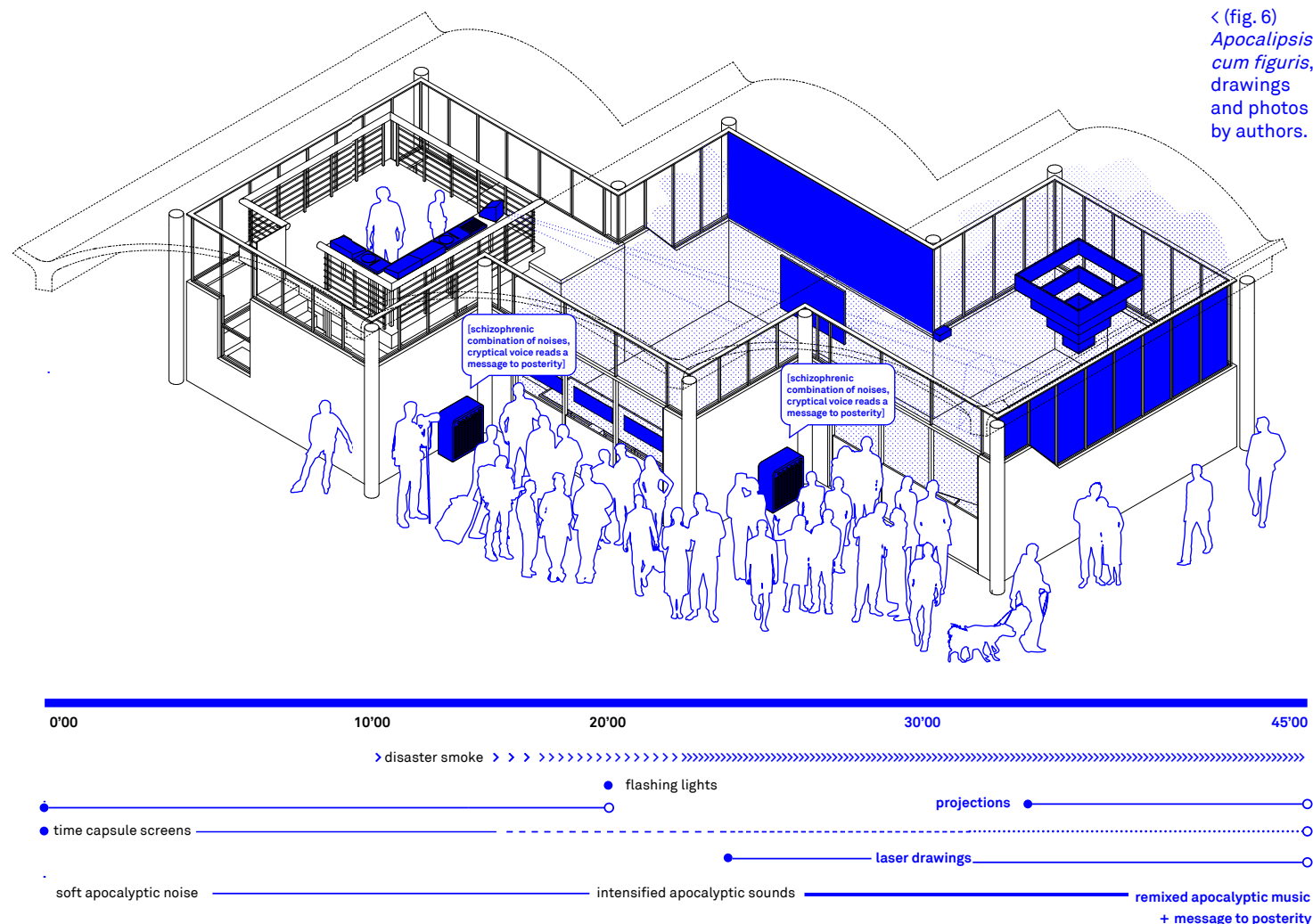
> **Simultaneity.** Images, drawings, sound, lights, words, suggestions, forms, audience, passersby, and even environmental actors as cars and boats collaborated in a choral event, weaving multiple and simultaneous interactions between figure and ground, in-between subject and object of representation. In other words, the simultaneity of representation and environmental conditions build a multidimensional and synaesthetic experience of the apocalypse.

> **Interaction.** Interactions between figures and grounds, object and environment, lights and sounds, body and scenes culminated in the performance *Apocalipsis cum figuris*, a narrative stream/flow/field of interactive information, both research project on the apocalypse and multimedia *mise-en scène* of the end time itself (fig. 6).

(1) The multimedia installation *Apocalipsis cum figuris* designed by Gianluca Croce, Mariacristina D'Oria e Valentina Rodani, with multimedia performance by Samuel Iuri (PhD student at University of Trieste) and Taufan ter Weel (PhD student at TU Delft) has been exhibited in Stazione Rogers (Trieste Italy) during August 2020. See: </www.stazionerogers.org/content/apocalipsis-cum-figuris>.

Selected bibliography

- Ataria, Y., D. Gurevitz, H. Pedaya, Y. Neria (eds, 2016) *Interdisciplinary Handbook of Trauma and Culture*, Berlin: Springer.
- Bauman, Z. (1986) *Liquid Fear*, Cambridge: Polity Press.
- 'Bifo' Berardi, F. (2017) *Futurability: The Age of Impotence and the Horizon of Possibility*, London: Verso.
- Deutinger, T. (2018) *Handbook of Tyranny*, Zürich: Lars Müller.
- Faiferri, M., S. Bartocci (eds, 2013) *Housing the Emergency the Emergency of Housing: New Forms of Living for the Cities*, Barcelona: List.
- Friedman, Y. (2003) *L'architecture de survie. Une philosophie de la pauvreté*, Paris: Éditions de l'éclat.
- Jha, A. (2011) *The Domsday Handbook: 50 Ways to End the World*, London: Quercus.
- Morton, T. (2013) *Hyperobjects: Philosophy and Ecology After the End of the World*, Minneapolis: University of Minnesota Press.
- Tafuri, M. (1987) *The Sphere and the Labyrinth: Avant-Gardes and Architecture from Piranesi to the 1970s*, Cambridge, London: The MIT Press.
- Tschumi, B. (1981) 'Architecture and Violence', in *Artforum*, vol. XX, 1, September.
- Virilio, P. (2004) *Ville Panique. Ailleurs commence ici*, Paris: Édition Galilée.
- Weibel, P., B. Latour (eds, 2001) *Iconoclasm, Beyond the Image-Wars in Science, Religion and Art*, Karlsruhe; Cambridge, London: ZKM/The MIT Press.



< (fig. 6)
Apocalipsis cum figuris, drawings and photos by authors.

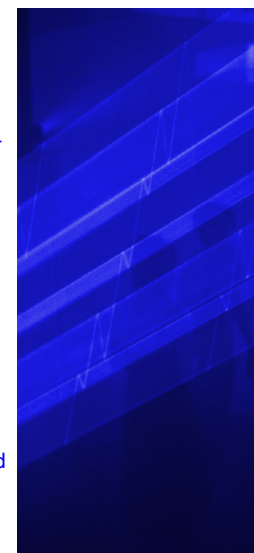
prelude

It started with a prelude moment, where the activation of the projections start to attract visitors. Suddenly, the narrators' voice, coming from the inner space, reaches the outside public, introducing the apocalypse's topic. In the meantime, positioned on the mezzanine, the two media artists start to get ready with their performance.



core

The artificial fog starts to invade the inner space, making the floating ziggurat move like Calder's mobile. Suddenly the projections on the window screens are switched off, while those on the monitor began to go crazy, accelerating their loops. The background noise becomes now a threatening and intensified presence, accompanied by flashing lights and introducing the laser's boot.



climax

During the climax, everything becomes even more syncopated in a schizophrenic process that involves the visitor completely into the apocalyptic experience. When everything seems to burn out, a far away cryptical voice starts to read a message, the message for posterity. This is the end of the world. This is the end of the performance.

Temporary Urban Space

Limits and Possibilities

of the Integration

of Temporary Urban

Interventions in Public

Spaces

DDR Statement

Design Driven research is one of the most significant potentials within the doctoral research of young architects around the world. The research method through projects and models enables the provision of an alternative perspective in the consideration of possible solutions and demystification of the established paradigms of existing knowledge. It encourages new ways of thinking, acquiring and disseminating knowledge in the form of a project or a scientific model. New forms of expression and research also offer greater diversity in the solutions offered, which are crucial for the scientific and technical progress of the profession.

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middle stage research

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Extended Abstract

Keywords: temporary urban intervention, integration, placemaking

Abstract

The integration of temporary urban interventions in public spaces encompasses the process of their typological classification, evaluation and placement into public space. The optimal integration of temporary urban interventions ensures improvement, activation and development of public urban space, while less successful examples cause difficulties in its use and meaning, which is both a research incentive and confirmation of the topic's relevance.

The research is conducted through typological classification of public spaces with regard to their relevance. In this way, we distinguish three types of public space: currently relevant urban space, public space that is losing its significance and unconsolidated urban spaces. In terms of typological classification of temporary urban interventions in regard to their impact on public space, we identify those that intensify, redefine or initiate certain spaces. The research establishes criteria that enables the typological classification, evaluation and placement of temporary urban interventions into public space. The research method is based on a review and analysis of existing studies, as well as original scientific research through catalog processing and case study analysis of comparable examples of temporary urban interventions in public spaces of selected European cities.

Over the past few years, we have witnessed an increasing presence and, at the same time, an inflation of the meaning of temporary architectural interventions in public space. From strategic to individual initiatives, there are more and more examples of temporary occupation of space. As the number of such interventions increases, the question of their quality and reasonableness arises. What is the real potential of temporary interventions in the context of the new normal, and does society manage to reach it? What are the real benefits of temporarily occupying an urban space, and can they encourage lasting change in the context of the space in which they are located? The topic of the research is to find the optimal relationship between the choice of location for the accommodation of a temporary architectural intervention and its typology. The research considers that the morphological, functional and spatial connection between certain urban locations and the typology of temporary intervention has not been sufficiently researched.

The author finds the stimulus of research in a paradigm shift, which in the past decade makes temporary urban interventions the subject and initiator of new spatial and functional settings of public space. In many recent works, they aim to engage and encourage the overcoming of more serious issues of status and use of public urban space, and indicate possible scenarios for the development of unused and neglected urban spaces. Temporary interventions often provide direction in the emergence of a long-term purpose of certain urban areas, while numerous authors confirm their symbolic, educational and placemaking role.




Regardless of the positive effects of temporary interventions in public space, there is a possible failure of temporary urbanism, which is manifested in the gentrification of space through strategically ill-considered temporary actions that do not reach their full potential and predetermined role. This is manifested in a series of generic pop-up pavilions whose function is mainly self-promotion or economic profit, which inhabit the space parasitically and non-contextually. Inconsistency of decisions in the bottom-up approach (led mainly by groups of young enthusiasts) leads to the danger of subordinating space to selected young consumers without creating a complete and inclusive neighborhood, while the danger of top-down approach lies in generic conceptualization of space due to rapid profits and rising land prices. Emphasizing the mentioned obstacles and temptations, it is crucial in the future research to determine the criteria for valorization and affirmative integration of temporary interventions in the urban space. In the past 10 years, many authors have explored the benefits and phenomenon of temporary interventions, and the pioneers of current knowledge about the phenomenon of temporary use are Oswalt, Overmeyer, Misselwitz with their book *Urban Catalyst* (1). The book distinguishes typologies of users of temporary interventions (distinguishes start-ups, migrants, system refugees, drop outs or part time activists), typologies of purpose of temporary interventions (distinguishes reserve / niche, playground or incubator), and the ratio of intensity of occupying space (stand in, impulse, consolidation, coexistence, parasites, subversion pioneer and displacement relationship). Significant theoretical and research activity in this area is offered by both Haydn and Temel (2), offering an analysis of selected examples of temporary purposes and their characteristic properties. Observing the typology of temporary interventions through morphological, spatial, and content characteristics of the intervention, previous research offers a record of possible relationships between space

and intervention, but does not offer a proposal or study of redistribution of such typologies in the city.



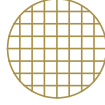
Future research seeks to prove that by analyzing the typologies of potential urban spaces we can offer a valid redistribution of typologies of temporary interventions through the city area, depending on the typology of available spaces. The optimal integration of temporary urban interventions ensures improvement, activation and development of public urban space, while less successful examples cause difficulties in its use and meaning, which is both a research incentive and confirmation of the topic's relevance. Hyperproduction of various pop-up interventions is often not appropriate and in accordance with the character of the space (eg. festival events in protected urban areas that prevent normal functioning and use of space), while in some cases the typology of temporary intervention misjudges user needs (eg. pre-designed pavilions the context of an urban neighborhood that shows the need for much more concise interventions). The research aims to offer criteria for integration, which encompasses typological classification, evaluation and placement of temporary urban interventions into public space. The research starts from the assumption that the typology and level of development of a certain space determines its potentials and the direction, possibilities and limits of temporary architectural intervention in that area. The most relevant contribution on this topic is the research of Finnish theorists and architects Panu Lehtovuori and Sampo Ruoppila(3) who in their scientific work establish the division of space into types with regard to the existing spatial conditions and the status of space at the time of observation. They distinguish three types of public space: currently relevant urban space, public space that is losing its significance and currently underused areas, according to set criteria (use of space, attention and flux of people, apprehension and meaning, development perspectives). The assumption is that the obtained typologies of space can accept only certain typologies of temporary interventions. In accordance with the obtained typologies of spaces, the purpose of the research is to determine the architectural-urbanistic criteria that define different typologies of temporary urban interventions. It is assumed that the criteria determining the function, intensity of space occupation, user groups and different driving initiatives (from top to bottom down) will define the different typologies that will be recommended for integration into the previously mentioned typologies of space. The common characteristics of temporary urban interventions will determine their typological classification. The premise of the research is to obtain 3 typologies of temporary interventions with regard to their impact on space: temporary interventions that they intensify space, those that redefine space, and interventions that initiate space. The research will be set up through the analysis of existing successful examples of temporary urban interventions through the set of criteria.

1. Oswalt, Philipp; Overmeyer, Klaus; Misselwitz, Philipp. (2013), *Urban Catalyst: The Power of Temporary Use*, Berlin: JOVIS Verlag
2. Haydn, Florian; Temel, Robert (2006), *Temporary urban spaces : concepts for the use of city spaces*, Basel:Birkhäuser
3. Lehtovuori, Panu; Ruoppila, Sampo (2012), Temporary uses as means of experimental urban planning,in: *SAJ Serbian Architecture Journal* 4, pp. 29-54

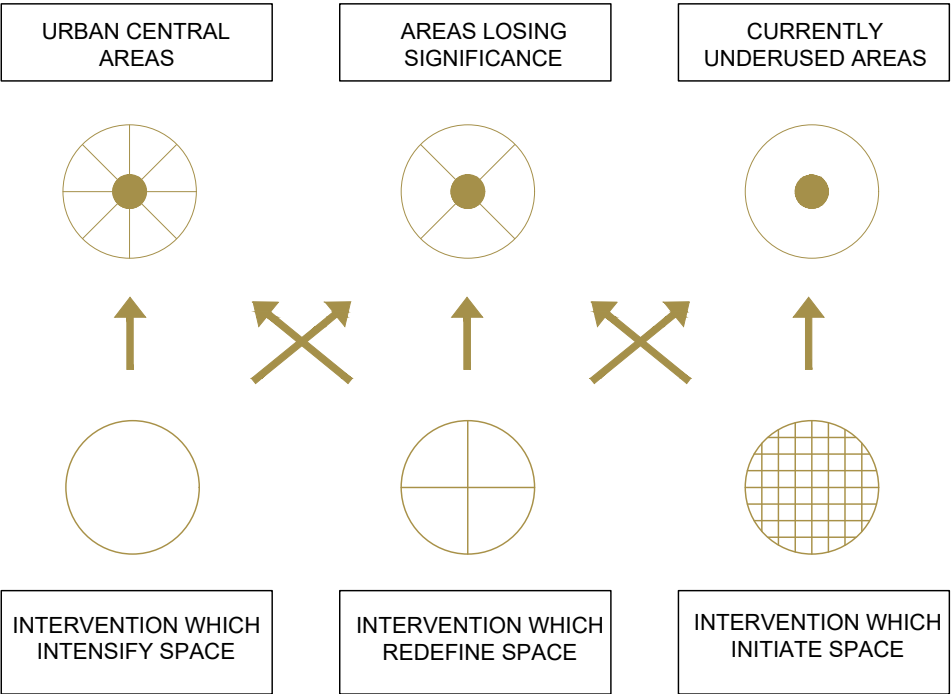
(fig. 1) Typology of urban spaces

			
FUNCTION	defined	defined but wakening	not defined/ loose
ATTENTION AND FLUX OF PEOPLE	high	some, could be better	none
APREHENSION/ MENAING	fashionable/ classic/elitist	out of fashion	edgy/daring/promising
DEVELOPMENT PERSPECTIVES	stable/ lack of new	redevelopment	open/risky
IDENTITY	high	once firm / losing	none
TYPOLOGY OF SPACE	URBAN CENTRAL AREAS	AREAS LOSING SIGNIFICANCE	CURRENTLY UNDERUSED AREAS

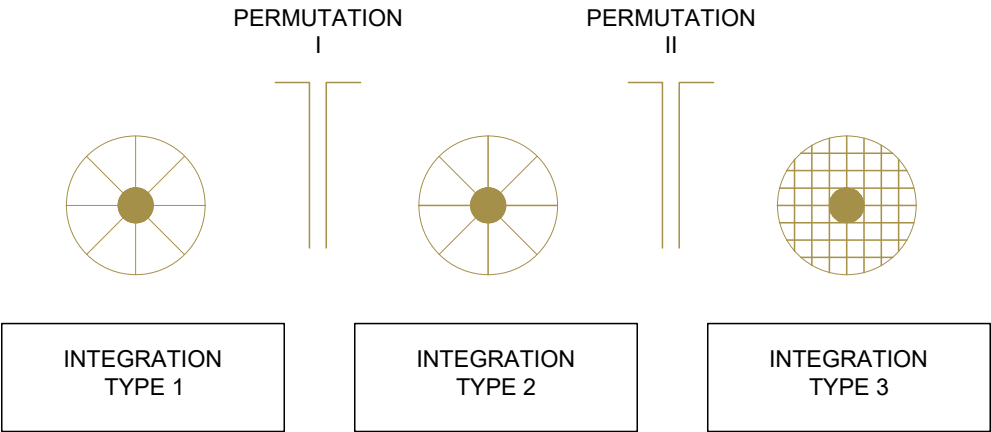
(fig. 2) Typology of temporary urban intervention

			
PROGRAM	polivalent/undefined	defined and singular	defined and complex
DURATION	short/ less than a week	less than a month	less than a year
APREHENSION/ MENAING	expressed authorship and appearance, art	impact on neighbourhood, contextual	complex, contextual, impact on community
PARTICIPATION	user is observer	user is participator or organisator	user is observer and participator
INTENSITY OF OCCUPYING SPACE	low/stand in/impulse	parasite/coexistence	consolidation / impact with context
TYPOLOGY OF URBAN INTERVENTION	INTERVENTION WHICH INTENSIFY SPACE	INTERVENTION WHICH REDEFINE SPACE	INTERVENTION WHICH INITIATE SPACE

(fig. 3) Crossprogramming of typology



(fig. 4) Predicted optimal types of integration of temporary urban instalation into public space



Internal Colonization in Montalegre in Architectural (Re)valuation

DDR Statement

The Design Driven Research (DDR) is a coherent knowledge-building strategy, used academically in architecture and the arts, where design is used to implement technical-scientific knowledge. Obviously, not neglecting the theoretical component of knowledge, but instead complementing it, acting as an important investigation strategy in what is the study of Architecture.

In this investigation, the DDR concept was a decisive process to consolidate the knowledge about an architectural design. If we assumed the classical and literary strategy of building knowledge about a real and built architectural design project, research would probably be more difficult and would need more time to prove and propose a hypothesis of evolution for the former agricultural colony of Montalegre.

Using DDR, the process of identifying of transformations between an initial project and final built product is not only possible but also faster. In this case, it made it easier to find the transformations from the original construction of the old agricultural colony of Montalegre.

On the other hand, it helped this investigation to identify the changes made over time and help to define the strategies for a proposed refurbishment that looks to the initial Projecto-tipo do Barroso, takes into account the needs of the current population and guided by theoretical foundation and brings forward a proposed solution. It sets out to (re)create guidelines and architectural limits and boundaries to the evolution of the settlements and to preserve its identity as a unit.

With this in mind we conclude that DDR was an essential tool for the acknowledgment of the architectural evolution of these places and with it propose a strategy that brings back its wholistic design approach and fundamentally its identity.

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Extended Abstract

Keywords: agricultural colonies, settlement, estado novo

Abstract

In Portugal, during the dictatorial period (1926-1974), were designed and built a set of eight agricultural villages by the Junta de Colonização Interna (1936-1974). These agricultural settlements were an attempt to modernize and repopulate the interior of Portugal. One of these colonies is part of the Colonização dos Baldios de Montalegre e Boticas Project, foreseeing the construction of seven new villages using two standard housings types for the building of 130 houses. This document analyzes five of these settlements where the built units follow the format Projecto-tipo do Barroso.

Nowadays, these settlements show clear evidence of the transformations that have taken place through the years, in light of new social and cultural ways of life, having gradually distorted their unity and identity. In summary, this research seeks to identify these disruptive elements and to develop new strategies that aim to regulate the unit's identity and also the integrity of the ensemble.

EXTENDED ABSTRACT

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INTERNAL COLONIZATION IN MONTALEGRE ARCHITECTURAL (RE)VALUATION



IMAGE 1 Transformative Diversity on *Projecto-tipo do Barroso* building types;

KEYWORDS

Agricultural Colonies; Settlement; *Estado Novo*

INTRODUCTION

In Portugal, during the *Estado Novo* (New State) administration, there were eight agricultural colonies built by the *Junta de Colonização Interna* (1936-1974). One of such colonies took place in the Montalegre district under the initiative *Projecto de Colonização dos Baldios de Montalegre e Boticas*, where there were built seven new villages with a total of 130 rural housing units. The construction of these settlements units had two underlying housing types, of which the most predominant and object of this study is the *Projecto-tipo do Barroso*.

There is an exceptional character to these developments as they were purpose designed and built in a region victim of the strong rural exodus that took place in these interior regions of Portugal. Therefore, this study seeks to, in a generic perspective, identify two key issues. First, the real architectural value of these settlements, what is there value today and what truly defines their identity. Secondly, what is their state today and how true are they still to the *Projecto-tipo do Barroso*. To answer both these questions, this study seeks to identify the main disrupting elements to the original construction and potential ways of its “recuperation”. The aim of the “recuperation” depending upon each specific situation state may range from renovation to restorations is also regulate them, helping to safekeep the architectural identity of these villages.

This is therefore an investigation based on an architectural strategy, that intends not only to contribute with a research by design lead proposal but also with the foremost intention to raise awareness to the need to protect and revalue these *sui generis* settlements of the rural Portuguese architecture.

METHODS

This research focuses on 4 phases and their respective analyses methods:

First it looks for the true architectural value of these settlements by using the method of architectural state of art validation, specifically aimed at the concept of an Agricultural Colony.

In a second instance, the investigation looked for the architectural identity of the Agricultural Colonies themselves, focused on how these settlements were being designed and what was their purpose, based upon archives photographs drawings and paintings. From this evidence, the investigation was able to interpret the value and character of these settlements. on the Montalegre region where there is a bigger presence of the *Projecto de Casal - Tipo do Barroso* and how to better preserve it's true identity

The third part of this research uses the evidence of these Montalegre settlements and compares them to the international examples of similar types of Agricultural Colonies. This helps to understand and validate the true nature and character of these settlements and how they were reinterpreted and restored in recent years, educating the proposals in this study.

The last part puts forward a research by design strategy aimed at preserving the value of one of these settlements as a unit. This case study takes place in one of the five villages that comprises this investigation.

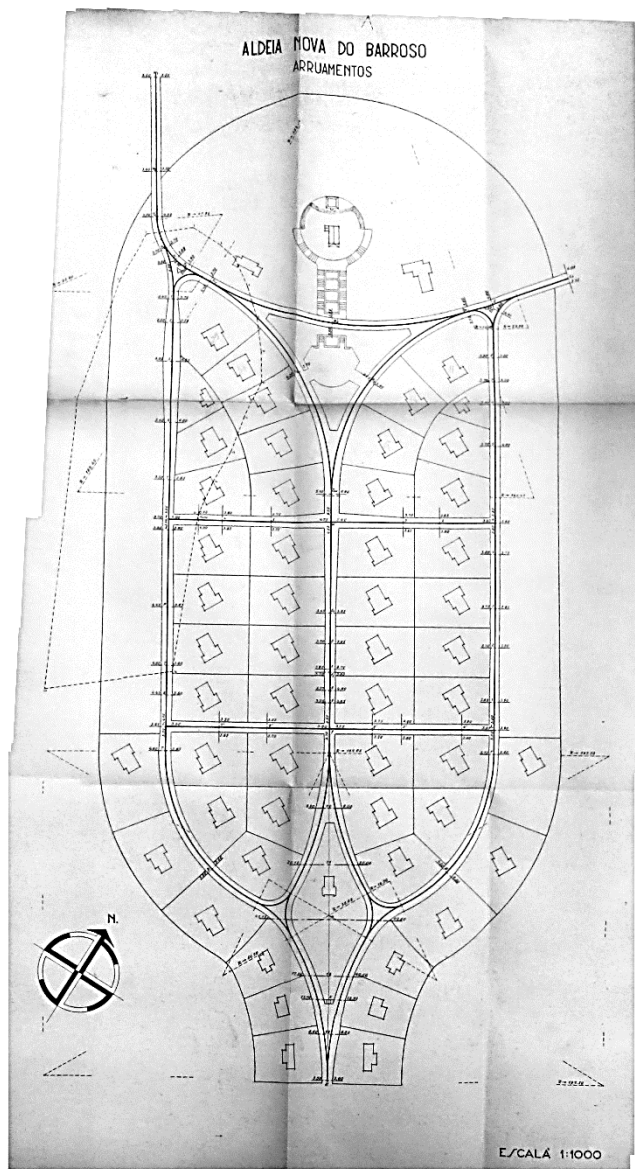


IMAGE 2: Original masterplan for *Aldeia Nova do Barroso*



- Public Buildings;
- New constructions;
- Empty buildings / ruin;
- Buildings with extensive changes;
- Buildings without significant changes;

IMAGE 3: Study of the evolution / transformations of the masterplan *Aldeia Nova do Barroso*.

ARGUMENT

The *Colónia Agrícola do Barroso*, built during the *New State* (Estado Novo) period, were an architectural experiment that aimed to characterize the Portuguese agricultural landscape in light of the new totalitarian regime.

Located in Montalegre, region in the northern interior part of Portugal, the governing body responsible for the development of the Agricultural Colonies for the *New State*, found a pre-existing cluster type of settlement typical of these mountainous regions of Portugal, called *Barroso*. These seven small clusters of villages scattered along the territory were a determining singular feature for the development of this *Barroso* Agricultural Colony and not one single of bigger proportions, like the case of others in Portugal. Parallel to this, some authors like RAPAZOTE¹ suggest other basis concepts like the Garden Cities, HOWARD², for these smaller settlements.

Although, as a State-owned, developed in the capital city of Lisbon, the design team always had in consideration the regions character and ways of life. These were key for the layouts of these settlements but also of the units/houses themselves. The proposed housing types had two main functions that were equally important. They needed to provide shelter and decent housing conditions for the occupants, but still 50% or more of the living unit was devoted to agriculture. In the *Projecto-tipo do Barroso* this was kept and made a priority as the local economy was still of subsistence based mainly on farming and cattle.

The development of design types made it easier and cheaper for the government to replicate them over the territory creating a sense of equality, unity, rhythm and proportions, both social and architecturally. This and the attention to local features and customs is where the true value of this architectural endeavour lays, with a strong sense of organization and awareness of the Portuguese territory, regardless of being driven by a political agenda.

Seventy years have now passed since the original construction of these villages and a deterioration of their sense of unity is now showing.

CONCLUSION

This investigation has allowed us to understand, after multiple on-site verifications and based on a design driven research, three patterns of modifications to the units. a) construction of fencing; b) extensions of the units; c) new construction within the property lines. In all instances there is no architectural considerations, nor a unity type of solution, in fact quite the opposite. These are all isolated instances with no attention to the surroundings or sense of unity.

¹ RAPAZOTE, João - “Aldeias-Jardim” no concelho de Montalegre – O projeto da Junta de Colonização Interna para os baldios do Barroso. Revista de Geografia e Ordenamento do Território. Lisboa. ISSN 2182-1267. n.º 1 (2012). Centro de Estudos de Geografia e Ordenamento do Território.

² The theory of the Garden Cities is a method of urban planning based on a rural lifestyle, in which the objective is to create self-organized cities, of an organic design, engulfed in a presence of nature. Published in 1898, with the book “*Garden Cities of To-morrow*” by Ebenezer Howard.

Also, other than just putting legislation in place, it is fundamental to appreciate the territory as a whole, starting with the awareness of the residing population on the unique character of these settlements. For this, it is crucial the population be a part of the process of change on the territory, as suggested by the REHABIMED³ methodology, with a personal approach to the needs of the population and focused on a greater common good.

With a collective awareness of the settlement as a whole, the creation of specific guidelines for their transformation on a municipal level is fundamental. The need for modernization that is illustrated by the earlier mentioned patterns of modifications can't be neglected, but ensuring that there is again a unity approach is essential to give it the sense of architectural identity it once had.

Lastly, we believe that it is fundamental to promote these types of forgotten settlements on the interior regions of Portugal, specifically with the intention to praise them and guarantee their protection. In most cases, these settlements will be object of change, purely from a housing market point of view, or touristic, or even agricultural, but nevertheless there should be a guarantee that they remain preserved as part of unified strategy settlement.

LIST OF ILLUSTRATIONS

IMAGE 1 Transformative Diversity on *Projecto-tipo do Barroso* building types; By Jóni Teixeira, 2021;

IMAGE 2 Original masterplan for Aldeia Nova do Barroso; PORTUGAL. MINISTÉRIO DA AGRICULTURA. JUNTA DE COLONIZAÇÃO INTERNA – *Projecto de Colonização dos Baldios de Montalegre e Boticas. I Freguesia de Chã –Arruamentos*. Anexo V. Lisboa : MA, JCI, 1944.

IMAGE 3 Study of the evolution / transformations of the masterplan *Aldeia Nova do Barroso*. By Jóni Teixeira, 2021;

³ AAVV. *Metodo Rehabimed - Arquitectura Tradicional Mediterránea - I. Rehabilitación Ciudad y Territorio*. [S.L.]: Rehabimed, 2007?.

Computational Design for 3D Printing Concrete - Case study Learning Labs with Students at the University of Ljubljana

DDR Statement

DDr methodology and thinking were used in learning labs, to investigate possibilities for a 3d printed object. This involved design experimentation as defined by Del Vecchio and Zupancic to arrive at a form without a clear pre-definition of what this form needs to be. Knowledge was created during the design process for different experimental objects, within a scope and context of DFC.

This kind of method is especially well suited for research in architecture and the pedagogical process in design oriented education. Students learned how to make a feasible bridge structure out of digitally fabricated concrete. At the same time, they developed evaluation skills to critically assess their design output. Using this process, students could enter the investigation with no prior knowledge and they were able to develop new skills and competences through design experimentation.

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Zupancic, Tomaz Slak**

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Extended Abstract

Keywords: 3D printing, concrete, computational design, learning lab

Abstract

With the use of additive manufacturing technologies, the construction industry faces a new reality where complex geometry, which was once difficult and expensive to manufacture, is becoming easily available. Some of the benefits include material saving, structure optimization and new design aesthetics. On the other hand, architects and designers need to develop new knowledge and intuition about designing shapes and geometries which could benefit from the opportunities of complex geometry. The paper showcases the use of design directed research (DDr) methodologies in the context of learning labs carried out at the Faculty of architecture, University of Ljubljana. The aim of the labs was to develop novel geometries and designs for fabrication in the context of additive manufacturing using 3D printed concrete.

INTRO

The aim of the paper is to showcase the use of design directed research (DDr) methodologies in the context of learning labs (1) which were carried out at the Faculty of architecture, University of Ljubljana. Learning labs are part of an early stage PhD research titled “Computational design and fabrication of complex self-supporting structures out of 3D printed concrete”. DDr was applied to develop novel geometries and designs for fabrication in the context of 3D printing concrete.

PART 1 - CONTEXT

The first part will discuss 3D printing in concrete which was the framework used for design research applied in the learning labs. More appropriately, 3D printing concrete is classified as digitally fabricated concrete (DFC), that is part of a larger field of additive manufacturing (2). Since the 1990s, additive manufacturing (AM) has been making its way into automotive and aerospace industries (3), where it is being utilized to optimize use of material in cars, redistribute weight in airplanes and manufacture more efficient rocket engines. AM represents a radical shift in fabrication compared to traditional manufacturing (4). Instead of subtracting material, and creating a substantial amount of waste in the process, AM adds material only where it is required. This is achieved by the use of 3d printing technology.

Traditionally building with concrete requires extensive use of formwork to cast material and hold it in place during its curing process. This requires preliminary construction of moulds, typically out of wood or steel, which are afterwards discarded. With the use of AM and DFC there is no need for any additional formwork (5). This means that geometries which were once expensive and complicated to produce become available without being constrained to the shape of the mould. There are many different versions of DFC being researched: “Contour Crafting” developed by prof. Behrokh Khoshnevis (6), “Concrete Printing” developed at Loughborough University (7) and “Particle-bed binding” pioneered by d-Shape (8). The aim of the learning labs was to apply the available fabrication techniques to design novel geometries.

PART 2 – LEARNING LABS

In the second part we will describe a workflow employing DDr methodology and thinking, used in the scope of learning labs with students, carried out at the Faculty of architecture at the University of Ljubljana. The aim of the labs was to investigate design for novel, structurally stable geometries within the context of DFC.

Two learning labs were carried out in the winter semester of academic year 2019/2020 and in September of 2020. The aim of the first learning lab was to design a structurally stable bridge that is well suited for fabrication using DFC and would be difficult to manufacture using traditional construction technologies. 33 participating students

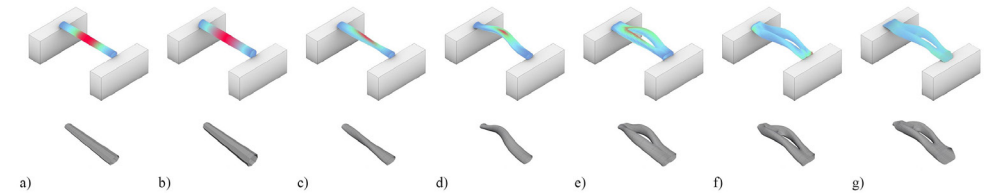


Figure 1. (a-g) Design sequence and structural evaluation of a series of options for a 3d printed pedestrian bridge. Bottom row shows the designed geometry; top row shows structural evaluation diagram of each of the options. Red colors signify larger deflections in geometry while green and blue identify a more stable shape.

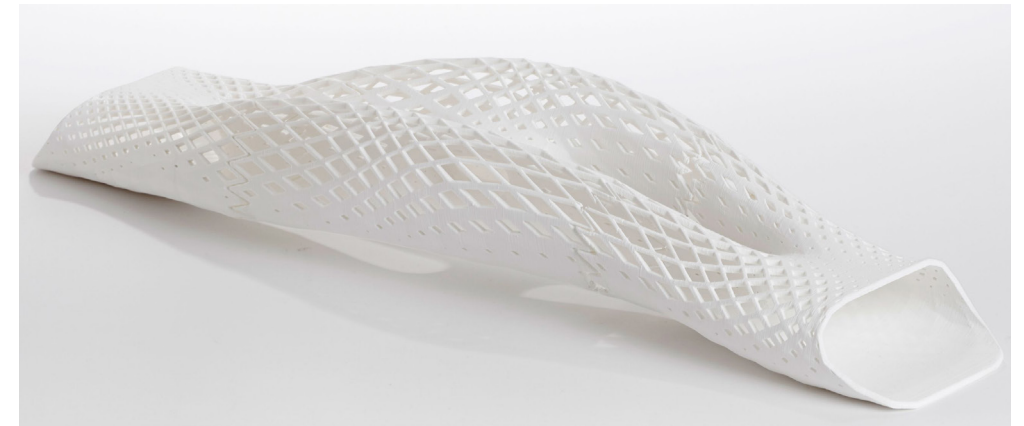


Figure 2. Photo of a scale model for a 3d printed pedestrian bridge. The perforation patterns are applied to reduce material in the middle where it is not required. At the same time, they lighten the self-weight of the bridge and open up views.

were working in groups of 2 or 3 people, to experiment with different shapes for a small pedestrian bridge. They had to cyclically create and evaluate their designs for printability, structural stability and usability by pedestrians.

The diagrams in Figure 1 show a cyclical design process used for shaping and evaluating structural stability. The bridge is designed, evaluated and redesigned according to the findings in each evaluation cycle. Figure 2 shows a 3d printed scale model for a pedestrian bridge made with DFC.

The second learning lab, which was carried out in September of 2020, focused its research on a small shelter dwelling. Computational tools were used to design complex

shell geometries with a focus on minimal surface geometry. The limited time frame of the workshop did not permit an extensive cycle of design and evaluation as illustrated in the case of a 3d printed pedestrian bridge. Instead, a tool was developed in advance for students to experiment with. The process involved digital 3d modelling of simple rectangular geometries which subsequently got transformed into minimal surface shells via a pre-prepared algorithm.

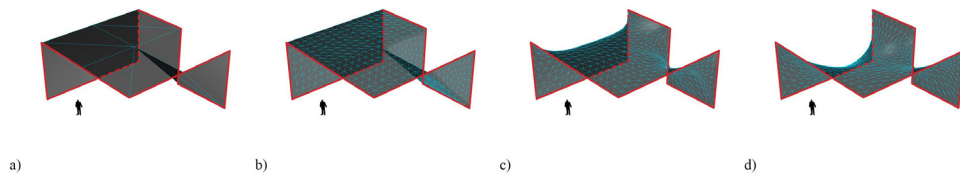


Figure 3. (a) Simplified rectangular shape designed by the students. (b-d) relaxation algorithm employed to determine optimal minimal surface given the boundary conditions highlighted in red.

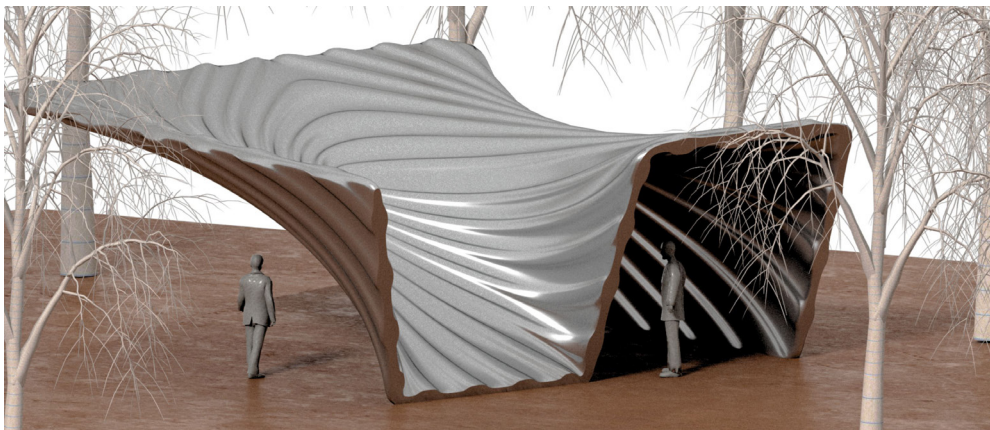


Figure 4. Rendering of an optimized structure shown in Figure 3. Additional ribbing was added to stiffen the shell surface and to express the topological flow as ornamentation and detail.

IMPORTANCE AND ROLE OF DDr EMPLOYED IN RESEARCH

DDr methodology and thinking were used in both learning labs, to investigate possibilities for a 3d printed object. This involved design experimentation as defined by Del Vecchio and Zupančič (9) to arrive at a form without a clear pre-definition of what this form needs to be. Knowledge was created during the design process for different experimental objects, within a scope and context of DFC.

This kind of method is especially well suited for research in architecture (10) and the

pedagogical process in design oriented education. Students learned how to make a feasible bridge structure out of digitally fabricated concrete. At the same time, they developed evaluation skills to critically assess their design output. Using this process, students could enter the investigation with no prior knowledge and they were able to develop new skills and competences through design experimentation.

ENDNOTES

1. Engeström Y. Learning by Expanding. Cambridge University Press; 2015. 339 p.
2. Buswell RA, da Silva WRL, Bos FP, Schipper HR, Lowke D, Hack N, et al. A process classification framework for defining and describing Digital Fabrication with Concrete. *Cem Concr Res.* 2020 Aug;134:106068.
3. Wohlers TT. Wohlers report 2004: rapid prototyping, tooling & manufacturing state of the industry annual worldwide progress report. Fort Collins, Colo.: Wohlers Associates; 2004.
4. Groover MP. Introduction to Manufacturing Processes. 1st edition. Hoboken, NJ: Wiley; 2011. 720 p.
5. Buswell RA, Leal de Silva WR, Jones SZ, Dirrenberger J. 3D printing using concrete extrusion: A roadmap for research. *Cem Concr Res.* 2018 Oct 1;112:37–49.
6. Khoshnevis B. Automated construction by contour crafting - Related robotics and information technologies. *Autom Constr.* 2004 Jan 31;13:5–19.
7. Lim S, Buswell RA, Le TT, Austin SA, Gibb AGF, Thorpe T. Developments in construction-scale additive manufacturing processes. *Autom Constr.* 2012 Jan;21:262–8.
8. Lowke D, Dini E, Perrot A, Weger D, Gehlen C, Dillenburger B. Particle-bed 3D printing in concrete construction – Possibilities and challenges. *Cem Concr Res.* 2018 Oct;112:50–65.
9. Delvecchio F, Zupancic T. Contextualisation of a creative practice. a dialogue. *Ann-Anali Za Istrske Mediter Stud - Ser Hist Sociol.* 2017 Jan 1;27:227–44.
10. Koskinen I, Zimmerman J, Binder T, Redstrom J, Wensveen S. Design Research Through Practice: From the Lab, Field, and Showroom. Elsevier; 2011. 223 p.

Design Strategies Relating to the Perception of Ownership, Porosity and Property Boundary

DDR Statement

Being at the early stages of the design-driven research process, the preliminary research question's formulation was a critical moment in the reflection on the design methods I have used in my practice so far. Over the years, I have been working on projects with a similar brief (small-scale domestic buildings) yet, set in an entirely different context - England, India and Poland. The scientific rigour of doctoral research enabled a systematic appraisal of the outcomes analysed using the same criteria. Such reflection on my past working methods in these varied conditions, coupled with a growing interest in the locally-specific, spontaneous place-making processes and the attitude towards owned terrain, led me to an array of possible investigation directions. Is there a common factor regarding the perception of ownership in a dynamically changing social context? Can a specific architectural intervention have an analogous impact on the place forming process in those settings? These deliberations led me to specific alterations in my approach to the design strategy - the decisions related to the boundary aspect and become more deliberate rather than intuitive. As a result, I am testing and altering the sequence of the particular design decisions and experimenting with visual representation methods related to different work stages and the needed communication with the clients. Each project forming a part of an ongoing sequence of such testing allows for a constant reassessment of the possible design solutions. Those project-specific discoveries and reflections tested at a non-theoretical level will hopefully allow to build up knowledge positioned in the broader context of the enquiry into the tension between private and public.

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Extended Abstract

Keywords: boundary, affordance, transition space, porosity

Abstract

Antagonistic relations between the domesticity and the public realm deliberated in conjunction with the boundary's capacity to form a space rather than a separation sets the base to this research proposal. The study looks at the design responses addressing such tension between the public and private, the periphery and the inner space — in the context of small-scale, predominantly residential projects. The documented projects are used to analyse the ambivalent qualities of the particular elements responsible for the manifestation of ownership and those controlling the perceived privacy levels and visual connectivity. The proposal aims to analyse how the used design tools and the concept development techniques affect the final design and the subsequent use. The study examines the design process where such a transition is represented as a narrative compelled of a sequence of specific moments — a tool used to define the build fabric's porosity and generate particular spaces' capacity to provide affordance for specific activities.

DESIGN STRATEGIES RELATING TO THE PERCEPTION OF OWNERSHIP, POROSITY AND PROPERTY BOUNDARY

A manifestation of land ownership and a property line has its symbolic meaning and an array of physical solutions depending on the regional, urban or rural setting. The notion of tackling the urban fabric fragmentation, the solutions for the border vacuum within the urban tissue, and concepts like co-housing or land-sharing have been a topic of debate over the last decades. Whilst the concept of blurring the boundary between the public and private domain for the multi-occupancy domestic schemes is widely explored, I would like to take a closer look at the potential of testing these strategies from a perspective of a single, small-scale private project. Can a micro-scale intervention connected to the decisions regarding the fence, the front yard, or the porosity of the building's envelope augment the functionality of the immediate surrounding? How does a non-abrupt, gradual transition from the private to the public domain manifest itself in the nuances of design solutions?

The research proposal is set in the context of my past work on the residential development guidelines for an experimental township where the assets, including the land, are shared by the residents. In this scenario of no legal ownership and only virtual property boundaries, I researched how the shared social infrastructure components can be incorporated in the built fabric whilst ensuring the varied levels of required privacy and security. In my architectural practice, I am currently investigating the extent to which the design practices derived from a collective ownership environment can be successfully transferred into a regular setting whilst being limited to interventions connected to a one-off private project. I am testing how the quality of such transitional spaces can aid the experience of domesticity and the connectivity to the immediate community while inciting spontaneous place forming processes at the site's periphery.

A particular dimension to my investigation is granted by the locations of my projects in the past years. India and Poland, seemingly distant, share a quality of being subject to relatively recent and profound political, social and economic changes happening in a considerably short time. The post-communist and post-colonial both give a context of rapid development and abandonment of certain building traditions, which in turn determine the perception of the needed security, privacy and the attitude towards ownership. Whilst the private-public boundary space can have different connotations in the tropics and the northern hemisphere, the analysis of both scenarios in the challenging, often dysfunctional and fragmented built realm can give ground to common design strategies (1). Those strategies are to address the sequence of transition spaces, the diversity in the connectivity between the domestic and the shared realm and the revival of the lost, spontaneous community place-making practices.

(1) Le Roux, Hannah (2004): Building on the boundary — modern architecture in the tropics, Social Identities, 10:4, 439-453, DOI: 10.1080/1350463042000258889 from February 20, 2021

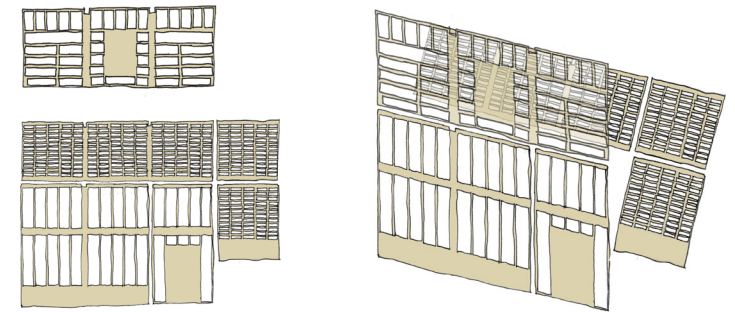


fig.1. Bedroom. Layers controlling the visual connectivity to the street. Single family home, Bangalore, completed in 2020.

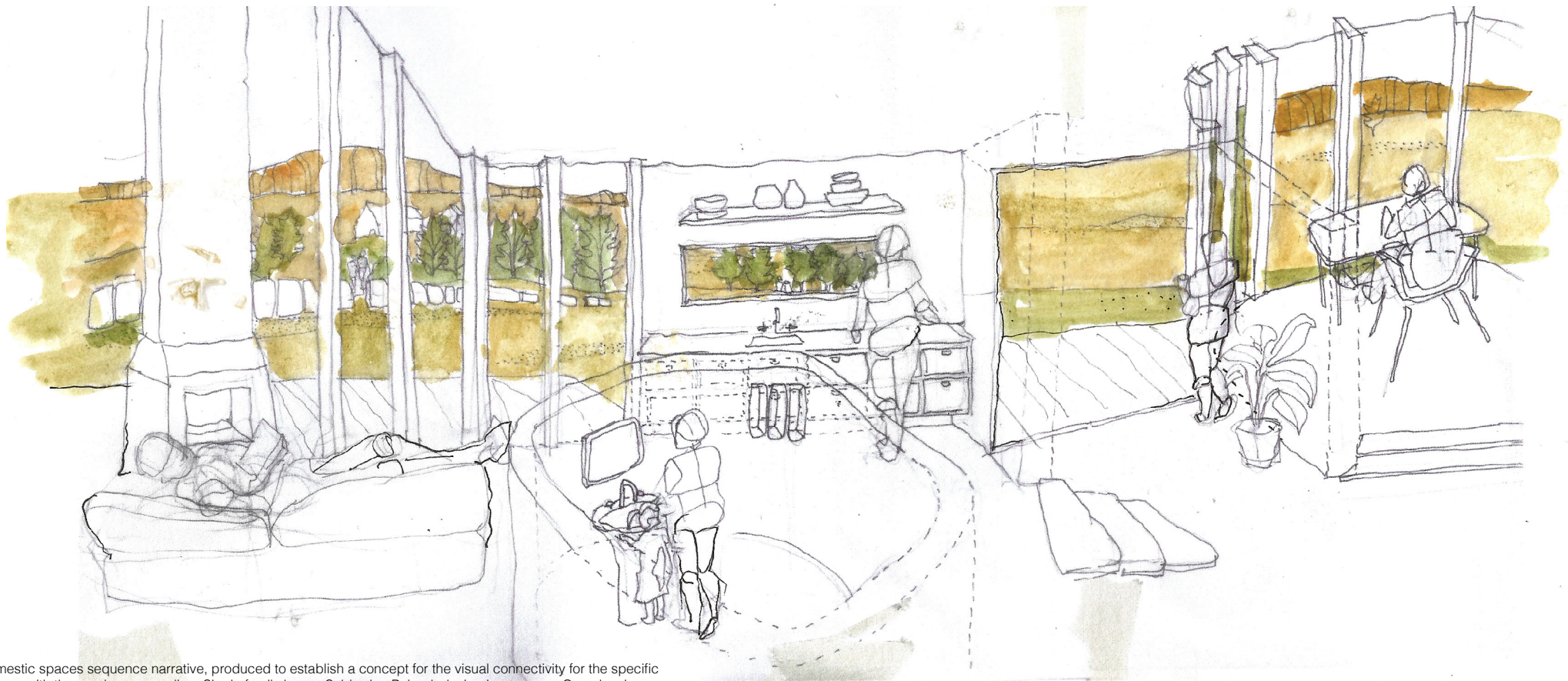


fig.2. Domestic spaces sequence narrative, produced to establish a concept for the visual connectivity for the specific spaces with the nearby surrounding. Single family home, Soblowka, Poland, design in progress. Own drawing.

The documented projects are used to catalogue the physical manifestations of the intimate domestic zone (fig.1,3), that at the site's periphery (fig.3), and also further – at the adjacent, informally community-owned, shared space. I intend to question the need for a clear demarcation and separation of the Aristotle's *oikos* and the *polis* by offering a more intricate set of transitional spaces based on the exact privacy needs (2). I look at how the characteristics of those zones, seen as a sequence of overlapping spaces, can be translated to the specific design tools augmenting the spaces transitions whilst meeting the particular project's functional requirements. Such strategy aims to create a more rich environment, transitioning from the inner domestic realm, through the site's periphery to the public realm, by offering a set of flexible spaces with multiple uses.

Consequently, while investigating the aspects of the documented transition spaces, I am interested in testing the relevance of the *Theory of Affordances* by J. J. Gibson's and the associated nomenclature applied to describe the subtle moments of the documented design interventions (3). Thus, I look at the given space as a medium where certain qualities of surfaces and their layout create affordance for specific activities – be it a flat surface suitable for sitting, an alcove inviting to stop by or a sunny wall patch conducive for comfortable leaning and engaging in a conversation. Categorising the previously intuitively used design tools based on the psychology of ecological perception and appreciating the direct linkage between the design's nuances and the subsequent use, will hopefully pave the way to a more

(2) Aureli, Pier Vittorio (2008): Toward the Archipelago, Log, no. 11, 2008, pp. 91–120. JSTOR, www.jstor.org/stable/41765186 from February 25, 2021

(3) Gibson, J.James (1986): The ecological approach to visual perception, New York:Tylor&Francis Group.

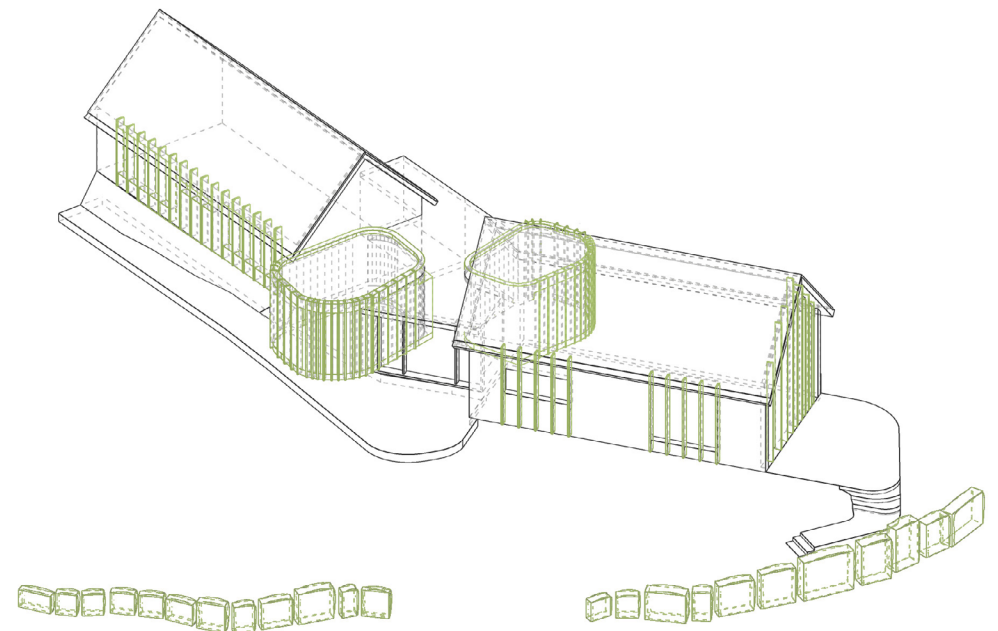


fig.3. Porosity and visual connectivity controls. Single family home, Soblowka, Poland, design in progress. Own drawing.

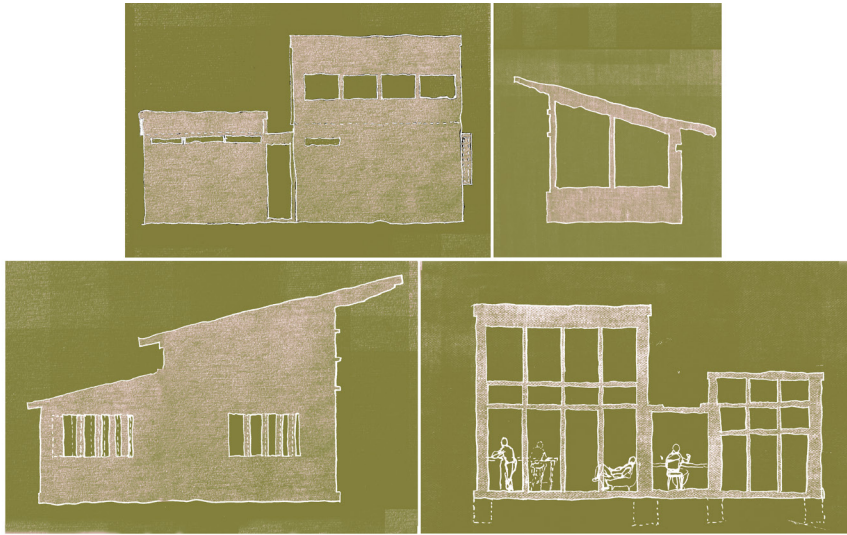


fig.4. Internal elevations study - building's envelope perceived from the inside as a visual connection filter. Cabin, Sablowka, Poland, design in progress. Own drawings.

methodological approach in my future work. A systematised catalogue of the design tools relating to the structure of reflected light, relative point of view, textures or even the roundness or sharpness of edges grants a possibility of a more rigorous appraisal of the existing and future design outcomes.

I am studying how the positioning of such underlying sequence narrative as pivotal to the design strategy impacts the trajectory of the process, shapes the final porosity of the built fabric, as well as impacts the subsequent use. Giving this added attention to the perception mechanisms which impact the design methods, particularly concerning the visual connectivity, I look at the new, apt ways of representation and appraisal of the designed fabric porosity. And so, I am delaminating all the build structures between the private domain and public realm into layers that act as visual connectivity filters – this helps to visualise and code the direct link between the gradation of privacy and porosity of the built fabric (fig.1,4). The envelope of the building stripped down to information showing it solely as a filter for visual connectivity acting in a specific depending on the point of view, proves valid as means to a retrospective assessment of past projects and as a design tool for the current ones.

The direction for further research and the formulation of a coherent methodology are given by assessing the outcomes and subsequent use of the previously designed buildings. This motivated an alteration to the representation techniques I currently use - those aim to visualise explicitly the underlying strategy regarding the sequence of transition spaces. I am observing how using such altered techniques impacts the concept development and also how it affects client-architect communication. Consequently, I prioritise the subjective environment analysis sketches (fig.2,5) rather than formal architectural drawings representing barely building's functionality requirement. As a design strategy, I aim to contrast and rationalise the mentioned subjective narrative with a logical appraisal of the designed spatial elements following the aforementioned Theory of Affordances. The design strategy seeks to directly reflect the particular privacy needs with the building's porosity and extend the reference ground of the future building inhabitants to the nearby neighbourhood, helping to appreciate the potential for an active usage beyond the building's envelope and even their site boundary.

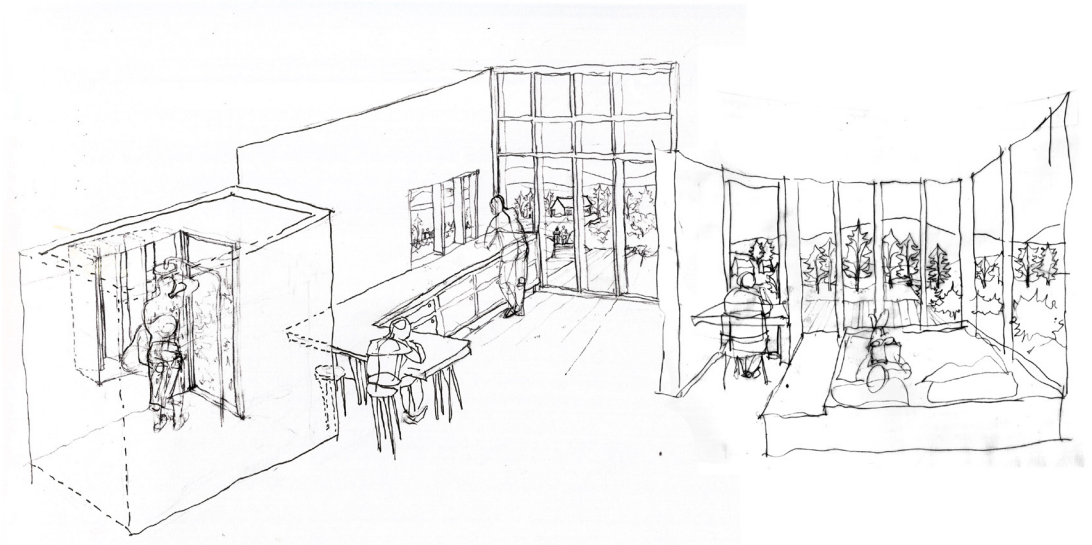


fig.5. Initial inner spaces narrative sequence study exploring porosity and the visual connectivity. Cabin, Soblowka, Poland, design in progress. Own drawing.

"Setting up a narrative for visual connection"

https://youtu.be/79n_4vJS4NI

Expose and Assemble

The Poetic Narrative as a Design Principle

DDR Statement

Reading the site or the existing structure of a space with its inherent logics is an elementary step in the design process, which can be applied to all levels of scale, but is usually largely intuitive. The poetic narrative as a artificial spatial element and a counter-design to the all-encompassing concept, connects the different layers of transformations, overlays of uses and spatial interventions. It is developed through a process of exposing hidden structures and layers and assembling new spatial elements in an additive way, such as a newly added sculptural stair-case or a chimney that gives a new, vertical dimension to an existing façade. Additionally an exiting space can also be retold by reduction and the poetic subtraction of its current layers. A newly built enfilade in the existing layout of a barn reinterprets the connection between space and use, creates new references in the rigid corset of the existing structure. In the design process of a poetic narrative, the formation of a new context, which can guide through all the design decisions, is inevitable additionally to the analysis of the inherent historic context. This mostly works by the use of various visualization aids such as models and collages and the creation of a series of variantions. The designer enters into a personal dialogue with this context to develop and question the narrative element at the same time. The final spatial element and the poetic narrative have to be self-evident to last through the different stages of the planning process. The understanding of the design process, the single decisions and changes of the design until the realisation is one of the key parts of this dissertation which leads to the role of the used methods of design-driven-research.

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early stage research

Technical University Berlin

Artefact

Keywords: architecture, transformation, narrative

Abstract

The site specific context forms the inescapable basis of an architectural design process, it consists not only of spatial, but also economic, social and legal layers. In the context of these complex superimpositions, a design intervention will mostly not work in a strict conceptual way. There is a need for a poetic narrative as a design and communication approach to guide the mostly non-professional client through the design and final building process, where many parts of a concept get lost in cost efficiency, legal conditions and technical norms.

The poetic narrative is developed by the exposition of primary building structures and the assembling a new, artificial context through new robust spatial elements, which tell from their new context in a poetic way. These elements are small, gentle interventions in the existing structures, but made to “survive” the steady changes of a space by its user.

EXPOSE AND ASSEMBLE - THE POETIC NARRATIVE AS A DESIGN PRINCIPLE

CA²RE 2021 HAMBURG | KRISTINA MARIA SZEIFERT

DEALING WITH THE EXISTING CONTEXT FORMS THE ALMOST INESCAPABLE BASIS OF TODAY'S ARCHITECTURAL CREATION, BE IT FOR REASONS OF SUSTAINABILITY, ECONOMIC EFFICIENCY OR THE DENSITY OF URBAN LAYOUTS. NO PLACE IS CONCEIVABLE WITHOUT OVERLAYING MEANINGS AND TRACES OF DIFFERENT USERS AND USES. ECONOMIC AND ECOLOGICAL THINKING IN THE PROCESS OF CREATING NEW SPACES PRESUPPOSES THE RECYCLING AND FURTHER USE OF EXISTING BUILDING MATERIAL OR URBAN CONTEXT. NO SPACE IS MEANINGLESS, NO PLACE WITHOUT HISTORY. WE EXPERIENCE THE CITY AS A PALIMPSEST OF VARIOUS TEMPORAL EPOCHS AND POLITICAL SYSTEMS AND LEARN SPECIFICALLY

THROUGH ANALYTICAL WORK, THE EXPOSURE THROUGH STUDYING, IN ORDER TO READ AND UNDERSTAND THE SITESPECIFIC LAYERS AND SEDIMENTS. AS A CONSTANT SUPERIMPOSITION OF NEW NARRATIVES, THE NOW IS MUCH MORE AN AGGREGATE STATE IN WHICH AN INTERVENTION THROUGH ADAPTATION OR TRANSFORMATION IS ALSO ONLY A TEMPORARY MEASURE. THE CORRELATION OF THE INDIVIDUAL LAYERS AND ELEMENTS QUITE FRAGILE, SINCE THEY HAVE DIFFERENT HALF-LIVES IN TERMS OF THEIR DURABILITY AND ROBUSTNESS, BUT WHAT ALSO CREATES THIS TENSION THAT FASCINATES US ABOUT THE PROCESS OF RECURRING CHANGE. A BUILDING PROCESS IS MAYBE NEVER COMPLETE. FOR EXAMPLE

THE USE OF A BUILDING OR STRUCTURE IS THE MOST VOLATILE ELEMENT, WHICH CAN BE CHANGED BY THE SMALLEST INTERVENTION. SUPPORTING STRUCTURES AND EVEN INFRASTRUCTURES SURVIVE SIGNIFICANTLY LONGER AND ARE THE SOLID FRAMEWORK ANY ADAPTATION OR TRANSFORMATION. APPRECIATING WHAT IS ALREADY THERE, BUT CURRENTLY LYING FALLOW, IS TO BE EXAMINED IN THE BEST POSSIBLE WAY BOTH ON THE BASIS OF URBAN DEVELOPMENT PROCESSES AND ON A SMALLER SCALE OF THE HOUSE ITSELF. READING THE SITE OR THE EXISTING STRUCTURE OF A BUILDING WITH ITS INHERENT LOGICS IS THEREFORE AN ELEMENTARY STEP IN THE DESIGN PROCESS, WHICH CAN BE APPLIED TO



FIG 1.: VIEW FROM ZINGSTER STRASSE

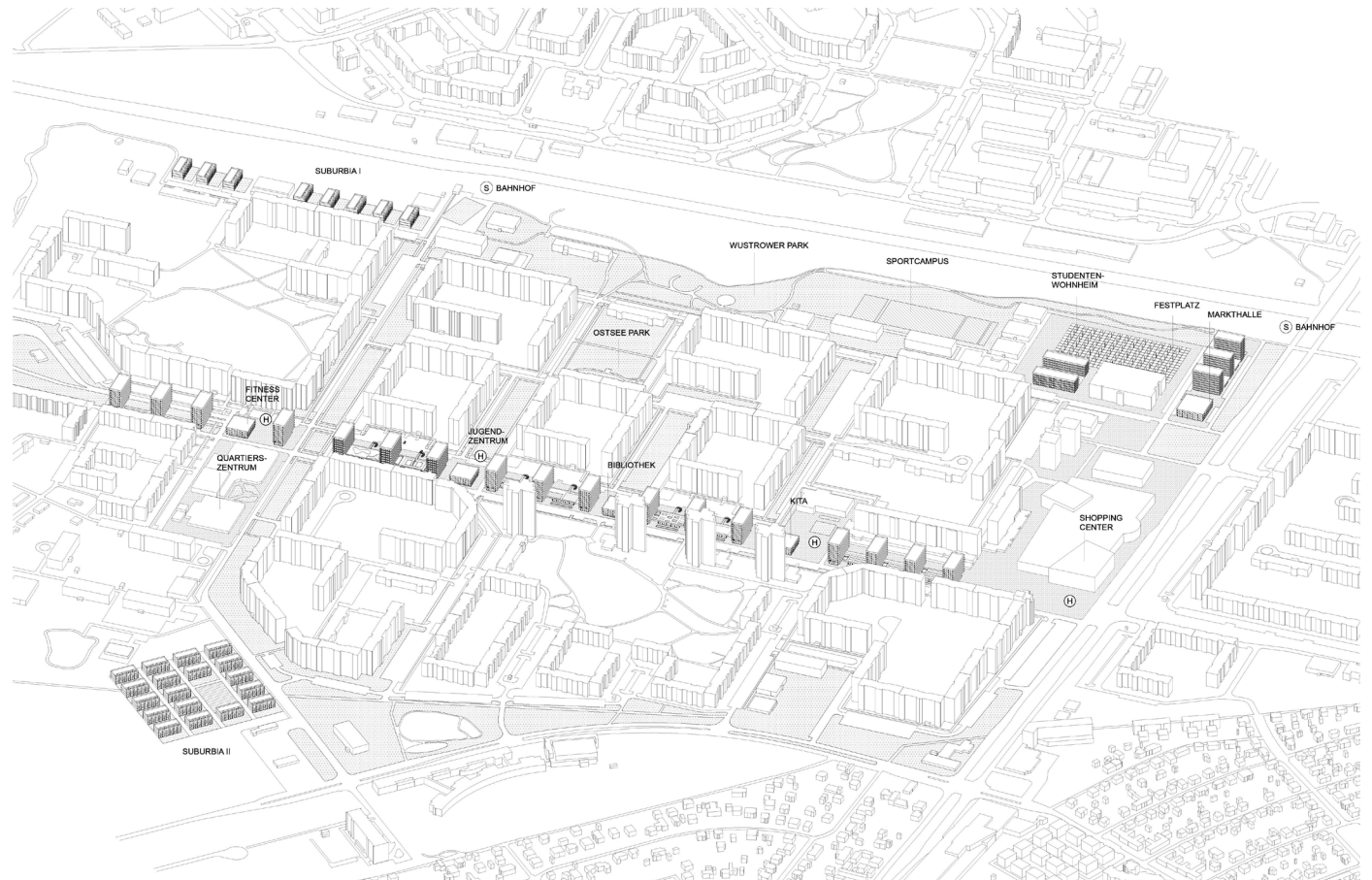


FIG 2.: AXONOMETRIC DRAWING

EXPOSE AND ASSEMBLE - THE POETIC NARRATIVE AS A DESIGN PRINCIPLE

CA²RE 2021 HAMBURG | KRISTINA MARIA SZEIFERT

ALL LEVELS OF SCALE, BUT IS USUALLY LARGELY INTUITIVE. WITH THE HELP OF A POETIC NARRATIVE DESIGN PRINCIPLE, AS A COUNTER-DESIGN TO THE ALL-ENCOMPASSING CONCEPT, AS WELL AS THROUGH VARIOUS TRANSFORMATIONS, OVERLAYS OF USES AND SPATIAL INTERVENTIONS, THE EXTENT TO WHICH THE INITIALLY INTUITIVE READING AND SUBSEQUENT REINTERPRETATION OF THE SITE AS A SPATIAL RESOURCE CAN BE ABSTRACTED INTO A DIFFERENTIATED DESIGN METHODOLOGY. IN THE PROCESS OF UNCOVERING AND ASSEMBLING, THE POETIC NARRATIVE PLAYS THE LEADING ROLE AS A DESIGN ELEMENT. AFTER THE BASIC STRUCTURE

HAS BEEN DETACHED, THIS CAN BE, FOR EXAMPLE, AN ADDITIVELY ADDED ELEMENT, SUCH AS A NEWLY ADDED SCULPTURAL STAIRCASE ON THE SCALE OF THE HOUSE OR ON A LARGER URBAN SCALE AN UNCOMMON TYPOLOGICAL ADDITION TO THE URBAN FABRIC AS A RECOURSE TO LOST INDUSTRIAL SITE STRUCTURES. IN ADDITION TO THE ADDITIVE PRINCIPLE, SPACE CAN ALSO BE RETOLD BY REDUCTION AND THE POETIC SUBTRACTION OF ITS LAYERS. A NEWLY BUILT ENFILADE IN THE EXISTING LAYOUT OF A BARN REINTERPRETS THE CONNECTION BETWEEN SPACE AND USE, CREATES NEW REFERENCES IN THE RIGID CORSET OF THE EXISTING STRUCTURE.

IN THE PROCESS OF WEIGHING AND COUNTING, THE QUESTION OF THE SCALE AND APPROPRIATENESS OF THE INTERVENTION PLAYS A CENTRAL ROLE. THE AIM SHOULD BE TO CREATE A NEW, ROBUST STRUCTURE THROUGH THIS NARRATIVE ELEMENT, WHICH CONSISTS IN CONSTANT CHANGE BY THE USERS AND THEIR HABITS. THE EXTRACTION OF THE NARRATIVE FROM THE CONTEXT LEADS, AT BEST, TO THE DESIGN BEING TAKEN FOR GRANTED, EVEN IF IT IS IN HIGHLY CONTRASTING THE EXISTING SURROUNDINGS. THE FIGURE-GROUND PRINCIPLE OF SELECTIVE PERCEPTION CAN BEST BE APPLIED TO THIS. AS IN THE GAME WITH THE TILTING FIGURE,



FIG 1.: CONSTRUCTION SITE VIEW ENFILADE



FIG 2.: MODEL VIEW ENFILADE

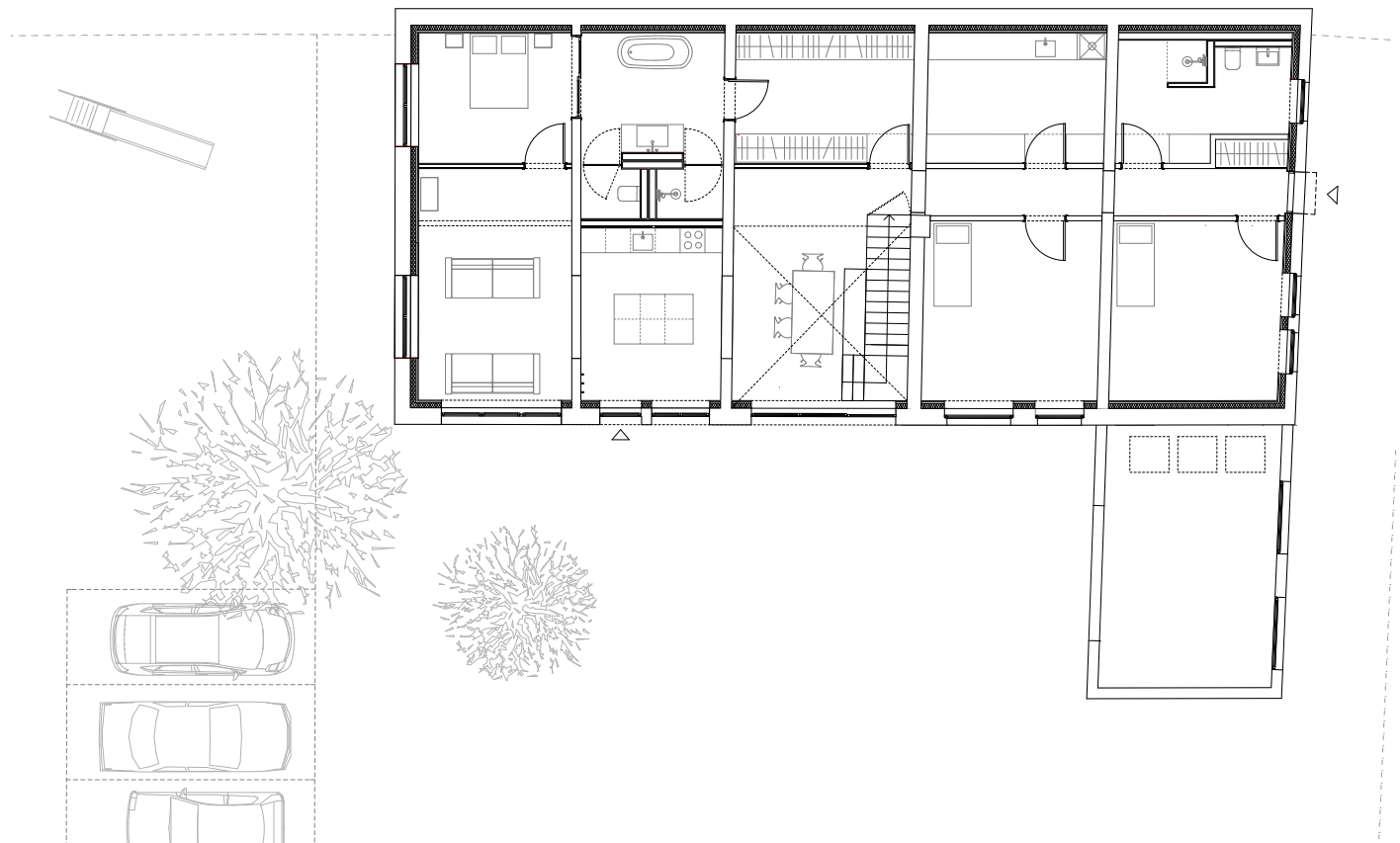


FIG 3.: FLOOR PLAN

EXPOSE AND ASSEMBLE - THE POETIC NARRATIVE AS A DESIGN PRINCIPLE

CA²RE 2021 HAMBURG | KRISTINA MARIA SZEIFERT

THE INTERVENTION ITSELF CAN EITHER STAND IN THE FOREGROUND AS A CENTRAL ELEMENT OR EMPHASIZE SPECIAL PROPERTIES OF THE EXISTING STRUCTURE AS A NEWLY CREATED BASIS. SPECIAL VISUAL PRINCIPLES WORK HERE, WHICH CAN BE TRANSFERRED TO THE DESIGN OF A NARRATIVE ELEMENT, FOR EXAMPLE THE CLEAR OUTLINE OF THE ELEMENT IS AN IMPORTANT PREREQUISITE FOR LEGIBILITY OF THE FORM. IF THIS TILTING FIGURE CAN BE READ IN BOTH DIRECTIONS, THIS IS AN EVEN MORE INTERESTING MANIPULATION OF THE EXISTING RELATIONSHIP BETWEEN OLD AND NEW. IN THE DESIGN PROCESS OF A POETIC NARRATIVE, THE FORMATION

OF A NEW CONTEXT, WHICH CAN GUIDE THROUGH ALL THE DESIGN DECISIONS, IS INEVITABLE ADDITIONALLY TO THE ANALYSIS OF THE INHERENT HISTORY OF THE BUILDING OR SITE. THIS MOSTLY WORKS BY THE USE OF VARIOUS VISUALIZATION AIDS SUCH AS MODELS AND COLLAGES. THEREBY IT IS IMPORTANT TO UNDERSTAND THAT THESE IMAGES ARE NEVER OBJECTIVE AND ALREADY CONTAIN SOME THE VIEWS OF THE PRODUCER, WHICH MAKES IT EVEN MORE IMPORTANT TO GAIN CONTROL OVER THE PROCESS OF FINDING THE MOST SUITABLE NEW NARRATIVE FOR THE GIVEN CONTEXT. THE DESIGNER ENTERS INTO A PERSONAL DIALOGUE WITH THIS CON-

TEXT TO TO DEVELOP AND QUESTION THE NARRATIVE ELEMENT AT THE SAME TIME. THE UNDERSTANDING OF THIS PROCESS IS ONE OF THE KEY PARTS OF THIS DISSERTATION WHICH LEADS TO THE ROLE OF THE USED METHODS OF DDR.



FIG 1.: VIEW OF THE VILLA



FIG 2.: MODEL VIEW

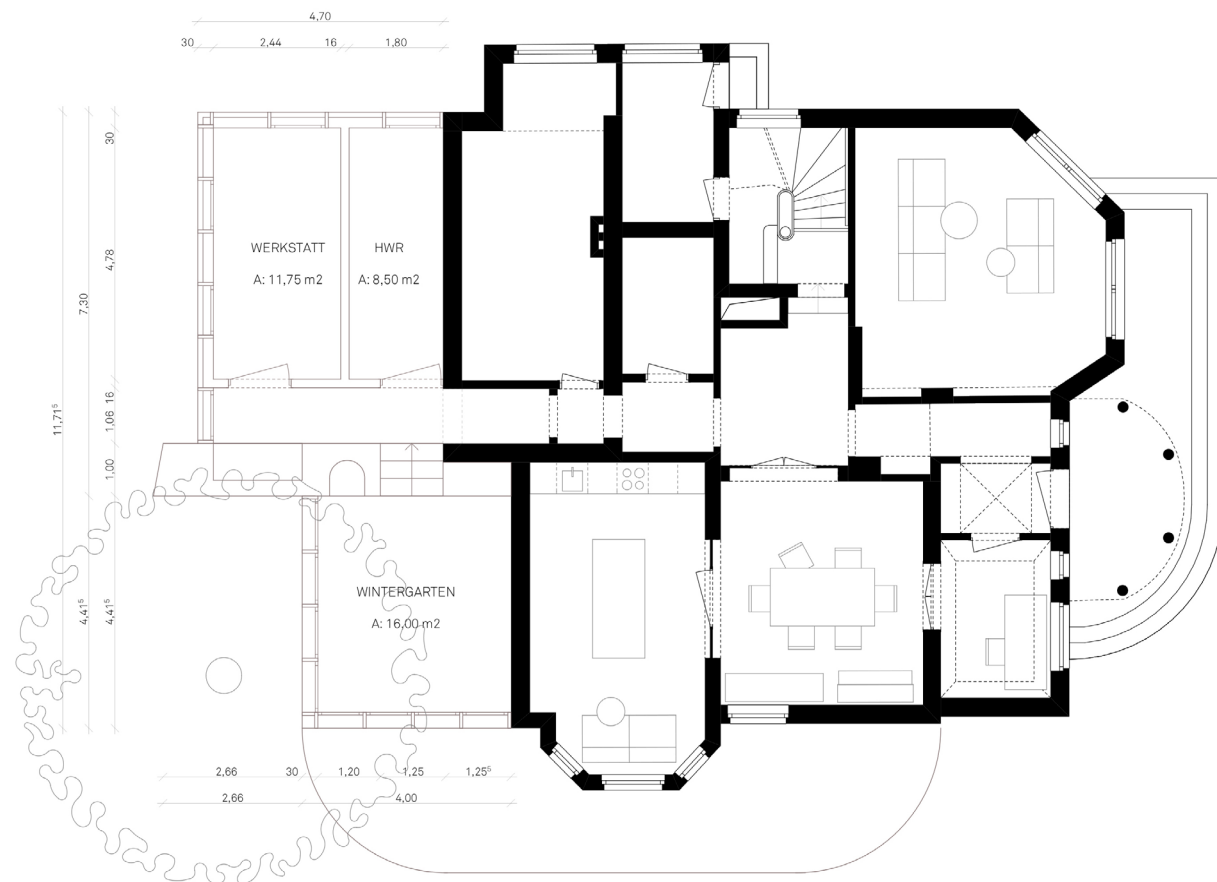


FIG 3.: FLOOR PLAN

See Beyond Thought

Spaces of Contemplation

DDR Statement

The examination of the contemplative practice, but also the architectural theoretical classification are considered as the theoretical superstructure of the dissertation. The core of the work, however, is the written and drawn analysis of built examples, as well as their artistic, implicit further development - the design-based research. In the context of the analysis, spatial indications are derived and, based on them, designs are developed in order to consolidate the results. On the one hand, this examination promotes analytical, conscious design and, at the same time, underpins the implicit, unconscious design process. The investigation of corresponding architectural situations can thus be described as a basis for one's own design work. From the reciprocal extraction of spatial requirements, a well-founded discussion of typological characteristics of spaces of contemplation will be opened. The analysis takes place on the basis of pictures, descriptions as well as drawings. As the degree of abstraction is refined, the results are systematized. Student designs are made in the same form, whereby the focus of the process is on reduction and will lead into a series of spatial characterizations. My own design work is to be understood in terms of built examples and is based on the findings of the students' work. The classification and presentation of the results are expected to be in written form only, with the drawings as well as renderings but also of the design-based research underpinning them. The thoughts will be presented in an exhibition and an accompanying book.

Lena Ehringhaus

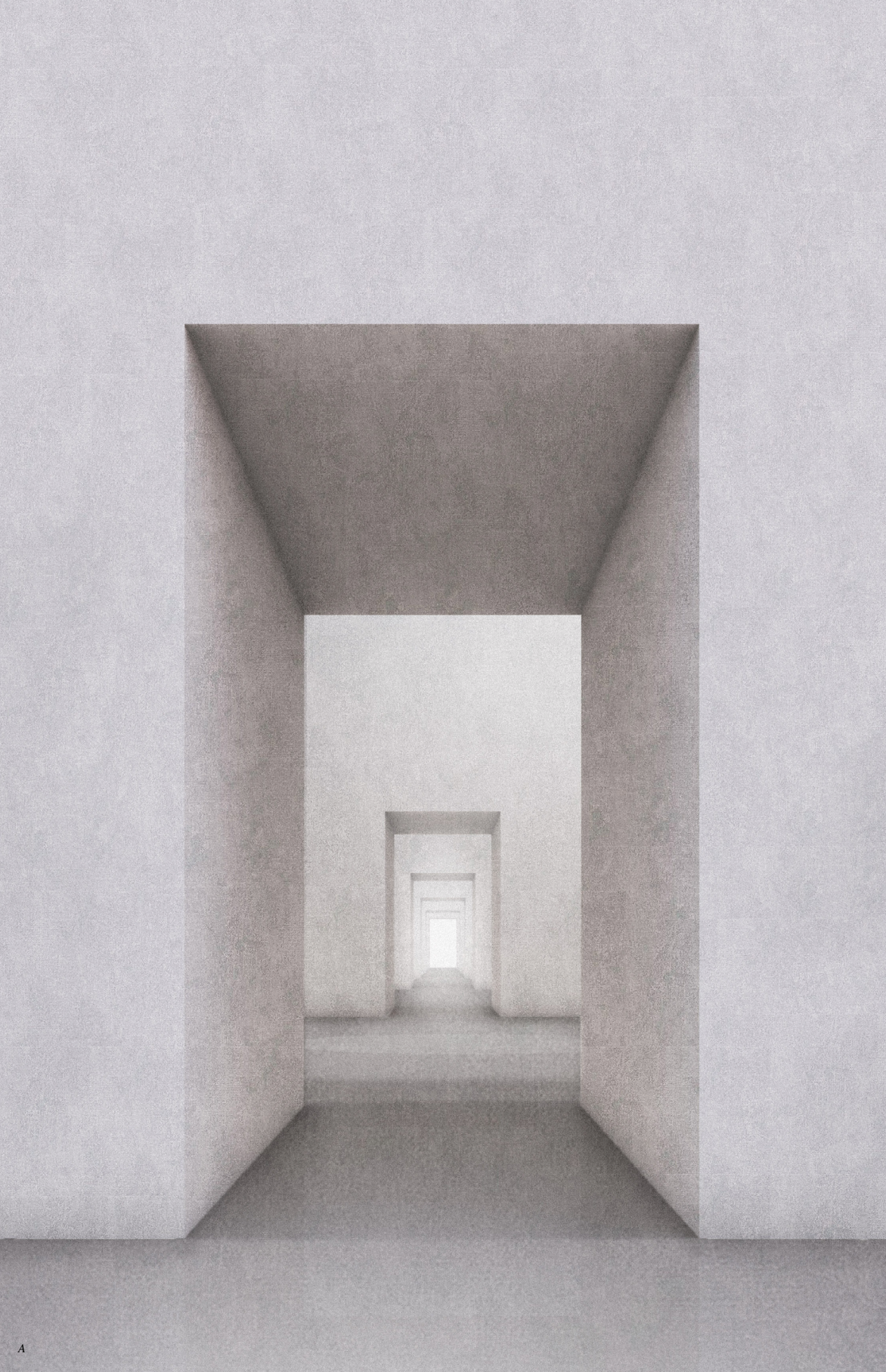
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Keywords: spaces of contemplation, spatial atmosphere, architectural stillness

Abstract

This scientific-artistic dissertation deals with the classification and development of architectural spaces of contemplation. In a world in which there is an increase of physical and psychological illnesses we need those spaces. Spaces, which transform the entering person into the state of vastness, inner presence, attentive being. Which spatial aspects can be identified for those spaces? Through comparative analysis of corresponding theories, the first part of the work elaborates the fundamentals for the development of atmosphere and spatial silence. Based on this, the second part of the thesis includes an analysis of existing sacred spaces of different religions as well as comparative architectures of different cultures. In addition to the first two sub-areas, the findings are further developed on the basis of designs. From the comparative analysis and summary of existing spatial theories, built examples as well as the design, an architectural base for the development of appropriate qualities will thus be elaborated.

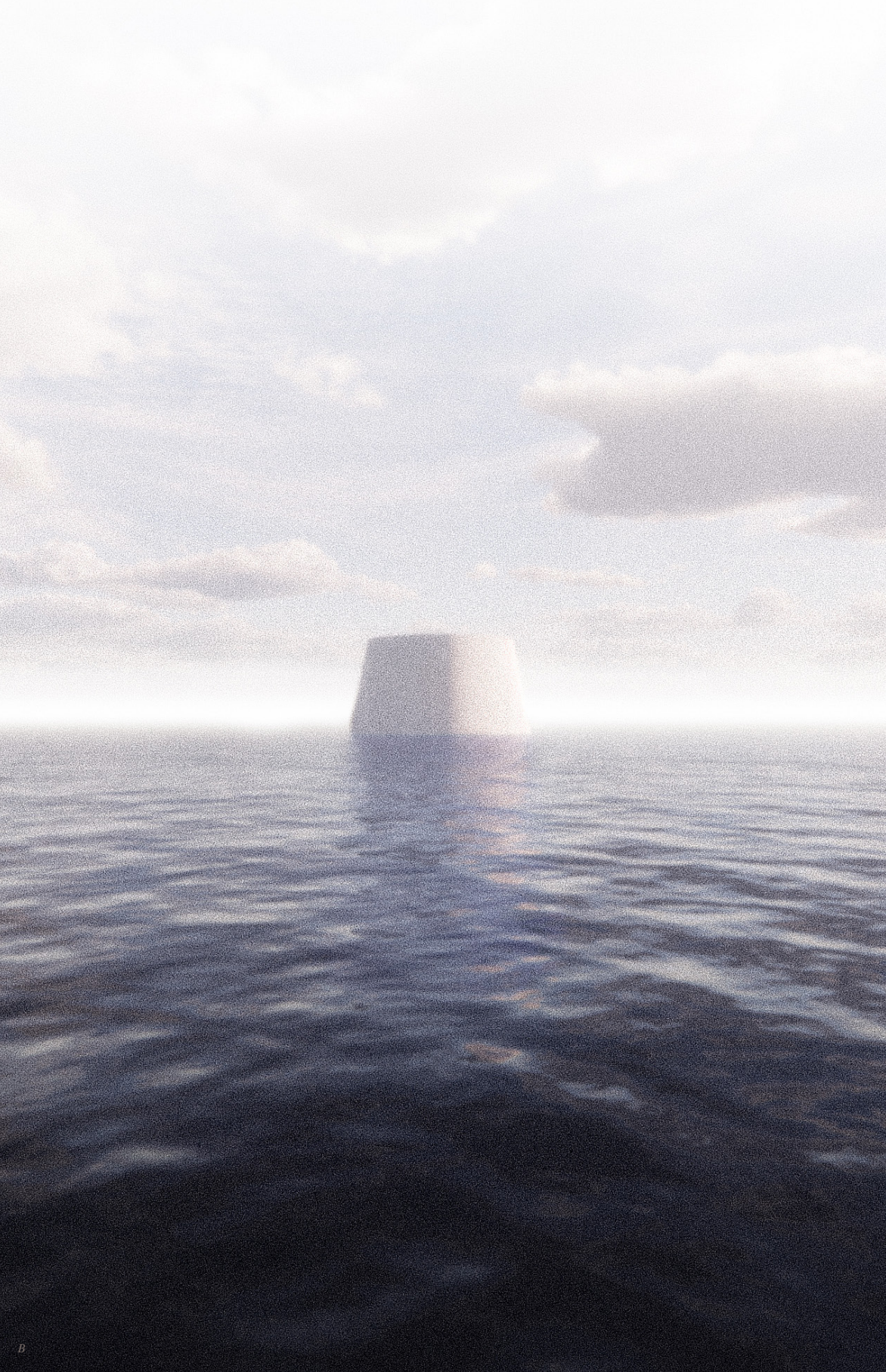


SEE BEYOND THOUGHT

Spaces of Contemplation

This scientific-artistic dissertation deals with the classification and development of architectural spaces of contemplation. The aim of the work is to work out quality criteria for the development of spaces that put the person entering in a state of contemplation, based on changing social needs. By the middle of this century about seventy percent of the world's population will live in cities. The psychiatrist Mazda Adli assumes that there will be a high increase in physical and mental illnesses as a result of increased social stress. (1) One answer to this problem can be found in contemplation, the retreat into silence, as this lowers the breathing rate and calms the nervous system. (2) The influence of contemplation on us in the form of increased performance, the ability to concentrate, social competence, emotional intelligence, holistic perceptiveness, but above all creativity, is being discussed more and more. The starting point for this investigation is my own meditation practice, in which I have been able to observe not only the changes in my relationship to the world, but also its influence on my work. In the examination of techniques from different religious directions a common ground emerges that provides a foundation for my work. Contemplation defines a state of vastness, inner presence, and attentive being. On the one hand, this can be achieved by relaxing the attention to such an extent that the concentration on something specific ceases. On the other hand, however, it can also be achieved in the opposite way by concentrating on a defined moment. Spaces for contemplative practice are found in almost all cultures or spiritual directions. These cause feelings of high intensity, however the moment of silence is associated with the practice of the particular religious tradition. Spatially, they often involve concentration on a symbol. At the same time, we find spatial typologies spread across the different cultures, for example, the cloister which takes into account the rite of contemplative movement as a tool for inner retreat. (3) Nevertheless, the evolution of our society shows an ever-increasing decline in the use of these spaces, too strong the bias against the religion in question. What would these spaces of contemplation look like, free from any religious use? In the discussion of corresponding architectural theory, one encounters the concept of atmosphere and the associated reduction to the essential. "The reduction has meaning and direction as asceticism, which frees from distraction." (4) Dorothea and Georg Frank cite the buildings of the architect Peter Zumthor and his design attitude described below as a reference here. At the same

- 1 Adli, Mazda (2017): *Stress and the City: Warum Städte uns krank machen. Und warum sie trotzdem gut für uns sind*, Munich: C. Bertelsmann.
 - 2 Kabat-Zinn, Jon (2006): *Zur Besinnung kommen: Die Weisheit der Sinne und der Sinn der Achtsamkeit in einer aus den Fugen geratenen Welt*, Freiamt: Arbor.
 - 3 Barrie, Thomas (2010): *The sacred In-Between*, Abingdon, New York: Routledge.
 - 4 Franck, Dorothea and Georg (2008): *Architektonische Qualität*, Munich: Carl Hanser, p.81.
- A Hannah Strickrott and Stine Müller (2020): *Atlas, Design based on the analysis of the Woodland Chapel by Gunnar Asplund*, Master Seminar HafenCity University, Ritual and Space.



time, however, the transition to sacrality can be found. “In contrast, experience in church spaces teaches that the experience of the sublime is primarily an experience in one’s own body. The dissolution of the fixation of the gaze and the suggestion of movement through architecture lead to a slipping of the body feeling into the infinite.” (5) The Dutch architect Dom Hans van der Laan tried to correspond to this aspect with his approach of developing spatial rules for an architecture of contemplation, intensity and silence. (6) Thus, he developed a theory of proportion on the basis of mathematical principles, which found application in his sacred buildings. In my dissertation, further aspects such as lighting, material composition, spatial sequence, scale and relationship to the site will be added to the aspect of proportion. Peter Zumthor speaks of the moment of beginning design as a process of sensual experience, see beyond thought. (7) “I think it is beautiful to build a building and to think it out of silence. That is, to make it quiet, that takes quite a bit today because our world is so noisy.” (8) His design attitude provides a crucial aspect for the approach of my work. I am convinced that the implicit design process is indispensable as a complement to theoretical debate. Aiming at elaborating the above-mentioned quality criteria this dissertation deals with the following questions: What indications can be found in the discussion of the theory of atmosphere as well as sacrality? What spatial-atmospheric essence can be found from the comparative analysis of sacred spaces, as well as comparative architectures of different cultures? What spatial-atmospheric requirements can be derived from the artistic-implicit development of spaces of contemplation in interaction with the findings from the theoretical debate as well as the analysis of existing buildings? Based on the aforementioned questions, the dissertation will be divided into three sub-areas, which will repeatedly refer to each other in the course of the work. The theoretical investigation is among others based on the work of Peter Zumthor, Gernot Böhme and Hans van der Laan. These theories will be comparatively examined and analysed. In addition, the work is theoretically embedded in the conceptuality of contemplation. The study of existing sacred spaces and comparative situations is addressed in student seminars. Different spatial situations are comparatively examined and analysed on the basis of images and drawings. The results are described analytically, as well as graphically coordinated. The design work is to be understood in interaction with the findings from the other two subareas. Based on the analysis of built examples, students develop their own designs to further investigate and complete gained knowledge. The goal is to work with drawings, as well as visualizations, to ensure a graphically consistent superstructure. From the reciprocal extraction of spatial requirements, a well-founded discussion for typological characteristics of spaces of contemplation will be opened. The architectural focus is on the relationship to the site, the sequence of spaces, the

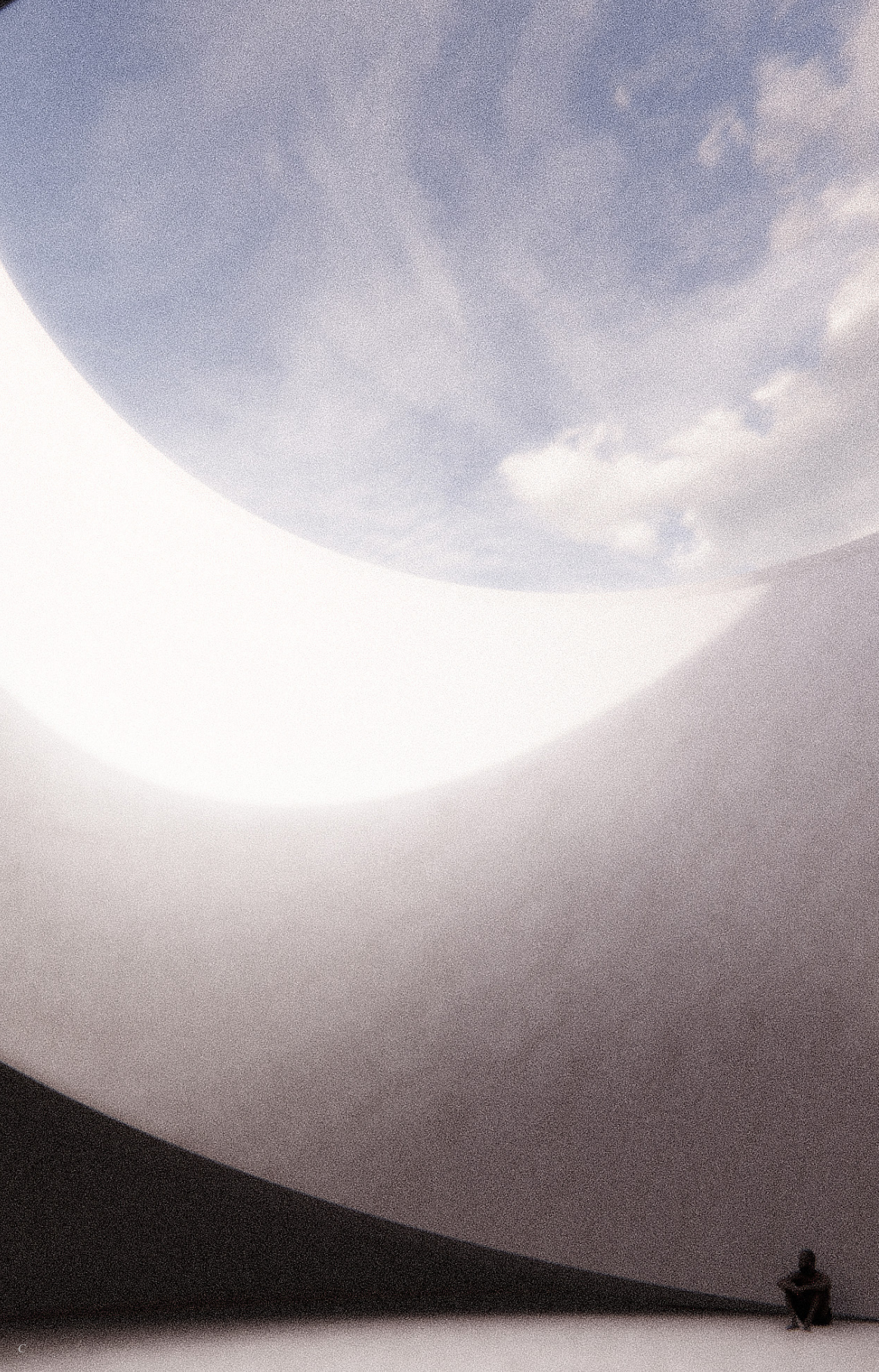
5 Böhme, Gernot (2006): *Architecture and Atmosphere*, Munich: Wilhelm Fink, p.145.

6 Padovan, Richard (1994): *Dom Hans van der Laan: Modern Primitive*, Amsterdam: Architectura & Natura Press.

7 Zumthor, Peter (2017): *Architektur und Atmosphäre*, Zurich: SRF.

8 Zumthor, Peter (2006): *Atmosphären*, Basel, Boston, Berlin: Birkhäuser, p.31.

B Jana-Fee Immig and Katrin Zabel (2020): *Hiroi, Design based on the analysis of the Teshima Art Museum by Ryue Nishizawa*, Master Seminar HafenCity University, Ritual and Space.



proportions of the space and its scale, the lighting, as well as the composition of materials. These results serve as a basis for my own design practice and will be applied in build examples. As part of the work, an exhibition with an accompanying book will be developed. The conference served as a moment of reflection. Besides explaining the current state of the theoretical aspects, I brought the design-driven approach into the discussion and presented the elaborated results of student works from a seminar held last semester shown as a first impression by the images attached. Grounded on the architecture of Gunnar Asplund's Woodland Chapel two students developed a sequence of narrow and wide spaces. In their design, a meditative path emerged, expressed through an alternation of walking and resting contemplation (fig. A). The location of the building was irrelevant and they provided a first possible answer to what is probably the most crucial question: how can we integrate spaces of contemplation into our cities? Based on the architecture of Ryue Nishizawa's Teshima Art Museum two other students elaborated the following spatial aspects: distance, solitude, tightness, vastness, focus. With their design they offered a solution integrating all of these aspects without copying any of the design they had analysed (fig. B and C). "Hiroi (Japanese for: the vastness) with the sky surrounding us all has a contemplative effect on us when we look into it. For this purpose, a space, vessel was designed. The Teshima Art Museum in Japan serves as a stimulating basis. It is characterized by its embedding in the landscape. The visitor moves across the water and the nature of the island towards its destination and already experiences a vastness on this way, which can be experienced again in an abstract way in the interior of the museum. Hiroi is captured by the concept. The body stands in the middle of water and can only be reached via a long footbridge. The visitor enters the vessel through a narrow entrance, which develops circularly around the interior space - the infinite - almost noisy expanse is left behind. Standing for the time being in front of an inner wall, a narrow strip of light announces itself on the floor. Continuing, walking along the circular wall, it increasingly lifts off the floor and the visitor experiences an opening upwards to the light and tides. The sky is captured in a funnel shape. The visitor can sit and lean against the inner wall as it meets the ground and watch the clouds migrate or contemplatively sink into them. The clouds float by - breezes blow gently over the vessel - rain falls." (9)

Public Thresholds

Experimenting with Public Value Creation through Spatial Interventions in Public Buildings

DDR Statement

Architecture is a unique field because it is only fully experienced once built. However, using design tools in programmed experiments helps to extrapolate the learnings to architectural design practice. In this project, design-driven methodologies serve as ideation, experimentation and reflection tool. First, the research combines written and graphical resources to extract research questions that will materialize into design premises or prototypes. Experimentation will combine design, social sciences or visual art's tools to map extensive material and immaterial actor networks. Testing design prototypes and reflecting upon them using tools like drawing, mapping, collage, photography or model making will display research conclusions. The reflection on these observations could lead to process iterations and eventually form a base of non-prescriptive propositions for public building design.

From engagement with peers and users to conference presentations, every part of the research project contains a design perspective: define the question, propose possible answers, test them with appropriate tools, reflect on the results and—if necessary—iterate. Furthermore, reflection is the guiding thread connecting the design and research by evaluating every step before taking the next. Presentations during CA²RE+ conferences will exemplify this approach to collective exploration following the scheme objective-premise-experiment-observation-reflection by establishing the desired outcomes, logging the developments, reflecting on the input received and turning it into a new hypothesis. During spatial experiments, civic engagements will sharpen the scope while keeping a clear research purpose in mind.

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Extended Abstract

Keywords: public space, public values, threshold

Abstract

In current times, which are dominated by uncertainty and change, the limits of public and private realms are in a continuous definition. As a condensation of the public sphere, public buildings have turned into thresholds, into active public sphere agents that can motivate behaviour and, as a result, produce public values. Public buildings designed for values should be created as unfinished processes instead of objects, leaving room for socio-spatial change and value dynamics. This research will use design-driven methodologies to show how spatial interventions in existing public buildings can incite public values. Connecting buildings and theories will highlight knowledge gaps leading to working hypothesis tested in experimental spatial interventions. Consequently, and as a case study, the experimentation phase will explore the public role of makerspaces within libraries. A co-creation process, conceptual design and prototyping of spatial solutions will highlight findings on the effects of design decisions and interventions in the public sphere of the future spaces of literacy.

PUBLIC THRESHOLDS

Ambivalent thresholds

Public space is born from a contradiction: it is defined by opposition and it exists because the contrary –private space– also exists (1). According to the notion of *liquid modernity*, modern times are characterised by uncertainty, insecurity and unsafety caused by capitalism's social effects and the incapability of the public administration to counteract them (2). In an environment where reference points are ever-shifting, boundaries between public and private space are uncertain and continuously liquifying flooding or retreating from other realms. Public building design faces the challenge of integrating ambivalence and change in buildings that act as *thresholds*, as border zones bridging physical, digital and social constraints.

Public buildings are an intentional condensation of civic aspirations serving the *common good*– a shared collective interest (3). They are inert agents of the public realm which absorb the public sphere, filter it through a membrane (construction) for a specific purpose (programme) and convert it to contributions to the public sphere (values). Often, public buildings and spaces have been alienated from each other, designed as

independent entities neglecting their shared edges because of the practical division between Architecture and Urbanism. Designing public buildings transdisciplinarily beyond the division urban-architectural, object - space, indoor - outdoor, technician - client, would make space for public value creation turning public buildings into public sphere catalysts for better urban conditions.

Buildings motivate behaviour and behaviours create human values. Human values are negotiated socially by the ambivalence between *good* and *bad* in the public realm, our “space of appearance” (4). “We are moral because we live in uncertainty” and it is by continuously having to choose between good and bad that humans build their values (5). As a result of the dynamic definition of public values and the common good, public buildings became thresholds between apparent opposites (private and public, indoor and outdoor, individu-

Experimenting with Public Value Creation through Spatial Interventions in Public Buildings

al and collective, physical and digital). Designing spaces that incorporate this opposition could allow values to develop, evolve and transform together with space. Public buildings must embrace their ambivalent nature while providing the infrastructure for citizens to appear, interact and dissent embracing the uncertainty of their own values.

Designing for uncertainty

Designing buildings for values urges to embrace uncertainty and change as variables for an architecture that “creates conditions and provides possibilities” (6). Spaces that facilitate human interaction by designing deliberately unfinished but permanent structures and solutions that maximize spatial possibilities and group dynamics. In public buildings, it entails designing the threshold's membrane porosity by introducing technical solutions for actual and

probable civic uses that will influence the public sphere through social values. Public values in public space have been extensively researched through human-centred methodologies from Urbanism (participation, placemaking, action research). However, the part of public space that is contained by public buildings is commonly only researched theoretically or designed without theoretical support. There is great potential for architectural design to incorporate design methodologies for values to its tools by bridging theory and practice.

All designs produce values, either by design or by mistake. This doctoral research explores how spatial interventions in public buildings can incite public value dynamics in contemporary urban contexts. The research departs from a review on public space and buildings notions acknowledging as research sources both literary and built examples. Pulling the thread between design cases and written concepts will extract relevant notions and approaches highlighting ways of bridging theory and practice. The built and literary references will create a selective mapping to support the theoretical hypotheses with design examples and design propositions with conceptual notions as a base for experimental action (Fig.1).

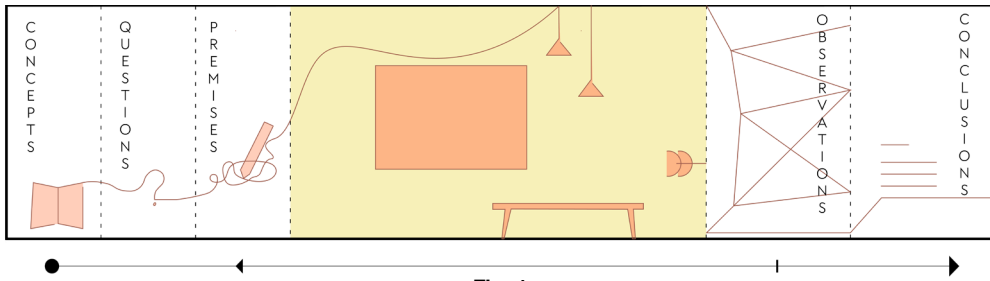


Fig. 1

Public thresholds will be investigated as a spatial and conceptual network, by complementing text with drawings, words with objects, books with buildings. For instance, analysing SESC Pompéia Centre in São Paulo (Fig.2-4) as an adaptable and multi-purpose threshold connecting the public and private realms shows designers can make room for public values without overlooking design duties. These values are introduced by use, not determined by design, and space's adaptability favours value dynamics through time. This example leads to finding the book "Theory of Architectural Practice" by Lina Bo Bardi that highlights a need for theorising about practice and practising from theoretical convictions.

In a reverse example, reading "Public Space? Lost and Found" drives attention to Theaster Gates's practice of bringing Art and Culture to communities of colour by turning derelict buildings into self-organized spaces to build civic values (Fig.4).

Exploring the concept of time in design for value dynamics appears the work of Bryony Roberts. An approach where art, craft, movement and materials are combined into temporary interventions to transform values such as political involvement or social integration. Her temporary works are more than a "happening" since they were designed with the intention to ignite behaviour, strengthen communities and activate value creation



Fig. 2



Fig. 3

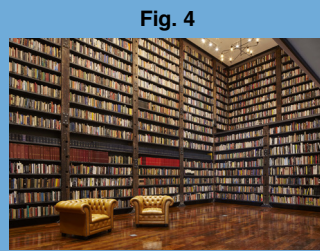


Fig. 4

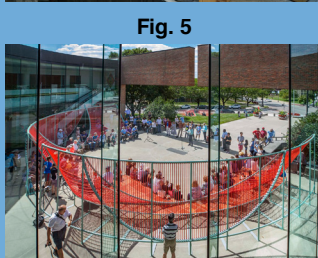


Fig. 5



Fig. 6

beyond the designer role (Fig.5-6). Apparently disconnected, these examples share some being designed as unfinished processes integrating aesthetics with use and understand architecture and programming as dynamic entities hosted within a threshold, an umbrella for interaction.

This research's design is to engage in a 'back and forth' exercise between ideas and actions, speculations and precedents establishing the elaborate network linking public space, buildings and values. Mapping connections between theory and practice, public design for values and built examples shows a knowledge gap on the issues of time and scale. Can temporary interventions affect the public sphere? If so, how can it be measured and designed for? Can the results of temporary interventions be extrapolated to public building design public buildings?

Experimenting with values

Value intangibility makes evaluating design effects in the public sphere elusive with common desk research tools. For this reason, this doctoral research will employ design methods to test design solutions for public values through case studies. Literature review findings and case studies will constitute the point of departure for designing transposable small-scale experiments. Experimental interventions will place citizens, urban narratives and civic spaces at the centre to show how public buildings can be designed towards value production for the common good (Fig.7).

Like laboratory research, spatial experiments are proposed as a scalable research tool of which results can be extrapolated to the object of research, public buildings. The experiments will consist of controlled interventions that

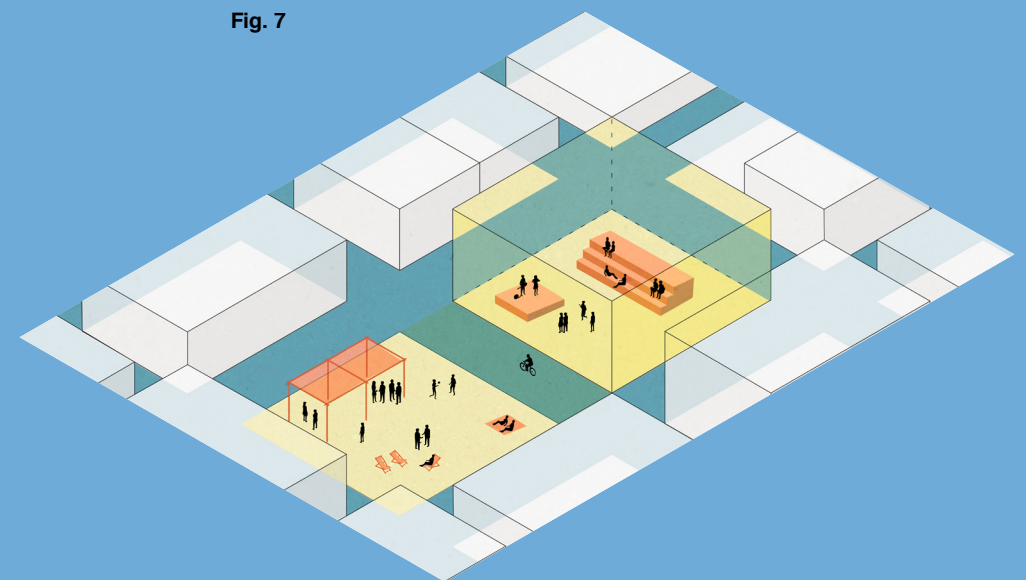


Fig. 7



Fig. 8



Fig. 9



Fig. 10



Fig. 11

aim at testing ways of “opening up” existing structures by introducing infrastructural “disruptions” grounded by civic processes (). Experiments will integrate social science (interviews, questionnaires), action research (workshops, meetings), artistic (performances, exhibitions) and architectural tools (prototyping, visualising) to broaden the scope towards transdisciplinary application.

The first experimental probation will revolve around makerspaces in Libraries as a public space for the construction of social values. Together with the National Library of the Netherlands and Hogeschool Rotterdam, I will coordinate the co-creation process and prototyping of four makerspaces in different urban contexts and intended social values. The processes will mobilise collective intelligence towards enlarging programme and spatial possibilities for specific pub-

lic values such a digital literacy or social belonging. Infrastructure and material interventions developed from industrial design, material science, library science and architectural design expertise are expected to affect the public values around the library and civic context.

Comparing the real and expected results with feedback from the involved actors will direct the self-assessment and reflection process. Reflection and iteration will outline the project's contribution to the body of knowledge: non-categorical proposals for architectural design of how design can facilitate public value creation in public buildings. The research is envisioned to prove how– when supported by theoretical analysis and civic engagement– design interventions in existing public buildings can influence the values relating a space with its urban context.

IMAGE REFERENCES

Figure 1. *Doctoral Research Design*. Made by the author.

Figure 2. *An unfinished adaptable space blurring indoor and outdoor*. SESC Pompéia. Lina Bo Bardi. 1977. São Paulo, BR, in: <https://www.designboom.com/architecture/lina-bo-bardi-together-exhibition-graham-foundation-06-04-2015/>

Figure 3. SESC Pompéia. Lina Bo Bardi. 1977. São Paulo, BR, in: <http://laboresporveronicahc.blogspot.com/2016/05/visita-ao-sesc-pompeia.html>

Figure 4. *Repurposing a Public Building for a new value set*. Stony Island Arts Bank. Theaster Gates. Chicago, IO, in: <https://www.theastergates.com/project-items/stony-island-arts-bank>

Figure 5. *Spatial installation for democratic values*. Soft civic. Bryony Roberts. 2019. Columbus, IN, in: <https://www.bryonyroberts.com/#/soft-civic/>

Figure 6. *Performance for democratic values*. We know how to order. Bryony Roberts. 2015. Chicago, IO, in: <https://www.bryonyroberts.com/#/we-know-how-to-order/>

Figure 7. *Conceptual Scheme on Designing Public Thresholds*.

Figure 8. *Spatial experiments during participatory process in Nazaret (Valencia)*.

Figure 9. Ibid

Figure 10. Ibid

Figure 11. Ibid.

REFERENCES

1. Blackwell, Adrian (2017): »Tar and Clay - Public Space is the Demonstration of a Paradox in the Physical World«, in: Gediminas Urbonas, Ann Lui, and Lucas Freeman (Eds.), *Public space? Lost and found*, Cambridge, MA: SA+P Press, pp. 19–37.
2. Bauman, Zygmunt (2000): *Liquid Modernity*, Malden, MA: Polity Press.
3. Schroeder, Mark (2016): »Value Theory«, in: Edward N. Zalta (Ed.), *Stanford Encyclopedia of Philosophy* (Fall 2016), Metaphysics Research Lab, Stanford University, <https://plato.stanford.edu/entries/value-theory/> from October 23, 2020
4. Arendt, Hannah (1998): *The Human Condition*, Chicago: The University of Chicago Press.
5. Bauman, Zygmunt (2012): *Liquid Modernity Revisited [Lecture]*. Aarhus Universitet, <https://vimeo.com/41344113> from October 21, 2020
6. Sennett, Richard/Sendra, Pablo (2020): *Designing Disorder: Experiments and Disruptions in the City*, London: Verso Books.

Presence, Presentation & Representation Between Model Making and Mediation of Material in Architectural Practice during Covid-19

DDR Statement

Unlike finding an alternative in design theory, the practice-led research PhD project Material Orbit. A Rendering of Rituals, Decay and Trails of Dust in the Architectural Design Process looks for a tool box that serves as a translator for material literacy in different settings embedded in a globalized context. The combination of archival and ethnographical studies is the project's main contribution to the investigated research field. It would share an internal, so far partly hidden knowledge and sheds light on the importance of Design Driven Research by emphasizing the need of the interaction among actor diversity within the design process. Thus, the dissertation aims to reveal how architects perceive material contact and share mediation in a digital encounter. Material Orbit would like to encourage both codes of conduct in circular design process and ethics-based production structures. This research has a concern to emphasize the importance of non-quantifiable qualities, such as empathy, care and respect, in creating economies of building practice. The final product strives to contribute to quotidian rituals, highlighting non measurable qualities in order to create a more holistic conceptualization of materials and material use in building processes. The presented paper Presence, Presentation & Representation: Between Model Making and Mediation of Material in Architectural Practice during Covid-19 relates to DDR in a methodological matter by complementing the architectural design process through lessons learned of material engagement i.e., examining the role of model making as mediator between design intention and outcome.

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Paper

Keywords: model making, architectural design process, digital ethnography

Abstract

This paper presents one specific action, i.e. a remote empirical research within a PhD project embedded in the international research network "TACK: Communities of Tacit Knowledge: Architecture and its Ways of Knowing". The aim of the digital ethnography was to understand processes and dynamics in an architectural office in relation to new conceptualizations of the material. In asking questions about the subject in the current pandemic context, the question of the media of such an enquiry was implicated in the thesis developed. On the one side, this study is both about finding a platform on which to discuss the idea of material, and is a speculation about the implication of that platform for the ideas developed using it. On the other, it deals with using an opportunity provided by Covid-19 to make that research, via a remote ethnography with the implication that this might be used to research lots of other things beyond materials. The study hopes to create a platform for discussion around researching, observing and mediating material – revising understanding as well as increasing material literacy – beyond Covid-19.



(fig. 1) Workshop of London-based architectural office HaworthTompkins

PRESENCE, PRESENTATION & REPRESENTATION: BETWEEN MODEL MAKING AND MEDIATION OF MATERIAL IN ARCHITECTURAL PRACTICE DURING COVID-19

In this paper one specific action, i.e. a remote empirical research within the dissertation project *Material Orbit. A Rendering of Rituals, Decay and Trails of Dust in the Architectural Design Process* (AHO, Oslo) is presented. The aim of the study was to understand processes and dynamics in an architectural office in relation to new conceptualizations of the material. In asking questions about the subject in the current context (Covid-19), the question of the media of such an enquiry was implicated in the thesis developed. On the one side, this paper is both about finding a platform on which to discuss the idea of material, and is a speculation about the implication of that platform for the ideas developed using it. On the other, the project hopes to create a platform for discussion around researching, observing and mediating material — and revising understanding as well as Increasing material literacy — beyond Covid-19. The stake of different images used in this paper, represents the different types of statements embedded. Moreover, the study's job is the reflected account of what I (ESR) actually did, expected and its further use for the PhD project. However, since the digital ethnography is part of a broader study, this paper contemplates a limited description.

The paper deals with using an opportunity provided by Covid-19 to make that research, via a digital ethnography with the implication that this might be used to research lots of other things beyond materials. Not only used as a research method but as a participative subfield in people's everyday life to decentralize the "digital" within the digital (1). Rather than focusing the study around a single architectural work, and mapping all the actors and influences on that "work" the strategy changed to focus instead on the trajectories of figures who traditionally would be thought of as having periph-

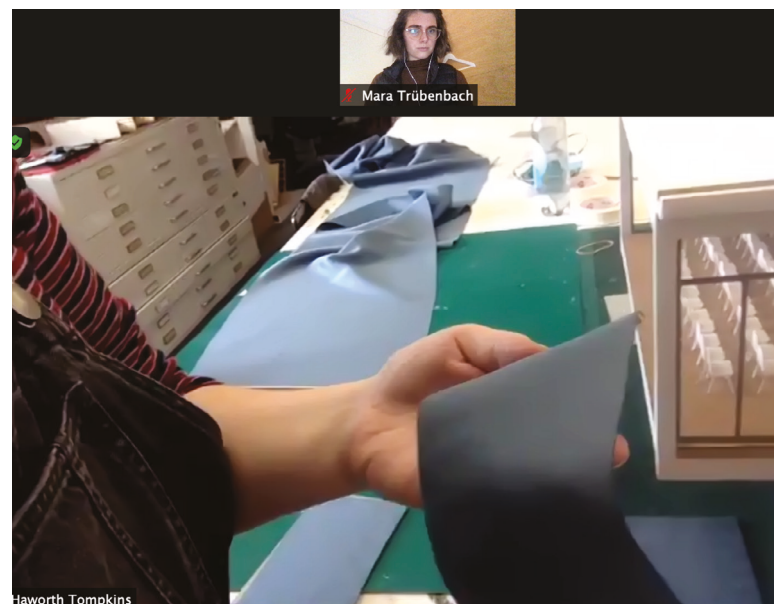
eral impact on the design of work – in this case one female model maker who worked across architectural teams within the practice. Thus, the enquiry became more precise in relation to labor agency (2) i.e., the ethnographic study at London-based architecture practice HaworthTompkins (HT), relates to two approaches of the research: material systems and the issue of how architecture is valued via mediated concepts. It builds upon HT's in-house model maker Ellie Sampson and the firm's understanding of material. According to Albena Yaneva's ethnography of the Rotterdam-based architectural firm OMA, there is a lack of missing out „social phenomena“ i.e., the process of making in the architectural discourse (3). Finally, the study hopes to contribute to the developments of finding alternative research methods within an evolution of digitized work habitats in both contemporary architecture practice and research.

REMOTE WORKSHOP AND THE INVENTION OF “DIGITAL MARA”

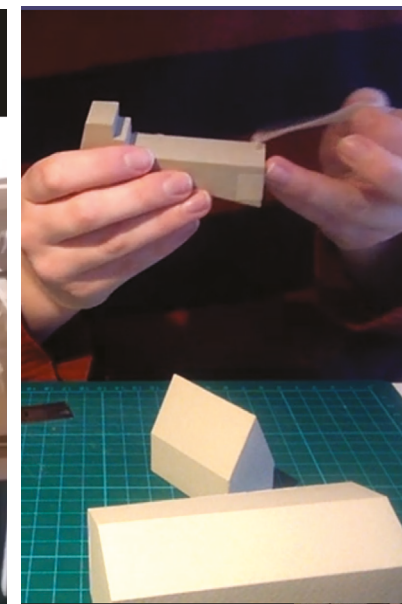
The first main part of the ethnographic study dealt with how the model maker Ellie Sampson works and the collaborative process around it. The best thing to contextualize Ellie's role is to picture HT's workshop, which is located in the heart of the office and invites you to swing by, chat and point to models, materials and tools (fig. 1). The workshop not only serves as a productive place, but also generates a social environment for HT's staff. By observing advices/critics, photos of process and interviews with the model maker, my ambition was to examine the (tacit) knowledge in model planning itself i.e. drawings e.g. for laser cutter, considering material thickness, mocking-up 3d CAD models and logistics for instance use, storage, relocation. This intention turned out to become a three-folded operation. First, starting with the knowledge of Ellie's internal process and her craft world – creation of drawings and mediations in the production of the model. Second, going further with Ellie's work in a broader operation in the practice as whole and her enrichment in the design team i.e., thinking through the design by talking to and interacting with Ellie on different levels. Third, the expertise in the practice of HaworthTompkins as a whole interacted with its environment.

The initial undefined idea of simulating a more active perspective like a Go-pro

(fig. 2) “Digital Mara's” hands-on perspective on blinds for 1:25 model



(fig. 3) 1:200 paper-cut model assemblage



was soon implemented as a fun operation called “Digital Mara”, which introduces ‘vlogging’ almost as a research method. The physical transfer of myself, the scholar, had been assisted by a communication service tool – a black iPad in its 7th generation with a high-impact polycarbonate shell slipcover which travels via Norwegian post to Great Britain. Although it might be seen as ironic to investigate material matters without being able to physically attend the scene of the crime, this device offered a kind of material presence (covered with a haptic material it had to be unpacked and adopted by whichever staff member was hosting it) as well as, in its inert quietness and its machine dumbness, providing a fly-on-the-wall-view that could not be achieved through physical presence. The technical device served as an experiment in research methods. Besides the stage reports and meetings, I joined Ellie for an extended session of 3-4 hours once a week, to get a hands-on perspective and watch how Ellie laser-cuts or assembles and glues pieces (fig. 2+3). This observation would run simultaneously while working on other stuff. Very similar to a co-working space, only digital. Both would be muted, listen to music and if there were questions, we would raise hand and interrupt each other.

BENEATH THE DISCOVERED DIGITAL SURFACE OF MATERIALITY

A few months back, while Ellie was demonstrating the various machines during a workshop induction to a new staff member, I remember hearing noises of machines and wanting to be there in person, too. This primarily is due to my background in architectural education and strong interest in craft, I guess. Principally I missed the other sensorial experiences I know would have been present in the room itself. Behind that digital surface of a clear glass LCD screen, I could only guess how the reaction of materials to the different operations would, for instance, smell. This happened actually quite often – hearing Ellie milling, sanding, spraying or laser-cutting and not being able to smell the freshly cut pieces. If I hadn’t experienced being in a workshop before, I wouldn’t know what is missed in the sense of smelling finished material. This memorable moment that is attached to different senses deeply highlights the difficulty of engagement in a digital study. As senses are part of architect’s knowledge, without even knowing so, they are embodied thinkers (4). Nevertheless,

(fig. 4) “Real Mara” looking at 1:25 Warburg Renaissance model from Oslo



(fig. 5) “Digital Mara” simultaneously looking at 1:25 Warburg Renaissance model in London



“Digital Mara” served fairly sufficiently as representation for being on site. It actually raises awareness of the importance of “structures of feelings” embedded in the editing and writing process of the oral history (5). I had the feeling that, regardless of whether it was taking pictures, working on machines or assembling parts, Ellie took “Digital Mara” with her, and thus, allowed me a perspective of being part of the whole process (fig. 4+5). My perception that is based on almost neutralized senses – perhaps one sees more when not drunk on the smell of laser-cut paper – leads to the methodological implication that because of certain limitations of sensation it opens up possibly opportunities in other directions of tacit knowledge in relation to material.

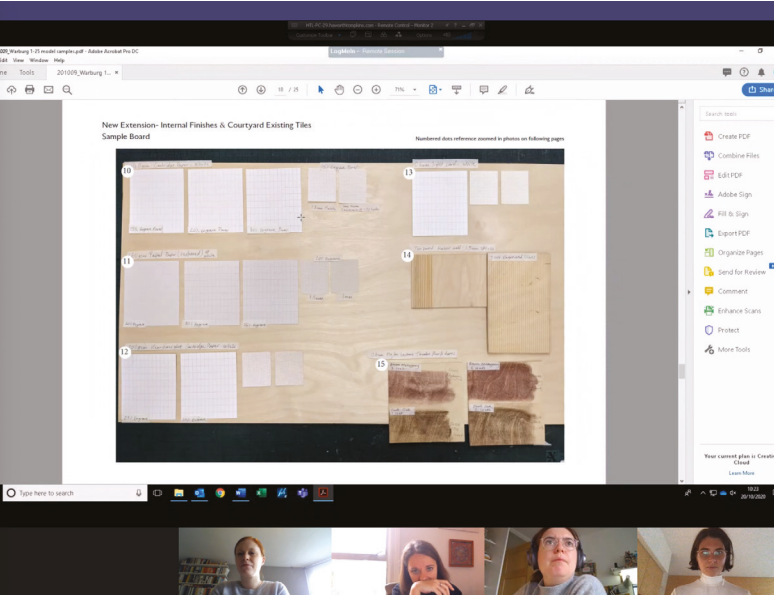
The new circumstances and the importance of the medium of visualization in digital environments in the office have also a big impact on the way Ellie works and communicates with her colleagues indeed. It reflects on both relationship between language and things, and the knowledge of transfer with and through material (6).

Ellie said: “Corona virus and people working from home has led to more formalization of how the procedures of model making work in the office. Because you have to be more prepared. But not just prepared for what you are showing people, [but in terms of] samples, processes within the office as in making sure and checking with people that the laser-cutting is finalized before I cut it. Because they are not there to give me a kind of on-the-ground feedback. It has also formalized elements like ordering materials, because it takes longer to have things delivered, sometimes they don’t have things in stock, certain places are not open all the time. Those practicalities have changed the process a lot more. So, I now collect like shopping lists in a more thought-through way. I group together projects to make sure that we have all of the material ready for people. I think in general, [...] throughout my time as model maker at HT, it always helps to be more prepared, particularly with the project like the Warburg [...]. Overall, I haven’t noticed it’s being less efficient. I think, [...] for me anyway working in this way, has shown people the need for a bit more time to prepare [...]. There have to be compromises. Normally, before lockdown, time was the compromise.”(7)

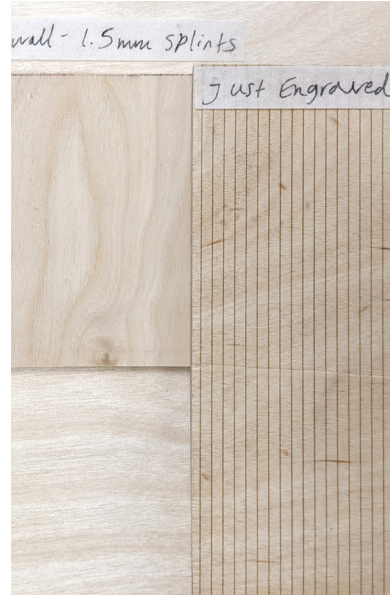
These kind of changed modes of practice in which a digital screen is being inserted between actors communicating within the practice make visible other issues that lie beneath the surface of such interactions and that are close to my empirical study subject. One concern precisely the way in which the practice thinks about materials, materials choice, and the communication of these choices to clients and consultants before the building is constructed.

MEDIATING MATERIAL LITERACY

The latest model for the “Warburg Renaissance” project was made by Ellie just when the lockdown started in March. Although her living room became temporarily HT’s new workshop, she could not completely finish the model and some parts still have to be re-done. The process begins by discussing needs and wants of the architects. Based on a prepared document from Ellie on the presentation of material, the design team talked about which option they like best (fig. 6+7). It gets clear fairly quickly that the explanation of mate-



(fig. 6) Online meeting in Oct '20



(fig. 7) Preparation of material sample

rial i.e., the verbal language becomes a requirement to communicate features of physicality. Especially, if the communication partner does not know the material and bits gets lost by translating physical experience to verbal language. The space and physical objects should not be seen distinct as both interact with each other and influence the perception (8). Furthermore, this verbalization inverses the discussion from the outside towards the inside and emphasizes the “emancipatory potential of discourse” which occurs when insider knowledge and outsider views meet (9). Ellie said this has increased her understanding of material a lot and that she “need[s] to talk about it in a different way”(10). The importance of representation, reality and the mediation of material becomes even more crucial when they talk about the fact that they cannot decide about all material online, because they simply don’t know what it looks like in reality. This identifies a lack of clarity by architects when it comes to formulate architectural ideas and not being able to get an embodied consciousness (11).

Another aspect is the trial to keep the material as realistic as possible to avoid photoshopping of colour and light later, but still consider Photoshop as a tool for representation. The photoshopping occurs by the presentation images of models that are the only possibility to currently engage with them. The main destination of models now is as images as opposed to as physical objects. Furthermore, there are discussions about what angle of photo is wanted in order to fit the model for that certain perspective. This participatory method and relationship between people and artificial world regard the act of photography rather as a “form of question than a statement of apparent fact” (12). Former CGI’s made in Sketch-UP and digital plans serve both as a reference and as an orientation to take shots from. Ellie once mentioned, she is not a professional photographer. Noticeable though that a lot of time is spent on taking pictures of her models either to present to clients and staff, or to compare to older design versions. There is almost a typical order of building a model, taking pictures and changing afterwards in Photoshop (fig. 8). Ellie’s tacit knowledge of the model’s features probably helps her to shed light on when shooting. The images are also part of HT’s Instagram account (fig. 9). This represents on the one hand Ellie’s process of work, and on the other it has a huge impact on the discussion around mediated material in the digital community. There is a lack in experiencing and interpreting nowadays as we differently engage with the building or site than before social media (13). According to

Farahani, Motamed and Ghadirinia, this gap needs to be acknowledged and critically reflected when heritage sites – or as in this case materials – are mediated and, in some cases, manipulated by editing pictures.

The digital ethnography is reflected as an experiment, providing opportunities and limitations within the method. One of the main lack is the missing informal conversation between Ellie, her team and me, which would happen during lunch break or door-to-door chats. Of course, another very important aspect is the absence of sensational experience – intuitive engagement with the model and materials – accompanied by the limited view of the transmitted happening due to a narrow angle of the camera. Despite all this, a great alternative window in relation to my wider aim of the PhD project to investigate how materials are conceptualized in architectural practice opened, which would not have happened in this way if there was no digital but personal observation. It unfolds conversations that would be invisible otherwise because they would not need to be screeded. Communication is not only a soft skill anymore but becomes, besides mediation, a reinforced instrument that has been strongly trained since online events are part of the daily architectural practice. What kind of vocabulary is used not only sheds light on how language can become a transformational tool in design processes, but also makes aware of the distinction between material literacy. Even though it takes more time to forensically prepare the design and model process stages, consultations become more efficient in terms of being precise while discussing the design and explaining materials. By engaging with the case study, the research takes into account the environment surrounding the material matters i.e. implications and agencies of material application. The remote ethnographic study hopes to unfold the potential of how to get inside a sealed box i.e., architectural practice and to bring aspects of tacit knowledge of a model maker to life. Moreover, the PhD project will benefit from the great work and expertise of Ellie and her colleagues and will include insights and reflection of the remote work in architectural practice.

(fig. 8) Provisional photo studio at Ellie’s home in Dec ‘20



(fig. 9) Temporary photo studio set up in HT’s meeting room in Nov ‘20, posted in Dec ‘20



TEXT REFERENCES

- (1) Pink, Sarah (2016): “Experience”, in: Sebastian Kubitschko & Anne Kaun (Ed.), *Innovative Methods in Media and Communication Research*, (eBook), Cham, CH: Springer Nature, p. 161-165.
- (2) Tsing, Anna (2013): “Sorting out Commodities: How Capitalist Value Is Made through Gifts”, in: *HAU: Journal of Ethnographic Theory* 3 (1), pp. 21–43.
- (3) Yaneva, Albena (2009): *Made by the Office for Metropolitan Architecture: An Ethnography of Design*, Rotterdam, NL: 010 Publisher.
- (4) Pallasmaa, Juhani (2009): “The Thinking Hand: Existential and Embodied Wisdom in Architecture”, Chichester, UK: AD Primers.
- (5) Gosseye, Janina, Naomi Stead, and Deborah Van der Plaats (2019): *Speaking of Buildings: Oral History in Architectural Research*, (1st Ed.), New York, US: Princeton Architectural Press.
- (6) Lehmann, Ann-Sophie (2015): “Objektstunden. Vom Materialwissen zur Materialbildung.”, In: Herbert Kalthoff, Torsten Cress, Tobias Röhl (Hg.), *Materialität. Herausforderungen Für Die Sozial- Und Kulturwissenschaften*, Paderborn, DE: Fink Verlag, pp. 171–193.
- (7) Sampson, Ellie. Personal interview “Zoom Interview”, 10th Oct 2020.
- (8) Merleau-Ponty, Maurice (1948): *The World of Perception*, (Translated by Oliver Davis), Oxford, UK; New York, US: Routledge.
- (9) Kockelkorn, Anne (2019): “Uncanny Theatre - A Postmodernist Housing Play in Paris’s Banlieues, 1972 – 1992. In *Productive Universals Specific Situations*”, in: Anne Kockelkorn and Nina Zschocke (Eds.), Berlin, DE: Sternberger Press, pp. 336–81.
- (10) Sampson, Ellie. Personal interview “Zoom Interview”, 10th Oct 2020.
- (11) Pérez-Gómez, Alberto (1987): “Architecture as Embodied Knowledge.”, in: *Journal of Architectural Education* 40 (2), pp. 57–58.
- (12) Bremner, Craig, and Mark Roxburgh (2015): “A Photograph Is Evidence of Nothing but Itself.”, in: *The Routledge Companion to Design Research*, London, UK; New York, US: Routledge, pp. 203-214.
- (13) Mahmoudi Farahani, Leila, Motamed, Bahareh and Ghadirinia, Maedeh (2018): “Investigating Heritage Sites through the Lens of Social Media.”, in: Paul A. Rodgers and Joyce Yee (Ed.), *Journal of Architecture and Urbanism* 42 (2), Oxon, US; New York, US: Routledge, pp. 188–98.

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Utopian Imaginary of Urban Peripheries in the Context of the Anthropocene's Cultural Concept

DDR Statement

How can the potential of cooperatively produced speculative images be adapted through the lens of the Anthropocene's cultural concept and used as a strategy for reflections on new forms of human environments outside dense urban agglomerations?

In the field of urban design is a need for new design strategies concerning the adaptation and mitigation of "hyperobjects" such as climate change and urbanization, how Timothy Morton calls it. This claim entails the opportunity to speculate about alternative urbanisms that convey between the existing dichotomy of dense city centers and low-dense single-family housing areas that both fail to encounter those challenges. As the state of research, the Anthropocene's cultural concept [Trischler, Horn, Morton], assemblage theory [Deleuze, McFarlane], urban geography and landscape theories like the concept of "Zwischenstadt" or "landscape urbanism" are considered relevant for this design driven research. While there are design strategies and experimental urbanization models found in Italian [Branzi, Vigano], Dutch [Geuze, Sijmons, etc.] and Anglo-saxon context (Waldheim, Corner), there is a knowledge gap of German design and mapping projects that tackle the intrinsic connectedness of settlements and landscape on equal footing beyond urban agglomerations. The spatial aspects of the Anthropocene's cultural concept - such as the entanglements between nature and culture - are used as methodological approach. The speculative design imagery investigates "ambiguous edges, incomplete forms and unresolved narratives" as potential spaces that comprise the future human and nonhuman demands. This might lead towards a reassessment and better understanding of existing urbanisms and a speculation about potential ecological effectiveness of urban peripheries.

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Extended Abstract

Keywords: imagery, periphery, anthropocene

Abstract

Using spatial aspects of the Anthropocene's social concept as methodology - such as the manifold entanglements between human and nonhuman environments - promises to develop architecture and urban design projects beyond common sustainability arguments of re-densification and land-use reduction.

The design driven research is located beyond dense urban agglomerations in Germany, representing the spatial boundaries between man-made landscapes and built environments, the frontline of the modernistic dichotomy between nature and culture.

Large-scale utopian imagery is chosen as a method to encounter the scale problem and viewpoints that are inherent in the anthropogenic arguments and to process, manage and narrate the inherent entanglements in this research. Moreover, imagery serves as an interdisciplinary, multi-cultural device and thus may contribute to related fields and future urban-development processes.

The imaginary is developed within a collaborative work process. The co-authorship is used as a method to inform and develop a multi-perspective outcome.

The Anthropocene's Cultural Concept

Geographers identified the last century as the starting point of a new geological time - the Anthropocene. But besides understanding it as a man-made epoch only, according to Helmuth Trischler¹, it is much more than that. It is a narrative social concept which links deep time perspectives with human responsibilities. Therefore Eva Horn argues that there is a need for new aesthetics of the social concept as method by identifying three challenges: “(1) latency, the fact that the transformation of the world is happening not in the form of cataclysmic events but in imperceptible and unpredictable processes; (2) entanglement, the fact that the modern separation between the human and “the world” has dissolved into uncanny dependencies, unintended consequences and unpredictable side-effects; (3) a clash of scales, the fact that the environmental crisis of the Anthropocene unfolds on very different spatial, temporal and quantitative scales.”²

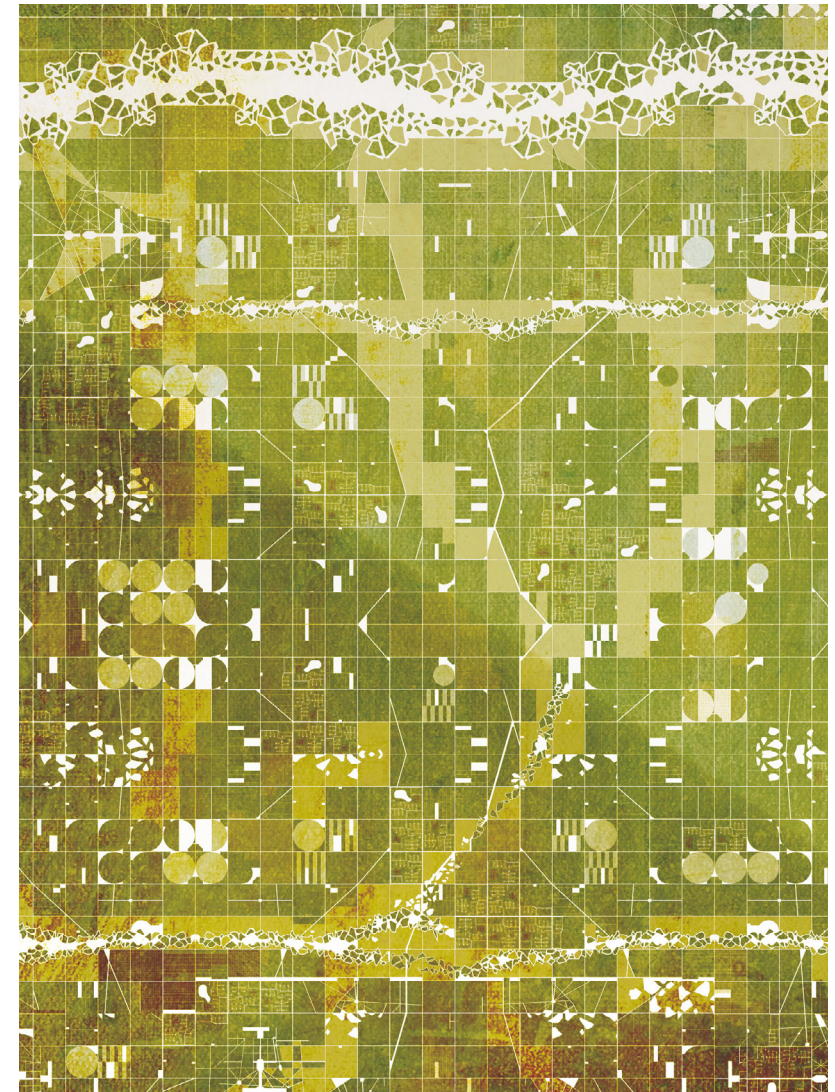
These parameters challenge existing social concepts like dichotomies between nature and culture, object and subject and the immanence of matter vs. exteriority of mind. They blur boundaries of common antagonisms and ask for a new connectedness and circularities.

Peripheries and Assemblage Theory

The design driven research focuses on human settlements beyond dense urban agglomerations. Therefore it aims at peripheries, “Zwischenstadt” areas and the German countryside because they represent the maximized boundary between (man-made) landscapes and built environments. These “urbanisms” are often described as inefficient, a waste of land, expensive infrastructure and unecological. Yet, the existing amalgamation - housing typologies in the immediate neighborhood of local recreation areas, zones of nature and landscape protection, food and energy production, commercial space and infrastructure - suits the research question particularly well due to its immanent spatial complexities.

The Deleuzian concept of assemblage thinking provides a philosophical and methodological framework for this by using networks, systems and processes to describe and determine those urban conditions³. In architectural theory, peripheral and suburban areas have been theorized and examined as well⁴. Nevertheless, there are only a few spatial (German) designs that focus on those issues, particularly on the ecological potentials of low-density urbanisms.

„Demzufolge darf das ‚Bauen‘ nicht als Eingriff in die Natur und Landschaft verstanden werden, sondern muss als Keim einer Veränderung verstanden werden, die langfristig wiederum zu neuen schutzwürdigen Räumen und Flächen führt.“ [English translation: “As a result, 'building' must not be understood as an intervention in nature and the landscape, but



Roth M. & Kopper M. (2013), „green - the desired city“

¹ Trischler, H. (2016). The Anthropocene: A Challenge for the History of Science, Technology, and the Environment. NTM International Journal of History and Ethics of Natural Sciences, Technology and Medicine, 24(3), 309–335.

² Horn, Eva, In: Dürbeck, G. (2020). The Anthropocenic Turn. In The Anthropocenic Turn. p. 160.

³ Deleuze, G. / Guattari, F. (2013). a thousand plateaus capitalism and schizophrenia. In Deleuze & Guattari.

⁴ u.a. Sieverts, Th. (1997/2001) Zwischenstadt. Zwischen Ort und Welt, Raum und Zeit, Stadt und Land. Basel – Boston – Berlin: Birkhäuser.



KOPPERROTH (2020), „micro-agriculture housing - BB2070“

as the seed of a change that in the long term leads to new spaces and areas that are worthy of protection”]⁵

Therefore we believe that multi-scale spatial design experimentations can contribute to the discourse and to the state of knowledge in Germany. The design driven research investigates a new kind of living by looking at nature and culture on an equal basis and to generate synergies in the regeneration of the rural and the suburban landscape. Furthermore, in the context of sustainability and ecology arguments it offers new perspectives beyond re-densification of existing neighborhoods, land-use reduction and expenditures of protective areas.

This research shows different aspects of several speculative design projects beyond dense urban agglomerations that challenge conventional settlement structures by testing the anthropogenic and assemblage knowledge.

Large-scale Utopian Imagery as Design and Research Based Method

In her book “Utopia as a Method” Ruth Levitas⁶ argues to reconsider utopia as a distinctive, yet suppressed method that can be used as a heuristic device for exploring possible futures in a dialogical and reflexive way. Furthermore, according to her arguments, utopian imagery has the potential to be a critical instrument for knowledge transfer and therefore becomes a “scientific” tool. It eventually overcomes the limitation of being a finished original (or goal) and can be expanded towards a participatory process with creation-evaluation cycles.

Another aspect is the method of representation and questions concerning different points of views. Martin Heidegger described in 1935 this as “Sichversetzenkönnen”⁷. Heidegger’s arguments are influenced from the environmental theory by Jakob von Uexküll who described the relationships, interactions and effects between inner and outer worlds of animals that lead towards a perception of complex and fluid interconnectedness of species and objects. Today, Francois Roche from the architecture office New-Territories/R&Sie(n) argues therefore for positioning oneself into a “weak position”.

“Are you able to take a position from inside, when you are in a position of servitude to the system you are trying to transform? That is, to lose the visibility of what you are doing and to accept a degree of uncertainty.”⁸

Large-scale imagery is chosen as a method to encounter the scale problem, levels of details and the different point of views that are inherent in the anthropogenic arguments. Furthermore, it serves as an interdisciplinary, multi-cultural device that includes the “viewer” rather than consolidating a classical relation between artwork and observer towards a spatial experience.

⁵ Neumann K. / Sieverts Th.: Das Meßdorfer Feld, konzeptionelle Ansätze für eine langfristige und ökologisch orientierte Sicherung und Weiterentwicklung, Planungsgutachten für die Stadt Bonn, Mai 1995

⁶ Levitas, R. (2013). Utopia as Method. In Utopia as Method.

⁷ Heidegger, M. (1983). Gesamtausgabe, Band 29/30: Grundbegriffe der Metaphysik. Welt - Endlichkeit - Einsamkeit.

⁸ Roche F. in conversation with Turpin E. in: Turpin E. (2013). Architecture in the Anthropocene, Open Humanities Press

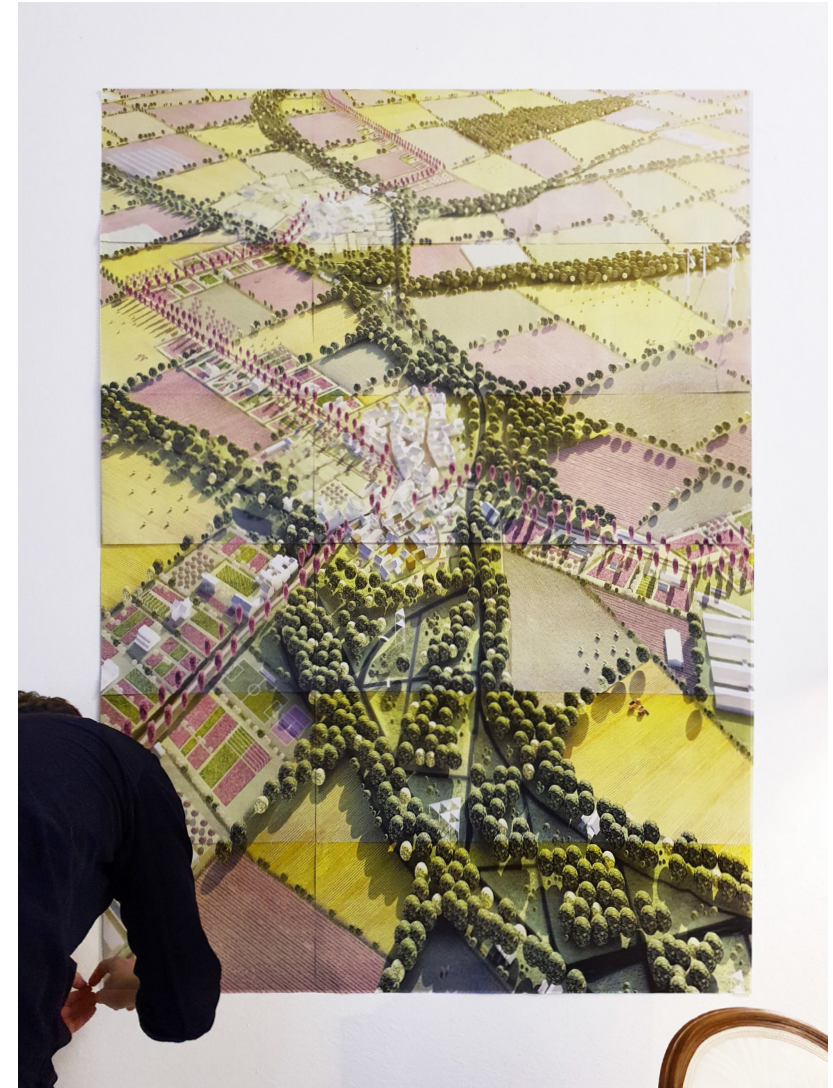
„Wir sehnen uns nach dem Blick von oben, der uns das Gefühl gibt, über den Dingen zu stehen. Doch um uns ökologisch zu verhalten, brauchen wir nicht noch mehr über Ökologie zu lernen. Wir sind ökologisch, indem wir atmen, Felder bestellen, Tiere und Pflanzen essen und in Seen baden. Erst wenn unser Denken die Vogelperspektive aufgibt, in der wir selbst der blinde Fleck sind, werden wir auch verstehen können, dass wir unauflöslich mit unserer nichtmenschlichen Umwelt verquickt sind. [English translation: We long for the view from above that gives us the feeling of standing above things. But to behave ecologically, we don't need to learn more about ecology. We are ecological by breathing, cultivating fields, eating animals and plants and bathing in lakes. Only when our thinking gives up the bird's eye view, in which we ourselves are the blind spot, will we also be able to understand that we are inextricably intertwined with our non-human environment.”]⁹

Collaboration, Co-Production, Co-Authorship / the Art to Contradict and Complement

The two authors have worked together since 2008 as teachers, researchers and as partners of their own architecture and urban design office in Berlin. Collaborative image production is one essential design method of their collaborative design practice and also stands in the foreground of this design driven research. The well-rehearsed production process of these images passes several phases, amongst them: discussing, writing, sketching, drawing 2D, modelling 3D, testing view-points, light and materials, further image editing, scaling, framing and cropping. Some work sequences are carried out individually, others mutually. They are examined before they reach the next design stage. Each phase of the image production involves its own design implications. The two office partners work equally, sometimes staggered and sometimes at the same time but mostly in direct succession in individual storylines contradicting and complementing each other. This process is documented in a permanent chat history.

“The author - or what I have called the 'author-function' - is undoubtedly only one of the possible specifications of the subject and, considering past historical transformations, it appears that the form, the complexity, and even the existence of this function are far from immutable. We can easily imagine a culture where discourse would circulate without any need for an author.”¹⁰

If the question of authorship arises in the context of a scientific work, then, in this case of image production, authorship cannot be clearly assigned to one person. Alternative categories of authorship have to be considered. On the one hand, the work needs to comply with examination regulations and assigned to “two individual authors” and on the other hand one could speak of a shared “artistic identity”.



KOPPERROTH (2020), „Landgut 2050“ (mounted A3 printouts)

⁹ Morton, T. (2019). Ökologisch sein. Matthes & Seitz Berlin. Original title: Morton, T. (2018). Being Ecological (Pelican Books)

¹⁰ Foucault, M. / Faubion, J. D. (1998). Aesthetics, method, and epistemology. New York: The New Press.

Practicing Reflection as a Design Studio Collective

DDR Statement

Architects tend to identify design strongly with the design of buildings, this is what we learn in our training to identify more as “architects” than as “designers”. Yet in other design disciplines design is something much broader, using the wide-ranging field of design theory to accommodate a plethora of disciplines from graphic to transformation design and many more in between. For our practice design is a collective act, practice and performance. Design driven research implies for us a practical and performative research approach, in which we do not have to remain a neutral observer; rather we seek to form a valid and highly personal research position from within active processes and make their performance a valid form of artistic research in itself. In this reflection plays a key role as both approach and technique, allowing us to understand and challenge our own and others’ disciplinary perspectives, thus enabling inter- and trans-disciplinary collaboration. In this sense “design driven” research should not be limited to any traditional or disciplinary notions of design, rather embrace a theoretical, thematic and methodological diversity through which new trans-disciplinary research approaches and visions of a post-fossil society can emerge.

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Paper

Keywords: collective, transdisciplinarity, teaching, urbane Praxis

Abstract

The paper discusses the practice of reflection as approach and method in the context of a collective design studio with teaching and practice elements. Drawing on new understandings of collectivity such as Ziemer’s Complicity, the paper makes an argument for the potential of the collective as an organisational form in architectural teaching and practice. In the context of the pandemic, the adaptive nature of collective structures is discussed under the headline of Schön’s loss of stable state. An argument is made for a new kind of collective studio practice based on the transformation of traditional identities and skillsets in architecture, reflected in the success of examples of bottom up urbane praxis projects in Berlin. Ethnographic methods are used to unpack the role of reflection in enabling effective collective practice and discuss how reflection can serve to facilitate inter- and transdisciplinary working. Finally, the paper discusses the medial challenges in representing performative research and suggests how the challenges thrown up by the studio could be used as a basis for further practice- and performance-based research investigations with architecture collectives.



Practicing Reflection as a Design Studio Collective

Background: Reflection as Approach

In this paper we will discuss the practice of reflection in the design studio, the role that it can serve as both a research approach and everyday practice, and how reflection can enable us to use changing roles and perspectives to facilitate inter- and transdisciplinary collaboration. At Natural Building Lab reflection always plays a large role in our projects, which often deliberately blur the boundaries between teaching, research, practice. We value collective knowledge production and authorship by striving to approach projects as inter-cultural or inter-disciplinary teams and actively seeking opportunities for fully integrated collaboration with other disciplines. The “zu:flucht” Studio was an example of this approach and consisted of 18 participants in the architecture masters program, who worked as a single collective with external partners including civil engineers, communication designers and the user themselves (Stiftung Exilmuseum) to finalise the planning and realisation of a spatial installation using 6 former tempo-home containers at Anhalter Bahnhof in Berlin.

In the studio reflection played a double role: as approach and as method, a distinction based on Schön’s *reflection in action* and *reflection on action* ¹. However, we would also extend the scope of reflection on action into the future, thus unlocking our ability to reconstruct future action based on experience. This is the power of reflection as approach.

Pandemic Studio: Beyond the Stable State

Donald Schön introduced the notion of the *loss of the stable state* in the early-70s, calling for the creation of adaptive systems ² and it seems today more relevant than ever. The transfer from studio to zoom-room in April 2020 was most likely the most abrupt disappearance of a *stable-state* that many of us will ever experience with the first studies recording a marked drop in the satisfaction of both students and educators in architecture programmes ³. Yet since the initial shock and knee-jerk reactions of adjusting to the tools, methods and spaces of online learning, discussions are increasingly centred on what will become the *new normal*, unfamiliar or atypical conditions that

quickly become stable, usual, or expected. And while the last twelve months have served to emphasise how suddenly we can need adaptive structures; their potential goes well beyond this. More collective forms of urban practice have the potential to address other challenges – specifically the way the design studio model can react to the transformation and increasing diversification of architecture practice.

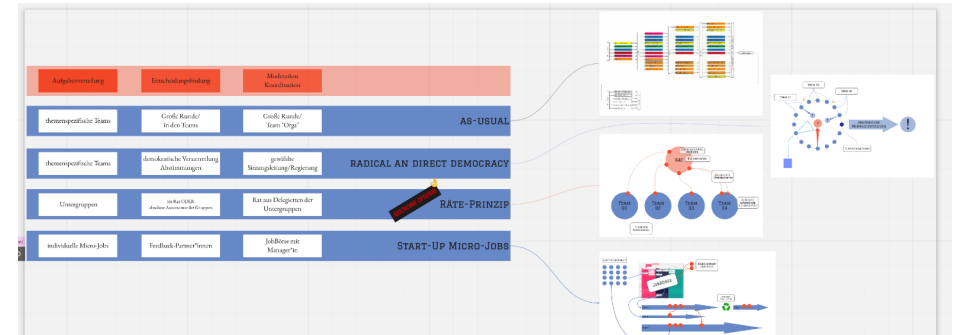


IMAGE: The structure of the collective and its associated processes was treated as a design task to be iteratively developed and tested against the challenges presented by new developments each week © Studio Dawzwischen, WiSe 2020–21

Even before the pandemic, the last decade has been marked by the dilution and disappearance of traditional job descriptions across all sectors. The short-term nature of today’s job market means that a young person entering the labour market in 2000 will on average change employers twelve to fifteen times in her lifetime ⁴. This means that for many, the solid identity promised by a career in an established profession or institution will be replaced by a *situative professionalism*, whereby we learn to approach complex problems from different perspectives throughout our careers ⁵. In the context of architectural education, this dilution of traditional identities and skillsets means that while spatial and technical prowess will remain part of some architect’s key competency, an increased proficiency in other skills like communication, moderation, empathy, listening and self-awareness will allow the next generation of architects to become the initiators and facilitators of processes that go beyond the traditional architectural competency.

Collectives have always formed part of the avant-garde in the arts and have a long history as a mechanism able to critique existing norms and power structures. Yet in the post-2008 financial crash generation of architects, the collective is also an increasingly popular organisational model for groups operating on the fringes of traditional practice ⁶. For many, the collective brings with it negative connotations of a certain volatility or short-termness, running against dominant conservative notions of stability and security. Culture theorist Gesa Ziemer uses new terminology to highlight the potential of this kind of practice, which she terms *complicity* and the participants as *accomplices*. By reclaiming these descriptions from the criminal justice system, Ziemer’s *complicity* serves to describe a kind of project-based, collaborative and intense urban practice, which eschews hierarchies and conventions but is increasingly to be found not only the arts, but also in businesses and the

sciences ⁷. *Complicity* is often an urban form of practice, strongly based in a belief in diversity, collectivity and challenging traditional disciplinary and institutional boundaries.

Yet despite the prevalence of architects in many of the collectives at the forefront of this transformation, it is yet to make an impact on the everyday routine at most schools of architecture. Studio training is still very much characterised by work and presentation formats that put students in competition with each other in design studios set up as a masters studio with a teacher who sets the content and task and passes a subjective judgement on the quality of its completion. In the 1983 *"The Reflective Practitioner"* Schön saw that studio-based training was successful because it was based on controlled and simulated versions of professional practice, that is – the studio task mimics the design tasks that one encounters on the job market. Initially very popular and seen as a blanket vindication for architectures approach to vocational training, Schön's work has come under more criticism in recent years for its narrow view of architecture practice and its capacity to discipline students into becoming the most the most traditional kind of architects ⁹. Yet while Schön's 1980s descriptions are from an era of pre-digital architecture virtually incomparable to today's, many of the patriarchal pencil and sketching paper encounters he describes are uncomfortably close to situations that many of us will be familiar with. The concept of *simulated practice* is still at the core of studio learning, yet inter- & transdisciplinary design practice does not prescribe the role of the architect so clearly, it must be constantly reflected and negotiated. This reality can be seen in many of Berlin's pioneer bottom-up city making projects such as Haus der Statistik and Rathaus Block. These projects have been initiated by groups containing amongst other actors – often architects and collectives. The current support from the city administration for this kind of *Urbane Praxis* ¹⁰ and the growing discourse around it ¹¹, show that it is being taken seriously as an alternative to neoliberal city development.

It is beyond the scope of this paper to discuss what this means in the important wider discussion on the balance of the curriculum in architecture schools ¹² or what can or cannot be understood as valid design practice ¹³. Our interest is in setting up a discussion on what practice we as educators should be *simulating* and the important role that reflection plays in allowing us to discuss this, both on a meta-level and in dialogue with students.



IMAGE: Autoethnographic statements ©Studio Dawzwischen, WiSe 2020-21

Research Methodology

In looking for research tools, we were interested in methodologies that would allow reflection to be better integrated into our studio processes. Reflection is an essential everyday practice to facilitate working effectively as a collective, especially in the spaces of digital learning, we need to constantly reflect *in action* on the way that we communicate with each-other and how this is being received by others. Yet reflection *on action* is also the practice through which participants contextualise and reconstruct their experience. To encourage this, we looked to ethnographic methods to document our insights, thoughts and reactions at different stages of the semester. *Autoethnography* provides an effective set of tools to explore ourselves and our experiences, it can also be a kind of therapeutic process, allowing space to challenge our storylines and prejudices ¹⁴. Most importantly it reconnects our present selves to a specific point in time. This multi-temporality means that the result of ethnographic enquiry can be seen as both process and product ¹⁵ and can facilitate both *reflection in* and *on (future)* practice.

Auto-ethnographic enquiry was used by all of the participants. For research purposes I kept a process diary over the course of the semester, to document not only the weekly progress of the studio and the methods/formats we employed, but also my own doubts or questions about the upcoming weeks. This proved an invaluable tool for the development of my research approach, but one which required great discipline to maintain. All studio participants started the semester with an auto-ethnographic task, writing a short text about themselves including their background, previous experiences, learning goals and doubts for the semester that was shared with the rest of the group. At the end of the semester we revisited these statements, and used them to assess the way that aspirations and assumptions evolved over the course of the semester.

The second methodology employed was *reflective dialogue*, a methodology from pedagogy and higher education. Reflective dialogue served as a framework for the feedback culture we already practice. In order to structure our dialogues we referred to the 4 R's model for identifying different levels of reflection: reporting, relating, reasoning, reconstructing ¹⁶. Our reflective dialogues were by degree more or less formal, at the start of the semester, discussions required more prompts and moderation on my part, later it became an organic and natural part of our routine.

Reflection: Forms of Representation

In the final part of the paper, rather than trying to use reflective statements to confirm the ideas above *pro forma*, I have elected to focus on the what became the main focus of the post-presentation discussion during the symposium – appropriate forms of representation. It became clear that documenting the reflections in text form is neither satisfactory in the form of a presentation, nor in the final product as a paper, reducing them to an object

to be analysed and stripping them of any of the human, experiential or emotional content. On the other hand, it seems important for the practice-driven research aspect of the project to outline our agenda and aspirations – to set up the discussion – and this could be understood as what Haseman calls an *experiential starting point* ¹⁷. The writing process allowed me to build up an argument from within the process, rather than from an objective point outside it. Yet it becomes clear that the difficulty lies in adequately representing the performative side of the project, in which collective practice could also be deemed a principle research activity and as such one of the key outcomes of the research in its own right ¹⁸. There is no established framework for learning to collaborate at our institution and reflection is a key part of this kind of practice, as such the project can also be understood as a performative realisation of this kind of learning format ¹⁹.

Yet still documentation of the process is the only way to set up this discussion and the most appropriate set of tools for this are provided through *visual ethnography*. Here we see the potential of film, similar to in the Complicity research film ²⁰, as a better media to document such discussions and transport their full potential in the future. Still it seems in the context of the digital semester also appropriate to see our final digital exhibition board in the interactive whiteboard app Miro as a valid and visual expression of the character of the studio ²¹ and not only as a way to compensate for the uncertainty surrounding the timeframe for the physical realisation the project. Starting in mid-May, the content of the exhibition and the performance of its realisation will communicate these themes with visitors.



IMAGE: Final presentation as interactive digital exhibition in the whiteboard app miro ©Studio Dawzwischen, WiSe 2020–21

Loose Ends

It also seems appropriate to wrap up some of the themes above from my research perspective and to suggest how the many loose threads could be developed in the context of future projects. The current drive towards transdisciplinarity, citizen science, living laboratories, life-long learning etc. at many institutes for higher education reflects the aspiration of universities to take on a proactive role in initiating wider institutional and urban transformations. Jean Paul Addie talks of a theoretical shift from the urban university to *universities in urban society*, which through mediation, centrality, and difference are able to provide a “continuous, rigorous institutional

critique of existing practice” ²². Collectives are uniquely equipped to do this, because they resist established norms not by attacking them, but rather by providing and performing a viable alternative – they embrace and embody Addie’s notion of difference. In this their existence and practice implicitly criticises many of our institutions set-up to support the individual ²³ and this dynamic led to some tensions in interaction with other partners operating with different structures and expectations from the cooperation. Better understanding these challenges, and using real practice examples to develop strategies to address them, would be a subject for a subsequent paper and could take inspiration from the experiences of collective-driven urban projects in Berlin under the growing umbrella of *urbane-praxis* ²⁴.

Literature

1. Donald A. Schön, *The Reflective Practitioner: How Professionals Think in Action* (Routledge, 1983), 26.
2. Donald A. Schön, *Beyond the Stable State*, The Norton Library (New York: Norton, 1973).
3. Robert Grover and Alexander Wright, ‘National Design Studio Survey: Initial Results’, 7 July 2020, <https://researchportal.bath.ac.uk/en/publications/national-design-studio-survey-initial-results>.
4. Richard Sennett, *The Culture of the New Capitalism* (New Haven (Conn.): London: Yale University Press, 2007).
5. Gesa Ziemer, *Komplizenschaft: Neue Perspektiven Auf Kollektivität, X-Texte* (Bielefeld: Transcript, 2013). P95
6. See for example the diversity of organisational descriptions in: G. Venturini, *Atlas of Emerging Practices: Being an Architect in the 21st Century* (Actar D, 2020).
7. Ziemer, *Komplizenschaft*.
8. Schön, *The Reflective Practitioner*.
9. Helena Webster, ‘Architectural Education after Schön: Cracks, Blurs, Boundaries and Beyond’, *Journal for Education in the Built Environment* 3, no. 2 (December 2008): 63–74.
10. Initiative Urbane Praxis, ‘Initiative Urbane Praxis Berlin’, 2021, <https://www.urbanepraxis.berlin/about/>.
11. THF Radio. *Fuß in der Tür - Der Podcast für Urbane Praktiker*innen*. Podcast, 2021. shorturl.at/tyRTV
12. Powers, Alan, *The Fiction of Architectural Education*, in D. Froud and H. Harriss, *Radical Pedagogies: Architectural Education and the British Tradition*, (Riba Publishing, 2015)
13. N. Awan, T. Schneider, and J. Till, *Spatial Agency: Other Ways of Doing Architecture* (Taylor & Francis, 2013).
14. Carolyn Ellis, Tony E. Adams, and Arthur P. Bochner, ‘Autoethnography: An Overview’, *Forum Qualitative Sozialforschung* 12, no. 1 (2011), <https://doi.org/10.17169/fqs-12.1.1589>.
15. Ellis, Adams, and Bochner.
16. Mary Ryan, ‘The Pedagogical Balancing Act: Teaching Reflection in Higher Education’, *Teaching in Higher Education* (1 January 2012): 1–12.
17. Brad Haseman, ‘A Manifesto for Performative Research’, *Media International Australia* 118, no. 1 (1 February 2006): 98–106
18. Haseman.
19. Ziemer, Gesa, *Kollektives Arbeiten*, in Jens Badura et al., eds., *Künstlerische Forschung: ein Handbuch*, (Zürich Berlin: Diaphanes, 2015) 1. Auflage. P169–172
20. Barbara Weber & Gesa Ziemer. *Komplizenschaften - Ein Forschungsfilm von Barbara Weber & Gesa Ziemer* (Deutsch), 2020. https://www.youtube.com/watch?v=lfm5xOBO_yM.
21. Studio Dazwischen / Natural Building Lab. ‘ZU:FLUCHT – Eine Räumliche Installation Auf Dem Weg Zum Exilmuseum’, *WiSe 20–21*. <https://www.nbl.berlin/projects/ein-tempohome-fur-das-exilmuseum/>.
22. Jean-Paul D. Addie, ‘From the Urban University to Universities in Urban Society’, *Regional Studies* 51, no. 7 (3 July 2017): 1089–99.
23. Ziemer, *Komplizenschaft*.
24. Initiative Urbane Praxis, ‘Initiative Urbane Praxis Berlin’.

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Re/Cutting Belgrade's Dis/Continuities on Screen/s

DDR Statement

It is regularly declared that architects and filmmakers should work together more often, and well beyond obvious combinations, such as scenography. Indeed, thinking cities/buildings as an architect and thinking cities/buildings as a filmmaker might give different results in their respective understanding of space/objects. Furthermore, the relation between space/objects and the users/audience may determine the experience of the latter. Is their role active or passive? If people interact daily with the designed space/objects, how do they live these designs physically? Conversely, how are their perceptions influenced when they look at these designs from new perspectives?

Aside from existing through cities, film also (re)creates cities or changes their image. Knowing the importance of motion, architects already apply the “promenade” that helps them and their clients imagine or test narrative sequences around their (future) inventions. This process happens in the conceptual phases: drawings, scenarios, models, collages, 3D renderings or virtual reality. But to represent places once anchored in reality, film is undoubtedly the medium that encompasses the highest number of mechanisms: camera angles, movement, light, color, sound, editing and many more cinematic techniques. Nonetheless, these means have an impact on how reality is translated in spectators' minds and how it triggers their empathy or awareness.

Rather than simply using films as a tool to demonstrate the thesis, the idea of the present project is to reconstruct the found material from different audiovisual types of narratives and to offer alternative meanings.

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early stage research

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Paper

Keywords: Belgrade, discontinuity, film

Abstract

“Belgrade on Screens: Visions of Continuous Discontinuities” is a Design Driven Doctoral Research (DDDr) exploring Belgrade's urban destructions through (post-)Yugoslav moving images. It is composed of an archival investigation and an immersive video-collage of the collected material. The following text, structured in three sections, introduces some early reflections on this project. The first part presents its context and intentions as well as a theoretical framework leading to main concerns. The second part expresses the importance of the topic, including the purpose of its dual conceptual-practical approach, complementary to the Design Driven Research (DDr) statement. In the third part, methods and techniques to consider during the experimental creation are described, suggesting various outcomes.

1. RE/FRAMING MEMORIES

INTRODUCTION

Aside from manifesting historical, cultural, geographical, social, and political dimensions of spaces, films display sensitive contents captured in phenomenological notions such as *atmosphere* or *mood*. Affecting the collective consciousness and memory, films constitute a tool to articulate and manipulate the *image* of a town and its inhabitants.

The key concept of this research is *discontinuity*, as a cut of regularity and as an interval of broken stability within a perpetual condition. *Discontinuity* appears as much in the architectural as in the cinematographic vocabulary since it indicates a disconnection in *space* and *time*, two fundamental components in both disciplines. Cities being shaped by *history*, *politics*, and *society*, discussions on (dis)continuities in these additional frames will apply as well. For instance, *discontinuity* could be seen as a "political time in which periods of comparatively modest institutional change are interrupted by more rapid and intense moments of transformation." (1) In that sense, architectural discontinuities refer to disruptions, losses, and traumas caused by wars, inner conflicts, or political decisions.

However, while film cutting essentially constructs *continuity*, filmmakers use "discontinuous editing" to emphasize emotional response by atypical shot-arrangements. Crossing facts and fiction, new imaginaries build up new realities and provoke divergent layers of memories. Accordingly, films have the power to (un)fix the recognition of any past.

In Belgrade's case, inherent breaks of patterns have been resulting from radical changes. Being repeatedly destroyed and rebuilt, the city sustained, by a combination of causes, *continuous discontinuities*. Considering particular types of demolition translated into filmic language, and reviewing pivotal moments of architectural disruptions, this study explores the screen adaptations of war devastations and other urban modifications in Belgrade's city core.

HYPOTHESES

Discontinuity has been already argued by many theorists and historians as a political and aesthetic criticism of the past (Martin Heidegger, Jean-Louis Comolli, Walter Benjamin, Michel Foucault). (2) That it appears worthwhile to investigate how the moving image reflects the discontinuities of a city and its citizens has found expression in a wide range of exchanges in architecture and film. There is an abundant body of knowledge about film and city (Julia Hallam, François Penz, Les Roberts, Mark Shiel), film and war (Elisabeth Bronfen, Leslie Midkiff DeBauche, David Lührssen, Paul Virilio), and urbicide (Bogdan Bogdanović, Martin Coward, Jeffrey M. Diefendorf, Stephen Graham).

Further specific research dealing with these topics arises over the concepts of *memory*, *place*, and *identity* in the context of the Balkans. In the past few years, this growing interest has been confirmed by an increasing quantity of colloquiums, essays, and artistic projects depicting comparable concerns. But most of these pieces either focus on short portions of years, or treat the topic on a larger scale, rarely from multiple disciplinary fields, or infrequently combining film genres.

Thus, there seems to be no comparative-artistic approach exploring films and interruptions in the 20th century at the scale of Belgrade, through urbanism *and* film,

across time *and* genre. Also, a more evident reaction to existing political debates is missing. By bringing transdisciplinary closer looks to the past, it becomes urgent to mirror them with the present.

This comparative and empirical research aims to open inter/multidisciplinary discussions. The theoretical study of previously acknowledged generic interconnections between *urbanism*, *war*, and *film* represents a thematic basis. Nonetheless, *discontinuity* being the central concept, it is crucial to focus on its theoretical meanings and interpretations within the above-mentioned disciplines. In philosophy and social sciences, connections between *memory* and *history* are exposed to *tension* and *discontinuity*.

Therefore, *discontinuity* belongs to theories of *collective memory*, *phenomenology*, *perception*, *spatiality*, and *cinematic cartography* (Aleida Assmann, Gaston Bachelard, Edward Casey, Tom Conley, Gilles Deleuze, Jacques Derrida, Maurice Halbwachs, Maurice Merleau-Ponty, Pierre Nora, Les Roberts). On the other hand, affective geovisualizations or emotional atlases introduce a premise on how individuals interpret events and locations, from reality to cyberspace.

If three types of cinematic movement-images — perception, affection, action — constitute a fourth type *mental-image* (3), immersive "montages of memories" (4) intervene on physical and psychological reactions. Hence, the assumption that history depends on temporal connections of discontinuous representations (5) motivates questions where architecture and film are equally involved.

By what means are architectural discontinuities manifested in Belgrade's film landscape? Inversely, how do cinematic effects manifest Belgrade's architectural discontinuities? How do audiovisual media impact cognitive awareness, produce new interpretations or generate any misconceptions? Albeit films visibly note an incomplete portrait of the city, never disclosing it entirely, hiding or inventing its degenerations, how can we represent these fragments visually? Finally, as we imagine (construct) a city based on its narratives, how can we describe (reconstruct) a city being destroyed (deconstructed)?

2. BETWEEN CINEMA AND CITY

MEDIUM

Many schools of architecture encourage students to understand and communicate architecture by filming it, as a way to improve their designs.

According to Gemma Barton, boundaries between architecture and filmmaking are quite vague. She detects *representations* and *narratives* as factors dependent on *reality*. "Architectural narratives" might come to existence in reality, whereas "film narratives" already exist in a certain constructed world — not necessarily in reality. Further on, Barton essentially describes how architects create a new reality for future use, whereas filmmakers use the current reality to create new perceptions. Suggesting "cross-disciplinary collaborations" between "interchangeable professionals", she predicts a "potential not just to transcend the limits of each discipline but to create a new one, where medium and creation are both one and the same." (6)

While filmmakers "borrow" omnipresent architecture(s) to create "mental architectures", can architects "borrow" cinematographic elements? In other words: architects using film(s) as their new material may lead to crossdisciplinary habits, and "close the circle" (Fig. 1). One perfect example is "Welt Spiegel Kino" (2005) by Gustav Deutsch, eminent Austrian architect-filmmaker. His documentary suggests "micro-tales" as imagined fates of occasional passers-by in a town, with hypertextual found footage inspired by real socio-cultural contexts. (7)

If "cinema is truth twenty-four times a second" (8), to illustrate a thesis discussing film's complexities without directly showing the films would give an incomplete image when one of the aims is to give films a second reading/life. Film stills are — as their name indicates and as you can see later — *still*, whereas moving images express *motion*. Namely, by using the medium that is also the subject matter, we can shape spaces with existing films and (re)create mental images/realities. These constellations demonstrate how films change somebody's perception and modify facts or existent places (e.g. Kuleshov effect). Acquired from the archives, movies will — aside from being restored/revived — be placed in a new context, which will give them new meanings and experiences of the past. Finally, at a time when new technologies and alternative methods allow us to rediscover our cities (e.g. smartphone applications geolocating movies) this research may generate references for other scientific fields (e.g. urban digitization, digital mapping) or question legacies of virtual audiovisual data.

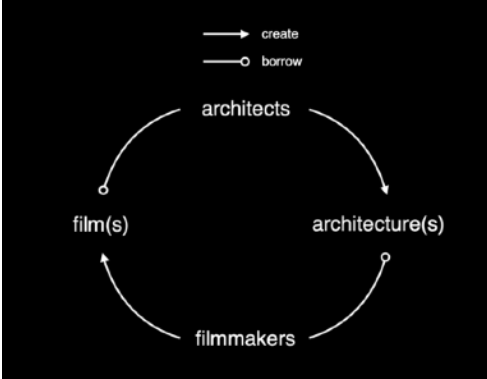


Fig. 1

PLACE

Although Belgrade is filmed for the first time in 1897 by André Carré — operator and representative of the Lumière brothers — the oldest saved movie showing Belgrade dates from 1904. (9) During the 1920s, cinema is supported by the state. By the 1930s, some firms start producing films, and a film critic declares that "Belgrade is Film." (10) In 1946, the Yugoslav government creates the State Committee of Cinematography, leading to the foundation of its largest film production company: Avala Film. Equipped with this filmmaking studio and a central film laboratory, Belgrade becomes a significant center for cinema management in the region and a place of high production capacities due to collaborations with local or international enterprises. Consequently, Belgrade plays in an important number of films, as a descriptive background or as one of the protagonists.

Yet, the city has been bombed in the course of five historical circumstances. As the siege of six states in the last hundred years, its status shifted from the capital of the self-governed non-aligned center between East and West, to the capital of the only European state under sanctions by the United Nations. Today, this unstable history presents Belgrade as the center of a dissolved country, seeking its communal memory.

As a damaged legacy of previous regimes is erased or left to decay, the city is still exposed to ambiguous or improvised modifications by political systems with tendencies to abolish or deny former regulations. By a lack of persistence in maintaining one unique guideline toward strategic urban planning, Belgrade has a long tradition of discontinuity. With a development shaped in non-transparent frameworks, public discourses constantly raise the deepness of these discontinuities.

Physical destruction is the most occurring form of urbicide, but it can appear in more "subtle" ways. Conflicts can be assigned to internal battles within a country that is no longer at war, but divided by its inner frictions, prolonging its tradition of discontinuity under other forms of deterioration (e.g. controversial monument to Stefan Nemanja, unveiled January 2021). Internal political conflicts continue to divide a population in a frozen transition. As a result, public and private media channels provide incompatible interpretations of same images. Therefore, linking this memory-collection to ongoing debates is the opportunity for a critique of reappearing dynamics.

3. RE/CUTTING DIS/CONTINUITIES



Fig. 2

METHODOLOGIES

Analyzed in a written thesis, the first phase implies the acquisition of footage showing urbicides or sudden changes within the city-core, marking decisive moments in the 20th century. To track the *continuity of discontinuities*, the timeline is expressly extended throughout this linear configuration. Nonetheless, essentially one symbolical area is the selected chronotope for discontinuity: *Terazije Square* with its direct surroundings, all articulated in a continuous dialogue of sequences in reality due to their physical proximity, but divided and fragmented in the film editing (Fig. 2). To confront cinema to mass media, the genre spectrum is extended to documentaries, popular series, and TV-reports that produced additional portrayals of urban developments or myths, bringing tensions between *story* and *history*. It will also demonstrate how fiction is being used to retell past events or, inversely, how documentaries are being used in fiction. During the artistic process, the idea is to combine different *visions*, displaying an archeological dialogue between fictional and factual *texts*.

After clarified copyrights, selected clips will be treated in a video editing software program with thematical, geographical, and chronological intersections. This includes a detailed and precise structure, as the montage has to determine and demonstrate most of discontinuities (de/compositions). Taking for instance Palace Albanija, a segment can show how one same building sends different messages (Fig. 3-4).

Furthermore, some tapes have already been digitized by the Yugoslav Film Archive, but preordered digitization or personal execution is to be anticipated. Film excerpts will be categorized by the frequency of reappearing streets and buildings. Feature films having been defined in previous studies by the researcher, these movies can be the first step of the archival re/collection. The next task will be to find these places within other genres and test if and how they correspond to each other.

Relevant film portions will be classified by genre, nature and budget of the production, box office, reception, rating, as these criteria determine their significance in popular culture. Was a movie funded by the government, blacklisted because of its political implicit statements and director's ideologies, or acclaimed at festivals? How many times has it been replayed on television?



Fig. 3



Fig. 4

This quantitative part of the research (data collection) will provide statistical and cartographic overviews. The qualitative part (descriptive criticism, comparative observations) will be based on cinematic effects (camera angles, framing, editing, focus, etc.) studying similar discontinuous cities (e.g. Berlin, Prague, Budapest, Athens).

OUTCOMES

After unfolding these interruptions, the second part materializes in a video-essay and/or a multi-screen installation. (11) The aim is to express accumulated visual information by adding a spatial context that contributes to a physical experience of *discontinuity*. As discussed, the main reason for this method is the typology of primary materials and the topic in itself. Similarly, an adequate way of virtually evoking a place is through motion in a three-dimensional reality, offering an immersive introspection in a fragmented collage of divided screens, with several possible layouts.

By walking through the composition, engaged viewers become pedestrians or "flâneurs" (Benjamin), actively initiating narrative sequences or "promenades architecturales" (Le Corbusier). Through formal aspects (shape, material, style) of structural and expressive discontinuities, tensions of contradictory urbanism or buildings that Robert Venturi suggests (12) will become even more obvious.

Because impressions of a city are "partial, fragmentary, mixed with other concerns" (13), mapping tools and elaborated sonic compositions can target new layers of discontinuities, inspired by audio-extracts of the selected videos (soundtrack, movie quote, urban noise).

Knowing how language and words are powerful, acoustics and its audio-content are to be carefully considered. Voice-over would lead to a commented video-essay (e.g. Chris Marker, Harun Farocki, Thom Andersen). However, to inspire individual impressions, the composition can work well without verbal content, but with a specific soundtrack (e.g. "Koyaanisqatsi", Godfrey Reggio, 2000 / music: Philip Glass). Indeed, cutting out and re-editing selected parts, the goal is to disclose/create new meanings. Thus, instead of calling it a "video-collage" or "film-installation", it is perhaps more accurate to identify it as "video-dé/collage" or "film-de/construction". Ultimately, it is important to leave some space to intuition during the making-of — not only because the amount/nature of collected material remains unpredictable at the moment, but also because experimental operations tend to appear only during creation.

4. CONCLUSION

The text presented here is a draft of a practice-based design-driven doctoral research that explores Belgrade's urban identities with an audiovisual experience by using film archives. The project has been formulated through an unfolded set of the three most important questions that remain constant during any doctoral research: *what / why / how*. Firstly, from a subject's contextualization and its main concept(s) to the issues to resolve. Secondly, from the relevance of the means to the relevance of the topic.

Finally, from the methodology to the expected results. After uncovering these preliminary strategies, it appears that multiple designs may complete the thesis, depending on found footage and the factors to be emphasized. As these factors will be figured out throughout the design process, it is still too early to envisage the arrangement of the "final product" — if we expect it to be "fixed" and "consumed" at all.

ENDNOTES / BIBLIOGRAPHY

- (1) Hay, Colin (2002): »Continuity and Discontinuity in the Analysis of Political Change« in: Political Analysis: A Critical Introduction, London: Macmillan International Higher Education, pp. 135-163.
- (2) Petro, Patrice (1985): »Discontinuity and Film History: the Case of Heidegger and Benjamin«, in: Journal of Film and Video, Vol. 37, No. 1. Film History, Winter, pp. 21-35.
- (3) Deleuze, Gilles (2001): Cinema 1: The Movement Image. London: A&C Black.
- (4) Ilić, Isidora/Prostran, Boško (2018): »Images of Past as Images for the Future«, in: Modelling public space(s) in culture: Rethinking Institutional Practices in Culture and Historical (Dis)continuities. Skopje: Lokomotiva - Center for new Initiatives in Arts and Culture, pp. 205-211.
- (5) Foucault, Michel (1970): The Order of Things - An Archaeology of the Human Sciences. New York: Vintage.
- (6) Barton, Gemma (2016): »The grey area between reality and representation: The practices of architects and film-makers«, in: Clift, Edward M., Mirko Guaralda, Ari Mattes, and Graham Cairns (Ed.), Filming the City: Urban Documents, Design Practices and Social Criticism Through the Lens, Intellect (UK), pp. 165-181.
- (7) Six Pack Film: World Mirror Cinema, Episode 1-3. Online catalogue, <https://www.sixpackfilm.com/en/catalogue/1397/> from February 24, 2021.
- (8) Godard, J.-L. (Director). (1963). Le Petit Soldat [Film]. Productions Georges de Beauregard.
- (9) Mottershaw, F.S./Wilson A.M. (Directors). (1904). The Crowning of the King Petar I Karadjordjević [Film].
- (10) Aleksić, Dragan (2002). »Beograd, film, Filmski Beograd i Beogradski film«, in: Munitić, Ranko. Belgrade Film Critics Circle, Vol. 1: 1896-1960. Niški kulturni centar/ Art Press, Niš, p.81.
- (11) see: Christoph Girardet and Matthias Müller, Patrick Keiller, Julien Isaac, Lis Rhodes
- (12) Venturi, Robert (1977): Complexity and Contradiction in Architecture. The Museum of Modern Art.
- (13) Lynch, Kevin (1960): The image of the city. Cambridge, Mass: MIT Press.

IMAGE REFERENCES

- Figure 1. Architects/filmmakers/architectures/films. M. Niković, 2021.
Figure 2. Chosen areas shown with Google Maps. M. Niković, 2021.
Figure 3. Film still: Cipelice na Asfaltu (dir. Vučinić, Boško. 1956)
Figure 4. Film still: Love Affair, or the Case of the Missing Switchboard Operator (dir. Makavejev, Dušan. 1967)

Abandoned Space and a Post-Socialist City

Transformative Potential of Former Industrial Sites in Skopje

DDR Statement

Abandoned industrial spaces are an important part of the built environment. They serve as tangible and intangible links to the past and have the potential to play an important role in the future development of the cities in transition. This thesis will explore the transformation of abandoned industrial space in Skopje in the post-socialist period. More precisely, the research intends to analyze the industrial space transformation, i.e. the outcomes of transformation of the locations of abandoned industry areas, due to the effect of the processes of deindustrialization. The research hypothesis refers to the transformation of industrial space as characterized by a combination of continuity and change of the existing, today abandoned industrial spaces that are part of the city urban area. The study puts an effort to assume that these abandoned industrial spaces are part of the contemporary urban environment, and this research will find a way to explain and define tools for assessment of the industrial abandoned spaces.. so they can be more easily, socially and economically reintegrated into the urban fabric of the city.

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Extended Abstract

Keywords: abandoned industrial sites/spaces, post-socialist city, transition...

Abstract

Abandoned industrial sites should certainly be regarded as city spaces with big potential. In recent decades derelict industrial sites are becoming more and more interesting, not only because of the phenomenon of evaluation of industrial heritage, but also due to the lack of free land. Every time we are confronted with the reuse of an industrial area, a question arises: what to do with these areas? In case they are not protected as cultural heritage or otherwise culturally valued, a question arises: to preserve or to demolish?... This research will intend to define the main characteristics of the development of abandoned industrial zones in Skopje, and on the basis of this characteristics, to design a parameters of analysis and subsequently an assessment methodology that will be focused on the abandoned industrial zones.



Abandoned industrial spaces are an important part of the built environment. They serve as tangible and intangible links to the past and have the potential to play an important role in the future development of the cities in transition. The thesis will explore the transformation of abandoned industrial space in Skopje in the post-socialist period. More precisely, the research intends to analyze the industrial space transformation, i.e. the outcomes of transformation of the locations of abandoned industry areas, due to the effect of the processes of deindustrialization. The research hypothesis refers to the transformation of industrial space as characterized by a combination of continuity and change of the existing, today abandoned industrial spaces that are part of the city urban area. The study puts an effort to assume that these abandoned industrial spaces are part of the contemporary urban environment, and this research will find a way to explain and define tools for assessment of the industrial abandoned spaces.. so they can be more easily, socially and economically reintegrated into the urban fabric of the city.

The social and economical dynamics and a regenerative economy, these abandoned industrial areas offer a great potential, and can be thought as a space generators with an undefined function: an ideal platform to receive uncertain social dynamics(Bauman, 2000).

Example of The City of Skopje

Skopje's urban landscape is a kind of urban-architectural conglomerate, a system of overlapping historical and morphological layers which in their nature are contradictory among themselves. Most during the last century, the city of Skopje, following a series of different modernization templates confronts dramatic transformation from a traditional, Balkan and Ottoman city to a European, socialist, post-socialist and finally global – in transition.

According to the research of Architect Blaž Križnik and Anthropologist Goran Janev (Križnik, Janev, 2010), “many important European cities have historically developed from monumental national capitals, constructed during the period of national emancipation in the nineteenth or early twentieth century, and have been recently transformed into globally integrated open cities, where transnational flows of people, goods, capital and cultures shape their present development. Skopje, on contrary, has a rather different history. It seems that in comparison to other European capitals, which have developed from grand national capitals into transnational open cities, Skopje has actually taken almost an opposite path.” (Križnik, Janev, 2010)

Figure 1. Current state – Kuprum Factory
Author photography , 2020

The post - socialist transition of Skopje created amazing challenges in planning and creating the urban landscape of the city, setting completely new frameworks for its spatial development. By changing the urban planning system, ie. the emergence of previously non-existent participants in this process (private land-owners, private investors, private planning companies, private construction industry, local government with responsibilities in the field of urban planning, etc.), completely new conditions for urban development of the city were created. As a result of these factors, in conjunction with economic and socio - political challenges related to the nation-building processes, the crucial decision of Skopje's transformation in the post-socialist period are the cruel forms of privatization of the abandoned industrial areas.

The period of transition, it was mostly spontaneous and without the existence of a general strategic framework for the development of the city. The city's transitional forms of densifying are chaotic and on lack of basic planning standards. The remains of the abandoned industrial areas are often subject of extinction and oblivion.

In the urban context of the City of Skopje, the abandoned industrial areas are being rudimentary, privatized and commercialized on a daily basis, it is crucial to find a way so they can be socially and economically reintegrated through different strategies. Also, very often these spaces are "occupied" or "appropriated" by local residents, communities and expand the notion social and economic integration to symbolic integration too. In some cases, the usage of abandoned industrial sites by the local people, can have a positive affect and improve the image of the neighborhood as well as the space itself, but in other cases, abandoned industrial sites in Skopje can bring negative value due to vandalism or uncontrolled appropriation by people.

The main purpose of this research is to develop a strategy, actually a tool for examining the characteristics of abandoned industrial spaces by examining the entire context. As a way to understand the potential of these places (and their complex contexts). Focusing on City of Skopje seen as an urban laboratory exploring the possibilities offered by abandoned industrial spaces - in social, programmatic and aesthetic terms.

Also, the research will put an effort to emphasize the transformative potential of existing abandoned industrial areas for future spatial and economic development of the city. From an urban-architectural perspective, this research should be paramount the future development of the city. Therefore, I believe that this research can effectively help to identify new strategies and tactics among which we can better design the future architectural form of the city.

To consider the re-functionalization of these abandoned industrial sites is above to be opposed to demolition, and to see the problem as a great opportunity for the re-use of abandoned industrial spaces in the urban network via a sustainable solution. The hypothesis states that

"... Endangered abandoned industrial sites in Skopje, due to their societal, historical, architectural, and technological values, have important transformative potential for incorporating sustainability principles and can be seen as a catalyst for urban regeneration of this areas in the future..."

This research will intend to define the main characteristics of the development of abandoned industrial zones in Skopje, and on the basis of this characteristics, to design a parameters of analysis and subsequently an assessment methodology that will be focused on the abandoned industrial zones.

Guided by the idea firstly to compile an archive of those characteristics, which most precisely define this spaces at all levels – the physical planning, micro urban and architectural level. So subsequently on that basis to develop a system for evaluation of the abandoned industrial sites.

The historical analysis of Former industrial sites in Skopje and (post-socialist) city context and the socio-economic changes will be focusing on three main periods of industrial development: Period of concentration, Period of transformation, Period of dispersion. This method will enable me to define the relation between industry and the city, which includes identity of the environment of abandoned industrial areas explained through their meaning, phases and characteristics of a phenomenon/process of abandon. The identity of the environment is shaped by those components of architecture which are tied to definable area ' geographically, culturally, economically, materially, even nationally and politically (Fister, 1993) – through various periods.³ Industrialisation as an universal word phenomenon influenced interventions into the landscape and the shaping of enviromental, regional identity of the city of Skopje. New types of buildings appeared, as did new transport possibilities, so undoubtedly this historical period has a big influence on the shaping of the identity of the city of Skopje, which has continued to grow right up to the present day.

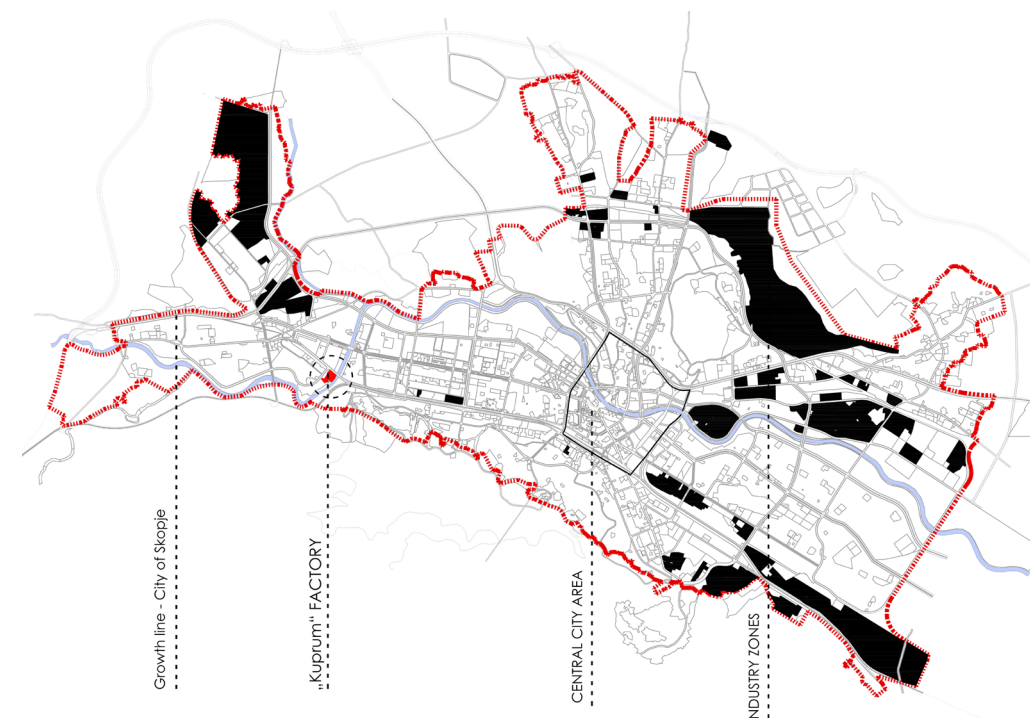


Figure 2. 2020 City of Skopje
Position of the abandoned industrial zones / In context of the urban city area

Figure 3. outside space Ohis Factory Skopje
Author photography , 2020



Figure 4. production hall 1 Ohis Factory Skopje
Author photography , 2020



Interdisciplinary approach – Industrial abandoned sites are complex both in terms of its material legacy and its value. Its design was directly influenced by economic, political and social conditions. Industrialization itself further transformed these characteristics and established new social conditions. For this reason, my research into the abandoned industrial sites demands an integrated and interdisciplinary approach and cooperation through communication with large number of experts (industrial heritage, researchers of architectural structures, art historians, construction engineers, sociologists, urban planners, ecologists...) , since the good quality of research can be only developed through teamwork.

The basis of protection of the industrial sites is evaluation. Evaluation is the category or procedure on which all subsequent conservation decisions depend, and from which all conservation measures derive (Pirkovic, 1993)

Using the Evaluation as a Method will be helpful for evaluation of the “transformative potential” of former industrial sites. During this research, a strategy will be developed for examining the characteristics of abandoned industrial spaces by examining the entire context. Defining Principles and Guidelines – which can be a model in the future in context of actually developing Tools that can be applied in the Assessment of the abandoned industrial spaces. As well the other part of the research, after developing Tools for the Assessment of evaluation real locations will be examined and the tools of evaluation will be „tested,,... so than the tool can be applicable to post socialist cities. *In researching the influences of specific industrial sites on the identity of the environment, both negative and positive consequences must be analyzed and in the evaluation phase presented in an integrated way.* (Ifko, 2016)

Using Comparison as a method will help me to find/define assessment criteria for deprived industrial areas or to find strategies for their transformation, based on comparison of case studies. Comparison will be used as a tool of analysis on abandoned industry areas. This method will play a central role in concept-formation by bringing into focus suggestive similarities and contrasts among cases of abandoned industry areas in Skopje compared with other European cities.

Learning from the examples and strategies for the development of these spaces that exist in other European cities. The transformation of industrial space in Skopje is similar to the one in cities of Central and Eastern Europe, where it resulted from the processes of economic restructuring, deindustrialization, globalization and tertiarization of the economy. Nevertheless, specifics that derive from the transition process, the low level of economic development and the position of Skopje within the global economic flows create precise and clear distinctions in the transformation process.

(Re)Architecture

Three Issues for Reconstruction

DDR Statement

The main tool of research is a deep analysis of built architecture through its entire life cycle: how monuments, buildings and urban areas appeared when they were first created and how they evolved?; which were the causes of its destruction and what were the visible consequences?; which was the gap between visible and invisible architects need to fill?; what was the proposed solution? In order to understand the reasons and the methods of reconstruction most viable way is the precise analysis and comparison of each case study. The analysis is not intended through a simplistic catalogue around a certain place or a certain time, rather the theme of reconstruction will be split in the various issues it is related to (i.e. ontological issue, ethical issue, practical issue) and for each them a corpus of case study will be set up. The will is to exhaustingly eviscerate each component of reconstruction so to best clarify the role of reconstruction as project of new architecture, both in the maintenance of built environment and in the act of re-establishing a new one that disappeared in time but lasts in collective memory and imaginary.

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Extended Abstract

Keywords: preexistence, heritage, presence, absence, ruins, ethics, collective memory, shared imaginary

Abstract

Reconstruction represent a crucial issue for architecture: the presence of a widespread heritage threatened by human and natural activities requires a reflection on the role of the project in the act of maintain the values and the codes of architecture and, eventually, physically restore them, stressing the practice beyond the common distinction between new and old. The research aims to investigate how architecture can deal with the project of reconstruction, intended as a project of architecture, willing to re-evoke cultural and material meanings of monuments, buildings or historic urban areas, in order to transmit values of the human environment and increase their historical knowledge to recover their beauty. (Re)Architecture is related to the possibility of the project of reconstruction of becoming a part of a broader process regarding presence of architecture.

(Re)Architecture

Three issues for reconstruction

Reconstruction means bringing the ability to conceive and design architecture back into play.

If new and old cannot exist together, then an unbridgeable gap has been created between present and past. Besides an history made of groundbreaking changes, there's another one made of continuity and projects of reconstruction.

As a result of catastrophic events or obsolescence phenomena, architecture of monuments, intended both as a single artifact or as a complex of buildings, can be missing in its original form, which may involve the danger of progressive oblivion of identity values. The research aims to investigate how architecture can deal with the project of reconstruction, intended as a project of architecture, willing to re-evoke cultural and material meanings of monuments, buildings, or historic urban areas, to transmit values of the human environment and increase their historical knowledge to recover their beauty. (Re)Architecture is related to the possibility of the reconstruction project becoming a part of a broader process regarding the presence of architecture.

Prefix re- is linked to the repetition of an action, in the same or opposite way, following different gradients of intensity, similarly with the concepts of "re-functionalization" or "rehabilitation." The idea of (Re)Architecture, therefore, anticipates the different possibilities for the project to re-present its original missing form in order to restore identity and symbolic values. The crucial open question for reconstruction is the ratio between what can be seen and what can't be seen anymore, between the potential existence of architectural remains and ruins and the existence of a prior image, taken as reference.

Reconstruction is sustained by the desire for continuity and conformity, continuity of a constructed memory that is also part of contemporary cultural self-construction. In order to understand the reasons for reconstruction, it is useful to remind that cultural knowledge can be variably shared and can persist and settle in the consciousness of individuals since knowledge factors can be repeated over time and applied to different contexts (1). Some cultural schemes are more persistent because they are related to a range of emotions that derive from experience; once a network of interconnected cultural schemes is created, it supplements the missing information even in the absence of direct cultural or physical experience. Project of reconstruction is intended to re-evoke the normal state of architecture. So architecture emanates its original aura that

indicates it as a capital masterpiece for art and urbanity, corresponding to the phase of its existence that best lies in the collective memory.

Once an image is firmly settled in memory it becomes a model.

The concept of the original in architecture is very labile, what is recognized as purely original has been fixed thanks to a series of repairs and restorations over time: the development of art and architecture has always occurred through imitation, adaptation, citation and repetition. When the image of a building is firmly sedimented in the memory and collective imaginary, it becomes a model, regardless of its physical or static factual conditions, belonging to a repeatable code. As the transmission of culture occurs through shared and recognized codes of language, also in architecture the reconstruction the recovery of the meaning of heritage, when done according to a precise code and lexicon. The theme of reconstruction raises three fundamental issues: an ontological issue, regarding the meaning and the value of reconstruction; an ethical issue, leading choices and sensibility and a pragmatic issue on how to proceed in such a delicate project physically.

Ontology

Reconstruction needs to be considered part of the entire architecture process, not as an extraordinary option. It is rather a possibility to re-active architecture, to re-establish missing buildings and to re-compose urban landscapes. This has to do with a profound shift in our understanding of time and concerns our relationship to the future and the past. To the extent that the future has ceased to be a projection surface for renewal and change, the past offers itself in precisely this function. The past has taken on a quality once attributed exclusively to the future, that of an inexhaustible resource for renewal and change. The historical horizon is reorganized as a background to keep pace with the changing consciousness of the present in order to restore and renew the past. Reconstruction differs from eclecticism for the past is no longer brought into the present through historical empathy, but rather through the faithful reconstruction of vanished historic buildings: it is an archival architecture based on exact illustrations and descriptions. When Verona's bridges were bombed at the end of WWII (fig. 1), municipality decided to re-build the most ancient one, Ponte Pietra, dated back to II century AD, in the same aspect it was , referring to precise models and drawings to atone the drama of the war (fig. 2).



Fig. 1



Fig. 2

Ethics

Reconstructions raise an ethical question for the ratio between original contents and their replication and the legitimacy of reconstruction from a social and political point of view. Every project is the result of socio-political operations. Reconstruction is also defined by scientific, ideological and political strategies, economic interests, aesthetic demands, social expectations and discourses, individual and collective memories. One of reconstruction's main aims is to make physical past a reality, producing a three-dimensional emblem of architecture. The reconstruction of the Hellenistic Stoa of Attalus in Athens represents a major example different social and political dynamics

affecting a project; while serving as Agora Museum for the American school of Classical Studies at Athens, the reconstruction of the Stoa also represented a firm bond between USA and Greece at the beginning of the Cold War. The monumental size of the building, located on the ancient Stoa site, contrasts the surrounding ruins, closing the eastern border of the Agora with a coherent balance between the Ephesteion and the Parthenon on the top of the Acropolis. Although it became a beautiful ornament for Athens, the reconstruction was validated by highly symbolic implications, in response to political conditions. It creates a parallelism between the USA and eternal values of democracy and liberty of Ancient Greece, as pointed out by US President Dwight Eisenhower while describing Stoa's symbolic dimensions as "a living memorial to the voice of freedom, speaking from the past to the present in the common tradition of Greece and America" (2).



Fig. 3



Fig. 4

Pragmatism

In its application, reconstruction requires the scientific knowledge of building techniques. As a language cannot be understood without respecting the common and shared codes of grammar and syntax, also reconstruction has to operate in the same way. The true meaning of architecture is also related with techniques and materials. Nowadays, on the Acropolis, Greeks are replacing concrete elements from the Parthenon, which were realized after 1931 Athens Charts, with perfect duplicates carved in marble, extracted in the same quarry as it was for the ancient temple. Indeed, at the beginning there will be a visible difference that will anyway disappear during the few years. This is just an irrelevant time compared to the entire history of the Parthenon, but it permits a correct vision and appearance of the most iconic architecture of ancient Greece.



Fig. 5



Fig. 6

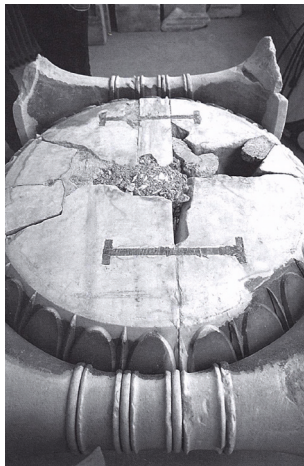


Fig. 7

Endnotes

- (1) Strauss C., Quinn N. (2000): «Un'antropologia cognitivo-culturale», in Robert Borofsky (Ed.), *L'antropologia culturale oggi*, Roma, Meltemi, pp. 348-361
- (2) Sakka (2013): «A Debt to Ancient Wisdom and Beauty: The Reconstruction of the Stoa of Attalos in the Ancient Agora of Athens», in: *Hesperia: The Journal of the American School of Classical Studies at Athens* 82, p. 212

Image references

- Fig. 1 - 1945, Ponte Pietra after bombing, Foto archivio Piero Gazzola
- Fig. 2 - 1959, Ponte Pietra fully reconstructed, Foto archivio Piero Gazzola
- Fig. 3 - Works on Stoa of Attalus, ACSCA archive, www.agora.acsca.net
- Fig. 4 - Works on Stoa of Attalus, ACSCA archive, www.agora.acsca.net
- Fig. 5 - Artisan carving marble elements, Marconi, Paolo (1999): *Materia e significato. La questione del restauro architettonico*, Roma, Laterza, p. 108
- Fig. 6 - Parthenon column, Marconi, Paolo (1999): *Materia e significato. La questione del restauro architettonico*, Roma, Laterza, p. 107
- Fig. 7 - Parthenon capital with reinforce elements, Marconi, Paolo (1999): *Materia e significato. La questione del restauro architettonico*, Roma, Laterza, p. 108

The Concept of Copy in Arts and Its Application in Architectural Projects

Rebuilding Proposal of Villa Deliella in Palermo

DDR Statement

In this thesis project, the theoretical part of the research and the design-driven part are intimately connected. The exploration of the concept of copy in aesthetics, and, particularly, in Walter Benjamin's theory of aura, has provided a lens to observe several cases of reconstructed architecture. It allowed for the development of a reflective approach to reconstruction that investigates the contexts of both places and times in which the particular models and their copies had been built. Similar to the German philosopher's idea of translation as a (art) form, not as a secondary derivative, reconstruction is also treated as a process of form finding in which a lost building is translated into a contemporary context. The reflective comparison of the contextual aesthetic, architectural, social, and political characteristics of the observed cases made it then possible to gain knowledge and to understand conflicts and criticism addressed to copies today. The copy addresses issues of its context, be that material or spiritual. On this basis the reconstruction of Villa Deliella has been set up as a translation project reflecting on the historical and contemporary context of Palermo in its urban, architectural, political and social dimensions.

Pietro Quattropani

middle stage research

HafenCity Universität Hamburg

Extended Abstract

Keywords: copy, reconstruction, rewriting, translation

Abstract

Reconstruction represent a crucial issue for architecture: the The dissertation investigates the concept of copy, its ideological and aesthetic value in current architecture. The focus is on the question, if, after western modernity's rejection and postmodernity's reconsideration, the copy is rehabilitated today. In which context, under which conditions and interventions could the reproduction of a past lost building become a model for the future?

The research starts from the specific case of the demolished Jugendstil villa Deliella in Palermo and aims to analyse in general the phenomenon of historical lost buildings reconstruction, in situations where city development has to consider architectural heritage.

The evolution of the mimesis notion and the techniques of "rewriting" prototypes are investigated; specific attention is paid to Walter Benjamin's ideas of authenticity and aura.

In synthesis, the project leads to the formulation of a design proposal based on artistic strategies that, following Benjamin's ideas, consider situative and contextual aspects of Deliella's site in today's Palermo.

The dissertation investigates the concept of copy, its ideological and aesthetic value in current architecture. The focus is on the question, if, after western modernity's rejection and postmodernity's reconsideration, the copy is rehabilitated today. In which context, under which conditions and interventions could the reproduction of a past lost building become a model for the future? While acknowledging the existence of diverse notions of the copy across different cultural, social, and political contexts, this project confines itself to analysing and advancing the theory and practice of the copy in a contemporary European context. It aims at filling a theoretical and methodological gap that has resulted in an often-polemical controversial surrounding individual reconstruction projects, e.g. the City Palace and the Schinkel's Bauakademie in Berlin.

The project idea starts from the case of Ernesto Basile's Jugendstil Villa Deliella in Palermo, which was demolished, following an obtuse aggressive attempt of urban speculation, in 1959. The villa has become the symbol of the so-called "sack" of Palermo, a devastating action carried out from the 1960s onwards by a certain political and economic class, in collusion with the Mafia, which upset the city's urban and territorial structure and wiped out countless important historical-architectural testimonies. Today the need to rebuild the villa is very much felt and requested by the community. The politic administration is currently actively working to carry out the acquisition of the area with the aim to realise an Art Nouveau museum. The debate is raging on how to carry out the reconstruction: copy of the lost villa or contemporary reinterpretation? Taking this question as a starting point, the research aims to find a theory of reconstruction that could be the foundation for cases of lost buildings in complex situations, where city development has to consider architectural heritage.

The dissertation begins with the in-depth study of the lost villa, its author and its context. Particular attention is paid to Basile's poetic, with reference to his conception of copying and reconstruction. One of the most specific aspects of his design method consisted in borrowing elements from the repertoire of

tradition and recomposing them, using a modern language. The following sentence that he wrote in 1907, referring to the reconstruction of the collapsed San Marco Bell Tower in Venice, summarises his idea of reconstruction: "it is indeed indispensable and honest that the work, without falsity, without hypocrisy, appears for what it really is, new." In the same occasion he emphasized the position of those who would have liked to build the new tower in a contemporary style, which would not copy the ancient forms of the lost building.

A constant of his buildings are the quotations and references to the medieval and renaissance Sicilian architecture, combined with the free schemas and floral forms of the Art Nouveau. On the subject of reconstructions of lost historical architectures, to him it was necessary to intervene using a modern language that objectively differentiated the new buildings from the old structures. For the reconstruction of the old neoclassical town hall of Reggio Calabria, that had been destroyed by the earthquake in 1908, e.g., he decided not to make a replica of the disappeared building, but designed a new palace in Liberty style. The general layout and some details however recall the pre-existing architecture.

The research continues by investigating the evolution of the notion of mimesis, from the philosophers of antiquity to contemporary aesthetic reflection. The conceptions of imitation that emerge from the writings of figures such as Aristotle, Quintilian, Phaedrus, Vasari and Quatremère de Quincy, although expressed in very different periods, fields and contexts, all share the same principles: on the one hand, each of them attributed to the purely imitative copy a pedagogical function; on the other, they all argued in some way that emulative copies instead determined the creation of works of art that, while remaining in a relationship of continuity with tradition, were representative of the artistic culture of their time.

In continuity with this vision, Walter Benjamin's thought developed, introducing new fundamental elements to the aesthetic speculation on copying, such as the aura and politicisation of art. According to the German philosopher, despite the extraordinary possibilities that modern reproduction techniques allow, the aura of a work of art, i.e. its authenticity, cannot be duplicated. The aura is not an intrinsic property of the work but is linked to the relationship it establishes with its context, at a precise moment. Moreover, the vain attempt to re-propose auratic and sacred works, typical of totalitarian regimes, is seen by him as an anachronistic and retrogressive activity that inhibits the function of cultural emancipation of the masses that Art should have. His writings suggest that he attributes the ability to perform this task to works that reinterpret tradition, such as a hypothetical translation of Faust into a modern film that does not attempt to exhume the aura of Goethe's drama, but rather tries, so to speak, to re-actualise it. Similar reflections were made by Benjamin regard-

ding the translation of literary texts: he wrote: “It is the task of the translator to release in his own language that pure language, which is under the spell of another, to liberate the language imprisoned in a work in his re-creation of that work.” The good translation in this sense transforms and renews the original, tries to update its contents, independently of the resemblance with it, and almost aims to become a work in itself, an expression of its own time and historical context.

It is precisely the theme of “translation as re-creation” that has provided the dissertation with a key to examine several case studies of reconstructed architecture. The different approaches between philological reconstructions -such as the Berlin City Palace- and buildings that translate the model they refer to -such as the new Masters’ Houses in Dessau- are therefore analysed focusing on their adherence to their contemporary contexts and their ability to evoke the lost monument.

Observation, comparison, reflection, analogical transposition, adaptation of case study characteristics is guiding the design choices. The aim is to carry out a “translation” of Villa Delielia that can take root on the original site, which time and people have modified: a 2.0 version of it, among the infinite possible ones, expressing the values and expectations of the present community. The idea is to dig up the foundations of the villa and leave them exposed as in a sort of archaeological park, surrounding the perimeter with an enclosure made of fragments that resemble the outer walls. Its spaces can be used for outdoor activities and artistic events. A sort of modern ruin that becomes an element of a large urban garden. The art nouveau flowers and plants are translated into plants in a park. Today’s Palermo is a city suffocated by vehicular traffic that needs green and pedestrian areas. Hence the idea of not designing a building. The new museum that is to be built could be created by converting one of the thousands of buildings confiscated to the Mafia, which have been waiting to be used for decades; such an action would give a strong signal of legality and civic awareness and would lead to considerable savings in environmental, energetic and economic terms.

However, at this preliminary design stage I am also considering a version with a new small building and a partial reconstruction of the base and garden of the missing villa.



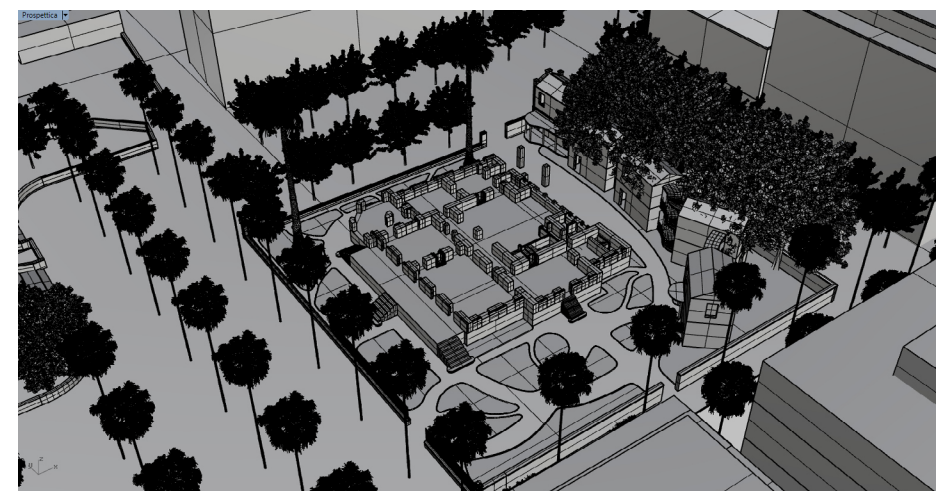
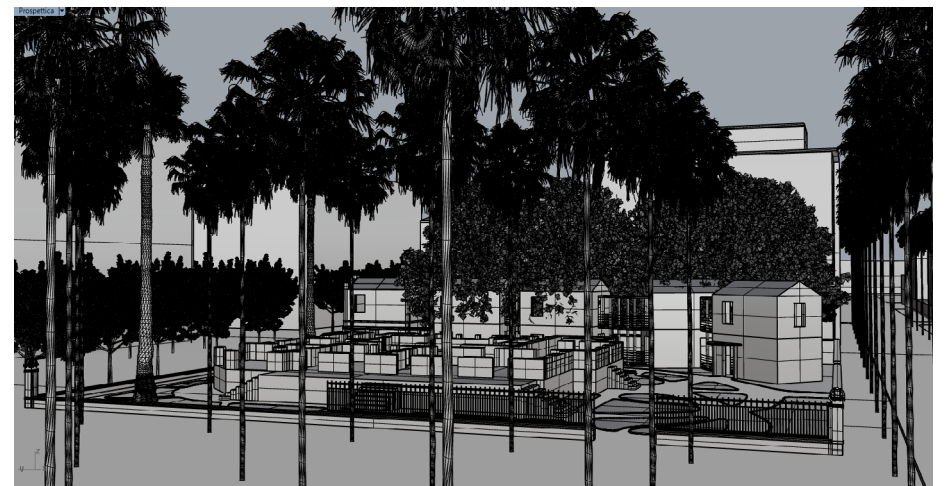
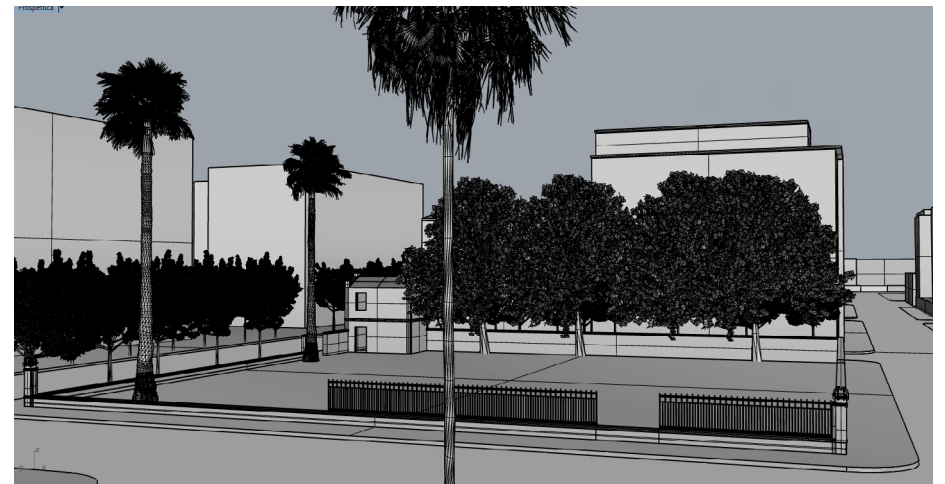
Villa Delielia in 1910



... and its empty site today



Design version with a new urban garden and fragments of the old façade



Design version with partial reconstruction and new buildings in the garden

Ambiguity in Context of Image, Sign and Recollection

DDR Statement

On the basis of own buildings and projects, which to a certain amount can be found in the context of the culture of remembrance, the meaning as well as a possible and contemporary method for the inclusion of sign and image in architecture shall be examined within the framework of a design-based doctorate.

Methodically, by working on a sequence of design tasks - in the sense of "design driven research" - successive gains in knowledge regarding the doctoral topic are to be achieved and accumulated, each of which gives rise to new questions and thus illuminates the complex - in several steps - from completely different sides.

With conscious inclusion and consideration of the "errors and confusions" within design processes ("try and error"), artefacts (sketches, drawings and models) of new, but also already existing designs will be used to investigate where and in what way the use of sign- and image-based communication levels has proven to be particularly productive.

In addition, the medium of photography is used in the PhD, not only to record and document observations, but also to enable a very personal and independent reception and production of image and sign worlds - as a form of DDDr - in this way.

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Extended Abstract

Keywords: ambiguity, image, sign, recollection, meaning

Abstract

Images and signs are extremely important components of emotional and partly unconscious human perceptual practice; they also enable and facilitate the mental reception and processing of various, ultimately not only cultural works and values. Their subtle or even surprising use can set in motion very effective cognitive as well as emotional processes. Intention is to anchor the architectural in levels of association that originate in the relevant field of tension between type and topos and become an integral part of architecture. Furthermore, however, this goes hand in hand with a very fundamental question, that of the unambiguous expressiveness and legibility of images and signs: Since the "readability" and reception of design results depend on place, time, and culture, among other factors, the question of how to take contextual circumstances into account is an important and necessary part of developing these levels of communication. Here, then, another term (or concept) becomes important, that of ambiguity.

Ambiguity in context of Image, Sign and Recollection

A reflection as a personal narrative

My research interest is an examination and reconsideration of the significance and potential of sign and image in architecture.

Images and signs are extremely important components of the emotional and partly unconscious human perceptual practice, moreover they enable and facilitate the mental reception and processing of different, ultimately not only cultural works and values. Their subtle or even surprising use can set very effective cognitive as well as emotional processes in motion.

I started my research project with the question whether and how I could develop a contemporary relevant strategy to integrate sign- and image-based levels of communication into the built environment, be these levels intuitive or discursive in nature.

Of particular importance for dealing with image and sign in the built (or built environment) is the concept or notion of memory, in German *Erinnerung*. At first it seemed to be of importance to me because several of my architectural or even art projects are located in the field of commemorative culture (*Gedenkkultur* in German language, including memorials, grave monuments, etc.). But it turned out that it was not only in this context that I was concerned or interested, but that *Erinnerung* in general is, or at least can be, a key to making images or signs - for me, for others - decipherable. A look at the translations of this term into English is helpful here.

Unlike, for example, the term “remembrance,” which usually has a proximity to “commemoration” and “memento” (e.g., of the deceased) as well as “commemorative culture,” another common translation of *Erinnerung* - namely, “recollection” - is less fixed in this regard. According to the Oxford English Dictionary, its origin goes back to the late 16th century: “late 16th century (denoting the action of gathering things together again): from French or medieval Latin *recollectio(n-)*, from the verb *recolligere* ‘gather again’.” (1) In the sense of “recollection”, memory can also be understood as a methodical procedure of “collecting” or “gathering again”.



savannah highway
Charleston SC, 2015



a childhood memory, looking for stones
Grömitz, with my mother on the beach of the baltic sea (photo: Ewald Poppensieker)

bird - objet trouvé from the baltic sea, seen in different positions, 2020 (right and center on the other side)

A personal memory that has special meaning for me in this context is a childhood memory: collecting and looking at stones as *objets trouvés* - from and with my parents, for example on the beach - and the joy of discovering something in the initially unremarkable objects - a face, an animal, a person in motion - has not been lost on me to this day. Already here, by the way, my interest in what is not necessarily unambiguous in a form, a sign or an image becomes apparent: the “decoding” of the message or meaning also requires a certain “involvement”, an active participation, if necessary also a movement in space.

In the course of my research and my examination of the mechanisms of action regarding image and sign in (in my) architecture, the concept of ambiguity became increasingly important.

On the one hand, the “readability” and reception of design results depends in any case on - among other things - place, time and culture. That is why the question of taking contextual circumstances into account is an important and necessary component in the development of sign- and image-based levels of communication. And their unambiguousness remains questionable.

On the other hand, the question arises whether architecture and/or (building) art should be unambiguous at all. “A characteristic of artistic symbol systems is, after all, precisely that they are usually not unambiguous, but ambiguous or even vague, ...” (2), as Remei Capdevila-Werning states in a text that draws on the philosophy of Nelson Goodman. Capdevila-Werning’s consideration is about a “symbol-theoretical perspective” in looking at historic preservation processes with a view to the consequences of “cleaning and maintenance, restoration, partial and total reconstruction, and also adaptations of use.” (3)

And it is indeed interesting to ask to what extent - for example in the preservation of historical monuments - building in the existing texture or construction, i.e., dealing with and changing the existing, superimposes, destroys, or creates new signs and images, or what potentials there are to be discovered here. Nevertheless, this statement can certainly be applied - at least in part - to new construction as well.

Moreover, I found that it is precisely an equivocal - or rather ambiguous - readability and interpretability of architecture, or of the images and signs it contains, that often tends to strengthen the designs and projects in their impact (“It’s not a one-liner ...”), whereas too much unambiguity, one-dimensionality, would weaken or have weakened their impact. Such an “ambiguity” can, for example, also be based on a functional “added value” or „surplus“, if the image or sign - also related to a certain utilization - can do more than just be an image or sign.



table company
Roland Poppensieker
Sculpture as extension of a listed historical wall grave
Alter St.-Matthäus-Kirchhof, Berlin, completion 2021



The rather vague suggestion and usage of an image had already attracted and convinced me in the direct comparison of architects Robert Venturi and Louis Kahn regarding the treatment of the gable fronts of their two nearly adjacent houses in Chestnut Hill, Philadelphia PA at the very beginning of my research. Even though it is Venturi who writes about “Complexity and Contradiction in Architecture,” his use of the gable motif in the house for his mother Vanna Venturi (1962-64) seems comparatively flat and superficial, when compared to Kahn’s reference to the stone chimney stack often built in front of the gable wall of a wooden American log cabin, as seen in the chimney stack at the Margaret Esherick House (1961), which is sculpturally detached from the building structure.

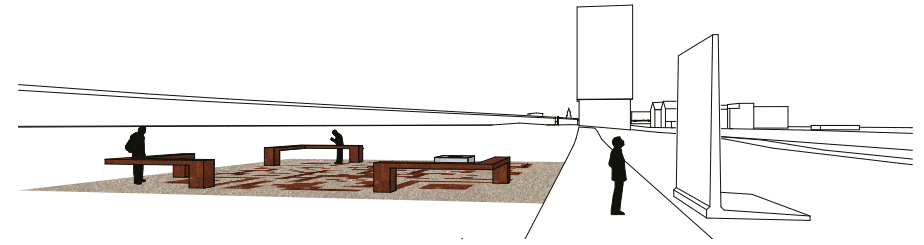
The writings of Roland Barthes led me once again to the potential quality of the “intangible,” which he also describes as a “fragile essence” ... “Western art converts ‘impressions’ into descriptions. The haiku never describes; its art is anti-descriptive to the extent that any state of the thing is immediately, persistently, and victoriously transformed into a fragile essence of appearance: a moment that is literally ‘intangible,’ ...” (4). Further, he writes, “Whether decipherment, formalization, or tautology, the ways of interpretation ... can consequently only miss the haiku, for the work of reading ... lies in keeping the language in abeyance ... “ (5). Several times, Barthes also speaks of *dépaysement* - a change of scenery, of being foreign - as an influential element. Not least for this reason, his trip to Japan was of great importance to him.

A change of perspective through ambiguity, the other, the “foreign” view as a possibility to experience things anew, to be able to recognize them anew - and perhaps for the first time ever - to develop different readings depending on the location, and last but not least to “keep something in abeyance” I also conceive in the field of (building) art and architecture as a quality and prerequisite for dealing with images and signs.

Source references and comments:

- (1) Stevenson, Angus (Ed., 2010): Oxford Dictionary of English, Third Edition, p. 1484.
- (2) Capdevila-Werning, Remei (2014): Restaurierte und rekonstruierte Zeichen: Symbole und Baudenkmalpflege, in: Zeitschrift für Semiotik. Sonderheft “Architektursemiotik” Band 36, Heft 1-2, Stauffenburg Verlag Tübingen, p. 131.
- (3) Capdevila-Werning, Remei (2014): Restaurierte und rekonstruierte Zeichen: Symbole und Baudenkmalpflege, in: Zeitschrift für Semiotik. Sonderheft “Architektursemiotik” Band 36, Heft 1-2, Stauffenburg Verlag Tübingen, p. 125.
- (4) Barthes, Roland (2019): Das Reich der Zeichen, edition suhrkamp, 21st edition, p.105 (orig.: L’empire des signes).
- (5) Barthes, Roland (2019): Das Reich der Zeichen, edition suhrkamp, 21st edition, pp. 98-99 (orig.: L’empire des signes).

Citations (2), (3), (4) and (5): Translated from German with www.DeepL.com/Translator (free version).
All photos by the author, unless otherwise stated.



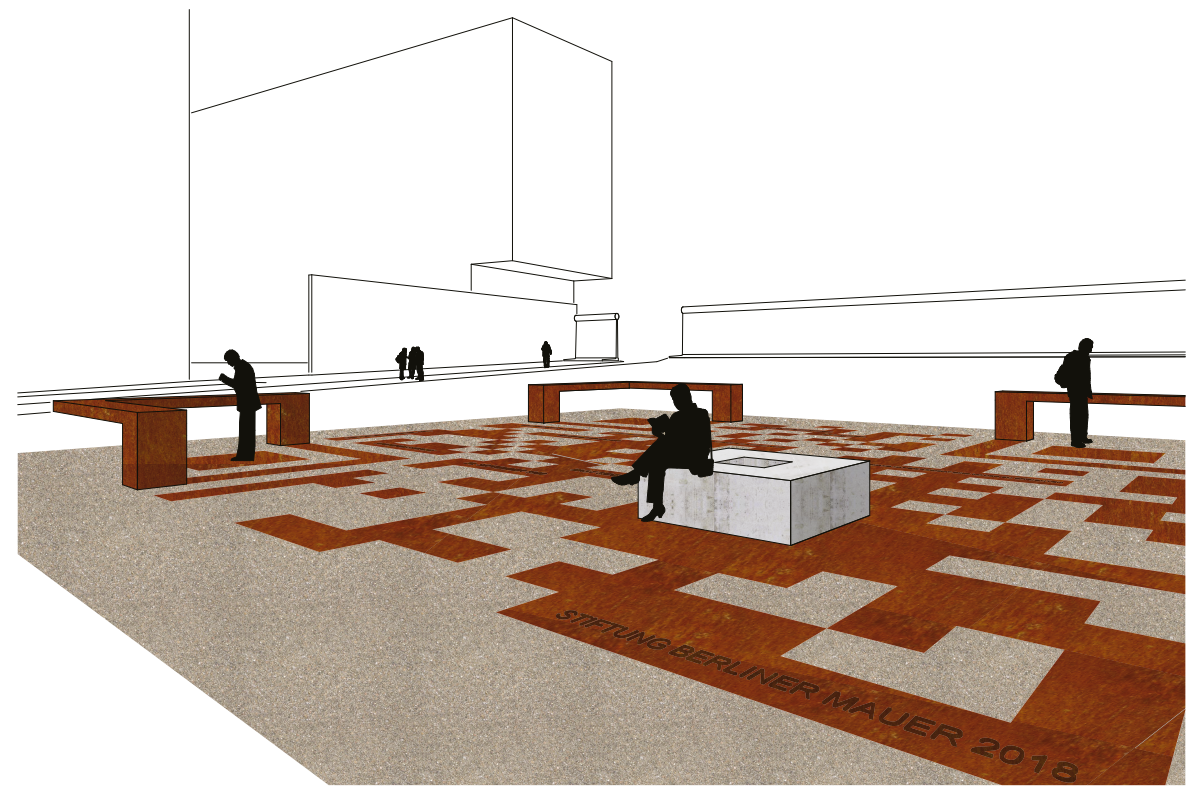
sign + surplus

Concept of a new outdoor exhibition on the site of the East Side Gallery, 2020

Intervention point 1 (of 3): QR-Code-Square, partly lifted to generate exhibition desks and a seat

Invited design process, Berlin (above and below)

Roland Poppensieker



Sensation and Weight

A Study on the Drawing of Richard Serra

DDR Statement

The present paper is framed within the overall context of our PhD studies in Design. Our research addresses the use of drawing in the design process, framed by the importance of sensation as it relates to the body. The investigation is at its core grounded-theory based, and in this sense it is not possible at this middle research stage to see a totally encompassing view of its outcome. With this in mind we have chosen to present a focused view on one of our tentative case studies that was relevant at a stage of the development of the thesis.

Our research is based on the importance of the body, thought of as the body of sensation. In our argumentation this notion of the body allows for particular sorts of operationalisation of drawing within the design process. In this particular paper we consider a singular point that we reached in our investigation – the argument for the notion of weight in drawing.

Our research is positioned on an overall field of exploration of possible developments for creative practice research. The empirical character of the investigation is at its core enabled by the study of cases from the world of art, architecture and design. The methodology is essentially design driven in a twofold manner - it addresses drawing as a procedural technique of design, but also considers the possibility that the use of drawing might represent a means of transcending its instrumental use as a mainly metric and representational tool in design practice.

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CIAUD, Lisbon School of
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Paper

Keywords: drawing, sensation, body

Abstract

Our research explores the use of drawing in the design process, framed by the importance of sensation as it relates to the body. We argue that the notion of sensation might be relevant in a practice focused on strategies to reincorporate the body within design development. We propose this notion as a possible approach for drawing to transcend its use as a metric and predominantly representational tool. In the present paper we argue that within this framework, the use of drawing might be thought of as a means for exploration of relations between sensation and weight. The methodology used consisted of a literature review complemented with case study analysis. Starting from drawings of sculptor Richard Serra we try to establish connections with other significant and expressive examples from art, architecture and design. We thus try to compare different approaches and to establish relevant and articulate connections between drawing and sensation.

INTRODUCTION

Our PhD research is based on the recognition of the importance of the interconnection between the body and drawing within the design process, and in the scope of art, architecture and design. The body that constitutes the core of our research is the body of sensation - the body of the one that draws, of the one that designs. We argue that this incorporation of sensation within the design process enables a use of drawing that transcends its use as a mere metric or representational tool. We base our reasoning on some of the concepts developed by French philosopher Gilles Deleuze and the connections he establishes between body and sensation. And we argue that this perspective is relevant in terms of design driven methodologies. This kind of framing of drawing practice, might allow for new approaches to the operational tool that drawing constitutes, and for the emergence of new meanings and new interpretations that configure a new richness to be enabled within the design process. This particular paper focuses on a singular point; that of the specific argument and study of the representation of weight in drawing. We consider that the drawing work of sculptor Richard Serra constitutes a possible example of a connection of sorts between the body, sensation and drawing. We consider the methodologies applied in the present study as design driven in the sense that we select our cases from art, architecture and design, and compare them from the point of view of their intrinsic value seen as design tools; so in this sense, seen as the depiction of connections between sensation and weight in the scope of the design process.

THE NOTION OF SENSATION AND THE BODY

As Paul Valéry put it, Gilles Deleuze writes, sensation is that which is transmitted directly, avoiding the detour and boredom of conveying a narrative. (*Deleuze, 1981, p.36*)¹

Deleuze discusses how the painter Francis Bacon talked about sensation and the configuration of form in a twofold manner. On the one hand a form related to sensation, that Deleuze names "*the Figure*". Conversely, the notion of form related to what it is supposed to represent – which he designates "*figuration*".^a In this sense, Deleuze establishes a major difference between the representation of the body in painting - "*figuration*"-, and the presense of the body itself - "*the Figure*". It is thus the presence of the body that allows for Deleuze's notion of "*sentiendum*"- of diverse levels of sensation^b.

These diverse levels allow us to engage with painting – and with representation in general, and in our particular case, we argue, with drawing – in different ways. It allows representation to acquire a diversity and richness of content that makes its interpretation unique and particular to each one of us and enables the emergence of new meanings and new interpretations that configure drawing as an extremely rich operational tool in itself, and in design processes in particular.

DRAWING IN ART AND ARCHITECTURE

According to Philip Rawson² drawing might be defined as the element of a work of art independent from colour or actual tridimensional space, with its structure defined by tone alone. Drawing has always been fundamental in art as a form of study, or on its own right. Its recognition as an autonomous discipline might be situated at the beginning of the Renaissance with the influence of Giorgio Vasari. For the Italian historian, drawing - "*disegno*" – was both the physical act of drawing and the mental process of design. (*Seligman, 2019, p. 12*)³ As a means to an end – in the context of painting and sculpture and architecture, drawing has always been present and has always been structural.

We argue in the scope of this study that both in art, architecture and also in design, the representation of weight might address one of the possible means of transcending the use of drawing as a mainly metric or representational tool. We argue that different ways for drawing to acquire richness in its interpretation, enabled by the integration of sensation, allow the emergence of new meanings and new interpretations that configure drawing as a rich operational tool in design driven methodologies.

DRAWING, THE BODY AND SENSATION

One might suggest examples of possible representations of weight throughout the history of art and architecture. We argue that we can find representations of the human figure and of spacial relationships that conceivably correlate to this notion of sensation and weight.

Drawing is constructed by the particular selection of elements that constitute it. As Descartes defined, "*the bit of ink scattered over a piece of paper*" is able to convey "*forests, cities, men and even battles and storms*". Manfredo Massironi⁴ writes about the duality that drawing might be considered so simple and yet so powerful, like in the words of Descartes. On the other hand, Massironi also refers how for authors such as James Gibson drawing represents an "*impoverished perception*". That "*impoverished perception*" does not preclude a rich and meaningful drawing, we suggest. In line with the concepts of Massironi, we argue that the choices that are done in the process of drawing itself mean rather than the elements that are elected represent a particular and singular strength. Massironi references Leonardo da Vinci and his pursuit for a type of anatomical drawing that would be more legible than the observation of the human body itself. The fact that his drawings are still used by surgeons today as learning tools substantiates his 500-year-old efforts.^{A1}

From Deleuze we associate drawing with a notion of becoming, with the state of flux at the base of what drawing embodies; what Gilles Deleuze names a "*diagram*". In a cultural object like painting, for example, diagram theory looks for essential states of abstraction within the very figuration of an image. It also shows the far-reaching connections at play in a work of art, and the multiple parts that make up the concept

of assemblage. A particular focus also enables drawing to connect to different contexts, different interpretations, and we argue in line with Deleuze, in last instance, to different levels of sensation. In a sense, this notion will be more connected to “the Figure” than with the idea of figuration. Peter Eisenman underlines that the construction of a representation of something is not the thing itself. And in that sense it cannot help but to be embodied – it must come in a substantial way from the body - from the one who designs. (Zdebik, 2012, p. 8)⁵

So, in our argumentation there is a very direct connection between an idea of drawing that one might call Deleuzian on a twofold condition: drawing as a richness taken from the notion of diagram, and drawing connected to an idea of incorporating the body of sensation.

DRAWING, WEIGHT AND REPRESENTATION

We find examples that we associate with the representation of weight in drawing both in architecture and in art in general. In “Studies for the Libyan Sibyl” (fig.1) we find first of all a study of the relationship between skeleton and muscles that is singular to Michelangelo. This drawing in particular provides a distinct vision of the human figure and details how its structure is distorted by torsions and positioning. Michelangelo shows with unusual clarity how the whole articulates and positions itself and how the human figure withstands gravity. The detail of the foot is particularly important as it makes this articulation explicit, as one of the extremes of the body touches the ground and the weight of the body, the consequence of the action of gravity, imposes a deformation on it. On Rafael’s example (fig.2) we have a depiction of how two human masses interact with each other and how the whole adapts to gravity and is deformed by it. A mass through gravity acquires a weight, one might conclude.

Sensation is translated by drawing on the one hand, and on the other sensation enables us to interpret the forces at play. Sensation might also lead us into other sorts of connections with weight. We argue that we might find two very clear and yet distinct and, in some way, con-

^a “When Bacon speaks of sensation, he says two things, which are very similar to Cezanne. Negatively, he says that the form related to the sensation (the Figure) is the opposite of the form related to an object that it is supposed to represent (figuration). As Valéry put it, sensation is that which is transmitted directly, and avoids the detour and boredom of conveying a story. And positively, Bacon constantly says that sensation is what passes from one “order” to another, from one “level” to another, from one “area” to another. This is why sensation is the master of deformations, the agent of bodily deformations. In this regard, the same criticism can be made against both figurative painting and abstract painting: they pass through the brain, they do not act directly upon the nervous system, they do not attain the sensation, they do not liberate the Figure —all because they remain at one and the same level. They can implement transformations of form, but they cannot attain deformations of bodies.” (Bacon, 1981, p.36)

^b “In aesthetics, which Deleuze takes up through his study of Francis Bacon in The Logic of Sensation, sensation is what strikes a viewer of a painting or the reader of a poem before meaning is discerned in figuration or a thematic design. It has the productively deformative power of defacing the representations that cause it to be felt. It is also what vibrates at the threshold of a given form; in other words, what causes the ‘appleness’ of the painter Paul Cezanne’s apples to be felt as the geometric and painterly abstractions that they become in the field of his still lifes.” (Parr, 2015, p. 244)



Figure 1 - Michelangelo Buonarroti, Studies for the Libyan Sibyl, 1510 28.9 x 21.4 cm



Figure 2 - Rafael Sanzio, Man Carrying an Older Man on His Back, 1513, 30 x 17.3 cm



Figure 3 - Giovanni Battista Piranesi, Le Carceri d'Invenzione, (The Staircase with Trophies), 1750, 54.6 x 40 cm

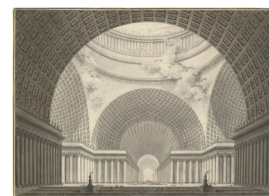


Figure 4 - Étienne-Louis Boullée, Perspective View of the Interior of a Metropolitan Church, 1780/81, 59.4 x 83.9 cm

trasting cases in the visionary work of Giovanni Battista Piranesi and of Étienne-Louis Boullée. In one of Piranesi prints, the spatial ensemble is constituted by means of nuances of darkness and light. On the other hand, in the case of Boullée, there is a perspectival composition of the drawing and the position of the gaze constructs a certain sensation of weight. In both drawings we find ourselves led by different drawing devices – be it perspective, or by the high contrasts, to feel a certain weight in the drawings. Something that we argue, can only be enabled by our own experiences at the level of sensation, and thus to the existence of a body that enables such sensation.

DRAWING AND WEIGHT IN THE DRAWING WORK OF RICHARD SERRA

Dave Rosand describes in “Drawing Acts”⁵ how a single line upon a surface immediately transforms that surface, transfiguring its neutrality into something new. In a similar sense Walter Benjamin points out how the line changes or activates what it is drawn upon, or “confers an identity on its background”. (Seligman, 2019, p.9)³

According to Serra, the shapes that his drawings study have their origin in a glimpse of a volume, of a detail. In our argumentation these drawings induce a perceptible feeling of weight. Richard Serra manages to create and translate this kind of almost physical sensation through an economy of means we consider exceptional. Serra uses a linear drawing focused on issues such as the positioning and organisation of the represented pieces. The layout by which each element touches the ground becomes revealing of an experience of the presence of weight in the objects themselves. We see the outline of the projected sculptural elements (fig.5) in a much lighter and slightly grained line that possibly represents how each of the pieces would look like if its edges that touch the ground were equal. Diversely, the strongest trace registers, at the base, the distortion that Serra explores and that characterises the piece - and later is materialised in the built piece. On “Untitled” (fig.6) we can observe a very concise and simple drawing of a polygon. Yet this simplicity conveys

a strong tension on the drawing surface. On a different approach from figure 5, here we can distinctly be driven toward a sensation that surpasses the simple rendition of a three-dimensional object. We consider that this case also conveys a definite notion of weight. We can observe the torsion of the element, and in order to relate to this torsion we are driven in some way to “feel” the forces present in such element. In our perspective it is this connection to sensation that enables the capacity for a particular drawing like this one to surpass the representational level and evolve into a field where sensation might be considered present. It then goes beyond abstract thinking, and achieves a connection with the body and with sensation. We think that we might compare these drawings to the historical precedents mentioned.

In Michelangelo and Rafael we find particular representations of how the whole human figure articulates and positions itself to deal with the force of gravity. These “constructions”, achieved by drawing, become almost present, almost palpable through the selection of the elements that compose them. Sensation is translated by drawing in the sense that the fundamental elements in each of these drawings – the weight set on a foot, the weight conferred on a shoulder – are elements to which we can relate very distinctly by our own experience enabled by our own body.

We argue that these values are closely related to sensation, or more precisely to a representation of forces that we relate to, enabled through our own sensitive experience. It is via sensation – albeit concrete or the memory it triggers – that we relate to the elements of these drawings and it is through sensation that they acquire and transmit the feeling of weight. The body of sensation enables it and capacitates our almost physical relation with the drawings. Deanna Petherbridge writes that Richard Serra doesn’t make drawings “to depict, illustrate, or diagram existing works” or as studies for sculpture – “*The shapes in paper drawings originate in a glimpse of a volume, a detail, and edge a weight*”⁶ (Petherbridge, 2010, p. 428). In this sense, drawing for Serra refers to an index of



Figure 5 - Richard Serra, Double Torqued Ellipses, 2003-2004, 31.1 x 36.8 cm

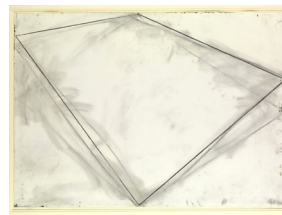


Figure 6: Richard Serra, Untitled, 1972, 74.9 x 105.4 cm

“Perception is never a mere contact of the mind with the object present; it is impregnated with memory-images which complete it as they interpret it. The memory-image, in its turn, partakes of the “pure memory,” which it begins to materialize, and of the perception in which it tends to embody itself: regarded from the latter point of view, it might be defined as a nascent perception.” (Bergson, 1896, p. 133)

Image references:

- Fig.1
<https://www.metmuseum.org/art/collection/search/337497>
- Fig.2
<https://www.christies.com/features/Raphael-The-Drawings-8368-1.aspx>
- Fig.3
<https://artmuseum.princeton.edu/collections/objects/86632>
- Fig.4
<https://www.britannica.com/biography/Etienne-Louis-Boulee>
- Fig.5
<https://makingarthappen.com/2011/07/29/richard-serra-de-senhos/>
- Fig.6
<https://www.metmuseum.org/art/collection/search/481462>

References and Bibliography

Books:

⁷ Bergson, H. (1988). *Matter and Memory*. Princeton: University Press.

¹ Deleuze, G. (1981). *Francis Bacon: The Logic of Sensation*. London: A. and C. Black.

⁴ Massironi, M., & Bruno, T. by N. (2002). *The Psychology of Graphic Images: Seeing, Drawing, Communicating*. Oxfordshire: Psychology Press.

Parr, A. (2010). *Deleuze Dictionary Revised Edition*. Edinburgh: University Press.

⁶ Petherbridge, D. (2010). *The Primacy of Drawing: Histories and Theories of Practice (First edition)*. Yale: University Press.

³ Seligman, I., Riley, B., & Chapman, H. (2016). *Lines of Thought: Drawing from Michelangelo to Now*. London: Thames & Hudson Ltd.

² Rawson, P. (1987). *Drawing*. Pennsylvania: University Press.

⁵ Rosand, D. (2002). *Drawing acts: Studies in graphic expression and representation*. Cambridge: University Press.

⁴ Zdebik, J. (2012). *Deleuze and the Diagram: Aesthetic Threads in Visual Organization*. London: A. and C. Black.

Internet Sources:

A1 Graham-Dixon, A. *The Secret of Drawing Episode 1: “The Line of Enquiry”*, 2005, <https://www.youtube.com/watch?v=9H-59cVnnF9Y>

self-referential structures – thus linked to memory. We find in Serra a work that is strongly connected to the physical side and to the interaction of his own body with the work – “*Hand catching Lead*”, for example – or with the bodies of those who experience his work – “*Walking is measuring*” comes to mind. And memory, as Henry Bergson expresses⁶, in order to exist will require the existence of a body.⁷

CONCLUSIONS

We argue that in order to comprehend sensation and drawing we have once again to return to Gilles Deleuze. The French philosopher explains how for Francis Bacon, sensation is the master of deformations, the agent of bodily deformations.^a Deleuze asserts how Bacon says that in order to reach sensation, further than the brain, we need the nervous system. To liberate “*the Figure*”; to pass from one “*order*” to another, from one “*level*” of sensation to another. According to Massinori⁴ we might find a deep and meaningful mutuality between the material components of images and the activation of the perceptual and cognitive processes that create and decipher them.

And we argue that this concept of drawing is one of the possible means of transcending its use as a more limited metric representational tool.

We propose that ways of integrating sensation might represent relevant tools in design development. On the overall, we propose that these are relevant notions to the extent that they provide an important approach and outlook into the design process.

It is our argument that a contemporary outlook on design methodologies might be enriched by an approach that is less focused on the predominance of the contemporary myriad of digital tools, and more focused on the path towards a reintegration of the body within design development methodologies. The body that enables this potential and tentative process is the body of the designer himself, the body of sensation.

Playing with Fabric

Design Research

Reflections on Colour, Materiality and Texture in Architectural Projects

DDR Statement

Sandra Felix is a design lecturer in Architecture at Wits, and a practicing architect with 20 years' experience. She is researching towards her PhD in Architecture at Wits on practice-based design research at the intersection of her own practice and design pedagogy and a transformative and feminist critical spatial practice agenda. Her design research is currently at a curatorial stage of reflection on a body of work based on Schon's ideas of the reflective practitioner (Schon 1983), merged with the "social reflection" (Blythe 2013) which so closely mirrors the social-relational philosophy of Ubuntu. The practitioner reflects on the body of work, and draws connections between own projects, as well as with precedent projects of other architects as evidence of a "community of practice" (Van Schaik and Johnson 2019). Then the practitioner invites a local community, into the conversation, both to question but also possibly to illuminate further tacit knowledge. Methods of reflective practice-based design research include drawing, photographing, analyzing, curating as well as the performative "reflective conversation with a unique and uncertain situation" (Schon 1983, 130).

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Paper

Keywords: practice based design research, feminism, colour, materiality, architecture, photography

Abstract

A child playing with scraps of fabric surrounded by a never-ending visual and sensory feast of fabrics, matching and mis-matching colour, texture and pattern, these are the memories of my childhood. That this playful female domesticity was transposed to my feminist architectural practice. My research seeks a critical understanding of the evolution of my architectural language, through reflective design research on past practice. Questions arise of how one reconstitutes an archive of practice, and how this reconstituting is also an appropriating and re-understanding of the archive through (re)presentation. The choice of architectural research production or (re)presentation tools or media reveals different types of tacit knowledge of design. Photography is thus chosen as the medium or tool to reflect on the use of colour, texture and materiality in past practice.

Playing with fabric: photographic design research reflections on colour, materiality and texture in architectural projects

A child playing with scraps of fabric surrounded by a never-ending visual and sensory feast of fabrics, matching and mis-matching colour, texture and pattern, these are the memories of my childhood. My mother was a formidable and intelligent woman who was not afforded the opportunity to study beyond primary school and poured all her creativity and focus into being a seamstress, rising to the top of her profession as a seamstress to top fashion designers. My childhood was spent surrounded by fabrics, and drawings, mixing and matching colour and pattern and learning from her through play.

This playful female domesticity was not considered serious in the art world, and in the context of South African art meant that the creative practices of many women in the field of crafts were precluded, and pointed to pejorative distinctions between abstraction and decoration in western discourse as pointed out by Brenda Schmahmann [1] in her research on textile artists. Semper noted that ornament and colour were initially retained as decorative elements in building facades reflecting the patterned and colourful textiles that originally formed the outside walls [2]. It is this notion of transposing colour and pattern from a child's textile practice to a building's façade which I have explored in numerous projects.

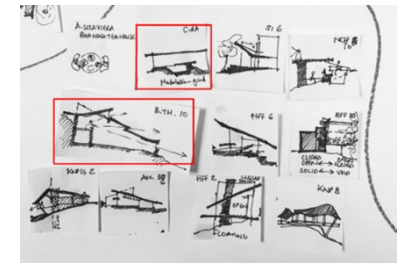
My research seeks a critical understanding of the evolution of my architectural language, through reflective design research on past practice. Questions arose of how one reconstitutes an archive of past practice, and how this reconstituting is also an appropriating and re-understanding of the archive through (re)presentation. In my reflective research I have explored past practice through freehand drawing (fig.1); photography; timelines; graphs and enchainment diagrammatic sketches. These methodologies of reflective design research are seen as instruments to unearth tacit design knowledge, which as per Stengers were designed to fulfill a predetermined goal, but soon these instruments became tools which "co-produce the thinker" [3]. The realization that these initial instruments became active tools also echoes Haraway's notion that the objects of research have



*Figure 1-Freehand drawings – (re)presenting archive.
Photograph by author.*

agency [4] and that they are never neutral. These instruments became active tools with agency and suggested particular readings and by their nature excluded other types of readings. The tacit design knowledge unearthed in the reflective design research is therefore dependent on the instrument or methodological tool used.

The methodological tool of black and white sketch drawing vignettes (fig.2) revealed spatial and conceptual tacit design knowledge across projects, revealing how architecture and landscape was designed holistically in a topographical manner. The topographical fascination integrating architecture and landscape was revealed through sectional, site and three dimensional explorative and largely monochromatic drawings. The absences or gaps in the research findings became evident.



*Figure 2-Sketch vignettes - reflective research drawings.
Authors own.*

The physical embodied experience of the built work, its' expression in terms of colour, materiality, texture, light and shadow, and its' relation to the landscape context, was absent. Perhaps it could not be fully explored through drawing. Other methodological tools were required, and the lens of photography was chosen to reveal this architectural materiality. The photography of a selection of projects completed over the last 20 years of practice seeks to look not only at each project but also across built work projects asking what photography can reveal about tacit design knowledge. By becoming the photographer, I also become a viewer, a user, an inhabitant of my own designs, my body is physically inside, alongside, outside, above and below the space designed, and experiences the design in a way that was only imagined through drawing, in a way that other non-designers experience it. Behind the lens I achieve critical distance from my own designs and am able to see them differently, the experience of the "ordinary user" [5] is kept alive.

A photograph is a snapshot of a single moment, a single focus and view of a single project at a particular moment in time but a series of photographs of multiple projects starts to reveal more than just the singular moment. By printing the photographs all to a relatively small size and collating them into a matrix (fig.5) one can start to see patterns of colour, texture and materiality across projects, the singular project

photograph becomes a pixel in a larger photograph matrix of design practice. As Christine Hawley put it “unintentionally a line runs from one piece of work to the next and fascinations are sustained, details recur... difficult to chronicle precisely the development of one idea- superficial thoughts remain dormant... then resurface with vigor” [6].

The collective arrangement and re-arrangement of the photographs reveals some threads of fascinations whilst obscuring others. Repeating the process and with each pattern arrangement other threads are revealed. One by one each photograph is handled with care. A materiality of site emerges, the way each project takes cues from the landscape both in terms of form but also in the use of local stone, timber, and grass. The architecture fuses with the site and landscape and is almost indistinguishable from it. (fig.3)



Figure 3 - Central Facility - Lower Sabie - Kruger National Park. Photograph by author

This was not immediately apparent in the initial drawing exercise which explored the site plan and section in relation to the landscape (fig.4). The choice of the materiality reinforces the integration into the landscape as shown on the site sketch. This attention to site and landscape in the materiality of the building was explored in other projects, where the design integrates with the natural rock, and timber.



Figure 4 - Central Facility sketch vignettes by author

Oskar Putz in his 1994 Fixation and Autonomy of Colour in Buildings denotes two essential attitudes to colour in architecture, the first is fixation where there is a design unity of colour and architecture, where colour is bound to architectural form. The second is an autonomy of colour where a dialogue evolves between colour and architecture and colour is liberated from the confinement to form [7].

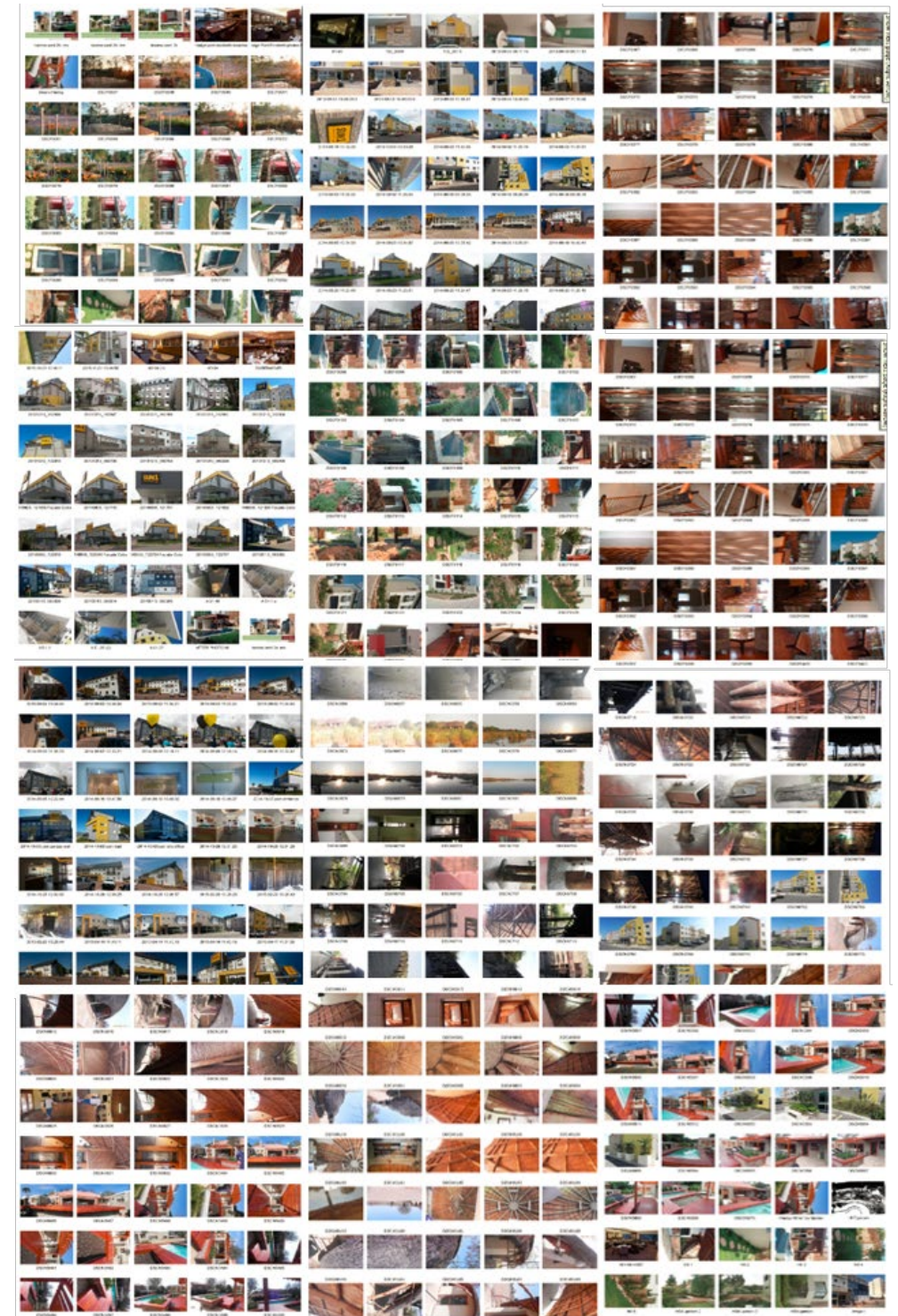


Figure 5- Photograph matrix of a selection of authors projects by author.

I traced these two attitudes in my work through photographic reflective research. In my early work, there is a distinct fixation of colour to architectural form, where colour and texture accentuate architectural form. Colour, and different plaster textures express different formal elements in the architecture and is used as a subordinate supporting element to the conceptual form. Colour is used in a three-dimensional way wrapping the buildings (fig6).



Figure 6- Colour as 'fixation' to form . Photographs by author.

In later refurbishment projects colour is used to dematerialize existing architectural form, to break up expanses of facades, and emulate the colour and material diversity of the city (fig.7). Colour through paint is a very cost-effective method of re-constructing the relation of the building to its' surroundings. In this playful use of colour, it is not only liberated from form but sets up an independent rhythm on the façade, akin to Piet Mondrian's 'Boogie Woogie' series of paintings where "small seemingly moving mosaic type colour elements... dissolve... and cause the eye to move about thus creating the impression of vibration" [7].



Figure 7- Colour autonomy. Photographs by author.

In recent projects colour is used both as fixation with architectural form, as well as an autonomous rhythm applied to the façade (fig.8), incorporating both apparently contradictory attitudes in one façade.



Figure 8 Colour as fixation and autonomy. Photographs by author

Coming back to the child playing with fabric, matching and mis-matching colours, exploring patterns and sewing scraps together. The hand that made the garment was always visible, through lopsided stitches or skew cutting. What became clear in reflecting on these photographs is the presence of the makers, the co-producers of the works. The photographs were not taken for publication, and thus show the presence of the entire network of designers, builders, makers, consultants, and client. The hands that designed, made, calculated, oversaw, paid, planned, supplied, managed, and dreamed the work are visible. This further reinforced the reading of the timeline reflective research where the collaborative nature of the practice was revealed, with the architect being both "central and marginal simultaneously" [8] within this network of actors.

The methodological tool of photography was shown as per Stengers to be co-productive [2]. The intent of its' use was to reflect on colour and materiality in the architectural language of my work, but it also revealed the network of actors whose collaboration is essential to the architectural process. The revealed approaches to colour and materiality were in some ways contradictory, used both to enhance the formal architectural language and its' topographical connection to site and landscape, as well as to dematerialize form through increasing experimentation in rhythms of autonomous colour and materiality which, perhaps, in the end reveals a little of the unselfconscious playfulness of the child within the professional arena.

Endnotes

- [1] B. Schmahmann, *Material Matters: Appliques by the Weyu Women of Zimbabwe and Needlework by South African Collectives*, Johannesburg: Witwatersrand University Press, 2000.
- [2] G. Semper, *Style in the Technical and Tectonic Arts, or, Practical Aesthetics*, Los Angeles: Getty Research Institute, 2004.
- [3] I. Stengers, "Introductory Notes on an Ecology of Practices," *Cultural Studies Review*, vol. 11, no. 1, January 2005.
- [4] D. Haraway, "Situated Knowledges: The Science question in Feminism and the Privilege of Partial Perspective," *Feminist Studies*, vol. 14, no. 3, pp. 575-599, 1988.
- [5] D. Petrescu, Ed., *Altering practices: feminist politics and poetics of space*, London, New York: Routledge, 2007.
- [6] C. Hawley, "Invisible Lines," in *The architect reconstructing her practice*, F. Hughes, Ed., MIT Press, 1998, p. 167.
- [7] K. Schultz, H. Wiedemann-Tokarz and E. M. Herrmann, *Thinking Color in Space: Positions, Projects, Potentials*, Birkhauser, 2018.
- [8] F. Hughes, "An Introduction," in *The architect reconstructing her practice*, F. Hughes, Ed., MIT Press, 1998, pp. x- xix.

Designing Preservation Multi-Scale Architectural Project as an Integrated Tool to Tackle Territorial Fragility in the UNESCO Management Plan of Villa Adriana e Villa d'Este

DDR Statement

The implementation of design tools in a strategic multi-scale planning process for territorial enhancement related to heritage sites is the main goal of the research, and the project working on an experimental case study makes the design approach particularly relevant, both in terms of research topic and methodology. The relation between heritage and its surrounding concerns deeply the spatial relations involved, which can be better investigated and transformed through visual tools.

In the ongoing assessment phase, related to the cognitive framework, design tools are used to integrate the literature review in order to achieve a more realistic and complete comprehension of the territorial features: on-field surveys are mapped and reported through photographic dossiers; from this first holistic experience, sketches and diagrams help visualizing the relation between heritage and its context; a topographic analysis made through sections and a 3d model – physical or virtual – will be useful to investigate the present and historical development of the territory.

The second step of the research, called interpretation framework, will then try to put in action the idea of architecture as “therapy of the space”, using design tools to lead the transformation of space at different scales: a large-scale masterplan will be the main output, but specific design interventions will be defined and proposed according to the main strategy, relating to the concepts of threshold/boundary, crossing/penetration, punctual pivot.

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Paper

Keywords: heritage design, UNESCO buffer zone, territorial, enhancement

Abstract

In the UNESCO context, the role of cultural heritage buffer zones has been recently questioned by new strategic visions. In practice, Management Plans often don't match the complex reality of the territorial systems and ignore the fundamental role of architectural tools, excluding spatial transformations from the range of possible valorisation actions. The present PhD research, currently at its middle stage, aims at the development of a design-based strategy for the enhancement of the heritage-related territory, to be integrated to the UNESCO Management Plans. A pilot project on the sites of Villa Adriana and Villa d'Este in Tivoli, built on the basis of previous national and international heritage experiences and compared with other possible implementations, can be a starting point for the integration of landscape and architectural transformation in heritage preservation policies.

Buffer zones of historical or archaeological sites – especially in non-urban context – are often marginal areas, subject to conservative policies that look at any interference “from the outside” as a threat to heritage preservation. In the UNESCO framework they were introduced from the start as a possible – but not compulsory – extra protection layer for a site enlisted in the World Heritage List (WHL).

Their role has changed through the years, and nowadays they are considered as an important instrument to manage the relation between heritage and its surroundings. Many sites, originally enlisted without a buffer zone, are now being requested to define it, or to enlarge it, in order to involve wider territories. Nonetheless, in the common preservation policies they are seen more as a defensive shield than as a connective fabric between the fragile heritage and the territorial system, and this leads to an overlapping of constraints and contradictory regulations that exposes buffer zones to a stalemate in terms of development.

This condition, that paradoxically increases the level of diffuse fragility, has been tackled for a decade in official UNESCO papers and academic researches (1), but it is seldom recognized or addressed by local policies, especially in Italy. Questioning the role of buffer zones is the starting point for an analysis of the territorial project potential, correlated to the existing heritage management tools.

Since 2004, Management Plans are compulsory for every UNESCO enlisted site: the implementation of this tool has gradually transformed traditional conservation policies into new forms of strategic planning for heritage preservation, looking at the mutual benefits of the interconnection between each site and its surroundings.

In Italy, in the same year, the Cultural Ministry published the National Guidelines for the drafting of Management Plans, and in 2006 it promoted a law (L77/2006) specifically aimed at financing management and enhancing activities in WHL sites. So far, achieved experiences on Management Plans of Italian UNESCO sites have involved different disciplines and expertise, but they haven't considered the architectural project as a useful tool, while architecture can be a key factor to investigate and lead the territorial management related to human activities, given its disciplinary attitude for space transformation.

This research project aims at integrating design tools to the UNESCO management structure, working within the regulatory system in order to foster a set of potential positive transformations in buffer zones, instead of referring only to restrictions.

Top-down, standardized and bureaucratic solutions for Management Plans have been proved ineffective in matching the peculiarity of each place: the intent of the present work is to develop a set of design actions implemented on a pilot case study, rising from the specific needs of the place, and to extrapolate from this experience a transferrable design methodology.

The Tivoli case is an interesting experimental field: Villa Adriana and Villa d'Este, both worldwide known UNESCO sites, attract hundreds of thousand visitors every year, but it's a stop-and-go tourism. They are disconnected from their territorial context, which is not involved in the tourism dynamics, despite its richness in archaeological discoveries, landscape attractions and productive life. All of these elements are not inter-linked, considered as singularities in terms of preservation and development, while the in-between spaces lay in a diffuse state of non-care (2).

The ministerial Istituto Autonomo di Villa Adriana e Villa d'Este unifies the two UNESCO sites under the same management institution, and it is working on the development of a wider cultural system, including other nearby sites with promotional and marketing actions. A conjoint Management Plan is currently being drafted; it will involve the context of the two major sites through the proposal of a conjoint buffer zone, creating an exceptional situation that nonetheless allows the experimentation of new design strategies within the managerial process.

With this goal in mind, the research investigates the role and definition of buffer zones, referred to the interconnection core/context (both in an inside-out and outside-in perspective), through the lens of the design process: on the one hand the architectural investigation on territorial criticalities and heritage-related weakness; on the other hand the definition of a strategic plan made of design actions at different scales, coordinated by a general masterplan, as an effective enhancement proposal. The outcome, even if specifically referred to the Tivoli case, could be a starting point for the development of new tools for the strategic/architectonic planning of complex, heritage-related territories. Initial phase studies led to the definition of two main research questions, both linked to the possible implementation of design tools on preservation and transformation:

How can a design approach help in the assessment of a multi-layered and complex system, of cultural and historical relevance?

Which design tools can be implemented on the UNESCO Management Plan, in order to foster positive territorial transformations?

From the methodological point of view, each research question is addressed in a distinct but complementary section of the project.

The first – currently ongoing – concerns the **cognitive framework**, in which direct and indirect architectural design tools help defining the territorial analysis: surveys, drawings, topographic and morphologic interpretations will complete the theoretical studies with a more direct and realistic approach.

The second section, called **interpretation framework**, will develop a system of coordinated design actions aimed at the territorial enhancement: this will involve the redefinition of the buffer zone limits, the drafting of a general masterplan and the definition of punctual projects planned hierarchically through space and time.



(fig.1)_ satellite view of the territory of Tivoli

COGNITIVE FRAMEWORK (ongoing part of the research)

An investigation on the debated topic of territorial fragility underlined that statistic indicators and traditional punctual risk assessment should be integrated in a wider and more systemic territorial vision. The contribution of disciplines such as philosophy, geography and anthropology helped in identifying the concept of marginalization as a key to the comprehension of territorial fragility (3); this is particularly true when we talk of buffer zones, that are by definition related to the ideas of margin and limit. On a practical level, the experience of a direct survey on the territory of Tivoli, reported through a photographic dossier, has been the first step to introduce an architectural approach to the analysis of critical and potential features. It was based on the promenadology theories by sociologist L. Burckhardt (4), with the aim of highlighting the human-scale, slow-paced aspects of the relation between heritage and its context. The survey lasted three days, with different itineraries chosen according to holistic principles, using sometimes a car but mainly walking. Three were the main objects of investigation:

the current perimeters of Villa Adriana and Villa d'Este buffer zones

what do they mark?
 what do they include/exclude?
 does anything change inside/outside the buffer zone?

the territorial relations between Heritage and its surroundings

how can I reach the site?
 what do I see while going there?

the visual relations between heritage sites and the landscape.

what can I see from the sites?
 can I see the sites from the distance?
 is there any visual connection with other points of interest?

Photographs, organized in the report by shooting area, recorded both specific features and general panoramas, while sketches and diagrams supported the elaboration of the results related to the three main focuses.

The current **perimeters of buffer zones**, very different in extension, have been defined according to very different principles too: Villa d'Este buffer zone criteria are limited to physical proximity, including the built fabric immediately close to the site perimeter wall and the historical vineyard on its western side; the limits of the buffer zone are the narrow roads of the historic centre surrounding the villa, and the different state of care of the public space marks a “front” and a “back” of the property, more than a respect area. Villa Adriana buffer zone is much wider, and not clearly defined in terms of methodological principles: its limits are related from time to time to panoramic and visual continuity, to barriers such as main roads, or to orographic conformation. The included area is not homogeneous in terms of use, property or other character; its main feature is the historical agricultural landscape of olive groves, that anyway extends much further than the indicated area.

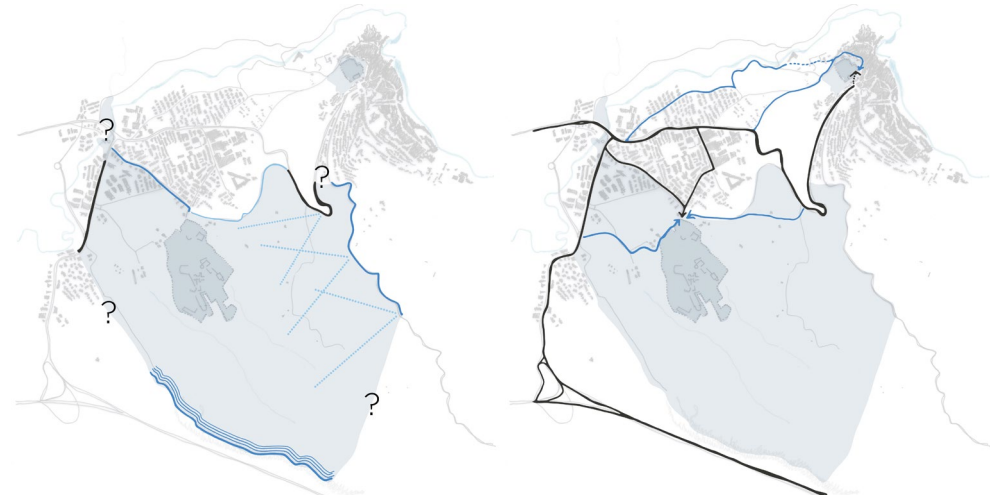
The analysis on **territorial relations** enlightened the lack of linking between the points of interest: there are no easy paths or public services connecting Villa Adriana to Villa d'Este, nor the centre of Tivoli with any other of the surrounding sites. Getting to the UNESCO sites can be a troubling experience even by car, through the heavy-traffic stream of the via Tiburtina or the highway connection of via Maremmana, and then with poor indications through local streets. Villa d'Este is in the historic semi-pedestrian town centre, while, Villa Adriana is mainly reached by car, and walking there is quite uncomfortable even from a short distance, due to the bad state – or complete absence – of sidewalks. In a visitor's approach to the main sites there can be glimpses of the stunning surrounding landscapes, but there are no evident indications that lead to a deeper exploration of the territory; it's even difficult to perceive the proximity of the Aniene river, historical genius loci for Tivoli development. Nonetheless there are other minor routes, almost unknown to the general public, used mainly for local activities and not well-maintained, that could create a network of slower but more interesting connections and paths.

Due to the peculiar topography, on the edge of the hillside and opening on the plain towards Rome, the historical development of Tivoli and its surrounding is strongly referred to **visual connections**: the gardens of Villa d'Este are almost invisible from the maze of the streets in the historic centre, hidden behind tall walls and buildings; the ruins of Villa Adriana are almost mimetic in the rural and designed landscape that surrounds and permeates them; they are both scarcely perceivable from the immediate surroundings, but they mark the landscape from the distance, and they are privileged points of view over the Aniene valley and the roman countryside towards Rome.

To integrate the cognitive framework, further investigation are currently focused on the morphology and topography of the area, fundamental for the comprehension of past and potential development.

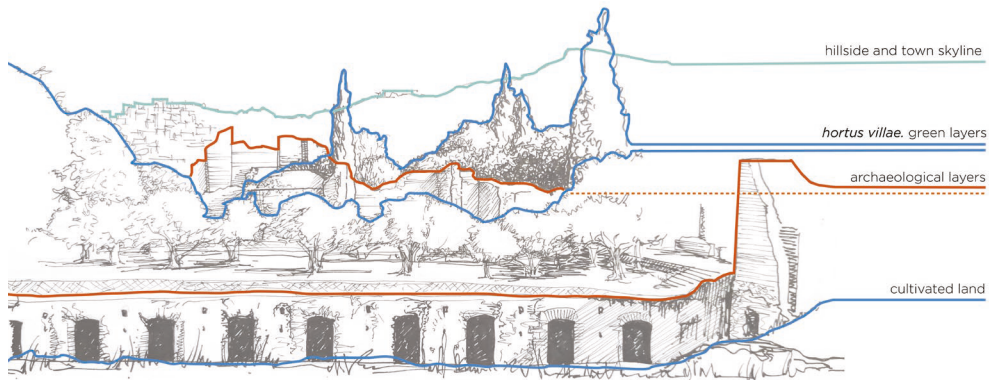


(fig.2)_ Ponte Lucano and Mausoleo dei Plautii, within Villa Adriana buffer zone



(fig.3)_ perimeter of Villa Adriana buffer zone

(fig.4)_ access routes to the UNESCO sites



(fig.5)_ visual connection Villa Adriana-Tivoli

INTERPRETATION FRAMEWORK

Nowadays, a wide literature deals with the topic of cultural heritage management, and it is furtherly extending to cultural landscapes, area in which the importance of the heritage-context relation is particularly investigated. Both academic literature and UNESCO publications show concern for socio-economic aspects, often involving the role of buffer zones, while the practical transformation of places and the related architectural problems are seldom mentioned. The White Paper L.n.77/2006 is a report on Italian UNESCO sites management experiences and enhancement activities from 2006 to 2018 (5): it emphasises a growing need of territorial reconnection, but

without any contribution of architectural systemic design. In the past decade, the role of design in heritage-related areas has mainly been confined to competitions of ideas, often not directly linked to the territorial management. Other countries used a different approach: from the methodological point of view the case of Hadrian's Wall, British part of the transnational UNESCO site "Frontiers of the Roman Empire", is remarkable. In a place where the continuity of archaeological heritage and landscape is considered a fundamental value to preserve, the Management Plan has a structural annex, named Interpretation framework, structuring an overall plan of specific actions to be implemented on the territory through time, involving public and private stakeholders, with the contribution of art, landscape and architectural design, among other disciplines. This approach will serve as a methodological reference for the specific case study of Tivoli.

In 2018, the territorial redevelopment of Villa Adriana buffer zone was the topic of a design competition, contextual to a scientific consultation organized by the Accademia Adrianea di Architettura e Archeologia with the collaboration of MiBACT - Institute of Villa Adriana and Villa d'Este. The results of this call enlightened a high territorial potential, but also several critical aspects, and will serve as starting point for the development of the present study (6).

The specific goal of the interpretation framework is the drafting of a new design strategy for the area surrounding the UNESCO sites of Tivoli, using multi-scale architectural actions to connect them to other points of interest in a virtuous enhancement system based on controlled territorial transformations.

The **union of the two research parts** will form a design-oriented annex to the UNESCO Management Plan: it will be coordinated with the strategic objectives of the main document, including the redefinition of the buffer zone, and could represent an innovative tool for the integration of landscape and architectural transformation in heritage preservation policies, aiming at a mutual exchange and support between heritage and territory.

The research conducted on the specific case of Tivoli is the result of the integration of previous partial methodological and design heritage/context experiences with the current UNESCO management structure: the final part of the research will be dedicated to the transferability of the developed tools through the comparison with similar potential cases.

(1) Martin, Oliver and Giovanna Piatti (Ed.) (2009): *World Heritage and Buffer Zones*. Paris: Unesco World Heritage Centre

(2) For the concept of non-care: Emery, Nicola (2007): *Progettare, costruire, curare*. Bellinzona: Edizioni Casagrande

(3) Tarpino, Antonella (2016): *Il paesaggio fragile. L'Italia vista dai margini*. Segrate: Einaudi

(4) Burckardt, Lucius (2019): *Il falso è l'autentico*. Politica, paesaggio, design, architettura, pianificazione, pedagogia. Macerata: Quodlibet

(5) MiBACT (2018): *Legge n.77/2006 Libro Bianco*. Soveria Mannelli: Rubbettino editore

(6) Basso Peressut, Luca, Caliri, Pier Federico (Ed.) (2019): *Piranesi Prix de Rome. Progetti per la Grande Villa Adriana*. Roma: in edibus - Accademia Adrianea Edizioni

Need Based Clothing Design

How females affected by breast cancer articulate their individual lingerie needs and how these can be implemented into design

DDR Statement

As a fashion designer with a background in the prêt-à-porter industry, I came to my practice PhD studies with a mindset informed by industry performance standards. Starting my design research was therefore an interesting learning experience. In contrast to seasonal collection work in the fashion industry, which is always solution-oriented and carried out under a certain time pressure, design-driven research offered space for deeper reflection, experimentation and broader, structural clothing design questions. While I was undoing my industry training, I decided to hold on to some applied clothing design methods and implement them as tools into my research practice. If a design tool could be used in both industry and academia, the transferability of methods between these two fashion areas would be encouraged. By adopting procedures in a simplified, distilled form, I hoped to make connections between industry processes and academic design practice. For example, while working alongside females affected by breast cancer, I structured participatory design sessions based on conventional fitting procedures as they occur during the seasonal fashion design process. Design-driven research methods integrated from academic research back into industry developments could create a more inclusive and holistic approach within needs-based design. In the case of clothing design for females affected by breast cancer, such integration would include the garment wearer's voice into the design decision-making process and promote knowledge sharing between the affected females and the design team.

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Artefact

Keywords: breast cancer, body asymmetry, participatory clothing design

Abstract

This research facilitates participatory prototyping design sessions within an ongoing practice PhD to better understand how females affected by breast cancer experience lingerie after a mastectomy. Participants work with simplified clothing design methods derived from phases of the fashion design development process. While wearing a neutral prototype garment, participants are both designer and model. They articulate and manifest their personal bra needs onto the prototype and shape it according to their ergonomic needs and aesthetic taste. In addition, this research experiments with industrial 3D knitting technologies and alternative bra designs that expand the garment's use beyond the spectrum of underwear based on such needs. An initial 3D knitted prototype combines articulated needs into a basic matrix that includes solutions for females with two different sized breasts, one breast, or no breasts after a mastectomy, as 3D knitting allows for mass customisation of such variations.

Breast cancer can be described as a modern epidemic. According to the World Health Organisation, one in eight females will develop invasive breast cancer in their lifetime, with a survival rate of 80%. By 2030, the number of cases is predicted to increase by 50%. For most females diagnosed with breast cancer, treatment involves some form of mastectomy, which includes total or partial removal of a breast, nipple and areola. Nearly half of all patients who undergo this surgery will not or cannot immediately reconstruct their breasts and continue to live single-breasted or non-breasted. Post-mastectomy bras are the type of lingerie offered to females after their mastectomy scars have healed. These garments are worn as everyday bras in conjunction with external breast prostheses, which are gel-like, silicone forms that are inserted into the front pockets of the bra.

Conventional post-mastectomy bras are symmetrical and cater to a stereotypical body shape. Currently, there are few to no options on the global market for females with different sized breasts, one breast, or no breasts. Females who do not want to wear an external prosthesis have to settle for ill-fitting and often unattractive lingerie, which can cause physical discomfort and psychological distress. Besides a consensus on the spectrum of ergonomic and aesthetic bra needs regarding bra construction, fit and materiality, colour, femininity, and modernity, no two breast cancers or treatment experiences are exactly alike. Therefore, individual bra needs vary. They depend on personal, physical and emotional healing processes and are influenced on a physical level by scars, skin sensitivities, nerve damage and lymphoedema. On an emotional level, self-perception and reconnection with an altered and traumatised body is an intimate process that #can create its own set of specific garment needs.

images: 3D knitted modular bra alternative
photography: Laura Knoops and Julia Lee Goodwin
research funding: DesignFarm Berlin



In conventional garment pattern construction as used in industry, human body shapes and sizes are summarised, categorised and standardised in fit charts, based on the assumption of a symmetrical body structure. People whose bodies are no longer symmetrical and those whose body structure deviates from the norm in other ways are not considered in this approach. Affected individuals, therefore, often have difficulties finding clothes that meet their specific needs.

This research facilitates participatory prototyping design sessions within an ongoing practice PhD to better understand how females affected by breast cancer experience lingerie after a mastectomy. Participants work with simplified clothing design methods derived from phases of the fashion design development process. While wearing a neutral prototype garment, made from a specific Japanese paper that has textile-like properties and yet can be used like a regular paper material, the participants are both designer and model. This prototype acts as a visual communication tool, three-dimensional notepad and design template onto which personal bra needs are manifested. While wearing the prototype, participants shape its fit according to their ergonomic needs and aesthetic tastes, creating a blueprint of their individual design. During this creative process of observing, examining and articulating, synergies, and conversations emerge between participants that overlap or diverge. Latent needs are discovered and manifested together. Individual experiences and stories are shared, which fill the emerging design with narrative content and contribute vital information about the participants' individual garment needs, alongside the visual manifestation of the intended design.

As part of this research, participatory prototyping design sessions were conducted in the USA, Bosnia and Herzegovina, Croatia and Germany. The results of the sessions led to a concept for a modular bra alternative. This garment design intends to be a speculative artefact and experimental product that visualises unmet clothing needs of females affected by breast cancer and stimulates discourse about the use and function of the bra as a garment, beyond the spectrum of undergarments and towards possible future applications.

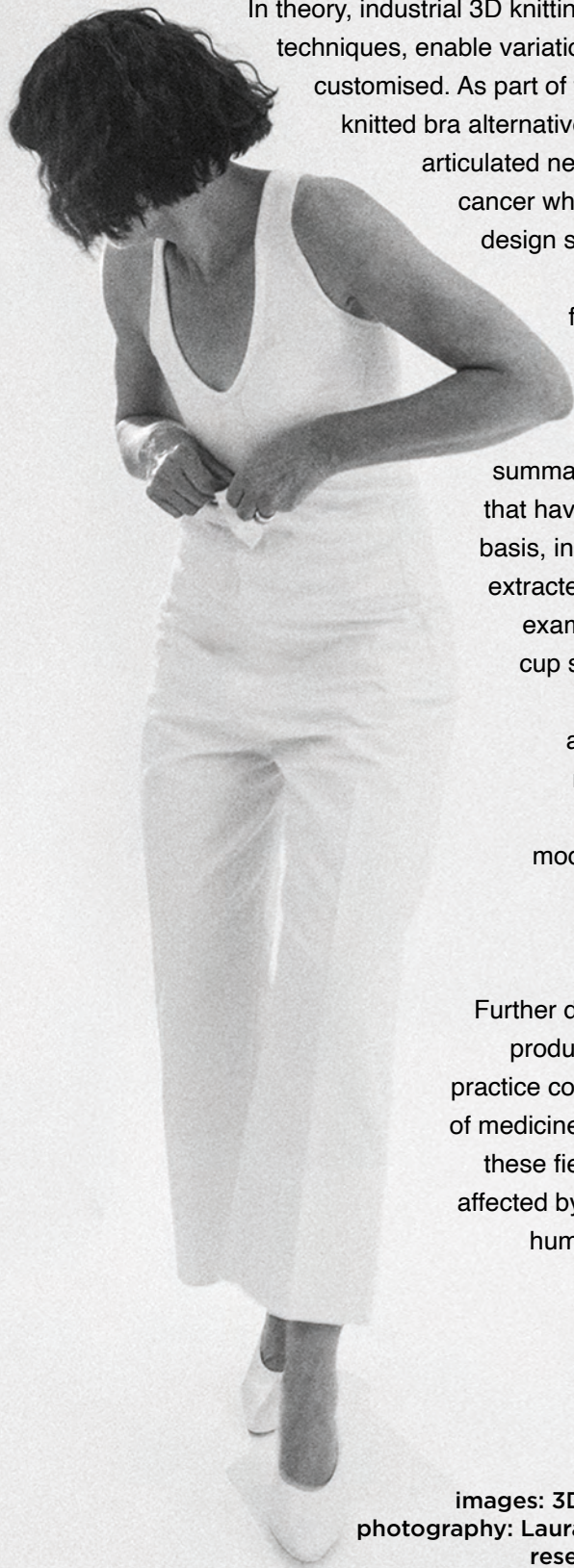
images: participatory prototyping design session
photography: Laura Knoops and Julia Lee Goodwin
research funding: Arts and Humanities Research Council



In theory, industrial 3D knitting technologies, as manufacturing techniques, enable variations of bra alternatives to be mass customised. As part of this research, a prototype of a 3D knitted bra alternative was developed. It combines the articulated needs of females affected by breast cancer who have participated in prototyping design sessions. Its construction is based on the design of sports bras that females affected by breast cancer use as an everyday bra replacement. A basic pattern forms a needs matrix that summarises all the articulated bra needs that have been collected so far. From this basis, individualised bra variations can be extracted during the knitting process. For example, body length, shoulder width, cup size and neckline can be adjusted symmetrically or asymmetrically, according to the garment wearer's needs, by extracting specific form elements. These interchangeable modular components are identified in the garment by different knitting patterns.

Further developments of this experimental product are underway. As this research practice continues to design at the threshold of medicine and fashion, the aim is to merge these fields in clothing design for females affected by breast cancer and work towards humanising medical aid products and normalising asymmetrical bodies.

images: 3D knitted modular bra alternative
photography: Laura Knoop and Julia Lee Goodwin
research funding: DesignFarm Berlin



Beyond the Divided City

Policies and Practices of Defining Common Space through the Review of Spatial Development in Skopje

DDR Statement

How architects can promote commoning rather than commercialization on space while making a contribution by developing inclusive spaces? Public interest can no longer be premised on consensus building or separate decision-making processes for particular interest groups. Under conditions of diversity, acting in the public interest and managing urban commons must include the task to make visible and clearly profile the interrelations and interconnectedness between different groups and periods, and to symbolically and materially represent the social fabric as a multi-layered, heterogeneous ensemble composed of a multitude of differences, where at the role of the architect is a mediator. The doctoral dissertation concerns other scientific disciplines, such as sociology, economics, philosophy, anthropology, and so on, addressing these issues from the point of view of urban planning represents an additional knowledge contribution. With others, in short, the research of the doctoral dissertation requires an interdisciplinary approach as inquiry, in order to understand all the key aspects and factors of human society in the urban surrounding, especially in order to obtain and achieve quality and humane living spaces for people in the 'modern' society, an in-depth case study in Skopje as a "laboratory" to determine propositions and world-views that are formed from theories in social science and are directly connected to urban planning.

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University in Ljubljana

Paper

Keywords: urban planning and design, urban sociology, architecture

Abstract

The different motion of users, different by national, religion etc. regarding public spaces, as well as dissimilar aesthetic preferences depending on social milieus are putting pressure on urban planners. Overpopulation nowadays brings new questions on devolving the urban areas and the commoning. The carried-out research work mainly would address locally on issues and potential case study in Skopje, but being globally related topic to the subject, it can provide a significant contribution on the processes of commoning, urban transformation, and urban innovation in the context of transitional societies. Research to point on the importance on state of art and what architectural perspectives or approaches can provide. Conducted in few stages the research aim is to connect the local conditions and its (national/ethnic) "dividedness" of Skopje to the question of urban commons. The research should explore redefining urban spaces and the "revalorization of the concepts of the "right" to the city and the "production" of common space".



Fig. 1 Urban commoning/common space as alternative to urban enclosures in "divided" city -Author's drawing

In the discourse on urban life, there is always a risk of a constant emphasis on loss – the open and colourful city life in public spaces being privatized, commodified or segregated in new ways. Urban commons are always under threat, but with the help of a historical perspective, it is possible to see how some areas and meeting places are enclosed or disappear while others are born. In a constantly changing cityscape, there are restrictions imposed but also new emerging potentials for claiming collective space. In 2011 UN-Habitat adopted a resolution stating that good public space enhances community cohesion and promotes health, happiness, and well-being for all citizens. According to Hardt and Negri, the commons is defined as 'first of all, the commonwealth of the material world', yet also, and 'more significantly as those results of social production that are necessary for social interaction and further production, such as knowledge, languages, codes, information, affects, and so forth'. [6] 'Urban commons', a notion associated with the work of David Harvey, allows focusing more closely on public spaces and their design, including the use of public space

as places of commemoration. [7] On the other side diversity is thus a social fact, and cities are the hallmark of diversity. From a sociological perspective, one may safely say that there is no city without plurality. In terms of languages, religions, nationalities and citizenship, Europe is certainly more diverse today than 50 years ago. In that sense, we may indeed speak of progressing pluralization. However, from a historical point of view 'religious diversity in Europe has rather been the norm than the exception. Diversification is an ambiguous process. Any new type of diversity and every new wave of experienced difference will inevitably provoke debate. One obvious example is the growth of religious communities in Europe. What poses a challenge to defining public interest is not the fact that there is diversity but rather the kind of diversity there is. It is the specific content that seems to be causing discomfort. The sociology of space seems to offer a useful starting point for a relational approach to promoting and managing urban commons (fig. 1). Building on Lefebvre theory, there are numerous scientific studies redefining and specifying the concept of space to provide a new theoretical basis for the urban theory. [8,9] A now widely shared sociological understanding of space proposes a duality of structural phenomena. [2] 'Every constitution of space is thus based on objects/people being connected and interrelated in such a way that boundaries emerge and become discernible, and spatial contexts develop out of individual objects. This process is called synthesis. It develops through processes of perception, ideation, and memory'. [10] From the point of view of citizens, this process inevitably gives rise to ambivalence between the struggle for self-administration and the recognition of the need for professional expertise. On the experts' side, there is the challenge to take into consideration various particular interests and yet remain loyal to their mandate, i.e., to act on behalf of and in the public interest. 'Questions of the commons', writes Harvey, are contradictory and therefore always contested. Behind these contestations lie conflicting social and political interests. Professionals representing public interests have increasingly raised concerns that due to expanding social diversification, their mandate is becoming uncertain. [7] The problem is obviously how to design public places in a 'city meant for all' (a formula nowadays used by NGOs and architecture practices). The different motion of users, different by national, religion etc. regarding public spaces, as well as dissimilar aesthetic preferences depending on social milieus are putting pressure on urban planners, for whom these interests all too often appear to be mutually exclusive. Even priorities are a matter of controversy: should the focus primarily lie on designing public space for as many different interest groups as possible in one single space, or is aesthetics the key factor (and whose aesthetics)? Is it more important to promote local businesses or to counterbalance social inequality? The problem is how to manage the commons so that the cohesion of society finds its expression if the experience of shared interests and common symbolic forms is fading away. The overpopulation nowadays brings new questions on devolving the urban areas and the commoning. Topic that Harvey opens a useful discussion of scale problems in the commons literature. [7] At the other extreme, space may be common to human beings. Common space admits of no criteria; it is open to all in the same way. It is not owned or controlled. Unlike, the so-called "Tragedy of the Commons", resulted precisely from the attempt to enclose and thereby control access to common land. [5]

This common land as a conceptual framework and an overall discussion of urban voids are describing places that are overlooked by the mainstream actors, we can immediately relate them to the concept of 'heterotopia'. This term originally coined by Michel Foucault, to describe places that are 'in relation with all the other sites, but in such a way as to suspect, neutralize, or invent the set of relations that they happen to designate, mirror, or reflect'. These places are - as opposed to utopias - places that are outside of all places, even though it may be possible to indicate their location in reality. In describing 'urban voids' as being in an in-between phase, we can secondly link them to the concept of 'liminality'. [4] Authors like Richard Sennett have applied this concept to spatial theory. [11] Pointing out the possibility of 'liminal spaces' to bring together a diverse range of people and activities, resulting in valuable exchanges and connections between them.[3] Having this theoretical background as an emerging and significant issue for South-Eastern Europe and the focus on the capital of the Republic of North Macedonia, Skopje. A place that yet has not been researched in the terms of user experience, and the massive changes in the spaces in the public sphere. Which makes it a case study worth to be explored, offering an insight into the broad sphere of topics of overall reflection on the urban morphology and spatial design. Followed with the densification on population in last decades, on the public, and common spaces in the city, there is constant change, usurpation, or massive changes in public territory and green areas have occurred, especially in the city centre, as an area where cultural and ethnic or religious diversity is present (fig. 2). Yet no specific data or guidelines are being defined, on how the contemporary city of Skopje will or should develop further. In the 1965 urban plan just after the massive earthquake, there was an attempt to change the city centre structure, working on the spatial issues as on blank paper, reshaping the public spaces, changing the main city axis, as a future proposal for the development of the city. A plan that went beyond the importance of the physical renewal of the city. Often it has been used as a symbol of international cooperation, solidarity, and ultimately as a showcase of the potential and power of politics to produce a new vision of a better society (fig. 3). Skopje, therefore, 'represents another instance of a situation where ethnicities and nationalism have been activated', which directly led to urban divisions. Skopje carries within it a reality which can never again repeat itself: to be ruined by a natural catastrophe and to be given the chance to be rebuilt, yet at the same time to experience an unbelievable disappointment in that. Political elites have a determinant role in the construction of divisive representations of urban space and society. Researchers suggest using the concept of 'ethnic- nationally divided city', to refer to places combining the issues of 'state- divided' cities and 'ethnically-divided' cities. [1] In an attempt to find the available and referenced literature, I faced how limited it is, as for the urban divisions, and massive changes that have been in Skopje in the past years. With the massive reconstruction on the city followed by the catastrophic earthquake that occurred in 1963, few scholars have been researching the pre-post- earthquake status on urban planning, and there are almost no studies on the possible future development and transformation on the public spaces in Skopje. Taking this opportunity and moment to research and explore how the processes of

politics and ideology affect the living experience in the city and to its inhabitants, and how the culturally and ethnically differences made an impact of the public, and urban development. As to seek for an answer on the questions regarding the possibility of valorization and revalorization of the concepts of the "right" to the city and the "production" of common space. Spaces that continuously are exposed to changes, exposed to constant redefining re-structuring. Focusing on a divided city such as Skopje can offer insight into the mechanisms that lead to such divisions and be suggestive for determinations to prevent or possibly change them while focusing on the user experience.

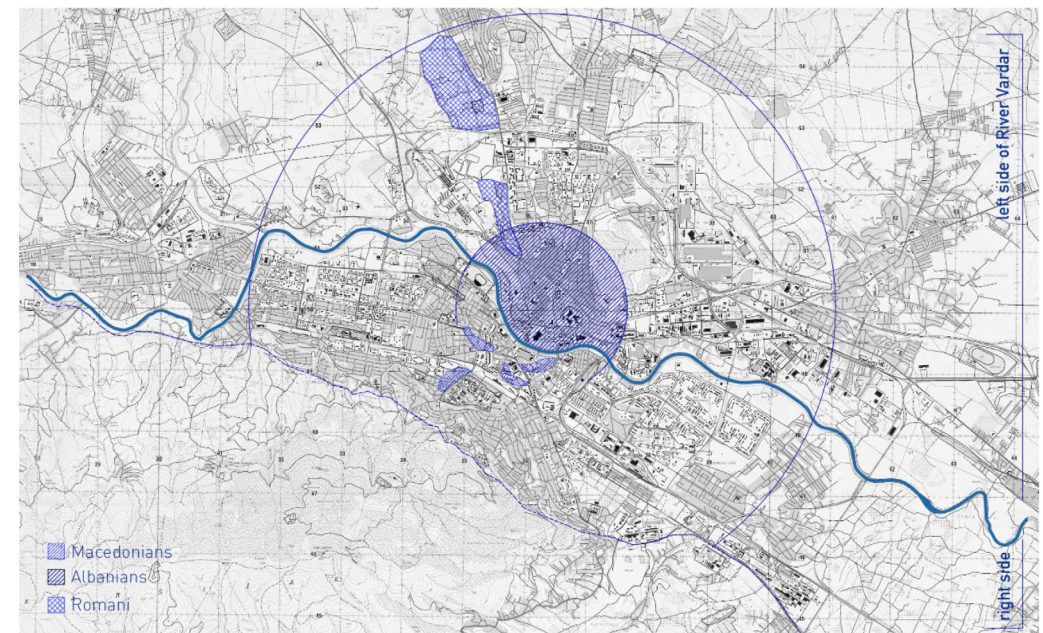


Fig. 2 Division by nationality, presented on Map of Skopje. Nationality of the people living in places with low level of urbanization. Source: "Skopje - Vision, Reality" (1997) - Ilija Aceski, p.47.

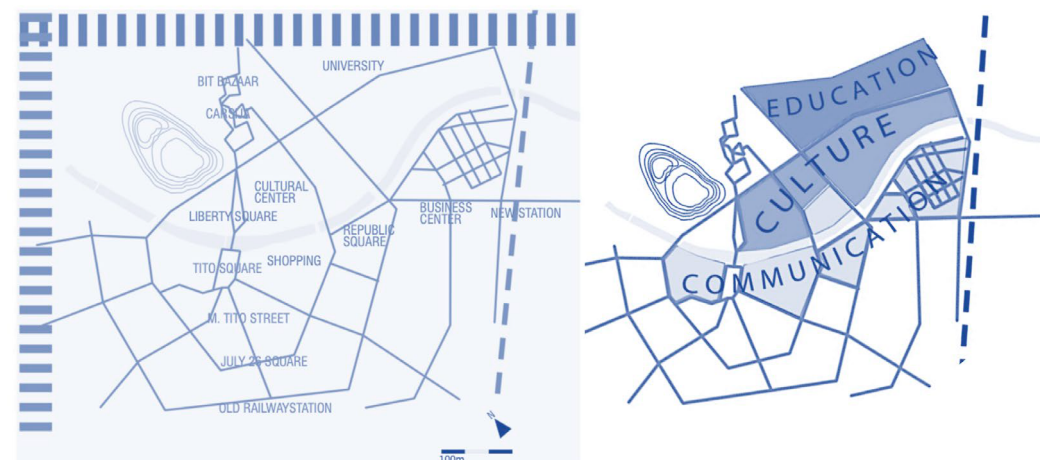


Fig.3 Source: United Nations: Skopje Resurgent. The Story of a United Nations Special Fund Town Planning Project. New York 1970



The research methodology proposal, is to take an overview of the historic process of urban development in Skopje, and the changing policies and practices of commoning. When having a top-down view of the city embedded in a large scale of spatial development, it will be complemented with a bottom-up view. Considering that urban commoning is essentially a bottom-up and localised process. Such a bottom-up perspective holds a more experimental approach and can involve citizens to nurture innovation, as users of the city. This could be achieved by focusing on specific historic and contemporary places, as urban voids in Skopje, and point their role as common spaces. The research is expected to contribute to methodology in the field of urban planning. Even though recently there are research projects, especially on urban transformation, urban planning, identity etc. (fig.4,fig.5). Additionally in this research the expectation would be to relate theoretical concepts with planning and design practice, and think about the role and responsibility of professionals in the field of urban planning and urban commoning. On how design can improve urban commons, beyond obvious and generalistic claims of transdisciplinarity and social awareness. The carried-out research work mainly would address locally, but being globally related topic that can provide a significant contribution to the way of thinking on common spaces, processes of urban transformation, and urban innovation in the context of transitional societies.

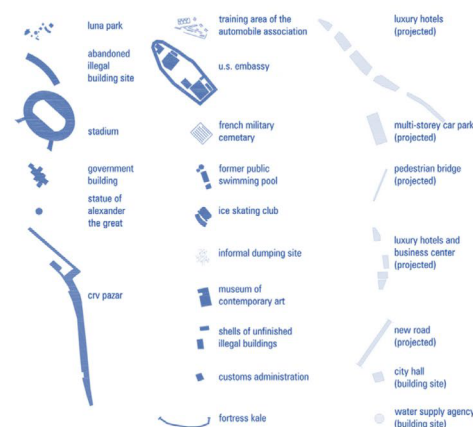


Fig.4, Fig. 5 Example on urban commoning in Skopje. The buffer zone settled on the riverbend close to the city centre - Crv Pazar. Source: Urbanek K., Mijalkovic M., Informal Market Worlds Atlas. NAI Publishers, Rotterdam 2015. S. 236-241.

1. Anderson, J. (2008) From Empires to Ethno-National Conflicts: A framework for studying 'divided cities' in 'contested states' – Part 1. Working Paper No. 1 (Divided Cities / Contested States).
2. Bourdieu, P. (1977) Outline of a Theory of Practice. Cambridge: Cambridge University Press.
3. Carmona, M. (2010) Contemporary Public Space: Critique and Classification, Part One: Critique, in Journal of Urban Design, 15:1, pp. 123-148
4. Foucault, M. (1967) Des espaces autres, basis of a lecture given by Michel Foucault in March 1967 on a conference at the Cercle d'études architecturales, published in Architecture, Mouvement, Continuité, n°5, octobre 1984, pp. 46- 49
5. Hardin, G. (1968) 'The Tragedy of the Commons', Science 162(3859): 1243-8.
6. Hardt, M. and Negri, A. (2009) Commonwealth. Cambridge, MA: The Belknap Press of Harvard University Press.
7. Harvey, D. (2012) Rebel Cities: From the Right to the City to the Urban Revolution. Verso, London.
8. Lefebvre, H. (1991) The Production of Space. Oxford: Blackwell
9. Lefebvre, H. (2004) Rhythmanalysis: Space, Time and Everyday Live. London: Continuum.
10. Löw, M. (2008) 'The constitution of space: the structuration of spaces through the simultaneity of effect and perception', European Journal of Social Theory 11(1): 25-49.
11. Sennett, R. (2018) Building and Dwelling: Ethics for the City. Farrar, Straus and Giroux.

Fig. 1 Urban commoning/common space as alternative to urban enclosures in "divided" city - Author's drawing

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Source: Urbanek K., Mijalkovic M., Informal Market Worlds Atlas. NAI Publishers, Rotterdam 2015. S. 236-241.

Creative Suburbia?

DDR Statement

I see suburbia as an endless growing carpet of mono-programmatic structures, spreading on the “fuel” of economic growth, precarious work and dream of a better life closer to the nature. It is more a way of life rather than just composition of built structures. Sometimes, I describe it as a package of individual units – houses or dwellings - unaware of each other, connected just through invisible network of infrastructure and internet. It offers very few “random” contacts between people and very little diversity of any kind.

Today, as we are going towards extremely planned and (over) controlled urbanism, we seem to forget even more, that most interesting parts of any built human habitat are the ones between controlled and chaotic. Or how architect Kengo Kuma describes it, places where city (urbanity) can ferment. Creative areas seem to offer that effect. These areas, where ideas and people can grow, intersect and jump from one form to another in an informal way can offer some counterbalance to monotony of suburban or post – suburban global world. Balance between order and chaos, control and freedom is what interests me the most.

My research is about implementation of informal creativity development into very strict and formal framework of suburbia. How to start dialogue, start fermentation of ideas and to be involved as a spatial designer in a creative process, that is the driving force of my research.

Presented project of Barutana creative quarter in Kamnik, Slovenia is exactly an area, where I make my experiments and test ideas of creative post - sub - urban fermentation.

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Extended Abstract

Abstract

Main purpose of this article is to explain negative process of suburbanisation in city of Kamnik, Slovenia and present research and methods behind making of creative area in the city – Creative neighbourhood Barutana. During the year of 2020, prototype of creative area was initiated by the local team of students, architects and artists. During the modelling of this prototype, design team was constantly adapting it according to the needs, on-site specifics and user requirements. They have intuitively used design driven research and design.

Process of suburbanisation in the last few decades in city of Kamnik has been slow, but very steady. It is mostly recognized in decreasing diversification of public programs in the central area of the town and large dispersion of newly built buildings. It is also recognized in loss of creative human capital. Our research showed that only one apartment block and more than 50 single-family houses were built in our research area in last 5 years.

Through the research by design approach we have concluded, that the emergence of creative area Barutana has caused positive effects on the unsustainable formation of suburbia in Kamnik and on the local economy. We have also experienced, that constant real-time adaptation of design process is crucial to answer constantly changing needs of local stakeholders. Article will further elaborate possible methods, how to upgrade described area in the future.

INTRODUCTION

Suburbia, with its many sustainability issues, is possibly the next biggest frontier of extensive pro-sustainability measures and developments in Slovenia. The same applies to discussed area, presented in this paper. Focus is on typical suburban town of Kamnik which is deeply inter-twined with some of the neighbouring towns of Domžale, Mengeš and Trzin. We can see them as suburban sub-centres (Kiel R., 2018). All together they form a typical suburban area, that we could describe as emerging suburbia north of Ljubljana, Slovenia.

Process of suburbanisation in the last few decades in those previously described wider area of neighbouring towns – suburban sub centres has been slow, but very steady. It is mostly recognized in decreasing diversification of public programs in the central area of the towns, creative human capital loss (Florida R., 2012) and large dispersion of newly build buildings. Our research showed that only one apartment block and more than 50 single-family houses were built in our research area in last five years.

Main purpose of this paper is to explain process suburbanisation in the case of Kamnik and present the research and methods behind designing the prototype of creative area in the city – *Creative neighbourhood Barutana*. During the year of 2020, prototype of how creative area could look like was initiated by the local team of students, architects and artists. During the early starts of modelling of this prototype, design team was constantly calibrating emerging prototype, according to needs, on-site specifics and user requirements.

Through research by design approach, we have concluded, that the emergence of creative area Barutana has caused positive effects on the unsustainable formation of suburbia in Kamnik. It also showed some possible positive effect on the local economy, yet, more research would be needed there. We have also experienced, that constant real-time adaptation of design process is crucial to answer constantly changing needs of local stakeholders. Research by design method was greatly appreciated by participants, initiators and research team. Article will further elaborate possible methods, how to upgrade described area in the future.

Methods and design driven research

Suburbia is a complex, constantly redeveloping and predominant built tissue (Kiel R., 2018), with several negative effects on the environment. To solve them, there is no single possible final solution. Therefore, to investigate and offer answers to constantly changing situation in suburbia, this research is mostly using design driven method. Trial and error phases within research itself offer better – real time understanding of complex site conditions and therefore enables constant adaptation of process (design). Borutana creative area prototype was “bottom – up” tactical urbanism project, which used design driven research method to revive degraded suburban situation.

There is no single, accepted formulation of these problems. Also, the answers are often defined in “more-or-less” terms in which planners and managers at best can find reasonable, but shifting balances among competing interests and values. The correct formulation of the problem cannot be known until a solution is accepted. (Roggema, R., 2016).

Design driven research proved to be successful in this socio – spatial prototype. Throughout process of construction, changes and adaptations were introduced daily. Through different communication methods, team was constantly involving local stakeholders into the process in order to influence never-final design. Due to that, several location changes were proposed, and several valuable artefacts saved.

Additional method which was used for deeper understanding what is happening in creative area Borutana were interviews and questionnaires. With the help of collecting statistical data on site, researchers were able to better understand background context and behaviour of users.



**Program
organized by:
cultural society
Priden Možic**

Research

Our preliminary research on the topics of suburbia showed, that 68% of people in Slovenia lives in one family houses, 6% in row houses, 22% in apartment blocks only 4% on a farm. This is a very important indicator of how widespread suburbia in Slovenia is.

Another set of data shows, that only 24% of inhabitants are aware of living in suburbia and 41% says that they live in rural area. Since rural and suburban is very difficult to distinct in a context of Slovenia – many inhabitants in “so-called” rural areas are living a suburban life - we could assume and will later also argue, that suburbia is much more extensively present as it indicates. Therefore, the purpose of this paper will also be to establish brief framework and definition of suburbia in Kamnik and its neighbouring suburban sub centres.

Research also points out, that less than 37% of inhabitants in Kamnik are working close to their home (sistat 2020), which is in Kamnik and on average, they have 1.6 car per household. This gives us an indication, that most of the people drive to their work by car and therefore, we assume that they live typical non-sustainable suburban life. Their way of living is in a sense “peer-to-peer”, which means inhabitants are no longer driven towards one single urban centre, as many local decision makers still believe, but towards many suburban sub centres. According to their current needs and due to widespread affordability of cars.

Comparing all the existing data with analyses from design-based research used in the case Baurtana creative area, will give use insight into the process of creative area behaviour. Paper will furthermore describe possible scenarios or methods, how to continue with redevelopment and reviving of this particular creative area. Especially because we can already see positive trends. 73% of the visitors are locals or from local municipality, which would mean that we have attracted local participants. This information is particularly important for our understanding that suburban renewal through creative areas must and will primarily rely on the local population.

Further research on these topics will include interviews with property owners, NGOs and local businesses in order to better understand microeconomic environment. This data will be later used to design methods for development of those types of creative centres.



**Comics
exhibition by:
Ivan
Mitrevski**

**Entrance
designed by:
Štajn
architects**

implications

As described before, one of the possible measures, how to revive suburbia is through establishing and supporting creative areas, which are small sub-urban areas, with stronger concentration of creative industries and diversification of different private and public programs. Experience in currently ongoing project (Stimulart Kamnik) shows, that especially public sector is very important to start and engage local creative areas in suburban sub-centres such as Kamnik. The aim of this initial phase of research and this presentation is to elaborate possibilities, how to design and support those clusters and why some of them are succeeding, others not.

Discussion will focus on "bottom up" and "top down" strategies in the case of Creative district of Barutana and will compare it with other similar practices. Paper will offer better understanding of where in suburbia creative clusters are appearing and why. Another positive outcome of the research will be the insight, how creative clusters effect on local micro economy, circular economy and sustainable development in general.

In the conclusion, method how to shift from existing models of suburbia in Slovenia into more sustainable one will be described. Model will be based on "practice-based and design driven research", where we can constantly adapt the research and outcome of the process – we create the adapting model. Based on data from suburbia of Kamnik and existing creative areas in suburban sub centres such as Barutana creative neighbourhood presentation will propose guidelines for reviving suburbia through creative areas.

Bibliography

- Filipič, P. (2019), So:MESTJA – je podeželje, zbor študentskih projektov 2018–2019, page. 5. Ljubljana; Faculty of architecture.
- Guilluy, C. (2019). Twilight of the elites, English edition. New haven: Yale University
- Keil, R. (2018). Suburban planet. Cambridge, UK: Polity Press
- Roggema, Rob. 2017. Research by Design: Proposition for a Methodological Approach. Urban Sci. 1, no. 1: 2.
- Tachieva G. (2010). Sprawl Repair Manual 2nd None ed. Edition. Washington D.C.: Island press
- Florida, R. (2012). The Rise of the Creative Class—Revisited. New York: Basic books.

● **Building bought by municipality, after successful prototype project**

● **Art installation by: Nina Koželj**

● **Exposed artefacts by: local visitors**

Ariadne's Thread

A Drawing-Based Methodology for Literature Review

DDR Statement

Design Research being a systematic inquiry which applies the conceptual complexity of design fields towards the acquisition of knowledge, it draws on design's hermeneutic circle through the application of its methods and instruments. Drawing has been traditionally within the experience of generations of architecture, design and fine arts practitioners, and offers its understanding to a first-person experience. The nature of drawing is ambiguous, being one of those things that are easy to identify but very hard to describe. One could say the same about DDR.

Drawing can be the inquisitor, since in design thinking drawing has long been used as a primordial instrument of research, projection of ideas, reflexion and evaluation. In Design Education this serves two purposes: students can reflect on drawing and all its associated means as applied to diverse subject matters and, as they explore drawing's wider scope of possibilities, they can further and complexify their design reflection skills. Thus, the appeal of drawing as a phenomenological approach to investigating and designing can foster an invaluable method of design driven research. Projecting an investigation through drawing can radically streamline the meanings, which not only affect the student, but also the results obtained. The inquisitive nature of drawing when applied to research opens the opportunity to expose the singular discourse and make it collective, as is characteristic of a project. Like in the tale of Apelles and Protogenes, such drawing implicates language in its process and involves collaboration to fulfil its ultimate interpretation.

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Paper

Keywords: learner generated drawing, self-reflective research, visual storytelling

Abstract

This paper looks into a self-reflexive study on drawing as an interface for documenting knowledge in research. Drawing is known to potentiate memory recollection and to further ideas through suggestion. However, its role in translating information while reviewing literature has not been addressed. The study focuses on such a gap, through a methodology which translates contents into drawings without loss of rigour, maintaining the standard critical and constructive approaches. The generated images are enacted by the practice of drawing, which shapes the investigation. Incorporating the main criteria for practice-based visual research, it also draws on methods such as "Graffiti Walls", which have shown that involving third parties in a creative activity to communicate contents favours complex suggestions and depth, while it generates new knowledge. The paper explores both the value of drawing as a one-way tool to register information in research and the interactive extension its appeal encompasses.

Introduction

Drawing has a wide scope of applications in Design, an activity where it displays versatility in use and appeal. In this paper we address a self-study by a PhD student in Design Education (Rui Barreira), where drawings replace the standard summaries and paraphrases in literature review. Viewing drawing as an interface between him and his peers, he resorts to the appeal and communicability of images to stimulate interaction that furthers meanings and introduces suggestion of new paths of inquiry.

The use of the sketchbook was methodologically adopted in this study. A lot of the information contained in a sketchbook holds inter-relationships towards goals [1], which garner intuitive knowledge, go beyond appeal and feed motivation.

Literature review is usually divided into four phases: data collection, selection of information, analysis, and critical synthesis [1]. At the beginning of Rui's research process, sheets filled with ideas accumulated, and he felt overwhelmed and lacking direction. "The need of a strategy which allowed me to *see* the dialogue between my ideas and my readings felt vital. I needed a method to organise those ideas before me, permitting me to visit them at ease, to add reflections and to transform them" (reflexive log).

The sheets of paper spoke to him, but he had to visualise 'who said what', and 'who spoke about whom', so he started drawing. If he was reading Elliot Eisner and found a connection to another author, he needed to give a face to these voices. He began by drawing the authors. Looking at them on his office wall, he saw an inhabited library of ideas. All were having a conversation, everything was poetically alive.



Figure 1: Elliot Eisner at the centre and the found connection, John Dewey, bottom left

When colleagues entered the room, they always had something to say about the authors, which lead Rui to realise that his methodology had sparked an interest. "My drawings felt the same: as soon as the door closed behind my colleagues, I could see them smiling. They were communicating!" (reflexive log). By suggesting further readings, Rui's colleagues widened his research. Therefore, he began drawing more portraits, each signifying a new strand of research, all caught up in conversations.

With the intent of probing what these conversations were about, he illustrated the most significant passages, enabling a straightforward consultation and a consequent backtracking. Working with graphic narratives, he connected Dewey to Eisner, Dewey to Gadamer, and so

forth. It was remarkable that he needed to resort to visual cues to establish dialogues, to engage in reflexive thinking, and to communicate; this was his language. Furthermore, his involuntary exhibition had brought him precious inputs and suggested that the exploration of interactive drawings could guide and enrich his research.

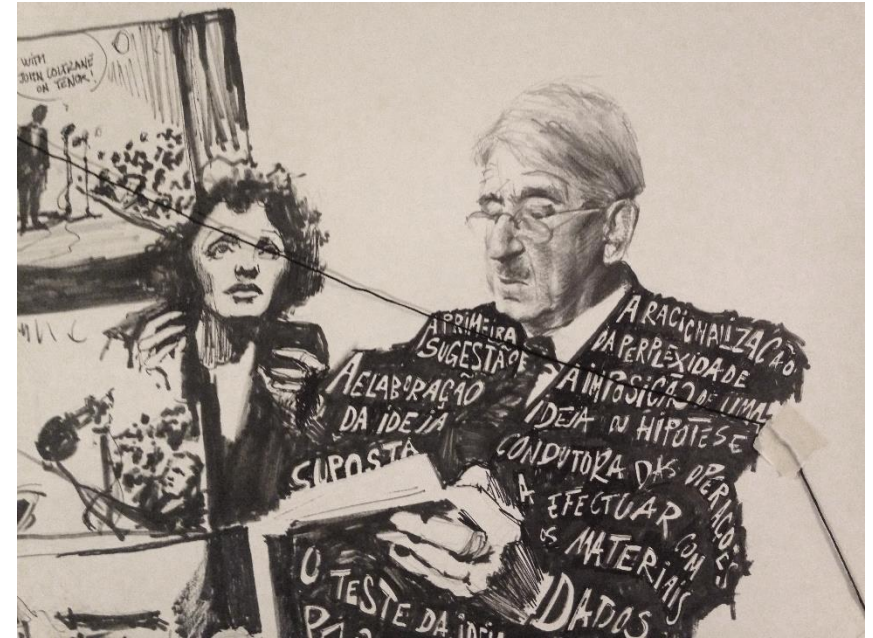


Figure 2: According to Dewey, the five phases of reflective thinking.



Figure 3: From left to right: Dewey, Eisner, Gadamer

Drawing as a learning strategy

A philosophy of drawing as a theoretical ground or as a foundation in teaching practices, from medical studies to design, has been considered by numerous authors. A multidisciplinary cohort of researchers, ranging from cognitive psychology to the philosophical study of drawing, found that its practice enhances performance across all activities [2]. As a learning-by-doing interactive methodology, sketching was helpful in effective learning of anatomy and students who had learned to draw tended to apply it as an active learning method in the following academic years [3]. Drawing can promote a constructive perception to overcome fixation effect among designers and problem solvers [4], and it proved to enable students to memorise science text [5]. In domains of engineering and marketing with participants from a variety of backgrounds, drawing showed to be an accessible subject to laypersons [6].

Kolko's view (2020) is that drawing can be helpful in managing the complexity of relationships between pieces of research data [7]. Leavy (2013) explored the value of the visual arts from the human relations perspective, finding that it facilitates interaction and connects disparate disciplines [8]. In social studies, science and language arts, the use of drawing is recommended to direct the attention of students towards illustrations, to stimulate the use of images and of visualisation, and to increment knowledge within content areas [9, 10].

What if one cannot draw? Studies on drawing show that practice can be an ally for improvement [11]. The possibility that drawing generates an improvement in the plasticity of intermodal memory in the human brain has also been pointed out by Likova (2012) [12]. If drawing is explored as an everyday means to communicate, it can be learned.

A significative association can be found between the potential of drawing and the need to investigate improvements in its processes while a means to attain particular goals. Van Meter and Garner's meta-study on learner-generated drawing (2005), encountered multiple discrepancies between the applied literature and the empirical one. However, they also noted that in early stages of education¹ this practice proved to be a useful tool, namely in text comprehension, showing greater utility when dealing with higher-level assignments, and greater accuracy when including participatory work. They propose a theoretical framework where present discrepancies and inconsistencies in the involved research can be accounted for and suggest that strategic learner-generated drawings require very clear limits of application. They also found that most programs being reviewed did not address teachable strategies for learner-generated drawings, highlighting that "drawing has typically been treated like an adjunct aid" (p. 320) [9].

For Julia Midgley (2013), an archive in drawings can be a visual time capsule and a source of knowledge. Arguing that documenting through drawings can be a relevant complement of academic research, she claims that such practices increase comprehension of social and scientific matters, while they employ a universal visual and graphic language [13]. These concepts are useful tools for us: the project has the PhD researcher document literature review through learner-generated drawings, sharing these drawings with peers, and subsequently with students, inviting onlookers to give him feedback through active participation. Expecting to encounter further paths of research, he also exercises his ethical duty of sharing his knowledge, while opening his body of research to collective interpretation.

Weaving Ariadne's Thread: methodological approach

The mental labyrinth arising from an investigation requires constant notation, reshaping and revisitation, refining its initial perception and development from a temporal distance [1]. This very disciplined strategy can be put into place through drawing, allowing for a particular orientation and for recurrences. With the availability of a visual narrative documenting selected passages from reviewed literature in the form of illustrations, these can be reorganised by linking

the sheets of paper with a drawing line, which we will call our 'Ariadne's thread', a term borrowed from a method of problem solving which applies to real mazes, as it traces available paths of inquiry and evaluation.

Rui Barreira's personal approach to literature reviewing is conceptualised as a generative process towards acknowledgement. When he draws an author, he establishes a relationship that provides the ground for the subsequent events of discovery and reflection, akin to Schön's "conversation with the situation" in a "good process of design" [19, p.79].



Figure 4: Top left Donald Schön, bottom left Bryan Lawson

The build-up of narratives we create when interacting with objects, people and events is regarded in neuroscience as the basis for what constitutes conscience [15]. The brain engenders different layers of consciousness in the form of non-verbal narratives, from the simple stories guiding our interactions with everyday objects and events, to complex representations. Structured in a conventional way, these narratives presuppose the self as main character and a reliable sequence of events, from beginning to end. We draw on this storytelling non-verbal mechanism to frame drawing as an ideal translational tool for what constitutes an acknowledgement or a personal shaping of consciousness [16].

In our approach to literature review, visual narrative binds together the self (researcher), the subject (author) and the object under observation (reading comprehension), encompassing a sequence of events. A drawing, as it represents something, is the representation of this object and also the representation of thought as applied to the object. It derives meaning and interpretation from the process, which is reflected in itself. We argue that in design thinking drawing takes the stand of abductive logic, summarising the process of the designer's meaning creation as a phenomenological approach [17]. Moreover, drawing, due to the cycle of iteration and revisitation, seems to amplify perception and to increment the construction of knowledge [7, 18], working as a hermeneutical circle, as is peculiar to design. As with writing, sketching provides liberation of memory space [19], with the enhanced benefits of constituting a robust and reliable memory prop [20].

Viewing research as a labyrinth whose philosophical debates can be traced and shaped visually, Rui's method draws passages with an actual marker (or 'thread'), tracing all paths and iterations. Whether the maze is on paper or in his mind, the thread shapes the visual layout of the reviewed literature, exteriorising his thoughts while liberating memory space.

¹ Studies in higher education they considered in their analysis were rated insufficient, mainly due to erroneous conceptualisation, although the hypothesis of effectiveness at this level of teaching and learning was not dismissed.



Figure 5: from left to right, Schön, Dewey Eisner, Gadamer.

If these walls could talk: the project's design

Although the goal in appreciation is concerned with the documentation and communication through drawings, we are not concerned with virtuosity, merely the capacity to document. "The drawn line, our simple accessible window to history - is the artist's strength, voice and communicator. The work of a documentary artist or graphic journalist travels freely across language barriers." [17, p.175]. Despite their potential for insight there is also an associated risk, since alternative forms of data representation carry ambiguity [30].

The term 'drawing', as applied in this self-study, deserves clarification: what are these pictorial representations aiming a learning outcome when documenting the literature review? The literature is, as usual, all that is pertinent to the themes, scope, and perspectives of the investigation (in this case, literature relevant to drawing as an interface for research). To determine the subjects of drawings within the literature, a personal choice of relevant passages is rendered in illustrations, ranging from figurative drawings or storyboards to non-figurative schemas, diagrams, and mappings. As any specific form of representation will affect what we see, this choice is balanced by the notion that perception is selective and that the motives for selection are influenced by the tools one is skilled in using: "We tend to seek what we know how to find" [21]. The narrative that came out of the sketchbook onto the office walls is intended to move further, to faculty walls where crowds pass or gather, as Rui hypothesised there may be other researchers and students for whom his methodology could prove efficient and that we might encounter intersecting threads from distinct areas of knowledge. Due to the pandemic, he has not yet been able to verify whether opening his drawings to intervention by peers (other lecturers) and students will be as profitable in input and suggestion as he expects. When the faculty reopens, he will mount on the corridors' walls large format drawings, replicating the method 'Graffiti Walls' [1] by having available markers that passers-by can use to comment in writing or drawing. After the results of this experiment have been analysed, it will be replicated at other institutions for higher education. This will expectedly bring the possibility to observe any significant social questions concerning qualitative differences between sharers of the experience.

Conclusion

This self-study allowed us to contend that drawing can function as an interface to involve a community in a research project, by enacting a process of creative communication. Although the empirical work has thus far been restricted to an office and a few peers, up to this point the experiment has proved to be appealing to others, to generate curiosity and to encounter receptivity to interact.

The collection of future input and the exploration of new external connections might generate reflection by activating the hermeneutical circuit and revisitation, plasticising the phenomenological temporal conscience that guides an investigation.

The exploration of possible public intervention by people who 'cannot draw' may also provide material for one of the most problematic issues in the PhD project of which this paper is only a part of. The latter concerns the transmissibility of this methodology as a strategy to collect data and to transfer knowledge in a teaching and learning environment.

References

1. Martin B, Hanington B (2012) *Universal Methods of Design. 100 Ways to Research Complex Problems, Develop Innovative Ideas, and Design Effective Solutions*. Rockport Publishers
2. Kantrowitz A, Fava M, Brew A (2017) Drawing Together Research and Pedagogy. *Art Educ* 70:50–60
3. Noorafshan A, Hoseini L, Amini M, et al (2014) Simultaneous anatomical sketching as learning by doing method of teaching human anatomy. *J Educ Heal Promot* 3:50
4. Suwa M, Tversky B (2016) *Constructive Perception: A metacognitive skill for coordinating perception and conception constructive perception*. Stanford University
5. Van Meter P (2001) Drawing construction as a strategy for learning from text. *J Educ Psychol* 93:129–140
6. Van der Lugt R (2002) Brainsketching and how it differs from brainstorming. *Creat Innov Manag* 11:43–54
7. Kolko J (2020) Modernist Studio. In: Draw. doesn't Present knowledge. It Creat. it. <https://moderniststudio.com/2020/02/18/drawing-doesnt-present-knowledge-it-creates-it/>. Accessed 6 Aug 2020
8. Leavy P (2013) *Method meets art: Arts-based research practice*, 3rd Edition. The Guilford Press
9. Van Meter P, Garner J (2005) The Promise and Practice of Learner-Generated Drawing: Literature Review and Synthesis. *Educ Psychol Rev* 17:285–325. <https://doi.org/10.1007/s10648-005-8136-3>
10. Didi-Huberman G (2017) *Critical Image/Imaging Critique*. Oxford Arte J 40.2:248–261
11. Chamberlain R, Mcmanus IC, Brunswick N, Rankin Q (2015) Scratching the surface: Practice, personality, approaches to learning and the acquisition of high level representational drawing ability. *Psychol Aesthetics, Great Arts May*: <https://doi.org/DOI: 10.1037/aca0000011>
12. Likova LT (2012) Drawing enhances cross-modal memory plasticity in the human brain: a case study in a totally blind adult. *Front Hum Neurosci* 6:01–15. <https://doi.org/10.3389/fnhum.2012.00044>
13. Midgley J (2013) Drawing Conclusions on Location. In: Almeida PL, Duarte MB, Barbosa JT (eds) *Drawing in the University Today. Research Institute in Art, Design and Society (I2ADS)*, Porto, pp 175–182
14. Schön DA (1983) *The Reflective Practitioner*. Basic Books
15. Ramachandran VS (2011) *The Tell-tale Brain. Unlocking the mystery of human nature*. London
16. Campos S (2012) *Operações no Silêncio: Intuição e Desenho - Processos Gráficos Intuitivos para a Ideação em Arquitectura*
17. Kantrowitz A, Tversky B (2017) What artists do when they draw. In: J. Zacks & H. A. Taylor (ed) *Representations in Mind and World*. Routledge, p 228
18. Gagnier KM, Atit K, Ormand CJ, Shipley TF (2017) Comprehending 3D Diagrams: Sketching to Support Spatial Reasoning. *Top Cogn Sci* 9:883–901
19. Fish J, Scrivener S (2018) *Amplifying the Mind 's Eye: Sketching and Visual Cognition*. MIT Press 23:117–126
20. Wammes JD, Meade ME, Fernandes MA (2016) The drawing effect: Evidence for reliable and robust memory benefits in free recall. *Q J Exp Psychol* 69:1752–1776
21. Eisner EW (1997) The Promise and Perils of Alternative Forms of Data Representation. *Educ Res* 26:04–10

Multi-Storey Housing as a Place of Work

DDR Statement

Design driven research is research that combines theoretical and interdisciplinary methodology with design reflection and personal experience. In this research the phenomenon of working from home has been observed from three perspectives: social, architectural and economical. The first part of research analyzes the context in which work from home occurs, statistical indicators, user groups and the needs and problems identified so far. The second part analyzes the spatial aspects of working from home, through a theoretical framework and a comparison of case-study examples. The scenario verification method was used to consider the level of adaptability of the space to achieve the dual function of housing and work. Three basic models are established and graphically described with space-function disposition model. In further research those models will be tested and reflected on through design proposals.

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Paper

Keywords: work from home, live/work, hybrid, dual-use

Abstract

The topic of the proposed research is the impact of digital technologies and new forms of work on spatial and functional organization of housing. We create new patterns of living by overlapping family life, work and leisure. These changes have encouraged more people to work from home with an emphasis on flexibility and work mobility as the most desirable characteristics. The purpose of this research is to observe the relationship of functionality, spatial strategies and possibilities of use with particular reference to multi-storey housing. Although each space can be used in several ways, e.g., a bedroom can be used as a study room, this paper will focus on examples purpose-built for both living and working. Six case-study examples are analyzed and compared to determine basic principles of integration of home-based workspace in multi-storey buildings. The challenge is to create a proactive community in the immediate vicinity, encourage small business and create alternatives that include collaboration and multiple use of space.

MULTI-STOREY HOUSING AS A PLACE OF WORK

The dwelling is a mirror of the lifestyle of its users. Every progress brings new patterns of life that affect changes in the programming and design of living space. The digital revolution has changed the way we communicate, work and live. With the development of the Internet and smartphones, physical distance has been replaced by virtual networking. We create new patterns of living by overlapping family life, work and leisure. (1) These changes have encouraged more people to work from home with an emphasis on flexibility and work mobility as the most desirable characteristics.

So far, both the advantages and disadvantages of working from home in the existing spatial environment have been recognized, but no complete solution and characteristics of a space that would be suitable for working from home to meet all the needs and spatial criteria of a normal workplace have been offered. The purpose of this research is to observe the relationship of functionality, spatial strategies and possibilities of use with the aim to form architectural criteria that would meet the multiple needs of users.

Work from home is divided into three categories: home-based business, teleworking and occasional teleworking. The first refers to business entities that are registered or performed at the owner's residential address and make 6% of adult employees in Croatia, and average of 15% in EU (2) Teleworking refers to work for an employer permanently or occasionally away from a traditional workplace, and there is a total of 20% of such employees according to 2015 statistics (fig.02). Out of these, approximately 9% of employees work permanently or very often from home, while 11% of them work from home more than once a week. (3) The most represented sectors are knowledge-based: information and communication sector, buildings, business services and creative industries, and young people age 19-21 make 21%. (2) These are also sectors that show a tendency to increase the number of employees in the overall population. The proposed research will be based on work from home of the listed sectors. Such forms of work are associated with mobility, unbureaucratic jobs and temporary employment. (4) Although productivity at home has proven to be higher and overall worker satisfaction is high, (5) some of the frequently highlighted problems are social isolation and lack of space for formal and informal meetings and a generally weak social and business network. (6) Some of the most frequently mentioned benefits are lower labor costs, better scheduling of business and private responsibilities, flexibility in working hours and flexibility in childcare as well as savings time to go to work. (7)

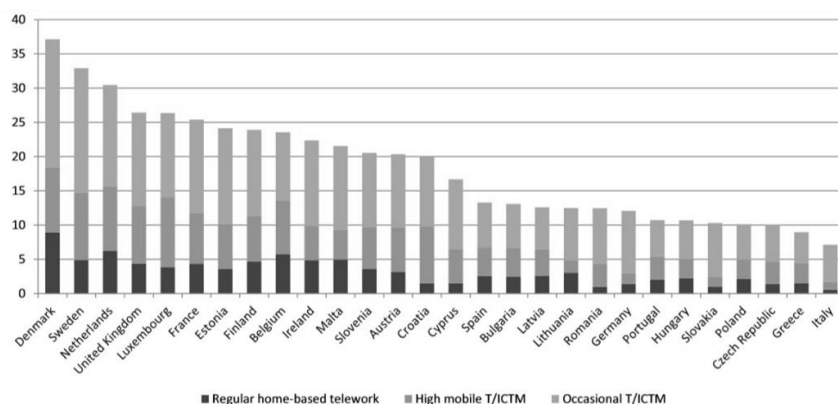


fig.01 Percentage of employees doing T/ICM in the EU28, by category and country (source: EWCS 2015.)

In 2017, European 14 offers "Productive city" as the theme of the competition, with the thesis that by accessing an apartment building as a place of active heterogeneous community, we can create a basis for better networking of the local and global economy. By mixing housing and work, we return production (in terms of creative industries and knowledge production) to the heart of the city and create new opportunities for social interaction, urbanity and sustainable use of space. (8) In 2019, the company JPG presented the architectural and design competition "Workspaces for tomorrow" with the aim of thinking about the future of the workspace in the age of digital technologies. (9) The given examples are indicators of the aspiration for positive integration of workspace at home. The challenge is to create a proactive community in the immediate vicinity, encourage small business and create alternatives that include collaboration and multiple use of space.

The dual function of the living space in which work from home takes place can be determinate or indeterminate. (10) Although each space can be used in a number of ways, e.g., a bedroom can be used as a study room, this paper will focus on examples purpose-built for both living and working. The relationship between function and use, and spatial strategies, was first observed through theories dealing with changeability within a living space, and then through projected examples.

„As explained in Frame and Generic Space (Leupen, 2006, p. 18), we are faced with a contradiction in terms: the more precisely we are able to decide what requirements a dwelling should meet at the start of its life, the greater the likelihood of a discrepancy arising between the dwelling and its future use. The more precisely architects were able to define the measurable aspects of living and convert them into a design, the more the design neglected the unquantifiable and non-measurable aspects and the less able it was to provide an answer to unpredictable changes in use.“ (11)

N. John Habraken presents in his book 'Supports: an Alternative to Mass Housing' (1972) the theory of *Support and Infill*. He argues that the architect should offer a permanent spatial framework in terms of the structure of the building, and in collaboration with the user, work on a spatial disposition that is changeable. (12) He is the originator of a design model that accepts the changeability of user's needs. A similar approach is taken by Stuart Brand, who describes 6 layers of a building and the associated durability in his book *How building learn*. Brand also emphasizes the need for the architect to anticipate future use. (13) Steane and Steemers (2013) describe such a design method as Scenario-Buffered Design. When designing, the architect reviews several different possible future scenarios that can be realized when using the space. (14) The importance of these theories lies in the role of an active participant of the user versus traditional design models that treat living space monofunctionally.

During the research of work from home F. Holliss establishes the relationship between dominant function, spatial project strategies and ways of use. Continuing the work of Dolen T. who establishes three types of housing and work units based on numerous examples from practice: the type dominated by home, the type of equal status and the type dominated by work. The research was performed in 86 houses where it has been lived and worked. Topics good to consider when designing a residential space with a dual function have been identified: 1. flexibility, 2. determinacy, 3. public / private 4. visibility 5. noise pollution, 6. clean / dirty, 7. warm / cold, 8. inside / outside, 9. storage. (10) Since the research is about individual housing, these topics are part of the design process between the architect and the investor / user and does not affect the determination of the type.

Methodology

The focus of this research is placed on apartment buildings that are more complex systems, with multiple types of users, where the investor and the user are not the same person. When we add the dual function of space to this, we come to more groups of users who have different spatial needs. Examples in which the intention of the double (or multiple) role of space is emphasized and the dominant function is residential are analyzed. A review of examples involving workspace identified three types of integration of workspace at home in an apartment building - integration of work at the apartment level, integration of work at the building level and integration of work at the immediate neighborhood level. In some examples, the integration of workspace on several levels is visible, e.g. in both the apartment and the building. Selected case-study examples represent each one form of integration of workspace into an apartment building. During the analysis of the example (fig.02), the analyzed space for work and its characteristics were singled out, and then the apartment and the building with an emphasis on spatial-functional relations. The scenario verification method was used to consider the level of adaptability of the space to achieve the dual function of housing and work.

Case-study examples

The *110 Rooms* building (2016) of the Barcelona MAIO office is an example of integration of workspace at home on the unit level. The seemingly ordinary building is designed through a series of equal rooms, interconnected in many ways, which can adapt to any use, including work from home. Like most other examples with workspace at home integrated into the space of the apartment unit, the building does not have any additional common facilities to support working from home. In this way, a scenario is enabled in which the user performs permanent or occasional telework, or home-based business that does not involve face to face contact with clients or associates.

The example of the *Baugruppe LiSA* (2015) by the architectural office Wimmer und partner was built as part of the Aspern Seestadt urban development project near Vienna. In accordance with the *Open-building values*, the project is based on a clearly defined structure with indicated privacy zones and free filling of space according to user's needs. The project is defined by an extended external gallery, half of which is provided for communication and the other half for free interpretations by users. Each apartment can be entered along the entire length of the gallery, which allows additional flexibility in use. The positioning of the workspace is planned in the more exposed area of the apartment with a direct entrance from the gallery. The workspace can be connected to the space of the apartment or completely separated. The movement of external users through the galleries would to some extent endanger the privacy of other tenants, so it can be concluded that the marginal units are more suitable for dual-use due to the proximity of common, public communication. According to the position of the workspace, it can be considered integrated into the building, as well as into the housing unit.

Another example in Vienna, *Kallco Wienerberg City Lofts*, by Delugan Meissl AA office in 2004 is a typical example of the integration of workspace at the building level. The architect uses the north side of the access gallery to accommodate additional rooms for flexible use. This way, the workspace is located in the immediate vicinity of the living space, but allows the necessary privacy. The separated space has more options of use, and external users do not disturb the tenants by coming to the building. The size of the space allows more than just the owner to work there.

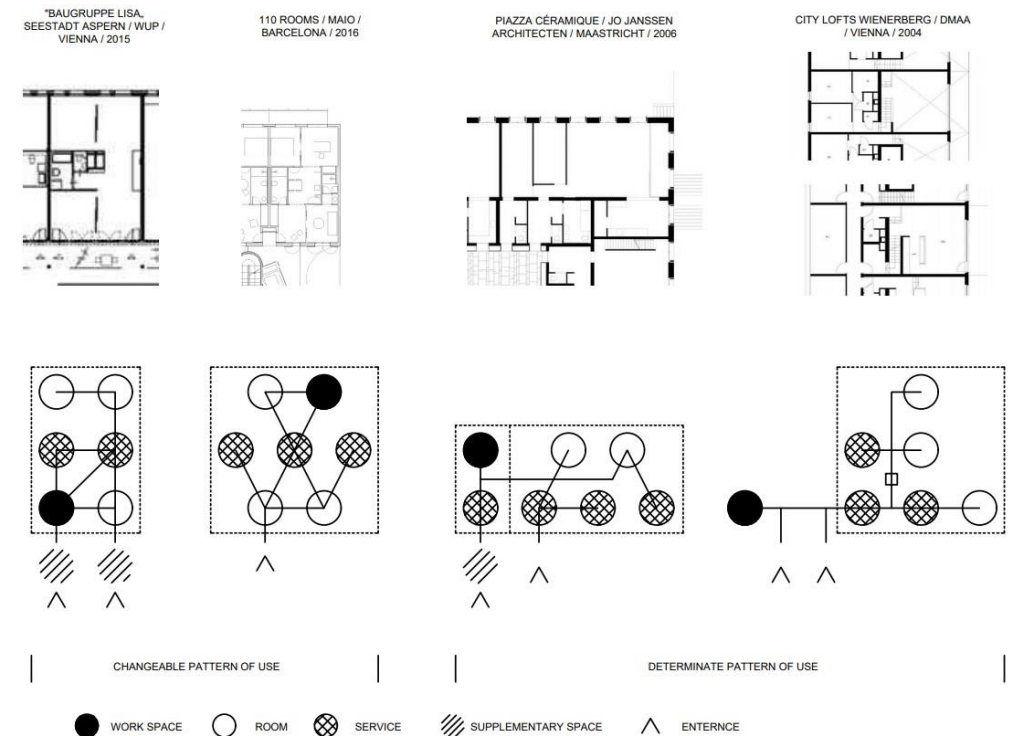


fig.02 Patterns of use analyzed in case-study examples

The integration of workspace at home on the building level and the immediate neighborhood was achieved in the project *Piazza Céramique* (2008) by Jo Janssen architects. The complex of three buildings forms a square that continues into the central atrium, which by its appearance belongs more to business than residential architecture. On the ground floor there are two-storey apartments, each with two entrances, one of which leads to the work area (room and associated toilet and wardrobe), and the other to the living space. Residential and commercial space are interconnected by internal communication, so the user can determine the boundary between private and workspace. The entrance atrium provides space for formal or informal meetings and stimulates a sense of belonging and community.

The example of *Veld van klanken* (2010) in Rotterdam, by architects Maartje Lammers and Boris Zeisser have a strong relationship with the environment in which it is created. The whole is formed of four groups of row-houses that surround a common workspace - music studios. The spatial layout of the complex, and the common positioning of the workspace have created the preconditions for the development of a networked community that is a quality example of the integration of workspace at home in the immediate neighborhood.

And the last analyzed example is the *Residential Revamp in Kleiburg* (2016), NL Architects and XVW architectuur with two-storey apartments on the ground floor. The apartments have direct access from the outside public space and have all the features of a traditional shophouse - they are easily visible to external users. The entrance to the private space of the apartment is through the workspace and it is possible to provide conditions for all types of work from home. They are a typical example of the simultaneous integration of workspace at home into the immediate neighborhood and housing unit.

Conclusion

It is possible to integrate a working space at home into each apartment, whether such a space is purpose-built or not. But the housing unit cannot be viewed isolated from the building in which it is located. The phenomenon of working from home in previous research has been observed at the level of the housing unit (mostly individual housing), which is not enough for integrating the space for working from home into an apartment building. By comparing the above examples, we can conclude that an apartment building with spaces with a dual function is a complex system in which the needs of several different groups of users are confronted. From the six examples given, three different basic principles stand out. (fig.03) The first model is the most common, workspace from home is integrated into the space of the apartment without recognizing the importance of the common space of the building. Workspace can be realized in any apartment, but uninterrupted use for external users is not provided. The second model is the building integration model, where a more complex relationship of multiple user categories is recognized. Examples from this group most often offer two entrances to a residential unit, one to a private part of an apartment, one to a workspace, and extended shared communication of a building. The third group of examples is the model of integrating workspace from home in the immediate neighborhood. The most common type are buildings with monofunctional housing units on higher floors and ground floor housing units that combine live and work and are easily accessible and visible in the neighborhood.

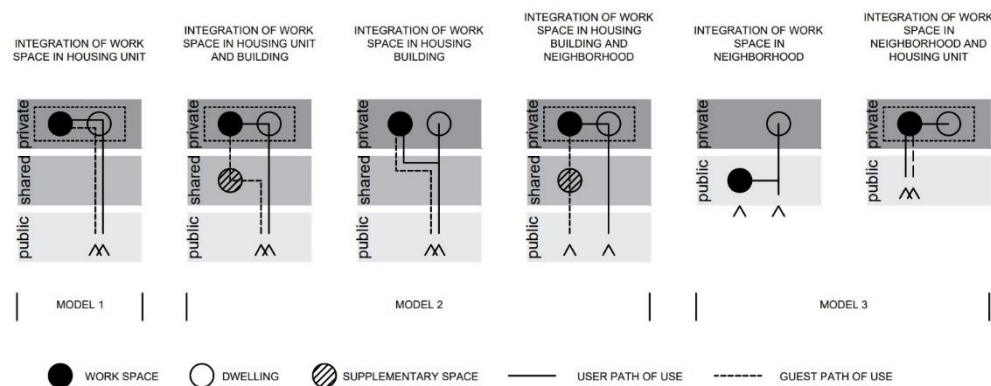


fig.03 Basic principles of integration analyzed in case-study examples

By recognizing the three basic principles of integration of workspace from home, the preconditions were created for further research of architectural criteria that affect the dual use of space. Exploring more examples involving working from home will provide a better understanding of the phenomenon of working from home and dual use of space, and creating new models of integrating work space that do not necessarily rely on solving the need of working from home in each housing unit. The integration of workspace from home into an apartment building needs to be fully considered so as to create a stable business, spatial and social network that spatially and functionally complements the living space without interfering with the primary function of housing.

- (1) Junestrand S., Tollmar K. (1998): "The Dwelling as a Place for work" in: Cooperative Buildings: Integrating Information, Organization, and Architecture [ur: Streit N. A., Konomi S., Burkhardt H.-J.] 1370: 230-247. Springer, Heidelberg
- (2) Reuschke, D., Domecka M. (2018): *Policy Brief on Home-Based Businesses*, OECD SME and Entrepreneurship Papers, no. 11, OECD Publishing, Paris
- (3) Eurofound and the International Labour Office (2017): *Working anytime, anywhere: The effects on the world of work*, Publications Office of the European Union, Luxembourg, and the International Labour Office, Geneva
- (4) Relja R., Šuljug Z. (2010): "Novi oblici rada u umreženom društvu" in *Informatologia*, 43(2): 143-149, Zagreb
- (5) Blooma, N., Liangb, J., Robertsc, J., Yingd, Z., J. (2015): "Does working from home work? Evidence from a Chinese experiment" in: *The Quarterly Journal of Economics*, 130/1: 165-218 <https://doi.org/10.1093/qje/qju032>
- (6) Holliss, F. (2012): "Space, Buildings and the Life Worlds of Home-Based Workers: Towards Better Design" in *Sociological Research Online*, 17 (2): 24, <http://www.socresonline.org.uk/17/2/24.html>
- (7) Holliss, F. (2007): *The workhome... a new building type?*, (doc.dis.) London Metropolitan University, London
- (8) <https://www.european.hr/sessions/european-14/#> [25.01.2020.]
- (9) <https://www.archdaily.com/930037/workspaces-for-tomorrow> [25.01.2020.]
- (10) Hollis, F. (2015): *Beyond live/work: The architecture of home-based work*, New York, Routledge
- (11) Leupen, B. (2006): "Polyvalence, a concept for sustainable dwelling", in *Nordic Journal of Architectural Research*, V19, No 3, pp. 23-31
- (12) Habraken, N.J. (1972): *Supports: an Alternative to Mass Housing*, Urban International Press, UK, Edited by Jonathan Teicher
- (13) Brand, S. (1995): *How buildings learn: what happens after they're built*, Viking Press
- (14) Moshaver, S., Altan, H. (2016): "A knowledge model to implement home working in multi-tenant housing" at 15th International Union of Architects (UIA) World Congress, Durban, South Africa, Abstracts Proceedings, pp. 63

Territorial Machines and Integrated Circuits

DDR Statement

The transdisciplinary research employs sound and signal processing in spatial design and site-specific installation. On the one hand this helps us to understand architectural space in terms of intensive properties or vibrational energy, and on the other hand this allows for a multidirectional mode of abstraction (or diagramatisation) and composing spatio-temporal manifestations in a dynamic, instant, and real-but-abstract way. The current theoretical explorations to a large extent derive from my own practice and my research will include the design and realisation of new projects. Practice-driven theory and theory-driven practice are understood as intertwined modes of architectural production. Theory is not instrumentalised to justify practice, but rather the production of concepts (that is, theory) and the production of spatio-temporal configurations, designs, and compositions (in other words, practice) run in parallel, or more precisely, are entangled. The projects are both cartographic and projective in that they record an existing situation – through field recording or real-time processing of sounds from a given environment or its physical networks, structures, and infrastructure – and at the same time actively process, transform, and spatially redistribute these input signals. In doing so, the projects modify the given sites sonically or produce entirely new sounds or spatio-temporal relations. Furthermore, some of them allow for improvisation involving the listeners or participants in producing the sonic environment and provide information about their experiences. In some cases, site-specificity has led to situated knowledges and findings in connection with broader socio-spatial problematics.

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Paper

Keywords: reterritorialisation, sonic space, signal processing, machinic subservience

Abstract

This research seeks to explicate the transformative power of signal processing in the production of space-time through a transdisciplinary approach across architecture, sound studies, and sonic practice. It combines theory and practice and consists of two parts, respectively. Part one comprises a transversal genealogy of signal processing, questioning how associated technologies are appropriated and employed by various social, cultural, and artistic movements in the production of subjectivity and provides a conceptual framework for the design-driven part. Part two focuses on design and composition in reciprocal connection with theory. Through a series of projects it aims to develop a deterritorialised architectural machine, an operational diagram, which is meant to enable processes of reterritorialisation by modifying existing sites sonically. This paper highlights two conceptual components of this machine and discusses the theoretical framework and previous projects from which they derive.

The use of electric currents and electromagnetic waves as carriers of information has brought about a shifting sense of space-time and mode of operation. Signal processing and transmission with the speed of light has modified proximities and spatio-temporalities, allowing for seemingly unconfined communication, navigation, and localisation, which in turn change habits and perception but simultaneously enable deterritorialised and ubiquitous forms of automated control. This research seeks to explicate the transformative power of signal processing in the production of space-time through a transdisciplinary approach across architecture, sound studies, and sonic practice.

In this research, and my work at large, sound is the vehicle to approach the irreducible spectral and vibrational complexity outside the field of vision. The relationship between sound and signal – between acoustic (or mechanic) and electromagnetic energy – provides an opening into the machinic dimensions of the production of subjectivity. This sound-signal relation has been explored in sound art and electronic music for as long as these fields exist, but become vital, we may argue, particularly in connection with the machinic subservience in our contemporary culture. On the one hand it helps us to understand architectural space in terms of intensive properties or vibrational energy, and on the other hand it allows for a multidirectional mode of abstraction (or diagramatisation) and composing spatio-temporal manifestations in a dynamic, instant, and real-but-abstract way.

The research consists of two parts, or components. Part one comprises a theoretical study in the form of a transversal genealogy of signal processing. First, it outlines how signal processing, from modulation to algorithm, brought about a shifting sense of space-time and the division between signal and sign, or energy (carrier) and information (message), which radically changes the modes of operation and governance, and has implications for critical thinking and socio-spatial relations. Second, it moves from time-continuous oscillations to discrete functions and from atmospheric noise to random numbers, among others, and explores the vibrational in conjunction with the algorithmic. Rather than putting the analogue and digital in opposition, they are approached as intertwined modes of technological mediation and ways of thinking, aiming to remain critical while being sensitive to the shifting operating modes. Third, it draws transversal connections between the sonic, machinic, and architectural production of subjectivity, questioning how signal processing technologies are appropriated, employed, and produced by various social, cultural and artistic movements in respective processes of subjectivation. It discusses specific works at the intersections of sound art, electronic music, and architecture.

In part two of the research the focus lies on design and composition in reciprocal connection with theory. Practice-driven theory and theory-driven practice are understood as intertwined modes of architectural production. It may be important to note that theory is not instrumentalised to justify practice. Rather, the production of concepts (that is, theory) and the production of spatio-temporal configurations, designs, and compositions (in other words, practice) run in parallel, or more precisely, are entangled. This research component derives from my own practice and entails the design and realisation of new projects: a series of sound installations, compositions, and spatial designs. As paradoxical as it may sound, this part aims to develop a deterritorialised architectural machine – an operational diagram. This abstract machine, however, is meant to enable reterritorialisation by modifying existing sites sonically. Each project modifies a sonic space, exploring other forms for or latent potentials of that given space by rerouting its circuits and producing new material configurations and spatial articulations of sound. This process involves real-time signal processing and field

recording, among others. The architectural machine is itself composed of multiple machines and learns to adopt and intervene in different environments. Through an iterative process of deterritorialisation and reterritorialisation, which involves various sites, it is conceived, constructed and effectuated. This paper highlights two conceptual components of this machine – territorial machines and integrated circuits of (dis)information – and discusses the conceptual framework and previous projects from which they derive.

Territorial machines are site-specific sound installations that seek to develop and articulate creative processes of reterritorialisation. They are particularly installed in public or vacant spaces and are plugged into the existing physical networks, structures and infrastructure on site, such as shafts and tubes, to enable processes of sound extraction, transduction, transmission, and propagation. An object or structure can become, for instance, a vibrating surface, resonator, or medium. The space's acoustic properties are integrated in and modified by the machines. By actively engaging with the machines, the listeners obtain a degree of control over modifying the sonic environment and its spatio-temporal relations. Working in public space allows for interacting with a broader audience, including accidental passers-by. This enables a degree of unpredictability or indeterminacy and allows engagement in public life rather than isolation from it. Vacant spaces (often residues of industrial capitalism, profit-driven urban governance, or speculation) harbour the potential for radically different forms of occupation and the reuse of circuits and infrastructure.

Integrated circuits of (dis)information are sonic and spatial compositions aiming to explore the distribution of information and disinformation through automata and probability densities modulated by movements, actions, or other input. They seek to explore and expose various instances and dimensions of the politics of amplification, algorithmic governance, and information distribution.

SIGNAL PROCESSING

The emphasis of my research lies on signal processing rather than specifically on computation or digital culture – on *signal* rather than interface or strictly code, and *process* (or structuring process) rather than pre-established structure. Rather than utilising this scientific concept or field and transposing it to the domain of architecture, art, and aesthetics, or employing it solely as a practical tool, it is understood in terms of technics or technicity in order to draw transversal connections between various fields and problems. Moreover, by taking the signal as a starting point, the research is a modest attempt to move across time-discrete functions and time-continuous waves and movements – across digital and analogue thinking.

A signal is the physical carrier of information transmitted through a medium. Modulation impresses the information into the signal by varying the properties (amplitude, frequency, phase, pulse width, or pulse sequence, i.e.) of a carrier wave that transmits the information. Demodulation (or decoding in digital terms) and transduction are needed to make the signal become actualised and heard. In other words, signal implies a separation from sign: a distinction between energy (carrier) and information (message). With the development of electric telecommunication from the late nineteenth century onward, the term signal became more significant.

The interconnections between signals and sounds are inherent in the production of electronic music and explored in sound art as long as it exists as a field. The sound artist Christina Kubisch, for example, works with electromagnetic induction

since the end of the 1970s. In her more recent 'Electrical Walks' she developed headphones that transduce received electromagnetic signals from the environment into sound. They allow the listener to explore a given territory, mapping the invisible electromagnetic fields generated by electrical systems, machines, and infrastructure. Douglas Kahn contextualised signal transmission in the sciences and sonic arts, questioning how electromagnetic energy became audible. By starting with natural radio he moves beyond an anthropocentric notion of communication – that is, energy as control signal or carrier of information – and from this position discusses the work of Alvin Lucier, Pauline Oliveros, and John Cage, among many others. (1) Although my research certainly draws upon Kahn's highly original survey, it does focus on control – on processing and the political.

Antoinette Rouvroy understands signals as the raw data of a new mode of government after the computational turn: 'Raw data function as deterritorialised signals, inducing reflex responses in computer systems, rather than as signs carrying meaning and requiring interpretation.' (2) She argues that 'algorithmic governmentality' implies a shift from targeting actuality (facts) to targeting potentiality (relations). For example, page ranking based on the number of hyperlinks rather than on content, or profile-based advertisements. In short, the utilisation of predictive algorithms, especially when motivated by neoliberal logic, anticipating events in real-time and affecting one's choices at a preconscious stage, tends to prevent no less than the very possibility of critical thinking – that is, the process of individuation.

The complexity this algorithmic mode of governance entails can be approached through the concept of abstract machine, which is understood in computer science as the abstract diagram of a process of computation, an operation. Gilles Deleuze and Félix Guattari expanded this definition to any diagram, whether it is mathematical, musical, artistic, social, political, economic, or else, that is reduced to *function* and *matter* and therefore 'independent of the forms and substances, expressions and contents it will distribute'. (3) Apart from the underlying philosophical concepts and references, think of contemporary socio-technical machines, for example, such as search engines or social media algorithms directing attention towards densities of specific information or disinformation according to one's profile (their implications manifest themselves as we speak) or chat-bots learning from social media feeds or other input regardless of contents and expressions. Deleuze and Guattari, however, move beyond a solely technological understanding and identified abstract machines in artistic and scientific production as well as social and politico-economic processes, among others. They are operational and diagrammatic, in contrast to structure, and they are deterritorialised and transversal. Following Guattari, I think it is of vital importance to acknowledge the machinic dimensions of the production of subjectivity, which leads to his notion of transversality, machinic subjectivity, and the ethico-aesthetic paradigm, emphasising the irreversibility and responsibility inherent in the creative act. (4)

SONIC PRACTICE

Through this conceptual framework we will discuss previous projects, which to some extent have led to the current research. They were conducted in collaboration with the sound artist Donia Jourabchi and sometimes involved others. Although my approach and perspective on these projects differ from hers in various ways, certain notions and ideas undoubtedly belong to her as much as they belong to me.

Hoorbare Herinneringen (Audible Memories) was a series of site-specific sound

projects in Spoorzone Delft, a railway area in the midst of a large-scale urban redevelopment and the transformation from railway overpass through the city to railway tunnel (fig. 1). It was a collective exploration into the changing sound environment and rhythms of everyday life, and consisted of site-specific sound installations, performances, workshops, compositions released as an album, and a sound archive. We worked in particular with field recordings over a long period (2012-2018). The goal was to expose and make audible the changes and long-lasting condition of temporariness. It implicitly addressed the opacity of urban governance. One of the sub-projects was the installation Klankspoor (fig. 2), which made audible the sound of trains passing by on the railway overpass of which two pillars were preserved as monument. A motion sensor between the pillars activated different railway sounds of that particular place, resounding through an array of four loudspeakers and two additional ones (marked in red) to reproduce the spatial experience which was recorded years before. Traces & Territories (fig. 3) is an interactive composition for a specific location by means of a GPS-based application for smartphone. Sounds, maps, and notations are activated and unfold at different positions in space.

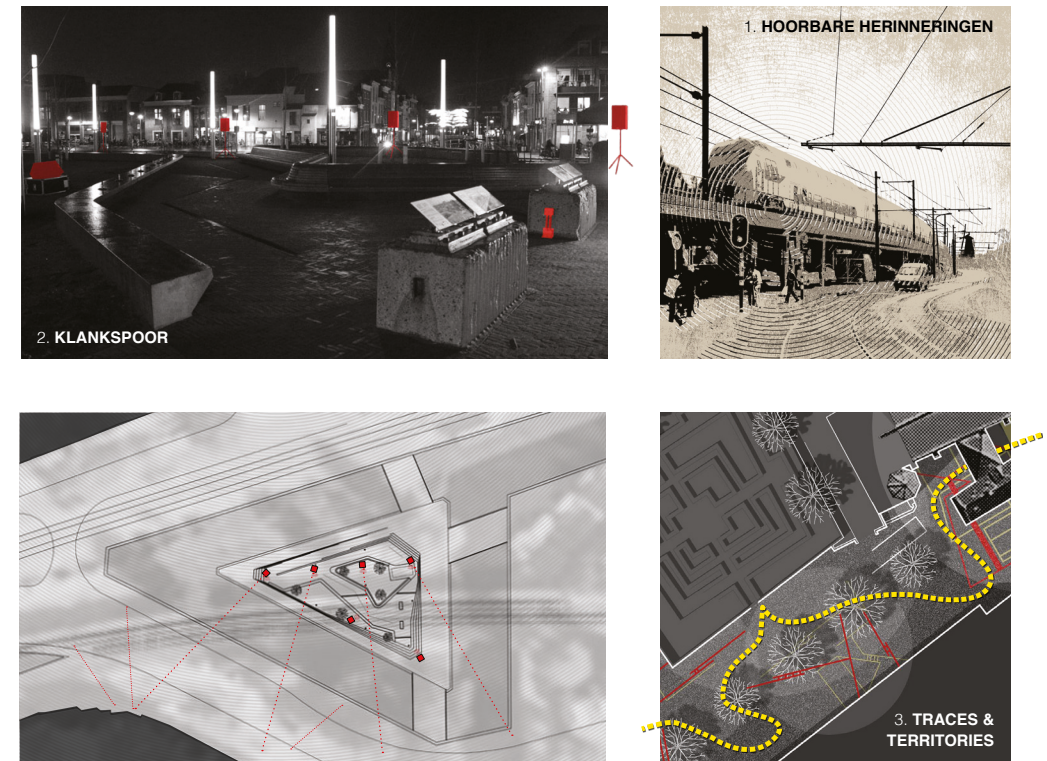


Fig. 1. **Hoorbare Herinneringen** (2012-2018) Spoorzone Delft, Netherlands; series of sound projects in collaboration with Donia Jourabchi and various artists, inhabitants and local organisations; website: www.hoorbare.net (image by author).

Fig. 2. **Klankspoor** (2018) Spoorzone Delft; sound installation in collaboration with Marcel Moerenhout and Donia Jourabchi; supported by WeSD (photograph and map by author).

Fig. 3. **Traces & Territories** (2015); interactive composition in collaboration with Anna Mikhailova and Donia Jourabchi; application developed by noTours/Enrique Tomas (map by author).

The sound installation *Waveguides* (fig. 4) was specifically designed for a gallery space. It extracted sounds, structure-borne vibrations and electromagnetic waves from the existing physical networks and infrastructure, reaching far beyond the physical boundaries of the space, and re-distributed them in real-time into a modified acoustic arrangement. *All That Is Solid* (fig. 5) was another installation in a newly built but unused shopping space in Neerpelt, Belgium, which was part of a large-scale urban redevelopment project. It aimed to reflect upon the underlying urban problematics by making audible vacancy. It was the first experiment in which structure-borne noises were taken from the building's technical installations, tubes and shafts, which were connected to the few occupied residential units. These little signs of life were amplified and projected into the reverberant empty hall.

The notion of the distribution of information and disinformation derived to a large extent from a collective project and series of performances on the sound of protest recorded in Warsaw in the midst of culture war, with the 2016 US election in the background. (5) It was further explored in *GENTRIFRICTION* a radio satire and public discussion on the gentrification of Oud-West, a neighbourhood in Amsterdam, and how this process affects inhabitants and communities. It was broadcasted live on the independent radio channel DFM from the local public library OBA De Hallen in the context of the umbrella project *Sonic West*. The broadcast was inspired by the rich history of counter cultures and alternative radio in this area. The sound material consisted of field recordings made in the area combined with archived recordings from local independent radio stations and news reports of the riots in the 1980s.

All of the projects share certain site-specificity and often are tightly connected with broader socio-spatial problematics. The projects are both cartographic and projective in that they record an existing situation – through field recording or real-time processing of sounds from a given environment and its physical networks, structures, and infrastructure – and at the same time actively process, transform, and spatially redistribute these input signals. In doing so, the projects modify the given sites sonically or produce entirely new sounds or spatio-temporal relations. Furthermore, some projects allowed for improvisation involving the listeners or participants in producing the sonic environment, and provided information about their experiences. In some cases, site-specificity has led to situated knowledges and findings in connection with broader socio-spatial problematics.

ENDNOTES

1. Kahn, Douglas (2013): *Earth Sound Earth Signal: Energies and Earth Magnitude in the Arts*. Berkeley: University of California Press.
2. Rouvroy, Antoinette (2012): »The End(s) of Critique: Data Behaviourism Versus Due Process«, in *Privacy, Due Process and the Computational Turn*, in: Mireille Hildebrandt / Katja de Vries (Eds.), Abingdon: Routledge, pp. 143-67
3. Deleuze, Gilles / Guattari, Félix (1980): *A Thousand Plateaus: Capitalism and Schizophrenia*. London: Continuum, p. 156.
4. Guattari, Félix (1995): *Chaosmosis: An Ethico-Aesthetic Paradigm*. Bloomington; Indianapolis: Indiana University Press.
5. Jourabchi, Donia / Ter Weel, Taufan (2016): »Intensive Territories: Politics of Amplification«, in: Krzysztof Marciniak (Ed.), *Warsound Warszawa*, Warsaw: CSW Ujazdowski, pp. 8-22.

For more information on the projects see: www.taufanterweel.nl



4. WAVEGUIDES



5. ALL THAT IS SOLID

Fig. 4. **Waveguides** (2018) Galerie AMU, Prague, Czech Republic; sound installation by Donia Jourabchi and Taufan ter Weel; curated by Sara Pinheiro, FAMU and HAMU (drawing by author; original photographs by Oskar Helcel and Erika Štěpánková).

Fig. 5. **All That Is Solid** (2014) Co-Art Festival Samhain, Neerpelt, Belgium; sound installation by Donia Jourabchi and Taufan ter Weel; curated by Gilles Helsen, Musica (photograph by author).

Movement and Drawing Improvisation Scores in Architectural Design

DDR Statement

The starting point of this doctoral research was a specific problem that I have encountered in my practice of residential architecture design. I have noticed that the design process becomes more and more optimised in terms of bureaucratic efficiency but becomes less and less immersive regarding the moments of imaginary inhabitation of the conceived spaces. For that reason, not the design result but rather the design process itself and in particular its phenomenological aspect is the subject of the research. Because it is grounded in Merleau-Ponty's phenomenology of the body the research uses the interdisciplinary methods of dance improvisation and of architectural ideation and representation—such as verbal scores for the facilitation of the bodily and attentional movement; formats of spoken and written experience protocol; and transmedia formats of spatial representation (text into drawing or text into movement or text into mental imagination). These methods set the frame for iterative trials which aim at the facilitation of an immersive spatial experience or imagination. The results of such short trials (5-45 minutes) are then weaved back into architectural theory (such as Empathy Theory and Bachelard's Phenomenology of Imagination) and into my own theorisation of the design process. Finally, the scores for the following trials are adjusted so that the facilitated spatial experiences exist not only in the naive, subjective reality but also in the intersubjective, intellectual discourse. These adjustments aim at finding diverse application possibilities of this experiential tool—the technique of somatic spatial inquiry within the design process as a whole. The tool is developed individually by the researcher and tested with architecture students and peers.

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Paper

Keywords: re-embodiment, immersion, proprioception

Abstract

The dominant design practices are sometimes described as disembodied and superficial. (cf. Pallasmaa, Perez-Gomez) How can this philosophical critique become constructive on the practical level? The paper presents one recent experiment—an attempt of the re-embodiment of the design practice through the practice of conscious movement. It draws the participants' attention and judgment to the embodied aspects of composition—such as the responsive and expansive, respectively contractive feeling (cf. Vischer) which seem to be common for both improvisational practices. The paper presents then the development of the research hypothesis and questions: Does the bodily sensitisation of the designer lead to more immersive design practice and better design results? How can such a sensitising movement practice be tested in architectural educational context? Can the practice of making conscious movement choices also support making the design decisions—being sensitive but also decisive? And finally, what might be the objective impact on the design practice and its assessment criteria?

Some dominant design practices have been criticised as being disembodied, superficial, and mechanistic. (cf. Pallasmaa, Perez-Gomez) This research tries to face this problem by posing the questions: How can we facilitate design practices that are more bodily immersive? And, if the bodily sensitisation of the designer can improve the design results? Although there are architectural theories that address the body as constitutional of the space experience, they are often too general and lack pragmatism. This research closes that knowledge gap by drawing from the discipline of somatic movement education. (1) The translation of movement practices into practices of spatial perception and imagination and into spatial composition and design constitutes the core of the research methodology. This presentation begins with an excerpt from the recent practice in order to give an implicit sense of it. Then, its bigger context and the retrospect of the research hypothesis will conclude the presentation.

The current practice is briefly a sequence of sensing one's own bodily self, then sensing the direct environment and then observing the reciprocal interactions that implicitly occur—a classical somatic movement education approach. Over time, the sensations usually deepen into feelings and spatial imaginations and thus the movement practice seems to be a textbook example of Vischer's empathy aesthetics, in which sensing + imagination = feeling. (2) The movement improvisation is followed by the drawing improvisation, in which, despite being focussed on drawing lines and their composition, the bodily aspects of seeing, changing perspectives on the paper and feeling the illusionary depth of the flat drawing, are also present. (3) The analysis of this experiment aimed at clarifying, which aspects of the composition derive directly from the aspects of embodiment and if they are objectively distinguishable.

The following score is a reception score dedicated to two compositions from the drawing experiments. It is not the initial movement score, but one focussing only on the aspects of embodiment and composition which occurred in both, the movement and the drawing improvisation. The score begins with the sensing of one's own bodily self—a classical dance practice from Steve Paxton. (4)

Stand up, shut your eyes.

'This is standing.

*Let your butt be heavy,
relax the internal organs
down into the bowl of the pelvis.*

Breathe easy.

Feel the weight of your arms.

*Feel the spine rising through the
shoulders
and up to support the skull.*

*At this center of standing,
you observe some small movements.
I call this The Small Dance.*

This seems to be a reflexive action,

*especially around the joints,
to keep you upright even though
you're very relaxed.*

*You could decide to fall,
but not yet.*

You're watching yourself stand.

Easy breathing.

*Shoulder blades heavy,
buttocks heavy.
Feel the breathing.*

*Let the organs down into the bowl of the
pelvis,
Let the spine rise to support the skull.*

*In the direction that your arms are
hanging,*

*without changing that direction,
do the smallest stretch that you can
feel.*

Release it. [...] (4)

*How does this resistance of your body
against the gravity feel like?
Is it different from
being that resistance yourself?
How does it feel to be located
exactly at this standpoint, in this body?
What kind of space does this inward
perspective reveal? (cf. 3)
What is your bodily response
to that space? (cf. 2)*

*Now, draw with your fingertips some
horizontal lines in front of you.
What is your bodily response to this
imagination? How does it feel like?
And now,
imagine being in a vast space.
And picture the line of the horizon.*

*What is your bodily response to this
imagination? How does it feel like?
What is the difference?*

*Open your eyes and see the drawing.
Do you see a line within your grasp?
Or the line of the horizon?
Does your body respond to it like to a
line within your grasp?
Or like to the line of the horizon?
Which perspective of the imaginary
observer does the drawing suggest?
Which standpoint of the imaginary
observer does it suggest?
Where do you identify yourself,
in front of the drawing,
or within it? (cf. 3)*

*Close your eyes again
and sense the standing.
And imagine standing at the edge
of a vast and deep abyss.
Extend your attention
into that space underneath you.
What is your bodily response
to this imagination?
How does it feel like?*





*And now,
imagine the vast air above you.
Over there, high in the atmosphere,
picture some lines.
Extend your attention
into that space above you.*

*What is your bodily response to this
imagination?
How does it feel like?
What is the difference?*

*Open your eyes and see the drawing.
Do you see the space above you? Or
the space underneath you?*

*Does your body respond to it like to the
space above? Or like to the space
underneath?*

*Which perspective of the imaginary
observer does the drawing suggest?
Which standpoint of the imaginary
observer does it suggest?*

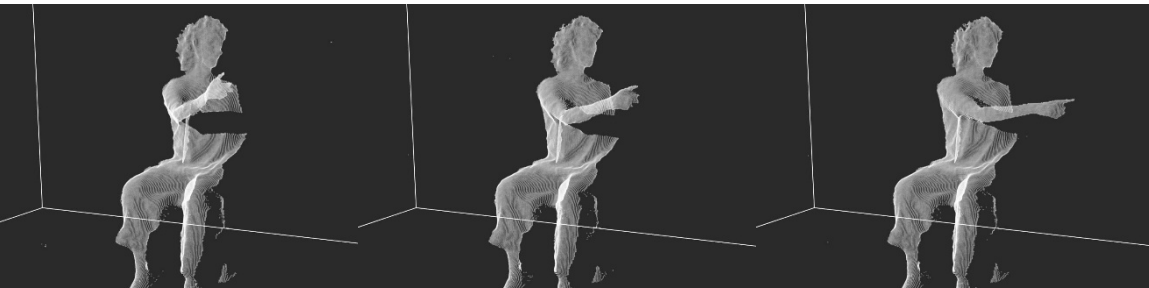
*Where do you identify yourself, in front
of the drawing, or within it?*

These experiments demonstrate that three major aspects of embodiment—that is the ‘self-identification, self-location, and the first-person perspective’ (3) as well as the responsive feeling and expansive, respectively contractive feeling (2) play a role in movement, drawing and reception practices. In each of these practices, the imagined forms and spaces seem to cue a specific, although instable (or multistable) bodily feeling. But how can the bodily feeling become an instrumental, enactive template for the spatial interpretation? Can the ability of wilful induction or imitation of such feeling during the drawing practice help avoiding the uncontrolled shifts of the perspectival appearance? Or to directly externalise the inner imagination, to speak with Vischer? Finding these meaningful continuities of bodily form and object form throughout the movement practice and composition practice aims at defining the experimental settings in which they might be observed, verified and learned.

What has led to these specific experiments? The previously stated problems of the dominant design practices—being superficial, mechanistic and disembodied, also correspond with the experience of the researcher, in which their architectural design practice seemed to be deprived of sensory interactions and immersions, especially compared to their experiences from the dance practice. Here arose the questions: By what means could architectural practice become more bodily immersive? Could such altered bodily state and the sensitisation of the designer improve the design results? Or would such a contemplative aestheticisation of the practice remain the end in itself? And, what kind of spatial phenomena could be possibly addressed by such practice? It is widely acknowledged that the perception of architectural spaces is an implicit, sensory-motor process, driven by the human movement (5). It led to the hypothesis that the documentation of the immersive spatial experiences within specific movement practices might yield a taxonomy of bodily spatial phenomena. The explication of implicit spatial experiences was expected to help to address them in the design process and thus to inform the design results. Immediately, practical questions arose, for although there is a well-established tradition of embodiment philosophy within the architectural theory, it lacks pragmatism. What movement practices exactly should be investigated? The methods of somatic movement education and postmodern dance have been chosen because of their own theorisation of space (cf. developmental movement patterns in Cohen) and spatial composition (cf. extending kinesphere in Stark Smith) and their impressional, contemplative character. While initially, the research consisted of practical trying-out and concurrent review of the architectural literature, soon the parallels in both became striking. Especially, the reading of Bachelard’s Poetics of Space, through the lens of somatic movement, emerged as a productive research method. (6) Such translation of spatially evocative literary images into practices of spatial imagination through bodily movement yielded a preliminary taxonomy of bodily spatial phenomena, besides embedding the movement practice within the architectural theory. Initially, the practices have been tested through the individual movement explorations. This initial research has been reflected with the conclusion that it is still unclear whether the sensory immersion of the designer in the interactions with the environment might affect the design process and result. But it became palpable which spatial phenomena might these immersions address and how. The further testing has been planned as an educational progression of the practices of: embodying one’s own internal space > embodying the external space > and the architectural daydreaming.

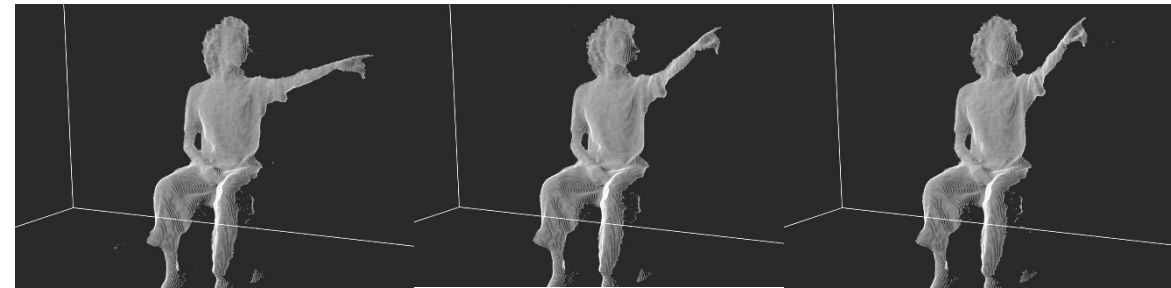
The next phase of the research, in which the hypothesis was going to be tested with architecture students posed new questions. How can the anti-authoritarian, informal learning, which somatic movement education aspires to be (7), yield formally distinguishable results? How to facilitate open-ended creative processes, which however deliver desirable and distinct results? Can such a process result in a method of architectural design? According to the hypothesis, the practice should be primarily directed towards the uncategorised (cf. Stark Smith), towards the non-habitual (cf. ISMETA) in order to access the implicit bodily spatial phenomena and to explicate them. The rigour of the perception practice was expected to open the participants to new perceptions and imaginations and thus address these phenomena more accurately in the design process and thus yield novel design results. The translation-as-research method was used to conceive movement informed class scenarios. It included adapting the movement practices from personal explorations as well as the established post-modern dance practices to the needs of the classes. Throughout the semester the testing of the hypothesis and of the method had mainly explorative character. Particularly, while initially it was planned to progress the movement

practices towards the composition practice within actual improvised dance sessions, it became apparent that the minimalist, pedestrian post-modern dance practices (cf. Paxton, Dilley, Little) are more amenable for the students and still complex enough for the study of the associated spatial phenomena. The last three weeks of the semester were devoted to the design task in which the students were expected to independently apply the experiences from the whole semester to design an intimate place in the public space. Reflecting the results, which have been documented through students' drawings and journal notes, the design processes seemed indeed more sensory engaging and phenomenologically intense than usual but the design results were too diverse to be easily classifiable. The approach seemed to strengthen the descriptive design thinking, rather than the constructive one. One work, moreover, which transgressed the design task, displayed the exceptional performative spatial thinking. Concluding, the movement informed imagination practices induced visions of new spaces, but did not result in students' concrete design-decisions, not to mention a design method.



This led to new questions: How can somatic movement, as an emancipatory practise, support not only the making of the movement choices (8) but also the design decisions? How can it, as the practice of raising one's bodily awareness, support being sensitive as well as being decisive? And could such a critical somatic approach serve as a design tool? The hypothetical solution was conceived as a progressive practice of articulating one's own attention (cf. Little), followed by the bodily articulation of the felt preference or disfavour of a spatial phenomenon (cf. Cohen and Vischer), then the articulation of one's own movement and gestures, and then the articulation of architectural structures. According to this model new exercises have been developed—this time, less concerned with the documentation of existing architectural spaces, instead focused on the immersive aspect of drawing architectural plans. It was an attempt of translating the insights from the environmental psychology regarding human evolutionary spatial behaviour (cf. Ellard) and stress-causing spaces (cf. Adli) into movement practices. For that purpose further practices of post-modern dance (cf. Shelton Mann, Little), modern dance (cf. Whitehouse), and environmental somatics (cf. Munker) have been adapted. The practices have been tested exploratively by the researcher himself and then by the students. This time the design task was less open and the design process semi-facilitated by the researcher with the aim of testing its efficacy. Overall, the tests have demonstrated that this approach indeed yields designs more articulated than in the previous experiments, however, the design results were rather the bare execution of the task, without the transgressive or novel qualities. It also became clear that the lack of objective design assessment criteria hampered the efficacy testing and impeded the instrumental function and the optimisation of such a design tool.

Currently, the research focuses on the question, what are the most fundamental tasks or abilities through which the subjective process of the designer becomes an objective design result. That is, which aspects of the embodiment are constitutive for the composition and form? Which objective criteria or methods can be used for the assessment of such results? And, what relevance of such embodied composition practice remains for the design practice? Accordingly, the investigation had to be narrowed from the design process to the composition process and again from the composition process to the moments of composing. The hypothesis is that these constitutive moments can be identified through the somatic re-reading of empathy aesthetics, which, being fine art theory, describes the processes constitutive of spatial composition and form more precise than the dance literature, which despite being more pragmatic, describes rather the processes constitutive of the performative spaces and of the subject themselves. Composition experiments based on such translation can be potentially conducted in simpler, isolated settings, in which, also the open-ended tasks and the result-oriented ones should be clearly distinguished.



In this way, the empathy aesthetics became the core of the final stage of the research. Currently, it is being translated into the experiential theory—that is the body of text containing Vischer's, Schmarsow's and Wölfflin's main arguments and a set of short practices bringing the examples used by them into life. Admittedly, the resulting theoretical-practical knowledge might be punctual and atomised and thus not directly applicable as an universal design tool, nevertheless it might be easier verifiable by the experimental psychology research methods in the future. The first exploratory tests of this approach have been presented today. After further specification and optimisation, it will be tested with groups of students and architects, as an embodied design interface.

- (1) Eddy, Martha (2016): *Mindful Movement. The Evolution of the Somatic Arts and Conscious Action*, Intellect L & D E F A E.
- (2) Vischer, Robert (1927) [1873] *Über das optische Formgefühl*. in: Friedrich, Thomas; Gleiter, Jörg (Ed.) (2007): *Einfühlung und phänomenologische Reduktion: Grundlagentexte zu Architektur, Design und Kunst*, Berlin [u.a.]: Lit-Verl.
- (3) Pasqualini, Isabella & Blanke, Olaf (2014): *The self-conscious observer. Embodiment and bodily feelings in architecture*. In: Schmidt, Wolf Gerhard (Ed.): *Körperbilder in Kunst und Wissenschaft*, Königshausen & Neumann, p. 39.
- (4) Paxton, Steve (2018): *Gravity*. Brussels: Contredanse Editions, pp. 35-38.
- (5) Ballestrem, M. G. v. Matthias (2014): *Nebenbei Raum: Die Bedeutung von Form und Struktur architektonischer Räume für die Mechanismen der impliziten visuellen Raumwahrnehmung*, Berlin: epubli.
- (6) Bachelard, Gaston (2014): *The Poetics of Space*, Penguin Books.
- (7) Kampe Thomas & Alexander, Kirsty (2017): *Bodily undoing: Somatics as practices of critique*, in: *Journal of Dance & Somatic Practices*, Volume 9 Number 1.
- (8) Kampe, Thomas (2013): *The Art of Making Choices, The Feldenkrais Method as a Choreographic Resource*, Dissertation, London Metropolitan University.

Fig. 1, 2: Drawing improvisations. Fig. 3, 4: Movement improvisations. All images © author.

Adaptive Renovation Research of Traditional Dong Dwelling in China

DDR Statement

With the acceleration of the modernisation process, the contradiction between tradition and modernity becomes apparent. Villagers now abandon many traditional Dong timber dwellings because of the lack of living-comfort. Through the adaptive renewal renovation methods and a passive-house perspective, the researchers hope to balance the relationship between building, people and environment and continue the unique tangible and intangible structure tradition of Dong Minority.

The study will improve the current vernacular house by learning from the traditional Dong dwellings depending on the Design Driven Research (DDR). First, the article will conduct detailed investigations on analysing various forms of houses, observing the original village and studying local traditional customs of Dong settlement. And it will also concern about environmental issues, sociological-anthropological issues and low-tech technologies that may be applied. Then, the article systematically discussed and analysed these issues and proposed related strategies and transformation methods. The final paper will layout a village's sustainable system and attempt to design a renovation prototype of Dong dwelling. The Adaptive Renovation Research is complex to meet the ecological resilience, climate resilience and cultural heritage, from the user's modern sexual appeal to current modification or renewal of buildings in functions, construction techniques, materials.

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Paper

Keywords: Dong minority, timber dwelling, renovation

Abstract

China's countryside is disappearing at an alarming rate. Unprecedented urban growth has destroyed or is destroying the material and cultural identity of villages. Taking drastic measures to rebuild the traditional dwellings had damaged the village's classic scene and. It destroyed building techniques that existed in the timber dwellings, making it more challenging to preserve and inherit the traditional Dong architectures. This paper discusses the adaptation strategies for the villages of Dong people in Southern China. Based on analysing various forms of houses, observing the original town and studying local traditional customs, the renewal idea tries to learn from the vernacular attempts to change the imbalance between people, building and villages' environment and reactivate villages through environmental renovation design. Building and developing do not mean the erosion of heritage.

ADAPTIVE RENOVATION RESEARCH OF TRADITIONAL DONG DWELLING IN CHINA |

EXTENDED ABSTRACT

1.Introduction

Although the research on the traditional villages of the Dong people in China has been proposed for many years, the village environment's modernisation still deserves a more profound discussion more responsibly. Simultaneously, despite China's extensive discussion of rural development issues, the topic of ecological imbalances (such as the impact of modern development on the natural environment) has been ignored. This research project will enrich the discussion on the inequality between the ecological environment and modernisation in Dong's traditional villages' contemporary adaptive adaptation. The era of reform. The rapid border expansion of large cities, the rural land policy system and the unique economic and political situation have led to the automatic renewal of villages in the traditional Dong villages in China's interior. The Dong architecture itself has its unique architectural language. Still, in this situation, many of the Dong traditional residences have become neither conventional nor modern aesthetics under users' random transformation.

Many research projects on traditional Dong architecture have attempted to explore the concept of adaptive renewal of conventional architecture by studying the traditional Dong construction techniques and exploring ways to combine traditional Dong construction methods with modern materials and means. The project aims to study the evolution of the Dong architecture's adaptive renewal and its development direction conducive to its health and the entire village. Behind the Chinese reform period, after 40 years of "Great Leap Forward" urbanisation, the Beijing Central Government decided to adjust the economic structure; many Chinese villages are undergoing a reconstruction or restructuring process, which means that many traditional villages have lost their architectural language. For example, the traditional villages of the Dong people are facing the pressure of renovation. On the one hand, the government wants to release (or privatise) as much as urban



Fig.1



Fig.2

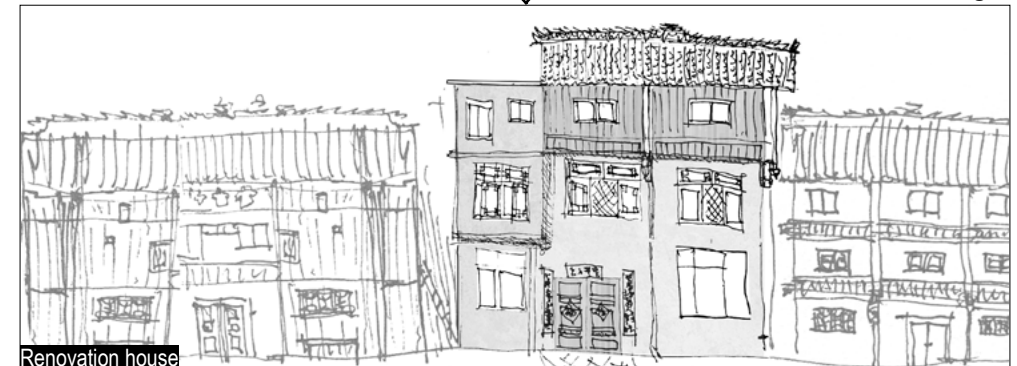


Fig.3



Fig.4

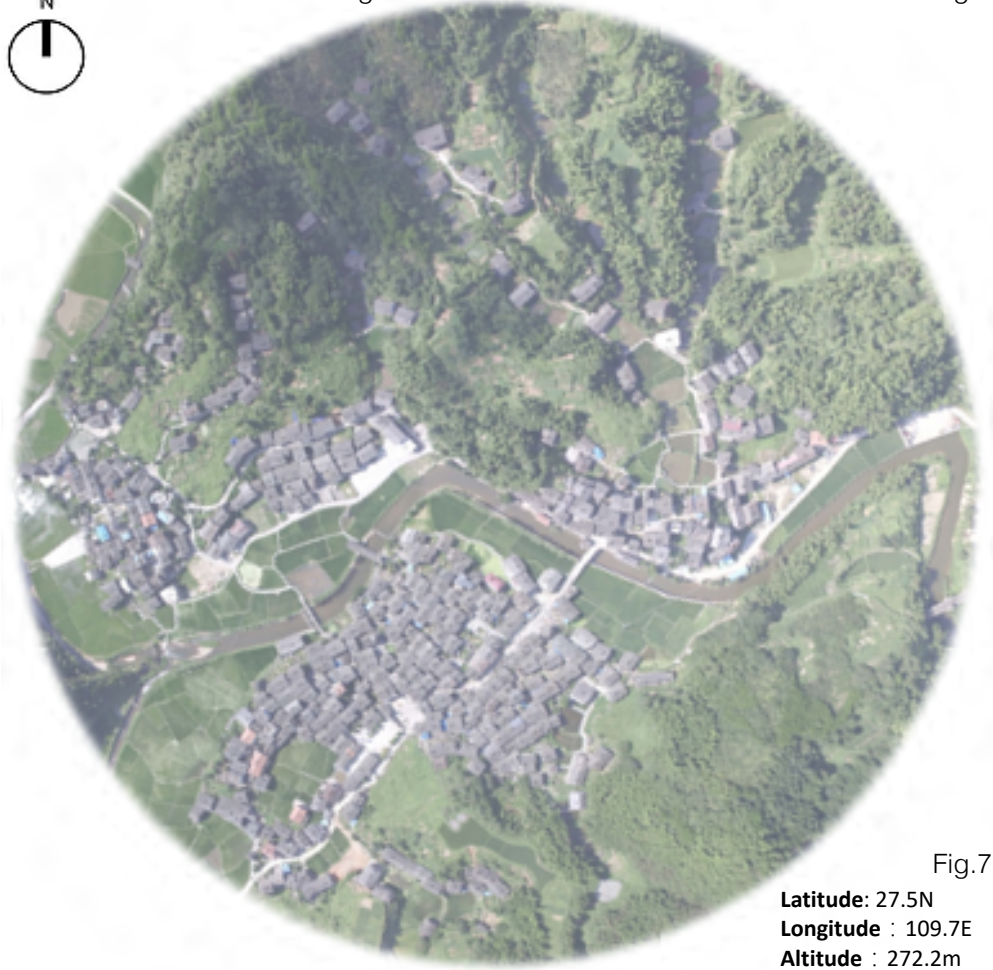
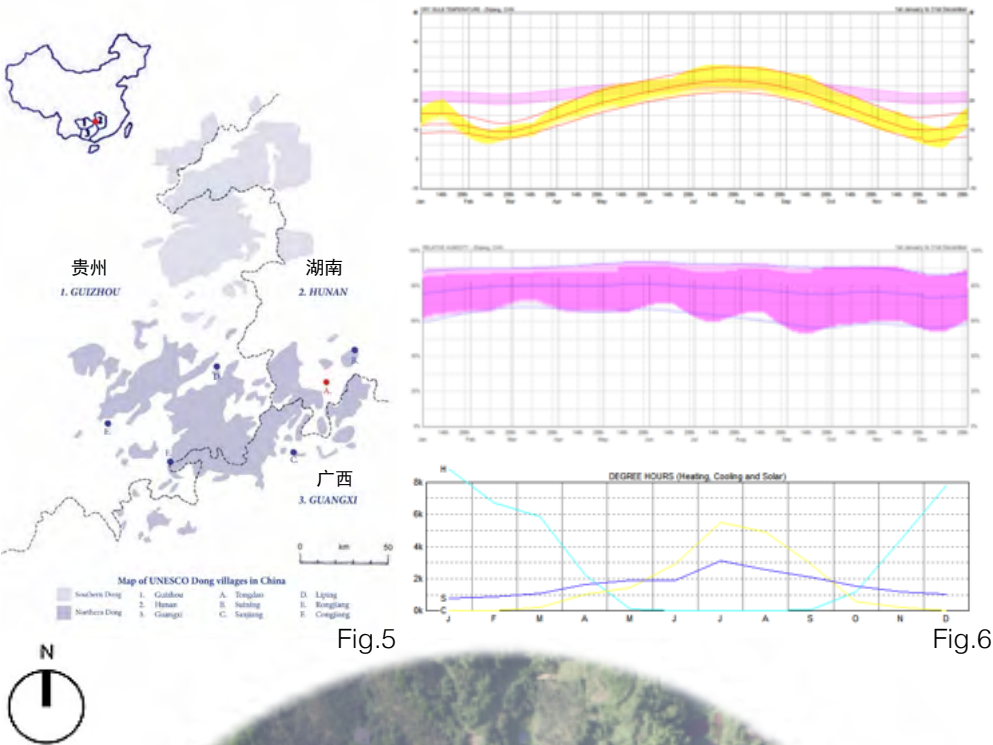
ADAPTIVE RENOVATION RESEARCH OF TRADITIONAL DONG DWELLING IN CHINA II

space so that it can introduce higher value-added, flexible industries; on the other hand, some particular architectural forms have a unique value for the village, removing them will It has caused many problems that hinder the long-term and short-term development of the town. Anyone in the government or decision-making process should consider the role and impact of traditional architectural forms in rural development. The study of adaptive updates to traditional villages is an opportunity to reconcile conflicts between elimination and preservation. By exploring the role and side effects of modern adaptive transformation and renewal from a small and specific dwelling, this research will provide new insights into the modernisation direction of Chinese villages represented by the Dong villages and determine that they can be integrated and coordinated. Appropriate measures to accommodate the overall official rural development plan.

2. Dong Minority Village

The Dong ethnic minority people are one of China’s 56 ethnic groups, who live in the region delimited by southwest Hunan, southeast Guizhou and north Guangxi. With a population of almost three million and a long history of more than 1,000 years dating back to the Tang Dynasty, the Dong communities are today, similarly to many other Chinese rural settlements, deeply affected by the phenomenon of ‘Village Hollowing’. This unprecedented migration of rural populations to expanding urban areas has resulted in almost vacant villages inhabited by struggling communities of mostly elderly and young people.

This research centres on Gaobu, a village of approximately 2500 inhabitants, studying it as a pilot village to test a possible regeneration strategy. The Dong minority village of Gaobu, one of the UNESCO World Heritage Tentative List candidates, is a typical southern Dong settlement. With a temperate continental climate, the highest temperature can reach 35 °C in summer, the lowest temperature in winter is usually about 2 °c-3 °C, and the humidity is about 70%-80% all year round Be-long to the hot summer and warm winter humid areas.



ADAPTIVE RENOVATION RESEARCH OF TRADITIONAL DONG DWELLING IN CHINA III

3.Dong Minority Dwelling

The Dong culture is essential to connect with their dwelling and the surrounding environment. Dong lives in a mountainous area in south China renowned for its rice terraces, bamboo forests, and tea plantations that remain predominantly intact. Their residence is intrinsically connected with the land and topography, generating a harmonious relationship between nature and human-made structures. Their architectural timber heritage is one of the last remnants of an ancient culture in China that is still alive.

The Dong residential building “GanLan” usually have three bays and are mostly three storeys high. The standard house dimensions vary between 2-5 bays, each bay approximately 3.5m wide, resulting in houses with floor plates between 50-120m². Furthermore, all houses are built entirely with one material, China fir (Ferretto and Cai, 2020).

4. Research in Scheduled

- 1). Academic work / formal background/case study of Low-tech renewable techniques. The study will first review literary works, essays and related public policy and political contexts. Then establish a preliminary case study of the catalogue.
- 2). Use a questionnaire to answer essential questions about the views concerning sanitation provision of those living in the village's traditional houses. It will collect first hand/raw materials and reinterpret these situations employing construction (visual/space) and statistical methods (quantity/chart/model).
- 3). External collaborative research. The collection work (especially the political and economic background and social structure) will be completed through interviews with local government departments and village heads.
- 4). Analysis and processing of data. A reservation plan for quantitative analysis methods. By graphing the data, we can have a more intuitive and holistic understanding of the research case changes.

REFERENCE

Ferretto, P. and Cai, L., 2020. Village prototypes: a survival strategy for Chinese minority rural villages. *The Journal of Architecture*, 25(1), pp.1-23.

LIST OF ILLUSTRATIONS

Fig.1 Traditional house
(Source: draw by author)

Fig.2 Additional house
(Source: draw by author)

Fig.3 Renovation house
(Source: draw by author)

Fig.4 Gaobu Village perspective photo
(Source: photo by Binxin Chen)

Fig.5 Dong Minority location
(Source: from UNESCO)

Fig.6 Environmental issues of Gaobu
(Source: draw by author)

Fig.7 Gaobu Plan
(Source: from UAL Studio)

Fig.8 Dong dwelling's plan
(Source: draw by author)

Fig.9 Dwellings' section
(Source: draw by author)

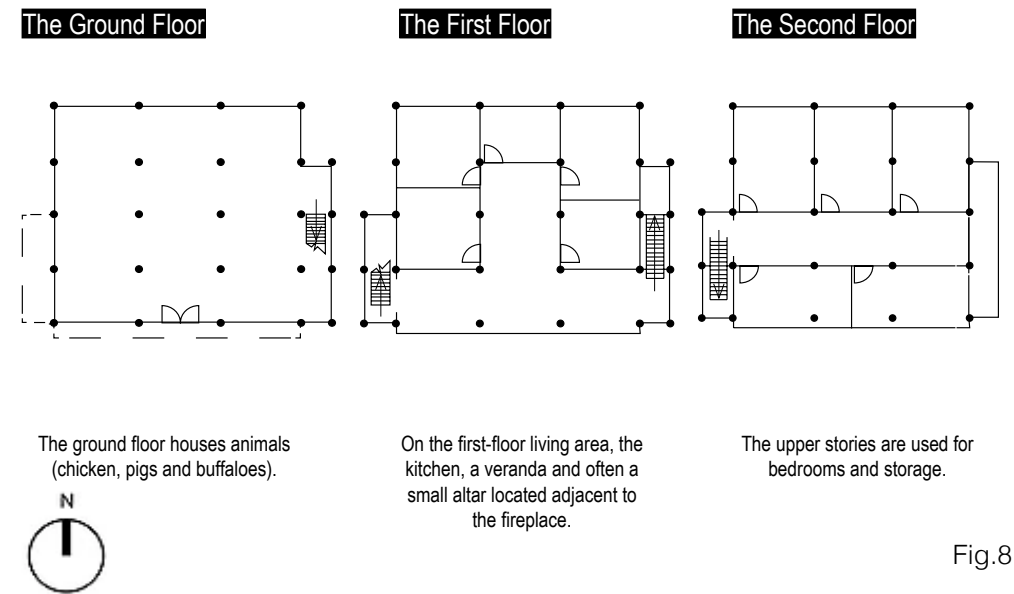


Fig.8

Section of prototype Dong house

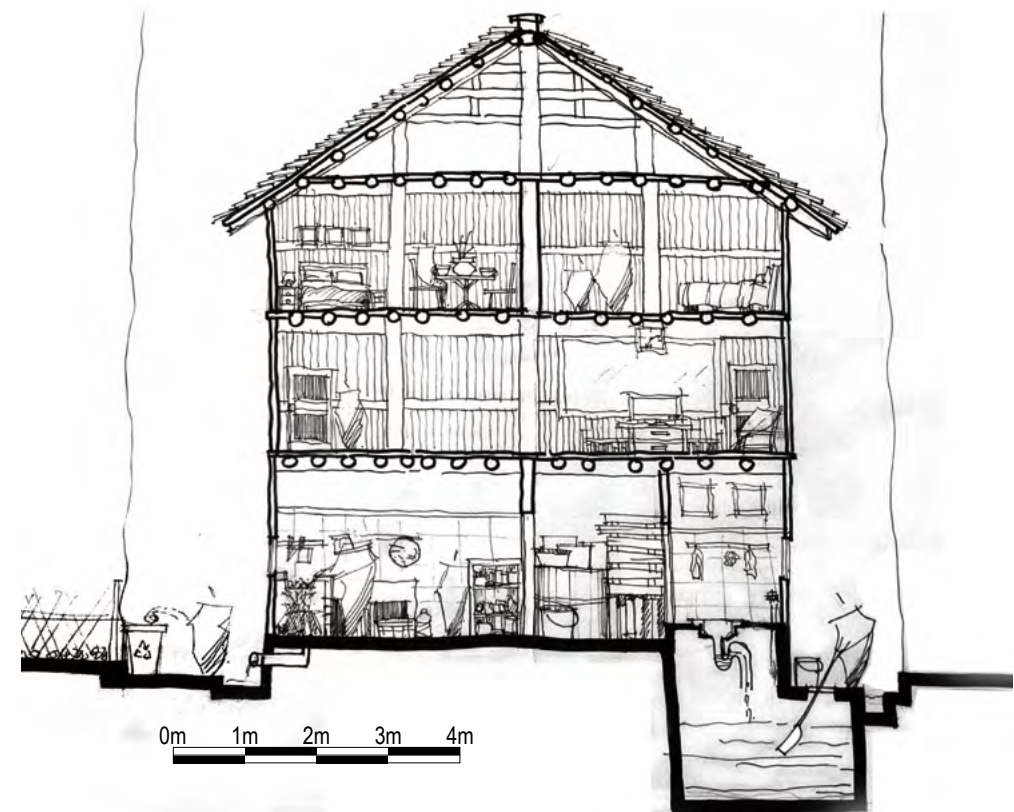


Fig.9

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08 Data and numbers

The Event in Figures

53 contributions were accepted by **48** Scientific Committee Members with **195** written reviews.

The words most often mentioned on the reviews were: **abstract, architectural, project, proposal, design, research, approach, question** and **methodology**.

51 panels were held by **59** panelists.

186 participants from **53** different institutions were registered to the event.

2 workshops were held and **5** invited lectures.

3 virtual exhibition venues were opened with the live-streamed music set of a Hamburg-based DJ.

3 guided city tours were live-streamed via Zoom from Hamburg.

6 recipes from Hamburg were cooked together during the virtual dinner.

The words most often mentioned in the closing workshop on Reflection on CA²RE+ were **think, research, design, work, panel, presentation, practice, discussion, different**, and **thank you**.

The words most often mentioned in the impact questionnaire that participants answered after the event were **research, presentation, design, understanding**, and **work**.

Reflection

**Book of
Proceedings**

Hamburg

