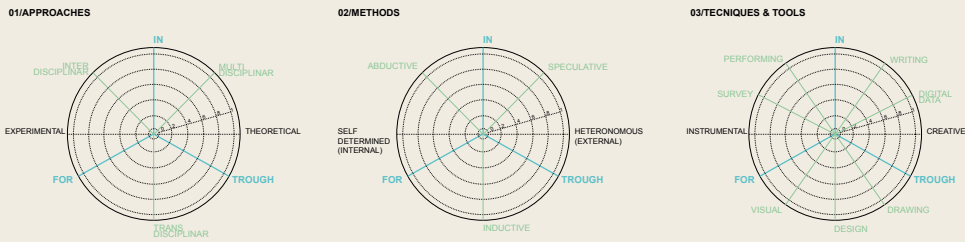


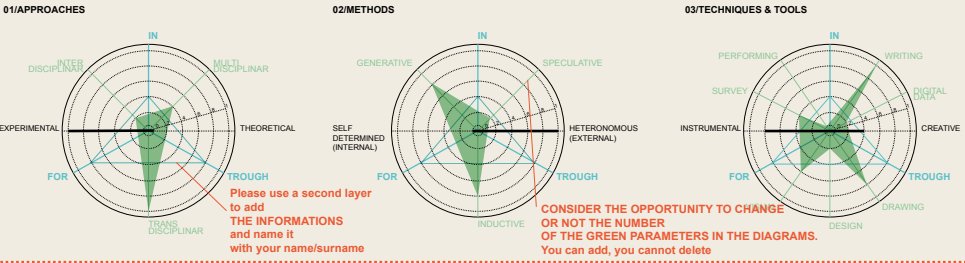
# CA<sup>2</sup>RE+

## 2 EVALUATION OF DESIGN-DRIVEN RESEARCH

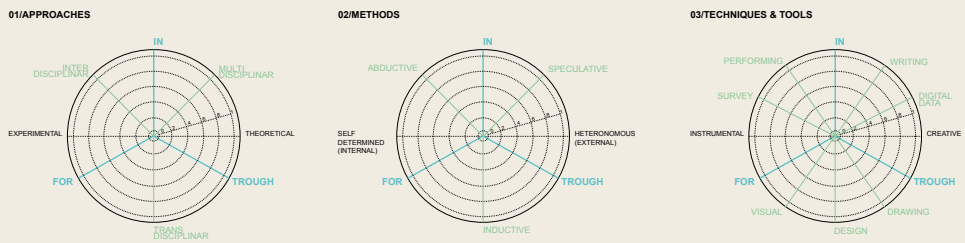
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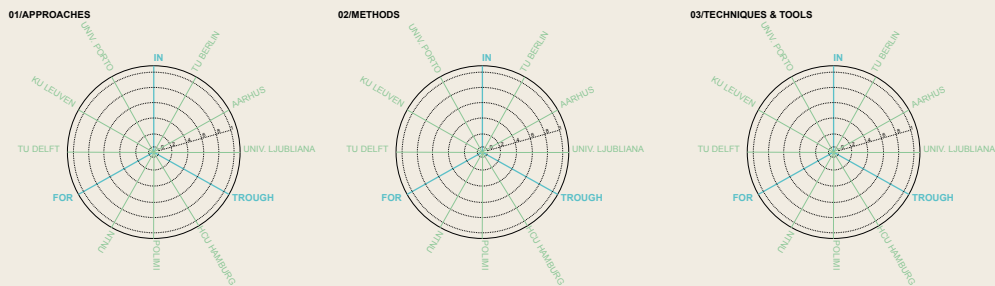
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### LEVEL 2 / PHD COMMUNITY POSITION



### LEVEL 3/ CONSORTIUM POSITION



**CA<sup>2</sup>RE+**



**2**

**EVALUATION OF  
DESIGN-DRIVEN  
RESEARCH**

## **COLOPHON**

**CA<sup>2</sup>RE+                    2   EVALUATION OF DESIGN-DRIVEN RESEARCH**

**2022**

**1st edition**

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# I INTRODUCTION



Wictor Skrzypczak - HCU HafenCity Hamburg University

# **Introduction to CA2RE+ Book 2 - Evaluation**

Edite Rosa  
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University  
of Beira Interior / DECA

## ABSTRACT

**The Book 2 – EVALUATION discusses and identifies questions, challenges and potentials relating to processes and procedures of evaluation in Design-Driven Doctoral Research. The Book 2 examines the concept of ‘evaluation’ on the basis of DDDr by addressing and reflecting on presentations and experiences identified at the CA2RE+ Milano and CA2RE+ Hamburg. It primarily builds on presentations and discussions from the third and fourth CA2RE+ intensive study programmes, focusing on ‘Comparison’ and ‘Reflection’. It also builds on the diagnostics of the first CA2RE+ book. It moreover discusses ‘Evaluation’ from a more comprehensive academic perspective, with similarities and references to how other research fields within the humanities, the social and technical sciences evaluate research to ensure quality and relevance.**

**Keywords: Book 2, Evaluation, DDDr, Approach, Method, Technique.**

## CONTEXT

**Notes on the several books from CA2RE+ sources and where this second book stands**

This introductory text aims to define the way in which the CA2RE+ **consortium** addresses the Design-Driven Doctoral Research (DDDr) Evaluation process and procedures, as well as explain the general structure of the Book 2.

This is the second of three open access CA2RE+ Books. The first book, already published, identified DDDr Strategies, this second book explains the DDDr Evaluation process, and the third, still to be produced, will develop the DDDr Framework. This three open-access book series offer a set of interpretations and guidelines for the implementation and evaluation of DDDr-related doctoral programmes. They develop the procedures for Design-Driven Doctoral Research and the relevance of its findings for humanities and social sciences. However, each book can be read also by itself since it has its own differentiated objectives, texts, authors and outcomes.

The second CA2RE+ book identifies questions, challenges and potentials relating to processes of evaluation in Design-Driven Doctoral Research. It examines the concept of evaluation at the basis of DDDr by addressing and reflecting on presentations and experiences identified at the CA2RE+ events. It primarily builds on presentations and discussions

from the third and fourth CA2RE+ intensive study programmes focusing on Comparison and Reflection. It also builds on the diagnostics of the first CA2RE+ book. It moreover discusses Evaluation from a more comprehensive academic perspective with similarities and references to how other research fields within the humanities, the social and technical sciences evaluate research to ensure quality and relevance.

## **OBJECTIVES OF BOOK 2 - EVALUATION**

As mentioned above, this is the second of the three CA2RE+ books that explicate the design-driven research process. Book 2 – EVALUATION debates and evaluates the aims, process, procedures and potentials of Design-Driven Doctoral research when it is reaching the middle stage development of the European project CA2RE+.

In line with the initially defined DDDr procedures, tested in the first book concerning the first year, this second book corresponds to the second year of CA2RE+, structured in the consecutive order of the third and fourth steps, reflected in CA2RE+ Milano - 'Comparison' and CA2RE Hamburg - 'Reflection' events and their intellectual outputs. In the 1st and 2nd steps the network compared and discussed the results of 'Observations' and 'Sharing' in Book 1 - STRATEGIES [1] addressing the first year. After that, during the second year, the consortium implemented continuously operative and clarifying adjustments to the DDDr activities and procedures. These adjustments intended to compare and reflect upon national differences and European commonalities (of the **consortium** partners), as well as, clarify its operative process and methods, weaknesses and strengths. It also delved into DDDr process and procedure evaluation.

Book 2 - EVALUATION aims to discuss the concept of evaluation in Design-Driven Doctoral research from different perspectives. It aims to contribute to the development of more transparent and rigorous evaluation procedures within the fields of creative, artistic, design-driven and practice-based research and, by doing so, help this young research field to mature. It intends to set the evaluation procedures in a broader academic context, both for the partners and for outsiders, by providing perspectives on national assessment procedures and criteria, and how DDDr can adapt to local differences. The book also provides an outline that allows several types of audience interested in doctoral research, from doctoral fellows to supervisors and administrators, to better understand the scope and aim of DDDr.

Book 2 integrates evaluation contributions from general participants of the project, like teachers, supervisors and joint staff training from the eleven partners of CA2RE+. It also includes contributions by external reporters and guests, who provide overall views of research, external

perspective, and general reflections on the relevance of DDDr. Book 2 also offers insights into evaluation from the standpoint of the individual doctoral fellow, and provides examples of how they set up research processes to evaluate the outcome of their design-driven research. Moreover, it contains examples of a selection of PhD projects evaluated as representative by the consortium. These specific examples aim not only to display the selection criteria of the evaluation process, but also to present the designated DDDr productions with their research findings, methodologies and contributions.

Furthermore, this second CA2RE+ book is mainly supported by specific objectives and notions of the **consortium's** common view of the concept of DDDr EVALUATION, which is, in a simplified way, divided into three main parameters.

These parameters emerged from the **consortium's** analyses of the first book's results and of the continuous adjustments to the procedures used in the ongoing DDDr participants' work in the CA2RE+ events.

The grouping into three main categories derived from the Milano and Hamburg events; and these groups were defined following the predominant use of certain procedures in the design-driven research projects, as those that had their main emphasis closer to a DDDr approach or to a DDDr method or to a DDDr technique.

These three main parameters were likewise cross-referenced with three main levels of DDDr evaluation objectives that structured the index and chapters of Book 2:

The first level involves the inclusion and comparison of Design-Driven Doctoral research within a broader context of doctoral research and in comparison with artistic disciplines (ENCOUNTERS);

The second level involves the Evaluation of DDDr in the specific context of the design field, predominantly of the architectural design subjects, done by the consortium partners (CONDITIONS);

The third level involves the evaluation of the CA2RE+ process and program steps with the contributions of the observers, trainees, testimonies and with the students' examples (EVENTS).

## **BOOK 2 STRUCTURE**

Book 2 is structured into five chapters, which are the reflection of the consecutive objectives and evaluation levels mentioned above.

### **1-The first chapter I-INTRODUCTION**

This first chapter presents two introductory texts from the **consortium** partner's editors. The first text defines the way in which the **consortium** approached the concept of 'Evaluation' for CA2RE+ Book 2 throughout the 2nd year. It explains the three levels and parameters of Design-

Driven Doctoral Research, mostly focus on the architectural field, as well as the general structure of Book 2. The second text is about the beginnings of CA2RE+'s second year, its early intermediate findings, and how we progressed starting from the previous Book 1.

## **2 - The second chapter II-ENCOUNTERS**

The second chapter presents two points. The first point is an introductory text to the DDDr evaluation transference within a broader framework of doctoral research in other artistic fields.

The second point CONSTELLATION FROM INVITED presents texts from authors outside of the partners' universities. These seven texts from outsiders discuss and identify questions related to processes of Design-Driven Doctoral Research. These authors come from several diverse artistic fields. They analyse evaluation from a more comprehensive academic perspective with comparisons and references to how the wide-ranging research is done in diverse fields within the humanities and the social and technical sciences. They were elected to analyse design-driven research processes from a wider angle in order to ensure evaluation quality and relevance.

This is accomplished by a set of guest articles written by experienced doctoral Professors or personalities linked to the European debate on doctoral studies in arts and architecture. All these guests are external to the CA2RE+ **consortium**, and their contributions aim to establish different views, double voices, dialogues between the research field of humanities, arts and social sciences and the main field of the **consortium's** architectural design. These texts go from the scope of music, to media arts, visual arts and architectural design. They reflect upon processes and features of different DDDr in the artistic research fields taken as approach, as method and as technique, and their possible links and evaluations.

## **3-The third chapter III-CONDITIONS**

This third chapter presents texts from authors of the consortium and it identifies evaluation key topics about design-driven research within the **consortium** partners. It develops the evaluation notion by reflecting on and comparing the presentations and experiences identified at the CA2RE+ events.

This chapter is divided into two points.

The first point is a text with a brief introduction and the evaluation, in the specific context of Design-Driven Research, of the writings produced by the partners. It features an introductory assessment text, with observations and short notes, prepared by two of the editors of Book 2 about the partners' "Constellations" articles.

The second point, CONSTELLATION FROM PARTNERS, consists of

the partners' articles. These partners were lead researchers that acted as teachers in the Learning, Teaching and Training activities, and who examined the concept and procedure of DDDr evaluation in the context of the **consortium's** events.

These articles are, on the one hand, thesis expressed by the partners concerning the Design-Driven Doctoral research process and procedures. On the other hand, they constitute analyses or identification of procedures in the fellows' design-driven research projects, as being closer to different parameters of DDDr, approach, method or technique. These theses put forward by the partners are developed from position statements from Milano [2] and Hamburg [3] referenced to practice-based research state of the art, now extended and setting up transferable and transparent evaluation procedures. In this aim of clear evaluation, due to the artistic-based nature of DDDr, these texts find support in the analyses of singular, situated DDDr examples.

These articles are, therefore, theses expressed by the partners with an evaluation scope through comparing of and reflecting on the examples of CA2RE+'s fellow researchers, analysing their DDDr projects, writings, images and visual or other registers, means or supports.

The pertinent examples selected by each partner author had the precise objective of clarifying and pursuing possible paths of their specific self-thesis expressed, enriched, described and analysed in its specificity with the DDDr CA2RE+ examples as case studies. At the same time the selected examples are taken in order to clarify possibilities of the referred three different specific evaluation parameters of design-driven research. In fact, the goal is to clarify the partner authors' thesis and at the same time if the chosen examples are considered closer to a design-driven approach or to a design-driven method or to a specific design-driven technique, and by so doing enlightening these parameters and notions shared by the consortium partners.

A 2nd goal of these texts is to EVALUATE by '**comparison**' through '**reflection**'. This objective was pursued in each partner's text through the differentiation and explanation of two selected CA2RE+ presentations projects of a different DDDr type, and by explaining their positions or modes of research.

#### **4-The fourth chapter IV-EVENTS: CA2RE+ MILANO / CA2RE+ HAMBURG**

The fourth chapter comprehends texts from the observers, joint staff trainee, workshop organisers, or panels reviewers. This chapter primarily builds upon Milano and Hamburg, CA2RE+ intensive study programmes, focusing on '**comparison**' and '**reflection**' and is divided into two main Points.

The first point, named COMPARISON / REFLECTION, reflects on and



evaluates the preparation of the events or insights obtained during the events. The second point, named TESTIMONIALS, is a reflection taken at the end of or immediately after the events.

The first point contains notes of the third and fourth CA2RE+ events, Milano and Hamburg, written by observers, Joint staff Trainee and workshop teachers. It reports and evaluates by addressing the presentations, discussions and experiences of each event. It identifies the main thoughts built on the workshops held at the conferences, including workshop presentations, feedback and reflections from the audience to the participants' presentations.

They contribute to the quest for findings of Book 2 by evaluating and reflecting on the topics presented at the two conferences covered by this Book, describing notions underling the position and concept of Comparison and Reflection. This topic is oriented towards an iterative sequence of probing questions for Book 2 – EVALUATION, and also towards the reflection of how the LTTA activities within Milano and Hamburg CA2RE+ conferences were designed to encourage participants to compare and reflect upon their own design-driven doctoral research.

These texts are therefore notes and evaluation observations done by internal or external organisers present in the Milano and Hamburg presentations. These contributions by internal organisers and external observers give an overview and general reflection on the relevance of what they experienced as conductors or as guest observers of the design-driven research events and reporters of the students' presentations.

The second point, gathers texts written by participants selected as Joint Staff Trainee, who witnessed and summarized relevant statements by the participants made after the event. They summarise writings of the enquiries, surveys responded by participants (joint staff trainee, students, supervisors and administrators from the eleven partners of CA2RE+). In fact, these few texts synthesize the most valuable comments from the pertinent multiplicity of testimonial contributions taken from these events reflecting upon DDDr as multi-disciplinary, learning-through-evaluation model for the design and artistic fields.

## **5-The fifth chapter V-SELECTED RESEARCH**

The fifth chapter contains contributions from doctoral fellows, from the eleven partners in CA2RE+.

It includes a curatorial text that reflects on how the chosen presentations reflect on the topic evaluation of DDDr and that explains why and what was the process and criteria of the selected fellows' research works done by the *consortium*. These selected presentations from the third and fourth CA2RE+ intensive study programmes focused on

“comparison” and “reflection”. This text also explains the structure of grouping the students’ work according to the three parameters of DDDr (Approach, Method and Technique).

The main body of this chapter, however, is built upon showing the DDDr contributions from doctoral fellows’ work. The selection was based on the presentation’s ability to highlight important aspects of the topic of evaluation thought comparing notions of the third conference, and to present reflection on the fourth conference. The general quality of the contribution was a selection criterion as well. However, the ultimate decision on the final fellow presenter’s papers selected for this Book 2 derives from the selection criteria of the panellist’s **consortium** partner, in order to clarify their common notion of Evaluation. This evaluation notion is based, as mentioned above, in the framework created by the **consortium**, grounded in the categories identified and grouped in three main parameters of DDDr, procedures and contents.

In this sense, each partner was asked to identify the most clarifying CA2RE+ presentation examples within the three parameters of DDDr, Approach, Method and Technique, in a variable and diverse scope of artistic fields and tools.

The fellows’ papers, samples of their PhD work, also aim to give specific examples of their Design-Driven Doctoral research findings, methodologies and contributions. These papers also provide the reflection for each fellow DDDr statement. The fellows give perspectives and reflections on the relevance of what they experienced as presenters and as DDDr developing researchers.

These papers are a tighter selection of design-driven research projects from a much wider range of events presentations, selected in order to help to evaluate DDDr procedure. They are structured in three groups, according to the **consortium’s** three main parameters of DDDr, chosen indifferently from the Milano or Hamburg CA2RE+ events. A selection of 6 presentations from each of the three parameters are more or less balanced between the two conferences.

## **6-The sixth chapter VI- CONCLUSIONS FOR EVALUATION**

The conclusions for the Evaluation of the CA2RE+ process and program steps provide the response that allows doctoral fellows, supervisors and administrators to understand the scope and aim of DDDr evaluation better. It develops the reflections from Book 2 and from the CA2RE+ program third and fourth steps. It concludes by responding to the identified evaluation questions in the outline of DDDr posed in the intermediate levels and in the first chapter. It identifies and shows the Intermediate findings, how we progressed in this Book 2, and opens the challenges to setup transferable and transparent evaluation for DDDr

procedures to other scientific research fields. It also raises clues and questions to be answered in Book 3 – FRAMEWORK.

## PEER REVIEWING

Peer review plays an essential role in the CA2RE+ project's ambition to strengthen quality assurance and the rigor of design-driven research. In Book 2, similarly to Book 1, the peer review was carried out in several stages, so the doctoral students' presentations, included in this publication, also underwent four reviews.

The first peer-blind-review aimed to select the candidates to participate in the CA2RE+ Event. The second was carried out during the event and the third corresponds to the final selection for the book, from among the Consortium partners. A fourth review is performed by the advisory board. The first stage review of abstracts submitted by candidates was carried out by the scientific committee of the events. Each abstract was blind-reviewed by three independent committee members. The reviewers commented and scored extended abstracts. The abstracts with the highest score were admitted for the limited vacancies of the CA2RE+ presentations. Presentations were made at the conference by means of ongoing research work, from a paper or an exhibition or artifact. Unlike most conferences, the second step review took place at the event. Sessions ran for sixty minutes for presentation and feedback. This immersive feedback is particularly relevant for promoting and ensuring design-driven quality and rigor.

For this publication, we carried out a third phase of peer review to select the best presentations within the framework of the book's theme, evaluation. Underneath this theme lie differentiated groups according to three parameters of design-oriented research procedures, jointly identified by the **consortium**. Based on this selection criteria, authors were invited by the consortium to submit a full article, for this second book.

The chosen papers correspond to the most representative of each parameters of DDDr, and within these are the most differentiated ones with the highest quality and the most original application.

The editors invited the presenters proposed by the majority of the panel members to publish an updated text that also included corrections in response to the panel's comments. These texts were thus developed from abstracts previously published in the conference proceedings, but now with extended and updated content for critical reflection upon the theme of evaluation and the way they conduct their design-oriented research. A template was created to keep each text design uniform and to allow better comparison of and reflection on all text materials, allowing readers to evaluate the content and form of the candidate's research differences. This criterion of the presentation of texts seems limiting; however, it allows to highlight what really has differentiating and artistic difference in the

book materials and contents of the contributors and in the diverse ways they conduct their design-oriented research.

In the fourth step the publication will be peer-reviewed entirely by the CA2RE+ advisory board. We will ask the board to comment on the structure, consistency, and overall quality and validity of the contributions.

We plan to conduct a fifth post-publication peer review of the CA2RE+ book series when the final, third, subsequent publication is released. External reviewers will carry out this review to contribute to the continued development of the research field.

## NOTES

1. CA2RE+ Book 1 –Strategies of Design-Driven Research, Claus P. Pedersen (Main editor), Publishers Aarhus School of Architecture, ARENA (Architectural Research European Network Association), EAAE (European Association for Architectural Education), ELIA (European League of Institutes of the Arts), 2021 1st Edition.  
ISBN 978-87-90979-91-1
2. CA2RE/CA2RE+ Milano - Comparison Conference for Artistic and Architectural Research. Book of Proceedings, Edited by Fabrizia Berlingieri, Pier Paolo Tamburelli, con Chiara Pradel, Beatrice Balducci, Francesca Zanotto, Enrico Miglietta, Claudia Mainardi, Politecnico di Milano, LetteraVentidue Edizioni First digital edition: March 2021  
ISBN 978-88-6242-481-3
3. CA2RE/CA2RE+ Hamburg - Reflection Book of Proceedings, Edited by Matthias Ballestrem and Marta Fernández Guardado. HafenCity Universität Hamburg, 2021  
ISBN 978-3-947972-30-2

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Author and co-author of projects with several prizes and mentions (shortlist) in public competitions.





# **The CA2RE Evaluation Stage**

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## ABSTRACT

**The evaluation of design-driven research is a delicate task for the research community. First of all, because it requires very sensitive collective engagement of a wide variety of experts to address vulnerable research situations. Secondly, because the research vulnerability requires the atmosphere of trust, to open up and allow the evaluators to enter very specific research worlds. Last but not least, because it needs to allow for critical distance in the process of immersion into research endeavours. This discussion unfolds the evaluation stages, practiced by the CA2RE research community during the preparation, implementation and wrapping-up the key collective experiential evaluation events.**

**Keywords: Research evaluation, evaluation stages, design-driven research.**

### **The evaluation stages**

In the CA2RE community, the evaluation process of singular research cases is organized in three key stages: selection, critical discussion and fine-tuning. At the selection stage, the scale of the evaluation circles shifts to the CA2RE community. The core of this process is the critical discussion of presenters, panellists and other community members at the events, which offers researchers the energy for the current research fine-tuning and for the next research iteration. During the CA2RE evaluation stages, the criteria of originality, relevance and rigour take different 'shapes', depending on the design's role as a driver of research (Zupančič 2020, 30; Zupančič 2021, 87).

### **Research selection process**

During the selection process, the basic rigour level seems the key to enter the process. The clarity of the proposal needs to reach the level, where the research relevance and originality can be communicated. The level of originality is assessed according to the research stages: the early-stage submissions need to show the potential to develop this level, the intermediate research needs to point out that potential and the final stages need to be clear about their actual contribution. The submission stage is usually possible to 'guess' from the submissions themselves. Last but not least, the relevance of the submission for artistic and architectural (CA2RE) and design-driven research (during the CA2RE+ project period), where the presenter can get the key feedback, is one of the key arguments for the acceptance/rejection grade. The reviewers



chose the options from strong accept (3), accept (2), weak accept (1), borderline submission (0), weak reject (-1), reject (-2) and strong reject (-3). The basic acceptance condition is the positive average 'grade'. For the limited presentation slots at each CA2RE event, we accept the highest-graded submissions.

### **Evaluation of research cases through critical discussion and wrap-ups**

The critical discussion stage - through research explanations, demonstrations, performances, artefacts... and responses - brings the opportunity to address originality, relevance and rigour in their in-depth specific interplay of each evaluation case. In the atmosphere of openness and trust, where the presenters and the panellists take time to immerse into the case singularity, the evaluation itself becomes more rigorous than at the previous stage; though there are no numerical grades involved and the conversation usually sounds positive, improvement-oriented. That level of evaluation rigour derives from both zooming in and out of the research discussed, enabled in the event settings mentioned. The panels are composed as a response to the presenters' and/or panellists' affinities (if expressed in advance), to enable relevant discussions about the actual relevance of each evaluation case. This way some panellists are closer to the research discussed: they are familiar with the work (at least from the selection stage; perhaps from the previous events) or their expertise is close to the presenter's expertise. There is usually a distant position in the panel as well (a newcomer or/and, a distant expert view). Some panellists are close to the work perhaps in one respect, distant in another. Similarly happens with the relations between the panellists. Even in the case of a distant view of a newcomer, perhaps a guest at the event having no idea about what design-driven research might be yet, the presenter and the panellists need to be able to explicate the core of the research in a way that it brings some motivation to that guest. This way the relevance of specific research for different target groups can be tested.

### **Evaluation roles**

Any newcomer to the CA2RE+ community may take different roles and enter the evaluation process at different stages. At that moment the diverse research institutional levels, research group and individual levels get an additional, experiential circle of evaluation, experiential because it is based on the immersive experience of a singular research case and its evaluation. The potential presenters usually join as guests, observing the critical discussion at the chosen event. The researchers with evidenced research evaluation experience or

design-driven research experience may skip the guest role and enter at the selection stage or as panel members. In this case, the event host takes care that the newcomer is placed into a 'company' of experienced design-driven research evaluators.

### **Evaluation of the assessment process**

After each event, the participants evaluate the impact areas of the happening, the impact triggers, the evidence of that impact and the ways they intend to transform that impact in their future work. A part of that transformation is also the update of the presentation materials for the event proceedings or other dissemination options and/or to prepare some new meta-level reflections, that can serve the future evaluation processes, at the CA2RE+ community level, at diverse research institutional levels, research group and individual levels. The relevance for all those communities needs to be taken into account.

The wholeness of the CA2RE+ evaluation process is evaluated internally and externally. Internally by the executive board, externally by the advisory board. The executive board is dealing with one of the main questions, related to the most sensitive research cases, where the research singularity and its artistic sensitivity are crucial for creating original research. How to enhance intersubjective knowledge transfer, enhance the relevance of these research cases, to reach perhaps even the audiences, very far from the core of the research discussed? These are the cases where research rigour cannot be achieved simply by a kind of systematic reuse of established research methods because the way of thinking requires individualized research strategies and the originality cannot be transferred through generalizations only or not at all. The advisory board is concerned by the question, how to reach out with research contributions, regardless of the singularity of research evaluated.

## BIBLIOGRAPHY

Zupančič, 2020. Design as a Hybrid Driver of Research. In: Fabrizia Berlingieri, Pier Paolo Tamburelli, with Chiara Pradel, Beatrice Balducci, Francesca Zanotto, 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, CA<sup>2</sup>RE and CA<sup>2</sup>RE+, 2020, pp. 30-32. [http://www.auid.polimi.it/wp-content/uploads/2020/10/201027-Bookof-Abstracts-Ca2re-Milan\\_def.pdf](http://www.auid.polimi.it/wp-content/uploads/2020/10/201027-Bookof-Abstracts-Ca2re-Milan_def.pdf)

Zupančič, Tadeja, 2021. Reflection on Originality, Relevance and Rigour in Design-Driven Doctoral Training. In: Fernández Guardado, Marta, Ballestrin, Matthias (eds.), CA<sup>2</sup>RE / CA<sup>2</sup>RE+ Hamburg. Conference for Artistic and Architectural Research - Book of Proceedings; Hamburg: HafenCity Universität Hamburg, pp 87-91. DOI: 10.34712/142.18

## BIOGRAPHY

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# II ENCOUNTERS



Pepa Ivanova – KU Leuven

**When research  
meets art:  
from art-based  
research to  
design-driven  
doctoral research**

Manuel Bogalheiro  
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## ABSTRACT

**With the signing, in June 2020, of the “Vienna Declaration on Artistic Research”, the major organizations of European art schools formalized a document to define common concepts and point out general guidelines for a coordinated articulation in the field of arts education and research, in terms of transversal parameterization, validation and peer-review evaluation. Having raised controversy over the formatting or parameterization of validation criteria in the artistic field, the document revived the debate on research in the arts, as well as on the role of art in research. This paper seeks to reconstitute some seminal contributions to this debate – by pointing out continuities and specificities – from Serge Stauffer’s proposal “Art as Research” in the 70s, through Elliot Eisner’s and Shaun McNiff’s “Art-based research” proposals, in the 90s, until the methodological approach of “design-driven doctoral research” as it has been rehearsed in the Conferences for Artistic and Architectural Research (CA2RE).**

**Keywords: Art-based research, post-research condition, learning through practice, object of knowledge.**

Ideas are to objects as constellations are to stars. Walter Benjamin

In June 2020, the European academic community witnessed the signing, “by all major organizations of European art schools” of an “international policy document on artistic research”: the Vienna Declaration on Artistic Research [1]. Aiming at “political decision-makers, funding bodies, higher education and research institutions”, the document seeks to define common concepts and point out general guidelines for a coordinated articulation in the European space in the field of arts education, from a transversal parameterization, validation and peer-review regulation of research. Under the objective goals and metric principles of the declaration, it is proclaimed by its signatories that the document seeks to institutionally legitimize, focusing in particular on doctoral programs, what, at least more evidently since the second half of the 20th century, outside or inside the academia, has been proposed as artistic-based research. If, on the one hand, the Vienna Declaration is given as a landmark for the renewal of the artistic research field, on the other hand, it is seen as a controversial proposal, being, in fact, subject to austere criticism [2]. Between one extreme and the other, the signature of the declaration intensified a debate that has gained preponderance at an institutional level on the rethinking of academic research in arts, as well as on the role of artistic expressions in academic research. In general terms, new proposals



for the parameterization of artistic research are recognized in these debates, as well as programs that break with rigid and essentially metric models of teaching and evaluation that have been established in the field of the arts, many of them imported directly from the areas of the so-called hard sciences, without adequate adaptation to expressive and creative specificities. In this sense, both in terms of methodologies and ways of practice, as well as the results presented, alternative ways have been considered that, on the one hand, challenge the so-called traditional scientific models and, on the other hand, test an epistemological and internal specificity of art, whether at the level of the practical conditions of the experimentation and creation contexts, the formulation of research questions, the identification of case studies, the testing of formats for the research projects or artefacts “materialization”. Ultimately, the model of the classical monograph, mainly based on verbal or mathematical language, was questioned in the field of applied arts, as well as the very idea of a finished work to be submitted to a final moment of evaluation.

The topicality of the debate only promotes greater attention to its possible genealogy. Among the various proposals that can be cited, we highlight the short manifesto that Serge Stauffer – Swiss artist, experimental art educator and collaborator of Marcel Duchamp – wrote in 1976 for his discipline “Art Laboratory for Advanced Students” at F+F School of Experimental Design (Zurich), entitled “Kunst als Forschung” (“Art as Research”), in which he proposed a “socially relevant and politically free” art and, above all, an art that “requires its own methodology, an art that cannot use the scientific methodology but let itself inspire from it” (Stauffer, 1976, pp. 179-80). From a pedagogical point of view, according to Stauffer, the approach to follow should be indebted to the idea of the game and the dialectic of trial and error, without external pressures to adhere to pre-formatted models, privileging fabulation over prescription.

Being characteristic of this type of proposals a certain resistance to systematized formulations, studies with a certain programmatic nature stand out in the 1990s, namely those developed by Elliot Eisner or Shaun McNiff, to which the coining of the term art-based research would be associated. In the case of McNiff, professor and plastic artist, what will distinguish the art-based research methodology – and we would say that this is the most relevant aspect of his proposal – will be the principle that the art field, with its processes and its works, will not only be an empirical object of study for analysis (that is, a posteriori) in the investigation: “[art-based] inquiries are distinguished from research activities where the arts may play a significant role but are essentially used as data for investigations that take place within academic disciplines that utilize more traditional scientific, verbal, and mathematical descriptions and analyzes of phenomena.” (McNiff, 2008, p. 29). On the other hand, in the art-based research methodology “rather than just reflecting upon artistic

phenomena in case studies, interviews, and other explanatory texts, students ask if they can pursue the process of painting to learn more about a particular aspect of painting or elicit the creative imagination to let the characters in their expressions describe themselves and their experiences, and so forth.” (McNiff, 2008, p. 30) In this sense, McNiff’s proposal would recognize in artistic processes and in their own forms of poiesis a praxis for the production of knowledge. The artistic processes or works would no longer be just a simple empirical matter to a subsequent analysis. Instead, they must become the condition of possibility of learning or investigation, leading them, mirroring them, conditioning them, as an a priori of the process. This would be the foundation of a program that, more than being defined and stabilized, should be continuously rehearsed, combining the empirical with the experimental, basing thinking on practical realization, privileging the visual over the written, replacing systematization with constellation. Despite the supposed breadth of these premises, in McNiff, the applicable scope of this methodology appears mainly associated with ways of thinking about art, through art itself, or associated with a certain psychological analysis of the the idea of “subjectivity”, through aesthetic experimentation. In addition to this aspect, in the exercises proposed or described by McNiff, art-based research seems to gravitate towards objective fields of application, appearing subordinated to therapeutic “techniques” in psychology or medicine. What we want to stress with this is that the main emphasis is not always placed on the epistemological potential of the so called artistic expression, namely in terms of its application in an academic context, and more particularly at the doctoral level.

Although it also tends to resist stagnant and definitive formulations, what has been tested as design-driven doctoral research (DDDr), within the scope of the Conferences for Artistic and Architectural Research (CA2RE), reflects many of the premises of the legacy of the proposals that we described above, adding to it the specificity of doctoral research in the expanded field of architecture, design and the arts, as well as methodologies for monitoring, transmitting and evaluating research projects, at different stages of progress, by specialized juries in the respective areas. In summary, DDDr can be viewed as an expanded methodological field that experiments not only the research methodologies in the art, but, above all, the use of artistic processes and languages as a tool for research in creative domains at the academic level of PhD. According to Edite Rosa and Joaquim Almeida, the specificity of this applied research and evaluation approach is reflected in the principle that “the result of the research will not be the ‘product’ itself, but the fact of materializing in graphic, verbal and written support a knowledge that itself as a critical reflection of itself, communicable to others as a thinking tool and as an advance of disciplinary knowledge.” (2020, p. 37) [3]. At the heart of the

process is the artifact/support itself and the way in which its design/materialization dictates, in themselves, paths for the following stages of the investigation and reflects the progressive results obtained. In the tensions between creative freedom and the centrality attributed to the artifact, doubts may arise about what can be considered research and what overflows this sphere. But, in any case, this borderline itself is instructive for the reflection of research in arts, that is, and forcing possible questions: what distinguishes artistic creation in the context of academic research from other contexts? What is the epistemological specificity, if such can be formulated, of an artistic object insofar as it can also be an object of knowledge? The problematization of these questions is not intended to reiterate any dogmatic traditionalism around a unified idea of “object of knowledge”. Instead, as appears in the moments of presentation/evaluation of candidates’ projects at CA2RE conferences, it is sought that the freedom and multidiversity of supports and approaches can, in any case, be available to the conditions of transferability – and intelligibility – of research processes between peers, justifying, at the same time as questioning, the assumption of universality of science. Altogether, from the reflection that the artifact carries within itself to its presentation/evaluation in successive stages, the DDDr approaches what Tim Ingold (2013) suggests in the following terms: investigating a theme or phenomenon through practice, instead of just observing them promotes an understanding of the true nature of practice and knowledge as transformational rather than just documentary.

Under the cultural, political and technological challenges of a globalized world, crossed by crises – from climatic to humanitarian –, a world that reflects other temporalities beyond those that the linearity of historical periodization has consecrated and that requires ontological transdisciplinarity, DDDr can be seen as an expanded perspective for reviewing traditional research models, more particularly at the doctoral level in creative domains; a review in which “the artistic research is understood performatively: as a transformative potential, as a space for negotiation, as an articulation of unfinished thinking, as a mode of world constituting (Slager, 2021, p.2) To some extent, forcing a last connection, as in Walter Benjamin’s thought on constellations, particular dispositions which – more than representing or organizing – add, alter and produce an idea of the real, thus not being only of the order of appearing, but, above all, of an intervention on the ways of appearing.

## NOTES

1. [https://cultureactioneurope.org/files/2020/06/Vienna-Declaration-on-AR\\_corrected-version\\_24-June-20-1.pdf](https://cultureactioneurope.org/files/2020/06/Vienna-Declaration-on-AR_corrected-version_24-June-20-1.pdf)
2. “To summarize the core points of our critique [of Vienna Declaration]]: by becoming ‘AR’ [as mentioned there], artistic research turns from a speculative and poetic endeavor into a ‘peer-reviewed’ and ‘validated’ affair: ‘data and statistics’ can be ‘harvested’ from it, which feeds into ‘enterprise Research & Development’. The ‘Vienna Declaration’ thus mainstreams artistic research, respectively “AR”, into an almost comically exaggerated neoliberal technocratic agenda.” (Cramer, 2021, p.24).
3. In the same publication, entitled *The Post Research Condition*, we can find the following definition: “what we mean by artistic research: creative practice (experimentality, art making, potential of the sensible); artistic thinking (open-ended, speculative, associative, non-linear, haunting, thinking differently); and curatorial strategies (topical modes of political imagination, transformational spaces for encounters, reflection and dissemination)” (2021, p. 3).

## BIBLIOGRAPHY

Benjamin, Walter. [1928] *The Origin of German tragic Drama*. Verso Books, 2009.

Cramer, Florian. [2021] “Artistic Research – dead on arrival? – Research practices of self-organized collectives vs. managerial visions of artistic research”. In *The Post Research Condition*. Metropolis M Books.

Ingold, Tim. [2013] *Making – Anthropology, archaeology, art and architecture*. Routledge.

McNiff, Shaun. [2008] “Art-Based Research”. In *Handbook of the Arts in Qualitative Research: Perspectives, Methodologies, Examples, and Issues* (Ed. G. Knowles, A. Cole). SAGE Publications Inc.

Rosa, Edite; Almeida, Joaquim. [2020] “Design Driven Doctoral Research in Architecture”. <https://ca2re.eu/wp-content/uploads/2021/01/CA2REMILANO-position-paper-ROSA-and-ALMEIDA.pdf>

Slager, Henk, Et al. [2021] *The Post Research Condition*. Metropolis M Books.

Stauffer, Serge [1976]. “Kunst als forschung”. In *Kunst als Forschung: Essays, Gespräche, übersetzungen, Studien*. Scheidegger & Spiess, 2013.

## BIOGRAPHY

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# **II.1 CONSTELLATIONS FROM INVITED**





# **Artistic research and practice-based methodologies in music performance studies: a personal reflection**

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## ABSTRACT

The study of musical phenomenon has, for a long time, unfolded in two separate camps: indeed, declarative knowledge was mainly produced in universities, where Musicology and its different disciplines were taught, whereas procedural knowledge associated with the performance and composition of Music stemmed mostly from conservatories, music academies and active musicians. Quite recently, the central role of performance in the musicological debate, away from the supremacy of the written text (score), has been pointed out. Indeed, through his seminal writings on music as performance, Nicholas Cook (2014) suggested the centrality of performance in the investigation of the musical phenomenon. In the meanwhile, several authors and institutions have contributed to the definition of “artistic research” in Music (cf. AEC, 2015); it is understood that this specific type of research effectively combines declarative and procedural knowledge through practice-based objects, methods, and outcomes. As regards the enquiry about musical practice and creation, Pinheiro and Caires (2019) identified four levels of reflective depth to which I will relate, in the lines below, my most significant research projects. In doing so, I am drawn to conclude that my practice-based objects and methods have enabled me to achieve results otherwise not possible to tackle, while acknowledging that complementary methods (including from Social Sciences and Humanities) are necessary and beneficial. Even if artistic research in different artistic disciplines supposes an array of specific and differentiated methodological approaches, it benefits from interdisciplinary cooperation, as it shares identical purposes, large-scale methodologies and overarching preoccupations.

**Keywords: Music, performance studies, artistic research, practice-based methodologies**

As an emerging discipline in the late 19th century, Musicology relied on the classical distinction between historical (diachronic) and systematic (synchronic) science (Carvalho 2001); the first dealt with the history of western classical music, which was basically equated with the written score (Carvalho 2001), whereas the second sought to explain the inner procedures and operations at play in musical works from that tradition. Therefore, for a major part, Musicology relied upon sources, techniques, and methods akin to those which History, in the largest sense, deals with (Weber 1980, 13; Nattiez 2003, 26). Even if the historical perspective was still the main focus of musicological research until the 1960's (Nattiez

2003, 26), we have since then witnessed unprecedented developments, entailing the discipline's adoption of objects and methods both from the social and the natural sciences (Weber 1980, 12). It is now widely recognised that the musical phenomenon, as a multi-dimensional object, must be understood through a conjunction of several disciplines and perspectives, in an enlarged, pluridisciplinary approach. (Nattiez 2003, 26)

In that sense, several subcategories and their respective disciplines coexist and contribute to the understanding of Music, be it the historical approach, the systematic approach (including music theory and analysis), ethnomusicology (borrowing methods and procedures from anthropology), the sociology of music, music aesthetics, new musicology (with emphasis on cultural studies, analysis and criticism of music), music psychology, music therapy (with a strong application focus in healthcare settings), among others.

Traditionally, the declarative knowledge produced by the studies developed in those areas, as well as their respective connections and intertwinements, was produced in universities, whereas the procedural knowledge associated with the performance and composition of music stemmed mostly from conservatories, music academies and active musicians.

Yet, in the 21st century, authors such as Nicholas Cook have pointed out the central role of performance in the musicological debate, away from the supremacy of the written text (score), thus adding a much significant contribution to the object of study. Indeed, through his seminal writings on music as performance (Cook, *Beyond the score: Music as performance* 2014; Cook e Pettengill 2013), the author suggested the centrality of performance in the investigation of the musical phenomenon. Believing that “texts do not determine performances or the meanings they embody, they create a potential for the generation of certain meanings or kinds of meaning”, the author pruned “a broader musicology in which writing and playing are both understood as integral dimensions of music's existence and meaning”. (Cook, *Between Art and Science: Music as Performance* 2014, 7)

The centrality of performance in the musicological debate has entailed some critical developments. Indeed, we started looking into the psychological, neurological, physiological, sociological and cultural aspects of music performance, while also referring to performance practice, which focuses on how music from different times and spaces ought to be performed, in light of the available pertaining data. Key authors, such as John Rink, have explored number of those aspects (cf. Rink 2002; Rink 1995). Additionally, we began dissecting performance through the analysis of sound and/or video recordings, as Cook and other researchers – namely from CHARM (AHRC Research Center for the

History and Analysis of Recorded Music) – have shown.

In light of the aforementioned developments, central questions arise: may we understand and value musical performance to its full extent without actually practising it? Particularly, are there any aspects of musical performance which may be understood only through a hands-on, practice-based approach? And how may we advance knowledge and artistic creativity through performance and the application of performance-related research?

Most of my recent endeavors, either in an individual setting or as doctoral thesis' supervisor, attempt to answer those questions, through well-defined, concrete artistic research objects, methods and products. In that sense, my activity joins the developments in the area of artistic research, which suggested the integration of procedural and declarative knowledge (Pinheiro e Caires 2019, 251), while accepting that a degree of subjectivity, inherent to any artistic practice, may be accommodated in the already mentioned type of research. According to Pinheiro and Caires (2019):

Although it has been widely discussed and developed since the 1990s, the concept of artistic practice as research has undergone a relatively recent boost. In fact, a few decades ago, music practice and creation were separate from scientific research, and were not considered to deserve to be labelled as 'true research'. Several authors, such as BORGDORFF (2006; 2008; 2012), indicate that there has been a recent emancipation of artistic research from the scientific paradigm that establishes the problematic notion of scientific objectivity as a final goal in research. (Pinheiro e Caires 2019, 252)

I strongly believe that artistic research projects allow for the development of relevant and innovative artistic practices, thus unfolding their full application potential. Yet, I often combine design driven methods with more conventional methodologies, either from music history, sociology or systematic musicology. In that sense, I thoroughly endorse the Association Européenne des Conservatoires, Académies de Musique et des MusikHochschulen's postulates about artistic research, as expressed in the AEC Council's White Paper (2015):

Artistic Research may be defined as a form of research that possesses a solid basis embedded in artistic practice and which creates new knowledge and/or insight and perspectives within the arts, contributing both to artistry and to innovation. [...] Artistic Research, although strongly application-oriented, does not preclude pure research. In fact, in order to make progress, the field of Artistic Research is likely to support a wide range of component

activities, some of which may count as pure research, others as applied, and still others as developmental or translational research. [...] Artistic Research should not be understood as something that is incompatible with more traditional forms of research.

In a personal attempt to answer the questions I brought forth in the preceding lines, I'd like to comment upon some recent performance-related research projects. But before that, I should specify that my research pathway has led me to pursue research in some fundamental areas, such as historical or systematic musicology, with occasional incursions through aspects of the sociology of music or music performance studies, of which I may cite but a few examples. Those studies have occupied me throughout my whole research career, while studies focusing on performance-related issues and design driven methods have become more and more frequent in recent years. Yet, the historical, systematic and sociological perspectives are ever present, even if at the background, in my most recent research endeavors. In that sense, I consider that my artistic research activity (including doctoral supervision), based on an active artistic practice, comprises the four levels of creative depth identified by Pinheiro and Caires (2019, 252):

In terms of practice and musical creation, four levels of reflective depth can be identified. The first has to do with the act of performing, improvising and creating music. The second level concerns the collection of contextual information to inform the creation and practice of music. This is informed musical practice. The third comprises reflection on musical practice and the contextual information collected, in order to deepen perspective on and understanding of the creative and artistic phenomenon. This is research for the art. The last step consists of the process of framing musical practice and creation, contextual information and reflection and discussion within a rigorous methodological system. This last stage can be named research through art (Frayling 1993-4; Crispin 2016).

For one thing, the first level is ever present, through my performances and recordings as pianist. As examples of the second level, I would cite my own doctoral thesis, entitled *Luís de Freitas Branco (1890-1955): parcours biographique et esthétique à travers l'œuvre pour piano* (Telles 2009), which had a very strong historical and analytical focus: for one thing, it established the first comprehensive biography of Portuguese composer Luís de Freitas Branco, on the basis of a significant number of unpublished sources; on the other hand, it aimed at the discussion of the author's aesthetic development through a parametric musical analysis of his piano works. The work thus conducted led, some years later (Telles 2017), to the establishment of a critical edition of Freitas

Branco's Preludes for piano, which not only has a potential interest for performers wishing to tackle that repertoire, but also applies in pedagogical settings. If the establishment of a critical edition of music does not necessarily require its author to perform the repertoire, in this particular case the choices made, in terms of fingerings and criteria for the indication of note alterations, were mostly based on my own performative practice.

Other contextual work leading to informed musical practices has been developed in my historical research projects, which include reference to sociological aspects. On that level, I should mention an introductory approach to the relationships of three Portuguese composers of the 20th and 21st centuries – Fernando Lopes-Graça, Jorge Peixinho and João Pedro Oliveira –with the Brazilian musical scene, in their respective times (Telles 2015a); significantly, all of the selected composers are often featured in my artistic performance projects.

Some systematic musicological studies were conducted, mostly in areas and about repertoires that were already well-known to me, as a performer; for example, the comparative analysis of Freitas Branco' and António Fragoso's piano works (Telles 2010); analytical studies of Henri Tomasi's piano works (Telles 2015b) and *Retour à Tipasa*, by the same author (Telles 2015c); an enquiry about aspects of Claude Debussy's language that permeate contemporary works for piano by selected Portuguese composers (Telles 2018b, 239-262) and a survey of biblical sources in the musical output of João Pedro Oliveira (Vernon Press, in print). In all but one case [1], my own playing of the works in question was deeply enhanced by the knowledge gathered through rigorous and systematic analytical methods.

Furthermore, in line with my dedication to the performance of new music works, often produced in the context of collaborative composer-performer projects, or as an active performing member of several contemporary music ensembles [2], I have produced some research that would qualify as "research for art", the third level of reflective depth suggested by Pinheiro e Caires (2019, 252). In that category, I include two studies dedicated to the history of the Lisbon Contemporary Music Ensemble and its relationship with the contemporary musical creation (Telles 2020b; Telles 2012) and an enquiry about the life and works of Clotilde Rosa, one the ensemble's founding members whose works I had a chance to perform, particularly in the context of a specific composer-performer interaction that gave origin to Rosa's last piano work, which is her only work for this instrument and electronics (Telles 2020a). The emphasis on musical creation, particularly in Portugal, had previously spurred a survey about several active composers and their respective creative options (Telles 2011).

As regards music performance studies, I started out with an analysis of Maurice Ravel's works as conducted and recorded by Pedro de Freitas Branco (Telles 2005). Yet, more recently, I have focused on aspects of idiomatic writing for the piano and the corresponding technical-performative issues, in the works of composers which I have often played and premiered, such as João Pedro Oliveira (Telles 2019) and Christopher Bochmann (Telles 2018a; Telles 2020c). This trend, which corresponds to the fourth level of reflective depth mentioned by Pinheiro e Caires (2019, 252), did, in fact, become one of my main research areas, having subsequently spurred doctoral projects under my own supervision, which replicated the methodology I had developed in studies about musical instruments and repertoires other than the piano's (cf. bassoon, bass clarinet, doublebass). In those projects, the research questions stem from artistic practice and reflect a dual perspective: the performer's and the composer's. In that sense, the end results usually address both, through descriptive and prescriptive outcomes. The methods employed include a practice-based identification of notational and technical problems, on one hand, as well as of effectively innovative solutions, on the other hand; an organised register of those findings; an experimentation process leading to the development of problem-solving strategies; a sustained dialogue with fellow performers and composers; and the adoption of results' presentation formats that include performance, audio and/or video recordings [3], annotated scores and written text.

To this trend, I may add three specific projects, relating to instrumental practice and technique. In the first of these, Piano fingering strategies as expressive and analytical tools for the performer (Telles 2021), I claim that the fingering process, in the process of preparing a piano performance, bears an important cognitive role and may prove to be a valuable analytical resource for the interpreter, as it promotes the understanding of musical processes at work, both before and during the performance, specifically in the contemporary repertoire. Complementarily, I advocate that a more comprehensive and all-encompassing approach to fingering, freed from the constraints of standard practices, may significantly contribute to the realization of the full expressive potential of a number of works. The fingering strategies are designed in practice, as an essential component of a pianist's preparation for performance; this study theorizes those strategies, in order to achieve both descriptive and prescriptive outcomes with potential impact on fellow artists dealing with similar repertoires and students.

The second of these projects, Extreme dynamics through body movement in contemporary piano music performance (in preparation), takes major consensual issues of standard piano technique as a starting point, and relies equally on my own practical experience as a performer

devoted to the piano music of our time; through a performance analysis of different works calling for extreme dynamic nuances, I intend to systematize and communicate a repertoire of movements that have allowed me to manage these repertoires without injury in the course of a performative career spanning over more than two decades. As in the previous project, this study elaborates on a set of design-driven strategies, developed by an individual performer, in the context of her own artistic practice; by congregating knowledge from style, performance practice, interaction with composers, alongside with health and well-being concerns, it strives to communicate a set of principles for effective technical innovation in piano playing.

The third project, under development by one of my doctoral students, Ricardo Sá Leão, starts with a literature review documenting the progressive loss of creative musicianship competences, including improvisation, among classically trained pianists, following the institutionalization of a canonic repertoire and standard teaching methods from the second half of the 19th century to the present; through the establishment and testing of an extensive and carefully designed set of exercises, he intends to develop those competences for himself, so as to communicate them to piano students in the course of their own performative development.

In all of the cases discussed above, both the object of study and the methods employed stem from artistic practice and are engendered by it. They are tailored by a specific artist to respond to his/her performative (and indeed formative) concerns, in a way that does not (and cannot) exclude a certain degree of subjectivity, based on the performer-researcher's own physical and psychological characteristics; in fact, we must not forget that, to a certain extent, his/her own development as a performer is an important aim of the research. The results attained through this type of research would not be possible with more conventional approaches by themselves, even if the concurrence of methodologies from the social sciences, humanities and systematic musicology is much needed. Furthermore, the outcomes of these projects do necessarily include artistic realizations (scores, performances, recordings), either single or multiple.

My experience with practice-based research has allowed me to relate positively to the CA2RE | CA2RE+ Conferences, both in Hamburg and Ljubljana. Even if all the projects I was called to comment upon, on both occasions, were from the field of Architecture, I was able to contribute with content-related comments, hoping to enrich the discussion with an interdisciplinary approach; indeed, I found that several of the issues being investigated resonated with my own research interests, and could benefit from related knowledge from my own field of studies. And even if the concrete design-driven methods applied to those architectural



## NOTAS

- 1 Retour à Tipasa is a work for narrator, male chorus, and orchestra; therefore, I never participated in a performance of that work.
- 2 Sond'Ar-Te Electric Ensemble (2007-2011), GMCL – Lisbon Contemporary Music Ensemble (2009-2017), Ensemble DME (2013-present).
- 3 As in the Performance and Context platform: <https://perf.esml.ipl.pt/index.php/component/k2/item/9-essay-viii-a-key-work-in-the-piano-output-of-christopher-bochmann>

## BIBLIOGRAPHY

- AEC Council. 2015. "Key Concepts for AEC Members Artistic Research." White Paper. AEC.
- Carvalho, Mário Vieira de. 2001. "As Ciências Musicais na Transição de Paradigma." *Revista da Faculdade de Ciências Sociais e Humanas* 211-233.
- Cook, Nicholas. 2014. "Between Art and Science: Music as Performance." *Journal of British Academy* 1-25.
- . 2014. *Beyond the score: Music as performance*. Oxford: Oxford University Press.
- Cook, Nicholas, and Richard Pettengill. 2013. *Taking It to the Bridge: Music as Performance*. Ann Arbor: University of Illinois Press.
- Nattiez, Jean-Jacques. 2003. "Une encyclopédie de la musique pour le XXe siècle: Présentation générale." In *Musiques du XXe siècle*, 26. Paris: Actes Sud | Cité de la Musique.
- Pinheiro, Ricardo, and Carlos Caires. 2019. "Performance and Context: A Research in Music Performance Platform." *Revista Portuguesa de Musicologia | Portuguese Journal of Musicology (new series)* 251-258.
- Rink, John. 2002. *Musical Performance: A Guide to Understanding*. New York: Cambridge University Press.
- . 1995. *The practice of performance: studies in musical interpretation*. Cambridge: Cambridge University Press.
- Telles, Ana. 2021. "Piano fingering strategies as expressive and analytical tools for the performer." In *Contemporary Piano Music: Performance and Creativity*, by Madalena Soveral, 151-184. Cambridge: Cambridge Scholars Publishing.
- . 2020a. "Lirismo onírico e gestualidade expressiva: Incursões pela vida e obra de Clotilde Rosa (1930-2017)." In *Clotilde Rosa (1930-2017) in memoriam*, by José Machado, 315-332. Lisboa: AvA Musical Editions.
- . 2020b. "O 'cultivo da música contemporânea entre nós': no cinquentenário do Grupo de Música Contemporânea de Lisboa." In *Grupo de Música Contemporânea de Lisboa 1970-2020*, by José Machado, 34-47. Lisboa: AvA Musical Editions.
- . 2020c. "Essay VIII: a key work in the piano output of Christopher Bochmann." *Performance e Contextos*. 25 April. Accessed October 20, 2021. [https://perf.esml.ipl.pt/index.php/component/k2/item/9-essay-viii-a-key-work-in-the-piano-output-of-christopher-bochmann#\\_ftn2](https://perf.esml.ipl.pt/index.php/component/k2/item/9-essay-viii-a-key-work-in-the-piano-output-of-christopher-bochmann#_ftn2).
- . 2019. "Traços da prática organística na escrita para piano e eletrónica de João Pedro Oliveira: In Tempore, Abyssus Ascendens ad Aeternum Splendorem, Timshel e Entre o Ar e a Perfeição." In *Musica instrumentalis: experimentação e técnicas não convencionais nos séculos XX e XXI*, by Ângelo Martingo and Ana Telles, 163-190. Vila Nova de Famalicão: Húmus.
- . 2018a. "A música para piano de Christopher Bochmann: reflexões sobre as obras e a escrita instrumental." In *Christopher Bochmann*, by Pedro Junqueira Maia, 61-115. Porto: Atelier de Composição.
- . 2018b. "Permanences de Debussy dans la musique portugaise pour piano du 21e siècle." In *Claude Debussy: La trace et l'écart*, by Jean-Pierre Armengaud and Pierre-Albert Castanet. Paris: L'Harmattan.
- . 2017. "Critical edition, historical and analytical note." *Luís de Freitas Branco: 14 Preludes for piano*. Lisboa: AvA Musical Editions.
- . 2015a. "Dialogues intercontinentaux: Trois compositeurs portugais au Brésil (Fernando Lopes-Graça, Jorge Peixinho et João Pedro Oliveira)." In *Rythmes Brésiliens. Musiques, philosophie, histoire, société*, by Zélia Chueke, 303-318. Paris: L'Harmattan.
- . 2015b. "Le piano dans l'œuvre d'Henri Tomasi." In *Henri Tomasi: Du Lyrisme méditerranéen à la conscience révoltée*, by Jean-Marie Jacono and Lionel Pons, 208-236. Aix en Provence: Presses Universitaires de Provence.
- . 2015c. "Retour à Tipasa: La Méditerranée d'Albert Camus et Henri Tomasi." In *Henri Tomasi: Du Lyrisme méditerranéen à la conscience révoltée*, by Jean-Marie Jacono and Lionel Pons, 519-546. Aix en Provence: Presses Universitaires de Provence.
- . 2012. "O Grupo de Música Contemporânea de Lisboa e a criação musical portuguesa: 40 anos de história." In *O Grupo de Música Contemporânea de Lisboa e a criação musical portuguesa: 40 anos de história*, by Paulo de Assis, 203-214. Lisboa: Colibri.
- . 2011. "La création musicale portugaise aujourd'hui." *Musicologies* 71-85.
- . 2010. "Luís de Freitas Branco e António Fragoso: análise comparada de obras para piano." In *António Fragoso e o seu tempo*, by Paulo Ferreira de Castro, 175-185. Lisboa: CESEM - AAF.
- . 2009. "Luís de Freitas Branco (1890-1955): Parcours biographique et esthétique à travers l'oeuvre pour piano." *Doctoral thesis*. Paris: Université de Paris IV - Sorbonne, 23 Jan.

–. 2007. “Esboço biográfico.” In Luís de Freitas Branco, by Alexandre Delgado, Ana Telles and Nuno Bettencourt Mendes, 26-112. Lisboa: Caminho.

–. 2005. “Pedro de Freitas Branco et Ravel: une analyse critique de quelques enregistrements.” *Ostinato Rigore* 243-260.

Weber, Édith. 1980. *La recherche musicologique: objet, méthodologie, normes de présentation*. Paris: Beauchesne.

## **BIOGRAPHY**

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Intérprete:

Ana Telles

Instrumento / Área:

Piano

Instituição:

Universidade de Évora

Programa:

Christopher Bochmann | Essay VIII

Media:



## Essay VIII: a key work in the piano output of Christopher Bochmann

**Abstract:** Christopher Bochmann's pianistic language is based on a fairly conventional instrumental technique, inherited from the 19th century pianistic tradition, yet encompassing characteristic features developed by authors associated with the 2nd Viennese School and post-serialism, as well as significant experiences in the fields of free forms and aleatoric music. The permeability to a neoclassical sensibility, probably stimulated by contact with Nadia Boulanger in the formative years, has remained over time and manifests itself from time to time, both in the use of techniques, genres and forms of the past, but also, more comprehensively, in a constant search for balance and proportionality, across all of Bochmann's works.

From 1991, the year he composed *Essay VIII*, for solo piano, Bochmann inaugurated his maturity phase, based on what he calls a "unified technique". The significant consistency of his instrumental language from then on results, to a large extent, from the synthesis of previously explored elements that *Essay VIII* operates, as I intend to demonstrate throughout this essay. Furthermore, we shall see how specific traits, not always particularly idiomatic, of Bochmann's pianistic idiom enhance the aural understanding of the compositional principles that structure the work in analysis, and how a successful performance of the work depends largely on the understanding and highlighting, through specific performance practices, of the composer's choices.

FIGURE 1. Ana Telles. 2020. Essay VIII: a key work in the piano output of Christopher Bochmann:

A research outcome combining declarative and procedural knowledge

Source: [https://perf.esml.ipl.pt/index.php/component/k2/item/9-essay-viii-a-key-work-in-the-piano-output-of-christopher-bochmann#\\_ftn2](https://perf.esml.ipl.pt/index.php/component/k2/item/9-essay-viii-a-key-work-in-the-piano-output-of-christopher-bochmann#_ftn2)

The image displays four systems of musical notation for a piano piece. Each system consists of a treble clef staff and a bass clef staff. The bass clef staff is heavily annotated with fingerings (numbers 1-5) and colored boxes (red, green, blue, yellow, orange) and purple ovals, likely representing specific technical or pedagogical points. Dynamics markings such as *ff*, *mp*, *f*, *p*, and *sf* are present throughout the score. The first system's bass clef has a red box labeled *p legato* and a purple oval. The second system's bass clef has a green box labeled *(sempre p e legato)* and several purple ovals. The third system's bass clef has several purple ovals. The fourth system's bass clef has several purple ovals.

FIGURE 1. Ana Telles. 2020. Essay VIII: a key work in the piano output of Christopher Bochmann:  
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# **Reflections on Practices**

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## ABSTRACT

**One of the greatest challenges for research in the field of aesthetics (design, art, architecture) is the development, recognition, and reflection of their particular research methods. This challenge is also taken up by the CA2RE conferences. Research in architecture, artistic research, design research should not be called so if it only recognises established research methods such as text production in the humanities or data collection in engineering, natural sciences, or social sciences. Such research methods are required that are particularly located in the aesthetic practices of architecture, art, or design. Research “in”, not about or for architecture, art, and design. This universally shared and almost banal statement contains the equally simple explosiveness that despite all the clarity in the epistemological assertion, we at the same time have no tradition, no experience and consequently no self-evident or recognized structure for aesthetic research. The sentence about research “in” architecture, design, art is a theoretical statement, not a practice. Yet, the practice of practice-based research still must be demonstrated, asserted, and justified again and again. This is also made clear by the many interesting presentations by doctoral researchers at the CA2RE conferences - both in terms of content and form. The conferences are both: on the one hand, through the simple fact that they take place. they are a necessary research policy strategy for the assertion of aesthetic-practical research in principle. The conferences contribute to the establishment of a required tradition. On the other hand, the conferences show the inner-disciplinary, ongoing and detailed struggle for appropriate methods of research.**

**Keywords: Research methods, research as a practice, exhibiting, exhibitions as a dispositive**

One of the greatest challenges for research in the field of aesthetics (design, art, architecture) is the development, recognition, and reflection of their particular research methods. This challenge is also taken up by the CA2RE conferences. Research in architecture, artistic research, design research should not be called so if it only recognises established research methods such as text production in the humanities or data collection in engineering, natural sciences, or social sciences.



Such research methods are required that are particularly located in the aesthetic practices of architecture, art, or design. Research “in”, not about or for architecture, art, and design. This universally shared and almost banal statement contains the equally simple explosiveness that despite all the clarity in the epistemological assertion, we at the same time have no tradition, no experience and consequently no self-evident or recognized structure for aesthetic research. The sentence about research “in” architecture, design, art is a theoretical statement, not a practice. Yet, the practice of practice-based research still must be demonstrated, asserted, and justified again and again. This is also made clear by the many interesting presentations by doctoral researchers at the CA2RE conferences - both in terms of content and form. The conferences are both: on the one hand, through the simple fact that they take place. they are a necessary research policy strategy for the assertion of aesthetic-practical research in principle. The conferences contribute to the establishment of a required tradition. On the other hand, the conferences show the inner-disciplinary, ongoing and detailed struggle for appropriate methods of research.

“What is your method, your comprehensibility, your scientificity?”

Thus articulates the one set of questions with which the presenters were continually confronted. “What is the aesthetic, the exclusively practical, you develop your research out of?”

This is what the other catalogue of questions sounds like. Both at the same time—original aesthetic research practice and methodologically reflected comprehensibility— seem to be an almost impossible task for doctoral students because the criteria of comprehensibility or the canon of methods in aesthetic research projects have not yet been traditionally practised, historically established or epistemologically discussed. That is why research and doctoral studies in architecture, art and design are a Herculean task for those who do it. And that is why it is so eminently important that such alliances like CA2RE exist, even if they must always partially miss their target in their claims to execute a normal science of aesthetic research by simply organising conferences like all other (established) branches of research. They miss the mark for example when presenters resort to methods of the humanities or engineering sciences out of concern for the scientific recognition of their project and thus leave the field of aesthetic research. They miss their mark when aesthetic research practices are pushed to the wall by critical questions about methodological consistency, even though methodological consistency may only be spelled out in retrospect of the research project. They fall short of their possibilities when the form of the verbal-based lecture prevails as the mode of

presentation of the research project. They come to nothing when aesthetic works are presented, simply asserted as research, thereby referring without reflection to the open canon of aesthetic research methods.

The CA2RE conferences claim practice-based aesthetic research as normal science and at the same time execute a continuous epistemological struggle on the basic assumptions, namely that research is a practice, and the procedures of architecture, design and art are too. Because not every aesthetic practice is research, and not every research activity is an aesthetic procedure. Current practice-based aesthetic research is always and still confronted with the epistemological task of explaining what makes some aesthetic practices research. Embedded in this task is the question of the relationship between research and aesthetic practice. Very disparate discourse traditions offer different understandings of these terms and their relations: the long tradition of aesthetics, the recent history of art theory, the heritage of epistemology and recent science studies. They all operate with different understandings of practice, research, or aesthetics in relation to science. In order to recognise the interconnectedness of concepts and what we associate with them, it may help from time to time to take a critical look at the established sciences or humanities and, in doing so, also question common and rehearsed self-understandings of theory, practice, research and comprehensibility. For example, also philosophy (commonly understood as theory) conducts research with and through its (word-based) practice! By reading their books, one can, as it were, observe philosophers in the process, progression, and practice of thinking. Procedures of theoretical knowledge are comprehended when one recognises, how arguments line up and build on each other, how concepts are considered and measured by their usages, how references to facts and textual traditions are established, how intellectual detours open up spaces of imagination as a trial and return to the main considerations, not without enriching them with further aspects, so that—sentence by sentence—the knowledge is scrutinised and checked against the textual tradition. This textual work results in the fabrication of theoretical knowledge in the activity of conceptual word-based research.

These insights into the active and practical character of the cognitive process in philosophy inspire us to recognise the practical character of a possible production of truth in the fields of architecture, art, and design as a process of making, checking, and negotiating. Aesthetic practitioners— unlike theoreticians—do

not enter into verifying and developing negotiation processes with words but with things and actions. Sensually perceptible, aesthetically treated things, tools, and actions such as materials and substances, camera lenses, computer screens and drawing pens, or doings like touching, walking and gesturing channel and intensify the processes of aesthetic research in their qualities and possibilities. In these practical procedures of active, material, and media-based research, actors of artistic research are the initiators of a happening and dealing with the world in which the tools and things are just as much a part of the process of investigation as the active researchers.

The comparative view of the practice and activity of philosophical research furthermore makes comprehensible how research can be thought as a process. In philosophy, the thought process, which manifests itself in the expansion of the text, is at the same time the course, method and result of research. The philosophical, as well as the aesthetic sciences, are therefore not outcome sciences, but process sciences. Not the stable work (of architecture, art, or design), but the ephemeral reflexive-aesthetic work on the material characterises the artistic work and material research. The prerequisite for an aesthetic practice of insight is the probing productivity of understanding, which consists in the fact that certainties are established by means of the production of aesthetically perceptible scenes and objects. This epistemic productivity makes it plausible to recognise an act of truth in architecture, art, and design as well. What is essential for the aesthetically researching procedures is therefore not the idea of a completed work or research result as the vanishing point of the activity, but the process by which the aesthetically researchers work their way through the world in a questioning and shaping manner and, if necessary, also want to bring these processes to representation and thus discussion as research.

In representing the research processes, however, another critical aspect comes into play that makes practice-based aesthetic thinking special and challenges especially the form of CA2RE conferences—at least possibly. For non-verbal, aesthetic, practice-based research methods are neither necessarily nor obviously articulated in the mode of word-based language. But this word-based language is a standard tool for communicating content at conferences—including CA2RE conferences. With the predominant delivery style in spoken word, the conferences assert a normal scientific habitus, but without reflecting on the ‘normal’ mode of exchanging ideas appropriate to aesthetic research practice. In philosophy—staying with this reference example—the mode of enquiring thought is word-based and

the figure of the oral verbal lecture therefore adequate. In a research discipline based on aesthetic practices, however, it is not speaking out but pointing out that might become the central tool of exchange. Aesthetic practices and insights are more likely to be communicated in exhibitions in which the things and actions of research show themselves. Actually exhibiting could be understood as the central field of activity of practice-based, aesthetic research. Not only because in exhibiting, researchers show their practice in the mode of doing research, but also because exhibitions make relations visible by means of the things presented and thus critically generate related sense. In this respect, exhibitions are a dispositive—a circumstance in which positions appear grouped together— and thus relevant to the question of communication and debate in the field of practice-based aesthetic research. Or, as art scholar Katja Hoffmann suggests, exhibitions can be understood as arrangements that are constitutive of the orders of knowledge. Hoffmann coins the topos of “scenographic order” (Hoffmann : 2013 : 136), which refers to both the selection of objects presented and the spatial arrangement of the objects in their interaction. For art theorist Elke Bippus, exhibition spaces are places in which epistemic things are negotiated and can be seen as enabling conditions for “an experimental system of collective-constellational research and knowledge-building processes” (Bippus : 2012 : 121 translated by AH). With the topos of the “constellated arrangement”, Bippus—like Hoffman with the topos of the “scenographic order”—elaborate the arrangement that exhibitions are. This arrangement is an actively generated constellation of things and modes of behaviour which enter into a scenographic relationship with each other in the space of the exhibition so that processes of meaning formation take place. Or, in the words of artist and theoretician Julie Ault, “exhibitions are social spaces, where meanings, narratives, histories, and functions of cultural materials are actively produced.” (Ault : 2002 : 56)

On the way to becoming a normal science, however, practice-based aesthetic research nestles into the rituals of knowledge transfer of the established sciences. This not only ignores the dimension in which the form and content of research could appropriately relate to each other, but also overlooks the potential with which the demonstrative representational practice of aesthetic research could enlighten the established sciences about their appropriate modes of representation. The matter-of-factness with which the representational space is ignored, in which insights become negotiable, corresponds to a widespread habit. Even (or especially) the established disciplines sometimes

misjudge their modes of presentation as positioning and truth practices. The book market and the publishing business rarely play a role in the theory business, just as conference activity is methodologically reflected as a practice of thinking. The activities that generate presentation slides and infographics to make research results presentable in journals and at conferences are also hardly considered as knowledge actions in the context of reflection on research in the natural sciences, social sciences, or humanities. We are dealing with an epistemic paradox here: On the one hand, there is the fundamental and cross-disciplinary basic demand on research to make results, insights or problem horizons comprehensible in their respective argumentations, geneses or lines of evidence. On the other hand, a fundamental forgetfulness can be diagnosed about the conditions and effects of precisely those contexts and practices that make comprehensibility through display possible in the first place. Reflecting on spaces of presentation, fields of communication or forums of discussion would not only provide a knowledge-political realisation of who is allowed to speak and present, when and under what conditions. Reflections on levels of presentation and about modes of discussion are actually reflections about fundamental practices of cognition. The ways in which insights are positioned and brought into the knowledge community have an effect on the processes of knowledge genesis. This effect arises because research processes in the presentation mode are not only understood and discussed differently according to different practices and media but also lifted out of their self-sufficiency into the forum of a public of experts and results. This expert public takes note of, witnesses, reviews and comments on the presented offers of insights and findings. The anticipated scenario of and how taking note, however, dispositions the research process in advance.

The relatively new, practice-based aesthetic research could therefore actually employ its conferences to practice, how the design of a reflexive space functions, in which insights can

also be comprehended in a showing way in the presentation. And it could also apply this expertise to reveal respective traditions in those sciences that often still perform poorly in their representational practice.

## **BIBLIOGRAPHY**

Ault, Julie (2002) Exhibition as Political Space, in: Stella Rollig/Eva Sturm (Hg.) Dürfen die Das? Kunst als sozialer Raum, Wien.

Bippus, Elke (2012) Modellierung ästhetischer Wissensproduktion in Laboratorien der Kunst, in: Martin Tröndle/Julia Warmers (Hg.), Kunstforschung als ästhetische Wissenschaft, Bielefeld.

Hoffmann, Katja (2013) Ausstellungen als Wissensordnungen. Zur Transformation des Kunstbegriffs auf der Documenta, Bielefeld.

## **BIOGRAPHY**

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# **Building Relationships in Design Driven Research through the CA2RE Database**

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## ABSTRACT

**In order to map the learning environment of Design Driven Doctoral Training, the CA2RE+ project proposed to build a database of the conferences' experiences, a sort of repository in which all the energy generated in the presentations could be encapsulated. And so, the objective was to make available a searchable material that would provide new reflections and a foretaste of the evidence, strategies and evaluation methods of Design Driven research (DDr). It was a major challenge: the wide variety of cases discussed at the conferences had to be sifted structurally. In addition, the database was not hierarchical and had to be searchable by changing entries and subject to unexpected navigation paths. After ten CA2RE events, the 'Experiences' database is now well-stocked for a first inspection of its contents. More than six hundred contributions demonstrate the value of the work carried out by drawing a varied panorama of research in architecture. The richness of the contents is enormous and, although underlying all the entries is the use of design in research itself, some conclusions can be drawn: there is no repetitive pattern in the ways and means of proceeding when we talk about DDr, there is a high incidence of the use of 'non-written' tools, and the use of design in research is not limited to architecture and its related areas.**

**Keywords: Architectural Research, Design Driven Research**

A database is a systematic construction of knowledge units that are related to each other. Cross-readings of the data that is entered allow for higher-order analysis and yield new knowledge about the subject under study. They are usually a quantitative tool, although database fields can be adapted to various formats, both numerical and textual. The reliability of the readings from a database depends to a large extent on the size of the database: the larger the volume of data, the more accurate the response. Similarly, the more flexible the storage structure of the database, the more useful it becomes.

So why use a database to address the issue of DDr? Why resort to an information management system so distant - a priori - from the field of design? The answer is related to a specific aspect of databases: they help to store experimental data, but not without

leaving a certain aspect of embedded order.

The CA2RE+ projects 'develops a collective learning environment through Evaluation of Design Driven Doctoral Training' and for this it is necessary to understand all the individual features and uniqueness of DDr. Among the objectives of the project is the iterative observation, sharing, and comparison of experiences, something that can be done with a large mapping of case studies.

### **Structuring data in Design Driven research**

Since April 2017 the CA2RE community has been holding regular conferences –twice a year, in spring and autumn– in which a plural and international panel of experts discuss a series of presentations. Selected doctoral candidates, postdoctoral researchers, researchers from practice, PhD applicants, and others present their current research, with special emphasis on how design is involved in their work. The materials can be very diverse: from traditional presentations supported by slides to performances that involve the audience. Each session is an opportunity to share knowledge and reflect on DDr, and is treated as an experience in itself, with interventions from the presenter, the panel members and the audience. Discussions are extended and go beyond the boundaries of the session. The sessions are exhausting but very nourishing and rewarding.

When the CA2RE+ project was being developed, a way was devised to collect all this information, store it, record it and leave a record of the moments experienced at the conferences. Thus, the aim was to produce a kind of meta-reflection that would make it possible to produce an overview. The aim was to have a repository to encapsulate all the energy produced in the presentations at the conferences, as if a return to the moments experienced could become a reality. A database appeared to be the solution: a source of information whose consultation would provide new reflections and a glimpse of a certain characterisation of the evidence, the strategies and the forms of evaluation of DDr.

The challenge of the database was considerable. The wide variety of cases discussed at the congresses had to be structurally sifted, so the decision about the database fields and the order of the entries was not obvious. All submissions had a title and an author(s), and all responded to the call for papers with an abstract and keywords. However, from this, the caseload was enormous. The same author could have presented their

work in several editions of the conferences, depending on the different stages of development of their research. In some cases, the text was practically non-existent, in others it was necessary to be able to store video or audio. Also, there was the possibility of not only recording the work presented but also the discussion that took place after the presentation. And, of course, it would be even better if we could include the impact that these experiences had on each of the participants. Ultimately, the database had to cater for information that was not equivalent in content, but comparable from a structural point of view.

As if this complexity were not enough, the criteria for accessing the information did not respond to the usual hierarchy of a database. A person searching the database might be interested in a particular topic –regardless of the way in which DDR-derived factors are embedded in the project– but might also want to see what characterised the advanced stages of a research project – even if they covered a wide variety of topics–. Consequently, the database had to be able to be used in a rhizomatic way, swapping certain entries for others and being subject to unexpected navigation routes.

### **The CA2RE database: first readings**

After ten CA2RE events, held in eight European cities, each with an average of 35 presentations, the ‘Experiences’ database is now well-stocked for a first analysis of its contents. Hundreds of records can be consulted according to the entry fields related to authors, co-authors, disciplines, PhD stages, events and evaluation stage. All the entries include values for each of these fields, but the title and subtitle, the graphic and photographic documentation presented at the event, and the abstracts, full-texts and posters subsequently collected in the conference proceedings are also added. This systematisation shows that a first objective has already been achieved: it has been possible to organise the information, despite the fact that it comes from disparate sources (as not all of the previous conferences had the same organisational structure).

And so, anyone accessing the database will be able to examine research papers that clearly present their field of knowledge, their research sources, the methodologies and methods used, the objectives and the results achieved. And since this applies to more than 600 contributions, the database already has a value in itself as far as the overview of architectural research is concerned. However, it is important to provide an initial warning: the database

user should not expect short answers to simple queries. The organisation of the data is not designed to obtain figures or produce statistics, beyond the simple quantification of the records according to the different fields, which, in any case, produces results that are not particularly meaningful. This is a database where the contents are fundamentally read and observed. The entries combine to create a sort of encyclopaedia where one consults, stops, compares, discards, immerses oneself... until one constructs one's own considerations.

The diversity of the contents is enormous and, although underlying all the registers is the use of design in the research itself, opening the database at random may suggest a collection of disparate items. The combination of working methodologies, the variety of methods used, and the diversity in the approach to the problems, are all factors that are reflected in a wide variety of ways of working.... no two paths seem to be the same, or even parallel. A first conclusion, therefore, is that there is no repetitive pattern in the ways and means of proceeding when we are talking about DDr.

What all these materials do have in common is the need to express themselves through images and graphics. As if text could never be enough, there are always photographs, technical drawings, sketches and a wide variety of diagrams. It could even be said that some entries do not adapt well to the format, and for this reason, and in the specific case of those categorised as 'artefacts', they require a plethora of images to show the moment of the presentation or the performance experienced. This finding should be a strong argument for pointing out the high incidence of research with 'non-written' tools and the consequent assessment of the impact of its results.

A surprising issue is the fact that we find contributions that move between architecture and other disciplines which in principle are not design-related. The use of design in architectural research is very frequent and evident (although we are not fully aware of the diversity of this use). However, it is curious, to say the least, that design as a method, a working tool or as a goal allows us to progress in the knowledge of fields such as economics or archaeology. While acknowledging that the cases collected in the database are few, one cannot help but observe the breadth of DDr, and even imagine that it could be possible to undertake a search for the presence of design in areas of knowledge far removed from our usual circle. What if DDr proves to be the link

that can unite research in a transdisciplinary way?

Finally, despite all the effort made to build a standard consultation format, it is inevitable to dream of other modes of consultation and visualisation. One would like to access the available information, digest it quietly, and then be able to obtain maps, charts, and diagrams that would make it possible to sketch the vast DDr landscape and navigate from one experience to the next while enjoying the journey. In all likelihood, someone will be tempted to carry out research on these experiences, and a more in-depth analysis will allow this hope to become a reality.

## **BIOGRAPHY**

Débora Domingo Calabuig is an architect PhD and professor at the Universitat Politècnica de València (UPV). Her interests include the methods, means, and impact of architectural research. Her research focuses on the social consideration in architecture and urban design. Focusing on the design process, her research examines buildings through the reconstruction of graphic sources. She co-developed research on mat-building and the implications that this open and systematic building and urban typology, characteristic of the 1960s, has today. Recently, this latter research has led her to collect and analyse the new post-war universities, particularly with regard to changes in higher education and campus planning.

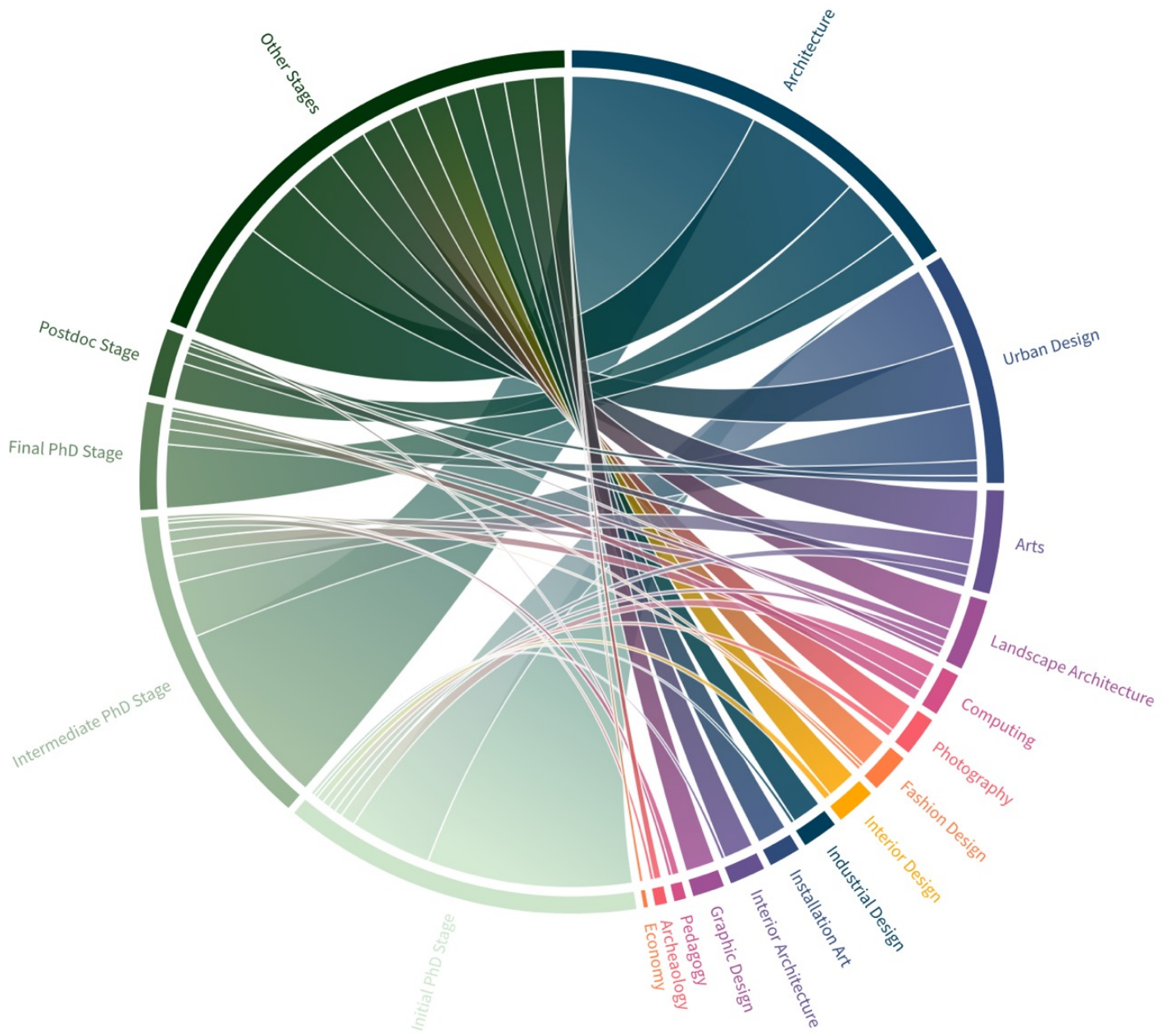


FIGURE 1. CA2RE+ data base: Searches according to field of research and stage of research work.  
 (Source: author)  
<https://public.flourish.studio/visualisation/8029381/>





# **La Mariée Mise à Nu: The Arts at the University.**

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## **ABSTRACT**

**From a reflection on the current challenges posed to academic research in the artistic field, this paper seeks to give an account of a horizon for aesthetic experimentation in an academic context through two case studies. In the first reflection - with a historical nature - we focus on the examples of a university whose research and teaching methodologies were organized around the avant-garde artistic praxis of its time: the Black Mountain College (1933-1957). As an independent North American university, it presents itself as a paradigm in the development of pedagogical strategies that verified how cultural transmission, interdisciplinary research and artistic experimentation can converge in the construction of an environment of hospitality to new aesthetic elaborations and an objective production of knowledge. In the second reflection - as a testimony -, we deal with our particular experience in the field of performing arts and cinema, through a selection of concrete works within the scope of university artistic training. The three creative works - a happening at the Serralves Museum of Contemporary Art in 2012 and the making of two films in 2013 - involved the active participation of the academic community of the University of Porto and the Universidade Lusófona, contributing to an opening of the conceptual and methodological approach of artistic practices in university education. In a brief retrospective, the set of experiences is offered as a privileged analysis object of the creative processes in higher education, with a view to a critical debate.**

**Keywords: Project-based learning, Black Mountain College, alternative pedagogies, creative processes.**

### **1. The arts at the university**

University research in the field of arts finds itself at a complex crossroads between several conceptual, methodological and pedagogical hypotheses that deserve reflection from a historical and critical perspective.

Under current circumstances, art research projects are developed on an international scale, in a wide network of partnerships, in an environment of competition for official recognition and funding. A territory of questioning such as

that proposed by the CA2RE – Conference for Artistic and Architectural Research is very relevant to deepen the dialogue between career researchers and the new university generations, but also for a close analysis of the relationship between the current conditions of academic production and the specificities of artistic creation in its disciplines and dispositions, in the changing context of the contemporary university.

The structure of the university is still based on hierarchies of some rigidity, on the habituality of established practices, on bureaucratic functioning (the workload in writing programs, activity plans and reports is sometimes disproportionate) and is oriented towards implementation modes that, in the legitimate respect of a tradition, often suffer from a formal routine (the congress, the publication, the website, etc.), often without finding the public reception, citizen participation and critical acceptance that the quality of the research lines of the various laboratories would surely deserve it.

At the crossroads of paradigms regarding the realization of the place of the arts in academia, given the growing importance of evaluation (by laboratories, researchers, the impact of their production), the scientific model as the dominant model and an expectation of economic profitability, perhaps the work of double analysis that we propose below may contribute to a reflection on the methodological advantages and pedagogical value that artistic practices bring to university research in the new century. The awareness of this value is necessarily linked to an expanded notion of knowledge (where the arts and humanities occupy a primordial space) and to the understanding of the importance of symbolic capital (in Pierre Bourdieu's terms) [1] as a horizon for which aesthetic experimentation concurs, going beyond the narrow parameters of a certain scientific culture based on statistical measurement and immediately quantifiable values. In this double analysis work, we elect two objects for a brief comparative study. In the first reflection – of a historical nature – we focus on the case study of a university whose research and teaching methodologies were organized around the avant-garde artistic praxis of its time. Among other cases that can be observed, the Black Mountain College (1933-1957), an independent American university, presents itself as a paradigm in the development of pedagogical strategies that verified how cultural transmission, interdisciplinary research and artistic experimentation can converge in the construction of a hospitality environment to new aesthetic elaborations and an objective production of knowledge. The Black Mountain College is a recognized example of an enlightened and cosmopolitan academy, with cultural influence, becoming an international

reference among art schools, having also played a leading role in the passage between the modern period and contemporaneity. In the second reflection – of the order of testimony –, we deal with our particular experience in the field of performing arts and cinema, through a selection of concrete works in the scope of university artistic training. The three creative works – a happening at the Serralves Museum of Contemporary Art in 2012 and the making of two films in 2013 – involved the active participation of the academic community of the University of Porto and the Lusófona University of Porto, contributing to an opening up of the conceptual horizon and methodology of artistic practices in university education. In a brief retrospective, the set of experiences offers itself as a privileged object of analysis of the creative processes in higher education, with a view to a reasoned critical debate.

## **2. Black Mountain College: a case study**

The legacy actuality of the Black Mountain College (BMC) is manifested in the plane of pedagogical experimentation, in the broad understanding of the arts and their centrality in higher education, in the articulation between cognitive activity and the experience of the body, in the interdependence between self-knowledge and community building, relativizing the methodological constraints of traditional education. The current multiplication of exhibitions dedicated to the historical and critical revisiting of the BMC in great importance museums [2] confirms the relevance of its heritage and the current evolution of the historiographical research dedicated to it.

Nearly ninety years ago, Professor John Andrew Rice founded a school in an isolated geography in North Carolina, near the Appalachian Mountains, near Asheville, designed to fulfill a modern vision of education. The village of Black Mountain was chosen and, against warnings of going through “the worst possible time to open a school” due to the crisis of the Great Depression, Black Mountain College opened its doors in September 1933, with 26 students and 13 trainers.

The Chicago School and the current of pragmatism had marked the 1920s in the areas of sociology, social psychology and communication sciences, developing the first experiments in urban sociology, combining theoretical production and field research with an ethnographic character. As John Dewey was one of the founders of the Chicago School, he had denounced the dominant scholastic tradition in teaching, founded on reading, memorization, and formal assessment, extending archaic patterns of disciplinary and standardizing training deriving from

the European tradition. On the other hand, John Dewey proposed paying attention to the continuities between nature and culture, pointing to participatory learning processes, centered on the student's subjectivity, imagination and capacity for initiative, exploring the articulations between rational reflection and physical and sensory experience, in a "project-based learning" logic. John Dewey's principles of progressive education thus guided the integrated education project at Black Mountain College. At the invitation of John Andrew Rice, John Dewey visited the BMC campus in the 1934-35 school year, enthusiastically observing the activities of the budding community and joining the School's Advisory Board to monitor its development. John Dewey would be, in John Rice's description, the only man who was "fully fit and suitable to live in a democracy."

As a priority program, the BMC would seek to "avoid the pitfalls of autocratic directions and administrations and allow a more flexible curriculum", in the holistic perspective of "educating a student as a person and as a citizen" [3] , annually selecting a group of young people eager to "know, want to want and do" in the words of John Rice, its first director. John Rice would rehearse new methods of learning for an "education in democracy", where "the center of the curriculum would be art" because "the democratic man must be an artist", as he will recall in his autobiography *I Came Out of the Eighteenth Century*. [4] Managed without a pre-established hierarchy, Black Mountain College would be a place where everyone would learn from everyone ("The core and consistent effort is to teach method, not content; value process, not results," Rice recalled), inside and outside the classroom, with students participating in the institutions decisions at all levels, as part of the educational process.

According to its statutes, the school was free to access but guaranteed independence from funding structures – mostly private – and pedagogical autonomy. There were no entrance requirements or quantitative assessment (except in transfer processes) or accredited degrees, with each student being responsible for deciding when he/she would be able to graduate, which few students chose as a priority. At the BMC, students and teachers shared everyday life, blurring the boundaries between curricular and extracurricular activities, participating in agricultural work, construction projects, cleaning and cooking tasks, as well as cutting, transporting and storing together the firewood needed for the heating the school during the long winters, which would prove essential in the production of food towards autonomy, during the Great Depression and the Second World War years.

Alongside John Rice's vision and entrepreneurial capacity, the second determining factor in BMC's pedagogical innovation is the arrival of professors from the Bauhaus – the prestigious school of art, architecture and design founded in 1919 by Walter Gropius and closed in 1933 by Adolf Hitler, – fled from Nazi Germany to the United States. Among them, the couple Josef and Anni Albers were included. In the first year of operation, the Albers were invited to teach at the BMC. They brought with them the vanguard principles of teaching at the Bauhaus, where new ways of applying the arts in everyday life were investigated, converging with the BMC's progressive education principles.

Joseph and Anni Albers would eventually take over the BMC between 1939 and 1949, deepening Rice's vision. The Albers reminded students that they should keep here “as an objective to be something instead of obtaining something”, while at the same time safeguarding the space for new fields of aesthetic elaboration. Classes generally occupied the mornings and evenings; afternoons were reserved for experimentation and other occupations. Daily activities included sessions of interpretation of works and critical debate (known as crit), but also discussions on ancient and modern art, crafts and experimental products from the industry, typographic work and photography, in addition to setting up exhibitions. On weekends, concerts, plays, dance performances and parties were organized in the main hall with a stage and a piano, which cemented the cohesion of the community.

Although there are no departments, the BMC proposed a “liberal undergraduate arts program” structured around three core disciplines: Drawing, Color and Werklehre. The Drawing class prepared for the relationship with form through the observational outline; the Color class dealt with chromatic and tonal phenomena, their relativity and the interaction between colors; werklehre's class or “materials work” experimented with the articulation between the nature of the elements and space, the behaviors and limits of materials, the combinatorial possibilities between the materials and their perception by the senses, developing “building thinking”. Combining reflection and practice, Josef Albers taught color theory, exploring, for example, collage exercises in order to sensitize the eyes of young people and train the hand for improvisation. While Anni Albers, in Werklehre's classes, urged students to experience “the most real thing there is: the material”, explaining that, by observing the materials and manipulating them in their original state, we regain “the adventure of being close to the things that the world is made”.

The integrated training, the interdisciplinarity inherited from the Bauhaus and the collaborative work revealed the values

that guided learning in a universe that, in addition to the visual arts, weaving and pottery, included classes in literature, history, Latin, philosophy, biology, psychology, sociology, economics and mathematics. Although from the beginning, the BMC offered in its curriculum these subjects around those three workshops (Drawing, Color and Werklehre), the program changed annually, according to the interest and aspirations of the participants in each school or the circumstances of the school.

The reputation of this university, the notoriety of its professors and the organization of the summer seminars had repercussions in New York and San Francisco, for which the visibility provided by MoMA in several exhibitions counted for a lot.

The first summer seminar took place in 1944, with artists Willem de Kooning, Amedée Ozenfant, Robert Motherwell, composer Arnold Schönberg, and critic Clement Greenberg as guest professors. Summers at BMC have become a seasonal meeting place for generations of artists and an intense creative laboratory. In the summer of 1948 and in the post-war context, the dancer and choreographer Merce Cunningham and the composer John Cage went to the BMC to organize a series of classes. There, they recreated the show *Le piège de Méduse*, a derisory piece of a single act composed by Erik Satie in 1913, involving teachers and students, the painters Elaine and Willem de Kooning and the architect Buckminster Fuller. In the same summer, Fuller and students erected one of the first geodesic domes, the constructive invention that would bring him recognition and celebrity in the fields of engineering and design; Willem de Kooning was directing one of his first all-over paintings, entitled *Asheville*; and young Robert Rauschenberg enrolled here as a student.

Four years later, in 1952, John Cage mounted the *Untilted Event* at the BMC, in an improvised collaboration with Merce Cunningham, Robert Rauschenberg, pianist and composer David Tudor, poets MC Richards and Charles Olson, in a collective experience that crossed the visual arts, the live piano, poetry reading and dancing, multiplying the occurrences – simultaneous but independent of each other – in the same space. The creation, renamed *Theater Piece No 1*, would later be identified as the first “happening” in the history of contemporary arts. The following year, Merce Cunningham founded at BMC, accompanied by choreographer and dancer Viola Farber and artist Remy Charlip, the dance company named after him, which would revolutionize modern dance and pave the way for the new American dance of the 1960s. In the post-war period, in addition to the economic precariousness in which the school invariably subsisted, there were a succession of fires on the campus that consumed

entire pavilions, including the photography laboratory. In this adverse situation, plus some divergences about the direction of the school, Joseph and Anni Albers resigned from the institution in 1949. Charles Olson, poet and professor, would assume the direction from 1951, promoting a certain “return to order”, recovering a traditional model in the syllabus and school administration. In this late period, in which the university’s economic precariousness worsened, the BMC underwent a final metamorphosis, becoming a notable center for writing, poetry and editing. In 1951, Jonathan Williams founded the editorial project The Jargon Society and in 1954, poets Robert Duncan and Robert Creeley created the Black Mountain Review, an experimental poetry journal, published for three years and responsible for publishing the first texts of the Beat Generation poets, featuring among other residents Allen Ginsberg. It was a last moment of creative radiance. The BMC would definitively end in 1957.

Sixty years after its disappearance, the BMC represents not only an experiment in pedagogy and a singular liberal arts university, but also one of the hinges that transferred the artistic center from Europe to the United States. Many of the most important figures of modernity passed through the BMC – Fernand Léger, Robert Motherwell, Clement Greenberg, Willem de Kooning, John Cage, Franz Kline, Cy Twombly, Aldous Huxley, Henry Miller – as teachers, students or visitors. A new generation of artists was formed at this school (out of the 1200 students admitted in 24 years, the number of graduates is estimated at 60), in a test balloon of the new aesthetic movements in the second half of the century. And above all, the school influenced the teaching of the arts in what became the Anglo-Saxon paradigm of the visual arts school that gradually replaced the nineteenth-century French model of the *école des beaux arts* which, by ranking the arts in major and applied (or minor), had dominated artistic education until the mid-twentieth century.

Today, Black Mountain College is an object of study and reflection in investigations related to self-education [5] and the possibilities of art free academies that question the obligation of pre-established programs, the standardized assessment system, graduation translated into diplomas and above all relations with the nation-state and political power. [6] The methodological priority is, in these cases, shifted to valuing the exchange of experiences and the constitution of critical thinking between teachers, guest artists (emerging and recognized merit in the artistic system) and students – seen as young artists in the work of the self-discovery – in a learning context based on a horizontal relationship. It will be in the responsibility shared by the entire community between the intellectual work, the creative process



and the practical needs of everyday life, which feed the relational dynamics of parity that build an ambitious, self-sustained and unimpeded university education ecosystem, fully inscribed in the requirement challenges and opportunities of historical time.

### **3. The creation processes: three testimonies**

In my professional experience, divided between artistic creation and university education (teaching in the area of image theory and contemporary culture), I have guided multiple experiences that allow us to assess the potential for pedagogical renewal that artistic creation processes can promote in the context of University education.

In a brief retrospective observation, we convene three projects here – the show *Nós não estamos algures/Almada, um nome de guerra* (Museu de Serralves, 2012); and the films *Baal* (Faculty of Fine Arts of the University of Porto, 2013) and *A Ronda da Noite* (Cinema Batalha, 2013) – which had the participation of students to whom we taught Theory of Cinema (Bachelor in Multimedia), and Thought of Current Art Practice (Master in Contemporary Artistic Practices), at the Faculty of Fine Arts, University of Porto; and several disciplines in Audiovisual and Multimedia Communication (AMC) and Communication Sciences (CC) at Lusófona University of Porto.

The first project, *Nós não estamos algures/Almada, um nome de Guerra* (We are not somewhere/Almada, a war name), came from an invitation made by the Serralves Museum to materialize a script for a multimedia happening (a mixed-media, in the terminology of the 1970s) by artist José Ernesto de Sousa, based on *Almada Negreiros*, developed in successive versions from the late 1960s to the early 1980s, and never realized by the author. The event should take place in a single public presentation, [7] with the Museum having made available the entire space of the Casa de Serralves for daily rehearsals for two weeks. The residence had about 25 participants, mostly university students. The creation strictly followed Ernesto de Sousa's script, in a site-specific inscription strategy, anchored in the place and architectural specificity of the art-deco villa. The multimedia project crossed performance, reading texts, collaboration with the musicians of the Lisbon Contemporary Music Group who performed live Jorge Peixinho's original composition, activation of slide projections and other scenic materials, in interaction with the audience. Day after day, the students rehearsed with us excerpts from *A Invenção do Dia Claro* (The Invention of Bright Day) and other texts by *Almada Negreiros*, seeking through improvisation exercises the theoretical reflections addressed in

class (modernism, neo-vanguard currents, the Fluxus movement and the valorization of procedural art) for collective physical experimentation, in a collaborative work of various dimensions, in this kind of expanded cinema that updated a significant heterogeneity of historical materials.

Many students had never tried the performing arts from the perspective of the creative process, nor did they aspire to a professional opportunity in this area. But, as young visual arts students, this diversion into the performing arts, embodying 100-year-old texts by one of the defining visual artists (and writers) of modernity in Portugal, proved to be a transformative formative experience.

Furthermore, the fact that Portugal was going through a serious financial crisis in that period and in that year of 2012 the Troika (the group constituted by the International Monetary Fund, the European Commission and the European Central Bank) arrived in Lisbon to dictate measures of economic austerity and social sacrifices imposed above all on the working population. Treating Almada Negreiros' texts on political issues and an acute critique of the country's circumstances, being Ernesto de Sousa an author of the neo-vanguards that called for the radicalism of Almada Negreiros to reflect the organization of Portuguese life after the 1974 revolution and the establishment of democracy, we, professor and students, carried out this project in 2012, between the mobilization of ideas through praxis and the incessant debate about our condition as Portuguese citizens in a perspective of a common future. The elaborations in this creative laboratory environment fed an intense intellectual exchange whose ballast was qualitatively reflected in the work developed in class, well beyond the two weeks in which the creation residency took place. The second project – the making of the film *Baal* [8] – arose from an invitation made to us by Cristina Mateus, artist and professor at the Faculty of Fine Arts of the University of Porto, under the Cinemas [9] program that she was coordinating at the time. The program aimed to rethink the cinematographic experience or the poetics of cinema in a city like Porto, where traditional cinema exhibition halls had disappeared in favor of multiplexes in shopping centers built on the urban periphery. In this sense, I proposed to make a film practically devoid of financial resources and open to the participation of everyone: students, teachers, young actors, volunteer amateurs. We chose a text, the first play by Bertolt Brecht, *Baal*, [10] which deals with the notions of individual freedom within the community, the artist's vocation and his social responsibility. And we chose a specific place as the only filming stage for the film: the Aula Magna of the Faculty of Fine Arts. It is a large auditorium, remodeled in the 1960s, and today retains a

demodé charm, where theoretical classes with the largest number of students and public doctoral exams take place. The place of theoretical exposition was transformed, exceptionally with the shooting of our film, into a place of creative yard. A shipyard, even in the literal sense, because the stage was being remodeled, with scaffolding that remained installed during the shooting period and became part of the film's scenography.

Baal was a first experience – for us, for most of the participants and perhaps in the institution's history – of making a fiction feature film, in the short period of three weeks, in April 2013, associating visual arts students and several actors, young and less young (Adelaide Teixeira, interpreter in several films by Manoel de Oliveira, was then 70 years old), two musicians and the singer Ana Deus. All of the work deepened collective improvisation strategies as experienced in *Nós não estamos algures/Almada, um nome de guerra*, this time assuming all the material conditions of the shooting device (including the backstage, the technical teams, the cameras, the perches and the microphones, in addition to the text in the hands of the actors who read while acting) deepening the qualities of a meta-cinematic investigation essay. The film would reflect the concrete conditions of a collective experience of film creation within the academic community, not limited to it or to conventional production modes, with the boundary between the artistic and technical teams being blurred (all were collaborators in the tasks and actors) and the times of reflection, search and implementation overlapped in a procedural and ambivalent aesthetic.

The choice of making the film at the Aula Magna was also based on an assumption: all public screenings within the scope of the Cinemas program took place in this auditorium and the same would happen with Baal's premiere. Viewers thus watched a film shot in loco, in a mise-en-abyme that would bring the imaginary of fiction and the resonance of the creative process, in an exponential specular effect, contaminating the formality of the institutional space and its codes. And so we aimed to promote a meta-institutional reflection capable of problematizing the established learning dynamics and the horizon of transdisciplinary invention possibilities (cinema, theater, music, installation) in this art school.

The third and last creative work that we call for is *A Ronda da Noite*, (The Night Round), [11] a film entirely shot at the Batalha Cinema, also in Porto. After the invitation made by the ARTES program from the Manuel António da Mota Foundation, we proposed to occupy the city's historic room and, over a month, in October 2013, to shoot there a film between fiction and cinema-vérité, in a free adaptation of the text *Quartet* by Heiner Müller. [12]

An open-call open to the city allowed many participants to join forces with students from the University of Porto and the Lusófona University, many of them coming from Baal's experience, which took place months before. If in Baal we had still exercised a table work, reading and dramaturgical interpretation with the interpreters and participants in *A Ronda da Noite* the strategy would be to radicalize the aesthetics of urgency, exploring the acceleration of improvisation processes as well as repetition ad infinitum, probing variations of the same scene in different spaces of the monumental Batalha Cinema. The physical resistance capacity, the availability to help each other and the creative mobilization of the heterogeneous group of participants were radicalized. In the last week of work, for example, we agreed that the afternoon shoots would be extended into the night, enhancing the situations of exhaustion (and the aggravation of tensions) felt by the actors and the teams, ending the shooting on the terrace of Batalha Cinema, with this ephemeral community watching the dawn over the city. The film also involved guests such as Professor José Bragança de Miranda (New University of Lisbon) who allowed himself to be filmed simulating a class on the problem of images, symbolically transforming the movie theater space into a university amphitheater with two attentive listeners – the two protagonists of the film, Valmont and Merteille – sitting in the empty room. To this was added the special participation of Portuguese filmmaker Manoel de Oliveira in an in loco interview about his memory of this movie theater and a parade by the ethnographic group Mareantes do Rio Douro which crossed the audience while drums (bombos) rumbled, making the building shudder.

The entire shooting period was accompanied by a scene photographer and, fifteen days after the shooting ended, the Batalha Cinema opened the doors to a site-specific exhibition: a vast installation dramatized the building's spaces (foyers, staircases, little room and large room, projection booths, terrace) in a light design that evoked the pictorial tradition from tenebrism to pop art. Along the way, the visitor was confronted with objects apparently abandoned by the team and the exhibition of photographic series with documentary images of the shooting of the film that would debut on the last day of the exhibition, in the main room. Viewers thus watched the traces, in situ, of a film that was to be projected in the same space in which it was shot, deepening the strategy of mise-en-abyme started with Baal. But this time, making the game more complex between the sedimentation of temporalities, derealizing the spaces of Batalha Cinema, setting fire to the phantasmagoria of the place, blurring the linearity of causalities.

In the book edited in the context of the project, Luc Vancheri (Université Lumière Lyon 2), a theorist focused on an investigation into the post-mortem poetics of cinema shaped in the new images of contemporaneity, problematizes the political foundations of *A Ronda da Noite* in the following terms: “Materially proposing a paradigm of the common could be a way of introducing us to Sousa Cardoso’s artistic approach, in such a way that this installation takes the side of the room, probing its memorial figures, while at the same time knowing how to leave it behind to interrogate the cinema in its aesthetic and political expressions. What is left of these communities of circumstance that gather in obscurity to give themselves up to the game of a fiction?, this is a question that does not fail to remind those who, in other circumstances, forty years before, had the courage to come together to introduce into the Portuguese reality of the 1970s the fiction of a political utopia: democracy. Politically occupying a place – Wall Street –, a square – Tahrir –, a park – Taksim –, artistically occupying a movie theater – Batalha Cinema – are gestures, whatever their political difference, supported by the same conviction: they need scenes and exhibition spaces, deal with disturbances and contingencies that open the public space to its contradiction.”

In the relationship with the university territory, we recall the strong impression produced by the days when we finished shooting at the end of the afternoon and, accompanied by students from the team, we would go into the room at the Faculty of Fine Arts for a new class in Film Theory dedicated to Italian neo-realism or the French *nouvelle vague*, still psychologically immersed in the shared experience of shooting. Respecting the syllabus and exceeding them, the intellectual availability with which we arrived – professors and students – from a cinematographic film set was of notorious vitality, contaminating the exchange dynamics during the class and revealing the bridges to animate between creative practices and the theoretical elaboration in the daily life of the academy.

As is usually the case in the arts, it is the retrospective look that gives intelligibility to the feeling of the experience lived in community, thickens it with meanings – and critical readings – and only it provides participants with a fair mediation of educational value. I think that in our text *Sequências Narrativas Completas* (Complete Narrative Sequences), [14] carefully observing the pedagogical relationship we had with the professor, writer and painter Álvaro Lapa, we deepen precisely this mnemonic dimension of the formative experience at the university in which a certain degree of opacity in communication and the intensification of an instigating attitude in a classroom with corridors of thought

aligned with collective life produce real effects that escape measurability in the construction of subjectivities.

#### **4. Poiesis and parity**

Underlining the historical distance and the due proportions between the two objects of analysis – Black Mountain College and our three creative processes in the university context –, our reflection, even if brief, intends to support a comparative analysis that suggests concrete tools born of experience (with its mistakes, flaws and incompleteness) for a theorization that avoids the a priori and ideological conditioning that, at times, affects the still embryonic articulation between artistic practices and the university institution.

How can organic processes and time in the arts contribute to a deceleration (and a requalification) of academic research procedures? In what way can poetic paradigms challenge, deviate, complexify the scientific model, the positivist culture and the paradigm of quantitative assessment, which are still dominant in the university reality but with evident operative and cultural limits? These are questions that do not await an immediate or definitive answer, but serve as a motor to better understand that artists, artist-teachers and young artist-students can collectively rehearse renewed approaches to university education and research strategies, more focused on learning in community than in the teaching magisterium, producing unusual forms that animate the foundations of the academy (the universality, the confluence of cultures, the meeting of knowledge areas in the same building) and update them in challenging representations, so often strange and penetrating, but mobilizing and transforming the city.

In this sense, one of the recent transformations in university policy – and the most consequential – concerns the possibility of a student enrolled in a PhD, being able to dedicate themselves to the development of a personal artistic creation project (exhibition, film, work in performing arts, etc.) informed by the experience of the academic community, in the dialogical relationship with the parameters of scientific production, critically monitored by peers and the faculty, supporting the final form (“definitely unfinished” as Marcel Duchamp declared *La mariée mise à nu par ses célibataires, même*, in 1923, in a dynamic between cultural roots and disciplinary exile that attends to all the creative work) subject to the public scrutiny of a jury. As, also recently, the university evaluation of researchers and professors, began to contemplate – and account for – artistic work as a rightful part of the production of knowledge. It is an initial, invaluable progress, in anticipation of the expanded (and qualified) ramification of all its potentialities.

Aesthetic knowledge, creative intelligence, the poesis that brings together theory and manual and technological inventiveness, have always maintained a practical conversation with the order of numbers, geometry and the sciences. And this exchange is confirmed, again today, in academic research, as much more legitimate, coherent and productive as it is based on a parity condition and an openness to becoming that no model of knowledge achieves in self-sufficiency or fully envisions.

## NOTES

1. Pierre Bourdieu, *La Distinction: Critique sociale du jugement*, Paris: Les Éditions de Minuit, 1979.
2. Black Mountain College. *Una aventura americana*, no Museo Reina Sofía, em Madrid (2003); *Starting at Zero: Black Mountain College 1933-57*, in the University of Cambridge (2006); *Black Mountain. An Interdisciplinary Experiment 1933 – 1957*, in the Hamburger Bahnhof, Berlin (2015); *Leap Before You Look: Black Mountain College 1933-1957*, in the The Institute of Contemporary Art, Boston, in the Hammer Museum, in the University of California, Los Angeles and in the Wexner Center for the Arts, in the Ohio State University, Columbus (2016); and *Revisiting Black Mountain*, no Museum für Gestaltung, Zürich (2018).
3. John Andrew Rice wrote in Harper's in 1937: "What you do with what you know is the important thing. To know is not enough.", citado em KATZ, Vincent, *BRODYBLACK*, Martin, *Mountain College: Experiment in Art*, Cambridge, Mass.: MIT Press, 2002.
4. John Andrew Rice, *I Came Out of the Eighteenth Century*, Nova Iorque: Harper and Brothers, 1942.
5. Russell Francis, *The Decentring of the Traditional University: The Future of (Self) Education in Virtually Figured Worlds*, Londres: Routledge, 2010.
6. Much critical work has been done on these issues, especially from the 1960s onwards. Cf. Harold L. Enarson, "Free Universities and National Policy," *Science*, vol. 138, no. 3540, American Association for the Advancement of Science, 1962, pp. 581-86, <http://www.jstor.org/stable/1710365>.
7. Performance "Ernesto de Sousa: Almada, Um Nome de Guerra / Nós Não Estamos Algures", Serralves Villa, Fundação de Serralves - Museu de Arte Contemporânea, Porto (Portugal), 6 July 2012. [www.ernestodesousa.com/news/almada-um-nome-de-guerra-and-nos-nao-estamos-algures-in-serralves](http://www.ernestodesousa.com/news/almada-um-nome-de-guerra-and-nos-nao-estamos-algures-in-serralves). Cf. Ernesto de Sousa : *Almada, Um Nome de Guerra : 1969-1972/1984 / commissariado João Fernandes, Ricardo Nicolau ; coord. Isabel Alves. - Porto : Fundação de Serralves, 2012.*
8. Information available at: <https://i2ads.up.pt/blog/furthermedia/baal/>; <https://cargocollective.com/joaosousacardoso/Baal>
9. Cinemas was a project coordinated by Cristina Mateus and produced within the scope of i2ads - Institute for Research in Art, Design and Society of the Faculty of Fine Arts of the University of Porto. Information available at: <https://i2ads.up.pt/blog/furthermedia/cinemas-1/>
10. Bertolt Brecht, *Teatro 1: Baal / Tambores na noite / A boda / O mendigo ou O cão morto / Expulsando um demónio / Lux in tenebris / A pesca / Na selva das cidades*, Lisboa: Cotovia, 2008.
11. Information available at: [www.fmam.pt/arquivo/exposicao-a-ronda-da-noite-no-cinema-batalha/](http://www.fmam.pt/arquivo/exposicao-a-ronda-da-noite-no-cinema-batalha/); <https://cargocollective.com/joaosousacardoso/A-Ronda-da-Noite>
12. Heiner Müller, *Quarteto e outras peças*, Lisboa : Artistas Unidos: Cotovia, 2015.
13. Luc Vancheri, *Cinema ou Le Dernier Des Arts*, Rennes: Presses Universitaires de Rennes, 2018; Luc Vancheri, *Cinéma Contemporains*, Lyon: Aleas, 2009.
14. João Sousa Cardoso, *Sequências Narrativas Completas*, Porto: Book Cover, 2020. T. J. Demos, *The Exiles of Marcel Duchamp*, Cambridge, Mass.: MIT Press, 2007.

## BIBLIOGRAPHY

- BELLOUR, Raymond, *L'entre-images*, Paris: La différence, 2002.
- BRECHT, Bertolt, *Teatro 1: Baal / Tambores na noite / A boda / O mendigo ou O cão morto / Expulsando um demónio / Lux in tenebris / A pesca / Na selva das cidades*, Lisboa: Cotovia, 2008.
- BOURDIEU, Pierre, *La Distinction: Critique sociale du jugement*, Paris: Les Éditions de Minuit, 1979.
- DEMOS, T. J., *The Exiles of Marcel Duchamp*, Cambridge, Mass.: MIT Press, 2007.
- DE SOUSA, Ernesto, *Almada, Um Nome de Guerra : 1969-1972/1984 / commissariado João Fernandes, Ricardo Nicolau ; coord. Isabel Alves. - Porto : Fundação de Serralves, 2012.*
- HARRIS, Mary Emma, *The arts at Black Mountain College*, Cambridge, Mass.: MIT Press, 1987.
- HOROWITZ, Frederick A., DANILOWITZ, Brenda, *Josef Albers: To Open Eyes*, Nova Iorque: Phaidon, 2006.

KATZ, Vincent, BRODYBLACK, Martin, Mountain College: Experiment in Art, Cambridge, Mass.: MIT Press, 2002.

MÜLLER, Heiner, Quarteto e outras peças, Lisboa : Artistas Unidos : Cotovia, 2015.

NEGREIROS, José de Almada, A Invenção do Dia Claro, Lisboa: Assírio & Alvim, 2017.

FRANCIS, Russell, The Decentring of the Traditional University: The Future of (Self) Education in Virtually Figured Worlds, Londres: Routledge, 2010.

SOUSA CARDOSO, João, Sequências Narrativas Completas, Porto: Book Cover, 2020.

SOUSA CARDOSO, João, VANCHERI, Luc, A Ronda da Noite, Porto: ARTES/Fundação Manuel António da Mota, 2013.

SOUSA, Ernesto de, ALVES, Isabel (coord.), Almada, Um Nome de Guerra: 1969-1972/1984, Porto: Fundação de Serralves, 2012.

VANCHERI, Luc, Cinémas Contemporains, Lyon: Aleas, 2009.

VANCHERI, Luc, Cinéma ou Le Dernier Des Arts, Rennes: Presses Universitaires de Rennes, 2018.

## BIOGRAPHY

PhD in Social Sciences from the Paris Descartes University (Sorbonne). He defended the thesis *The imagination of the Portuguese community in France*, through moving images (1967–2007), supervised by the sociologist Michel Maffesoli.

He was a member of the Center d'Études sur l'Actuel et le Quotidien at the Paris Descartes University.

He was a fellow of the *Calouste Gulbenkian* Foundation between 2005 and 2009.

He staged *Sequências Narrativas Completas*, from Álvaro Lapa, premiered at Teatro Nacional D. Maria II, in 2019. He directed *TEATRO EXPANDIDO!*, in the year of reopening of Teatro Municipal do Porto, from January to December 2015, a project that spanned 20th century dramaturgy, bringing 11 plays to the stage in 12 months.

Published the books *Sequências Narrativas Completas* and *A Espanha das Espanhas* (Book Cover) in 2020. Professor at Universidade Lusófona. He regularly writes essays on arts and aesthetics for the magazine *Contemporânea* and the newspaper *Público*.





FIGURE 1. Performance “Ernesto de Sousa: Almada, Um Nome de Guerra / Nós Não Estamos Algures”, Serralves Villa, Fundação de Serralves - Museu de Arte Contemporânea, Porto (Portugal), 6 July 2012. Photos: © Filipe Braga.



FIGURE 2. Performance “Ernesto de Sousa: Almada, Um Nome de Guerra / Nós Não Estamos Algures”, Serralves Villa, Fundação de Serralves - Museu de Arte Contemporânea, Porto (Portugal), 6 July 2012. Photos: © Filipe Braga.





FIGURE 3. Performance “Ernesto de Sousa: Almada, Um Nome de Guerra / Nós Não Estamos Algures”, Serralves Villa, Fundação de Serralves - Museu de Arte Contemporânea, Porto (Portugal), 6 July 2012. Photos: © Filipe Braga.



FIGURE 4. Performance “Ernesto de Sousa: Almada, Um Nome de Guerra / Nós Não Estamos Algures”, Serralves Villa, Fundação de Serralves - Museu de Arte Contemporânea, Porto (Portugal), 6 July 2012. Photos: © Filipe Braga.





FIGURE 5. Images from the BAAL shooting in Aula Magna da Faculdade de Belas Artes da Universidade do Porto, Photos: © Ricardo Pereira



FIGURE 6. Images from the shooting of *A Ronda da Noite* in Cinema Batalha in the presence of the filmmaker Manoel de Oliveira (1908-2015), Porto, 2013. Photos: © Catarina Oliveira



# **The Artistic A in CA2RE+**

Maria Hansen  
ELIA – Globally  
Connected European  
Network of Higher Arts  
Education Institutions

## ABSTRACT

**ELIA has been a supporter of CA2RE for many years. After all, the full name of CA2RE is Conference on Artistic and Architectural Research Evaluation. As the European network of Higher Arts Education, it makes sense that ELIA should be involved, since artistic research is one of the network's main strategic priorities. Given that five CA2RE+ conferences have come and gone, it feels like a good moment for Maria Hansen, ELIA's executive director, to reflect on this from her own perspective while also gathering thoughts from ELIA's president and vice president, but most importantly also from two of the panellists who shares their impressions of being part of CA2RE+.**

**Keywords: Artistic research, ELIA, artistic disciplines, practice, material experimentation, interdisciplinary space.**

ELIA has been a supporter of CA2RE for many years. After all, the full name of CA2RE is Conference on Artistic and Architectural Research Evaluation. As the European network of Higher Arts Education, it makes sense that ELIA should be involved, since artistic research is one of our main strategic priorities. Given that five CA2RE + conferences have come and gone, it feels like a good moment to reflect on this from my own perspective as Executive Director of ELIA while also gathering the thoughts of the ELIA board leadership and two of the review panellists, one of whom from the artistic disciplines.

When the Erasmus+ funding was awarded to CA2RE +, it was decided that I would be the main contact for the project from the ELIA team. I happily travelled to Ghent in October 2019 for the first conference and to our first transnational partner meeting hosted by KU Leuven. I had not yet met anyone involved, except Claus Peder Pedersen, a member of ELIA's Artistic Research Working Group.

Having been with ELIA for a few years now, I have been involved in getting projects started before, and I think I know the drill. But at my first CA2RE + partner meeting, I felt I had landed in an unfamiliar country. All the representatives from the partner universities were architects, many of them with an active practice next to their academic work. I am neither an architect nor a PhD supervisor, and most days that does not present a problem in this wonderful job that I have, leading ELIA. But there in Ghent, I was swimming in new terminology and a slight sense of not

knowing where we were going. Later, it turned out that I was not alone. Group members were all trying to find their way in this new world, having successfully received funding for a programme and methodology they had developed and maintained independently without funding for so many years. Looking for a way to make myself useful at this two-day meeting, I offered to take the minutes, which our project coordinator, the amazing Tadeja Zupančič, gratefully accepted. Being the one who records turned out to be one of the best ways to get to know everyone's name. It was a start.

When I happened to be in Milan in November 2019, I grabbed the opportunity to have dinner with Gennaro Postiglione of the Politecnico di Milano (co-designer of the CA2RE project), who welcomed the chance to explore the meaning of the two A's with me further. The Trondheim conference was coming up next, but then Covid-19 arrived in Europe. With very little knowledge of how things would develop, it became clear only weeks before the event that we were going into lockdown and the physical conference would not be possible. From this moment on, CA2RE+ moved into 'pandemic mode' for the next four conferences—Trondheim (online), Milan (online), Hamburg (online), and Ljubljana (hybrid). I was amazed at the agility of the team at NTNU in Trondheim, who delivered an excellent online alternative in June 2020. Imagine the disappointment of having a full physical conference all lined up, only to have to reinvent the entire thing and reduce it to two Zoom streams. The hosts of the conferences in Hamburg, Milan, and Ljubljana were equally strong in reinventing and improvising what was needed to offer the community a valuable experience. Our consortium—perhaps strengthened by this experience and the excellent response we were getting despite the online format—met every first Monday of the month to plan, to support each other, to work. In September 2021, daringly, the University of Ljubljana hosted our first physical event again, although adding to this a hybrid dimension via online options (a complicated feat to organise). However, meeting these colleagues with whom I had worked through online meetings and the conferences was a joy. By 'joy', I mean being together in a physical space; seeing and experiencing and touching installations, artefacts, and performances; having dinner and breakfast together; discovering the people behind the Zoom tiles.

Preliminary conclusion: I am a fan of CA2RE+ conferences. I love the rigour of this format, the commitment of the partners, each and every one of them. And even as a non-expert, I am learning with every presentation that I see.

Regardless of online or physical, I wanted to know what the experience has been like for the many panellists that I have

recruited for the CA2RE+ conferences in the past two years. I started this quest by talking to Michelle Teran, one of the artistic panellists at the Trondheim and Milan conferences, to find out more. Michelle is an educator, artist, and researcher, and currently works as a practice-oriented Research Professor of Social Practices at Willem de Kooning Academy (WdKA). Her research areas encompass socially engaged and site-specific art, counter-cartographies, social movements, and feminist and critical pedagogy. Michelle did her PhD in Norway, as an artistic research fellow in the Norwegian artistic research programme. Following the completion of this programme, Michelle became associate professor at the Trondheim Academy of Fine Arts, part of CA2RE+ partner NTNU, with a profile in Art and Technology. In this role, Michelle became supervisor to two PhD candidates in architecture. One of them was invited to be part of CA2RE Berlin in 2018, and that was the beginning of Michelle's relationship with the programme. She came along as observer and supporter of her PhD candidate, and later on became a panellist for several of the (online) CA2RE+ conferences.

I asked Michelle what is educational for her, as an artist, in being part of a conference that is still quite dominated by architecture, design, and a focus on the built environment. She told me that she recognises some of the elements of the Norwegian doctoral programme which she had enjoyed so much in the CA2RE approach. Participating in research seminars with all the candidates and supervisors, hearing about each other's work and providing feedback, even if the candidate is not working within your own discipline. 'It's interesting to hear how a project is set, how the research is being framed, what the discourses are, and what kind of feedback that candidate is receiving. Some feedback is very informed, some more underdeveloped, because it's coming from someone who is not coming from the field, yet is very interesting at the same time. What different points of inquiry are there?' With the Norwegian experience as her background, Michelle loved coming to the conferences to see 'who the candidates are, what their work is, what institutions they are from'. As a panellist, she discovered more nuances, for instance, in the case of a sound artist from TU Delft: 'What are points of inquiry into different research environments? Is there an emphasis on theory? Is practice or material experimentation core to the inquiry? Or is this considered an addition, something that the candidate does after doing the theoretical work?'

When asked whether she saw differences between the various contributions mainly on the basis of the different disciplines, Michelle agreed that this discipline is one of several factors that make up the difference. As an artist panellist, her line of questions



to the candidate comes from her own experience in artistic research, which means that the relevant point of reflection would be material experimentation. 'What material experiments are you developing in your research project, and what insights are you gaining from these experiments? Others on the panel gave quite a different response, often more theoretical and removed from the work.' Sometimes it felt to her that 'panellists were worlds apart in their approach, asking completely different questions—which made the experience even more interesting.'

What she learned as a supervisor was a bonus. Feedback styles are always very different, as are styles of supervision. Michelle relates that she found this diversity informative for how she thinks about the research environment in her own institution, and more literally about 'What kind of questions are we asking back home?' Because panellists and candidates come from different research climates, institutional cultures, and forms of validation, the space becomes very comparative and not at all homogenous.

Dan Dubowitz of Manchester Metropolitan University was introduced to CA2RE through ELIA. Dan is Reader in Architecture and International Lead for the Manchester School of Architecture and has participated in the CA2RE conferences as a panellist since the Hamburg conference. He reflects on his experience in a very similar way:

'For me, one of the strengths of the CA2RE programme is its success in warmly embracing plurality: contrasting academic approaches, methods, cultural approaches that are often dissonant flourish side by side in the same space. This is rare in academia. Matters of concern have become matters of care. I also noted moments of improvisation in the spirit and day-to-day working of the two conferences, which is fundamental to design driven research yet rare in architecture academia or practice (it is more prevalent in art practice/academia).'

Asked whether she would apply to CA2RE if she were a candidate again, Michelle hesitates a bit. For artistic research, where artistic work is the starting point, it makes more sense that the candidates should determine how to present at different stages of their project and in ways that are in direct contact with the work. In Norway, for example, Michelle gave two performative lectures. Norwegian artist Liv Bugge facilitated a telepathic conversation with a trilobite with seminar participants. A candidate from the music academy performed an excerpt of a work in progress. Another screened an excerpt of the film they were producing. Granted that an online setting is a really difficult space to realise this, Michelle recalls the fruitful mix of panel discussions, presentations, and exhibitions that she experienced at CA2RE Berlin, where some presentations were literally taking place

around the work, often involving drawings or writing, or both. Having just been to the hybrid CA2RE + in Ljubljana, I shared with Michelle some of the presentations ‘around the work’ that were realised there—with a camera hanging over the space to ensure that online participants could also see it. Yet, in her mind, a fully online conference condemns participants to two-dimensionality, using yet another PowerPoint rather than claiming space for material experimentation. The tendency to choose this format for presentations may have a different background altogether, according to Michelle: ‘Maybe candidates get into the mindset of that expectation that they are in the third cycle now, and therefore have to sit still and present PowerPoints.’ In Norway, in the physical space, this was still the main form of presentation, even though this was never asked of the candidates, all of whom come from dance, theatre, opera, music, applied arts, design, visual art, film, and architecture. There’s more work to be done on this front, it seems.

Dan agrees that ‘CA2RE’s encouragement of in-person, physical provocations/interventions and creating a nurturing yet critical forum to discuss these in person with/at the work is important.’ But he likes the online situation as well:

‘With the online conference in Hamburg and hybrid conference in Ljubljana, so much is added to a conference in terms of being able to see a wide range of discussions in a short time frame and widening participation; there would be huge benefits to retaining this online dimension of the programme somehow.’

As an observer, I enjoyed some of the aspects of the online format. To me, it had the feel of a festival, with me picking out the most interesting presentations to watch and then (like Michelle) taking in the very different styles of presentations and feedback given. I could even switch halfway through, if I wanted to catch two parallel presentations. She agrees: ‘CA2RE really is about feedback in the interdisciplinary space. How different perspectives come from whatever knowledge or whatever that reference point is to what the candidate is presenting. It can be quite random, but maybe it can take the work and the reflection in another direction.’

Focusing more on the A for ‘artistic’, in the last CA2RE + conferences (Ljubljana and Hamburg) an eye opener to me, and I think to all those present, were the contributions by ELIA board member Ana Telles, who (following thorough preparation) provided feedback to the candidates that related their topic to comparable inquiry in the music field. On the topic of ‘copy’, she shared with the candidates the concept of copy as applied in the Bach-Busoni piano transcriptions of Bach’s work, and on the topic of ‘silence’, she related some underlying concepts to the work of major

20th-century composers that she felt would be of interest to the two candidates. (A tip not to miss Ana's essay elsewhere in this book!)

And still, these are the exceptions. CA2RE + could benefit from a stronger participation by artist candidates and panellists. Both Michelle and I wondered whether the CA2RE narrative speaks to artist researchers and whether they recognise themselves in the invitation. I'm making a mental note for our consortium meetings and our final conference in Delft.

Perhaps this is one of the reasons why CA2RE is still a 'best kept secret', with only some of us recognising what a jewel it really is. ELIA's vice president, Jørn Mortensen, has been following the CA2RE+ conferences on behalf of ELIA for the past two years and has become very dedicated to what CA2RE+ hopes to achieve: 'CA2RE+ is a best-practice example of sharing experience, competence, and insights amongst peers and institutions within design driven doctoral research. Only through challenging current formats and contents can the field move forward, and CA2RE+ secures such an ambition.'

As we are moving towards the conclusion of the Erasmus+ project, the future and legacy of CA2RE+ is on the agenda. Looking from the perspective of ELIA, president Andrea Braidt makes up the balance:

'CA2RE has been a very important resource to reckon with in Europe. It is central that early-stage researchers get an international platform to present themselves and their PhD projects to each other, with an interdisciplinary set of peers to exchange and discuss. Design based research and CA2RE have become linked very tightly in the heads of artistic researchers in Europe and beyond. What an enormous achievement!'

Being involved in several European projects, I am not meant to have favourites. But maybe I do. See you in Delft!

## **BIOGRAPHY**

Maria Hansen is Executive Director of ELIA, globally connected European network of Higher Arts Education. She worked in the performing arts for more than 30 years, in Canada and the Netherlands, served as board member of the International Society for the Performing Arts (ISPA) from 2009–2016 and received ISPA's Patrick Hayes Award honoring transformative leadership in 2020. Maria is a member of the University Council of Nuremberg University of Music, board member of Oorkaan and (until recently) the Rotterdam Philharmonic Orchestra. She chairs the Hogenbijn Foundation which awards two annual prizes in film making and classical music in the Netherlands.



# **Research inside Architecture, tensions with outside.**

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## ABSTRACT

**The following text, tries to respond to the demand of “a personal opinion from an outsider of the consortium” about the actual development of PhD programs in architecture that may nourish and concentrate on research through design, that seems to be underestimated or even avoided due to detours into or through other disciplinary fields of knowledge. A series of non-sequential points is presented, collected from an insight into a half century personal experience between education and social commitment through architecture, between institutional environments and the persistent exercise of a profession whose speciality is - no more and no less - the space organization for the human kind. It is written by a theorist and a practical person, once presented as a pragmatist (by a great professor and friend) before an international audience. Six points are developed, in short: 1. the instruments of Architecture, 2. research through project, 3. from documents, to style making of ideas, 4. losses and gains of a researcher life, 5. essentials for a profession, 6. urgencies for innovation in research environments, all raised by examples or facts. Instead of final conclusions, each point is followed by a paragraph with suggestions of enquiry. These intend to promote debate, action but rejections too.**

**Keywords: Theory and practice of architecture, Instruments of architecture, Research as architect profession, Architecture as geometry, Words and drawings in research.**

1. One first visit to New York, in 1975 came to my mind while starting to line thoughts for this paper: In the MOMA there was the exhibition of The Architecture of the Ecole des Beaux-Arts, which, by the time and for a 4th year student of the Escola de Belas Artes do Porto, was not fully comprehended. Today, it presents a few arguments that may be of interest towards our DDr still unforeseen, but desired, perspectives. Arthur Drexler [1] presentation and the chronology in the catalogue, can be of help to approach the beginnings of our present quest on the place of architectural design research. We'll leave for later the PhD subject, that will be given a separate approach. The large and beautifully framed drawings presented plans, sections and façades in perfect coordination of measure, proportion, rhythm and textures, including vegetation. The plan

distribution of extensive and complex functional programs, elements of construction and ornament made an irreproachable demonstration of skills and knowledge of the art of building inscribed in those drawings. The spirit of Beaux-Arts time emanated from the impeccable white walls of Phillip Johnson in NY.

In Frank Lloyd Wright drawings, black and colour pencil, the aura of completeness underlies each sample, even when photos of structural experiments and of the built works soon became available next to those former papers (sometimes shown to the client for the practical reasons of first reunion and contract celebration). The hypothesis of form, and the desire of achievement, were put before the cart. Ends and engine combined to make the first statement of a Master in architecture. The patiente recherche will come later in the history of architecture theory, out from Corbusier's pen (a man who has "Quitté l'école à 13 ½ ans". [2])

**Suggested enquiry 1: When (year) were officially instituted the PhD programs in the Architecture schools of UE countries?**

2. A non-systematic review across the contributions already offered in the site of CA2RE concerns, arose another old souvenir from my life inside architecture that began in 1971. The first International Seminar of Compostela in 1976, was directed by Aldo Rossi and Salvador Tarragó Cid. I was one of four students recommended by key-note speaker Alvaro Siza (among the restrict team of invited friends and colleagues of Rossi). It was an exciting youth event by then, but it became intensely cultivated as a guide, in my practice, teaching and researcher's philosophy. By setting each transparent tracing paper over a blueprint of a part of the city, stretched on the drafting tables, we find and select the points, lines and angles where a new geometry starts – we call it the project, or a design driven research: it is a search for architectural form, that will eventually apply copied shapes and volumes from the same blueprint, combined and re-used inside the new discourse, filling gaps, adding new meanings – secured by the laws of convenient measure and scale control.

The historic city was the stage for our design workshops (in present academic atmospheres, you call it "research field"), and the works evolved from morpho-typological survey into design hypothesis that combined programs and forms – actual measurement and hand drawings were made, no digital cameras were available yet, exceptional Polaroids were used. Next to the old granite convent of San Clemente and Guardia Civil amidst

rows of houses, the geometries and sketches of our projects prompted the most disparate architectural cultures of the participant schools, from realistic to minimalistic, pragmatist to formalistic, Seville, Oporto, Ticino /Venetian schools manifestoes. The analogic process of design and philosophy of the Città Análoga implicit theoretical challenge emerged from a shared practice (see image, drawing by my tutor Bruno Reichlin).

**Suggested enquiry 2: How many concluded theses were dedicated to one or several projects (own or existing) and developed through design instruments (conventional or using new technological instruments of design), inside the schools of CA2RE consortium?**

3. One PhD research, between 1990 and 1996, was supervised by Alvaro Siza. Some lessons may be shared, from a first thesis, presented to the so called Oporto School: a) the subject was an urban university campus and buildings where the school itself was in construction at date; b) the materials and methods of research combined an immensity of factual documentation (blueprints of the projects, contracts, acts, work reports, costs, letters between client and architects) that evolved people and institutions; c) the conception and construction drawings were exhibited either as raw materials or set in comparison, leaving short space to personal “interpretations”, d) no innovative or argumentative discourse were found in the thesis discussion and unanimity was not reached.

Methodology was driven from Arnold Schonberg’s writings *Le Style et L’idée* and Michel Foucault *Surveiller et Punir*, a few quotations came from Henri Matisse’s *Writings and Reflexions on Art*.

Front to back, the structure of the thesis followed the architect’s identities of the terrain, the owner or client, the urban overlapping of random planning, the simultaneous building projects by different authors with equal client and contracts but different methods, drawing quantities and quality, work quantity (dis) proportions to buildings size. Comparative extracts of elements from three different project design materials were exposed as a proposal for style assessment by readers (specialist or not).

**Suggested enquiry 3. How far can, or must, we value the drawings (from old blueprints to CAD representations) - Iconography, Orthography and Scenography - as “the” ideas of architecture, or the place where Meditation and Invention occur? (Freely quoting Claude Perrault’s correction et translation of Vitruvius)**



4. The prices to be paid. Who needs and why engage into a doctoral program in architecture? Through the process of some aspired transitions from Fine- Arts schools and Polytechnics into the University environment, some unpredicted swifts from the first mission of the architect's education may have occurred. What traditionally implied the practice of architecture as a social service, evolved towards an offer of profiles of graduates and pot-graduates whose contributes spread into a larger scope of "activities", not only and obviously framed by the work market (and the scarcity of work), but also scattered through transdisciplinary subjects born from the ashes of post-modern culture.

The raise of social status, connotated with academic titles, first (and only may have) satisfied internal urges of the institutions to survive, through the raise of places in global rankings based on quantitative assessment of scientific "production".

The schools staff renewal has been mainly fulfilled by academic merit, proficiency depending with few exceptions, on architects who detoured from practice, following subjects and a will to contribute to the disciplinary "knowledge". History, construction systems, "the city", new technologies, social sciences, photography, philosophy frame the majority of interest fields- a mystical conception of "science" and "research" underlies a need or desire of "distance" from current practise. To start a PhD program is associated to an idealization of "study" as something not based in what you do every day with clients and real building situations.

Personal expectations have often been lost, years of life and private efforts were frustrated, together with a delay or detour from architectural practice. Luckily (it is my opinion), many candidates suspend temporary or definitely their programs and dissertations, at the sight of the proletarian scenario (inside and outside, even in prestigious the schools) of their few successful mates.

A strategic reposition of the role of practising offices, with their teams and leading professionals (there are, in fact, great masters of architecture today - that lead the Theory and Practise of the 21st century) must be approached by the universities. They are the closest environment I see to the ideal laboratory in architecture. Le Corbusier (and I quote the above mentioned 1934 biography) may be inspiring:

Chez moi, les jeunes de tous les pays, viennent travailler - visiteurs quotidiens et sympathisants de tous pays : je suis renseigné sous le mouvement international. Les jeunes m'appellent, en URSS, en Amérique, Espagne, Tchecoslovaquie, Algérie, Scandinavie, Grèce, Allemagne, Suisse, Italie. [3]

**Suggested enquiry 4: What motivates a candidate to a PhD program in architecture? What is the average age of the applicant? How many practising architects complete their degree while keeping professional work? How many PhD professors maintain teaching architectural studio?**

5. Vittorio Gregotti always made an impression on my annual search for new teaching and research materials: he kept writing as a continuous production from his 1966 [4] seminal work on the territory of architecture to lessons and questions raised till 2020. The absence of a PhD reference in his career in all the book covers and internet abstracts seems of interest for our matter (notice is given of a few honoris causa).

It is of the utmost justice, the recognition of a paramount contribution to architecture, by a man who always presented himself as “an architect”, while constructing and theorizing over the concept of “values” – disciplinary and societal ones, better say, the societal through architecture, inside architecture.

I memorized and teach (in theory courses of master degree) his exclusive and very restrict set of “the three exercises you need to become an architect: Measure everything; Be curious about how things are made; Read projects.” [5]

He questioned, in 2014 [6], whether we might be before “the post-history man, that grounds each future in the terrain of the technoscience as the unique value.” Using the metaphorical example of present food improvisation derived from wide and fast technological innovations and their contradictions, he adverted how that provokes provisional, uncertain, enthusiastic and indiscriminate misuse of instruments that are turned into myths and converted into ends.

The opening of 1966 book says: “1. This book is somehow contradictory and lacks systematicity. This is my opinion. 2. On the other side, it is not my intention to present it as a treatise but as a project exercise instead, better say, as an example of what happens when we make a project of architecture: corrections and tests are continuously made, numerous problems accumulate expecting solution, we note on the paper margins possible solutions together with phone numbers that we can’t forget. Then, even if we erase them, the marks on the paper remind us of what was researched and denied; trials and errors give a full sense to the final solution.”

A 2014 version changes, only slightly the words, but keeps the tone and Gregotti style: “The digital language produces great

advantages but also a loss of depth regarding the richness of the sfumature and of the metaphors of the direct language between people, including those of the body expression, of the eye and the silence pauses. In architecture, it drives to the loss of drawing as a research instrument, other than project representation tool.”

**Suggested enquiry 5. Should we recommend the three Gregotti exercises in PhD architecture programs for a solid beginning? He would probably say it is necessary possible or vice versa.**

6. New means and sources for research; interviews and videos; theory and practice by contemporary (alive and a live) masters of architecture. Time and means for research on the words and the visual materials of architecture

Rare architects of our time write books. My favourite, however, are Siza and Zumthor, in very different sizes and substance, being the Portuguese master a remarkably compulsive writer as much as outstanding artist, while the Swiss cultivates a select but particularly extravagant avoidance of words.

I recall (from my reading cult of biographies) that the fathers of the Modern (Wright, Le Corbusier) wrote books mainly when or because they were out of work.

I don't recall any printed book signed by Mies van der Rohe, not surprising, regarding his avant garde and metaphysical identity (re) construction, and deliberate (re)birth upon an erased past. He is, most probably, the first contemporary star of our days system – his voice remaining the closest contact we can get for research. Meanwhile, a global initiative and large resources have been invested to collect and archive master architects' work. Their purpose is, by large, to contribute for research, therefore, to support academic institutions always underfunded, yet the most responsible for knowledge production, learning and dissemination.

**Suggested enquiry 6. A few shifts may be envisioned from this new availabilities to further fields of doctoral research, design driven included: a) from bibliographic research towards documentary; b) from historical comfort zone to the present; c) from past to on-going lives and critical subjects; d) from already made design contemplation to critical design production, problem findings and opportunities for following up, eventually debate with the authors themselves, that would mean a side-by-side innovative practise of research.**

## NOTES

1. DREXLER, 1975, 3-4
2. Le Corbusier, Autobiografie (Rome 16 Juin 1934) in BARDI 1984, 72-74  
Full transcription FONSECA 2018
3. Le Corbusier, op. Cit.
4. GREGOTTI 1972, 9
5. GREGOTTI 2000, 106-118
6. GREGOTTI 2014

## BIBLIOGRAPHY

BARDI Pietro Maria. 1984. Lembrança de Le Corbusier: Atenas, Itália, Brasil. São Paulo: Nobel.

DREXLER Arthur. 1975. Preface. The Architecture of the École des beaux-arts an exhibition presented at the Museum of Modern Art, New York, October 29, 1975-January 4, 1976: [catalog] Publisher The Museum of Modern Art, <https://www.moma.org/calendar/exhibitions/2483> accessed 28 January 2022

FONSECA Teresa, A escrita dos arquitetos, as palavras da arquitetura, 2018. <https://repositorio-aberto.up.pt/bitstream/10216/123193/2/361326.pdf>

GREGOTTI Vittorio. (Feltrinelli 1966) 1972; El territorio de la arquitectura. Barcelona: Gustavo Gili,

GREGOTTI, Vittorio. 2000. Sulle orme di Palladio, ragioni e pratica dell'architettura. Roa Bari: Latterza

PERRAULT Claude. (1684) 1979 Les dix livres d'architecture de Vitruve corrigés et traduits en 1684. Liège, Pierre Mardaga Editeur

## BIOGRAPHY

Teresa Fonseca, diplomate architect 1980 (ESBAP Porto Fine-Arts School) PhD 1997 (Faculty of Architecture U. Porto) Associate professor (2003) Aggregate (2018), practised as an architect since 1977, has been professor of Architectural Design (1981-2002) Theory of Architecture since 2002. Supervised 2 post doc, 4 PhD thesis, 85 MCs dissertations, discussed 15 PhD thesis and circa 150 MCs. Her built work includes single and collective housing, laboratories and medical facilities, office and commercial buildings, some have been published. Received distinctions and invitations as speaker in France, Brazil, Spain, Italy and USA. In December 2021 her body of work as a professional and academic woman was donated to the Portuguese Center for Architecture.

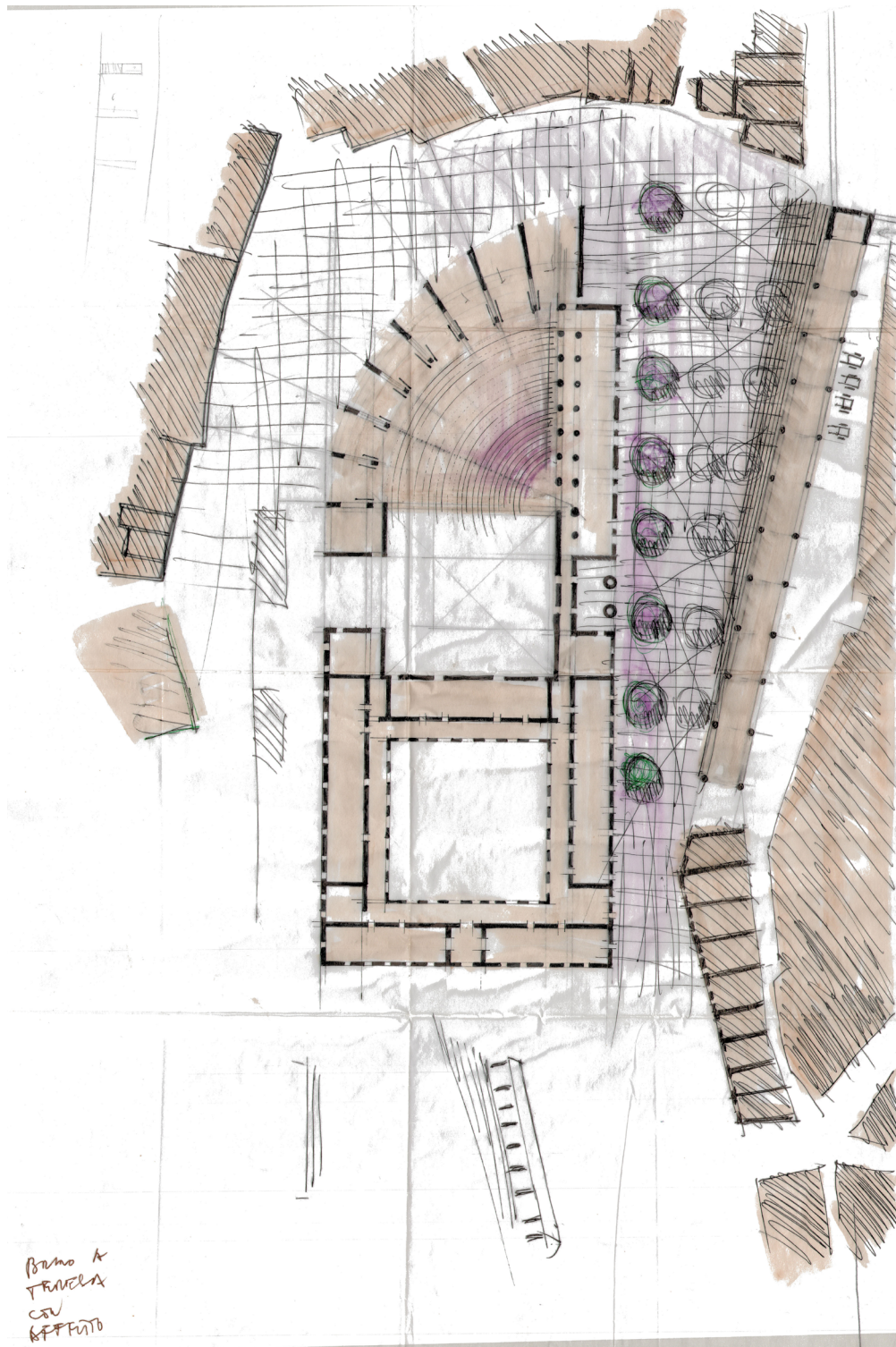


FIGURE 1. Bruno Reichlin's hand drawing in Santiago de Compostela, 1976, project workshop of San Clemente Convent area. Transparent paper, black ink and magic marker, 37cm x 54cm (Source: personal archive of the author)

71 - SANTIAGO DE COMPOSTELA.  
 Ex-monasterio de Santo Domingo: Triple escalera  
 concéntrica, volada, de caracol. Estilo barroco  
 (S. XVIII).  
 St. Dominic's ex-convent. Triple snail staircase.  
 Ex-couvent de Saint Dominique. Triple escalier  
 en colimaçon.

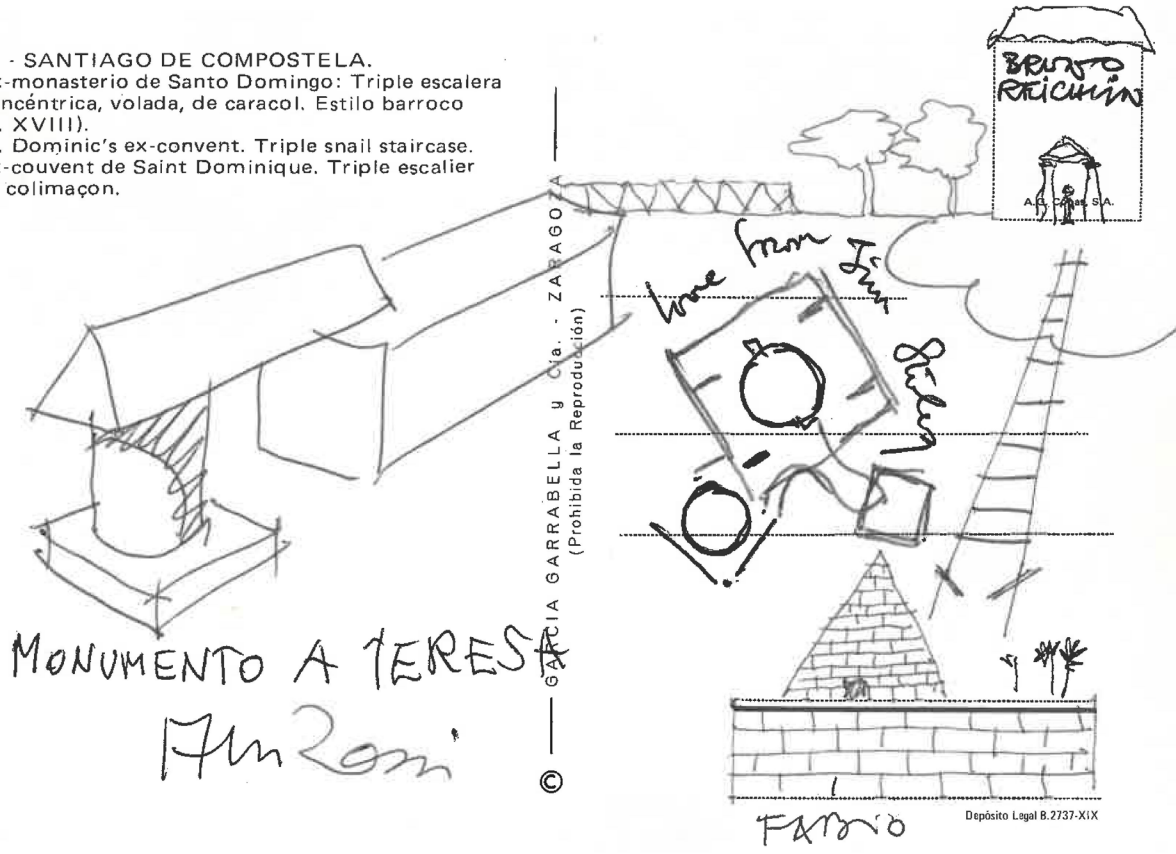


FIGURE 2. Postcard signed by Aldo Rossi, Santiago de Compostela, 1976.

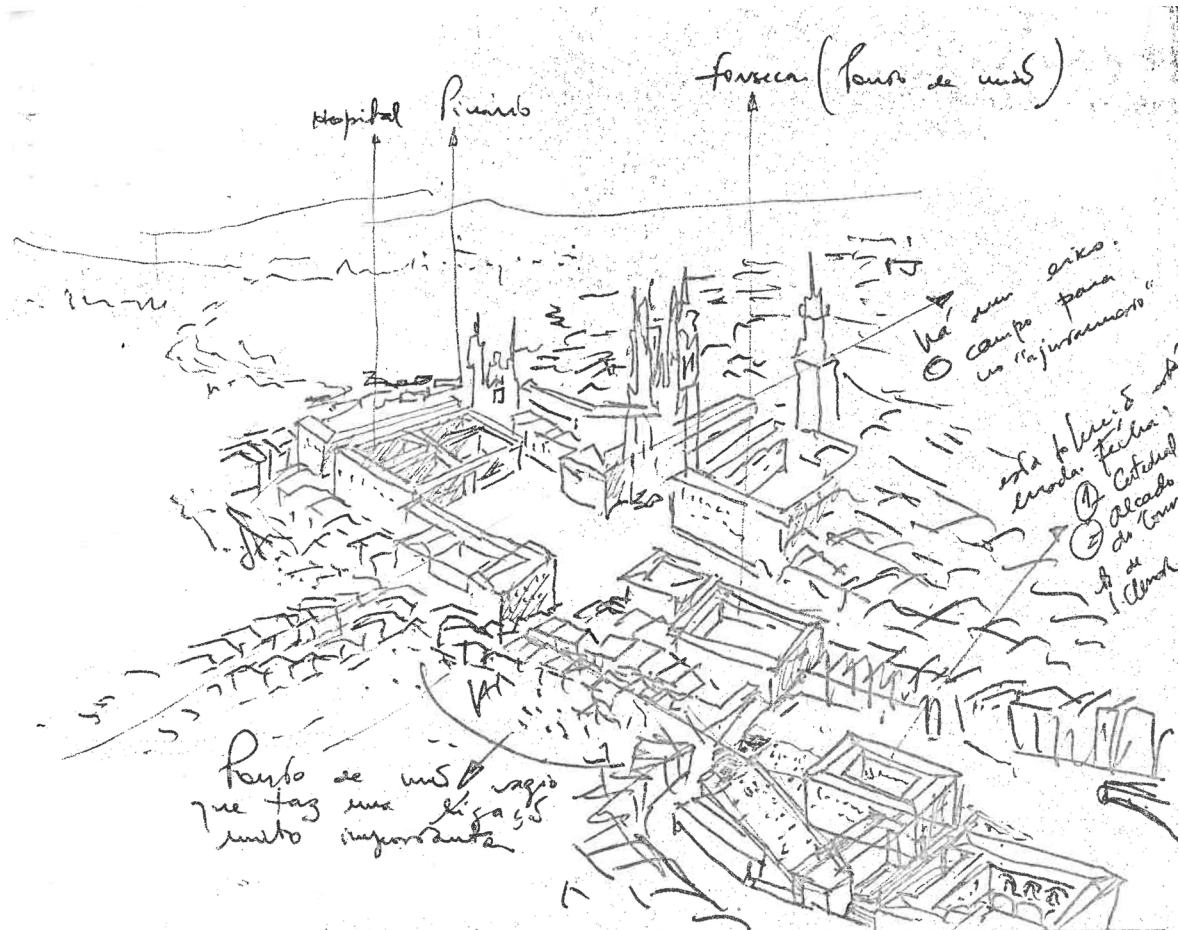


FIGURE 3. Draw by Souto de Moura, Santiago de Compostela, 1976.





# **Questions on evaluation in the artistic field.**

Sabina Jallow  
Malmö University

Gennaro Postiglione  
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## **ABSTRACT**

**Following the curators' provocation, we (Gennaro and Sabina) articulated "evaluation" as a sequence of questions. Some of the questions have been kept without any answers, for others our own experiences in teaching and evaluating came forward. Questioning our own practicing of evaluation in the artistic field became the start of promoting a non-judgmental approach that cherishes the established canon as well as elaborations for novelty. In the best cases the evaluation in Design Driven Doctoral Research encourages a reflective attitude and a wish to aim for excellence. In the worst case the demand for evaluation creates a practice of evaluation friendly artistic research.**

**Keywords: Holistic approach; teaching practice; reflective attitude; empathy; non-judgmental approach**

### **WHAT IS EVALUATED?**

The first thing I think about is that the review should be about both scientific quality and artistic quality. Yes, and a holistic approach as well as an examination about specific aspects.

### **WHAT IS THE EVALUATION ABOUT?**

Could the evaluation be equivalent to the assessment situation as a critique? The critique is a grounded collegial comment, ... can't it be based on general criteria? Evaluation is sometimes linked to usefulness or soundness... whether the research holds quality-developing factors such as the potential for long-term progress in the field of science but also the impact outside the academy. Should we focus on evaluation that aims to strengthen the excellence in Architecture? Yes, I think this is the most important goal the evaluation should achieve.

### **WHO ARE INVOLVED IN THE EVALUATION PROCESS?**

But who are the evaluating peers? And is there a common organizational structure around how the evaluation is done? It is obvious that the evaluation is depending on the evaluators. So, what selection criteria are there for how an evaluation group is appointed? Does it need to be a group (a Community of Practice) that shares a specific knowledge / view point / understanding criteria...?

## **WHO HAVE ACCESS TO BECOME AN EVALUATOR?**

But who are the evaluating peers? And is there a common organizational structure around how the evaluation is done? It is obvious that the evaluation is depending on the evaluators. So, what selection criteria are there for how an evaluation group is appointed? Does it need to be a group (a Community of Practice) that shares a specific knowledge / view point / understanding criteria...?

## **WHAT DO YOU DO WHEN EVALUATING?**

It must start in engaging with...? Yes, and to compare with things that we previously valued/noticed as good. This is something deeply rooted in the so called "Tacit knowledge" belonging to each Community of Practice and it is part of to a life-long training trajectory. Therefore, any evaluation process is at the same time a learning process for both the evaluator and the evaluated.

For me it has partly to do with what I have seen others do and of course with what others think is good and highlights. And, it is thus related to how the work I am going to give judgment on relates to an established canon. ...It must follow certain rules and postures, but in order to be innovative, it must also build on or challenge the canon. So, there is some kind of preconception and a reference bank that belongs to a guild, a profession, a discipline, to a specific Community of Practice.

I always do a lot of reading about the one I am going to evaluate / the project I am going to critically review. I want to get to know it in depth, read in, interpret, contextualize from my own perspectives. It must be understandable to me. If it is not, then I have nothing sensible to say. Then I will either dismiss it as incoherent (unarticulated and bad) or send it on to someone who I think is affected by it (I am therefore the wrong person to evaluate this work).

For me, I have my own positions and opinions that have to do with how I interpret what architecture should be. I dismiss criteria that I think are irrelevant. Sometimes there may be certain criteria that someone else set up... Then it may also be the case that what I think is important is not included in the given guidelines. In that case, I have to add and construct my own tool for the evaluation. I have to trust that I am the evaluator for a reason and that my judgement is part of how the discipline develops.

When I have decided what I think, I take the time to try to explain my positions so that others can take part in how I have thought and reasoned. There should be a certain transparency in the reasoning as to why certain aspects are highlighted as valuable or that others have been missing.

Maybe is this the most important?

## **HOW DID YOU LEARN IT?**

It is a collective practice. I have learned by doing it many times and by taking the time to do it in a way that allows others to take part in how I reasoned and why. I have seen others do it and been inspired or discouraged. I have also witnessed when others have done it to me and how I perceived to be the one being evaluated. How the evaluation can become a learning situation or a knowledge building, the start of promoting a non-judgmental approach that cherishes the established canon as well as elaborations for novelty. In the best cases the evaluation in Design Driven Doctoral Research encourages a reflective attitude and a wish to aim for excellence. In the worst case the demand for evaluation creates a practice of evaluation friendly artistic research.

## **HOW DID IT BECOME ACCEPTED THAT THE EVALUATION SHOULD BE DONE ON A PERSONAL BASIS AND AS A SUBJECTIVE INTERPRETATION BY AN ACCREDITED EXPERTICE?**

There is a dilemma here.

On one hand, the artistic act (of Design Driven Research) must be individual. At the same time, individual deeds must be compared against each other and against some kind of common agreement on what is excellent. One must therefore trust that people who are different and trained differently should be able to understand and relate to what is quality in each other's work. Often we try to gather a group of assessors to capture what the community thinks. But, that means that if something is too special or too innovative, the work might be too different to what the community understands... The originality of the work can challenge very much evaluators' skills and capacity, and this is why we understand the evaluation as space-time for mutual learning: evaluators and evaluated are embedded in a mutual learning process. Both should learn something how of the evaluation process. If this does not happen, we are in front of a top-down judgmental approach.

## **IS IT A MEANING TO HAVE A ONE TIME OF EVALUATION OR DOES IT NEED TO BE A PROCESS OVER TIME?**

It is probably the case that if the review is to play a role in a learning process or a knowledge building, it must take place on a repeated number of occasions over a longer period. Maybe even be done by the same evaluator. And this is why, in art practices, there is not such a difference between tutorials and evaluations: they are both intense space-time moments of a learning process.

The whole studio-based courses, or Design Driven (Doctoral) Research reviews, can be seen as a sequence of evaluation-tutorial sessions aiming at cherish the established canon as well as elaborations for novelty, and part of a permanent learning process.

### **SHOULD THE PROCESS OF EVALUATION BE DOCUMENTED AND ACCESSIBLE (AS VIDEO OR TEXT) OR CAN IT BE A HAPPENING?**

In a learning context, there is not always a reason to write down criticism and evaluation. It may be that something arises in the meeting where the evaluation takes place. Of course, the memory may fail, or there may be so much stress in the room that someone is not actively present in the moment. It may also be the case that the evaluator in the moment reaches an understanding which then disappears. You do not even remember what you said and the wording that everyone appreciated has disappeared. But if an outsider is to be able to review how the review took place, it must be documented. It is something else, but it is also important... the documentation can also be used for training purposes, even the evaluation is also very much a live performance, and its specific space-time characters are impossible to be stored in a recording. This is why it is very useful to have one or more external observers attending the evaluation: they can record the event by personal notes and they can benefit from it as a training module. An experience through which you can expand the Community of Practice connected to Design Driven (Doctoral) Research.

### **BIOGRAPHY**

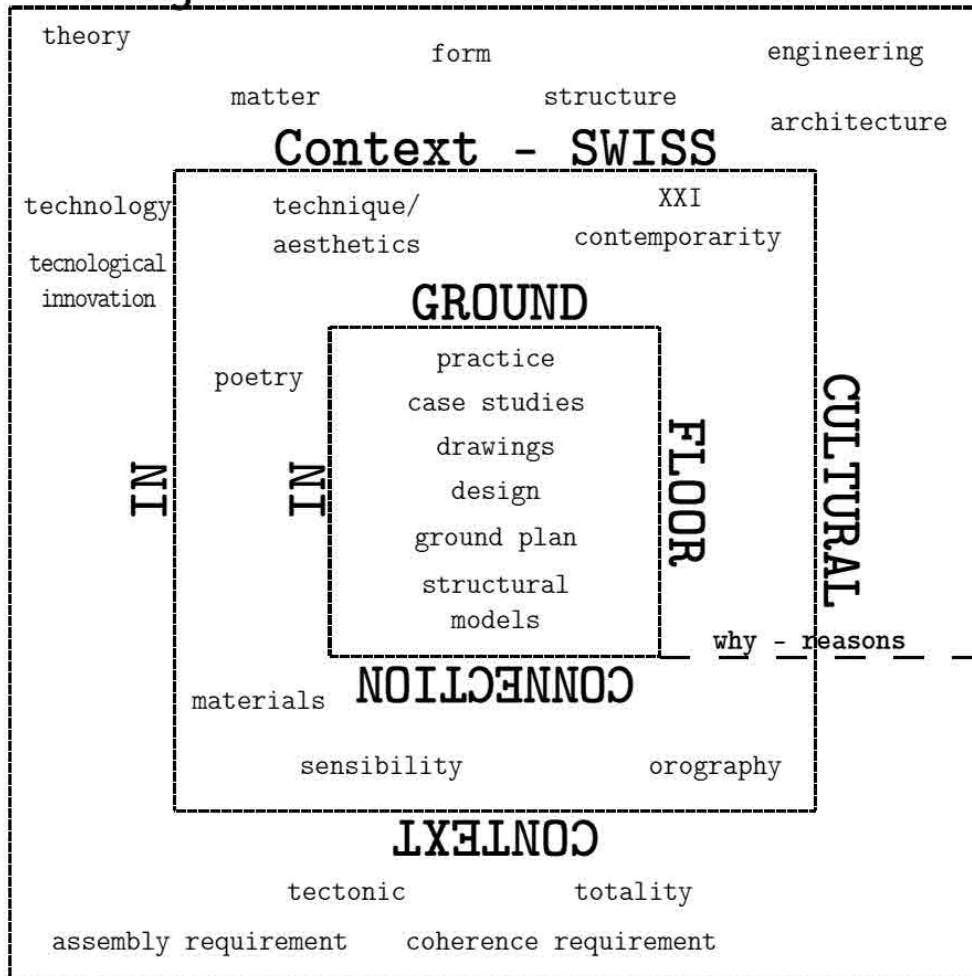
Sabina Jallow, Lecturer at Malmö University. Sabina has been the coordinator of the "Architecture, Visualization and Communication program" at the Department of Urban studies, Malmö University. She is trained as a landscape architect at the Swedish University of Agricultural Sciences (SLU), Department of Landscape Architecture, Planning & Management and at the University of Venice (IUAV), department of Art & Design. Sabina has been working as lecturer and research assistant since 2006. She has also been involved in exhibition pedagogy, art projects and tree care with a special interest in pruning pear and apple trees.

Gennaro Postiglione Full professor in Interior Architecture at Politecnico di Milano where he acts as co-Head for Internationalisation of the PhD Programme in Architecture. Besides his research on Scandinavian Modern and Contemporary Architecture, since 2005 he started a research by design track on reuse and valorisation of minor heritage – among which also the one coming from conflicts – recurring to sustainable re-active-action strategies and stressing the relationship between collective memory, public space and cultural identity. Putting the resources of architecture in the public interest. Moreover, he also works on contemporary housing and dwelling practices, a research aiming at promoting innovative, up-to-date solutions (in terms of building types, furnishing, layout, management and promoters) capable of meeting the urgent needs of housing. (research blog: [www.lablog.org.uk](http://www.lablog.org.uk)).



# III CONDITIONS

# Subject - FORM AND STRUCTURE



Gino Baldi - Politecnico de Milano



# **About the epistemological conditions for Design-Driven research**

**Matthias Ballestrem  
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Hamburg**

**Fabrizia Berlingieri  
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## ABSTRACT

**In an attempt to clarify the conditions of the diverse approaches to Design Driven Doctoral Research (DDDr) in the CA2RE+ project, we invited the CA2RE+ partners to review their statements on the conference themes Comparison and Reflection that they had contributed to the Milan and Hamburg events. We as editors highlighted those sentences in the texts that we understood to be the most relevant and distinct thesis and asked the authors to sharpen them focusing on the specific research idea and process, the nature and format of the knowledge that is produced and the employed methodology.**

**In the following introductory dialogue, we –Matthias Ballestrem and Fabrizia Berlingieri – follow recurring aspects, difficulties and observations in order to visualize the common ground of the DDDr landscape in CA2RE+. We think that the few highlighted conceptual nodes can contribute to a more general reframing of the project, and to its final steps of *Reformulation and Recommendation*.**

**Keywords: Media, process, evaluation.**

Matthias Ballestrem: If we try to compare the various epistemological prerequisites for Design Driven Research (DDr) expressed in the following short statements by CA2RE+ partners, it might be helpful to start from the It might be helpful to start from the techniques and media with which and in which knowledge production takes place in DDDr. In the call for the CA2RE conference in Milan, you explicitly asked the researchers and peers to address the approach, method and techniques of their respective research project. In this context, the term techniques referred to both the media and the way they are used. It is quite obvious from the references the authors quote in the following texts that in DDr the same media—models, drawings, video, photographs, mappings, buildings etc.—are used for research as for design. At the same time, there is a difference in the intentionality with which they are employed that can be roughly differentiated according to whether they are to analyze or produce an original design. In my understanding, this differentiation is fundamental to the disciplinary format of knowledge. The most extreme position in this polarity might be represented by Markus Schwai's contribution, in which he describes the architectural practice as research, because it is the format in which designers

propose potential answers to the challenges of our times. In this understanding, a building could be, without any further description or discussion, regarded as a research result, as it impacts society by its mere presence and the transformation it moderates through its use, affordance and perception.

Fabrizia Berlingieri: Starting from this position, which considers architecture as an artefact and our role as molders of spaces concerning time and societies, it seems to me that Markus's contribution needs to be deepened. Architecture as a matter of construction, and therefore intended in its traditional disciplinary field, is based on non-verbal communication and can only be understood through physical perception, movement, corporality, later interpreted through its abstraction. It reminds us that the first requirement for architectural research is to adhere to its specificity, starting from using proper tools, such as drawings, iconography, and, above all, non-verbal techniques.

Several contributions, indeed, underline a tacit knowledge dimension highly present in the architectural field, deriving from being a 'practice' and therefore ruled by internal codes of transferability. And yet, not the transferability of architectural practice but its validation as research remains an open problem. I recognize this challenge, for instance, in the contribution of Ignacio Borrego, Ralf Pasel and Jürgen Weidinger presenting a few doctoral researches at the PEP program (Programm Entwurfsbasierte Promotion). They raise a possible approach, namely that of exploiting the architectural design process, as one of the main objectives of the research program itself. But we also recognize that architectural research embraces a more expanded field, even more in our contemporary, as Roberto Cavallo also acknowledges in his contribution.

MB: What I find remarkable in Roberto's text is exactly this question about the potential scope of the research. In the example of the research project by Sinan Mihelčič (Mihelčič, 2021), he points out that the particular design project, the artefact, has a limited scope and is only of limited meaning for the understanding of a general phenomena like suburbia. As architectural design is usually a particular case, embedded in a particular context, defined by particular parameters, it is hard to generalize knowledge from it. As always in research, the epistemic thing needs to be clearly defined in order to decide on the right methodology and research object. Claus Peder Pedersen relates this to the question "How to begin?". He compares three different projects presented at the Hamburg event in their initial questions. Without proposing a concluding list, he distinguishes the research questions from originating in practice, in theory or in the interest in

a specific phenomenon. I believe that the architectural media—or tools as you call them—will play a different role and come in at a different point in the research process depending on these initial questions.

FB: How is it possible to generalize knowledge starting from a particular case? It is a crucial task to pose in DDr context. Indeed, another precondition is that, even if research addresses issues external to the discipline – such as contemporary social urgencies – it always maintains, aiming to be original, an authorial dimension, based on personal interests. This complex balance is the focus of Alessandro Rocca's contribution about the exogenous or endogenous nature of DDr. The relation between generalization and authorship is a node of positioning, personal and therefore specific, but at the same time interlaced to a necessary scientific common ground. And, despite the fact that approaches or questions can originate from different spheres (theory, practice, phenomena), the process in DDr is marked in almost all cases by a rhabdomancy path, made of trials and errors (Lawson, 2006) similarly to investigative methods (Harrowitz, 1983) or heuristic procedures. In this sense, media or techniques can turn out not only to be instruments of restitution, but moments of discovery, as Roberto Cavallo states in the conclusions of his text, thus thinning the boundary between analytic and generative, of which Edite Rosa speaks instead regarding drawing.

MB: Edite describes the employment of drawing techniques in designing as an iterative process. This particular nature of the design process has often been addressed in literature. In the context of DDr we often tend to think about these processes as processes of knowledge production, in which not only discursive arguing, but also tacit knowledge is involved. The question is, how are we able to address and qualify this tacit knowledge with regard to science, as it is not only highly individual, but also only relevant if it involves extraordinary mastery? Paul Robinson addresses this aspect with his reference to Vincent van Gogh. He speculates if van Gogh should have been awarded a PhD for—amongst other criteria—setting forth “uniquely alternative ways of seeing”. I think it is remarkable that this important dimension of tacit knowledge—the excellence of the knowing how—is not addressed more centrally in CA2RE? In a way, the evaluation of design excellence remains as difficult to address properly in PhD research as in the architectural design studio.

FB: Yes, I agree. With respect to the difficulty of investigating

and explaining the often overlooked design research processes, both of your contributions reflect on the use of analogy and references. For example, in the text “Morbelli as a Focal lens”, a visual reference becomes a sensorial character in Rossi’s San Cataldo Cemetery; in the other, you reflect on the creation of a contextual map, which is again the explication, and the exposition, of visual imagery as the base of a personal research positioning. Both cases concern the problem of the use and interpretation of references in research processes. References can be used or betrayed in their purpose, and then transposed to generate new meanings. The actions of translation and transfiguration stand at the basis of abductive and heuristic approaches that do not follow specific models of logical deduction or inductive and experimental practice. I think that the exploration of these unconventional models finds scarce space in the research evaluation procedures and for experimentation in doctoral research, at least in the architectural one. Perhaps the exception is the case of Ghent, where in fact, doctoral research is oriented towards a very personal experience. However, Wes Anderson, in his latest film “The French dispatch”, reminds us of a particular challenge when Roebuck Wright (Jeffrey Wright) states: “Self-reflection is a practice that must be carried out in solitude”.

MB: In a way, the danger of falling into an exclusive and foremost self-reflexive or rather self-referential mode is almost natural in a research methodology where your own and personal creative process becomes an essential part of knowledge production (Pérez et. al. 2014). In the rare case of Aldo Rossi’s *A Scientific Autobiography* the self-referentiality is actually legitimate, as it unlocks the work of a master that had a significant impact on the discipline. The practice of most of our PhD students, though, cannot prove its relevance in the same way. Here, self-reflection needs to lead to trajectories that extend beyond the candidate’s individual design practice.

In her contribution, Tadeja Zupančič demands that a dissertation needs to “rigorously contribute original and relevant knowledge to relevant cultural/research contexts”. She describes that originality, relevance, and rigour are growing from a hunch in the initial research idea to a clear presence and proof in the final stage. This also shows that the specific methodology of DDr will often start with a vague research interest and idea and will produce clarity and significance only in the course of the research process.

FB: Tadeja Zupancic’s contribution also shows another complex node of discussion that we stressed along with the two conferences of Milano and Hamburg. It comes from the question

of how to evaluate the DDr research process. It can be highly personal, grounding on uncertain paths and unconventional trajectories as we conversed. It also belongs to an expanded disciplinary field, a broad spectrum of instances and approaches. And I think we should further investigate the differences with other research paths in other disciplines, specifically the scientific ones, to understand possible points of encounter.

If we want to trace a trajectory between the partners' contributions, we then identify three main aspects that have been addressed with certainly different accents. These relate first to the specificity of media in architectural and artistic research, which embrace different techniques - such as artefacts, drawings, visualizations-, sometimes reaching a heuristic dimension influencing the research outputs and findings. A second issue is about the research process with two different aspects. The first is about the balance between personal inclinations, scientific relevance, and shareability of research processes or findings; the second is about the multi-dimension of research approaches and spheres. The last conceptual focus is evaluating research, which we previously talked about and I think we still need to deepen in our debates.

MB: I very much agree with the aspects you highlight. Also that we need to deepen the aspect of evaluation. In the diversity of schools, research traditions and individual personalities of our very inclusive CA2RE community, I believe it is crucial to establish a more rigorous system of framing the research in the contributions. The extra paragraph on the way the applicants frame their project as DDr that you introduced in the Milan event, was a step in this direction. Apart from the research question, interest and goal, it needs to be clear what the epistemic thing of the research is: the thing we want to know more about (Rheinberger 2021). This framing of the epistemic thing, if it is original design projects, a specific phenomenon, social or historic relations or similar, will guide the decisions on the suitable research methodology, media and techniques as well as on formats and languages in which the research results and processes can be explicated. This will be essential not only to evaluate the particular research project, but also to start to categorize the variety of approaches in DDr at CA2RE. In this way, we would achieve one of the goals of the CA2RE+ project: Provide clarity on the specifics of the various DDr schools, their methodological frameworks, expertise, and relevance.

## BIBLIOGRAPHY

Harrowitz, Nancy (1983) Il modello del detective. Charles S. Peirce e Edgar A. Poe, in Eco, U.; Sebeok, T. (eds), *Il segno dei tre*. Holmes, Dupin, Pierce. Milano: Bompiani.

Lawson, Brian (2006) *How designers think. The design process demystified*. Oxford: Architectural Press.

Mihelčić, Sinan (2021) *Creative Suburbia?* in Ballestrem, M.; Fernández Guardado, & M. (eds), *CA<sup>2</sup>RE / CA<sup>2</sup>RE+ Hamburg Reflection: Book of proceedings* (pp. 396–403). Hafencity Universität Hamburg: Hamburg.

Pérez Royo, V., Sánchez, J. A., & Blanco, C. B. (2014). *In-definitions: Forschung in den performativen Künsten*. In S. Peters (ed), *Science Studies. Das Forschen aller: Artistic Research als Wissensproduktion zwischen Kunst, Wissenschaft und Gesellschaft* (pp. 23–45). transcript: Bielefeld.

Rheinberger, H.-J. (2021). *Can Scientific Research Be Designed?* In J. Silberberger et al. (eds), *Against and for method: Revisiting architectural design as research* (pp. 132–141). Zürich: gta Verlag.

## BIOGRAPHY

Matthias Ballestrem is an architect and professor for Architecture and Experimental Design at the Hafencity University in Hamburg. Since 2006, he has held teaching positions at several institutions including Cornell University, the CIEE GAD Berlin Program and TU Berlin from 2006-2018, since 2013 as guest professor. In 2011, he was a scholar at the German Academy Villa Massimo in Rome. Matthias Ballestrem wrote his doctorate on implicit visual space perception. His research focuses on the methodologies of Design-based research, experimental design, space perception, spatial complexity and the architectural typologies of interior spaces.

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# **III.1 CONSTELLATIONS FROM PARTNERS**



# **Originality, Relevance and Rigour in Design- driven Doctoral Training.**

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## ABSTRACT

**In the context of design-driven doctoral training, the basic criteria of research quality about originality, relevance and rigour, are positioned in a specific research context, where design is understood as a hybrid driver of research. The detailed wording of these criteria is coloured differently in various cultural contexts, research approaches and evaluation frameworks. This chapter uncovers some examples of research quality-related evaluation questions, reformulated for the initial, midterm and final stages of design-driven research, as emerging from the CA2RE+ community discussions. 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 postdoctoral level. I think the research relevance and impact potential would be higher in the case the candidates would raise their impact-making-awareness from the very beginning of their research training.**

**Keywords: Research originality, research relevance, research rigour.**

Research, where the problem background and the field-work case study are the designer's/artist's practice, is usually called practice-based research. [1] [2] [3] [4] [5] [6]

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 to 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. [7] [8]

In design-driven research [9] h, a very high level of research hybridity [10] in architecture/arts is acknowledged. Instead of focusing on the research methods only, it follows the design research approach (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, the 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. The core is approaching, the hybridisation of methods derives from the approach. Using design for critical reflection can incorporate a variety of methods, and yet design taken as a driver is what separates this research from other investigations.

Originality, relevance and rigour are general criteria for research quality. Perhaps the wording is different and coloured differently in various cultural contexts, research approaches and evaluation frameworks: [11] [12] [13]

- original research approach (leading to new knowledge/ understanding) and/or strategy/methods, research techniques
- relevant - shareable, depends on representation/ communication techniques employed, with impact potential,
- rigorous approach & strategy/methods/techniques (investigative, focused, contextualized, logical, supported by arguments), where critical thinking is essential.

The general evaluation question about these three criteria can reflect the doctoral research stages:

Initial stage:

The candidates are trying to contextualize and focus their research.

- 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:

The candidates can see their path and the end of their research training.

Their research is well-rooted and well-directed.

At this stage, it should be possible to identify the potential to achieve originality in their proposed way.

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

Final stage:

At this stage, the candidates can explicate their findings and

explain their contribution to the field(s) of knowledge.

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

In design-driven research (including any artistic practice-driven area), design (artistic practice) plays an essential role in research strategies. The sensitivity of contribution to cultural development is essential in the problem background, approach/methods/ techniques and relevance discussion:

Problem background definition (research problems - how do we see them - relates to the research approach)

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

Approach/methods/techniques - choice and development

- future orientation, open-ended-ness, risk-taking, convergent thinking, artistic sensitivity;

- analytical/interpretational methods/techniques, design experimentation in the studio or field-actions;

Relevance discussion

- social contextualisation: socio-spatial responsive design of objects, processes, systems;

- depending on knowledge transferability - presentation/ communication techniques used.

Some referential examples from the intermediate and final stages, presented at the Milano and Hamburg events, demonstrate specific design-driven approaches, methods and techniques:

Pepa Ivanova: AN ECHO OF THE SUN - Autopoetic Observations and Rhythmic Compositions, Tuned by the Fine Structures in our Space-time Realm [14]

- Approach: translation of phenomena, layering languages and field-specific interpretations

- Methods: connection of scientific and artistic methods

- Techniques: paintings, hybrid multimedia installation

Marta Fernández Guardado: HOME - THINGS & BODIES - A Thing-based Exploration on Contemporary Ways of Living [15]

- Approach: creating a view to contemporary ways of living

- Methods: thing-based observations

- Techniques: photos of spatial situations

Silke Hofmann: NEED BASED CLOTHING DESIGN - How Females Affected by Breast Cancer Articulate their Individual Lingerie Needs and How These can be Implemented into Design [16]

- Approach: customized fashion design

- Method: collaborative workshops as design labs

- Techniques: videos, photos, drawings, texts
- Wiktor Skrzypczak: MOVEMENT AND DRAWING IMPROVISATION SCORES IN ARCHITECTURAL DESIGN [17]
- Approach: immersion to space to enhance architectural design sensitivity
  - Methods: bodily movement exercises, embedded in the design research strategy
  - Techniques: hand drawings, videos of wireframed bodily movements, texts

Thinking about the initial stage of research, mid-term review and the final stage, the following set of evaluation questions for design-driven doctoral training can be specified:

Initial stage:

- What is your research motivation?
- Why do you need design as a driver of your research?
- What is the role of design in your 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 speculation, as reflection, for evaluation, as an interface or as an integrated inquiry? [18]
- What are your potential knowledge contribution and impact areas, scales and communities?

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 postdoctoral level. From my point of view, it opens many new evaluation questions. Furthermore, I think the impact potential would be higher in the case the candidates would raise their impact-making-awareness from the very beginning of their research training. 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). [19]

## NOTES

1. ADAPT-r – Architecture, Design and Art Practice Training-research. 2013. <http://adapt-r.eu>
2. The 'Florence Principles' on the Doctorate in the Arts. 2016. European League of Institute of the Arts (ELIA). <https://www.elia-artschools.org/documents/the-florence-principles> from June 30, 2021.
3. The Vienna Declaration on Artistic Research. 2020. European League of Institute of the Arts (ELIA). <https://www.elia-artschools.org/documents/the-vienna-declaration-on-artistic-research> from June 30, 2021.
4. Del Vecchio, Federico, Zupančič, Tadeja. 2017. Contextualisation of a creative practice: a dialogue. *Annales: anali za istrske in mediteranske študije, Series historia et sociologia*, ISSN 1408-5348, Vol. 27, No. 2, pp. 227-244. [http://zjdp.si/wp-content/uploads/2017/07/ASHS\\_27-2017-2.pdf](http://zjdp.si/wp-content/uploads/2017/07/ASHS_27-2017-2.pdf), doi: 10.19233/ASHS.2017.16 from June 30, 2021.
5. Zupančič, Tadeja and Pederson, Claus (eds.). 2017. *Relational Knowledge and Creative Practice*. Brussels: KU Leuven. <https://e.issuu.com/embed.html#3375798/48566692> from June 30, 2021.
6. Zupančič, Tadeja, Eli Hatleskog, and Gitte Juul. 2017. Public Behaviours as Triggers to Creative Practice Research: as Seen through Three Different lenses. In Verbeke, Johan (ed.). *The ADAPT-r creativity book*. 1st ed. Brussels: KU Leuven, 265-333. <http://e.issuu.com/embed.html#3375798/48555043> from June 30, 2021.
7. Verbeke, J. (2013): This is Research by Design. In: Fraser, M. (ed.): *Design Research in Architecture, An Overview*. Ashgate, Burlington, pp. 137-159.
8. Zupančič, Tadeja. 2013. Reflection on design research reflections: design research supervision challenges in architecture. In: Verberke, Johan (ur.), PAK, Burak (ur.). *Knowing (by) designing : proceedings of the conference 'Knowing (by) designing' at LUCA, Sint-Lucas School of Architecture Brussels, 22-23 May 2013*. Ghent; Brussels: LUCA, Sint-Lucas School of Architecture; Leuven: KU Leuven, Faculty of Architecture, pp. 63-69.
9. CA2RE / CA2RE+. 2020. <https://ca2re.eu/> from June 30, 2021.
10. Zupančič, Tadeja: Design as a Hybrid Driver of Research. In: Fabrizia Berlingieri, Pier Paolo Tamburelli, with Chiara Pradel, Beatrice Balducci, Francesca Zanotto, 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](http://www.auid.polimi.it/wp-content/uploads/2020/10/201027-Book-of-Abstracts-Ca2re-Milan_def.pdf)
11. Dunin-Woyseth, Halina. 2005. The 'Thinkable' and the 'Unthinkable' Doctorates: Three



- Perspectives on Doctoral Scholarship in Architecture, in: Belderbos, M., Verbeke, Johan. (eds.), *The Unthinkable Doctorate*, Hogeschool voor Wetenschap & Kunst and Network for Theory, History and Criticism of Architecture, Brussels, 81-100.
12. EAAE Charter on Architectural Research. 2012. EAAE - European Association for Architectural Education. [Http://www.eaae.be/old/web\\_data/documents/research/120903EAAECharterArchitecturalResearch.pdf](http://www.eaae.be/old/web_data/documents/research/120903EAAECharterArchitecturalResearch.pdf) from June 30, 2021.
  13. Atalay Franck, Oya. 2016. Criteria for 'Doctorateness' in the Creative Fields: A Focus on Swiss Architecture. *ARENA Journal of Architectural Research*, 1(1), p.3. DOI: <http://doi.org/10.5334/ajar.11> from June 30, 2021.
  14. Pepa Ivanova (2020): AN ECHO OF THE SUN - Autopoetic Observations and Rhythmic Compositions, Tuned by the Fine Structures in our Space-time Realm, <https://ca2re.eu/results/an-echo-of-the-sun/> from June 30, 2021.
  15. Marta Fernández Guardado (2020): HOME - THINGS & BODIES - A Thing-based Exploration on Contemporary Ways of Living, <https://ca2re.eu/results/home-things-bodies/> from June 30, 2021.
  16. Silke Hofmann (2021): NEED BASED CLOTHING DESIGN - How Females Affected by Breast Cancer Articulate their Individual Lingerie Needs and How These can be Implemented into Design, <https://ca2re.eu/results/re-thinking-design-aesthetics-of-post-mastectomy-lingerie/> from June 30, 2021.
  17. (2021): MOVEMENT AND DRAWING IMPROVISATION SCORES IN ARCHITECTURAL DESIGN, <https://ca2re.eu/results/movement-and-drawing-improvisation-scores-in-architectural-design/> from June 30, 2021.
  18. 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](https://arch.kuleuven.be/onderzoek/publicaties/copy_of_2018-proceedings-impact-by-designing-sec.pdf). from June 30, 2021.
  19. EAAE European Association of Architectural Education – Research Academy –(2019): Research Impact Diagram, Zagreb RA Workshop document, <https://www.eaae.be/event/zagreb-ra-workshop/> from June 30, 2021.

## BIOGRAPHY

Tadeja Zupančič is a professor at the University of Ljubljana, Faculty of Architecture. She is Vice-Dean for research, teaches, supervises PhD-s/post- PhD-s, coordinates EU projects and the doctoral programme at the faculty. She studied architecture at UL and finished her Ph.D. in 1995. Her Ph.D. was a manifesto in favour of urban university integration. Her actual main research themes are promoting practice-based and research through design within the integral research tradition in architecture. Her interests are also the cultural dimensions of sustainability and public participation in urban design as an opportunity for life-long action-based learning of all the actors involved. She represents Slovenia in the evaluations of architectural diplomas (Subgroup for Architecture / Group of Coordinators for the Recognition of Professional Qualifications / European Commission). After the eCAADe presidency period (2017-19) she continued as Vice-President of eCAADe (Education and Research in Computer Aided Architectural Design in Europe; 2019-21). She is leading the Erasmus+ strategic partnership CA<sup>2</sup>RE+ (Collective Evaluation of Design-driven Doctoral Training), which supports the CA<sup>2</sup>RE community (Conference for Artistic and Architectural Research).



# **How to begin? Entering into the early stages of design-driven**

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## ABSTRACT

**The text discusses ways of starting a design-driven research project by examining three early-stage projects presented at the CA2RE event at HafenCity University in Hamburg. It looks at how the researchers address previous practice experiences, the role of designing in the research process and the expected outcomes and evaluations. The text aims to broaden the understanding of different design-driven research methodologies.**

**Keywords: Early stage research, design-driven research, practice-based research**

This text discusses ways to start a design-driven research project. It draws on three early-stage project presentations from the CA2RE/CA2RE+ Hamburg Book of Abstracts. The presentations are selected to represent different structural and methodic approaches to design-driven research: How do the researchers engage in the study? What role – if any – do the researchers' previous practice experiences and projects play in the research projects? How do they intend to carry out the research? To what extent do they define the goals or expected outcomes of the study? Moreover, what criteria will be used to evaluate if the research has achieved what it set out to do? This text does not set out to identify more and less successful entries into the design-driven research. All three projects are chosen based on their articulated and positioned research approach.

Fanny Kranz explicitly addresses the challenge of starting a research project in *Unfolding the Making-Of. This Is Not an Abstract but an Attempt to Getting Things Started* (Krantz 2021). The text articulates a deliberate hesitancy to position the research of the author's practice in an academic context. Already the subtitle denounces academic conventions as it declares that the contribution is 'not an abstract' (Krantz 2021, 215). The text also refrains from defining an exact design-driven research position. Instead, it intends to move investigative in the margins of past practice. The distancing of the project from an academic framing appears to be the result of conscious reflections on the complex and entangled nature of the practice. The text questions how and to what extent the research should fit into or confirm 'academic formalities that call for clear structures and classifications' (Krantz 2021, 221). The author appears to perceive a contradiction

between the project's intentions and academic conventions and search for an openness that will allow the unfolding of the practice without a hypothesis about its nature. The presentation does, therefore, not define an explicit theoretical or methodological framework for the project. It does, however, introduce techniques to engage with the material to get started. Mapping is chosen as a tool to document and explore the practice. Hand drawings, as well as photographic registrations, are used for the mapping. The practice's artistic projects are mapped and the practice's artistic and intellectual context through photographs of the author's book collection. Cinematic metaphors: 'The Making-Of', 'Opening Credits', and 'Behind the scenes' are used to organise the exploration. They provide the text with a playful character that emphasise the ambition to engage the research with 'joy and pleasure' (Krantz 2021, 215). Still, it also suggests relationships and hierarchies between the different parts of the research that might act as a scaffolding for further reflections as the project develops.

J for Jewel by Annelies De Smet, Jo(han) Liekens, Nel Janssens and Manon Persoone does not explore an established practice (De Smet et al. 2021). Instead, the project presents an open-ended study of interior architecture. The research focuses on the toilet as a site for bodily, material and spatial exchange. The authors stress an aim to explore the becoming, emergence and 'architecting' in an open-ended, post-disciplinary search for sensemaking inspired by new materialist theories. They describe a polyvocal strategy that engages the topic from multiple entry points aimed at producing 26 artefacts. '26' refers to the number of letters in the alphabet via Peter Greenaway's short film *Inside Rooms, 26 bathrooms*, London & Oxfordshire (De Smet et al. 2021, 148). Perhaps more importantly, it provides a minimal formal framework that makes it possible to link the individual artefacts while also providing the space to let them unfold in relative autonomy.

Utopian Imaginary of Urban Peripheries in the Context of the Anthropocene's Cultural Concept by Marcus Kopper and Martin Roth conforms to academic standards compared to the two first projects (Kopper and Roth 2021). The abstract introduces a theoretical contextualisation with the Anthropocene, assemblage theory and urban geography. It identifies a gap in current architectural discourse relating to the lack of German experimental urbanisation models. It aims to fill this gap through a focused study of how the practice engages in speculative design imagery. In the text, they do, however, not unfold the research

process. It is, for instance, not clear if new design activities will drive the research or if the research will be carried out as post factum investigations of concluded projects.

The three projects share similarities and differences in their way of starting the research projects. Krantz and Kopper & Roth direct the research towards already established practices, but they do so differently. Krantz is interested in the complex, entangled nature of the practice but deliberately refrain from hypotheses about how to interpret or understand it. The text even distances itself from academic norms and terminologies to emphasise the unrestrained explorative research process. It is, however, quite specific about the mapping techniques used to examine and document the practice to take the first steps of the research journey.

Kopper & Roth enter into the research from a different perspective. They embrace academic research traditions and situate their practice in contemporary architectural discourse. This approach allows them to delimit and contextualise the research aims and articulate a hypothesis about the intended contribution of the research. However, the research process remains unexplained in the text.

The research of De Smet et al. does not start from established practice, although past design experiences and competencies of the individual contributors likely play a role. The research project explores a thematic topic. The text presents assumptions about the chosen topic's relevance and character, but the assumptions are not articulated as hypotheses to be explored and possibly confirmed. Instead, the theme forms a common foundation for individual research trajectories that can take off in different unanticipated directions to be brought together in the polyvocal collection of 26 artefacts.

The three research projects are not representative of the full range of design-driven research approaches. However, they still offer insight into different strategies for how to get started. This strategy can be based on an already existing artistic or architectural practice as the starting point for the research as in Krantz, who address the practice as entangled in the world and Kopper and Roth, who identifies a programmatic interest in the practice as a driver for the research. Or, it can be based on an open-ended and exploratory research process as in Krantz's mapping of the practice and in De Smet et al.'s production of

artefacts as a vehicle for design and research explorations. The strength of the CA2RE/CA2RE+ network is that it gives insights into the width of options and strengthens our ability to support the wide variety of ways to conduct design-driven research.

## **BIBLIOGRAPHY**

Fanny Kranz, "Unfolding the Making-Of, This Is Not an Abstract but an Attempt to Getting Things Started," in Online Conference for Artistic and Architectural Research. Book of Abstracts, CA2RE/ CA2RE+ Hamburg, Edited by Matthias Ballestrem and Marta Fernández Guardado. (Hamburg: HafenCity University Hamburg, 2021), 214-221

Annelies De Smet, Jo(han) Liekens, Nel Janssens and Manon Persoone Fanny Kranz, "J for Jewel," in Online Conference for Artistic and Architectural Research. Book of Abstracts, CA2RE/ CA2RE+ Hamburg, Edited by Matthias Ballestrem and Marta Fernández Guardado. (Hamburg: HafenCity University Hamburg, 2021), 144-151

Marcus Kopper and Martin Roth, "Utopian Imaginary of Urban Peripheries in the Context of the Anthropocene's Cultural Concept," in Online Conference for Artistic and Architectural Research. Book of Abstracts, CA2RE/ CA2RE+ Hamburg, Edited by Matthias Ballestrem and Marta Fernández Guardado. (Hamburg: HafenCity University Hamburg, 2021), 214-221

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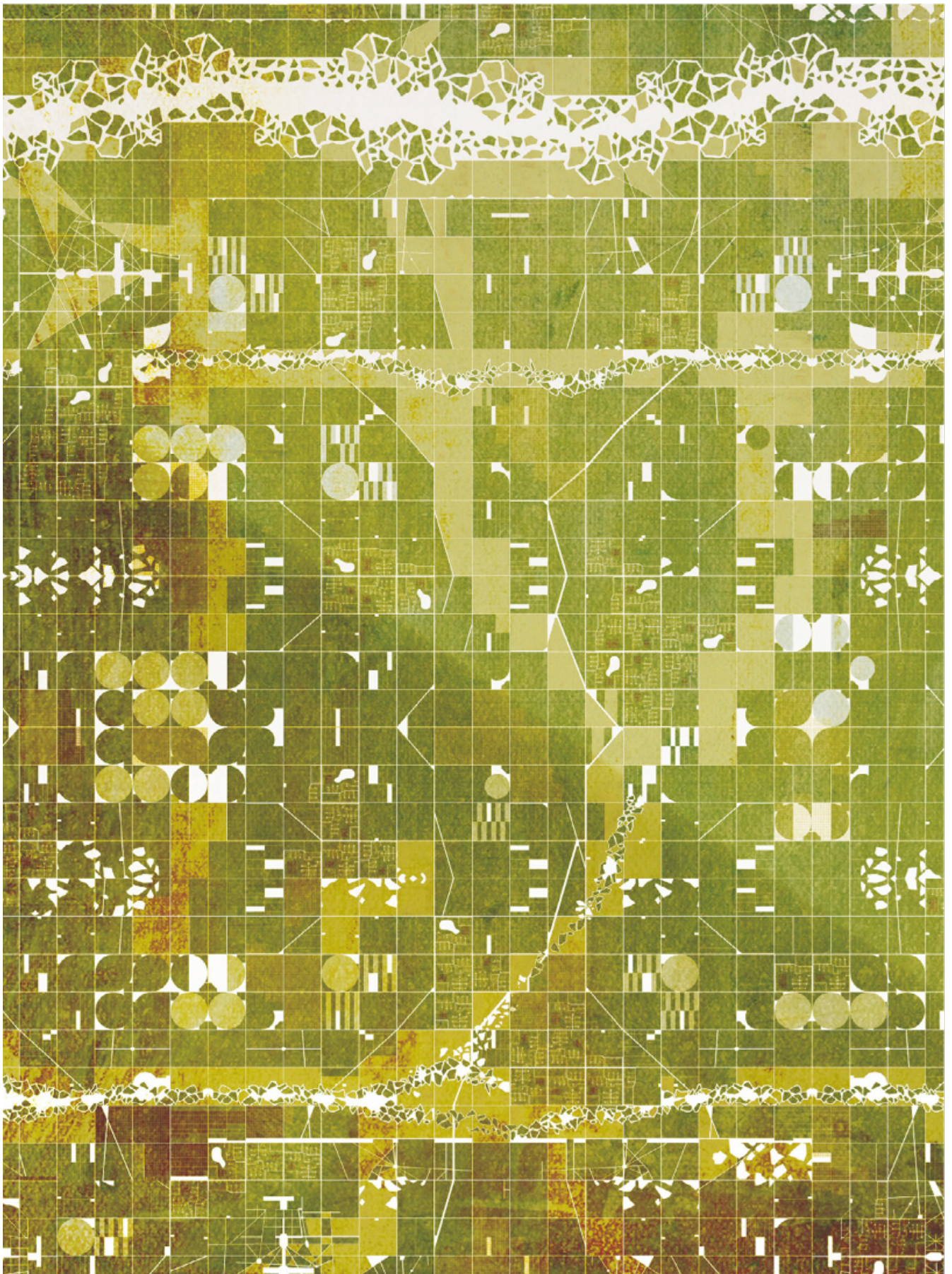


FIGURE 1. Roth M. & Kopper M. (2013), "green - the desired city"  
from Kopper and Roth 2021



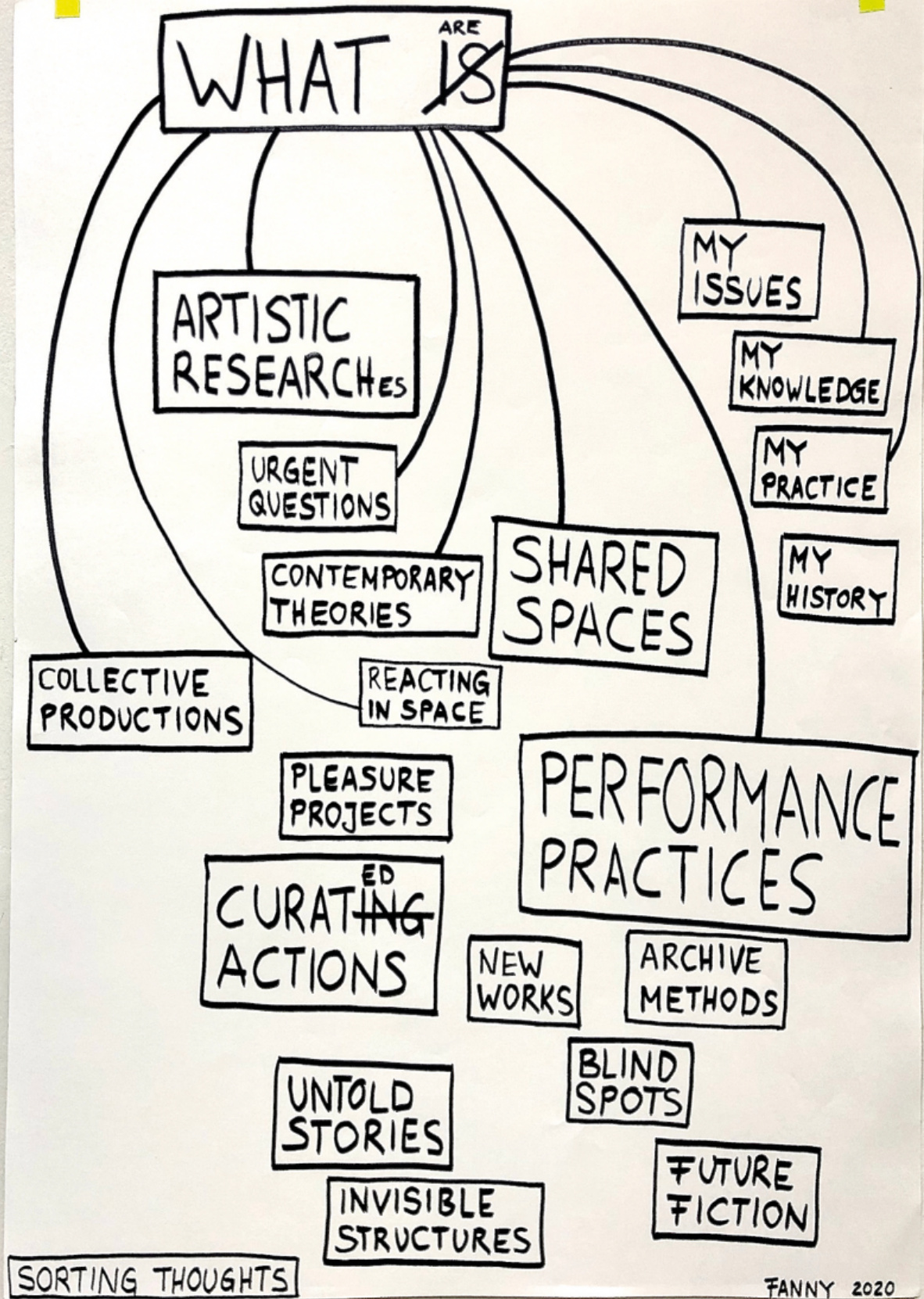


FIGURE 2. Sorting my Thoughts, Drawing on Paper 2020, (Krantz 2021).



# **A Resonant Disorder**

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## ABSTRACT

**The etymological essence of research is grounded in Peripatetics: to go about, wander, traverse...to wander hither and tither...to collect. If one ascribes to these ways and means, then perhaps the only absolute is that the constructs of science and aesthetics are specular, held in space, face-to-face, not by the hubris of order, but by the anarchic resonance of poetical potential. This introductory paper holds that the latter is, by definition, the generative basis—the roots—of Design Driven Research.**

**The popularized myth of Vincent Van Gogh firmly places the painter within the subjective realm (and outside so-called scientific—quantifiable—modalities), whereby his outcomes were seen as manifestations of an unsettled, if not at times crazed, mind. In fact, Van Gogh used all available critical means to inform his work; from subject matter to current philosophical topics, Van Gogh infused his technique and content with deliberate—contemporaneous—research. Yet, not unlike others with similar pursuits, he was ridiculed and placed outside the normative world of artistic production. This short essay suggests a resonant liminal space that embodies the anarchic interface of science and art; in fact, it proposes that the definition of both be redefined within—and outside—the context of design driven research.**

**Keywords: A Resonant Disorder**

“Cold and austere...proposing no explanation but imposing an ascetic renunciation of all spiritual fare this idea [i.e., the idea that objective empirical knowledge is the only source of truth] was not of a kind to allay anxiety but aggravate it instead. By a single stroke it claimed to sweep away the tradition of a hundred thousand years which had become one with human nature itself. It wrote an end to the ancient animist covenant between man and nature, leaving nothing in place of that precious bond but an anxious quest in a frozen universe of solitude. With nothing to recommend it but a certain Puritan arrogance, how could such an idea win acceptance? It did not; it still has not. It has however commended recognition; but that is because, solely because of its prodigious power of performance.” Jacques Monod

Perhaps Vincent should have been awarded a posthumous PhD. His work was borne upon relentless observations of context; it was informed by both contemporary and past results—findings—of regarded scholars and peers and it set forth uniquely alternative ways of seeing and transforming the material evidence of his impassioned research, all practiced within the preface to a crisis of temporal acceleration – a time when western philosophy, science and technology were manifoldly influencing one’s perception, and experience, of the world. Vincent collected raw data (writings) that begat documentary images (studies), and those images in turn begat words and then again, images – the making of processual artifacts through cycles of reciprocity. The work was made manifest via the intercourse of empirical and theoretical evidence and thus, reshaped the conventions of a material—dialectic—process: by design.

Vincent’s work was the manifestation of a rage—failures and successes—of critical efforts (he cited literature, religion, science and art as synthetic source material). It emerged, after the brutal tests of comparatives, as highly original, and it held the potential energy to affect the course of others’ work inside and outside his broad field of inquiry. The familiar byproducts of his peripatetic research are revered as a result of tireless struggle and sacrifice and, it is, by the consensus of countless peers – beautiful. Yet, beauty is subjective.

Objectively, it is more plausible that Cezanne or Seurat (both working, like Vincent, during the fin-de-siècle) would be the choice for the award of a PhD based on the ‘new’ sciences’ influence on aesthetics. Within their work, process was transparent, it interfaced clearly with science. Subject, color, composition and technique were codependent, structure morphed into tropes used to critique composition and the results were mostly comprehensible and were disseminated to an audience beyond the framework of its production. Yet, as with Vincent, subject and object entwined, and the resultant interstice was, by design, the work itself. The design was the dialectical result of an evidentiary processual system that could be mapped as an armature supporting the outcomes. The results were, although filtered through the concurrency of Impressionism, recognized and validated by the relatively new field of art criticism as original, sustainable and could be referenced as a source for the further—critical—advancement of their specific field of study. Their work can be construed as proofs attesting to the transmutation of one form of knowledge to another by virtue of design-driven process – aka, research.

The rarefied sphere within which the PhD resides, and is critiqued, often avoids entropy via a priori circular defenses and tautologies – forms of containment: where the subject and object, fearing contamination, are detached and controlled; a sphere where a non-linear, process-based emergence of concrete designs is considered non-defensible by virtue of the multifarious criteria needed to inform the “artistic” design process. [1]

This conundrum of definition was made increasingly evident in the philosophical tensions between aesthetics and science addressed by Theodor Adorno and his work regarding dialectical materialism, beginning in the 1920’s. In her 1977 book *The Origin of Negative Dialectics: Theodor W, Adorno, Walter Benjamin and the Frankfurt School*, [2] Susan Buck-Morss notes that:

“Adorno thought of himself as an artist, and the time he spent in the 20’s in Vienna studying Schönberg’s compositional method with Alban Berg, although brief, left an indelible imprint. He and [Walter] Benjamin both viewed art as a form of scientific knowledge. Perhaps their most important contribution was to redeem aesthetics as a central cognitive discipline, a form of secular revelation, and to insist on the convergence of scientific and aesthetic experience. They thereby challenged a fundamental dualism of bourgeois thought, the binary opposition between scientific “truth” and art as “illusion,” which had characterized bourgeois thinking since the seventeenth century. Their intellectual careers demonstrate the promise and also the dangers of trying to reconcile these two cultures”

Design Driven Research (DDR), and the Doctor of Philosophy based in DDR, presents one, as alluded to above, with the dynamic problems inherent in familial–pan-generational–relations. The nature of design driven research is by default multifarious, meaning that, as was the case for Vincent, research is wholistically validated through the engagements between subject and object as a process-informed critical inquiry resulting in identifiable artifacts: writings, drawings, models...the manifold means defining a path for creative invention and production. In other words, a cultivation of diversity. For the architect–the artist–research creates unavoidable entanglements and intersections between science and the aesthetic being. And rather than considering this interface adversarial, DDR exploits the potential for humanistic discourse as a Janusian threshold, a liminal space wherein hovers potentiality, the arc of becoming and wonderment.

We live in an embattled time when the unifying constructs of science and aesthetics are continuously being distanced and detached from each other, where the darker forces of commodity and politics project the subject and object as distinct characters removed from the atomistic dance of entwined correspondences (which, indeed, purposefully proffers control, isolation... containment). [3]

The etymological essence of research is grounded in Peripatetics: to go about, wander, traverse...to wander hither and tither...to collect. If one ascribes to these ways and means, then perhaps the only absolute is that science and aesthetics are specular, held in space, face-to-face, not by the hubris of order, but by the anarchic resonance of poetical potential. [4] I hold that the latter is, by definition, the generative basis—the roots—of Design Driven Research.

## NOTES

1. Artistic, here, is used to include various forms of artistic endeavor e.g., architecture, musical composition, theater, film, visual art etc.
2. Susan Buck-Morss, *The Origin of Negative Dialectics: Theodor W. Adorno, Walter Benjamin, and the Frankfurt Institute* (New York, New York: The Free Press, 1977) pg. xiii
3. Politics—academic, commercial, governmental—directly influence both tacit and overt perceptions regarding the interface between aesthetics and science, and are beyond the scope of this introduction.
4. A tangent reference to Paul Feyerabend's *Against Method*, third edition, Verso, 1993; a critique of scientific method: "For is it not possible that science as we know it today, or a "search for the truth" in the style of traditional philosophy, will create a monster? Is it not possible that an objective approach that frowns upon personal connections between the entities examined will harm people, turn them into miserable, unfriendly, self-righteous mechanisms without charm or humour? "Is it not possible," asks Kierkegaard, "that my activity as an objective [or critico-rational] observer of nature will weaken my strength as a human being?" I suspect the answer to many of these questions is affirmative and I believe that a reform of the sciences that makes them more anarchic and more subjective (in Kierkegaard's sense) is urgently needed." P.F.

## BIOGRAPHY

Paul O Robinson is a visual artist, architect, educator and Fulbright Fellow in art and architecture. He was born into a family of concert and circus musicians and taxidermists and raised on the Atlantic coast of Northeast Florida, USA. He attended university in music theory and composition; served a 5-year apprenticeship in the atelier of a master industrial pattern-maker; began studio Paul O Robinson; received a master's degree in architecture summa cum laude and is a licensed building contractor. His primary studio is located in Ljubljana, Slovenia, where X-Rays, paintings and castings are developed to create intertwined correspondences between art and space. He continues to have exhibitions and installations in Europe and the USA; teaches design and theory at the Fakulteta za arhitekturo, Univerza v Ljubljani; is the editor of *AR/Architecture Research Journal*; is visiting professor at l'università di Venezia luav; and holds a Gibbons distinguished professor chair at the University of South Florida School of Architecture and Community Design.





FIGURE 1. Tree Roots, Vincent Van Gogh, Auvers-sur-Oise, France, July 1890



# **On Unconclusive Contextualisation in DDr**

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## ABSTRACT

**In his book on Le Corbusier “The architect on the Beach”, Niklas Maak dedicates an extensive part on the relationship between the architect and the philosopher Paul Valéry (Maak 2011). With the annotations in Le Corbusier’s copies of Paul Valéry’s texts, he shows, how influential the philosopher was on Le Corbusier’s design processes—for example in the parallel between Valéry’s “Objet ambigu” and Le Corbusier’s “Objet à réaction poétique”: The potential of an ambiguous object for a creative interpretation. In the end, though, this relationship ends in disappointment. Le Corbusier has to find out that Paul Valery rejects modern architecture. This example describes a common way of how designers use references in their creative process: It is not always relevant, what the author of a reference actually meant. What matters is, how the designer can transform a reference into a design invention.**

**Keywords: Productive misunderstandings, relevant references.**

For the positioning on the CA2RE/CA2RE+ Hamburg theme of Reflection (Ballestrem and Fernández Guardado 2021), we introduced the contextual map as a medial research practice (fig.1). It serves designers in DDr to collect their important associations, references and arguments in one comprehensive visual representation of the field of research. One of the described aspects of this map – its inconclusiveness – is debatable in the context of good scientific practice and therefore needs more in-depth description.

Generally speaking, if scientists are investigating a certain phenomenon, the scientific practice demands that they provide a comprehensive description of existing relevant knowledge on it. It is a precondition to understand the research gap and the relevance of the effort to close it. In this case, the aim of research is to produce new knowledge on the respective phenomenon. In contrast, the contextual map—as we described it—is interested in the relevant influences in the creative process of a designing author and their relation to each other. Therefore, the criteria for conclusiveness in this research is related to the significance of the reference to the author and not to the fields that the reference might otherwise belong to. It is therefore radically subjective and self-referential. Included is, what is known and relevant to the

designer—what is resonating with him/her and can be translated into a generative power in the design process. As the example of Le Corbusier's reading of Paul Valéry's ideas show, cited references might be misinterpreted in this process. The designer uses them as an inspiration, while consciously or accidentally ignoring the original signification and context.

Such productive misunderstandings are a well-established technique in the non-linear creative process. As associative saltos, they are an indispensable expertise for solving "wicked problems". Still, because they are disrupting the logical argument, they are mostly ignored in the narration of a project. The contextual map is a medium that can help to make them explicit in their entanglement of the designer's community of practice. But even more than that, a fruitful field of investigation is the agency of the resulting architectural œuvre: How does Le Corbusier's architecture transform Paul Valéry's ideas into a new presence, and how will the architectural artefact therefore inform the emergence of further views in turn.

## **BIBLIOGRAPHY**

Ballestrem, Matthias; Fernández Guardado, Marta. 2021. Methods of Reflection in Design-driven Research: the Contextual Map. Retrieved from <https://ca2re.eu/results/methods-of-reflection-in-design-driven-research-the-contextual-map/> (last accessed on 27.06.2021)  
Maak, Niklas. 2011. Le Corbusier. The Architect on the Beach, München: Hirmer.

## **BIOGRAPHY**

Matthias Ballestrem is an architect and professor for Architecture and Experimental Design at the HafenCity University in Hamburg. Since 2006, he has held teaching positions at several institutions including Cornell University, the CIEE GAD Berlin Program and TU Berlin from 2006-2018, since 2013 as guest professor. In 2011, he was a scholar at the German Academy Villa Massimo in Rome. Matthias Ballestrem wrote his doctorate on implicit visual space perception. His research focuses on the methodologies of Design-based research, experimental design, space perception, spatial complexity and the architectural typologies of interior spaces.





**Marta Fernández Guardado**  
**TUBerlin**

**Home: Things and bodies.**

This panel is a labyrinth of references and extracted ideas that illustrates the early stage of the research and builds a mind-map of thoughts in order to navigate further. Please come in and get lost.

**Store or display: capitalistic consumption in the digital/real era.**

**Furniture as a space.**

**Connectivity, ability and physical space: new platforms, new houses.**

**Repetition erases the difference. Multiplication builds the difference.**

**The objectified individual and the humanized object: standardization and diversification.**

**Diverse relations and their spatial outputs in architecture and furniture: behavior machines.**

**The importance of the (small) scale: the mass / vs the mass of each relation between one and other.**

**Each period of history is related to a certain space of the houses, defined by the opposing social behaviors.**

**Architectural traditions are assumptions that may hinder new contemporary relationships.**

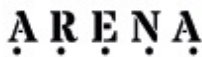


FIGURE 1. Marta Fernández Guardado: Home, Things and Bodies - Contextual





# **Morbelli as a Focal Lens**

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## ABSTRACT

**Much of Design Driven research is concerned with methods for making implicit knowledge from design processes and artefacts explicit. This short text describes an example of such a method in Aldo Rossi's "A Scientific Autobiography": With the reference to Morbelli's paintings, Rossi provides a focal lense to see specific qualities of his architecture. The reference works as a focal lense that simply highlights and points at something that has already been there before.**

**Keywords: Focal lens, Aldo Rossi, epistemic object.**

"The paintings of Angelo Morbelli, like *Il Natale dei remasti* and *Pio Albergo Trivulzio*, have always impressed me: I had observed them with fascination, not knowing how to judge them. Now they served me as the plastic and figurative means for this project. The study of light, the great bands of light that fall on the benches filled with old people, the precise shadows cast by the geometrical forms of these seats and by the stove, seem to be taken from a manual on the theory of shadow" (Rossi, 1981, 12).

When I first read Aldo Rossi's "A Scientific Autobiography", this paragraph caught my attention. And since the book offered no representation of the cited paintings of Morbelli, I spent some time finding them while reflecting on the meaning of this reference. Rossi names them as one of the influences on the design of "Cimitero San Cataldo". Up until then, I had experienced the cemetery mostly as a built version of the "Pittura Metafisica" - an abstract geometrical, but at the same time melancholic spatial composition.

Morbelli's paintings show interior spaces of public facilities—well kept, ordered, and clean—for old, single, poor men. In the light and shadow that Rossi describes above, they show frail, humble, thankful men eating, praying, or simply sitting and sleeping at tables. To me, they convey an eternal, fundamental, and existential silence. These paintings, ever since I have seen them, serve as focal lenses that made me perceive and understand what I had not seen before in Rossi's cemetery. It made me recognize the particular presence of the melancholic and transcendent atmosphere together with its generation through Rossi's conscious modulation of light and shadow.

The above quote is exemplary for the whole book by Rossi. As the name of the book shows, Rossi understands the uncovering of his associations and references in his work as a scientific process. And in fact, his book produces original knowledge in two ways: First, it describes the way of thinking and working of a master architect. This method of knowledge production is identical to the research of architectural historians on significant architects in the history of the discipline. Only that in this case, it is provided by the architect himself. The second kind of knowledge is not contained in the book itself, but in the architectural project. It is the embodied knowledge of its experiential qualities, of the melancholy it makes me feel, of the presence of the author and his education that is transforming that cemetery into a peculiar, singular place. By explicating his associations and references, Rossi is not generating this knowledge, as it is already in the project. He is simply making it accessible by pointing at it. The architectural project is thus regarded as an epistemic object and the research process as a means to provide access to the knowledge embodied in it.

## **BIBLIOGRAPHY**

Rossi, Aldo. 1981. *A Scientific Autobiography*. Cambridge, Mass.: MIT Press.

## **BIOGRAPHY**

Matthias Ballestrem is an architect and professor for Architecture and Experimental Design at the HafenCity University in Hamburg. Since 2006, he has held teaching positions at several institutions including Cornell University, the CIEE GAD Berlin Program and TU Berlin from 2006-2018, since 2013 as guest professor. In 2011, he was a scholar at the German Academy Villa Massimo in Rome. Matthias Ballestrem wrote his doctorate on implicit visual space perception. His research focuses on the methodologies of Design-based research, experimental design, space perception, spatial complexity and the architectural typologies of interior spaces.



# **Endogenous / exogenous, the two hemispheres of architectural research**

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## ABSTRACT

**In a discipline as architecture, scientific advancement exists only for a part, for that half which concerns measurable aspects. There is another half, which is indispensable and makes us irreplaceable. It is the one that has no beginning either end, is the circular Vitruvian speculation about the timeless quality of architectural design, mainly mixing art and technique with many other inputs. Research in architectural design must find a balance between motivations of general interest and others of a strictly personal nature. This determination is challenging and requires a deep self-consciousness and a lot of work because, in most recent cases, an orientation prevails that favors external reasons, we could say exogenous, concerning the core of the discipline. The researcher, therefore, poses as a subject responsible for contributing to the solution of the most popular and urgent questions, from the climate change to the post(?)-pandemic perspective. The applicative research finds a greater success both among candidates, who can quickly orient themselves within a question of broad multidisciplinary debate and among evaluators and financiers, who are significantly more likely to fund research that is understandable outside the narrow academic circle. Architecture, a composite knowledge based on millenary foundations, must go beyond simple professional tasks and addresses, with a design culture with no substitutes, the present and future issues of the built environment.**

**Keywords: Fieldwork, autobiography, discipline**

From the discussion of the doctoral research in progress, we can draw some convictions that help to clarify a design-driven methodology. The first point concerns the explanation of the “why,” the reason which individuate the field of study. I believe that, on this point, research in architectural design must find a balance between motivations of general interest and others of a strictly personal nature. This determination is challenging and requires a lot of work.

In most recent cases, it seems that an orientation prevails that favors external reasons, we could say exogenous, concerning the core of the discipline. In these cases, the researcher, therefore, poses as a subject responsible for contributing to the solution

of some problem. There are many possible examples. In the Auid program ([www.auid.polimi.it](http://www.auid.polimi.it)), the research launched in 2021 is focused mainly on issues of the exogenous type. Here is a synthetic list of the research topics: the organization of underground urban spaces; social housing in the global South; coastal landscapes vulnerable to climate change; abandonment and recovery of rural villages; supportive interventions in marginal urban areas; actions to combat heat islands in the urban environment; the use of integrated digital design in public housing; soil design in relation to social use of urban space; the architectural and landscape project in rural areas; low-tech ecology experiments in rural areas; participatory projects for the redemption of the rural regions; natural elements in the Smart City project; nature-based solutions and circular economy within the design transition due to the climate change; soil projects for the recovery of suburbs; perspectives for the architecture of university campuses; designing rural areas in the global South; the dialectic between public space and private space, between urban and interior, in the global cities; architecture and psycho-physical well-being; the use of highly innovative materials in architecture; the design of urban green spaces.

Among the twenty or so new Auid research works in progress, there is only one proposal of a historical nature. Also, only one research refers to a purely disciplinary and foundational issue: the meaning of the design of the plan in architecture. If we quickly look at one of the latest Ca2re Proceedings, referred to the session at the Politecnico di Milano (October 2020), we find that endogenous themes have a relevant presence. We can empirically assess that more or less half has an endogenous solid component out of twenty-nine selected papers. In reference to the disciplinary question, in the Ca2re environment, we have a better balance than in the last generation of Milanese researchers.

In any case, the prevalence of applicative research seems indisputable. It finds a greater success both among candidates, who can quickly orient themselves within a question of broad multidisciplinary debate and among evaluators and financiers, who are significantly more likely to fund research that is understandable outside the narrow academic circle. Scholarly thinking, general exogenous themes are fine because they mean that architectural culture knows how to interact with the dynamics, problems, and perspectives of public interest and on a large scale, often even planetary. However, this breadth is necessary but not sufficient. If the more individual and original part is missing, the authorial contribution constitutes the first energy source of design-driven research. Together with the general

theme, the research must also support an utterly personal design interest that takes the form of an obsession.

For example, looking at the works of our doctoral students in the mid and advanced stages, we find research works that investigate the role of detail or the relationship between form and structure. In these cases, the individual part is very present, and the frame of a specific, obsessive theme is evident. This research adopts the rhetorical figure of the synecdoche, assuming a part of the architectural discipline for the whole. In this kind of research, the outcome of an exciting result is much higher. The first advantage is that it is consistent with the architect's training, culture, and role, combining the labor of the two cerebral hemispheres, the one in charge of rationality and the one devoted to fantasy and imagination.

The second advantage is that this research can address general issues with their means. Suppose we take on categories and tools of a technical and scientific nature, of an objective nature. In this case, architects pay for their incomplete preparation, less profound than researchers trained in both the humanities and the hard sciences.

Architects make great when face non-disciplinary issues applying their disciplinary design culture and approach. So, they can reformulate creatively the fieldwork, and they can design, with unparalleled capacity, their original and specific research tools, forged for that specific occasion.

In a discipline as architecture, scientific advancement exists only for a part, for that half which concerns measurable aspects. There is another half, which is indispensable and makes us irreplaceable. It is the one that has no beginning either end, is the circular Vitruvian speculation about the timeless quality of architectural design, mainly mixing art and technique with many other inputs.

Because only the strength, originality, and relevance of the discourse do helpful research, especially for those who do it and the entire scientific research community. To validate our work, we must develop a self-legitimizing process. Therefore, the methodological aspect cannot be acquired from a previous example or a theoretical framework but must be taken as the first object and the most critical result of research.

In conclusion, we must admit that design-driven research today faces non-disciplinary issues. This is a necessary point not to remain locked up in a sterile academy, separated from the universe of knowledge, closed to the multidisciplinary interactions that are now more necessary than ever. On the other hand, the design-driven methodology gives an evident impulse; that is, it pushes and forces disciplinary tools: this contribution is



fundamental; it is the source of energy that opens a two-way exchange between architecture and the world. Thus architecture, a composite knowledge based on millenary foundations, can go beyond simple professional tasks and addresses, with a design culture with no substitutes, the present and future issues of the

## BIBLIOGRAPHY

Eisenman P. (1984). The End of the Classical: The End of the Beginning, the End of the End, in "Perspecta" n. 21, pp. 154-170

"Fuoco amico", n. 5 (2017). Palladio. Instructions for use.

Postiglione G., Rocca A. (2021). Teaching Design: Training, Theory and Research, in Faroldi E., Vettori M.P. (eds.), Teaching Architecture. Two Schools in Dialogue (pp. 150-163). Siracusa: LetteraVentidue, Siracusa 2021,

Rizzi R. (2021). Orfani / Orphans, in "Vesper. Rivista di Architettura, arti e teoria | Journal of Architecture, Art & Theory", n. 4, Esili e esodi | Exiles and Exodus (pp. 21-29).

Rossi, A. (1981). A Scientific Autobiography. Cambridge: MIT Press.

Rocca A. (2020). Research Versus Design, a Favorable Conflict, in Berlingieri F., Zanotto F. (eds.), Comparison. Conference for Artistic and Architectural Research. Book of Proceedings (pp. 43-50). Siracusa: LetteraVentidue.

"Syllabus", n. 02 (2022). Architecture Research Agenda.

"Vesper. Rivista di Architettura, arti e teoria | Journal of Architecture, Art & Theory", n. 2 (2020). Materia-autore | Author-Matter.

## BIOGRAPHY

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# **PRACTICE as a mode of research**

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## ABSTRACT

**Often research in architecture is fragmented in smaller pieces, to be answered; be it building physics, structural questions or other quantitative measures. This happens for reasons of credibility and to ensure the research verifiability. In this text I will use one example of DDDR at NTNU to highlight the specific nature of DDDR as we use and describe it. This will exemplify how knowledge is produced and the results made readable.**

**Keywords: Research credibility, knowledge production**

This short text is an attempt of an description, based on the key learnings from the last two CA2RE conferences in Milano and Hamburg, and our continuous reflections and discussion accompanying our DDDR activities. The Milano event had COMPARISON as a core theme, not only limited to compare different strategies used for the development of one research activity, but on an institutional level comparing different architecture schools' approaches in DDDR. The Hamburg event was highlighting the theme and activity of REFLECTION. In reflecting on DDDR activities at the NTNU, the most evident activity is Live Studio (<https://ntnulivestudio.org>; Professor Steffen Wellinger)

If one extends these thoughts, until now mainly bachelor and master student activities, to the doctoral level, it becomes clear how parts of DDR activities are also happening at doctoral level (DDDR) – through PRACTICE.

Often research in architecture is fragmented in smaller pieces, to be answered; be it building physics, structural questions or other quantitative measures. This happens for reasons of credibility and to ensure the research verifiability, all within traditional modes of research, mostly within the natural science tradition .

I will use one example of DDDR at NTNU to highlight the specific nature of DDDR as we use and describe it. This exemplify how knowledge is produced and the results made readable.

To do so I choose the project “Learning from Bayanihan/ Dugnad” by Alexander Furunes, which was also presented at the CA2RE/ CA2RE+ conference in Ghent in 2019. The project “explores how mechanisms of mutual support can inform collaborative design and build projects. The research is conducted through a pedagogical process, acting on the learnings from previous work. The output of the research is presented in the form of a series of

booklets, lectures, and exhibitions. Bayanihan is a Filipino tradition of mutual support..." (Furunes, 2019) and has a lot of similarities with the Norwegian tradition of "Dugnad", meaning a jointly performed voluntary work, which is unpaid and of significance to the community. In his Design Driven Doctoral research (DDDR), Alexander Furunes summarizes the sometimes fuzzy transition and progression between approach, method and techniques with and in PRACTICE. In practice' different parts and steps one has to react upon different and changing realities and challenges along the way, but end up with a holistic result (of what originally was asked). This also implies that it has modes and ways of communicating these parts. There are, next to all other extracted "truth's", the relevant parts of architecture exemplified.

"Bringing relevance back into present-day architecture means acknowledging the duality of architecture, in a way similar to how Giddens conceptualizes society as the tension and interdependence between structure and agency (Giddens 1984). Architecture is thus simultaneously strategic and practical. These were insights John Turner put forward years ago: 'It's what a house does, not only what it is' (Turner & Fichter 1972) - that makes us understand architecture. What it does, contains its strategic dimension, what it is, its practical dimension. The latter has traditionally ruled the profession. Change lies as much in the way we understand, or conceptualize, the discipline of architecture as to the way we see ourselves as professionals." (Hamdi & Skotte in Furunes & Khadka (eds), 2021)

It is these two dimensions which constitute Alex' research. The "research is a continuation of a ten-year long process of working with different communities, exploring how these traditions can inform architecture and collaborative design processes." (Furunes 2019, 248)

This research not only highlights the duality in architecture, it is also a continuation along the pedagogical axes. One can learn and further develop ideas from the start and along the accompanied processes.- This is similar to the involved stakeholders learning from each other and thus continue the same procedures in the future. Still it is possible to extract single parts/ criticism, which question our ways of developing and implementing architecture, understandable for different stakeholders in the West as well. Another important part of architecture and research is defining one's place in society, answering or taking sides in ethical questions. Alex says "Commercial architecture is a part of a construction industry that relies on land speculation, human and natural exploitation for the sake of capital gain. Bayanihan on the other side provides an alternative platform for the profession, to become relevant and to

## **BIBLIOGRAPHY**

Furunes, Alexander Eriksson. 2019. Learning from Bayaninan/Dugnad (p.248) Proceedings of the CA<sup>2</sup>RE conference at the KU Leuven, Faculty of Architecture, Ghent

Hamdi, Nabeel & Skotte, Hans in Furunes, Alexander Eriksson & Khadka, Sudurshan V Jr. (eds), 2021. The Rigour of Relevance in Architecture. in Structures of Mutual Support, Beyond – Book 5

Turner, John FC & Fichter, Robert. 1972. Freedom to Build: Dweller Control of the Housing Process. New York: Collier- Macmillan.

Giddens, Anthony. 1984. The Constitution of Society: Outline of the Theory of Structuration. University of California Press.

## **BIOGRAPHY**

Markus has a master's degree and a PhD in Architecture from the Graz University of Technology in Austria. He is architect and full Professor in urban design and planning and responsible for the bachelor education in urban design and planning for students in architecture at the NTNU. His expertise is in local planning and urban design, where Typological development and participation in planning and building processes are his peak competence. Before joining the NTNU he was working for different architecture studios and planning offices in Europa. He also spent a total of 4 years in Nepal, working for UNESCO with and an NGO. He was leading a research and teaching cooperation with universities in the Western Balkans, working with 'Rethinking architecture and energy efficiency in buildings and urban development'(2014-2016). Several projects with municipalities and higher education facilities in the Western Balkans and Italy resulted this cooperation. He is now part and Norwegian leader in the Erasmus+ European strategic partnership "Collective Evaluation of Design Driven Doctoral Training" CA2RE+(2019-2022). Markus is supervising Dr. students following the traditional PhD program, Dr, students working with design-driven and practice-based research and Dr. students following the artistic research program.





FIGURE 1. Structures of Mutual Support. Snapshot from one "result" at the Bienale di Venezia 2021".  
Picture: Furunes, Alexander Eriksson





FIGURE 1. Structures of Mutual Support – One process snapshot. Picture: Furunes, Alexander Eriksson







# **The non-human turn: aesthetic based experimental (and speculative) approaches**

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## ABSTRACT

**This text seeks to question how what has come to be called the non-human turn is reflected in art and craft based experimental approaches in projects presented at CA2RE/ CA2RE+ events (Milano and Hamburg). Widespread in the humanities, and also in arts, design and architecture, the non-human turn prolongs and radicalizes the postmodern critique of anthropocentrism, not so much through the critique of symbolic representations, ideology or language, but through ontological emancipation of other modes of existence - of expression and even of subjectivity - recognizable in the domains of nature and also of technology. Under the framework of the climate crisis, the ecological paradigm and the planetary perspectives, the field of arts, design and architecture strongly incorporated many of the issues in this turn, approaching problems related to the revealing (in relation to the imperceptible), to giving form (aestheticization through the composition of a device) and also related with resistance, in the sense of alterity, of materials and nature in general. We highlight two projects, a paper and an artifact, from the CA2RE/CA2RE+ events in Milan and Hamburg that, with different horizons, can contribute to a discussion of experimental approaches that illustrate the non-human turn.**

**Keywords: Non-human turn, materiality, alterity, otherness, speculative thought.**

This short text seeks to reflect how what has come to be called the non-human turn is reflected in art and craft based experimental approaches in projects presented at CA2RE/ CA2RE+ events (Milano and Hamburg). Widespread in the humanities, and also in arts, design and architecture, the non-human turn is characterized by critical positions “engaged in decentering the human in favor of a turn toward and concern for the nonhuman, understood variously in terms of animals, affectivity, bodies, organic and geophysical systems, materiality, or technologies” (Grusin, 2015, p. vii). To some extent, it is about prolonging a debate initiated in the context of postmodernity, radicalizing it here beyond the assumptions of social constructivism and ideology, human language and semantics, aiming, even if speculatively, at the possible agency of things in themselves, objects, natural phenomena and the very materiality

of the world, beyond the human capacity of apprehension and mastery of these agencies. In this turn, the demand for the decentering of the human has thus sought to legitimize the existence of other forms of agency in an ontological revision that seeks to accommodate the multiple non-human actants with whom the humans share and constitute their common world. The recent Anthropocene paradigm – despite attributing to human activity the dominant role in the planet’s climate change – has also contributed to reinforce the assumptions of the non-human turn. If, as the Anthropocene paradigm is concerned, it is a question of seeing humanity as a geo-historical force, such a perspective dissolves the (hierarchical) dualism human/non-human, opening a field of thought that recognizes inexplicable dependencies and interactions, but decisive, with other non-human modes of existence. Furthermore, the Anthropocene paradigm emphasizes spatial and temporal scales radically different from those shaped by human perception. From planetary life to Earth’s deep time, more than cataclysms and linear chains of events, we are facing phenomena that exceed “human scale” and can hardly be the object of a total control plan.

We are interested here how the field of arts, design and architecture particularly incorporated many of the issues in this turn. This strong adherence can, in part, be explained from the hypothesis that, despite the specificities of each of these disciplinary fields, a set of problems is at stake in all of them, problems related to reveal (in relation to the imperceptible), to giving form (aesthetizing through the composition of a device) and also related with resistance, in the sense of alterity, of materials and nature in general.

We highlight two projects, a paper and an artifact, from the CA2RE/CA2RE+ events in Milan and Hamburg that, with different horizons, can contribute to a discussion of experimental approaches that illustrate the non-human turn.

The first project (paper) is entitled “Nonhuman approaches to wool in design practices – How can a practice-based design research help understand other entities?” (by Berilsu Tarcan, presented in Hamburg, March 2021). Taking wool as a case study, what is at stake are not only sustainable practices of production, exploration or design of this raw material, but, above all, the search for a perspective of wool’s own materiality and expressivity (and of non-human vicissitudes felting) as a field of conceptual and practical experimentation. From the “visual language” of the “forms and patterns themselves created by the wool itself in pre-

“felt process” to the multiple types of tacit or non-conscious interactions between the various spheres (material, human, social, geographic) that constitute the wool exploration/production process, the aim is to legitimize a co-productivity beyond the human, thus also legitimizing, in a reticular ecology, other modes of existence. The design-driven methodology is called upon at the level of alternative production practices, which evoke DIY bricolage or tacit knowledge, and which demand a re-articulation of theoretical reflection with practical operationalization or, as referred in the text, processes that involve “reflection -in-action and reflection-on-action”.

The second project (artifact) is entitled “An Echo of the Sun – Autopoietic Observations and Rhythmic Compositions, Tuned by the Fine Structures in our Space-Time Realm” (by Pepa Ivanova, presented in Milan, October 2020). The proposal is framed by two interconnected concepts. The first is related to the aesthetic reading of data from solar observations, that is, the possibility of narrativizing or figuring sound, numerical or graphic material produced from the scientific monitoring of the sun. The second assumes that there is a Sun-Earth symbiosis, based in the approach that points to “the intra-connectivity and the symbiotic relations in our realm in all the possible scales and factors, and recognizes the expanding of this symbiosis beyond the earth’s atmosphere.” In short, it is about aestheticizing, while recognizing its radical otherness, the “physical and immaterial architecture of the Sol-Terra cohabitat” in a speculative exercise that seeks to reimagine “the scientific data as cultural phenomena narrating our perception.” The core of the project plays on the tension between the possibility of a sensitive human interpretation of the non-human universe and the absolutely indifferent nature of the phenomena and materialities of that universe. The methodology is tested through an installation, entitled “sunNEARth”, in which aesthetic materializations of the observations are presented and interpretation exercises by astrophysicists of the autopoietic representations are encouraged.

## BIBLIOGRAPHY

Grusin, Richard. Introduction. In *The Nonhuman Turn*. Edited by Richard Grusin. (Minneapolis, MN: University of Minnesota Press, 2015).

Ivanova, Pepa. An Echo of the Sun – Autopoietic Observations and Rhythmic Compositions, Tuned by the Fine Structures in our Space-Time Realm. In *CA2RE Online Conference for Artistic and Architectural Research. Book of Abstracts, CA2RE/CA2RE+ Milano*, Edited by Fabrizia Berlingieri, Pier Paolo Tamburelli, con Chiara Pradel, Beatrice Balducci, Francesca Zanotto, Enrico Miglietta, Claudia Mainardi. (Milano: Politecnico di Milano, 2020, 108 – 111.

Tarcan, Berilsu. Nonhuman approaches to wool in design practices – How can a practice-based design research help understand other entities?. in *Online Conference for Artistic and Architectural Research. Book of Abstracts, CA2RE/ CA2RE+ Hamburg*, Edited by Matthias Ballestrem and Marta Fernández Guardado. (Hamburg: Hafencity University Hamburg, 2021), 152 – 159

## BIOGRAPHY

Manuel Bogalheiro teaches at the Faculty of Communication, Arts, Architecture and Information Technologies at the Universidade Lusófona do Porto (ULP) and, as a guest professor, at the Faculty of Social and Human Sciences at the Universidade Nova de Lisboa. He holds a PhD in Communication Sciences (Contemporary Culture and New Technologies) (FCSH-UNL), with a thesis entitled “Materiality and Technicity: research on technical objectuality”, having been a FCT scholarship holder. He is a researcher at the Center for Research in Applied Communication, Culture and New Technologies (CICANT), member of the scientific committee of the European funded project “CA2RE+ Collective Evaluation of Design Driven Doctoral Training” and is the representative of young researchers in the Philosophy of Communication section of the European Communication Research and Education Association (ECREA). He is the director of the Master in Communication, Networks and Technologies at the ULP and, between 2017 and 2021, he integrated the direction of the PhD in Media Arts (ULP/ ULHT). He investigates and publishes in the areas of philosophy of technics, materialities of media and theory of culture. He has recently edited and coordinated the volumes *Crítica das Mediações Totais – Perspectivas Expandidas dos Media* (Documenta, 2021) and, with Isabel Babo and João Sousa Cardoso, *Expressões Visuais Disruptivas no Espaço Público* (Edições Lusófonas / CICANT, 2021).



FIGURE 1. Trondheim, Norway. Form and patterns creating themselves by the wool itself in pre-felting process





FIGURE 2. Zebra Patterns from Fictional Observations Series, 2019, monotype silk screen, 60x45cm, Malmö, in collaboration with Dr. Jasmina Magdalenic (Royal Observatory Belgium)



# **Drawing as DDDr Technique**

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## ABSTRACT

**This short text starts from the Milano and Hamburg position papers, expressed in “Design Driven Doctoral Research in Architecture” and “Reflection about Drawing as a DDDr tool” now complemented with selected examples of CA2RE+ fellows’ presentations. [1] These examples aim to clarify specific uses, and by doing so, shed light on the notion of Drawing as a DDDr Technique. Another objective is to EVALUATE with reflection upon comparison several examples, meaning by this, to differentiate and explain possible different uses of drawing as a DDDr technique.**

**Keywords: Drawing research, DDDr Techniques, analytic, speculative.**

Doctoral Research has the ultimate goal of advancing knowledge founded on a systematic method of verification and validation of results, step by step. Above all, the aim is to achieve “universal” knowledge susceptible of being transmitted, meaning, for a specific question or problematic to be solved, the use of the same methodology will obtain necessarily the same final result or expected frame of results. Design Driven Doctoral research (DDDr) linked to architectural design project has the same objective but the specificities in its methods and techniques are linked to its disciplinary field.

The DDDr is grounded in basic tools, which we called DDDr techniques. These DDDR techniques share with professional design practice issues, tools and resources that establish the methodological procedure. Tools are drawings (sketches, either rigorous, analogic or digital), models, photographs, writings, etc. The use of these tools exposes the various disciplinary expertise, in written and visual (graphic) reading of design production, so that, in parallel with other abductive, inductive or deductive methods, the disciplinary research results are reached. This is a process that helps to configure the produced “object”, but that converts knowing into knowledge only by the scientific DDDr character. [2]

The versatility of using Drawing within the conceptual and operative scope of architecture permits its selection as a DDDr tool, starting from the research topic, problems, hypotheses, methods and solutions, from which design issues, implications, both theoretical and practical, are deduced. Drawings, in this sense, may constitute themselves as critical reflection and

as a thinking tool, communicable to others, helping in the advancement of disciplinary knowledge. [3]

Drawing as a DDDr technique has the ambition of researching the practice to theorize on the understanding of design conceptions, their productive processes and their supporting references. This use of drawing searches for options and hypotheses, drawn and written, for structuring or deconstructing examples, for serving as a trial-error method in the search for partial solutions or for analysing and synthetizing, working as graphic experiences in the relations between design conceptualization and construction with the theory and history of architecture.

Drawing as a methodological process is an essential DDDr technique and may be explored as survey, as analysis, as speculation, as communication support, or as a combination of these.

Communication drawing is the most common one and acts as a medium to impart or exchange information. Nearly all drawings act as communication tools.

The survey drawing is taken as a tool that collects, observes, records and determines or measures existing elements (structures, buildings and land), as accurate basic elements for the research working process.

The analytic drawings are selective, interpretive and also syntactic drawings. They elect what seems more relevant and act as a process for research topic or interpretive study object.

The speculative drawing tries to question or create architectural problems. It is an experimental drawing, normally sketches or diagrams that are useful to research design method validity. Speculative drawings are taken as a rough design research question or as a particular design problem or study object, and are mostly used to develop research principles of a design, a trial-error or speculative hypothesis.

We will comment here only on two types of drawings, analytic and speculative, examined through the following CA2RE+ fellows' examples.

Kaja Delezuch in ***Design strategies relating to the perception of territory and property boundary*** [4] uses speculative

drawings as a DDDr technique. Through the use of sketches of transitional spaces, as speculative drawings, the perception of territory and property boundary inquire how the drawing can aid the experience of connectivity and boundary-creation between inner and outer areas in the domestic realm. The sketches, as pointed out, aid in the search for "spontaneous" and transitional places, objects and spaces. (fig.1)

Through sketches, as speculative drawings, the existing nature

of domestic zones, seen as overlapping spaces, are studied and possible hypotheses to increase transitional space are searched, while meeting the functional requirements of a design. They aim at achieving an underlying sequence narrative as fundamental to research transitional space, the final porosity and visual connectivity of the constructed fabric, as well as the perception and understanding of its effect upon the user.

Consequently, these sketches prioritize the perception of the subjective space of the environment rather than the use of formal architectural drawings that represent mainly the functional and dimensional requirements. Sketches are taken as mechanisms of perception that impact on design, particularly with regard to visual connectivity. Sketches as speculative drawings act here as a research question for a particular design problem and a trial-error speculative hypothesis.

The use of speculative drawings as a research tool is understood in this work as a DDDr technique's initial endeavour, but to establish it as a fundamental tool will necessarily imply a more systematic conscious use of sketches necessary to develop research with the principles of a design method validity. The DDDR method is not yet completely grounded in its DDDR technique due to insufficient systematization or evaluation of the different outcomes derived from the same technique. Albeit categorized and reasoned, the use of the speculative drawing as a research technique based on the psychology of perception to inquire about the direct link between the possible hypotheses drawn, the meaning of the spaces created and its subsequent use and perception, can constitute a very valuable Architectural DDDr research.

Agnè Vètè in ***Limits of change: changing character of Lithuanian small towns during the XX-XXI centuries*** [5]

uses analytic drawings to present a relevant framework study of the urban form and morphology of small Lithuanian towns. The proposal studies a number of towns through the use of analytical sketches to identify relevant focus areas and support the form and morphological study of towns. These analytic hand drawings focusing upon town form are interpretative, but also syntactic drawings. They select what seems more relevant as a DDDr process to research the theme under study. They also act as a selection of case-study delimitation to define the research and avoid common generic issues. (fig.2)

These architectural sketches show these drawings as analytic tools, as a means to interpret these towns in a correlation of both the theoretical and historical information and the empirical (practice) point of view. Through drawings, the physical urban

settlement system is explored as a potential visual structure for the research study outcomes, the possible limits of the change and nature of existing towns and their urban restructuring. By engaging with analytical drawing as an inductive method, some awareness is taken into how the original reasons for the design were thought out or processed.

The use of analytic drawings as a DDDr technique is implicit in this paper but still presented as embryonic. Accepting it as a fundamental research tool will necessarily imply additional information, such as the use of specific hand drawing techniques (different hatches, colours, lines, etc.), as well as subscriptions, headlines and writings, their meanings and objectives, to turn them into communicational knowing. The sketches are, also, mostly plans drawings, making it difficult, on their own, to understand the profile or three-dimensionality of urban space as well as its character. Strategic drawings as sections or axonometric would help to understand architectonic facts such as the urban proportions, scales, languages, etc. The use of analytic drawings still needs the necessary exploration of several other drawings or graphics tools, to act as an analytic/inductive method that may produce the expected outcomes of identifying changes in specific town forms, their character and limits of change.

## **CONCLUSION**

The above mention drawings are no longer simply a tool; instead, their capacity is expressive of a whole set of external factors and ideas, situating architectural DDDr within a broader cultural environment. In this process, and striving for the goal of using Drawing as a DDDr technique, even in the drawings which seem to exclude any obvious stylistic reading, those reductive technical aspects are motivated conceptually. The use of drawings as DDDR technique aims to build a vocabulary in the conceptual, formal, spatial and materiality design scope that allows the doctoral student to interpret solutions both from theoretical knowledge and from their empirical support production.

## NOTES

1. Rosa, Edite; Almeida, Joaquim, 2020. Design Driven Doctoral Research in Architecture in Online Conference for Artistic and Architectural Research. Book of Abstracts, CA2RE/ CA2RE+Milano, Editors: Fabrizia Berlingieri, Pier Paolo Tamburelli, con Chiara Pradel, Beatrice Balducci, Francesca Zanotto, Enrico Miglietta, Claudia Mainardi. (Milano: Politecnico di Milano, AUID 2020), 36-39.  
Rosa, Edite, 2021. Reflexion about Drawing as a DDDr Tool, in Online Conference for Artistic and Architectural Research. Book of Abstracts, CA2RE/ CA2RE+ Hamburg, Edited by Matthias Ballestrem and Marta Fernández Guardado. (Hamburg: HafenCity University Hamburg, 2021), 24-27.
2. Evans, Robin, 1997. Translations from drawing to building and other essays (London: Architectural Association, 153-193.
3. Clear, Nic, 2020. Drawing Drawings: Toward a Narrative Architecture, in Vol.1, Issue 2, Narrative Architecture, Architecture Image Studies, AIS scientific journals, 6-8.
4. Delezuch, Kaja, 2021. Design strategies relating to the perception of ownership, porosity and property boundary in Online Conference for Artistic and Architectural Research. Book of Abstracts, CA2RE/ CA2RE+ Hamburg, Edited by Matthias Ballestrem and Marta Fernández Guardado. (Hamburg: HafenCity University Hamburg, 2021), 277-284.
5. Vètè, Agnè, 2020. Limits of change: changing character of Lithuanian small towns during the XX-XXI c, in Online Conference for Artistic and Architectural Research. Book of Abstracts, CA2RE/ CA2RE+Milano, Editors: Fabrizia Berlingieri, Pier Paolo Tamburelli, con Chiara Pradel, Beatrice Balducci, Francesca Zanotto, Enrico Miglietta, Claudia Mainardi. (Milano: Politecnico di Milano, AUID 2020), 128-131.

## BIOGRAPHY

Edite Rosa is an architect, professor and researcher since 1994. Has a degree in architecture, (FAUP), 1991, and PhD degree in Architecture (UPC-ETSAB), Catalonia, 2006.  
PhD researcher at CEAU-FAUP and at Arq.ID, UL-Porto laboratory.  
Associate Professor of University Lusófona of Porto and at the DECA, University of Beira Interior (UBI), in the second cycle (MIA) and third cycle (PDA) of Design Studio and Theory studies in both universities.  
Professional practice since 1991, in collaboration with Álvaro Siza office as design project team coordinator of several works. In her own office ([www.erja-arquitectos.com](http://www.erja-arquitectos.com)) since 1998 in Oporto. Author and co-author of projects with several prizes and mentions (shortlist) in public competitions.

Joaquim Almeida is an architect, professor researcher since 1991. Has a degree in architecture, (FAUP), 1991, and PhD degree in Architecture (UC-FCTUC), Coimbra, 2009.  
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Associate Professor at the Darq, University of Coimbra (UC) at the Department of Architecture (Darq-FCTUC) teaching Design Studio and Theory in second cycle (MIA) and third cycle (PDA) studies.  
Professional practice since 1991 and in his own office ([www.erja-arquitectos.com](http://www.erja-arquitectos.com)) since 1998, in Oporto. Author and co-author of projects with several prizes and mentions (shortlist) in several public competitions.



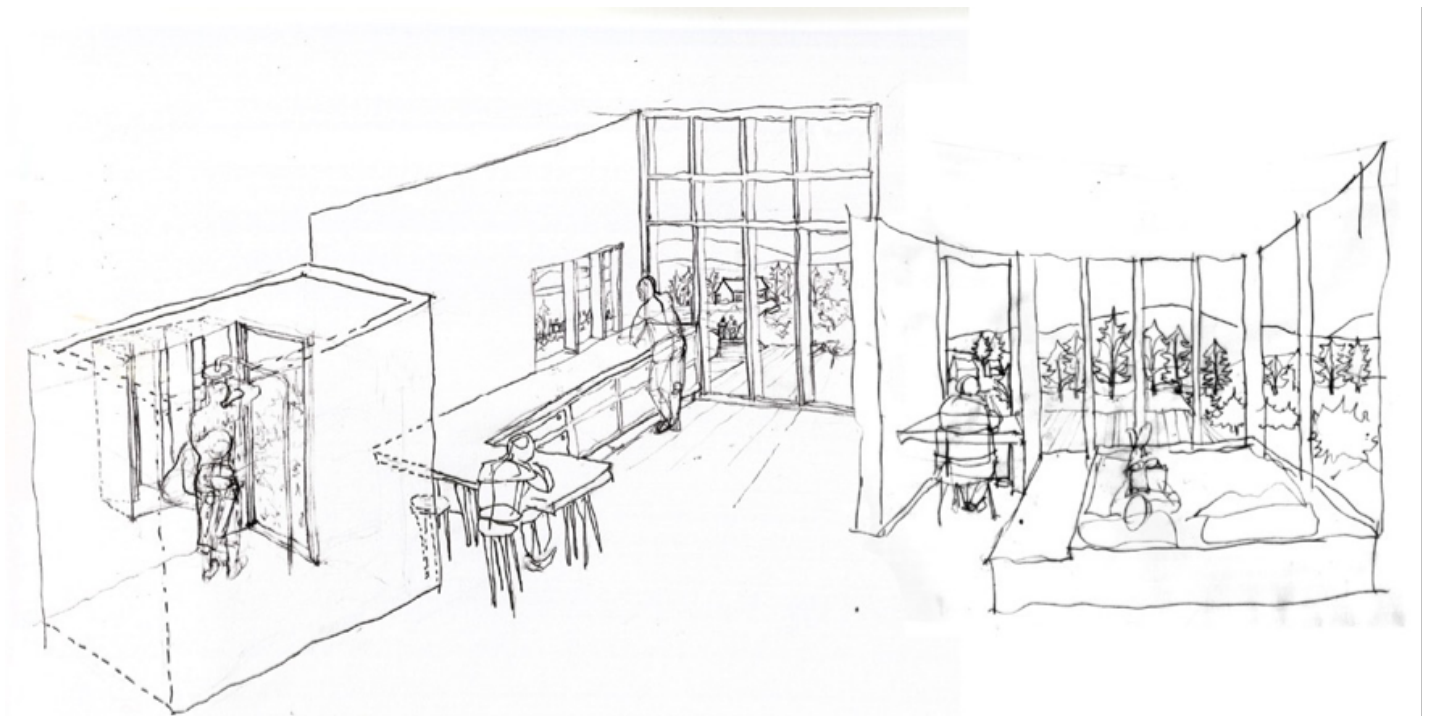


FIGURE 1-2 "Inner space narrative" (Delezuch, 2021)  
<https://ca2re.eu/results/design-strategies-relating-to-the-perception-of-territory-and-property-boundary/>







**Methodology for  
design-driven  
research  
at PEP doctoral  
program at TU Berlin**

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Ralf Pasel

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## **ABSTRACT**

**This text describes 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, illustrated through three different approaches.**

**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.**

**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 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.**

**Keywords: Desig-driven research, practice-based research.**

This text describes 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, illustrated through three different approaches. 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, 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.

With the following three design-driven researches which are close to reach the dissertation final presentation, we illustrate briefly this methodology:

Self-Shaping Textiles. Form-Finding of Tensile Surface Structures through 3D Printing on Prestressed Fabric  
(Agata Kycia)

This PhD thesis analyzes the use of textiles in combination with digital manufacturing technologies to investigate the possibilities of material-informed design methods in the architectural practice.

Large part of the investigation focuses on experimental prototyping, classifying possible shapes that emerge from this process, as well as identifying their potential and limitations. It suggests a bottom-up design methodology as an alternative approach to the reverse engineering of target shapes, which has notable implications on the conceivable forms. Analysis and comparison concentrate on two different design strategies: printing closed surface patches and open line bundles.

Robust structures. Autonomy and spatial formation of horizontal spatial structures  
Robuste Strukturen. Autonomie und Raumbildung horizontaler Raumstrukturen  
(Simon Banakar)

Robust buildings that can be used over a long period of time are mostly based on a general and versatile readable basic structure, which at the same time has its own specific space-forming expression. Basis of this architecture concept is an interpretation of autonomy in the sense of independence of the architectural spatial structure from a particular use

The aim of the work is to clarify which spatial structures are suitable for this? How do these relate to the different space requirements of a space program? How is the receptivity with regard to different secondary structures? What spectrum of spatial potential do the different spatial structures have? The starting point and basis for clarifying this question are personal experiences from design practice, from which the hypothesis



is derived and conclusions can be drawn about structural and spatial features. By transferring the worked out aspects into exemplary spatial structures as case studies, the structural spatial phenomena anchored in one's own work are localized and made tangible. As a result, the knowledge that is implicit and anchored in one's own activity is converted into explicit knowledge and insights through the epistemological process of the present work.

#### Real Time Reactive Architecture and User Interaction in Tangible Data Environments (Uwe Rieger)

This DDr research is an investigation into applied design strategies for a new approach to architecture, where properties of the digital world are combined with the qualities of physical constructions and materials. This research explores the relationship between matter and digital information; how data can be used as a new material to design and construct responsive buildings and hybrid urban fabrics.

This knowledge is based on his experience over the past twenty years on the development of responsive architectural systems and is deepened through new realized prototypes which test different aspects around the combination of the digital and the physical.

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.

## BIOGRAPHY

Ignacio Borrego is architect, academic and researcher focused on the intersection between design and industrialized processes.

Full Professor at the Technische Universität Berlin since 2016.

He graduated in UPM ETSAM (Madrid) in 2000 and defended his doctoral thesis "Informed Matter" in 2012.

He founded the architectural office dosmasuno arquitectos in 2003 and founded Ignacio Borrego Arquitectos in 2014. He has received 37 national and international prizes in architectural competitions and architectural awards, such as COAM Prize, AIT Nomination or A+ Prize.

Ralf Pasel is Professor for architectural design and construction at the Technische Universität Berlin and principal of Pasel.Kuenzel Architects in Rotterdam. He has taught extensively at various Universities world-wide, most importantly at the Academy of Architecture and Urban Design Rotterdam, the Utrecht Graduate School of Visual Art and Design, TU Delft, TU Dresden and the Universidad Católica de Santiago de Chile. He and his team, work on international projects, addressing all levels of scales, from research to architecture, from urbanism to exhibition design. Through a series of award-winning design projects and buildings, amongst others the prestigious International Bauhaus Award, his office has created an international reputation as a member of a new generation of architects that combine complex situations, innovative thinking, design and spatial implementation. In 2009 Ralf Pasel was curator of the 'Parallel Cases' exhibition of the 4th International Architecture Biennale Rotterdam.

Jürgen Weidinger holds the chair for landscape architecture at the Technische Universität Berlin since 2009. His research interest covers perception theories and theories of ambiance and atmosphere. Furthermore, he is participating in the movement of design-based research. Several books have been edited on those research findings. Teaching covers the design of urban public spaces: s.a. parks and gardens, squares and streets and open spaces interlinked with architecture in the sectors culture, education and corporate. Since 1995 he is director of Weidinger Landscape Architects in Berlin. The office is specialized in the design and implementation of public parks, urban squares and open spaces in context with public buildings. He is member of several municipal planning boards and competition juries.



FIGURE 1. D printing on a custom knitted fabric with tuck stitch and drop stitch pattern (Agata Kycia)



# **Inclusive Research Traditions at Campus Sint-Lucas**

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## **ABSTRACT**

**It is clear that KU Leuven Faculty of Architecture Campus Sint Lucas approaches DDDr from a perspective of intellectual tolerance that aims for inter- and transdisciplinary research possibilities.**

**This approach is embedded in the origins of Sint-Lucas School of Architecture where art and architecture have always co-existed since 1862.**

**Two contributions demonstrate these intellectual and epistemological origins. These contributions seem to come forth from deeply rooted traditions that are being translated in contemporary inclusive research models generating new avenues of knowledge production that otherwise would remain undiscovered and uncultivated.**

**Keywords: Design-driven research, practice-based research.**

### **Inclusive, Cross-fertilization**

It seemed to us that it would be useful to clarify, on the one hand, the status of the work performed by architects (more 'knowledge' than 'knowing about', rather discipline than science, but without excluding the latter); and, on the other, to begin to make it more credible that the discipline as a whole should satisfy the primary requirement of the university: advancement of knowledge rather than service to the balkanized sciences. (Verbeke, 2005, p. 14)

Starting from this quote it is clear that KU Leuven Faculty of Architecture Campus Sint Lucas approaches DDDr from a perspective of intellectual tolerance that aims for inter- and transdisciplinary research possibilities.

This approach is embedded in the origins of Sint-Lucas School of Architecture where art and architecture have always co-existed since 1862. This co-existence appears to be a suitable ground for the advancement of knowledge and an antidote against the balkanization of sciences and disciplines.

Hence it does not appear to be coincidental that the following contributions demonstrate these intellectual and epistemological origins. The contributions presented here respectively prove to

come forth from this broad spectrum that ranges from art over architecture to interior architecture and permit the inclusion of doctoral students over post-doctoral researchers to senior researchers.

**Contribution 1:**

Annelies De Smet, Jo Liekens, Nel Janssens and Manon Persoone, J for Jewel, Faculty/Department of Architecture KU Leuven.

This research starts from the doctoral investigations of Manon Persoone (PhD researcher), banking an interdisciplinary approach with angles of insight coming from both (urban) architecture (Nel Janssens, senior researcher) and interior architecture (Jo Liekens, post-doctoral researcher) clearly looking at this through artistic lenses (Annelies De Smet, post-doctoral researcher). This project further invites more researchers from different disciplines by its conceptual structure based on the 26 characters of the alphabet of which each can be used as the onset for a research contribution. Hence the openness and inclusive nature of the project becomes clear. (Figure 1)

**Contribution 2:**

Pepa Ivanova, An Echo of the Sun Autopoetic Observations and Rhythmic Compositions, Tuned by the Fine Structures in our Space-Time Realm, LUCA School of Arts (Gent) KU Leuven.

Pepa Ivanova (PhD researcher) is a visual artist whose PhD is supervised by Esther Venrooij, who is a sound artist with research both situated in art and architecture.

Therefore main input for this research are the different types of (1) observational data of the Sun and the collected (2)recorded soundscapes,(3)light conditions and (4) meteorological data from the Earth, (5) archived historical data from light conditions. This range of information, instruments and methods to analyze the data I argue in this research to be a human artifact, shaping not only our digital but a physical form, capable of continuously producing/reproducing information. (Ivanova 2020, p. 109)

This quote clearly illustrates Pepa's interest in inter- and transdisciplinary research approaches. (Figure 2)

Consequently, the observation that the contributions coming from our institutions appear to work in inter- and transdisciplinary fields is clearly not coincidental. Rather they seem to come forth

from deeply rooted traditions that they translate in contemporary inclusive research models. These cross-fertilizations generate new avenues of knowledge production that otherwise would remain undiscovered and uncultivated.

## **BIBLIOGRAPHY**

De Smet, Annelies, Liekens Jo, Janssens Nel, and Persoone Manon. 2021. J for Jewel. Hamburg: Hafencity University Hamburg; (144-151).

Ivanova, Pepa. 2020. An Echo of the Sun Autopoetic Observations and Rhythmic Compositions, Tuned by the Fine Structures in our Space-Time Realm. Milan: AUID & DASTU; (108-110)

Verbeke, Johan, and Belderbos Mark. 2005. The Unthinkable Doctorate. Brussels and Ghent: Hogeschool voor Wetenschap & Kunst, School of Architecture Sint-Lucas.

## **BIOGRAPHY**

Thierry Lagrange (1970) graduated engineer-architect in 1993. He obtained his Ph.D in 2013. He has been working as an architect for 28 years and is currently Associate Professor and Head of Division Architecture and Design at the KU Leuven Faculty of Architecture, Campus Sint-Lucas.

Jo Van Den Berghe (1961) graduated architect in 1984. He received his Ph.D in 2012. He has been active as an architect for 35 years and is now Associate Professor and Program Director of the Master of Architecture at the KU Leuven Faculty of Architecture, Campus Sint-Lucas.

Both professors are the founders of the research group The Drawing and The Space.





FIGURE 1. Annelies De Smet: J for Jewel

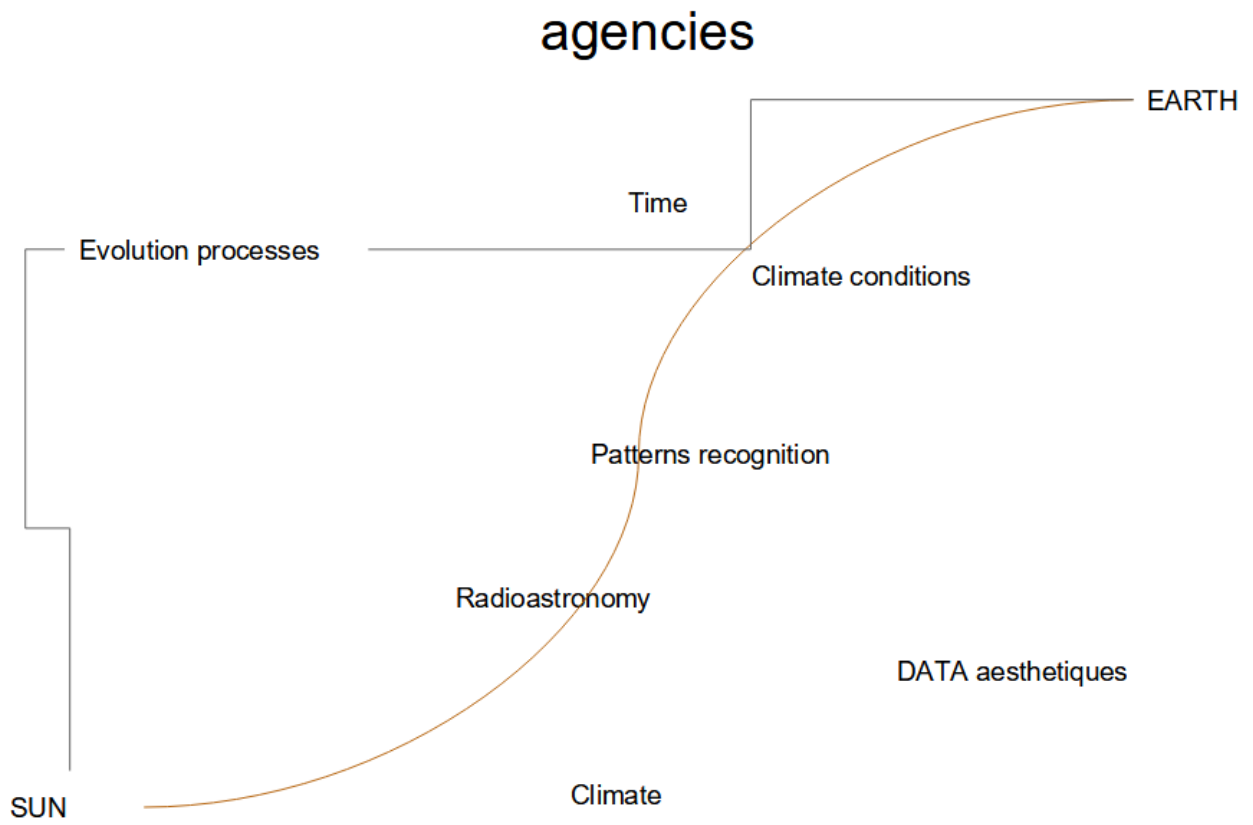


FIGURE 2. Pepa Ivanova: Visualisation of the start agents of the research, 2019





# **Design Driven Research, work in progress**

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## ABSTRACT

**Design Driven research can be pursued in various ways. Among all features that characterize such kinds of research, one of the most intriguing matters is undoubtedly the question regarding how design can play a role as structuring component of the research. Although this seems an obvious and straightforward issue, the past CA2RE / CA2RE+ events made clear that this question is for many participants still uncomfortable and in some cases even difficult to tackle. For these reasons, this contribution is an attempt to underline some aspects that may be helpful for the further development of the discussion about how design issues can be employed in Design Driven research.**

**Keywords: design driven research, PhD research, design drivenness.**

The rich variety of topics, approaches, ways of doing and understanding Design Driven Research that we've experienced during the CA2RE+ conferences is undoubtedly fascinating and intriguing. At the same time this wide range of positions and viewpoints is not surprising as research and design cultures are varying, even if only considering each of the participating institutions. In the textual contribution for the Milan CA2RE+ conference (Cavallo and Alkan, 2021) we have outlined these issues from the TU Delft perspective, labelling the matter as an 'Expanded Field'. In the CA2RE+ events we witness how Design Driven Research can be interpreted and questioned in different ways, sometimes even by the same researcher. Some contributors are making great efforts to put at the centre stage the 'design drivenness' of their research, although in most cases this brings about concerns and struggles. Others are touching upon it sideways; the actual act of designing doesn't really play a key role in the research they do. Following the statement written for the Hamburg CA2RE+ conference (Cavallo, 2021), my hunch is that in most instances putting the design driven issues central helps a lot in formulating the urgency, the relevance of the research, and often it can be even helpful for sharpening research objectives and research questions, detecting the research gaps, and pushing the research towards further steps. Not less important, the emphasis on the design driven issues contributes to highlight also the limits of the research. However, in most contributions this issue seems to be overlooked, perhaps because in the majority of cases it means

narrowing down the research, leaving behind some aspects the researcher is passionate about. My suggestion to the CA2RE+ PhD candidates, and to all scholars undertaking Design Driven PhD research, is to keep a close eye on this matter. In case your passion, fascination and attachment are laying in one of the things that you should cut or leave behind you for the sake of 'keeping the scientific standard as high as possible', remember that design driven research can be, or even should be, a non-linear process. Twists, changes of path, or disruptions can help to identify the pivotal matter, contributing to the way the individual researcher wishes to bring further its own design research project.

The passion and the attachment to some peculiar aspects of Design Driven Research are coming clearly forward in some of the presentations, however often not accompanied by appropriate written statements and fitting set of research questions. This is challenging for quite a few of the ongoing research projects showed at the CA2RE+ events. To briefly illustrate what I'm talking about, I would like to mention as an example the PhD project of Sinan Mihelčič. He is researching the problematic of suburbia, which is on itself already very much multifaceted, even if only focusing on one specific case, like the one that Sinan is tackling with in Slovenia. At the same time, he is directly involved as a designer in the revitalisation of a very fascinating creative cluster site. His objective is to clearly and synergically connect both matters in his research. When reading the texts delivered so far, it is not yet clear towards which extent creative clusters can play a role in the overall problematic of suburbia. In this framework, one of the main struggles is that suburbia are involving many challenges and problems, and creative clusters, even if contributing to certain dynamics, may play a marginal role; for the PhD thesis more tangible evidence is needed in terms of 'objective' relevance. Meanwhile, it is clear that the design issues and actions connected to the specific creative cluster are very dear to the researcher. A quick look to the written research questions doesn't reveal what could be relevant in adopting a design driven approach, whereas the design driven components are clearly the strong asset for the researcher. Positioning his current research by design work more at the centre of the thesis, putting forward his role as designer 'researching', would in this case really help in reframing the research in a much more constructive and workable way. The individual fascination is an important matter, it is often the leitmotiv particularly in Design Driven Research. Also, depicting the suitable approach(es) to be used in the specific (phase of the) research is a crucial issue. Hence, in research, and especially in design research, there should be space for a non-linear journey allowing for 'trial and error', for learning along the way through the missteps,

and this should be reflected as well in the discussion about the approach. As highlighted in the written contribution for the Milan CA2RE+ conference (Cavallo and Alkan, 2020), the focus should be primarily on sharing and learning from the various approaches, also stemming from other disciplines, as the discussions on methodologies have often been unproductive (Simon, 1996). In the CA2RE+ events I've seen contributors proposing different approaches in mutual combination, or in a sequential order. At the other hand, it is clear that truly including approaches involving other disciplines (e.g., ethnography, anthropology) remains a challenging matter, ending up for some of the researchers to be only a point on the wish list. Last but not least, I would like to mention another aspect that I find often not actively addressed and therefore in a way a missed opportunity. It is about the awareness of the media and representational techniques that are used by the candidates for analysing and keeping track of what they are doing. It may be a kind of designers' habit, designers do these things by default, but the potential qualities embodied in the 'medium' can be sometimes turning points, contributing to uncovering new, perhaps original research pathways. It is about the genius of discovering something unexpected, an exciting surprise that also in terms of transferability of design driven research could ultimately become even more important than the 'research matter' itself. This is for me an intriguing discussion and for sure something to put on the agenda point of next CA2RE+ encounters.

## **BIBLIOGRAPHY**

Cavallo, Roberto, and Alper Alkan. 2021. "An Expanded Field: Design Research in TU Delft". In *Comparison: Conference for Artistic and Architectural Research Book of Proceedings*, edited by Fabrizia Berlingieri, and Francesca Zanotto, 27-33. Siracusa: LetteraVentidue, 2021.

Cavallo, Roberto. 2021. "The key issue and its many facets". Position statement for the CA2RE+ Hamburg conference 2021

Rittel, Horst. 1984. "Second-Generation Design Methods." In *Developments in design methodology*, edited by Nigel Cross, 317-27. New York: John Wiley & Sons, 1984.

Schön, Donald A. 1983. *The Reflective Practitioner: How Professionals Think in Action*. New York: Basic Books, 1983.

Simon, Herbert A. 1996. *The Sciences of the Artificial*. Cambridge: The MIT Press, 1996.

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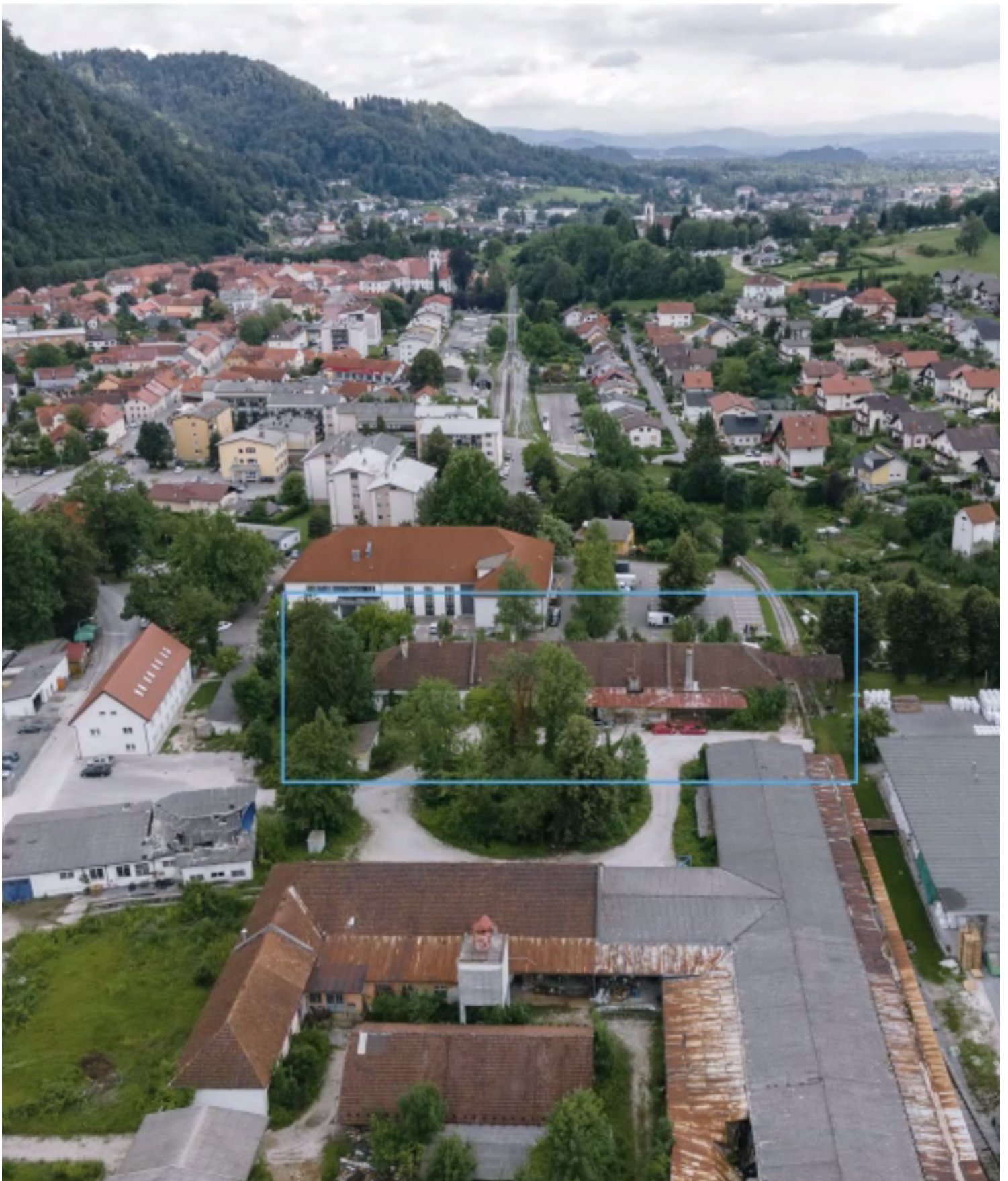


FIGURE 1. Aerial photograph of Kamnik (Slovenia), source Sinan Mihelčič, CA2RE+ Hamburg 2021.





FIGURE 2. Barutana Creative Area, Kamnik (Slovenia), source Sinan Mihelčič, CA2RE+ Hamburg 2021.





FIGURE 3. Barutana Creative Area, Kamnik (Slovenia), source Sinan Mihelčič, CA2RE+ Hamburg 2021.



# **IV EVENTS: CA2RE+ MILANO / CA2RE+ HAMBURG**



# **IV.1 COMPARISON / REFLECTION**





# **Of Squirrels and Trees: Individuating by Comparing**

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## ABSTRACT

**When developing a design-driven research, finding one's own position within the scientific community is one of the most important tasks, although it is particularly complicated. It entails moving within a field made of different traditions, which are characterized by very diverse approaches, methods, and techniques, as well as comparing the sense of one's own position with a set of external references. The problem, from a methodological standpoint, is that comparative analysis, in general terms, represents simply the act of comparing two or more similar aspects of different realities, in which no specific forethought is required, as long as it is performed through a contextual and relational construction. In this regard, the text describes how the workshop and panels within Milan's CA2RE+ conference have been designed to bring participants to compare their design-driven doctoral researches in a contextual and relational way. On the one hand, to draft a responsive map of current tendencies and evaluation techniques, and on the other, to offer participants a counterpoint to a self-reflective form of positioning.**

**Keywords: Positioning, comparative analysis, geographical and topological references**

Early last century, philosopher William James started one of his lectures on Pragmatism with a curious problem. The center of the dispute was represented by a squirrel clinging to one side of a tree, and a man standing on the other side, trying to get sight of him. The man, in his story, moved fast around the trunk, but no matter how rapidly he went, the squirrel moved as fast in the opposite direction, so that no glimpse of him could be caught. The problem, however, did not revolve around the visibility of the rodent, as the metaphysical question in reality was: “[did] the man go round the squirrel or not? He [went] round the tree, sure enough, and the squirrel [was] on the tree; but [did] he go round the squirrel?” James’s answer thus was that everything depended on what one practically means by “going round” the squirrel. If one meant passing from the north to the east of him, then to the south, the west, and again the north, the man evidently did it. On the contrary, if one meant “being first in front of him, then on the right of him, then behind him, then on his left, and finally in front again,” the experiment had to be considered a failure (James 2009, 43-44).

Obviously, none of the two is correct per se. For James's answer is based on the belief that truth is a fact that makes a difference among a certain group of facts. And since there is no reason to favor a "geographical" group of facts over a "topological" one, or vice versa, in absolute terms, there is no reason to think that one answer is truer than the other. What counts, by contrast, is selecting a set of facts that is relevant to what one wants to get about a certain phenomenon. Or better, to stay inside the metaphor, finding the appropriate indicators to detect one's own "position."

Finding one's own position within the scientific community is one of the most important tasks for researchers, it is no mystery. But for those dealing with design driven investigations this task is particularly complicated. For it entails moving within a field made of different traditions, coming from the arts, humanities, social sciences, and technology, which are characterized by very diverse approaches, methods, and techniques. A field in which, by consequence, highly individual research strategies are crucial to match the diversity of specific traditions, as well as the integration needed to deal with transversal issues. It is not surprising, therefore, that, in this framework, positioning oneself requires the integration of the two forms of individuation mentioned by James. That defined on the basis of a system of absolute coordinates, and that which depends on the mutual locations and movements of its actors. By comparing one's own position with a set of external references which, despite being essential, represents a very delicate task to be framed in a methodological perspective. A comparative analysis, in general terms, in fact represents simply the act of comparing two or more similar aspects of different realities, in order to discover something about one or all of the aspects being compared, or the different realities themselves. And it is a form of analysis in which no specific forethought is required, except choosing data sets that could refer to comparable aspects or categories. From a historical point of view, for example, it can be used to trace the evolution and development of a certain phenomenon. From a linguistic one, it can serve to highlight specific recurrences in geographically distant cultures. And from a design one, it is essential to point out contextual contingencies when testing the applicability and replicability of a certain strategy. For this reason, when it comes to method, there is no such a methodology that is peculiar to comparative research, with the exception that it must be always performed through a contextual and relational construction. This is why, within Milan's CA2RE+ conference, the workshop and panels have been designed to bring doctoral candidates, professionals, early-stage researches, and academics into

a collective learning environment. In order to compare the approaches, methods, and techniques used in their design driven doctoral researches in a contextual and relational way. On the one hand, by individuating mutual distances and possible intersections among different pedagogical traditions and ongoing research practices, in order to draft a responsive map of current tendencies and evaluation techniques. And on the other, by allowing candidates to identify their location within the scientific community, not by means of a projective form of individuation, but by intersection among different research practices, in order to offer them a counterpoint to the self-reflective form of positioning developed in the previous phases. This, in summary, has precisely been the final principle that has led the definition of the workshop and panels for the Milan's conference. That of establishing an immersive discursive environment in which participants could assess the relevance, transparency, and rigor of doctoral researches, in terms of connection. By measuring mutual distances and proximities among the knots of some trajectories of knowledge, which could render a still frame of one's own individual position, caught in its development and due transience, rather than in its belonging to a certain cultural orthodoxy. All of this, with the maximum aperture possible in terms of comparison with other disciplinary traditions, local tendencies, and personal practices. And through a research philosophy open towards the evolution and integration of new theories, simply on the basis of their usefulness, without the need to receive them entirely or to confute all the previous ones.

Obviously, the single outcomes have been remarkably diverse, in their heterogeneity. Nevertheless, the experience as a whole has proven the phase of comparison essential to determine the "geographical" and "topological" position of the different researches, in terms both of individual self-recognition and external evaluation. As well as it has been essential to show how, in design driven researches, more than a personal allegiance to a single methodology and its process of validation, what counts in these papers is the search for a shareable sense of situated rigor that could better respond to a final principle rather than a modal strategy.

## **BIBLIOGRAPHY**

James, William. 2009. *Pragmatism: A New Name for some Old Ways of Thinking*. Rockville: Wildside Press.

## **BIOGRAPHY**

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**Drawing and/as  
architectural  
discourse:  
Comparative  
analysis of patterns  
of dwelling.**

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## ABSTRACT

**This report focuses on the first two keynote presentations: “Thinking through Drawing” by Martino Tattara (IT/BE) and “Drawing Dwellings, Discursively” by Keith Krumwiede (US) and on the expanded meanings assigned to drawing in the context of design driven research in architecture – reconceptualizing it as, and in connection to, architectural discourse.**

**Keywords: Comparison; redrawing; design driven research; architectural discourse.**

This report aims to deliver an overview of the keynote session of the CA2RE+ event in Milan with a focus on the first two keynote presentations: “Thinking through Drawing” by Martino Tattara (IT/BE) and “Drawing Dwellings, Discursively” by Keith Krumwiede (US). The presentations centered on the long discourse on home, identifying different yet overlapping methodological approaches to the exploration of new patterns of dwelling from a contemporary perspective. In line with the theme of the conference, they shed a renewed light on comparative analysis and comprised critical insights into the relation between drawing and architectural discourse in the context of design driven research.

Tattara’s presentation – drawing upon work carried out in collaboration with Pier Vittorio Aureli (IT/BE) and published in the books *The Room of One’s Own: The Architecture of the (private) Room* (2017) and *Loveless: The Minimum Dwelling and Its Discontents* (2019) – focused on a critical comparative study of housing typologies with the aim to address and challenge issues that “resonate with the problem of living in the city today.” A genealogy of domestic form was put forward, as the presented case studies, ranging from ancient to contemporary times, were organized according to historical-evolutive patterns – from circle to rectangle, from Megaron to Oikos, from cubacula to monastic cell, from chamber to boudoir, from bed-room to boarding room – so as to identify interconnected themes concerned with the cogent issue of dwelling. As Kenneth Frampton has pointed out, “critically comparative permutations” belong to a process which “constitutes a genealogy in itself, in as much as by passing from one comparative analysis to the next, one reveals the pattern of a constantly changing value system as expressed



through the open-ended evolution of architectural culture over time” (Frampton 2015, 37). In a similar vein, the presented work, focusing on comparative explorations based on the fundamental element of the house – the inhabited cell –, revealed an “open-ended evolution of architectural culture,” which crossed between the urban and the domestic scales.

Tattara’s presentation shed light on how the act of devising “ways of representation that are not always seen” leads to the “portrayal of dimensions that they’re often overlooked.” It therefore highlighted the epistemic potential of drawing in the field of architectural design research: how the process of redrawing may be deployed to study, to analyse, to understand, to interpret and to conceive the architectural artifact in a new light. The “production of architecture through drawings” is intended here as a means to devise new approaches, tools and techniques, in the field of architectural design research.

Growing out of his book *The Atlas of Another America: An Architectural Fiction* (2016), Krumwiede’s presentation provided an alternate account of the American suburban house, of the relation between the individual and the community, between social characters and built forms. It questioned the “materials we use so as to house ourselves, to represent ourselves; to produce larger phalansteries, collective productive houses/communities; temples of mutual understanding” and, by extension, issues of agency in architecture. Here, the acts of drawing and writing complement one another, highlighting their inextricable relation which is targeted to the composition of a “reverse Utopia” and alluding to the words of Aldo Rossi who have drawn attention to “a type of drawing where the line is no longer a line, but writing” (Rossi 1982, 44). A fervent experimentation with the deployed media (text, drawing, collage, writing) characterizes Krumwieder’s work, similarly blurring the boundaries between the respective fields and highlighting their generative potential.

Krumwiede’s presentation explored the limits and the potential of speculation, considering “drawing as a political act.” It referred to how “an innocent investigation can become an obsession” and on the importance of envisioning, imagining, theorizing possible new worlds, alternative new housing futures which bridge the “desire for familiarity” with the “pursuit for novelty;” “to fabricate a house, to make an illusion” (Hejduk 1973).

Both presentations touched upon issues of authorship, time and typology in connection with the architectural project and

provided different understandings of these issues: If the first lecture acknowledged the relation between author and artifact, the second conceived of an alternative stance of anonymous architecture; if the first one was rooted in history, of how former models penetrate the contemporary house, the second was set in an a-historical period; and, equally, if the first was interested in the evolution of habitat patterns and certain housing typologies, the second revolved around the question: “could the speculative house be the most radical typology?” (Krumwiede 2010, 59). Common to their approach, nevertheless, has been the objective to prompt a reassessment of the tools and practices that underpin design driven research in architecture today and to reflect on their possible connections.

The keynote presentations in their entirety – including the third intervention titled “On Drawing / The Order of Drawings” by Alex Lehnerer (DE/CH/AU) – stimulated a rich discussion, open to the audience, moderated by Fabrizia Berlingieri (IT) and Pier Paolo Tamburelli (IT). The issues raised in the discussion were manifold, elucidating different aspects of the importance of drawing in design driven research. revolving around the main notions: drawing as artifact, drawing as a reference, analysis and speculation tool, drawing as embodied practice, and drawing as architectural discourse. Accordingly, the projective dimensions of architectural drawings, their aesthetic versus their scientific value, their role in defining research in architecture as cultural, scientific or social research, and the ways in which drawings are seen, disseminated and archived, were some of the topics under debate. Another branch of the discussion focused on the dichotomy between the intellectual and the corporeal/sensual dimension in the drawing process which in light of the proliferation of digital tools in architecture becomes even more pressing.

Engaging a broad audience, the keynote session testified to the operational depth of the architectural researcher. It expanded on the well-established meanings assigned to drawing in the context of design driven research in architecture, reconceptualizing it as, and in connection to, architectural discourse – opening up this specific medium to a multiplicity of possibilities and readings, targeted at the enhancement of the design process.

## **BIBLIOGRAPHY**

“John Hejduk, Second Wall House,” in *Progressive Architecture*, vol. 6, no. 74, 1974, 98.

Frampton, K., *A Genealogy of Modern Architecture: Comparative Critical Analysis of Built Form*, Lars Müller Publishers: Zurich 2015, 37.

Krumwiede, K., “[A]TYPICAL PLAN[S],” in *Perspecta*, vol. 43, 2010, 59.

Rossi, A., *A Scientific Autobiography*, The MIT Press: London; Cambridge, Mass., 1981, 44.

## **BIOGRAPHY**

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# **Reflexive Design and Artistic Research.**

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## ABSTRACT

**In this essay thoughts about research in the creative fields are put forward taking `reflexivity` as their conceptual framework, feature and trigger. The discursive setting is situated within architectural design and research in diverse scales and starts with the idea of `Reflexive Design`. It offers the reflexive as a position, attitude and form of action, which is grounded in questioning givens and taking a variety of perspectives and new theoretical and practical approaches as underlying strategies. In reference to notions of Pierre Bourdieu and Maurice Merleau-Ponty some essentials are delineated, which include both associative body memory and sensitive, crafted and situated ways of knowledge gain. In this way particular types of interplay between conception and production as well as of projection, insight and cognitive content emerge. These types of research work are strongly `design-driven` in the sense of creating new viewpoints, repertoires and values for design and for research in architecture in a projective way, fruitfully inter-crossed with artistic research.**

**Keywords: Architecture. Design Research. Reflexivity. Artistic Research. Intercrossing.**

What if we take `Reflexive Design` to reveal the possibilities of design research?

Reflexive Design as a concept outlines grounding, practices and potentials of design and research intercrossing and entanglement in architecture, landscape and urban design with projective ambitions for alternative habitats.

By uncovering with the lenses of reflexivity and `sur-réflexion`, both inspiring critical questioning and artistic thinking appear as integral parts of this alignment. The reflexive and reflexivity could act as generators in both short-term contexts of action and long-term conditions that build up their base as well as in 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. By explicitly striving to attentively understand approaches, decision making and embeddedness and at the same time by provoking diverse points of view they conduct the uncovering of the interplay of the explicit, the implicit and the unknown in the creative formation of architectural knowledges for inventive future action and reflection.

## Processing

By going beyond the widespread tripartite of 'research for, into or through design', by opening up diverse mixing of research-based design and design-oriented research as well as of self-inquiry and common ground this concept 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. In highlighting artistic thinking besides the rational and analytical thought, ways of research can get a triggering specificity particularly suitable for architectural spatial disciplines. Emphasized here is not a simple reflective ability to think about design or research actions in the iterative processes of an individual or collective practice integrated on several levels or directed to certain themes in the immediate context of working. In this sense it was put in the foreground especially in publications of the urbanist and scientist Donald Schön since the 1980ies as phases which are mutually connected with analytical and synthetic activities and repeated several times (Schön 2003, 49-69). Reflexivity as an attitude, approach and modality of thinking, being and action goes beyond this, supported by dynamic, flexible and process-oriented dimensions by which researchers and designers themselves cross scales, categories, and viewpoints with projective ambitions. Prospective as well as retrospective modes of operation are integrated to surpass the familiar and touch overseen and hidden phenomena and connections, using new and renewed approaches of analysis, interpretation, generation and articulation. As starting points for exploration annual international symposia on design and research in architecture and landscape (DARA) at the Faculty of Architecture and Landscape Sciences, Leibniz University Hannover, as well as selected publications on the topic constitute a stimulating research setting. With a focus on underlying patterns and features, different subtopics were probed as an experimental sequence of steps taken to refine the concept and specify its alignment. Thereby the explicit reflexive stance integrates questioning mindsets and ways of acting as well as recognizing, exploring and detecting different ways of creative knowledge gain in architectural design and research. In layering of discourse and action 'Reflexive Design' unfolded as a collective undertaking of office practitioners, professional theorists, PhDs and Postdocs from the field of architecture, urban and landscape design, and additionally integrated experts from other

disciplines. Diverse models of exploration, understanding, and creation emerged. Moreover, the different examples showed the performative character of design and research acts as interwoven with embodiment. They refer to knowledge production founded in experiences with their different effects and limits as well as to entanglements with objects, materials, milieus and media.

Subtopics, for example `Practices`, `Processes` or `Intentions`, act not as preconceptions but as a kind of tracking and as sources of inspiration for the discovery of features and patterns that bring understanding and play the role of critical tuning instruments. (Abb. 1) Thus, within the topic of `Practices` searching and finding, experimenting and catalysing emerged as overarching forms of action, familiar from other scientific domains, and at the same time interpreted in specific ways by the architectural design and research acts. Within the topic `Processes` it comes to the fore that driving forces emerge out of situatedness and the generative dispositions of personal development, that entanglement of design and research with pragmatic strategies and with diverse media and technologies are to be probed in the proceedings, and furthermore that ideas of transformation build up both crucial and in their specific impetus and formation often undetected properties of research in architecture, urban and landscape design. Finally, the challenging subtopic `Intentions` leads to recognize the combination of assembling with forming as well as cross-over and revitalizing as fruitful ways of action in design and research, which strengthen contemporary interesting stances of inquiry.

### **Intercrossing**

The essential identity of this conceptual framework as an interweaving of empirical and reflexive dimensions resides in the revealing and inventive creation of knowledges by reflexivity and sur-réflexion. As external references these notions, especially as articulated by the anthropologist Pierre Bourdieu on the one hand and the philosopher Maurice Merleau-Ponty on the other, offer impulses for structuring cognitive activities and triggering imagination in the composite and plural conditioned fields of creating spaces and places. Bourdieu's concept of reflexivity aimed at enhancing knowledge gain by a plurality of points of view as well as by interactions with media and materiality (Bourdieu 2001, 27-40 and 10). In parts his thoughts refer to Merleau-Ponty, who opted for a plurality of being and recognized the sense of identity and meaningful qualities of an active and contextually embedded perception and its continual reset and re-vitalizing character (Merleau Ponty 2012, 102,186; Merleau-Ponty 1994,



137-138 and 153-159). He furthermore encourages to understand vagueness as a positive phenomenon linked to artistic ways of producing alterity and, along with the term `sur-réflexion`, underscores the capacity of reaching beyond existing structures in order to generate others (Buchert 2021b).

There seems to be found analogies in the crafting of architectural design and research, linked to the associative body memory which for the most part is not stored consciously in the mind. This shapes experiences which also include sense-oriented refinement and deepening of forms of cognition and knowledge which are not only rationally comprehensible and in addition encompass also tensions and serendipity. Such givens stimulate thinking about knowledge gain in different ways, connected with ideas, materiality and agencies, and moved away from a fixity of regulatory methodologies by using combinations of a plurality of approaches. With such features parallels to artistic research appear (Biggs and Karlsson 2011, *passim.*; Henke/Mersch/van der Meulen/ Strässle and Wiesel 2020, 18-27). Moreover, with the objective to create and develop alternative perspectives and projects reflexive design and research practices also show speculative dimensions, which constitute significant and essential driving forces of creative relations to the self and the world. Conceiving the artistic in architecture as searching and articulating of extended possibilities, these features can ultimately bring about changes in the built environment through the spaces and places shaped by architecture. The reflexive emerges as an important source of perception and understanding, as a particular type of interplay between conception and production as well as of insight and cognitive content.

## **Orienting**

Design´ points out to new ways of conceiving and intervening by affecting imagination as well as particular characters and qualities of architectural, urban and landscape projects. This concept puts forward an integrative multidimensional approach to genesis and interpretation. Both, design and research are seen as projective activity, including reviews and also integrating trans-scalar and transdisciplinary characteristic. With the reflexive and with reflexivity the routes can 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 with innovative ideas and high-quality concepts and projects. For the development, articulation and communication of design knowledges a surprising power of the notion of `Reflexive Design´ emerged with new realms

of creative exploration. As concept it serves as a kind of binding and structuring alignment and trigger, capable of generating ideas and new directions. The peculiarity resides within the many different versions of mixing of research-oriented design approaches and design-oriented research that might co-exist. The knowledge it generates on designerly ways of knowing and acting as well as on the formation and configuration of artefacts and further concepts, has the potential to be injected back into the realities it describes.

‘Reflexive Design’ opens up possibilities for exploring the superordinate routes of a wide variety of research questions and procedures and thereby provides a platform for what they create, for innovative ways of reflection and action corresponding to hidden ‘orders’ in complex situations and conditions of the 21st century by connecting rational and intuitive attentiveness and activating the tools of spatial thinking. It is meant to trigger collective ways of engaging to explore variations of what design research might uncover, working back and forth in a dynamic relationship. Finally, this concept is conceived to broaden the knowledge base on best practice design research projects and to foster the exchange of academia and diverse practices of the disciplines connected to design living environments. Moreover, especially forward-looking conceptions of locally and globally effective, viable contributions to contemporary tasks and developments in shaping future habitats should be explored. In sum, this research field with its projective activities is focusing on the world as it could be.

### **Highlighting Reflexion**

‘Reflexive Design’ is, as mentioned, not a method in the first line. It invites to be open for the integration of a multiplicity of approaches and has a more challenging and projective character. If one wants to connect methodological stimulation of design research in the context of a discourse on ‘reflection’ with a reflexive attitude and diverse modes of operation encompassed by the concept of ‘Reflexive Design’, one can put it into an iterative sequence of probing questions. Each second question, the bolded one, highlights the reflexive alignment, plot and syntheses:

Is the activity directed towards the acquisition of knowledge?

\_\_\_\_\_ **What is your background and purpose?**

What are you questioning?

\_\_\_\_\_ **What are your challenging questions?**

How will the uncovering be reached?

\_\_\_\_\_ **How to be engaged and `critical`, multimodal and intense within constraints?**

How are conducted activities recorded?

\_\_\_\_\_ **Will activities change essentially by alteration (setting/ procedure/ materials/media)?**

Is the knowledge gain transmissible to others?

\_\_\_\_\_ **Why is it better to know that?**

Like shortcuts these notions again underline the position and concept of Reflexive Design, which stimulates a more nuanced comprehension of the wingspans of design research, outlining specificities and potentials for the space shaping disciplines and professions as well as – in the best case – for habitats at large. Additionally, the integrated speculations can also act as catalysts for revitalizing our collective and individual relationship to reality. Furthermore, to take `Reflexive Design` as a tool to promote design research in architecture, landscape and urban design involves artistic dimensions and thereby also exposes intercrossing of rational analytical proceeding with probing by changes of perspective and by artistic thinking. Reflexive attitudes and phases could be crucial for further individual and collective development corresponding to challenging conditions. Their impacts could act both as repertoires and as triggers to surpass the given.

## BIBLIOGRAPHY

Bourdieu, Pierre. 2006. Science de la science et réflexivité, Paris: Raisons d'agir Éditions 2001). Science of science and reflexivity, Cambridge, Mass.: Polity Press.

Buchert, Margitta. 2021. Design Knowledges on the Move, in: Lara Schrijver (ed.), The Tacit Dimension. Architectural Knowledge and Scientific Research, Leuven: Leuven University Press, 83-96.

Biggs, Michael and Henrik Karlsson(eds.). 2011.The Routledge Companion of Research in the Arts, London et al.: Routledge.

Henke, Silvia/Mersch, Dieter/Meulen, Nicolas van der/Strässle, Thomas and Wiesel, Jörg. 2020. Manifesto of Artistic Research. A Defense against its Advocates. Zürich: Diaphanes.

Merleau-Ponty, Maurice. 1994. (Le Visible and L' Invisible, Paris: Gallimard 1964). Das Sichtbare und das Unsichtbare. 2nd ed. München: Wilhelm Fink.

Merleau-Ponty, Maurice. 2012. (Phénoménologie de la perception, Paris: Gallimard 1945). Phenomenology of perception, London: Routledge.

Schön, Donald. 2003 | 1983. The Reflective Practitioner. How Professionals Think in Action, 3rd edition London: Ashgate.

## BIOGRAPHY

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FIGURE 1. Books on subtopics of Reflexive Design. Design and Research in Architecture and Landscape: Practices 2016, Processes 2018, Intentions 2021



# **IV.2 TESTIMONIALS**





# **Reflecting on a multi-disciplinary, learning-through- evaluation model**

Elena Montanari  
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## ABSTRACT

**The Erasmus+ Strategic Partnership CA<sup>2</sup>RE represents a thriving opportunity to explore, challenge and enhance the education strategies, teaching actions and learning processes revolving around the design field. These tasks are achieved by promoting the engagement of a multi-disciplinary scientific community with innovative skill building practices based on a learning-through-evaluation model, which modulates the assessment process at the service of all the involved actors, to boost self-critical capabilities, programming and decisions-making.**

**Keywords: Research evaluation, evaluation models, learning-through-evaluation.**

The participation in the Erasmus+ Strategic Partnership CA<sup>2</sup>RE is a highly worthy and enriching experience for all the players involved. First of all, it enables the contribution to a collective endeavor dedicated to the enhancement of Design Driven Doctoral Research (DDDR) in all fields of architecture, design and arts, through the improvement of knowledge and dissemination around such practice, the development of methodologies and guidelines, the promotion of excellence in research as well as in teaching and skill building, the establishment of networking possibilities within research communities, as well as the support of early-career researchers and PhD students in improving the quality of their work and sharpening their reflexive skills. The achievement of these tasks especially revolves around the structuring and realization of intensive peer reviewing processes, whose specificity draws on a learning-through-evaluation model. This is based on the understanding and use of evaluation practices not only as means to assess outputs and outcomes but also as opportunities for the acquisition of knowledge, behaviors, approaches, values and skills. To do so, the evaluative acts performed within the CA<sup>2</sup>RE program are mainly carried out on a meta-level: along the consecutive phases of the procedure implemented in concomitance with each event – starting from the individual review of the proposed contributions through preliminary written comments, and later prosecuting with the shared discussions during collective workshops and training moments, and climaxing in the single presentations and the following debates –, acquisition and assessment practices are not merely focused on the scientific results of the research, rather they especially address the quality of processes, the sustainability

and effectiveness of the research structure, the consistency of objectives and methods, the cognizance of the main axis and overall meaning, the contextualization of design-driven aspects within later stages of the work, and the evidence and awareness about its applicability, transferability and impact. Notably, these latter factors often have a pivotal role within the debates, not only due of their crucial part in the assessment of the success, value and financeability of a research project (and in particular in the DDDR realm), but also because around such aspects the more problematic points of the presentations emerge.

By receiving qualitative and targeted feedbacks, the early-stage researchers are meant to receive significant suggestions and stimuli to improve their contextually debated activity and, at the same time, to develop a self-reflexive attitude, to sharpen critical skills in regard to the various aspects of research work, to assimilate a forward-looking approach, to widen the understanding of available choices, and to acquire new instruments for decision-making and learning. The utilization-focused, meta-perspective and broad scope of such evaluation processes also makes the attendance of participants to other presentations (on similar as well as on different research trajectories) an important learning opportunity.

This model is particularly congruent and profitable in relation to the special features of DDDR. On the one hand, it allows for the testing of design hypotheses conceived as a priori ideas, as it enables the systematic verification and validation of results and relevance of the work based on the understanding of its key objectives as centered not only on the mere “product” but rather on the effectiveness and/or innovativeness of the researched product (and its generative process) and on its ability to constitute a contribution to knowledge in itself. Furthermore, it allows presenters to overcome the traditional “introduction, method, results” structure of scientific knowledge conveyance and to integrate other linguistic, graphic, performative communication strategies and tools, hence also accommodating the account of the transfer of tacit knowledge.

On the other hand, the learning-through-evaluation model is also suitable and fruitful in regard to the singular or even subjective nature that characterizes most of DDDR, as a result of their explorative and creative dimension as well as of the specificity of individual interests, context or occasions which the researcher’s experience refers to. These issues create the opportunity to compare, exchange and learn from different fields, although they also raise challenges in the set up of transferable and transparent evaluation procedures. The adopted model allows for the positioning of the single researches within a shared spectrum constructed at a meta-level, hence overcoming the criticalities related to singularity, or even taking advantage from them – so as from the heterogeneity of the evaluators, because the multiplicity

of perspectives it generates can significantly enhance the process.

This is another distinctive element characterizing the CA<sup>2</sup>RE project. Its endeavors are enabled by the construction of a collective, international, multidisciplinary learning environment, ensuing from the Strategic Partnership among 11 outstanding Higher Education organizations and associations from 8 EU countries, and involving scholars, senior researchers and experts from a variety of contexts and fields (ranging from environmental design to sustainable development, interior design, landscape architecture, urban design, music, performing arts, visual arts, product design, social design, interaction design, etc.). Built upon the overarching focus on design and creative practices, the CA<sup>2</sup>RE Community brings together different disciplines whose specificities are set on methodologies, tools and reference frameworks concerning not only research themes but also perspectives and evaluation schemes. This may imply that the background of the presenter and that of the reviewers and panel members may not match. Although challenging, within the CA<sup>2</sup>RE context this heterogeneity is a positive asset, as it enriches evaluation processes and multiplies learning opportunities. Because of the meta level of its scope, the adopted model allows panelists not to lose the diversity of research approaches and viewpoints, and rather exploits it. Indeed, as widely investigated in the last decades especially in regard to development and education fields, incorporating multiple frameworks, tools and techniques into a single evaluation often results in a stronger, more complete evaluative act, which can provide a more accurate and complex understanding of the work, minimize bias, and reveal unanticipated problems or results. This multidisciplinary dimension is not regulated through a preventive planning (i.e. the project does not formally apply a mixed-method evaluation model), rather it inherently develops drawing on a shared understanding of the overall goals of the CA<sup>2</sup>RE endeavors. Panels are managed as teams, where there is room for different methods, ideas and opinions (whose interplay actually stirs the debate and produces advanced feedbacks), because all the members address the same questions. The effectiveness of this mode of operation finds a validation also in the fact that, although ensuing from different methods and perspectives, the panelists' evaluations are often consistent – although this collective environment always leaves space for the expression of conflicting ideas and rather offers them a platform where they can be tackled, discussed and turned into an opportunity for knowledge advancement. Evidently the presenters benefit from being exposed to different perspectives, not only due to the wealth and complexity of the feedback they receive but also because these evaluation processes have the possibility to overcome the local dimension, the excessive disciplinary focus or the knowledge fragmentation

which sometimes characterize learning environments, hence allowing the presenters to contextualize their research within a far-reaching perspective and to position it within an international scenario.

Eventually the working conditions created by the adopted model turn the CA<sup>2</sup>RE program into a learning environment for all the participants. Long term benefits are expected for doctoral and early-stage researchers, but also for evaluators, education developers and policy makers. Not only they are provided with fruitful possibilities throughout workshops, training and social activities, which offer the opportunity for advancing methodologies and broadening the understating of emerging directions and geographies in research and education, as well as opening the way to new partnerships and networks. Indeed, the very experience of evaluation becomes a learning occasion also its making, by generating a multidirectional framework for knowledge advancement and transfer. As a matter of fact, evaluation is often described as applied research, or at least it is in those contexts in which it is not only meant to assess quality or findings against standards, but also to set those standards and a model of practice, and thus to produce meaningful improvements of methodologies, behaviors, approaches, values and skills.

## **BIBLIOGRAPHY**

Augier, M., Thanning Vendelø, M. 1999. "Networks, cognition and management of tacit knowledge". *Journal of Knowledge Management*, Vol. 3 No. 4, 252-261.

Denicolo P. (ed.). 2014. *Achieving Impact in Research. Success in Research*. London: Sage.

Greene, J. C., Caracelli, V. J. 1997, "Defining and Describing the Paradigm Issue in Mixed-Method Evaluation". *New Directions for Evaluation*, No. 74, 5-17.

Johannesson P., Perjons E. 2021. *Communicate Artefact Knowledge*. In: *An Introduction to Design Science*, edited by P. Johannesson, E. Perjons, 153-159. Cham: Springer.

Morgan, D. 2014. *Research design and research methods*. In *Integrating qualitative and quantitative methods*, edited by D. Morgan, 45-62. New York: SAGE Publications.

Patton, M. Q. (ed.). 1985. *Culture and Evaluation*. San Francisco: Jossey-Bass.

Pedersen, C. P., et al. (ed.), 2021. *Strategies of Design-driven Research*. First CA<sup>2</sup>RE+ Book. London: ARENA.

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# **CA2RE**

## **Testimonials**

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## **ABSTRACT**

**Based on the experience undertaken during the CA2RE conference in Milan, the text proposes a reflection on the meaning and role of doctoral research in the field of design disciplines. The intention is to underline the centrality and urgency of the relationship between theory and practice of the project. In the same way, it seems essential to direct research towards an attempt not to isolate itself in a self-reflection of a critical/analytical/discursive nature, but to address the objective complexity and the attempt to respond to the multiple critical aspects that distinguish landscape, architecture and society.**

**Keywords: Architecture, Landscape, Design Theory and Practice.**

The opportunity to attend CA2RE in Milan was an excellent occasion of meeting and critical exchanging respect to the theory and practice of PhD research in several outstanding European universities.

The organisational model is well-established, simple and at the same time very effective. Each candidate confronts her/his research work with some panellists chosen among the professors participating in the conference. The aim is to synthesise her/his research work to receive notes, comments, and suggestions for a general improvement or the development of specific theoretical issues.

On the other front, an observer offers an alternative view that tries to operate a detachment from the dynamics of the debate trying to focus on the key issues that link each interview to the general intentions of the initiative of exchange and collective research. The centre of the debate is the nexus between theory, research and design, a crucial issue around which discussing the possibility itself of a future for our discipline.

Going to specific of the Milanese gathering, the interest of this brief reflection has to extend beyond the work of every single candidate or the critical remarks that may arise from the debate held within each panel. Despite the participation as a discussant, observer or simply listener, it is interesting to take the opportunity of this paper to highlight some fundamental issues that concern the theme of design-driven doctoral research, trying to focus on some transversal issues or widespread concerns.

In my small observatory, I have identified different declinations concerning the way of understanding the concept of research



in architecture. All of them are significant but not equally relevant compared to the plural understanding of the relationship between theory and practice assumed by the conference program. Obviously, there is a differentiation in program models, disciplinary fields, and research aims evident in the curricula of PhD courses and candidates. Similarly, there is a difference in personal backgrounds, even though the confrontation with a common theme, represented by a vast universe. Since I deal with landscape design, I would like to clarify that my observation will necessarily be impartial and more directed to research works that assume the problem of modification as the main scope of a cultural and practical investigation of the reality. Consequently, my comments start from the assumption that design-driven research implies the consideration of the design as a set of practical and intellectual operations, able to build a “cognitive process” aimed at resulting in something forecasting, innovative, and capable of responding to a variety of critical conditions that require the deployment of the design as a tool for think and action.

In this scenario, the theory-project nexus is substantiated when the project becomes demonstrative of the theoretical principles supported by the research in a critical and generalisable way. Therefore, the project does not become a mere application or demonstration, but a valuable way to frame a problem, to show its different possible forms and thus offer itself as operational material around which to formulate theoretical hypotheses of universal value.

Well, some researchers move in this direction, proposing a straightforward thesis question that passes through a design elaboration. Others are more focused on analysing architectural works and the critics of production in architectural agencies. What strikes me, however, and what I would like to bring to the attention of the consortium through this writing, is the impression that we are facing an increasingly strong detachment from a notion that assumes the design as an instrument of knowledge and action, whose purpose is to criticise and propose an accurate and feasible, alternative opportunity to the critical issues of the present.

In other words, the question that arises is whether, as architects/ intellectuals, are we still reacting actively and critically to the processes of transformation of the environment, contributing actively and responsively while adhering to a specific disciplinary point of view.

It follows another reflection about the necessity or not to push our future PhDs towards this militant dimension of researching the field of architecture.

After attending numerous presentations, commenting, and reading the published abstracts and papers, I can highlight some attitudes that I feel are at the limit of this active interest or in some way dangerous concerning the “necessity” of architecture.

The first problem consists of taking refuge in pure theoretical

speculation to distancing oneself from the contradictions of practical reality. Here the exploration moves to the limit between disciplines and assumes the project as a field of critical speculation, untying it from the question of necessity.

The second remark outlines a reversal of perspective that no longer assumes the architectural research as a resource for the design and a tool to respond to what happens. Nevertheless, on the contrary, it looks at what is happening as an inspiration to re-orient the design and the theory itself. If not correctly governed and supported by an adequate critical balance, this retro-active approach risks produce easy misunderstandings, frequent in a doctoral school full of researchers still training.

Finally, the third emphasis depends on the impression of an increasing renunciation in reaching the stage of a strategical or real pre-vision for contexts and places in the research. Frequently, most problems are identified and described, reaching a remarkable capacity of criticism, but without risking to draw a synthesis that seeks to describe a possible future. The design thus becomes a decision-making process aimed at supporting a research path that is only observational and not propositional. In this way, the theory does not contribute to the continuous re-founding of a practical way of acting through the design, losing any effectiveness in influencing the actual dynamics of the architectural production.

The invitation to the scientific community is to stimulate doctoral students for direct participation in the most relevant problems of reality, assuming a perspective where the design, supported by an extensive theoretical investigation, can try to respond as an essential ingredient and validation of scientific research. It is also a question of giving legitimacy to the architectural design as a synthesis of humanistic and technical aspects inseparably linked by a very long history.

I believe it is necessary to reiterate this concept. Otherwise, in the future, we may be limited to build theories or criticism, limiting more and more our sphere of influence on the dynamics of society that will become a field dominated by technocracy.

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## **BIBLIOGRAPHY**

Crotti, Sergio (1995), «Per una pratica teorica dell'architettura: ricerca e sperimentazione progettuale», in: Attualità della forma urbana. Ricerche d'architettura nelle Università italiane. Milano: Triennale di Milano, Electa.

Martí Arís, Carlos (2005), La cimbra y el arco. Barcelona: Fundación Caja de Arquitectos, 2005.

Gregotti, Vittorio (2002), Architettura, tecnica, finalità. Roma-Bari: Laterza.

Gregotti, Vittorio (2004), L'architettura del realismo critico. Roma-Bari: Laterza.

Salomon, Frausto (2017), The Claim for a Good Life. Amsterdam: The Berlage.

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# **An inquiry on Design Driven Research: a comparative approach.**

Giulia Setti  
Politecnico di Milano

## **ABSTRACT**

**The contribution highlights the various way to conduct research and the different applied methodologies, collected after the Ca2re conference held in Milan, as a testimonial, to analysis in what terms the work addresses the Design Driven Research approach and the topic of the conference (Comparison).**

**The significant aspects that emerged from the individual panels underlining three main themes: design-driven approaches, research methodologies, representational techniques.**

**The essay compares different applied research methodologies that could be traced back to two main areas, on the one hand, research that develop a 'learning by doing' approach, on the other works based on critical reflection in relation to design practices. It also addressed the representation techniques shown that describe an autonomous and critical dimension to interpret and produce drawings, images and diagrams that reinforce the quality of the research and the understanding of the topics covered. The lens of comparison has helped, each participant, to better understand each methodology and aspects of the relationship between research and design investigated.**

**Keywords: Comparison; design methodology; representation techniques**

In my first participation in the Ca2re conference in Milan, I was involved as an observer, chair and panelist in various presentation and discussion sessions of the selected doctoral research. On this occasion, the conference was held exclusively remotely due to the pandemic, allowing to experience the possibilities that an event conducted at a distance can offer and some limits related to the lack of interaction between participants, even beyond the official sessions established by the program. In general, the structure and organization of the presentations appear to be very effective both concerning the open and rich discussion generated within each panel or plenary session and concerning the methods of presenting the research works. Each speaker has, in fact, a coherent time available to illustrate his research, to highlight the applied research methodology and to describe in what terms the work addresses the Design Driven Research approach and the topic of the conference (Comparison). The debates developed

within the various panels in which I participated tried to give operative indications to the Ph.D. candidates to continue their research. The focus has been to give an active and lively discussion where the research path and the expected results can become a tool for discussing positions and new perspectives on doing research today.

Starting from the discussions and the notes taken during the different sessions, I would like to summarize some significant aspects that emerged from the individual panels, underlining three main themes: design-driven approaches, research methodologies, representational techniques.

### **Design-driven approaches**

I have participated in four panels in which different research works have been discussed, some of them at the initial phase, others in a more mature stage. Their comparison helped to understand better each methodology and aspects of the relationship between research and design investigated.

Some research, those of Luyi Liu (Polimi) and Amath Luca Diatta (Polimi) use a research through design approach, in which the design is a tool to define research questions and to select and interpret references and case studies from the discipline. Researching through design is a possibility, in these cases, to define a cultural position with respect to the topics chosen by the candidates.

A more hybrid approach is described by Janet Hetman's work (CRENAU) who uses different tools, even outside the narrow boundaries of the discipline, such as ethnography, anthropology, and social studies, to underline practices, uses and transformations underway at the Centquatre in Paris and to identify the legacy of adaptive reuse processes in this building. The research developed by Elena Guidetti (FULL, Polito), entitled "The Potential of Form. Assessing the Transformative Potential of Existing Buildings in the Post-functional Era", is a work of great interest and based on the design-driven approach. It studies the potential to transform and to adapt the existing buildings underlining the central relevance of reusing in contemporary design from a sustainability perspective. Elena Guidetti's research show a mature approach that opened an interesting discussion in the panel on some aspects of her work. Underlining the need to better explain the criteria and methods to select the case studies identified to compare the different design operations and approaches to adaptive reuse. Moreover, in the discussion emerged the need to specify some keywords used in the research, such as the concept of 'transformative potential', and to build a hierarchy of criteria through which to analyze and compare the identified case studies.

## **Research methodologies**

The methodologies presented in the panels in which I was involved can be traced back to two main areas, on the one hand, research that develop a 'learning by doing' approach, on the other works based on critical reflection in relation to design practices. During the sessions that I attended at Ca2re, many of the discussions suggested to the Ph.D. candidates to clarify the methodological processes and tools used in the development of individual research. Some comments collected in the various panels suggested to choose and define a specific methodology already in the first steps of the research also in relation to the expected results.

Some works highlight the design driven approach as an operative tool to identify the strategies to transform the existing buildings with a 'learning by doing' methodology, like in Elena Guidetti's work. While the research of Janet Hetman, Luyi Liu and Amath Luca Diatta use an approach based on the critical reflection of theoretical topics, very relevant for the discipline, like the one of publicness, adaptability, or landscape, underground, and from there they develop design practices through the reading of case studies, projects, and places.

## **Representational techniques**

The representation techniques shown are of a high level and describe an autonomous and critical dimension to interpret and produce drawings, images and diagrams that reinforce the quality of the research and the understanding of the topics covered. It seems to me that drawing represents an essential tool in the research of the Ca2re program because it is a form of abstraction of topics, concepts, and issues, theoretical and practical, developed in the individual works. It is a set made by original materials and documents that are interpret strategical aspects of the research (as in the case of Guidetti) or a set of analytical and descriptive drawings (as for Hetman, Liu and Diatta) which describe both the state of art and the transformations that have occurred in the selected case studies. Some drawings and diagrams show a more speculative attitude, focusing on the representation of different aspect of the design process (time, uses, spaces). Moreover, diagrams and graphic elaborations presented also build a possible comparison within the different works, responding, in part, to the conference topic.



## **BIBLIOGRAPHY**

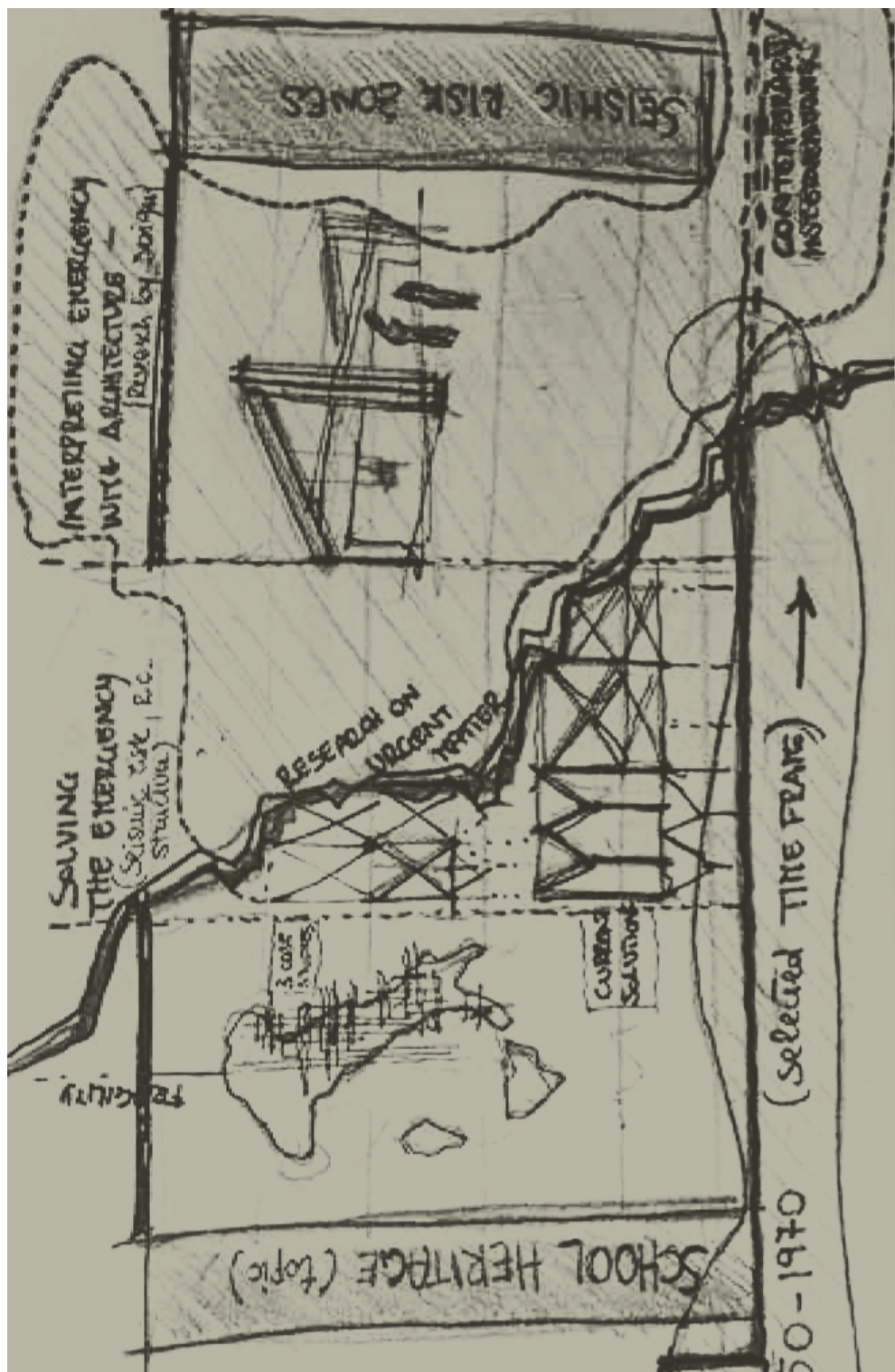
Grand, Simon and Jonas, Wolfgang (2012) Mapping design research, Basel: Birkhauser.  
Laurel, Brenda (2003) Design research: methods and perspectives, Cambridge: The MIT press.  
Pallasmaa, Juhani and Zamboli, Matteo (2020) Inseminations: Seeds for Architectural Thought, Hoboken, NJ: John Wiley and Sons Ltd.

## **BIOGRAPHY**

Giulia Setti, architect, PhD, Assistant Professor in Architectural and Urban Design at DASTU Department, Politecnico di Milano. Her research focus on the reuse of industrial architectures. She is involved in the "Territorial Fragilities" project, coordinated by DASTU Department. In 2014-2015, she has been Teaching Fellow at School of Architecture, CEPT University, Ahmedabad (India). She carried out research at Shanghai Jiao Tong University and Xi'an Jiao Tong University. In 2018 she published "Oltre la dismissione. Strategie di recupero per tessuti e manufatti industriali", and in 2017 "Tensioni Urbane. Ricerche sulla città che cambia" with Michele Cerruti But, Agim Kercuku, Ianira Vassallo.



# V SELECTED RESEARCH



Greta Maria Taronna - Politecnico de Milano

# **Introduction to the selected research**

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## ABSTRACT

**This chapter results from the compilation of some of the most significant design orientated research texts, selected by the consortium and presented at the CA2RE+ Milano and CA2RE+ Hamburg events which had two specific themes “Comparison” and “Reflection”. In addition to the specific themes of the events, for the selection of the doctoral student’s texts, was indispensable also a clear connection to the concept of evaluation inherent in this book. Finally, another electing parameter was the definition of the three key topics identified in these events by the consortium, regarding the Design-Driven Doctoral research (DDDr) process designated as DDDr approach, DDDr method and DDDr technique.**

**This chapter consists of two parts. The first part is the justification of the selection criteria and done by the consortium concerning these works. The second part, is the presentation of the selected works of the fellow’s researchers.**

**Keywords: Selected research, DDDR types, comparison, reflection**

What derived from the CA2RE+ events, through the analysis and monitoring of the doctoral students’ work and their emerging thoughts, read by the consortium at specific review points, was the common recognition of various design-driven research possibilities, and the identification of the three main parameters of DDDr, approach, method and technique. Each of these parameters includes elements inherent to Design-Driven Doctoral research, but highlight the predominance of certain specific processes or issues that characterise them. On the one hand, this strategy of division is based on the examination and acknowledgement of specific design-driven actions and research forms used in each student’s work. On the other hand, it was based on evaluation by “comparison” and “reflection” between the students’ projects, identifying differences and similitudes. The recognition of the preponderance of certain aspects and actions of design-oriented research that were systematically used by students in their research work, conformed naturally to the comparison task grouped into the above-mentioned parameters.

However, it is important to state that in each student’s work all these parameters, approach, method and technique, necessary to structure the doctoral research, co-exist or can co-exist.

This sectorial categorisation aims to clarify DDDr, on the one hand, by identifying a predominance and emphasis of uses, forms, actions, materials or aspects of design-oriented research processes, and, on the other hand, by recognising various systems of doing design-led research. This simplification into parameters thus acts as a characterising feature of differentiated forms of development of the DDDr process and its evaluation.

Specifying these three key categories in more detail, set out in the design approach, design method or design technique, all relevant to the field of design, we recognise that they allow us to inquire into the questions about subjects, objects, place, environment, reason, methods, instruments, tools and time of the design. They present themselves as conditioning factors of research upon a fact, action, artefact or issue of the design field about which there is still lack of knowledge.

-The design-driven research approach focuses on a design problem statement that gives rise to the question or idea of the thesis research and its significance for the design field. For example, the inquiry into specific design aesthetic qualities or design employment in the research understandings and results. Normally crossing abductive questions and reasoning with inductive or deductive ones as well as open-ended results.

-The design-driven research method focuses on design methods and methodologies used by the researcher, which emphasize research problem-solving through the use of design-led methods. We can say that the two main levels of DDDr method are, on the one hand, basic research methods (theoretical) and, on the other, applied research methods (practice-based or technological). Of course, these two main methods may be mixed. In both, more detailed specific methods are used such as, for example, quantitative or qualitative design research methods, confirmatory or exploratory design research methods, non-experimental or experimental design research methods, or even mixed design methods that are combination of some of the above. The procedures, too, may be grounded in fixed research methodologies or flexible research methodologies, including the way they develop hypotheses or ideas, structuring, data collection and/or designing, analysis, and knowledge reporting. Both these procedures may include instrumental methods tools, like design state of the art, literature review, analytic or/and descriptive studies, case-study references, experimental design, case reports, surveys, interviews, etc.

-The design-driven research technique is grounded in the highlighting of a systematic use of the design media and representational techniques mainly employed in the research by the PhD candidate. The DDDr technique promotes and supports design techniques as media and as design-driven results. The representational techniques mainly used by the researcher with an

analytical, descriptive or speculative dimension are, for example: drawing, modelling, filming, model techniques, performing, etc.

In this sense, the following paragraphs explain the selection of the student's work within these three DDDr parameters, shown in this chapter, as well as the justification given by all partners for this collection of projects. The selection of texts presented below have therefore been intentionally reorganised and presented in blocks according to these three DDDr categories, with comments from each partner on the most clarifying CA2RE+ presentation examples, which cover a variable and diverse scope of design and artistic fields.

### **DDDr APPROACH**

The DDDr approach selected contributions, commented below, are usually focused on a design question or issue, hypothesis or idea of a design problem statement, be it theoretical or practical, and its significance for the design field. They are contributions showed normally from a different viewpoint from the social sciences or other scientific fields, since they are mostly founded upon an initial abductive and synthetic thought, a very common process used in the design field.

A DDDr approach is taken in the work of **Annelies De Smet, Jo(Han) Liekens, Nel Janssens And Manon Persoone, “Architecting Twenty-six Toilets to Re-figure Inhabitation: J for Jewel, S for Soil Times, T for Thigmophilia”**, which Matthias Ballestrem considers *an experimental investigation of the toilet, in order to rethink and re-configure architecture through a primordial design element as at the same time addresses the care. The “beauty” of this approach lies in the accidental limit to 26 projects following the number of letters in the alphabet, thus also stressing the aspect of open-endedness of design-driven research as a collection of particular cases versus an understanding of science as comprehensive categorizations of a phenomenon.*

This research approach problematizes the way of inhabiting by focusing on an understudied element of architecture, the toilet, which acts as a vehicle of inquiry, matter for re-configuring architecture as a practice of designing life forms. The researchers' work raised general questions at a concrete and situated level, making them design material and identifying design abstracts ideas and design research perspectives. This DDDr Approach aspires to solve complex problems and hybrid forms of knowledge production by addressing the issues that have helped design wicked problems and that now also need solving by design research developments.

In the work of **Claudia Mainardi, “Diagramming the 21st Century Agency: between Biennales and the Everyday”**, as



stated by Claus Peter Pedersen, *the research is proposed based on its DDDr Approach. The project takes a meta-level approach to design-driven research by examining the codification of diverse forms of tacit knowledge in architecture. This examination is done through a comprehensive and ambitious research project that spans from a meta-perspective exploration of the topic to specific case studies by selected practices. The research methods are primarily based on humanistic research traditions of hermeneutics and analysis. Still, it implicitly uses design-driven research through the researcher's ability to organize and present complex information in intriguing ways based on practice experience as an exhibition architect.*

As the research work confirms, the general aim 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. The research proposes and highlights an empirical approach that does not aim to achieve a definitive response. On the contrary, it has the intention to separate processes while being formed, thus requiring an experimental design-driven approach like a trial error process, and estimating a high possibility of open-ended results.

In the work of **Mar Muñoz Aparici “PUBLIC THRESHOLDS. Indeterminacy in Public Building Design”**, as Débora Domingo Calabuig states, *the proposal is interesting regarding how it addresses DDDr from the experimentation approach and from its opening to other disciplines. Design-oriented research acts here as device where the objective is not a specific design, but quite the opposite, it seeks to draw conclusions based on the observation of the effects produced by a design. Design is consequently the support of a much broader and multidisciplinary result. In this proposal, some self-elaborated spatial diagrams of the interventions were used, but drawing is not developed as a design-driven working medium.*

As the research work highlights, graphic resources combined with written resources have the main purpose to extract design questions and design premises. The research project contains a design perspective to define the design question that proposes possible design answers, to test them, and reflect on the results within the fields of design, the visual arts and social sciences.

The work of **Melcher Ruhkopf, “Knowledge spaces of globalization - Musealizing the spatial assemblages of global trade”**, as related by Markus Schwai, *is a very good representation of the DDDR approach group. The project manages to approach the size of “globalization”, split it into parts, which make it possible to handle the different aspects, using less space. The resulting museums task is to extract and make visible the design context and design concepts behind a globalized world. The project tackles*

*a wide range of design sub-questions in an understandable and challenging way.*

The research work uses an epistemological approach that relies on the theoretical concepts of space and knowledge production employing collecting as art-based research practice. This is an ethnographic-artistic PhD project that asks how the spaces of globalization and global logistics are transformed. The design-driven approach departure is therefore pursued during an abductive research process, where theoretical questions are revised based on observation that use an ethnographic or humanities background as well as participatory art-based methods to design the research process.

In the work of **Daniel Springer, “Los Angeles: Fragments of Four Ecologies”**, according to Claus Peter Pedersen *the research is proposed based on its DDDr which mixes academic, theoretical research with design-driven approaches. The researcher critically re-read Reyner Banham’s ‘Los Angeles: Architecture of Four Ecologies’. The hybrid approaches spanning, among other urban diagramming, the use of appropriated visual material and dioramas, offers a complex and rich way of combining different design-driven approaches.*

As the research work confirms, the theoretical design concept of fragments is taken in a systematic search for significant traces (via text and image) of exemplary architectural urban elements where Banham’s reading serves as a design-driven approach. In this approach, the idea, concept of the fragment expands into the work with text, image and objects.

In the work of **Andrea Crudeli, “A continuity between Kenneth Frampton’s ‘Critical Regionalism’ and Nicolas Bourriaud’s ‘The Radicant.’”**, Tadeja Zupančič *explains that Andrea’s initial research is rooted in Frampton’s theory of critical regionalism and Bourriaud’s ideas of the ‘radicant’. An idea to develop a critical perspective on the current architectural panorama of design practices from ‘new locals’ where design is seen as a motivator. Design results of other architects’ representation fieldwork in this research. This design-oriented approach proposes some topics as bridges between historical and contemporary practices, as ‘tools to critically understand those practices.’ As the permanence of the design construction culture, topological approach and tactility to reflect the tension between the universalization of the construction process and the local architectural cultures. Andrea investigates new possible developments for a new theoretical background for the global-local through the similarities between two authors’ theories.*

The research work focuses on how design problematics can lead to a very similar solution through different paths, seeking to provide new perspectives to the current importance of critical design theory through a design driven approach.

## DDDr METHOD

The contributions selected by the DDDr method, commented below, focus on the methods and methodologies used by the researchers, which emphasize research problem-solving through the use of a design-led method and its significance for the design field. Although the DDDr method uses also procedures from the social or scientific sciences, here most of the studies are guided by applied, experimental and flexible research processes. This selection of hybrid processes and procedures suited almost on a case-by-case basis and proved adequate in the best way to each investigation. This heuristic and synthetic methodology is very common in the practice-design field and is transported to the DDDr method in order to develop and orientate hypotheses or ideas, structuring, data collection and/or designing, analysis and reporting knowledge, seeking the best methodology, not to lead to universal results, but to apply design methods that best address the specific research design questions and that contribute to the design knowledge base.

In the work of **Beatrice Balducci “A Safe Space. Designs for Possible Emergencies”**, as Roberto Cavallo states, *the candidate presented an interesting way of setting up her research by means of design, as well as very much fitting the objectives of her research, which entails participatory trajectories involving ‘non designers’. The visuals and the way the information has been brought together can be an example of how the necessity of communicating a series of messages, notions and relevant matters are translated into a design-driven inquiry.*

As the research work confirms, the design-driven method is structured into three macro-sections: one theoretical, one case-study collection, and one research by applied design. The sections are, in fact, conceived as interdependent. The design method intends to perceive the way each of the sections moves through the others, exploring, questioning, expanding and, if necessary, subverting the previous ones, as within a design process. The design-driven research method predicts actions of understanding, pre-design phases, design-practice-based research, and finally the act of design itself appears as the act of research. Here, the project is conceived as an open questionnaire, with the aim, not to develop a single architectural result, but, by dealing with “wicked problems”, reach a set of experimental hypotheses, which may be alternative and even contradictory.

In the work of **Greta Maria Taronna, “Architecture on the Modern. Methods and design actions for the school heritage within seismic Italy”**, Débora Domingo Calabuig states *that this is a good example of a practical application of DDDr as a working method. The candidate wants to find the best way to intervene in elementary schools from the 50s and 70s that are in the*

*seismic zone of Italy and, although the work could fall into a strictly technical aspect, design is considered a method of intervention. If schools have to adapt to new regulations, what better way than through design? Furthermore, the consideration of method by design is validated because the case studies are typologically and temporally similar. The research shows that the analysis diagrams of the case studies 'extracted' from the design certain constants that are enabling the working method to be elaborated.*

On these bases, as the research work recognizes, the development of a methodology grounded in architectural design actions that guide the interpretation of the buildings' seismic adaptation from the point of view of spatial modifications may permit categorizing similar typologies of weakness in the school buildings' broad panorama. This methodology of design actions intended to be systematically adopted in similar contexts and heritage, stressing out and, above all, conducting the theoretic reflections concerning the implications that such modifications may have on spaces and building typologies, configure a design-driven method.

In the work of **Marta Fernández Guardado, "HOME: THINGS & BODIES. An object-based exploration into new forms of living"**, Ignacio Borrego suggest *that the research is in the frame of DDDr method since it is producing knowledge through a design process. The design method is focused on the small scale of the domestic space, and considers the inhabitant as an important factor playing a leading role in the process. The design-driven process is based on what the author defines as a 'thing-ethnological' process initiated in the body of the inhabitant, and explores the relation between the inhabitant and the domestic objects. In order to analyze their properties, using a design-driven method, a series of interventions in the form of domestic objects are at the core of an explorative activity. This DDDr method proves the validity of objects as configurators of domestic environments in specific connection to the emotional background of the inhabitants.*

The research documents combined design methods, theoretical as disciplinary state of the art, applied and experimental design, surveys and interviews. Also, the use of different design media practices, such as photos and video images, drawings and design codes, act as research tools of typological conventions, as symbol and signal as well as typological spatial interaction that supports the design-driven method with a high level of interventional and trial-error base.

In the work of **Wiktor Skrzypczak, "Movement and drawing improvisation scores in architectural design"**, for Tadeja Zupančič, *the use of design driven methods and methodologies in relation to a broader context of research methodologies is achieved. The methodological keyword in this case is abstraction, to the extent that the method reflects on the question of*

*generalization to enhance the shareability of the research. Design-driven is a research motivator to improve the process by enhancing the designer's empathy with space. The core of the design-driven experiments, at the moment, exclude past or future spatial simulations and remain in a set of moments of bodily movement.*

*The design object, space or system, is not the expected final result.*

As the research work states, the starting point of this doctoral research method was a specific design problem. However, the focus is not on the product of design but on the design process itself. Based on Merleau-Ponty's phenomenology of the body, the research uses the interdisciplinary design methods of architectural ideation, representation and dance improvisation. These design-driven methods set the framework for iterative rehearsals, which aim at facilitating an immersive spatial perception or imagination then interlacing back into architectural theory (such as Bachelard's Theory of Empathy and Phenomenology of the Imagination) and then into theories of the design process.

The work of **Silke Hofmann, "Needs-Based Clothing Design – How females affected by breast cancer articulate individual bra needs and how these can be implemented into design"**,

is taken as a DDDr method example for Andelka Bnin-Bninski.

*Silke's research, more than just a method, is centered in its methodologies composed of strategies and tactics that actively and critically challenge the very idea of the PhD methodological apparatus. Still, the author remains rigorous and consistent in the overall investigation. The evaluation here has multiple facets, from strategies to tactics that are evaluated, questioned and modified; throughout the design driven process, they evolve with results but also with understandings along the research path.*

The research work confirms, it is design-practice-based research that offers space to investigate and test inclusive design strategies. The design-driven methods have been adapted from the fashion industry to inform the needs, centered in a feedback loop between theoretical design and practical design production investigation. The transferability of design methods between research and industry intends to potentially benefit alternative clothing and, at the same time, to contribute to critical design discourses around the diversity of clothing on the spectrum of body asymmetry.

The work of **Felix Rasehorn, "Tessellated Material Systems"**,

for Ignacio Borrego, *is in the frame of DDDr method as it is producing knowledge through a design process. A clear goal of designing textile surfaces to give form to complex three-dimensional shapes based on a design-driven methodology. The research question appears after a deep motivation and experience with 3D printing on textiles. The intuitive exploration investigates the form-function relationship between pattern and textile surface, and is looking forward to discovering and categorizing the results to offer a range of solutions that can be applied for different purposes. This DDDr method is not completely autonomous, and the state*

*of the art is analysed in the patterns that we can find in nature. Following a bio-inspired design process, the formal heritage of Nature becomes a source of knowledge that is tested with new designs and techniques. The possibility of a holistic taxonomy, discovered by designing, is a promising research product that can help to explain the different possibilities of this technique. This exploration can become a good example of a classification as design-driven research product.*

As the research work confirms, this practice-based research aims to redefine Design from structure to material focus. The aim of this study is to develop methods of designing hierarchical materials that lead to multi-functionality and allow for context sensitivity. This goal is pursued by performing methodological design investigations. The notion of prototyping and iterating with materials and software became an inherent part of the interdisciplinary conversations and therefore a relevant tool for the design-driven method. DDDR method, in this context, means that, by supporting virtual simulation processes with physical prototyping techniques or visualizations, this results in a degree of abstraction that is modulated by the choice of material, process and context. Instead of just dealing with virtual simulation environments, the design process of physical prototypes is created and design-driven methods are valued.

### **DDDr TECHNIQUE**

The selected contributions on DDDr technique, commented below, focus on the media and representational techniques mainly used by the candidates. Design-driven techniques used in design-based practice or in design theoretical studies or other approaches are common to multidisciplinary doctoral research and have significance for the design field. Some of the techniques showed, may be hermeneutic to audiences outside the design fields, and need to be complemented in the communication process of outcomes. However, these disciplinary techniques, normally hermetic to other fields, are most of the time irreplaceable means of achieving or evolving disciplinary knowledge. In this sense, most of the selection focus is mainly on design-based techniques although, as mentioned, other auxiliary and complementary techniques of interdisciplinary communication are naturally addressed.

In the work of **Elena Giudetta**, **“The transformative potential of Form”**, Edite Rosa states that *this research recognizes pertinent design techniques to support the study of form and morphology. Through design techniques, assessing a range of transformative potential for existing buildings, findings leading to contributions to the field of adaptive reuse are achieved. Well-known architectural design tools such as drawings used as design-driven techniques, namely analytical, survey, rigours*

*and even speculative drawings, inform and orient an important part of the research. The redrawing of existing buildings allows rediscovering the buildings through the lens of the research questions, and provide the graphic support for multi-method analysis and design proposal support.*

As the researcher work confirms, the design-driven technique performed in this study is an exploration line of the possible drawing techniques for studying collective case-studies by integrating a diagnostic or proposal approach, founded upon the type of drawings produced. Drawing techniques with hybrid and multidisciplinary aims are done to achieve the expected results, which seek to make a relevant contribution to the field of adaptive reuse by assessing the potential of transformative design for existing buildings, while exploring the design tools, means and representational significances for achieving the research goals.

In the work of **Anita Szentesi, “It Depends on The Lens: Film as Experiential Teaching in Architectural Design and Design Representation”**, for Tadeja Zupančič, *the use of film by the presenter is a representation skill taken as a media and also as a design-driven Technique. This specific use of a practice-based research technique is taken as interdisciplinary communication that links Architecture and Film. The character-led design is done in the Architectural Pedagogy scope. The techniques and procedures used are screenwriting, Narrative in the Design Process, Film and Design Representation, Story Telling, Historical Narrative, Postcolonial, Decolonial scenarios. The practice reflection method also explores the student’s projects and teaching, as case studies, and relevant literature and state of the art.*

As the research work confirms the film is used as a communication design technique that supports the exploration of teaching methodologies. It is also sustained by a design-driven means of representation proposed for the architectural design pedagogy. The experiential starting point of the research design-oriented by this technique is the introduction of the film process to inquire into the traditional ways in which design and design representation are taught. This practice-led research is therefore a reflection which emphasizes as much film and filmmaking. The film is a tool and a performative design-driven action where the data collected expresses the research and the expression technique becomes the research itself.

In the work of **Daniel Norell and Einar Rhode, “Under Construction: A Real-World Fiction”**, Matthias Ballestrem *explains that the use of models as a technique is employed to imagine alternate realities, and to draw the limitations to demolition waste as a methodological frame that allows a poetic understanding and artistic commentary on the current need to limit the consumption of material and the potentials of reuse. The models become a multidimensional object that is a reflection in itself, a beautiful artefact that mirrors an intellectual concept and*

*therefore inspires reflection and transformation. Fabrizia Berlingieri also considers the speculative use of models producing original works and platform for public engagement through an exhibition to be notable. She states that particularly models represent an intermediate tool between theoretical representation and direct intervention. Models are made by recycling building materials and are reassembled as monochromatic material objects referring to well-known architectural works of others. Through maquettes created with real waste materials a visionary theoretical design experimentation is created, capable of promoting an investigation on both the architecture and the reusing and recycling processes.* The researchers' work focus on the use of a physical model as an active device to discern spatial and formal relationships not otherwise existent, where the selected scale and materiality of the model is in itself an interpretive act with its own significance. The model as design-driven technique articulates implicit knowledge embedded within both the professional and the pedagogical practice of the researchers. So, the models, as means of representation and design-driven investigation, carry potential for the proposed research as they can accommodate both theoretical concepts, material interventions, representational and communication media.

In the work of **Marcus Kopper and Martin Roth, "Utopian Imagery of Urban Peripheries in the Context of the Anthropocene's Cultural Concept"**, Markus Sckwai *explains that the project and its presentation in words and graphic layout represent the best candidate on the borderline between DDDR techniques and DDDR methods. They not only position themselves very clearly and in detail in a quite complex theoretical framework, but use their knowledge on architectonic/graphic techniques very effectively to create an easily accessible and understandable visual description of and for the future.*

As the research work confirms, they produced speculative images used as a design-driven technique adapted through the lens of the Anthropocene's cultural concept, for reflections on new forms of human environments. This speculative design-driven imagery technique investigates "ambiguous edges, incomplete forms and unresolved narratives" as well as potential spaces. This design-led utopian imagery is chosen as a technique to solve specific features of design as well as Anthropocene arguments, as for example the scale problems and the inherent viewpoints. Simultaneously, this technique processes, manages and narrates itself. The imaginary graphic is therefore developed as technique that results in an easily understandable visual description, design and mapping projects, experimental design strategies and communicational design experiences. This DDDr technique, therefore, serves also as an interdisciplinary, multi-cultural device and may thus contribute to related fields of knowledge concerned about future urban-development.



In the work of **Tim Simon Meyer, “The Potential of a Tectonic Approach for the Experiential Qualities of Architecture”**, selected by Mia Roth-Čerina, Fabrizia Berlingieri and Tadeja Zupančič, *as a DDDr technique, the research project is investigating the relation between the tectonics - understood as the “poetics of the construction” (Frampton, Kenneth 1995) and the experiential qualities of the architecture. It is based on his own design technique, which starts with the examination of predefined materials and techniques built by him, and how they can result in an architectural expression, inquiring how technique and materials impact in the architectural expression and allow various forms of interpretation and appropriation.*

The research work investigates the architectural expression and spatial character determined by iron structural elements. In that sense, the tectonic approach tries to transform the act of construction with its techniques into an act of giving meaning by addressing the expressive poetic potential of the structural elements, doing so by making use of different techniques commonly used in architectural design-practice, such as sketches, photographs, drawings, movies, models, mock ups, material constructions, etc. The research addresses the design-driven technique used and how it enhances the particular characteristics of the resulting designed architectural tectonics expression. On the other hand, these techniques try to find ways of communicating the findings and making them accessible and comprehensible to a broader audience.

In the work of **Pepa Ivanova, “suNEARth. sun - earth interconnection in frequencies”**, Tadeja Zupančič explains *that these autopoetic observations and rhythmic compositions, tuned by the fine structures in the space-time realm, address the research topic of the translation of phenomena, layering languages and field-specific interpretations, through paintings, hybrid multimedia installation as a design representation technique driven in inter-connection between scientific and artistic methods.*

The research work explains that juxtaposing solar observational data with audio recordings on the Earth is investigated throughout spatial-performative installations techniques. The study explores light and sound as constructive materials in an evolution process. The analogue and digital art techniques are used as research process and means, as well as to disclose the poetics embodied in information. The suNEARth concept is a hybrid, multimedia installation intertwining the material and the immaterial through the use of images, paintings and sound. It combines digital interface and monotype silkscreen prints as scientific graphs of data. The aim is to drive tools and techniques from the scientific and the artistic domains to highlight commonalities and

divergences.

These comments made on the selected researchers' work as well as the papers themselves seek to be representative of the themes debated and the conclusions reached at the CA2RE+ Milan and CA2RE+ Hamburg events. They allow the establishment of a set of EVALUATION levels by "comparison" and "reflection" on the projects corresponding to the intermediate phase of the CA2RE+ program developed by the consortium institutions. These comments also allow clarification and support of the reading of the themes mentioned above in the fellows' research papers.

The fellows' research papers, samples of their PhD work, entirely presented also aim to give specific examples of Design-Driven Doctoral research findings, methodologies and contributions. They also provide the reflection of each fellow's DDDr statement. The fellows give perspectives and reflections on the relevance of what they experienced as presenters and as DDDr developing researchers. These papers are a tighter selection of design-driven research projects from a much wider range of event presentations, selected in order to help to evaluate DDDr process and procedures.

## BIBLIOGRAPHY

CA2RE+ Book 1 –Strategies of Design-Driven Research, Claus P. Pederson (Main editor), Publishers Aarhus School of Architecture, ARENA (Architectural Research European Net-work Association), EAAE (European Association for Architectural Education), ELIA (European League of Institutes of the Arts), 2021 1st Edition.  
ISBN 978-87-90979-91-1.

CA2RE/CA2RE+ Milano - Comparison Conference for Artistic and Architectural Research. Book of Proceedings, Edited by Fabrizia Berlingieri, Pier Paolo Tamburelli, con Chiara Pradel, Beatrice Balducci, Francesca Zanotto, Enrico Miglietta, Claudia Mainardi, Politecnico di Milano, LetteraVentidue Edizioni  
First digital edition: March 2021  
ISBN 978-88-6242-481-3

CA2RE/CA2RE+ Hamburg - Reflection Book of Proceedings, Edited by Matthias Ballestrem and Marta Fernández Guardado. HafenCity Universität Hamburg, 2021 ISBN 978-3-947972-30-2

## BIOGRAPHY

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# V.1 DDDR APPROACH



**Architecting  
Twenty-six Toilets  
to Re-figure  
Inhabitation:  
*J for Jewel, S for  
Soil Times, T for  
Thigmophilia.***

Annelies De Smet

Jo (han) Liekens

Nel Janssens

Manon Persoone

KU Leuven

Campus Sint-Lucas

## ABSTRACT

**In this article we introduce the first out of twenty-six artefacts of a recently initiated research line that problematizes our way of inhabiting the environment by focusing on an understudied element of architecture: the toilet. These toilet-artefacts will assemble, as vehicles of inquiry, matter(s) for re-figuring architecture as a practice of making (life-)worlds. We foreground the toilet as a potential primordial element of architecture when searching for an environmental-conscious way of inhabiting. 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 environments. It is a locus where matters of matter spontaneously and abundantly congregate with matters of concern in an ecological, post- or more-than-human era.**

**Keywords: Toilet, Wicked Matters, Care, Inhabitation, Architecture**

With the toilet-investigation we aim to enter a thick territory through a speculative and projective research approach, exploring how concepts of waste, dirt, bodies, architecture / architecting, and earth can and must be re-figured. 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. In order to do so we choose to conduct our research 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).

On this situated, embodied level we consciously construct a research language that 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 with concepts to draw a frame of thought. Interweaving with it there are other voices, some coinciding with the making of artefacts.

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 article, the concrete design acts that start probing this territory. The voices of artefacts, of drawings, of words and the many other voices and languages present in this article 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, S for Soil Times and T for Thigmophilia.

### **Setting up a Practice of Re-figuring Inhabitation**

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 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 anthropocentric 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 actualizing 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 of our contribution here 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, we pursue 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 start substantiating a new series of re-figuring artefacts close to one specific architectural element – the toilet. It is 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 article, a first investigative artefact is unfolded: J for Jewel. It serves as a particular conversation piece and vehicle of inquiry 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 it – 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, inspirations, ideas, and intermediate propositions [5]. We thus 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 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 inhabitation to necessarily depart from the bare and basal. This is, as is also suggested in the DDR-statement we add to this article, the bare and basal 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 our 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 article 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, serving as said for the substantiation of next artefacts in the series. Eventually, it will also serve for assembling an overall design brief to be raised as a challenge to architecture, conceived as a practice of configuring and refiguring the relation between (human and non-human) bodies and 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 in our future research 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. (Figure 1)

### **Expanding the Ground Zero of J for Jewel to the Soils of the Semois Valley and Beyond: T for Thigmophilia and S for Soil Times**

The first artefact our research line of twenty-six artefacts has started with has been J for Jewel, expressed not in text here but through the images and footnote text from [13] to [20]. Associated with it, in the master studios linked to our academic design office *The Wicked Home*, one of the former students and co-author to this article has developed and is further developing a design brief that addresses toilet spaces in relation to the concept of thigmophilia. The artefact assembling in this process is T for Thigmophilia, expressed in image-footnote [21]. The term Thigmophilia originates from the Greek Thigmos and Philia, respectively meaning the touch and to love. As a valuable counterpart to the dreaded fear of claustrophobia, our bodies' need for touch provides us with a secure feeling when enclosed, typically exemplified by the bed where, safely tucked under our duvet, our tactile bodies feel at ease [22]. In the toilet space, the smallest room inside our home, being at ease is not only a consequence of security but even a condition in order to use the object it inhabits. When withdrawing in this tiny space, with walls at touch-distance to our bodies, we paradoxically create the greatest feeling of rest while relieving ourselves, allowing us to keep the whole world at a distance by simply hanging the occupied sign. Within our shame-culture, this private room has a subordinate role towards the other functions in the house. It hides the object of the toilet between its four walls and is stigmatized by embarrassment because of the unspeakable (trans-)action that happens inside. As the challenge of one of the twenty-six artefacts, the design brief of *On Thigmophilic Spaces: The Outhouse in Suburban Paradise* stipulates a re-thinking of the toilet space as an archetype, which has been standardized and blindly copied over the years. How can the embarrassing subject of visiting the toilet be turned into doing a good deed? Instead of focusing on the negative aspects of our human waste, which we prefer to flush away as soon as possible, how can we benefit from what our body leaves behind? Drawing from the human scale, both the hidden character of the toilet space in the private home and the dirty character of the public convenience is and will be investigated through

design experiments. In its design process, the human body will be activated as an important instrument, as it has been in J for Jewel. The outcome of the design brief will be prototypes that update the very ordinary subject of the archetypical toilet space into diversified, body- and context-dependent answers to sanitation.

Spinning from J for Jewel's body-mind-soul covered in off-white materialities of soil, in scope comes a third artefact in-the-making as part of our series, titled S for Soil Times, and expressed in image-footnote [23]. With it come in scope the soil times of a landscape as a site of more-than-human architecting and care. Seeking its way and carving in geological time through vast stone masses of Early-Devoon slate formations, the Semois valley is a meandering matter, extremely compacting – by a one to three ratio – its overall length. Twisting like the bowels in a body, this river even literally embodies a drainage of phenomenal scale. Descending from high grounds, following the movement of an eroding and gravitational longing for the sea, through the hydrographical network of streamlets, confluents and main river, a perfect spot reveals itself at three hundred thirteen meters above Ostend Sea Level. A contour line on a topographical map indeed, but a physical contour on site also, eroded as it is by the quasi horizontal procession of generations of grazing cows, from high ground to watering place, from watering place to high ground. To the intersection of streamlet and contour line a line of ash trees joins, typical of streamlet valleys, but dying however, testifying of a global decease infecting this particular species. Here, on this spot, in this non-constructible zone in legal terms, nothing more but a toilet is needed to make the landscape a place of temporal sojourn. Hence a toilet will substantiate and be crafted, as a stage for the productive inter-agencies – of care – between human and more-than-human agents. Thinking from that toilet, with the artefact, with our gazing at the landscape, with our relieving ourselves, with our caring for the landscape and its dying as well as repopulating species by means of libraries of composted matters, questions will rise and become explored. How can architecture be or become again a matter and material practice of care? How can architecture be or become again a connector within soils and soil times, described by Maria de la Bellacasa as living organisms consisting of a multispecies community of biota, of which we as humans are – but – part? [24] How will we, through architecture, touch those soil times, stir them, contribute to them, harvest from them, the participating dung beetles we as architecting beings all are? And, importantly, how can we think back from this particular and phenomenal landscape, part of the Semois valley, to that other landscape and ecology that is the – future – landscape of the city?

**DDDr 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 actualizing 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 becoming-s, 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 twenty-six artefacts announced in this article). 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.

## 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. The academic design office The Wicked Home is initiated and run by Nel Janssens, Annelies De Smet, Jo(han) Liekens, Laurens Luyten, Rolf Hughes and Rachel Armstrong.
2. The notions of vibrant materiality and of ecologies understood as political ecologies of matter we borrow from Jane Bennet. Bennet, Jane. 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, Jacques. 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, Sanford. 2002. *Architectures of Time*. Cambridge MA: The MIT Press.
6. Albena 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, Albena. 2012. *Mapping Controversies in Architecture*. London: Routledge.
7. Koolhaas, Rem, and the Harvard Graduate School of Design. 2018. *Elements of Architecture*. Cologne, Germany: Taschen GmbH. pp. 1557-1559.
8. Junichiro Tanizaki has described the toilet as a phenomenally thick space, putting it in tension with Western approaches to that architectural element. Tanizaki, Junichiro. 1977. *In praise of Shadows*. New Haven, Connecticut: Leete's Island books.
9. Maria 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, Maria Puig. 2017. *Matters of Care: Speculative Ethics in More than Human Worlds*. Minneapolis and London: University of Minnesota Press.
10. Thomas More cited in: Koolhaas, Rem, and the Harvard Graduate School of Design. 2018. *Elements of Architecture*. Cologne, Germany: Taschen GmbH. p.1579.
11. Greenaway, Peter. 1985. *Inside Rooms, 26 bathrooms*. London & Oxfordshire.
12. From the Greek poesis, 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, Lewis. (2017). *Trickster Makes this World: How Disruptive Imagination Creates Culture*. Edinburgh and New York: Canongate Books. p.27.
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, Donna. 2016. *Staying with the Trouble. Making Kin in the Chthulucene*. Durham, London: Duke University Press. p.55.
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 Devon (360- 400 million years ago).
19. 'Matter, mater, mutter make me - make us, that collective gathered in the narrative bag of the Chthulucene.' Haraway, Donna. 2016. *Staying with the Trouble. Making Kin in the Chthulucene*. Durham, London: Duke University Press. p.121.
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).
21. T for Thigmophilia by Manon Persoone (**Figure 2**)
22. Excerpt from the chapter Een Innig Genoegen. Dekkers, Midas. 2015. *De Thigmofiel: Het Verlangen naar Geborgenheid*. Amsterdam: Atlas Contact.
23. S for Soil Times by Jo(han) Liekens (**Figure 3**)
24. De la Bellacasa, Maria Puig. 2017. *Matters of Care: Speculative Ethics in More than Human Worlds*. Minneapolis and London: University of Minnesota Press.

## BIOGRAPHY

Annelies De Smet is as a PLAYLEGGER a collection of female bodymindsouls, learners, creators, solo-walkers, responders and an interim cluster of stardust. She has master degrees in Visual Arts and Architecture. She has worked as a freelance scenographer and research assistant at the Centre for Public Space Research, KADK Copenhagen. She seriously-playful presented her PhD Architecting Bodies by Immersive Gestures (2018) at the Faculty of Architecture, KU Leuven, campus Sint-Lucas where she engages in teaching and post-doctoral research (Animated Rooms).

Jo(han) Liekens is architect and partner at [www.studioloarchitectuur.be](http://www.studioloarchitectuur.be). He holds a PhD in Architecture from the Faculty of Architecture, KU Leuven and the Chalmers University of Technology, ACE department (Architecture's Poetic Instrumentality, 2020). His post-doctoral research focuses on architecture as a political-aesthetical practice able to re-figure the congregations of matter that compose our (sense of) world(s). Liekens teaches (research-by-)design studios in (Interior-) Architecture at the Faculty of Architecture, KU Leuven, campus Sint-Lucas. He engages in hands-on explorations of architectural matter.

Nel Janssens is associate prof. at the Faculty of Architecture, KU Leuven, campus Sint-Lucas. Her research interest is directed to the link between critical theory and design driven research. In 2019 she founded, together with Annelies De Smet and Johan Liekens, the research group Architecture & Wicked Matters. Janssens deploys her experience in architectural and urban planning practice to enhance design driven research and transdisciplinarity in academic research and develop hybrid modes of inquiry.

Manon Persoone has a master degree in Architecture and is a PhD researcher at the Faculty of Architecture, KU Leuven, campus Sint-Lucas, with Prof. Dr. Nel Janssens and Dr. Jo Liekens as her supervisors. During her master she worked as a summer-intern at Robbrecht en Daem architecten. In 2021 she presented her master thesis On Thigmophilic Spaces: The Outhouse in Suburban Paradise at the Faculty of Architecture, KU Leuven, campus Sint-Lucas.





FIGURE 1. J for Jewel by Annelies De Smet

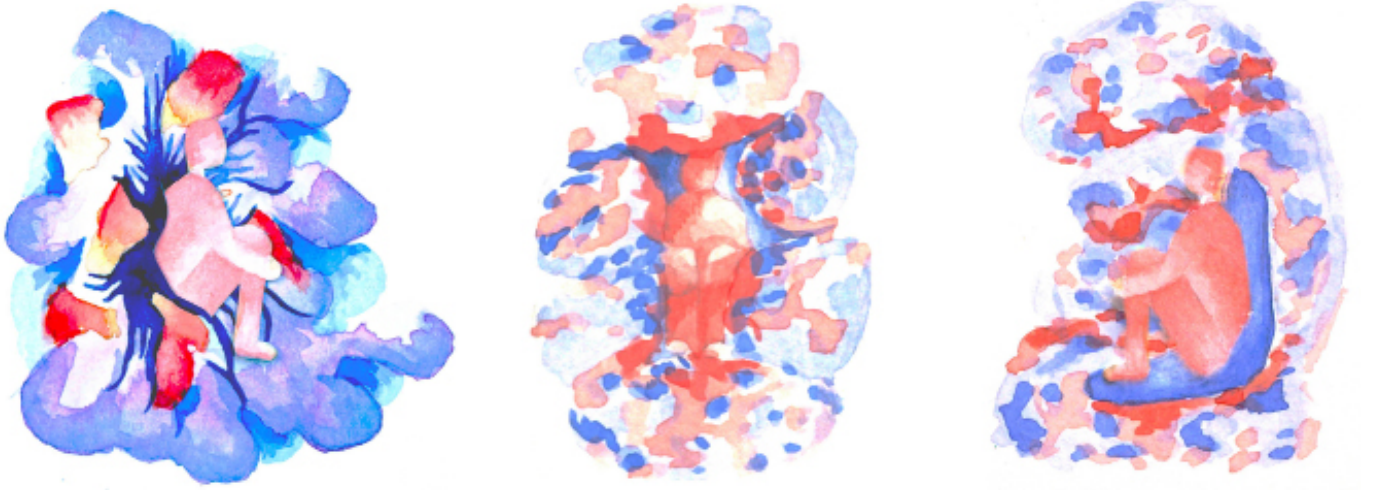


FIGURE 2. T for Thigmophilia by Manon Persoone





FIGURE 3. S for Soil Times by Jo(han) Liekens



# **Diagramming the 21st Century Agency: between Biennales and the Everyday.**

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## ABSTRACT

The PhD research is part of the EU Horizon 2020 project “TACK: Communities of Tacit Knowledge. Architecture and its ways of knowing,” whose general aim is to investigate the “tacit-knowledge” (Polanyi, 1966), 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.

Given the frame and scope, the contribution focuses on the current century, identifying and tracking tacit processes in which the architectural codes of a specific community of practice are established and transferred between official events and daily practice. In other words, within an evolving cultural panorama, dealing with the challenges posed by a history of recent past, the research observes whether it is possible that the socio-political-economic conjuncture at the turn of the 21st century –and especially the 2008 financial crisis as the main disruption– could have tacitly conditioned the establishment of the architectural codes of such interested community of practice.

The investigated timeframe is unfolded under different lenses divided into two main phases and addressed through two diverse research approaches and methods, which moves in the lines of micro-history (Levi 2001), thinking through cases (Eco 1976), researching on the architecture of recent past (Robert 1993), and uses an ethnographic approach searching on the everyday and its objects (De Certau 1980). More precisely, the first part, conceived as a “horizontal” mapping of codified discourses over the last twenty years, proposes an attempt to reconstruct a historical framework in which to outline a system of events not yet historicized; while the second one is instead made of micro-investigations based on close observation of a series of case studies. The contribution intends to describe in general terms the two parts of which the research is composed, focusing on the methodology and the use of the diagram as a tool of reasoning.

**Keywords:** Architectural codes, codification, Biennales, 21st-century, history of recent times, tacit knowledge.

The research aims to identify and track contemporary tacit processes in which architectural codes are formed, implying a focus on dynamics in the making, thus an observation of the contemporary and recent past (Robert 1993).

Based on the premise that the codes are cultural products (Power and Scott 2004) –or common “goods” which a plurality is responsible for preserving, maintaining and developing,– codification processes are necessarily conditioned by the context in which they take place and by the actors that take part into their development.

Supported by an extensive literature on the relationship between architectural production and cultural context in which it is produced, the thesis will expand the investigation beyond the disciplinary boundaries. In order to frame how codes, vectors and instruments are influenced by such context, the conjuncture is assumed as a crucial horizon to understand their evolution. Therefore, within an evolving cultural panorama, the research intends to observe the existence of a co-evolution between codes –produced both in everyday practice and institutional discourses,– and factors external to the discipline itself.

In this perspective, the just begun 21st century sees the 2008 financial crisis as main breaking moment [1] which the research identifies as a line of demarcation that questions the established structures of the profession, and which –as defined by Mirko Zardini– led to the rapid decline of the “irrational exuberance”(Dunham-Jones 2013). This term, coined in 1996 by economist Alan Greenspan to represent a period of abundance and expansion, sees, among others: the opening of the Guggenheim Museum Bilbao in 1998 as a representative moment in which architecture becomes a mediatic phenomenon; in the early 2000s the technological boom in which automation –thanks to highly competitive market around industrial robots which lowered the manufacturing costs– becomes more accessible, triggering a move in the architectural profession from analogical tools to digital ones (Claypool 2021); and in 2003 the year in which the term star-architect system (Prestinzenza Puglisi 2019, 379–381) was registered.

In this panorama of relentless general euphoria, the 2008 crisis triggers the “architect hero” weakening as a model [2]. It is the beginning of an unfavorable economic season where the demand for construction decreases –especially in the public, global and local sectors– with a shift of the architecture real-estate market towards the private one. A moment that represents a turning point, as outlined in the timely article by Alejandro Zaera Polo, who, back in 2016, elaborated on the modification of architectural outputs: “Observing the architectural landscape today, it’s clear that the type of work currently ascendant is very different from what came before 2008”(Zaera-Polo and Fernandez Abascal 2016).

In other words, the financial crisis highlights a structural impact on the architectural production, questioning the nature of the architect profession, the emergence of a new generation of practitioners, and a subsequent modification of codification

processes –which are the objects of the research itself.– Although the focus of the investigation is on the aftermath of such event –both in terms of discourse and practice,– the research stretches the historical framework to contextualize and highlight the changes produced by such rupture moment. The 2008 is, therefore, the barycenter of the observed period extending from 2000 to 2020, a timeframe which, given the difficulties determined by the proximity of events not yet historicized, finds support in the positions of architecture critics and historians. If the year 2020 coincides with the second most important crisis of the 21st century –the COVID-19 pandemic,– the year 2000 is a crucial date not only determined by a generational change but for the emergence of different discourses and actors. For example, digital culture and the seek for ethics which appeared in the 2000 Venice Architecture Biennale curated by Massimiliano Fuksas, mark a distance with precedent curators such as Francesco dal Co and Paolo Portoghesi, whose concerns were more focused on history and a conventional approach to architecture.

In order to reconstruct the interested historical framework not yet historicized, selected perennial international exhibitions held from 2000 to 2020 are used as the research ground: an observatory on the current practice to highlight major themes, recurring protagonists, emerging “epicentres” (Pozar and Čeferin 2008), and eventually marking paradigmatic shifts (Kuhn 1996) in the discourse. The investigation is not intended as an analysis of exhibitions, on the contrary these occasions are used as lenses to reconstruct a historical framework not yet historicized. Based on authors ((Thompson 2000); (Gibbons, Limoges, Nowotny, Schwartzman, Scott, and Trow 1994); (Shumway and Messer-Davidow 1991, 201–225)) who, despite a diversity of viewpoints and different backgrounds, argue that non-academic and non-professional structures have been replacing the conventional disciplinary institutions and the modes of knowledge construction, the international exhibitions as research tools might be easily situated within these lines. They are seen as places where architectural thought production impacts a larger scale since characterized by a wider spectrum of individuals participating in them: from professors and researchers to architects and activists. In support of this thesis that sees exhibitions as suitable tools to disentangle the evolution of architectural thought, Pier Vittorio Aureli and Gabriele Mastrigli, in an article published in 2004, declared “it’s already for more than seventy years that such events have succeeded in their intent, much more than what architectural buildings can do”(Aureli and Mastrigli 2004). Quoting Lea-Catherine Szacka, “biennials and triennials act as disciplinary agents in architecture. Happening at regular intervals, these large-scale exhibitions operate as a scan of the contemporary practice, trying to document the state



of the art of theory and practice” (Szacka 2019, 15). A theater that allows the staging of arguments, speculations, and investigations concerning the nature of our shared, diversely veined, and demanding contemporary condition (Filipovic, van Hal and Øvstebø 2010, 13).

Among a long list, that in the last decade has grown exponentially, a number of editions [3] was thus selected in relation to their mediatic impact [4] and relevance for the recent discourse: either because they approach an innovative theme that opens new streams of research – i.e., the Istanbul Design Biennale in 2012 for the first time spoke about open-source in relation to architecture and design– or because they contribute to consolidate in a single occasion a series of fragmented discourses into a unique narrative that offers instruments of interpretation for the discipline at large – i.e., the 2nd Chicago Biennale in 2017 curated by Johnston Marklee titled “Make New History” investigated the revival of historicism in contemporary practices– (Epstein-jones, Davidson and Roberts 2014).

Due to their recurrence, such occasions represent an objective source of information and instruments of confrontation in their interrelation with a context through time, providing an homogeneous body of knowledge that document the evolution of the debate in time. Biennials are therefore used both as sounding boards to emphasize the relevance of a disciplinary discourse, and as occasions able to make explicit –through the crystallization of its own contributions– the more implicit dimensions of the interested community of practice *modus operandi*.

Despite the differences between the international perennial exhibitions, it is possible to identify recurring themes throughout the entire time span considered by the research (from 2000 to 2020), which, conditioned by the socio-political-economic conjuncture, tacitly evolve, changing terminology, references, and vectors of communication.

The research identifies in the sources –which includes curatorial text, critical essays, press, and interviews– the recursiveness of a set of keywords (“urban transformations,” “environment,” “technology,” “global inequalities,” “activism,” and “discipline”) that determine a precise set of thematic areas. Generic but direct and clear words which have been unpacked in detail to manifest the complexity that characterizes the debate of the last twenty years.

Each theme has, in fact, evolved through the timeframe of the research, tracking fluctuation in the significance beyond the recurrence of the terms themselves:

1. Urban transformations: i.e., an autonomous subject at the beginning of the century, progressively absorbed by other more

urgent preoccupations;

2. Environment: i.e., shifting from the concept of sustainability applied to buildings to a broader discourse influenced by the encompassing agenda against climate change;

3. Technology: i.e., an aesthetic fascination for computers, computer-generated images, and forms in the early 2000s, disrupted by the rapid technological impact of digitalization on the life of people;

4. Global inequalities: i.e., a recent yet almost inescapable preoccupation for civil, social and spatial rights interpreting the global political discourse;

5. Activism: i.e., a reaction to the after crisis conjuncture based on the collection of participation experiences in design processes, bottom-up urban strategies, and a rescue of the architect political role;

6. Discipline: i.e., the claim for the autonomy of the discipline in the changing conjuncture perspective, with a progressive abandonment of iconic architecture and, in some cases, a renewed interest in the history of architecture.

Although the intertwining of the different thematic areas, investigating the specificities of each one, the research has tried to reconstruct trajectories leading to the definition of a specific temporal framework not yet historicized.

In general, the selected biennials and triennials editions describe an evolution in the architectural discourse and practice which is partly explicit –through contributions and catalogs that give a voice to the many actors involved,– but mostly tacit in terms of reasons behind the selection of a specific curatorial theme, positionings of the institutions, networks of curators/participants, and tools and vectors used in the communication.

In general, the study through biennials has been useful, on the one hand, to unpack the recent history of the last twenty years; on the other hand, to partly trace the evolution of the contemporary architecture codes used in the exhibitions –instruments capable of embodying a theoretical and practice development.– The relationship between curators, participants, and the public seems, in fact, to contribute to a codification of knowledge: either crystallizing existing codes or producing new ones, and encouraging their transmission to a wider audience.

In this perspective, looking at the entire research timeframe, there is tangible evidence of modifying vectors and codes in several architectural domains, which are explored in the second part of the research.

The data and findings collected during the recognition, besides registering fluctuations of the discourses and their impact within the interested community of practice, have been instrumental

to detect different design approaches. Among many possible others, the research recognizes four main epistemes [5], according to interpretative parameters. –i.e., the impact of theoretical contributions in their production, and the influence of preoccupations beyond the disciplinary boundaries in their agendas:

- practices which respond to current challenges by looking at history mainly through their theoretical production;
- practices which have built a rigorous architectural language and critically recover the history of the discipline in their built artifacts;
- practices who makes current problems the very core of their research;
- and practices which use current their built architecture to respond to current challenges.

Each episteme –ideally characterized by a different system of codes, vectors, instruments, language, representation, interests, agenda, networking, modus operandi, etc.– is the object of the subsequent part of the research, which consists of in-depth investigations on the specificities of the four groups.

On the one hand, the survey aims at studying the tacit aspect of the offices way of working –or how theory, cultural positioning, and context could inform their design process;– on the other, at investigating the tacit codes through which they communicate both within the office and to the outer world (from clients to students).

### **Reflections on possible outcome**

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 second 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 timelines–, 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 ((Chin 2020); (Marshall 2019)). 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 a possible readers.

The second phase instead, as a consequence of the ethnographic investigations conducted on selected architectural offices, could be later communicated through a publication-series in which

various interviews would be processed, edited, organized by topic, and transmitted supported by an iconographic apparatus. The consistent use of oral histories and publications could highlight specific evidences and diverse ways in which tacit knowledge emerge among the investigated offices, allowing a comparison between practices, thus ideally offering an overview (of a portion) of today's architects' ways of working.

Finally, positioning myself as researcher with a background in exhibition design as instrument through which to communicate a 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 (Daniels 2020) 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 heterogenous 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 (Van Gerrewey, Vandeputte and Patteeuw 2012).

DDDr Statement: (max 250 words, Times New Roman, font size 11)  
Given the present history (Robert 1993) 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 (Buchert 2014).

The reflexive design approach inherent to the DDR is used –even if in different ways– throughout the two parts 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 (Buchert 2018) and to communicate the relevant findings between a researcher

and a possible audience.

The second instead sees the reflexivity as inherent to the ethnographic investigations (Barnard 1990, 58–85) of a series of architectural offices object of study.

## BIBLIOGRAPHY

- Barnard, Henry. 1990. "Bourdieu and Ethnography: Reflexivity, Politics and Praxis." In *An Introduction to the Work of Pierre Bourdieu: The Practice of Theory*, edited by Richard Harker, Cheleen Mahar, and Chris Wilkes, 58–85. Palgrave Macmillan.
- Buchert, Margitta. 2018. *Processes of Reflexive Design*. Berlin: Jovis.
- Čeferin, Petra, and Cvetka Požar. 2008. *Architectural Epicentres: Inventing Architecture, Intervening in Reality*. Ljubljana: Architecture Museum of Ljubljana.
- Chin, Irene. 2020. "Diagramming Things." CCA. 2020. [https://www.cca.qc.ca/en/articles/issues/28/with-and-within/74898/diagramming-things?utm\\_source=CCA&utm\\_campaign=24a329a05c-NEWSLETTER+EN\\_9\\_29\\_2020&utm\\_medium=email&utm\\_term=0\\_786a59926c-24a329a05c-204749418](https://www.cca.qc.ca/en/articles/issues/28/with-and-within/74898/diagramming-things?utm_source=CCA&utm_campaign=24a329a05c-NEWSLETTER+EN_9_29_2020&utm_medium=email&utm_term=0_786a59926c-24a329a05c-204749418).
- Daniels, Inge. 2020. *What Are Exhibitions For? : An Anthropological Approach*. London: Bloomsbury.
- De Certeau, Michel. 1980. *The Practice of Everyday Life*. Berkeley and Los Angeles: University of California Press.
- Dunham-Jones, Ellen. 2013. "The Irrational Exuberance of Rem Koolhaas." *Places Journal*, no. 2013 (April). <https://doi.org/10.22269/130402>.
- Eco, Umberto. 1976. *A Theory of Semiotics*. Bloomington: Indiana University Press.
- Filipovic, Elena, Marieke van Hal, and Solveig Øvstebø. 2010. "Biennialogy." In *The Biennial Reader: An Anthology on Large-Scale Perennial Exhibitions of Contemporary Art*, edited by Elena Filipovic, Marieke van Hal, and Solveig Øvstebø, 16–29. Ostfildern: Hatje Cantz.
- Michael Gibbons, Camille Limoges, Helga Nowotny, Simon Schwartzman, Peter Scott, Martin Trow. 1994. *The New Production of Knowledge*. London: Sage Publications.
- Harriss, Harriet, Rory Hyde, and Roberta Marcaccio, eds. 2021. *Architects after Architecture: Alternative Pathways for Practice*. New York: Routledge.
- Klein, Julie Thompson. 2000. *A Conceptual Vocabulary of Interdisciplinary Science*. Toronto: University of Toronto Press.
- Kuhn, Thomas. 1996. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.
- Levi, Giovanni. 2001. "On Microhistory." In *Microhistory*, edited by Peter Burke, 97–119. University Park: The Pennsylvania State University Press.
- Robert, François, ed. 1993. *Ecrire l'Histoire Du Temps Présent*. Paris: CNRS.
- Mills, Daniel. 2010. *Stuff*. Cambridge: Polity Press.
- Prestinzenza Puglisi, Luigi. 2019. "Lo Star-System." In *La Storia Dell'architettura 1905-2008*, 379–81. Luca Sossella Editore.
- Roberts, Bryony. 2014. "Beyond the Querelle." *Log*, 2014.
- Shumway, David R., and Ellen Messer-Davidow. 1991. "Disciplinary: An Introduction." *Poetics Today* 12 (2): 201–25.
- Szacka, Léa-Catherine. 2019. *Biennials/Triennials: Conversations on the Geography of Itinerant Display*. New York: Columbia University Press.
- Zaera-Polo, Alejandro, and Guillermo Fernandez Abascal. 2016. "Architecture's 'Political Compass': A Taxonomy of Emerging Architecture in One Diagram." *ArchDaily*. December 16, 2016. <https://www.archdaily.com/801641/architectures-political-compass-a-taxonomy-of-emerging-architecture-in-one-diagram>.
- Zaera-Polo, Alejandro. 2016. "Well Into the 21st Century: The Architectures of Post-Capitalism." *El Croquis*, no. 187.

## NOTES

1. The current COVID-19 pandemic cannot be considered as still ongoing and whose aftermath still unknown.
2. From interview with Mirko Zardini held on Dember 21, 2020: "the season of exuberance ends with the 2008 financial crisis. [...] Rem Koolhaas, at the 2012 Venice Architecture Biennale, held an exhibition entitled Civic Servants, which symbolically recognized the need for a change of role of the architect."
3. The selection includes: the Venice Architecture Biennale (since 2000), the Oslo Architecture Triennale (since 2013), the Chicago Architecture Biennale (since 2015), the Istanbul Design Biennale (since 2012), the Sao Paulo Architecture Biennale (2019), the Shenzhen Architecture Biennale (since 2015), the Seoul Architecture Biennale (since 2017), and the Sharjah Architecture Triennale (2019).
4. which indicates the penetration of the concepts described in a single edition among practitioners and the general audience.
5. or families that within the same community of practice are characterized by similar interests, agenda, modus operandi, instruments, products, languages, etc.

## BIOGRAPHY

Claudia Mainardi is an architect and doctoral student at the Politecnico di Milano, where she is part of the EU Horizon 2020 project 'TACK / Communities of Tacit Knowledge: Architecture and its Ways of Knowing,' coordinated by the ETH Zurich.

CM precedently worked for numerous offices -including OMA/AMO, MVRDV, Stefano Boeri /Multiplicity. lab, and Studio Folder,- and since 2013 is partner of the architectural design and research collective Fosbury Architecture.

# biennale(s)

biennale editions

- new
- africa
- america
- asia-pacific
- europe

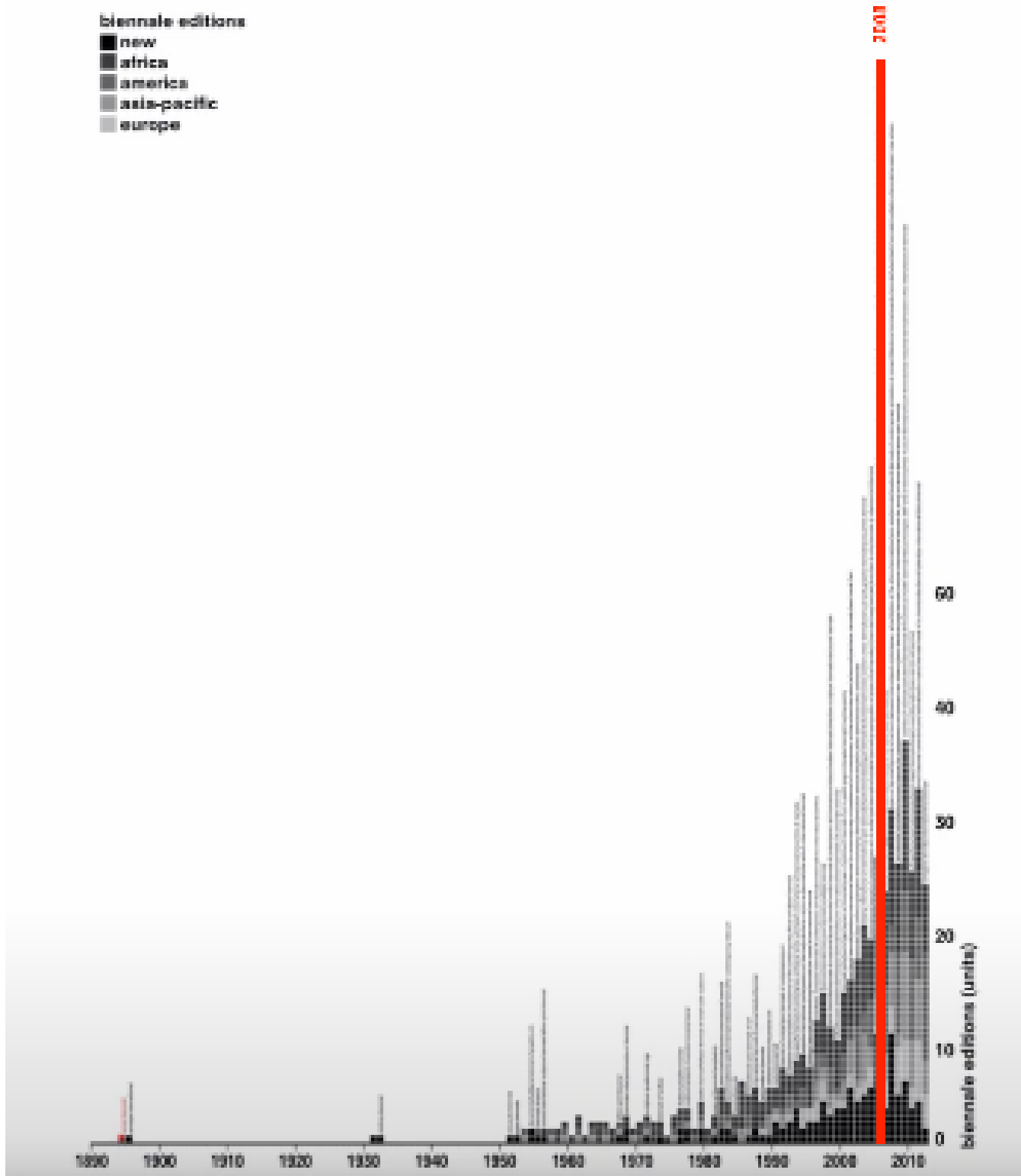


Figure 1. Barutana Creative Area, K Still from Marina Otero Verzier, *Circulating Borders*. The diagram refers both to art, design and architecture biennales worldwide. © Future Architecture Platform amnik (Slovenia), source Sinan Mihelčič, CA2RE+ Hamburg 2021.

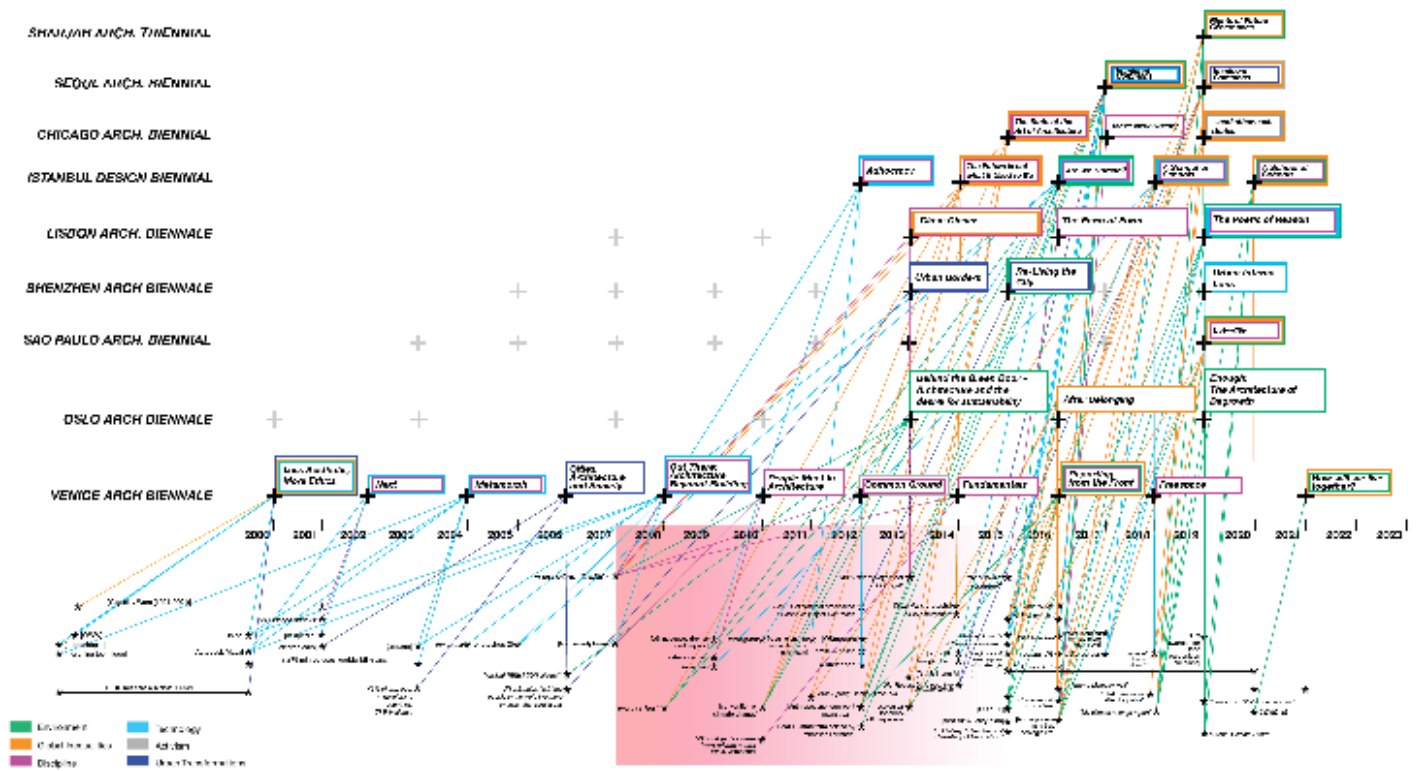


Figure 2. Mapping the evolution of topics in relation with the socio-political-economic conjuncture through selected Biennales and Triennales, 2021. © Claudia Mainardi.





FIGURE 3. The full political compass diagram (Version 0.1)  
 ©Alejandro Zaera-Polo & Guillermo Fernandez Abascal



# **Public Thresholds Indeterminancy in Public Building Design**

Mar Muñoz Aparici  
TU Delft

## 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, strengthen public life. Public buildings that aspire to contribute to public life are conceived as unfinished processes instead of objects, leaving room for socio-spatial change and value dynamics. This research uses design-driven methodologies to show how spatial interventions in existing public buildings can strengthen public life. First, theoretical notions on contemporary public space show the most relevant aspects to incorporate in the design. Then, the architectural project SESC Pompéia by Lina Bo Bardi shows how indeterminacy can be implemented in public building design and highlights knowledge gaps to be tested empirically. Finally, the case of makerspaces in libraries appears as a case to test indeterminacy empirically.**

**Keywords: Public Buildings, Indeterminacy, 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 (Blackwell 2017). According to Bauman’s 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 (Bauman 2000). In an environment where reference points are ever-shifting, boundaries between public and private space are uncertain and continuously flooding or retreating from other realms. Living rooms that become online concert stages or hotel lobbies that become offices, public building design faces the challenge of integrating ambivalence and change. Away from indoor-outdoor private-public dichotomies, buildings become then thresholds, border zones bridging physical, digital, and social constraints.

Public buildings are an intentional condensation of civic aspirations serving the common good, that is a shared collective interest (Schroeder 2016). 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 effects towards the public sphere (values). Often, public buildings have been alienated from other agents of the public sphere – space, people, animated and inanimate agents, nature– designed as independent entities neglecting their shared effects within an urban ecology (Fig.1). Designing public buildings transdisciplinarily beyond the division urban-architectural, object-space, indoor-outdoor, technician-client-users, would make space for public value creation turning public buildings into public sphere catalysts for better urban conditions.

Buildings motivate behaviour and behaviours create cultural values. Cultural values are negotiated socially by ambivalence and choice in the public realm, our “space of appearance”(Arendt 1998). “We are moral because we live in uncertainty” and it is by continuously having to choose that humans build their values (Bauman 2012). Public buildings are the threshold where the ambivalence of the common good is collectively defined. Public building design must provide infrastructure for citizens to appear, interact and dissent embracing the uncertainty of their own values. Space over-determination often restricts possible uses and diminishes interaction and public life.

### **Designing for uncertainty**

Architecture contributing to public life “creates conditions and provides possibilities” (Sennett and Sendra 2020). Designing deliberately unfinished but permanent structures and solutions that maximize spatial possibilities facilitates human interaction and community-making. In public buildings, unfinished design entails introducing technical solutions for actual and probable civic uses, leaving room for the indetermined. Design indeterminacy is often reduced to lack of design, flexibility, or multi-purpose. There is great potential for architectural design to explore how indeterminacy can affect public life in and around public buildings.

A successful example of indeterminacy in public building design is that of SESC Pompéia by Lina Bo Bardi, the renovation of a former factory in the hyper-dense urban context of São Paulo into a lively public building (Fig.2). This building is characterised by blurring the indoor-outdoor boundaries in material and program. Gestures like using exterior pavement indoors, building concrete solid furniture or introducing water in unlikely positions, make evident the designer’s conviction that public buildings belong to the public sphere whether climatically controlled or not. Exhibition spaces shifting from squares to living rooms, libraries that could be a terrace or promenades that can become solariums, spatial indeterminacy creates space for interpretation, appropriation, and use.

A threshold is a “point [...] at which something is true or will take place and below which it is not or will not”(Threshold 2021). By not introducing clear limits in space, a building becomes an adaptable threshold, an umbrella for communal use. Playing with ambivalence in space (Is it inside or outside? Is this what is intended in such a space? What if ...?) since the moment is envisioned allows the space and its users to transform further than the designer’s vision. Cultural values are introduced by use, not determined by design, and spatial indeterminacy favours adaptability, ownership, and social interaction. Indeterminacy demands seeing buildings as processes –not objects– and balancing aesthetics, style and authorship in processes that outlive the designer’s commission.

**Makerspaces in libraries: making space for new affordances**  
Because cultural values and social needs are changing, cultural institutions are attempting to stay relevant by engaging more directly with their users. Interactive, performative, instructive... are adjectives being incorporated into the architectural design jargon. An example of a cultural institution transitioning to a new significance is libraries. Since literary resources are widely available, the role of libraries in the public sphere has decreased. Some countries have decided to experiment with how the introduction of makerspaces–spaces for learning by making– can shift the library’s focus from knowledge consumption to knowledge production spaces. The hypothesis is that introducing a new affordance that approaches knowledge to citizens can improve urban life, create community, and ultimately strengthen public life. the National Library of the Netherlands, Hogeschool Rotterdam and TU Delft are coordinating a 2-year project testing and prototyping how these makerspaces could be designed and programmed. Working in four different urban contexts and communities, the processes mobilise collective intelligence towards developing specific programmatic and spatial proposals. The final interventions will build on industrial design, material science, library science and materialize in an architectural intervention–built or imagined.

## **Conclusion**

Cultural value intangibility makes evaluating design effects in the public sphere elusive with common desk research tools. Exploring what are the design factors that activate public buildings can strengthen their role in the public sphere can only be asserted by design. Theoretically, one can formulate a hypothesis based on written literature. However, this needs to be contrasted with built examples to identify the knowledge gaps between theory and practice. Finally, hypotheses can be formulated into spatial design propositions. In this case, investigating the design factors that activate public building agency in public life, could start by extracting

theoretical concepts—such as indeterminacy—, connecting them with built examples—like SESC Pompéia— and drawing design hypotheses applicable to a real case—like makerspaces in libraries. With the introduction of makerspaces, libraries are confronted with unfinishedness. From a time when their physical and immaterial appearance in the public sphere was evident and prominent, they are now hybridising, opening up, looking for new affordances. Indeterminacy must be accepted institutionally and spatially: functions and programs that change, non-delimited areas, conflict and friction are unavoidable and desirable in public buildings. The role of design in the process of public building activation is to translate the collective and tacit knowledge into an intervention that incorporates defined uses as much as space for probable developments.

### **DDDr Statement**

Architecture is a unique field because it is only fully experienced once built. However, using design tools in empirical experiments allows extrapolating 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. These premises will be empirically tested in experiments with design, social sciences, and visual art's tools. These experimental artefacts will be conceived and reflected upon them using tools drawing, mapping, collage, photography, or model making. 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 (Fig.3).

Reflection in design is both individual and collective. It is the researcher's guiding thread connecting design and research that helps evaluate every step before taking the next. Spatial experiments, civic engagements and academic gatherings sharpen the research design by collective reflection.

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.

## **BIBLIOGRAPHY**

Arendt, Hannah. 1998. *The Human Condition*. Chicago & London: The University of Chicago Press.

Bauman, Zygmunt. 2000. *Liquid Modernity*. Malden, MA: Polity Press.

---. 2012. "Liquid Modernity Revisited." Lecture. Aarhus Universitet.

Blackwell, Adrian. 2017. *Tar and Clay: Public Space is the Demonstration of a Paradox in the Physical World*. In *Public space? Lost and found*, edited by Gediminas Urbonas, Ann Lui and Lucas Freeman. Cambridge, Mass: SA+P Press.

Schroeder, Mark. 2016. "Value Theory". In *Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta: Metaphysics Research Lab, Stanford University.

Sennett, Richard, and Pablo Sendra. 2020. *Designing Disorder: Experiments and Disruptions in the City*. London & New York: Verso Books.

Threshold. 2021. In Merriam-Webster.com: Merriam Webster Online Dictionary.

## **BIOGRAPHY**

Mar Muñoz Aparici is an architect developing design-driven research on public space from urban and architectural perspectives. Her PhD research explores cultural building design as a tool to strengthen public life.

Her practice –Iamardebe– undertakes design, research and curatorship projects. She has been a guest teacher at the Catholic University of America, ETSAV-UPV and CEU Valencia. Mar holds an Architecture Master from TU Delft and has international professional experience from interior to the masterplan, housing or public buildings.



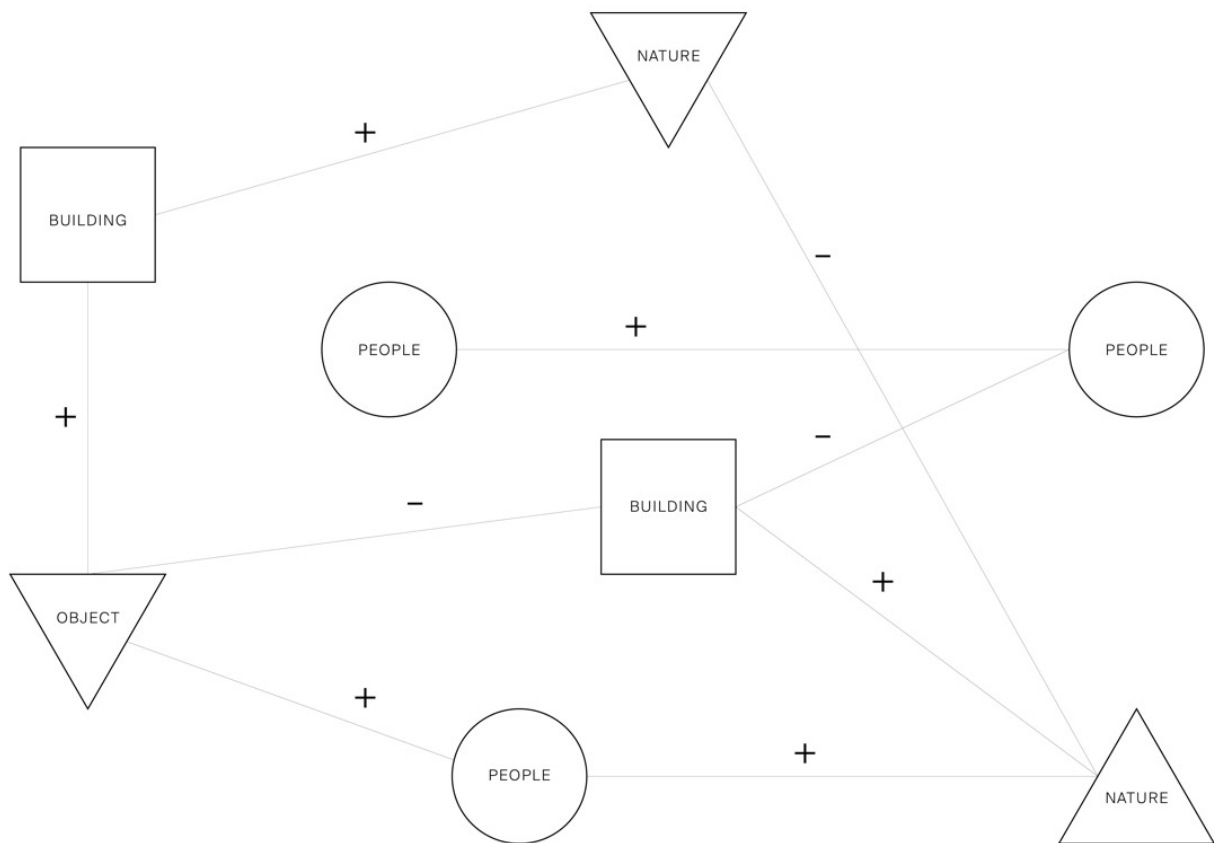


Figure 1. Urban Ecology: Public buildings as actors in an affect network.

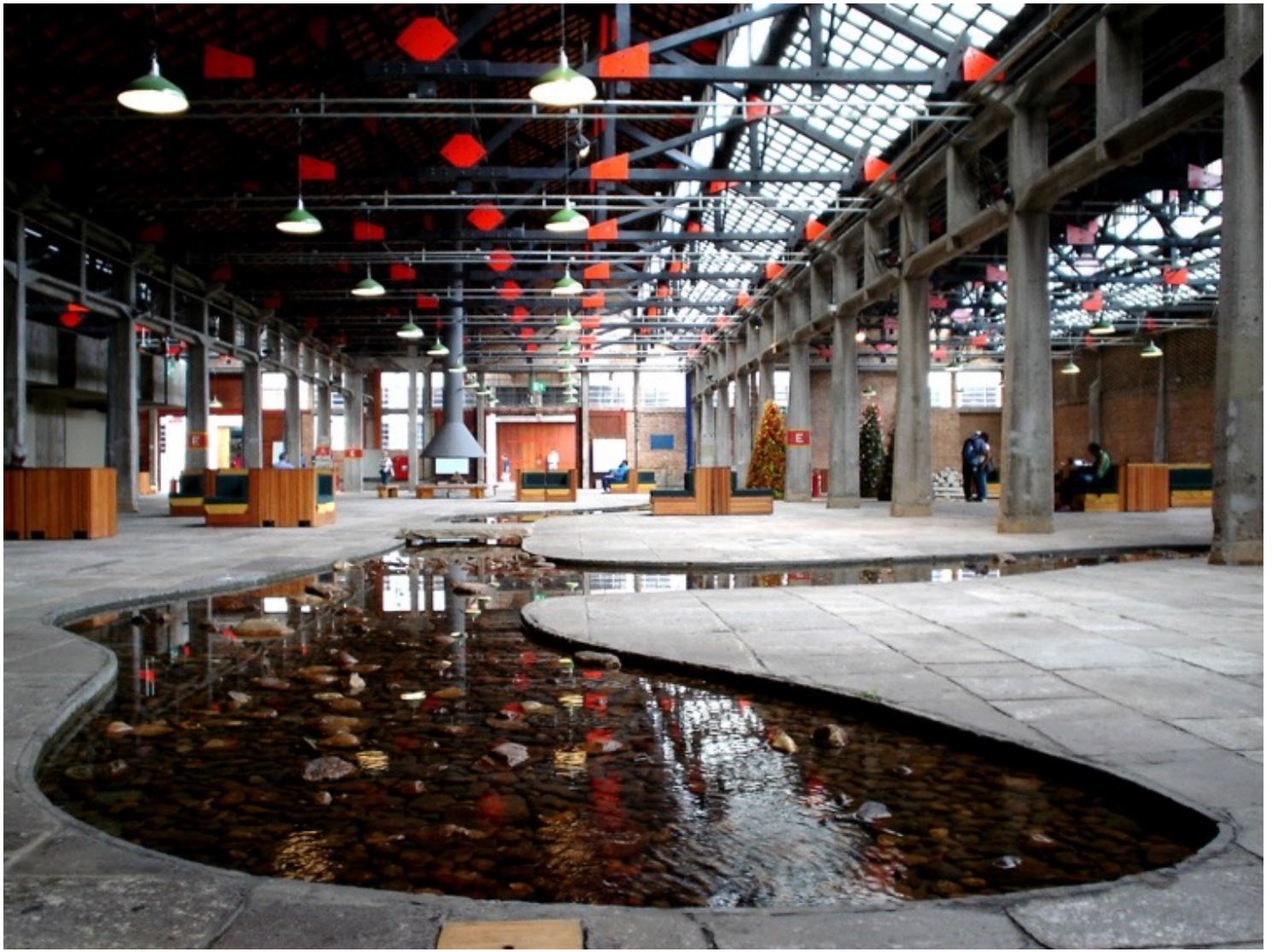


Figure 2. Made by the author  
Miura, Paulisson, 2010. Lina Bo Bardi, SESC Pompéia. December 1 2010. Photography. CC BY 2.0. Wikimedia Commons.  
[https://commons.wikimedia.org/wiki/File:Lina\\_Bo\\_Bardi,\\_SESC\\_Pomp%C3%A9ia\\_\(5510960976\).jpg](https://commons.wikimedia.org/wiki/File:Lina_Bo_Bardi,_SESC_Pomp%C3%A9ia_(5510960976).jpg)





Figure 3. Miura, Paulisson, 2016. *Cínica Cia. de Teatro*. October 22 2016. Photography. CC BY 2.0. Wikimedia Commons [https://commons.wikimedia.org/wiki/File:C%C3%ADnica\\_Cia.\\_de\\_Teatro\\_\(SESC\\_Pomp%C3%A9ia,\\_S%C3%A3o\\_Paulo,\\_SP,\\_Brasil\).\\_\(30011506044\).jpg](https://commons.wikimedia.org/wiki/File:C%C3%ADnica_Cia._de_Teatro_(SESC_Pomp%C3%A9ia,_S%C3%A3o_Paulo,_SP,_Brasil)._(30011506044).jpg)



Figure 4. Miura, Paulisson, 2011. Labirinto de cores, SESC Pompéia. January 1 2011. Photography. CC BY 2.0.  
Wikimedia Commons [https://commons.wikimedia.org/wiki/File:Labirinto\\_de\\_cores,\\_SESC\\_Pomp%C3%A9ia\\_\(6737707951\).jpg](https://commons.wikimedia.org/wiki/File:Labirinto_de_cores,_SESC_Pomp%C3%A9ia_(6737707951).jpg)



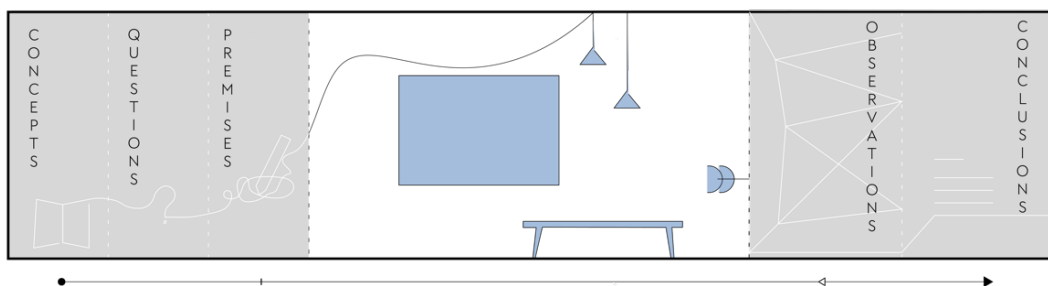
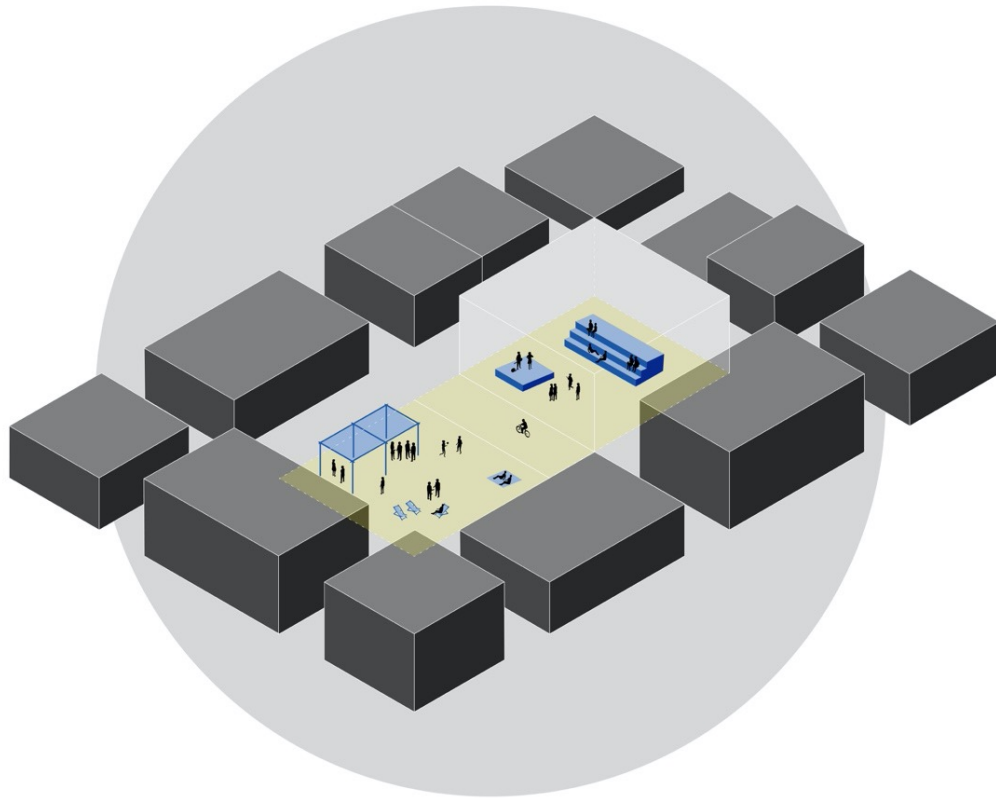
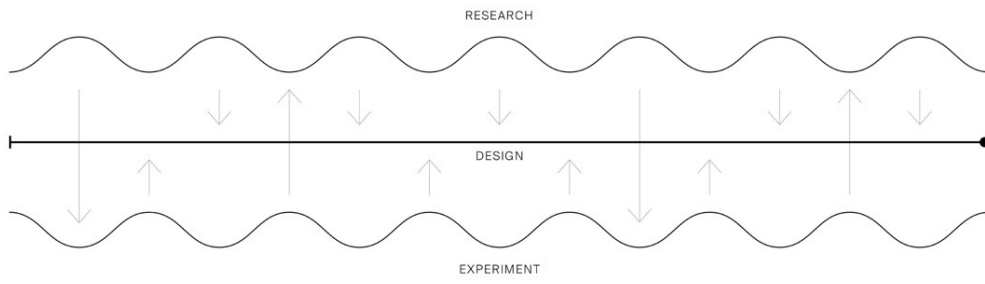


Figure 5. Methodology Research Design: iterative interventions in existing public buildings.



**Knowledge  
Spaces  
of Globalization  
- Musealizing the  
Spatial Assemblages  
of Global Trade.**

Melcher Ruhkopf  
Leuphana University  
Lüneburg

## **ABSTRACT**

**Relying on theoretical concepts of space and knowledge production and employing collecting as art-based research practice, this ethnographic-artistic PhD project asks how the spaces of globalization and global logistics are transformed into the future German Port Museum in Hamburg. Museal collecting and spatial design are addressed as key factors in this transformation process. In a first research phase, the museum's development is explored using ethnographic methods of field research. Based on these findings, a series of experimental collecting setups is realized in the Duckdalben International Seamen's Club in Hamburg to explore non-academic bodies of knowledge and non-hegemonic perspectives on global trade. This second phase uses means of participatory art-based research to open the museum's spacio-epistemic configurations through material and ephemeral items collected by otherwise unheard and unseen actors of globalization.**

**Keywords: museum ; globalization; collecting.**

### **1. Introduction**

This ethnographic-artistic PhD project addresses the development of the German Port Museum in Hamburg. Relying on theoretical concepts of space and knowledge production, the museum is approached as an emerging knowledge space of globalization, meaning: a space that mediates and produces a certain knowledge on the subject of globalization. Qualitative methods of ethnographic fieldwork are used to empirically explore the museum's process of formation. These empirical investigations focus on key processes and actors that transform the space of globalization into the museum space through practices of spatial design and collecting. Based on these findings, art-based collecting practices are employed to intervene in these processes and to render them more participatory, while including marginalized knowledge on globalization.

### **2. The German Port Museum**

The German Port Museum is currently being developed by the Historic Museums Hamburg Foundation (Stiftung Historische Museen Hamburg) and is scheduled to be finished in the second half of the 2020s. Conceptually, the museum developers aim not



only at narrating the historic dimensions of ports and seafaring via the presentation of historic ships and artefacts, but also at assessing ports as hubs of globalization and thus help the understanding of a globalized world. Globalization is therefore addressed as an inherently contemporary matter, involving complex economic, social and cultural interrelations, and is made accessible to the museum public by turning towards ports and global maritime trade.

Spatially, the museum will be located on three functionally and conceptually distinct sites in and close to the Hamburg port area (Fig. 1).

Its main location will be a new museum building in the future neighborhood of Kleiner Grasbrook, where globalization will be discussed in a multi-perspective, multi-voiced way. The building's design is supposed to provide maximum flexibility in order to allow not only exhibitions, but also workshops, art performances, group discussions and many other formats to take place.

The second museum location is a historic harbor warehouse in the port area, that has already been home to an outpost of the Hamburg Labor Museum since 2002. This location focuses on the historic dimensions of port labor via living history-approaches and performative formats such as work demonstrations and participatory hands-on events. The warehouse's historic architecture and its proximity to active cargo terminals are supposed to create an atmospheric experience of port labor.

The third location is the historic four-masted barque Peking, that at the same time serves as a museum site and as the museum's main object. The Peking was built in Hamburg in 1911 and sailed between Hamburg and Valparaiso to import salpetre from Chile to Europe. The museum uses the Peking to approach the historic salpetre trade as an early form of modern globalization and to reflect on the global associations manifested in this transcontinental economic system.

All of these concepts have to be understood as broad outlines, since the museum's development is still in an early stage. An important milestone will be the filing of a preliminary concept proposal with the Federal Commission for Culture and Media in early 2021, in order to receive the 185 mio € funding that is set to be provided from the federal budget. Until then, all conceptual considerations remain comparably abstract and vague. The most concrete efforts so far concern the technical maintenance of the Peking and the preparation of a collecting concept.

### **3. Knowledge Spaces of Globalization and Spatio-Epistemic Translations**

The museum's formation as a knowledge space is a highly contested process. Space production, in this regard, has to be understood as a relational and socially constituted process

(Lefebvre 1991). It cannot be reduced to explicitly space-producing practices like architectural design or construction, but, borrowing from Actor-Network-Theory, involves a complex web of human and non-human actors that have stakes in the production of the museum space in multiple regards. This actor network includes – besides many others – the museum professionals that develop substantial concepts, the architects that design the museum sites, political actors and stakeholder groups from civil society, as well as the material, aural and olfactory surroundings of the museum sites, the artefacts included in the museum collection, the way these are organized, and the legal and administrative texts that shape the museum spatially, financially and with regards to its contents. This multitude of “human actions and non-human materials” constitute “stable spatial arrangements” (Murdoch 1998, 361) that eventually bring the museum space into being.

The distinct configurations of this processual bringing-into-being substantially shape the knowledge that is mediated and produced in the museum, since spatial arrangements have to be considered “as elements of epistemic contingency, rather than as containers of knowledge.” (Arteaga 2016) Knowledge, just like space, is produced in complex and heterogeneous networks of human and non-human actants with undetermined outcome (Latour and Woolgar 1986; Latour 1999). Space, as a crucial element of social practice, must be conceptualized as a key factor in this.

In addressing ports as hubs of globalization, the museum aims at producing and mediating knowledge on an inherently spatial phenomenon. The notion of globalization is associated with terms such as space-time-compression (Harvey 1990), with the symbolic moving-together of geographically distant areas and with a global division of labor.

It is connected to a paradigm shift in the spatial organization of capitalism that can be referred to as “supply chain capitalism” (Tsing 2009): the dissemination of capitalist production throughout the globe, in order to find the cheapest labor and the most convenient legal conditions available. This is made possible through the giant apparatus of logistics that produce a global, network-like infrastructure space (Easterling 2016), not tangible in terms of geographical proximity, but rather of topological connectivity. Global maritime trade therefore creates a powerful spatial fabric, “constituted by infrastructures, information, goods, and people” (Cowen 2014, 8) that facilitates the virtually seamless movement of things through the world and engenders polymorphous power relations on a global scale.

The challenging task of the German Port Museum as a knowledge space of globalization is to transform this global spatial fabric into the museum space. This task can be analyzed in terms of what Actor-Network-Theory calls “translation” (Law 2009, 144f): Regarding

scientific knowledge production, the notion of translation indicates stable chains of reference that allow the isolation and mobilization of certain elements from the empirical world and thus their transformation into the preferred form of publication (Latour 1999). With this in mind, the project Port Museum can be characterized as follows: on the one hand, there is the space of globalization, involving countless human and non-human actors spread all over the world. On the other hand, there is the museum space that seeks to display this space of globalization. It is supposed to refer to it not in an academic text, but in a spatial assemblage that can be considered as an comparably capable – although in many ways fundamentally different – mediator of knowledge. To produce this assemblage, certain processes of spatial transformation (the relocation of things from the space of globalization into the museum space) and epistemic mediation (references to the space of globalization) are needed. These spatio-epistemic translations involve discourses and inscriptions, spatial design as well as the museal task of collecting (Fig. 2). The latter is the focus of this conference paper.

#### **4. Collecting as Spatio-Epistemic Practice**

Collecting is not only the key historical task of any museum, but also a process that demonstrates the twofold nature of spatio-epistemic translation. It is spatial, since through collecting, museums extract objects from their original context and place them in the context of their collection. Collecting therefore includes the re-location of things, indicating their previous context while establishing a new spatial relation between the objects inside the museum (Sommer 1999, 138ff).

This cannot be separated from the epistemic dimension of the collection: collected objects refer to empirical phenomena in the outside world, thus making the collection a “meaning-making machinery to manage the world.” (Svandberg 2013, 391) Objects therefore act as bearers and mediators of a certain knowledge and are involved in processes of knowledge production in multiple ways. This is inevitably a selective process. Certain decisions have to be made about which objects are collected and which are not, which has enormous consequences for the knowledge that is mediated with and by the collection. A museum’s collecting policy could therefore be considered a kind of blueprint for the “chains of socio-material relations” (Waller 2017, 194) that constitute the museum as a knowledge space. This is of course strongly connected to power relations. The collection’s epistemic architecture determines how the above-mentioned webs of globalization are transformed into the museum: Is globalization mainly narrated as a story of economic success, cultural progress and technological excellency, like the use of the Peking as the museum’s centerpiece would easily allow? Or does the collection also allow reflection on how deeply globalization is rooted in colonialism (During 2000) and global capitalist

exploitation (Bonacich and Wilson 2008)? Which story is told and by whom and what?

These matters make collecting one of the key factors that determine the Port Museum as a powerful knowledge space of globalization and a central leverage point for a critical intervention into its spatio-epistemic configuration.

### **5. Collecting as Participatory Art-Based Research**

To understand the space-producing practices related to the German Port Museum, I have been following the museum's development for several months in a first ethnographic research phase. Semi-narrative interviews were conducted with key actors of the field to gain insights into how they imagine the future Port Museum and how they make sense of the planning process. Based on the interview data, the human and non-human actors participating in the process were mapped, exploring their interdependent relations and their role in the spatio-epistemic production process. The process is furthermore researched through participant observation of selected events that reveal negotiation and translation processes constitutive for the museum. Another important resource are literal and visual inscriptions such as space plans, collection concepts or other concept papers, that fix spatial and epistemic parameters.

Through these methods, I gained an understanding of the actor networks with which the museum is entangled and that are involved in the transformation of the space of globalization into the museum.

Based on these findings, I will switch roles from being a describing ethnographer to playing an active part in the field by employing participatory art-based methods of research. I will try to extend the research perspective beyond that of the museum developers and to intervene in the museum's spatio-epistemic configuration by employing experimental practices of collecting. My aim is to include marginalized actors of globalization and to explore ways of collecting their perspective on the subject.

The group I am addressing here are seamen and -women working on container ships. In moving cargo through the global spaces of logistics, they play key roles in the process of globalization while being widely ignored in popular discourse. From the landside perspective of the global north, this enormous workforce remains mostly hidden from sight in the "forgotten space" of the maritime (Sekula 2018, 50). Their own freedom of movement, unlike that of the containers they ship, is radically restricted by international security protocols, national border protection and corporate policy. This leaves them with only very limited means of participation and articulation inside the space of globalization they help to produce. This discrepancy between the almost limitless freedom of things

and the harshly restricted freedom of people in the globalized space of maritime trade is to be addressed in a series of experimental formats of collecting.

These collecting experiments are realized in cooperation with the German Port Museum and the Duckdalben International Seamen's Club in Hamburg, which provides me an opportunity to get in touch with actors of the forgotten space of global logistics. This is crucial since, due to tight schedules and legal restrictions, seamen do not leave the ports anymore and remain mostly isolated from the cities they berth in. This is why the only place they commonly see in Hamburg is the Duckdalben. Surrounded by staggering stacks of containers and roaring motorways in the midst of the container port, visitors get provided internet access, drinks, a room of silence for varied religious observance, entertainment and an opportunity to make conversation with people beyond the 20-men-crew of their own ship. The Duckdalben can therefore be considered a kind of interspace between sea and land, ship and city, global north and global south.

In this interspace, I will experiment with several settings, devices and formats that allow the accumulation of narrations and objects that are likely to be overlooked by institutional collections. In including seamen as collectors and borrowing from a tradition of collecting and archiving as artistic practice (Schaffner and Winzen 1998; Lorey 2020), the spatio-epistemic process of collecting is explored as an art-based mode of research that impinges upon its field in an interventionist and participatory way (Peters et al. 2020). I am attempting to start a collection that initiates a shift in perspective from looking at globalization from the privileged land-based, urban position, towards a perspective that is situated in the widely forgotten maritime space. I hope to create a setting where the powerful subject position of the collector is dissolved and the seamen gain agency and discursive power by being put in the position of co-creators in a collaborative research collection.

## **6. Outlook**

Over the next year, I will develop multiple formats of participatory collecting in the Duckdalben. WIP-concepts include a retired phone booth in the club that I have permission to remodel for my research (Fig. 3). In turning this booth first into a communication device and then into a recording setup, I hope to start a collection of audio recordings that narrate and reflect globalization from the seamen's perspective and conceptually involve their views and concerns from the very start. To complement these media collections, I will collect material items, gathered by seamen on their journeys. I am interested in a collection of things that reflect the way seamen experience their movement through the logistical spaces.

Through the interplay of material objects and recorded in-depth narrations of seamen, I hope to establish a reflexive space that

mirrors the ambivalent relation of isolation and mobility inscribed into the very nature of globalization.

These are early-stage ideas that are deliberately kept wide open and that have to be elaborated in extensive series of trial and error over the coming months. What under normal circumstances could have been accomplished by just being present in the Duckdalben and talking to people, requires creative solutions in times of the covid 19-pandemic. Access to the club is prohibited to non-seamen at the port authority's instruction, while many shipping companies restrict shore leave for their staff. The virus has exacerbated the already strict demarcation between sea and land and the isolation of seafarers. This complicates my research, but first and foremost it worsens the seafarers' situation. Although this dimension is not an explicit focus of my research design, it will certainly be part of the results and will be reflected in the collection.

### **DDDr Statement**

While stemming from a humanities background instead of an architecture- or design-based context, the PhD project applies participatory art-based methods to design the research process more inclusive and to explicate tacit knowledge of non-academic actors.

The epistemological point of departure in this research project is a theoretical interest in the entanglement of knowledge and space, which is empirically pursued in the field of research, i.e. the development process of the German Port Museum. During an abductive research process, theoretical questions are revised based on empirical observation and vice versa. This ongoing process leads to a political concern – the critique of an affirmative master narrative of globalization and the invisibility of certain actors – which is then addressed by experimental, art-based practices. These practices intervene in the field of research through opening up the process towards non-academic actors while producing new theoretical questions, that might call for an adjustment of the research setup.

The research design thereby parallels main principles of Practice & Design Driven Research as proposed by CA<sup>2</sup>RE, emphasizing the “transformative and innovative power” (CfP for the Milano-Event) of artistic research strategies. This is achieved through the creation of experimental research setups to supplement well-established ethnographic methodologies and to highlight ways of opening the research process, while explicitly impinging upon the field of research. I therefore consider my way of working as theory-driven and extended by experimental practice in order to address political and social concerns in the empirical world.

## BIBLIOGRAPHY

- Arteaga, Alex. 2016. "Architecture of Embodiment." LAMURAD. Southern Journal of Research in Art and Design. 2016. <http://lamurad.eina.edu/?p=214>.
- Bonacich, Edna, and Jake B. Wilson. 2008. *Getting the Goods: Ports, Labor, and the Logistics Revolution*. Ithaca, N.Y.: Cornell University Press.
- Cowen, Deborah. 2014. *The Deadly Life of Logistics: Mapping Violence in Global Trade*. Minneapolis: University of Minnesota Press.
- During, Simon. 2000. "Postcolonialism and Globalization: Towards a Historization of Their Inter-Relation." *Cultural Studies* 14 (3–4): 385–404. <https://doi.org/10.1080/09502380050130392>.
- Easterling, Keller. 2016. *Extrastatecraft: The Power of Infrastructure Space*. Paperback edition. London New York: Verso.
- Harvey, David. 1990. *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*. Oxford [England] ; Cambridge, Mass., USA: Blackwell.
- Latour, Bruno. 1999. "Circulating Reference: Sampling the Soil in the Amazon Forest." In *Pandora's Hope: Essays on the Reality of Science Studies*, 24–79.
- Latour, Bruno, and Steve Woolgar. 1986. *Laboratory Life: The Construction of Scientific Facts*. 1. Princeton paperback printing. Princeton, N.J.: Princeton University Press.
- Law, John. 2009. "Actor Network Theory and Material Semiotics." In *The New Blackwell Companion to Social Theory*, edited by Bryan S. Turner, 141–58. Oxford, UK: Wiley-Blackwell. <https://doi.org/10.1002/9781444304992.ch7>.
- Lefebvre, Henri. 1991. *The Production of Space*. Nachdr. Malden, Mass.: Blackwell.
- Lorey, Stefanie. 2020. *Performative Sammlungen Begriffsbestimmung eines neuen künstlerischen Formats*. Bielefeld: Transcript Verlag. <http://public.eblib.com/choice/PublicFullRecord.aspx?p=6350279>.
- Murdoch, Jonathan. 1998. "The Spaces of Actor-Network Theory." *Geoforum* 29 (4): 357–74. [https://doi.org/10.1016/S0016-7185\(98\)00011-6](https://doi.org/10.1016/S0016-7185(98)00011-6).
- Peters, Sibylle, Maïke Gunsilius, Sebastian Matthias, Kerstin Evert, and Kathrin Willner. 2020. "What Is PABR and What Is This Online-Resource About?" *Participatory Art Based Research*. 2020. <https://pab-research.de/what-is-pabr-and-what-is-this-online-resource-about/>.
- Schaffner, Ingrid, and Matthias Winzen, eds. 1998. *Deep Storage: Collecting, Storing, and Archiving in Art*. Munich ; New York: Prestel.
- Sekula, Allan. 2018. *Fish Story*. Third revised English edition. London: MACK.
- Sommer, Manfred. 1999. *Sammeln: Ein Philosophischer Versuch*. 1. Aufl. Frankfurt: Suhrkamp.
- Svandberg, Fredrik. 2013. "The World as Collected; or, Museum Collections as Situated Materialities." In *The International Handbooks of Museum Studies*, edited by Sharon Macdonald and Helen Rees Leahy, 1st ed., 389–415. Wiley. <https://doi.org/10.1002/9781118829059>.
- Tsing, Anna. 2009. "Supply Chains and the Human Condition." *Rethinking Marxism* 21 (2): 148–76. <https://doi.org/10.1080/08935690902743088>.
- Waller, Laurie. 2017. "Curating Actor-Network Theory: Testing Object-Oriented Sociology in the Science Museum." *Museum and Society*.

## BIOGRAPHY

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Figure 1. Satellite Image of the Hamburg Port Area with the Duckdalben Club and the Port Museum's Locations.  
(© Melcher Ruhkopf / Freie und Hansestadt Hamburg, Landesbetrieb Geoinformation und Vermessung).



# SPACE OF GLOBALIZATION

SPATIO-EPISTEMIC  
TRANSLATIONS

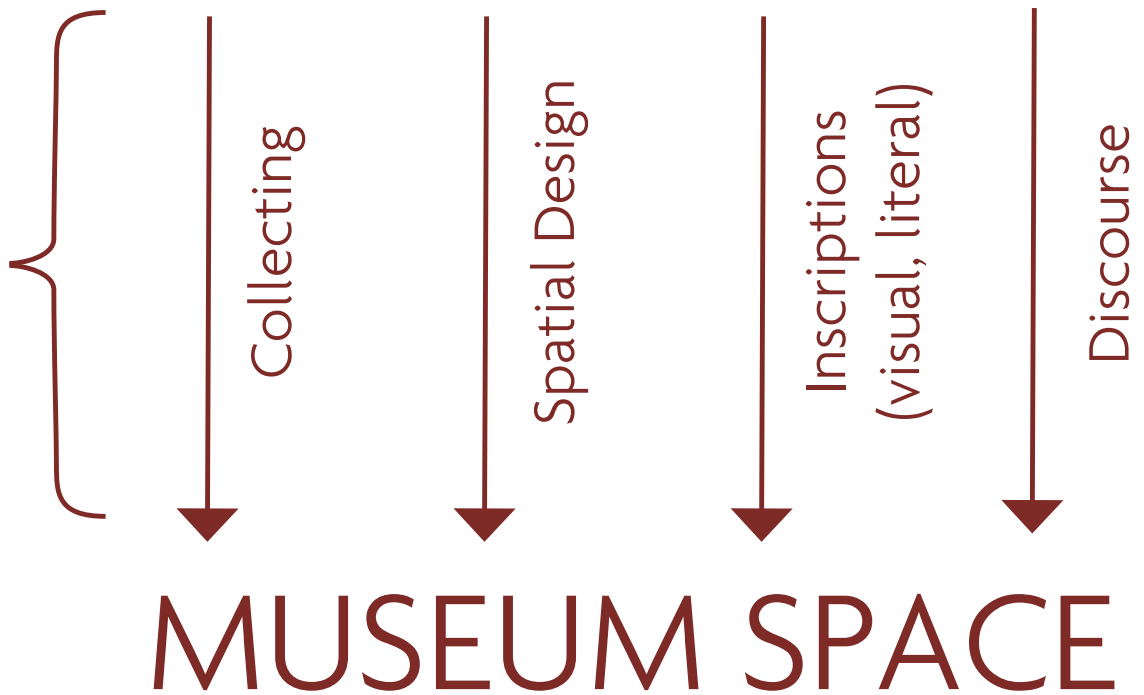


Figure 2. Transforming the Space of Globalization into the Museum Space (© Melcher Ruhkopf).



Figure 3. Phone Booth in the Duckdalben Club (© Melcher Ruhkopf)





# **Los Angeles: Fragments of Four Ecologies**

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## ABSTRACT

**The dissertation proposal “Los Angeles: Fragments of Four Ecologies” refers to the publication “Los Angeles: Architecture of Four Ecologies” by architectural historian Reyner Banham from 1971. In contrast to contemporary urbanists at the time, he praised the Californian City in his book regarding its spacious urban layout and its focus on individual transportation. In response to Banham’s publication 50 years later, I propose to appropriate, re-evaluate and re-frame his observations through the conceptual and theoretical lens of the fragment. The concept of the fragment offers in particular valuable (methodological) insights not only regarding its distinctive characteristics like multiplicity, obscurity and ambiguity, but also regarding its general artistic values. In this regard, the emphasis will be set on identifying an artistic research method of its own right with the concept of the fragment as starting point. As a result, the “Fragments of Four Ecologies” will offer distinctive critical 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.**

**Keywords: Los Angeles; Fragment; Ecology; Artistic Research; Postmodernism; Dystopia.**

The title of the dissertation “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 Autopia – in order to structure his research. In contrast to contemporary urbanists at the time, he further praised the Californian city along with its freeway system, for which he said to have “learned to drive in order to read the city in the original” (Banham 1971, 5).

### **Contextualization**

At the time of the late 1960’s and 1970s, Banham was a distinctive proponent of Los Angeles, especially regarding its lifestyle – architecturally as well as (pop-)culturally. Nevertheless, while he praised the cityscape of Los Angeles along with its spacious urban layout and its focus on individual transportation, one year after his

publication the scientific committee “The Club of Rome” projected already a quite bleak future outlook according to their report “The Limits to Growth” from 1972. This bleakness related to an ongoing exploitative nature of the modern lifestyle along with its affection to inexhaustible consumption and ceaseless extraction of natural resources.

As a result of this very particular turning moment in 1971/1972 and from today’s perspective, 50 years later, it is difficult to still praise Los Angeles regarding the very many aspects Reyner Banham found so intriguing to experience. Especially the cult of the car and its associated lifestyle, the apparent individual freedom of the Freeway, or the ideal of the single-family house within sprawling suburbia, are just few examples of very many residues regarding a frenetic 20th Century, when high hopes and short-dated turnovers gradually spiraled into serious problems.

Today, it seems easy to criticize Banham’s audacious appreciation, not only from an ecological point of view, but also from a “flatten-the-hierarchy”-perspective. But nevertheless, it appears today even more difficult to change habits when everything feels convenient, to question modernity when there are no alternatives available, to criticize famous voices when they seem too loud and finally to overcome certain modes of practice when a better future is not yet quite visible. In this regard, both Los Angeles and Banham’s book serve as an ideal point of departure for an investigation into urgent contemporary issues regarding a difficult future yet to come. A distinctive critic of modernity seems hereby necessary along with a search for its exemplary fragments. As a result, this investigation should then not only be reduced to Los Angeles but on the contrary its aim should be planetary – especially in view of the increasing threats resulting from ongoing global warming and mass extinction. And while many countries and cities are currently hurrying up in order to reduce CO<sub>2</sub> and reprogram their existing cities under climate-friendly aspirations while maintaining the lifestyle as usual, the question is: what happens to the “not adaptable” – to the ruins or fragments of “Green-shaping”? Furthermore, what will be left of the Californian Dream in the face of possible not-so-distant ecological breakdowns?

### **Fragment as Framework**

Within the doctoral thesis, Banham’s approach serves mainly as a starting point which provides also raw material to expand on (fig.2) and artistically engage with by 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 simultaneously propose a need for rewriting

as well as undoing. At the end, this will then not serve as a historical observation, but rather as a speculative extrapolation into potential futures, as the remaining fragments and voids in-between naturally leave space for (re-)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” (Bourriaud 2002, 46).

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 of Urbanism). The American writer and critic Frederic Jameson describes the layout of a prototypical postmodern urban situation as follows: “postmodernist buildings [...] celebrate their insertion into the heterogeneous fabric of the commercial strip and the motel and fast-food landscape of the postsuperhighway American city” (Jameson 1991, 63). According to his description, one can think of a few prototypical cities in the US with a similar setup, and Los Angeles could be surely considered as one of them. In a more provocative manner, Jean Baudrillard states: “Los Angeles, with its extensive structure, is merely an inhabited fragment of the desert” (Baudrillard 2010, 55). 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 also on framing and viewpoint.

Against the backdrop of general 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 context, but also due to its ambiguity and implicit artistic potential. (fig.3) Especially in the 18th Century, when the modern understanding of the fragment emerged, Italy and Greece were points of reference while searching for classical order in architecture as well as literature. At the time, German philosopher Friedrich Schlegel cultivated this fascination and started to publish a 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 their Journal, Friedrich 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 and use of the fragment is identified with an idealistic appreciation of an almost vanished place and past, through which it seems also best represented in the form of the fragment itself. In turn, Los Angeles could be considered as the equivalent of such



a place regarding the 20th Century in retrospective. Prototypically, Hollywood is considered today as its image or dream factory par excellence. American art critic and writer Rosalind Krauss calls “Hollywood, the beehive of the media at the center of Los Angeles” (Bois and Krauss 1997, 231), 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” (Ballard 1994, 9). In this regard, Los Angeles has been repeatedly characterized as the center of constant media production where potential realities seem to be perpetually (re-)produced, evaluated and distributed.

Additionally, within the course of the 20th century the general media landscape was also gradually dominated by the rising distribution of the image through the invention of photography and the moving image by the late 19th century. Since then and especially today, it seems that the (moving) image increasingly takes over the form of knowledge production and opinion making. There are even claims today that foresee a post-text future in the 21st century: the New York Times provocatively tackled this issue in various short articles under the title “Welcome to the Post-Text Future.” In his essay “The Rise of a Visual Internet”, the editor Farhad Manjoo begins with the claim, that “[t]he thing you’re doing now, reading prose on a screen, is going out of fashion” (Manjoo 2018). 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” (Manjoo 2018).

### **Ecological Aspirations**

The previous dystopic tone at the end could be a general potential direction within the practice-based part of the dissertation, as it relates conceptionally to certain characteristics of the fragment (e.g. obscurity, see fig.3), but also to the City of Los Angeles regarding gloomy future predictions in the context of current climate change realities. Hereby, the city presents already a rich source and long tradition of dystopic visions due to its delicate geographical location (regarding earthquakes, heatwaves, etc.) and its expansive human manipulated landscape (cf. Scott’s *Blade Runner* 1982). The writer and critic Mike Davis states that “[t]he City of Los Angeles is unique, not simply in the frequency of its fictional destruction, but in the pleasure that such apocalypses provide to readers and movie audiences. The entire world seems to be rooting for Los Angeles to slide into the Pacific or be swallowed by the San Andreas fault” (Davis 1996, 277). Davis further supports his investigation with an illustrated ranking of fictional destruction scenarios staged in Los Angeles. Here, it is further interesting to see that ecological disasters start to play an increasing role around the 1960s. This means, while Reyner Banham still praised Los Angeles in 1971, the ecological crisis

produced by human manipulation was already well documented and higher ecological aspirations were already widely published as well.

Moreover, while Banham's four ecologies provoke not only symbolic assumptions to the four geographic directions and its geographical features in Los Angeles, it also provokes parallels to the pre-modern school of thought and world view of the Four Elements. Air, Earth, Water and Fire have had a strong influence on the human understanding of the world and being in the world until only a few hundred years ago. And while the visual language of the pre-modern Elements often depicted obscure diagrammatic drawings of nature, it is also interesting to see, when superimposed on the location of Greater Los Angeles, that not only parallels to its geographical implications can be drawn, but also to its potential climatic threads due to ongoing global warming (fig.2).

Especially today, when science started to gradually overwrite the concept(s) of the Four Elements, it might be also rewarding to look back for traces of its (mythological) leftovers in order to pick up certain threads which seem to be forgotten. Just like the alchemistic search for Gold activated a creative stimulus of fusing numerous substances in order to find the right equation for its artificial production, looking back at the basic principles of the Four Elements could serve as an inspiring pool of references regarding grounded ecological thinking as well as regarding the fragment and its continuous search for meaning. Nevertheless, if it is somehow possible to reduce global warming to a minimum, the fundamental question remains: how can we find a better way of coexistence in the face of the urgent and pressing ecological issues we are experiencing now in the first half of the 21st Century?

## **Conclusion**

In contrast to Banham's observations fifty years earlier and aligned with the theoretical contextualization of the fragment, the project "Los Angeles: Fragments of Four Ecologies" aims to recontextualize his book through artistic appropriation (fig.1), and on the other hand to propose a re-evaluation and re-framing of 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 methods along with archival, personal and visual appropriated observations by identifying the "The Fragments of Four Ecologies" as a collection of (moving) images and (fragmentary) writings. Just like 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 [...]."

## **DDDr Statement**

“Los Angeles: Fragments of Four Ecologies” aims to combine artistic/architectural practice with scientific research on the City of Los Angeles through methods of collecting data, 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 of objects or the diary (text, film, etc.) acknowledge artistic interpretation and attribute fragmentary perception to personal observations. For the practice-based part, I’m currently defining sections (areas, streets, blocks) in Los Angeles in order to structure my research.

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 (usually text) expands onto the work with text, image and object. Through this combination, the dissertation contributes not only to the discourse regarding the fragment (in architecture and art) and how we understand and create narratives by experiencing a city, but also to the definition of an artistic research method of its own right with the concept of the fragment as starting point. As a result, the aim is to create critical narratives, which highlight distinctive aspects in regard to failures of modernity, climate urgencies, its social implications and future potentials.

## **BIBLIOGRAPHY**

Ballard, J.G. 1994. Hello America. New York: Liveright Publishing.

Banham, Reyner. 1971. Los Angeles: The Architecture of Four Ecologies. London: Allen Lane.

Baudrillard, Jean. 2010. America. London: Verso.

Bois, Yve-Alain, and Krauss, Rosalind. 1997. Formless: A User's Guide. New York: Zone Books.

Bourriaud, Nicolas. 2002. Postproduction. New York: Lukas & Sternberg.

Davis, Mike. 1996. Ecology of Fear: Los Angeles and the Imagination of Disaster. New York: Metropolitan Books.

Jameson, Frederic. 1991. Postmodernism or, the Cultural Logic of Late Capitalism. London: Verso.

Manjoo, Farhad. 2018. The Rise of a Visual Internet, in: Welcome to the Post-Text Future. New York Times (Accessed Online: Feb. 14th, 2020).

## **BIOGRAPHY**

Daniel Springer is an architect and researcher with a focus on artistic, ephemeral, and ecological approaches in architecture. After completing his studies at the State Academy of Art & Design Stuttgart, he received various Scholarships (e.g. MAK Schindler 2015, Bauhaus Dessau 2018) in order to further explore artistic potentials and relevant positions in architecture. Currently, he is part of the Academic Staff at the HafenCity University Hamburg, where he pursues also an artistic-scientific PhD at the Chair Architecture and Art.

# Los Angeles

THE ARCHITECTURE OF FOUR ECOLOGIES *Fragments*

*D. W. Springer*  
REYNER BANHAM



*t.b.d.*  
A Pelican Book

Figure 1. Appropriation of Banham's Book Cover (which shows the painting "the Splash" by David Hockney).

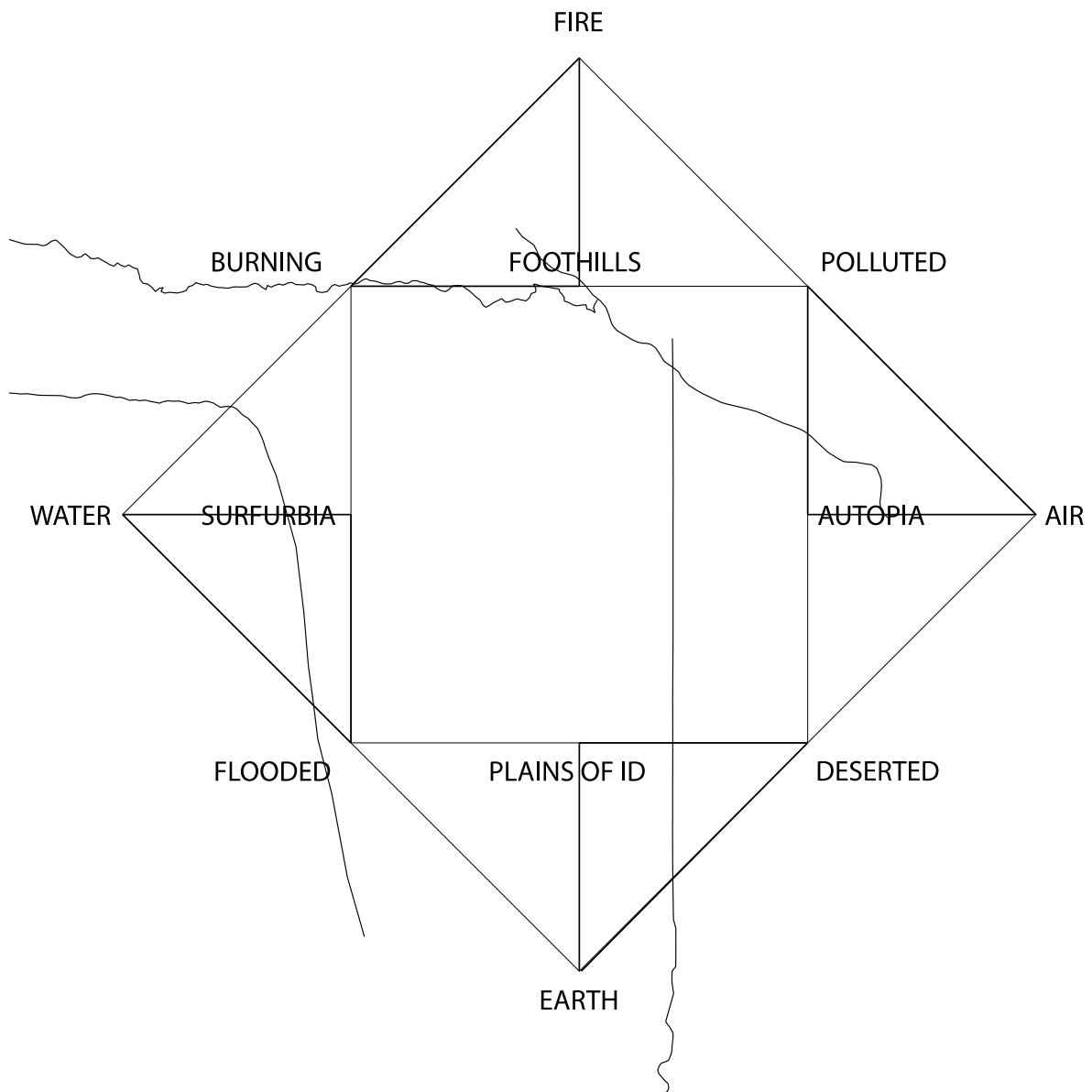


Figure 2. Diagram showing an extended interpretation of the “Four Ecologies”.

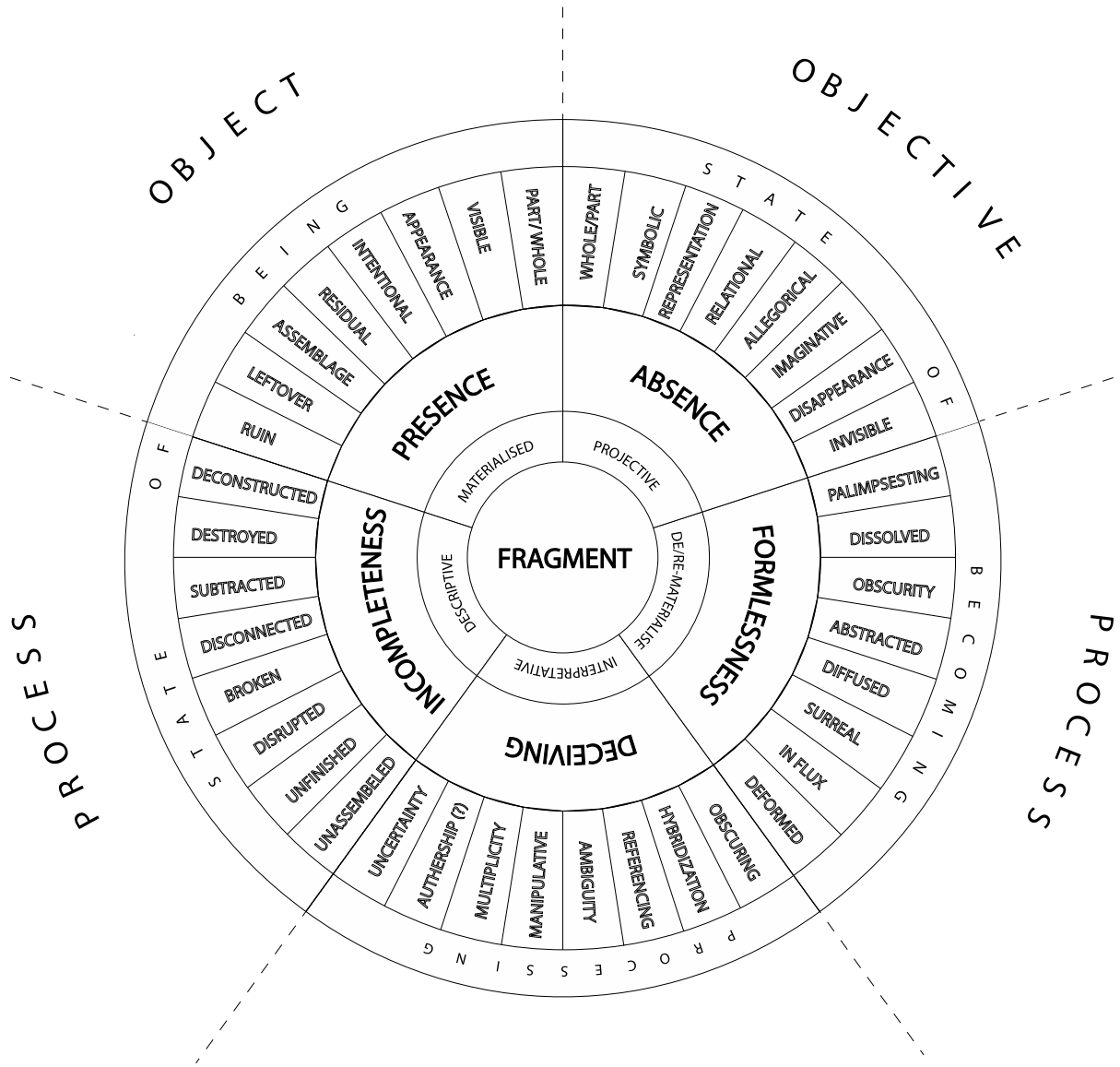


Figure3. Diagram showing specific notions of the fragment.





**A continuity  
between Kenneth  
Frampton’s “Critical  
Regionalism” and  
Nicolas Bourriaud’s  
“The Radicant.”**

Andrea Crudeli  
University of Pisa

## ABSTRACT

**Critical Regionalism is a theory developed by Kenneth Frampton thought as a historical strategy to promote cultural identities in the age of globalization. As a result of a conversation with the British historian at Columbia University of NYC, this paper investigates new possible developments for the theory. Following Frampton's definition of the "outsider" in 2016, three designed-oriented topics emerge as bridges between historical and present-day design practice, the construction culture, the topological approach, and tactility. The "outsider" figure reveals similar characteristics to the one described in Nicolas Bourriaud's "The Radicant," a contemporary semionaut who consciously lives in the globalized world but who produces meaningful specificity through the act of translation. The paper highlights the connections between the figure of the "radicant" and the "outsider."**

**Keywords: Kenneth Frampton, Critical regionalism, Nicolas Bourriaud.**

Kenneth Brian Frampton wrote for the first time on Critical Regionalism in the early '80. As it emerged on its first release, the theory was a list of ten-points agenda that encouraged a particular architecture attitude to overcome the placelessness of the International Style and the historical references of Postmodern architecture. This theoretical discourse, accompanied with practical examples of projects of the previous decades, showed a design strategy rooted in the contemporary context, but, at the same time, tied to a specific geographical and cultural tradition, showing how it was possible to mediate the forces of the global and the local.

Frampton stopped writing about Critical Regionalism in the early '10, after a significant part of his career dedicated to articles and books devoted to this topic.

This paper follows a personal conversation, published as in an interview, with the British historian that happened in 2018 at Columbia University of NYC, in his private office at Avery Hall, focused on the validity of the theory in the decade of 2010-2020, and what could be a new researching branch of its legacy. The first remarkable reflection from the conversation was the disappearance of the local architecture schools, institutions devoted to educating local identities "The concept of the region has become too fragile" (Frampton, 2018). According to his

statement, what needs to be redefined is the concept of region and its boundary, conceived both as a cultural and physical perimeter. This argument leads to the revisitation of Martin Heidegger's idea of Raum, "a territorial boundary inside which a civilization manifests its presence" (Heidegger, 1971, 10), used initially by Frampton in the first version of Critical Regionalism. According to the new developments of globalization, the concept of the region should be expanded to macro-areas of the globe, with an elastic perimeter that changes according to the topic at issue. As Frampton originally intended the region as a liberation place to resist the global market of capitalism, today, the will to create a compelling identity enclave has become one of the first urgency of the populist political movements, a reactionary attempt elude the progressivism of the globalization process.

Since the first release of the theory, the world's changing involves a retrospective reflection on its fundamentals. The intensification of the migration's flows, concurrently with the financial flows, and the increasing density of the network infrastructure, a consequence of the digital revolution, is the symbol of new cultural geography, where everything appears closer thanks to this highly specialized connectivity. People can zoom with Google street-view almost everywhere globally, traveling has been reduced to a click thanks to the touristic companies and low-cost flights, and destinations are Disneyland-fied to survive thanks to a specificity oriented towards a touristic profit. Zygmunt Bauman has described this condition as the "liquid modernity" (Bauman, 2016). Less cultural identities, more brand identities, where the brands don't belong to a territory, but they are placeless and iconographic projects to be transplanted in every soil type. The consumer market fostered the rapidity of the products' circulation. It reduced the distance between the producer, and the consumer, and profitability is the main criterion for evaluating the duration of a "cultural product" on the consumer market. The building industry, and the architecture discipline, have dramatically indulged in this direction.

To better understand the current effectiveness of the theory, a group of researchers recently dedicated a study on Critical Regionalism. The contribution of OASE 103 in 2019, edited by Tom Avermaete, Veronique Patteeuw, Hans Teerds, Lea-Catherine Szacka, opened new potential researching paths regarded Critical Regionalism. They showed how a "revisited" interpretation of the theory can still be crucial for the current architecture panorama: "This issue of OASE examines the canonical role of Kenneth Frampton's concept of 'Critical Regionalism,' reaching beyond its traditional interpretation. It gathers contributions that propose a new genealogy of the text, critical re-readings, and explorations by practicing architects and architecture theorists that evaluate the interest of Frampton's ideas for contemporary architecture" (Avermate, 2019, 14). Beyond the arguments brought up by the various authors of this volume, there is another critical leading, the

figure of the “outsider.”

In one of his last contributions to Critical Regionalism given by Frampton, during an itinerant lecture titled “Critical Regionalism Revisited”, Frampton provided a list of architects called the “outsiders,” creating a new category of individuals underlined by the same design attitude. Frampton’s explained how these designers are driven by their sensibility to read the complexity of a specific place and its regional peculiarities, especially if they come from far away from the design site. The dialogical confrontation between the original coming culture and a new one to explore is where meaning can arise. The creative process that occurs when an open-minded architect critically tries to mediate his background language with the peculiarities of the site triggers the production of a new cultural identity. These architects are represented by those who travel and live in different areas, contemporary-dwellers, who gain a critical attitude to compare their own native identity with new ones. This Framptonian category responds to some recent issues of the XXI century, such as the intense migrations fluxes that characterize our age. In a 2016 conference at the University of Washington, Seattle, he said: “I start thinking: now is it really about critical regionalism, or is it a sensibility to a place of architects who don’t necessarily come to that place? Now, this lecture flips over, and I’m going to show a series of works done by “outsiders” which are particularly sensitive to the particularity of circumstances.” (Frampton, 2016)

As Frampton always stated, cultural identity is not something given, something a priori, but it’s a long-term project because it changes over time. Its releasing connotation is related mainly to the idea of producing specificity, to give meaning to the act of building, keeping the construction process human without falling inside the architecture of pure scenography. The principal risk of an architecture assembly of heterogeneous vocabularies, a mixture of images driven by appearance forces, is the result of a visual translation. As Jean Baudrillard described it, “the culture of the image reduces the construction act as simulacra” (Baudrillard, 1994, 7).

Frampton stated: “The real question is, was it simply a reaction to postmodern style or a reaction to something deeper than it? What I was reacting against was the mutation of architecture into scenography. In a way, this scenographic architecture is still around, on a larger scale than ever. In terms of the relative autonomy of architecture as a poetic of construction, the scenographic is somehow problematic, there have always been of course” (Frampton, 2018).

In the conversation that encouraged this article, Frampton mentioned how in China, or southeast Asia, or in South America, relatively young architects have been commissioned with small or medium-size buildings, which are inspiring, he said, because the quality of these work is impressive, and in many cases, they

are funded by developers who are focus on local situations. Some projects deal with the site as an alive entity, avoiding free-standing objects. They seek the specificity of the ground itself because the relationship between the building and the earth (conceived both in its physical and cultural dimensions) is the most crucial topic in the culture of diversity. One of the most important examples is Vector Architects' seashore library in Qinhuangdao, designed by the principal Gong Dong. This architect represents Frampton's "outsider" paradigmatic figure, thanks to his international education and working experiences as an architect between the USA, Europe, and China.

This project is characterized by qualitatively oriented reflection fields, timeless topics, and they can be considered bridges between historical and present-day design practice. Those design topics can be used to dialogue with the site with a contemporary mindset. The first one is "the permanence of a construction culture," conceived principally in terms of the tectonic, construction process, languages, and the relationship between the artisanship and the production of the components of the building industry. The second topic is the "topological approach," where the site is conceived as a layered entity due to human and natural gestures. The third topic is "the tactile dimension," which is created in terms of craftsmanship and material culture, refers to material making and manipulation. According to Frampton, Vector Architects faced all those three issues in their design.

It is interesting to attempt a new path inside uncharted territories thanks to the confrontation of Frampton's theory with other studies carried out by authors who have enrolled different pathways. New, unexpected perspectives come up when the evolution of Frampton's Critical Regionalism is compared with another theory, a more recent one, written by Nicolas Bourriaud in his book "The Radicant." As a cultural background, in the same way as Frampton, Bourriaud tried to propose an alternative to overcome postmodernism. He called it the "alter-modernity," a global culture that implies going beyond modernity in a different way than postmodernism, an actual alternative way. Bourriaud's idea is an attempt to contextualize art (and architecture) produced in today's global context as a reaction against standardization and commercialism, an intention very similar to Frampton's one against capitalism.

"Artists are looking for new modernity that would be based on translation: What matters today is to translate the cultural values of cultural groups and to connect them to the world network. This 'reloading process' of modernism according to the twenty-first-century issues could be called alter modernism, a movement connected to the creolization of cultures and the fight for autonomy, but also the possibility of producing singularities in a more and more standardized world." (Bourriaud, 2009, 25)  
Bourriaud also states that "the immigrant, the exile, the tourist, and

the urban wanderer are the dominant figures of the contemporary culture”, defining a new figure, which is very similar to Frampton’s “outsider,” naming it “the radican,” which, according to Bourriaud’s definition are “those plants that do not depend on a single root for their growth but advance in all directions on whatever surfaces present themselves by attaching multiple hooks to them, as ivy does”. With its at once dynamic and dialogical signification, the adjective “radican” captures this contemporary subject, caught between the need for a connection with its environment and the forces of uprooting, between globalization and singularity. It defines the subject as an object of negotiation.

This global culture is not meant to find connections between heterogeneous images, but it aims to find remarkable dialogues between contents. In this sense, the critical choice of avoiding the culture of the image is very similar to Frampton’s fight against scenography. Bourriaud’s theory is rooted in the idea of the XXI century as a century of mass migration, characterized by the condition of the undesired exile, where the migrants are vessels in the network of a multicultural ideology. XXI century globalization process proceeds towards the dissolution of place peculiarities, and most of the persistent cultural enclaves are preserved in a touristic sense. In front of the relational mechanism as the assemble, the juxtaposition, the substitution, Bourriaud proposes the idea of the translation. According to the French critic, the content is not considered a unity but can be deconstructed to foster an improvement-oriented transformation. This can happen between dichotomies related very closely to Frampton’s topic, as the global and the local. Intending modernity as an endless acceptance of new opportunities, both the “outsider” and the “radican” are conceived as explorers who want to open new paths. Considering that independent projects of the local culture are not possible to achieve anymore and that an exclusively global culture leads towards the trap of capitalistic globalization, the central question is how to create a simultaneously global and local culture and get the best from both. Bourriaud’s primary purpose and Frampton’s is to manifest a cultural difference that shows the variety of artistic contents. A possible solution can be to create (or design) evolving and permeable organisms that can make the “singularly entering in resonance with historical instances and issues belonging to other cultures” (Bourriaud, 2009, 52).

Considering the emerging ideology of a multicultural society, encouraged by the digital revolution and its consequences in globalization, heterogeneous vocabularies are usually mixed following a visual juxtaposition. To contrast this phenomenon, Bourriaud put forward its “radican,” defined as a “semionaut,” a navigator in the sea of the sign and inventor of pathways, who doesn’t think in terms of aggregation, but who consciously translate meanings every time he compares his own identity with a different one.

This connection between Frampton's and Bourriaud's theories can be tested by investigating the designers of the last ten years mentioned in the 2016 lecture and the 2018 interview as, for example, the case of Vector Architects. A critical perspective on the contemporary design practice shows how the mediation phenomenon between local and global developments, under the economic, production, cultural, and political points of view, is in the hands of those designers who promoted a sort of resistance without being regressive: in fact, cultural identity is conceived, in both the versions of the "radicant" and the "outsider", as something to cultivate with a view to the mutability.

The similarities between the two authors' theories show how the same analyzed problematics can lead, through different paths, to a very similar solution. Even if Bourriaud's "radicant" is referred to the artist in general, it can represent the theoretical root for the figure of the "outsider" described by Frampton, providing new perspectives to the current importance of Critical Regionalism.

## **BIBLIOGRAPHY**

Avermaete, Tom, and Véronique Patteeuw, 2019. *Critical Regionalism Revisited*. Rotterdam: nai010 publishers

Baudrillard, Jean. 1994. *Simulacra and Simulation*. Ann Arbor: University of Michigan.

Bauman, Zygmunt, and Sergio Minucci. *Modernità liquida*. 2016. Roma; Bari: Laterza.

Bourriaud, Nicolas. 2009. *The Radicant*. New York: Lukas & Sternberg.

Foster, Hal. 2002. *The Anti-Aesthetic: Essays on Postmodern Culture*. New York: New Press.

Frampton, Kenneth, and Andrea Crudeli. 2018. *Beyond Critical Regionalism. A conversation with Kenneth Frampton*. <https://www.centoventigrammi.it/kenneth-frampton-interview/>.

Frampton, Kenneth. 2016. *Critical Regionalism revisited*. <https://vimeo.com/75447402>

Heidegger, Martin. 1971. *Building Dwelling Thinking in Poetry, Language, Thought*. New York: Harper Colophon.

## **BIOGRAPHY**

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Figure 1. The Seashore Library, Vector Architects – Credit: James Florio



Figure 2. The Seashore Library, Vector Architects – Credit: James Florio



Figure3. The Seashore Library, Vector Architects - Credit: James Florio



# V.2 DDDR METHOD



# **A Safe Space. Designs for Possible Emergencies.**

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## ABSTRACT

**The proposed contribution aims to illustrate and discuss, from a methodological standpoint, the structure of the author's ongoing doctoral research "A safe space. Exploring design possibilities in preparing for emergencies."**

**Keywords: Critical Infrastructures; Emergency preparedness; Ordinary and extraordinary.**

The research investigates the design possibilities and methodologies that underpin the approach of preparedness for disastrous events. It focuses on the design of critical infrastructures, those systems and spaces necessary for the resistance of a human environment, as hybrid and adaptable spaces designed to respond to both a state of rest and different times of a potential emergency. By shaping a theoretical framework, selecting case studies, and designing a set of possibilities, the work aims to question the discipline in facing an increasingly changing natural environment and uncertain reality and explore an architecture that can dialogue with the multiple temporalities that disasters can open.

In recent years we have witnessed an intensification of environmental phenomena with catastrophic effects on the human environment. In the environmental crisis of climate change, the increase in the risk generates, on the one hand, new vulnerable environments to which will correspond a growing need for security. On the other hand, global interest in the concept of preparedness.

Instead of mitigating the risk of a disastrous event, the idea of preparedness is to assume that a disaster will happen, enacting a vision of a dystopian future to develop a set of techniques for maintaining safety in a time of emergency (Lakoff, 2007). It addresses the protection of critical infrastructures, the backbone of settlements, their irreducible structure (Lee, 2016), the system on which human safety depends. Structures such as for water supply, energy provision, climate protection, and food production are, in fact, the first line for surviving and the first to fail in the wake of a disaster (Mazereew, 2017). Assuming a disaster as a potentially unstable context with which architecture must confront leads to consider multiple scenarios, duration, and configurations for a project, its functional or formal dynamicity, its relation to a state of change. It interrogates the permanence and stability of architecture, stressing principles such as transformability, adaptability, and typological hybridization: a park could be designed



to be transformed into an off-grid emergency campsite; a mineral square into a temporary water reservoir; a stable into an emergency housing system; a watermill into an off-grid system able to provide energy in the wake of a disaster.

Therefore, how can the architectural project embody the possibility of a disaster? How can this inform the design process, and what are the possibilities and methodology underpinned?

The research, thus, rather than investigating univocal solutions, aims to explore a range of possibilities.

The entire work is structured in three-macro sections: one theoretical, one collecting case studies, and one of research by design that aims to synthesize the previous ones. The sections, which seem rigidly separated, are actually conceived as fluidly interdependent. Each moves across the others, exploring, questioning, expanding, and even overturning the previous ones as within a design process.

The first one, "Preparedness: a reading," articulates a critical reading of preparedness, systematizing theories, revisiting models, framing and shaping the architectural debate. Here the reasoning flows as an excursus of examples that aim to frame architecture as the definition of a safe space by its very nature. The second section, "Safe Spaces: a set of possibilities," is composed of two main corpus of case studies that introduce different possibilities, methodologies, and declination of preparedness, with a geographical focus on the Japanese, American and North European context, where a high vulnerability to natural disasters and subsequent culture of preparedness strongly influence the design. The cases are all examples of ordinary spaces designed to sustain extraordinary conditions. They are not selected to be compared, but instead, they are portions of reasoning where each example helps in arguing the thesis. As anchors drawn to respond to both a state of rest and possible catastrophic futures, implicitly raising the question "what time is this place?" the cases present a spatial and temporal dualism that can be drawn in different ways. The recognition of design strategies proposed, the spatial implications of the addressed phase of the emergency, the approaches to the physicality of the disaster, and the specific drawing of the duality are, therefore, the analytic lens through which the cases are studied. Here, the act of drawing itself becomes the investigative tool, allowing a work of synthesis of diverse information and a first step of conceptualization, abstraction, and speculation. Each case is redrawn according to its evolution and behavior in different times of a possible emergency (event, response, recovery, reconstruction) that moves in the order of hours, days, months, and years. The result is a fluid and open matrix of possibilities

that explore methods, principles, and design solutions that can be further tested, deepened and implemented.

### **Prepper's Architecture**

There is nothing ready, but everything can be ready. (Emery, 2011)

The first corpus investigates the Prepper movement's architecture, a counterculture born in the 1960s in the U.S., made of groups and individuals who, through the design and equipment of a safe inhabitable space, actively prepare for a potential emergency: environmental catastrophes, economic collapse, pandemics, nuclear attacks, various apocalypses. More than the transitory present, their architectures, often based on accidental design strategies, address the period of during and after a catastrophe, thus representing a model of an alternative but a possible reality. Definable as a form of survival architecture, which combines food production, water provision, and shelter, with the implicit motto "build less, and use better what exists," Prepper's architectural culture is characterized by, on the one hand, a dualistic reading of human settlement to identify those elements and typologies to transform into infrastructures for survival. A private swimming pool could be converted into a self-sufficient greenhouse, a courtyard into a hybrid space for food production and water depuration, abandoned garages and tunnels could become multidimensional shelters. On the other hand, by redefining the inhabitable space as an entirely off-grid and self-sufficient typology (Stickells, 2014). By combining scientific literature, D.I.Y. manuals, pop-culture materials, and specific case studies through the tool of drawing, the aim is to trace some of the characters of this paranoid architecture, that albeit in its eccentric nature, seems to raise exportable and translatable insight for the discipline, ranging from highly introverted solutions to new forms of integration with the natural world.

### **Dynamic infrastructures**

The second corpus, "Dynamic infrastructures," collects a series of critical infrastructures at different scales that, differently from Prepper's architecture which constantly responds to a disaster condition, embody a multi-temporality, a state of change, and therefore are designed to transform, dynamically, in the event of a disaster. These address two main hazards: earthquakes and floods. They are analyzed with a focus, on a macroscopical level, on methodologies and design strategies proposed, and on a microscopical one, on the specific design of the transformation, highlighting the principles and solutions that inform their dynamicity. The mutation can be drawn in different ways: as a functional transformation, where the critical infrastructures are designed as dual-functional elements able to transform in the phase of the

emergency according to a programmatic change of the space; as elastic deformation, where infrastructures are conceived to formally transform, temporarily, due to the interaction with the destructive factors; as a plastic deformation, where they are designed to be shaped by the disaster.

The case studies present different relationships with the physicality of the disaster: from defensive approaches based on reinforcing existing structures to symbiotic logics that go beyond what Lebbeus Woods defined as “Man VS Nature” attitude. The case studies here proposed dialogue with precise times of potential emergencies. The moment of recovery, as in the case of the Japanese Disaster Parks, spaces entirely designed as recovery-camps “in power,” safe evacuation spaces, where a dual-design informs from the general scheme arrangement to a very detailed scale. Here, a system of punctual off-grid infrastructures is designed to be transformed into the backbone of a recovery camp: benches can transform into kitchens; green areas are drawn as a productive landscape for food in case of shortage; manholes can convert into camp toilets or first-aid necessity closets (Masuda, 2014).

The moment of the event, as for the Danish Climate Park by Tredje Natur, a water reservoir designed to transform depending on the different amounts of rainwater and typologies of floods, ranging from a mineral square to a series of ponds, to a liquid landscape and vice-versa.

The moment of reconstruction, as in the case of the M.I.T. PREP-Hub, where a specific local infrastructure, the paati, a water tank in the shape of a covered hall located at the corner of the main streets is retrofitted, hybridized, and redesigned as a site-specific civic center for the state of rest, as the anchor around which to settle the emergency camp and within which to shelter in case of earthquakes, as well as the repository of architectural culture from which to start the reconstruction. These cases present various degrees of controlling the uncertain disorder by design, from the controlled drawing of the space for evacuation of people left homeless by the disaster as in the Japanese case to an open design that embodies the unexpected, a yielding, incomplete space that draws an unfinished narrative universe (Nicolin, 2014) as in the case of Depoldering.

Whether in this central section of the work the grid of case studies results extensive, the diversity in the scale and typology of the projects is instrumental for building a discourse and defining general principles which are translatable to different scales. The range of disasters considered in the first corpus is arbitrarily wide because what emerges interesting is not the specific response to the disaster per se but rather methodological and procedural reasonings. In the second one, focusing on specific cases, the

choice is narrowed down to two disasters, the two most widespread in the world, which present a strong physicality with which architecture can dialogue. The dualistic reading of the environment to identify unprecedented potentials of spaces due to formal, dimensional, and performative specificities; a dual-functional approach from the general scheme to the scale of the furniture; the design of dynamic and hybrid spaces; the drawing of unfinished space shaped by the physicality of the disaster, are some of the issues that emerge from these cases.

### **Prepping Norcia**

The design as a specific form of research, thus the act of design itself as an investigative act, defines the third section of the work, "Prepping Norcia: an open design questionnaire." Here, in the Umbria region, the Italian inner area of Norcia is the context for a test-bed project to synthesize, test, discuss the theoretical, analytical, and design matrix built in previous sections. The choice of the site is manifold: on the one hand, the area is characterized by a very high seismic vulnerability, risk whose prevision remains a dark art (Bowring and Swaffield, 2013), generating a context that lives with the constant probability of disasters. On the other hand, as epicenter of the disastrous shakes of 2016, it provides the opportunity to systematize the spatial responses to past emergencies and revisit them from an anticipatory and design perspective. But moreover, the area represents, due to the intrinsic character of tangled relation with a changing nature, a magnifying glass for dynamics that, due to the climate crisis, could increasingly interest others and different contexts.

Here, as an open questionnaire, a series of interrogations are investigated by design. What kind of dynamicity do existing elements have regarding disordered situations? Which one can be redesigned as dual and adaptable for a condition of emergency? What are those critical systems on which human resistance depends? By adopting a Preppers' perspective of reading the space, and thus overlapping specific characteristics, typological aspects, and behaviors during the past emergency within a synthetic map, different elements that compose the human environment are observed and analyzed through their inherent actual or potential duality, resulting in an abacus of speculative dynamic behaviors. Between them, three types of critical infrastructures (the stables, the infrastructural areas S.A.E., a former watermill system that, in dealing with different aspects of the emergency management, appear as structures that, speculatively, concur in the construction of human resilience, are then studied and redesigned as anchors, dual spaces adaptable for a time of emergency. Here, the maquette becomes the investigative and design tool, on the one hand, by allowing a material synthesis of theoretical reasoning; on the other hand, by offering plasticity

that lends itself to exploring various behaviors of space in time. More than a single architectural outcome per se, each of them is developed in options and hypotheses, even contradictory, to explore the range of approaches emerging from the case studies matrix. The stables, spontaneously inhabited during the past emergency due to the planimetric arrangement and dimensions that allow adjustments and transformations, can be re-thought as a hybrid, off-grid infrastructures with an architectural scheme that allows different configurations over time, testing a range of possibilities from Preppers' solutions to the Disaster Parks' principles, from a stable to a temporary housing system.

The infrastructural areas for temporary emergency housing, a specific infrastructural platform provided by the Civil Protection, with foundations, water and electricity connections where standardized and prefabricated modules are installed in a few months, incubate a duality that can be explored in grafting a relation with the multiple times of the site. Closed to the city's historic walls, a punctual system of former watermills represents the third test case of the work. Formerly used to control and divert the flow of an intermittent torrent, this system, critical for the resistance of a fundamental ecosystem of the wetland, could be revisited as an off-grid, adaptive one that, formally interacting with this fast-changing ground, can draw strength from it, becoming new anchors in emergency conditions.

Although the design phase seems here to arrive as the third section of the work, it does not have a demonstrative purpose. On the contrary, fluidly moving, exploring, questioning, expanding, and overturning the previous parts as an open-ended process aims to synthesize the entire work.

### **DDDr Statement:**

The research is structured in three macro-sections: one theoretical, one collecting case studies, and one of research by design. The sections, which seem rigidly separated, are actually conceived as fluidly interdependent. Each moves across the others, exploring, questioning, expanding, and even overturning the previous ones as within a design process. The first two parts are conceived as prodromic actions of understanding, pre-design phases, research into the design (Roggema, 2016). While in the third, the act of design itself appears as the investigative act (Schoonderbeek, 2017). Here, the project is conceived as an open questionnaire, with the aim not to develop a single architectural outcome, but rather a set of experimental hypotheses, which may be alternative and even contradictory: dealing with 'wicked problems' (Churchman, 1967; Rittel and Webber 1973; Roggema 2016) means to deal with no final solutions as well as no single accepted formulation. In the entire work, the disciplinary tools are instruments of investigation but are also investigated on their own. Whether the first section is

developed mainly through writing, in the second one, the drawing allows analyzing the case studies by speculating on their behaviors in different times and possible futures. Instead, the model becomes the primary tool in the third section because it offers plasticity that leads to investigating multiple configurations of the space in time and allows the synthesis of different information. Therefore, the entire work fluidly moves on two tracks: on the one hand, it explores the contents; on the other, the disciplinary tools, in a crescendo that goes from writing to modeling, responding to the increasing complexity of knowledge and reasonings.

## BIBLIOGRAPHY

- Bowring, Jacky and Simon Swaffield- 2013. "Shifting Landscape in-between times". Harvard Design Magazine 36.
- Emery, Nicola. 2011. *Distruzione e Progetto: l'architettura promessa*. Milano: Christian Marinotti.
- Emidio di Treviri. 2019. *Sul fronte del sisma. Un'inchiesta militante sul post-terremoto dell'Appennino centrale (2016-2017)*. Roma: DeriveApprodi.
- Friedman, Yona. 2009. *L'architettura di sopravvivenza*. Torino: Bollati Boringhieri Editore.
- Lakoff, Andrew. 2007. "Preparing for the Next emergency". *Public Culture* 2, pp. 247- 271.
- Lee, Christopher. 2016. "Notes on Infrastructural Monuments". Allen Stan (Ed.) *Infrastructural Monument*. New York: Princeton Architectural Press.
- Lynch, Kevin and Micael Sourthworth. 1976. *What time is this place?* Cambridge: The Mit Press.
- Masuda, Noboru. 2014. "Disaster Refuge and Relief Urban Park System in Japan". *Landscape Architecture Frontiers* 2.
- Mazereew, Miho and Elizabeth Yarina. 2017. "Emergency Preparedness Hub: Designing Decentralized Systems for Disaster Resilience". *Journal of Architectural Education* 71, pp. 61-72.
- Nicolin, Pierluigi. 2014 "Le proprietà della resilienza". *Lotus international* 155, pp. 52-57
- Stickells, Lee. 2014. "Architecture of Doom: DIY Planning for a global catastrophe." *The Conversation*, <https://theconversation.com/architecture-of-doom-diy-planning-for-global-catastrophe-31836>, from June 30, 2021.
- Woods, Lebbeus. 2001. *Earthquake! A Post Biblical View*. Wien: Springer.

## BIOGRAPHY

Beatrice Balducci is a Ph.D. student in Architectural, Urban, and Interior Design at Politecnico di Milano. With her research, she investigates the design possibilities and methodologies underpinning preparedness for disastrous events, focusing on the design of adaptable and hybrid spaces. She studied in Paris and in Milan, where she graduated in 2019. Since 2020, she has worked as a teaching assistant in Cino Zucchi's Design Studio. She is currently involved in the collective "Assume There is a Landscape" and the research group Walden Architect that exhibited at the Seoul Biennale 2021.

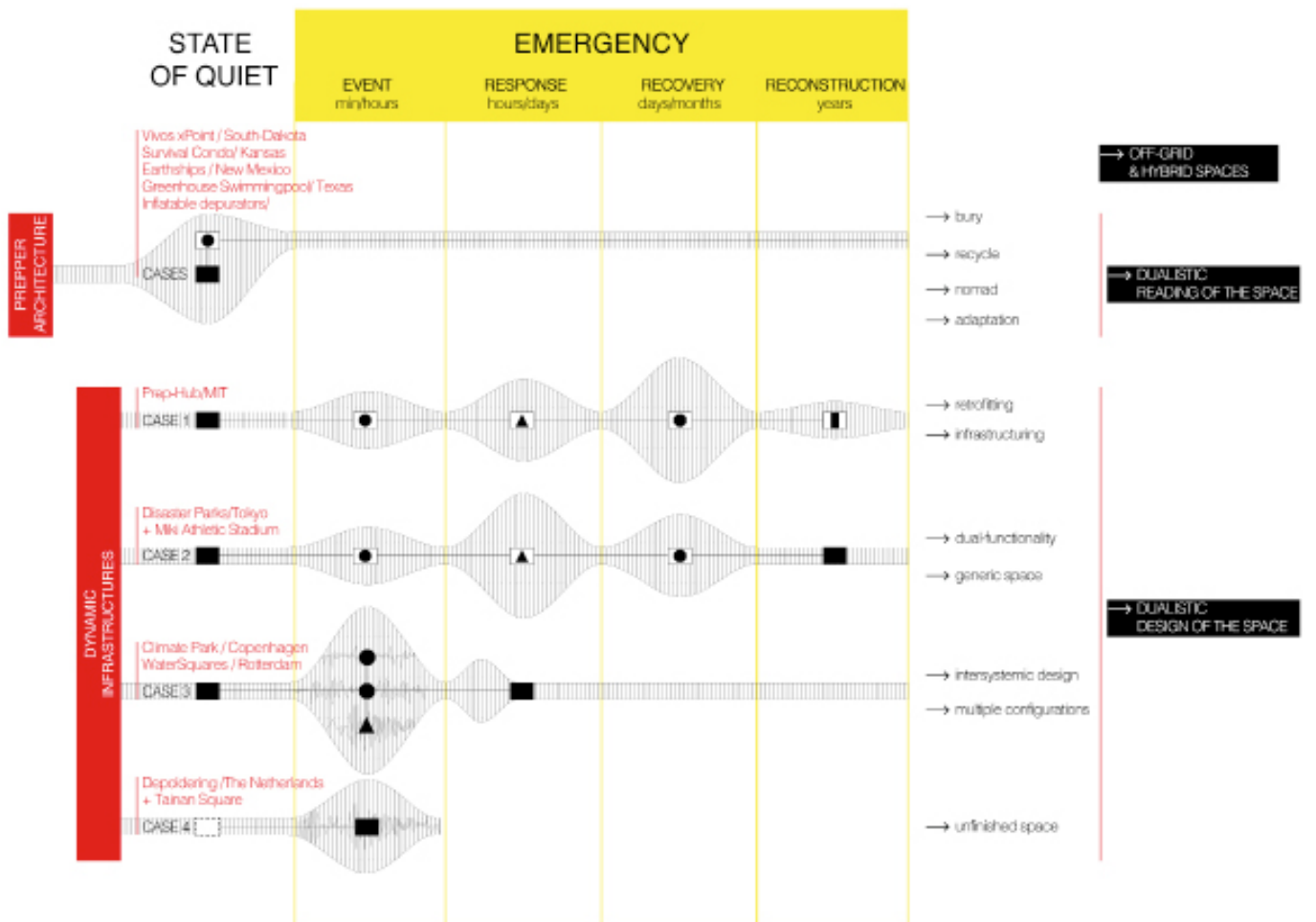


Figure 1. Matrix of possibilities, Beatrice Balducci

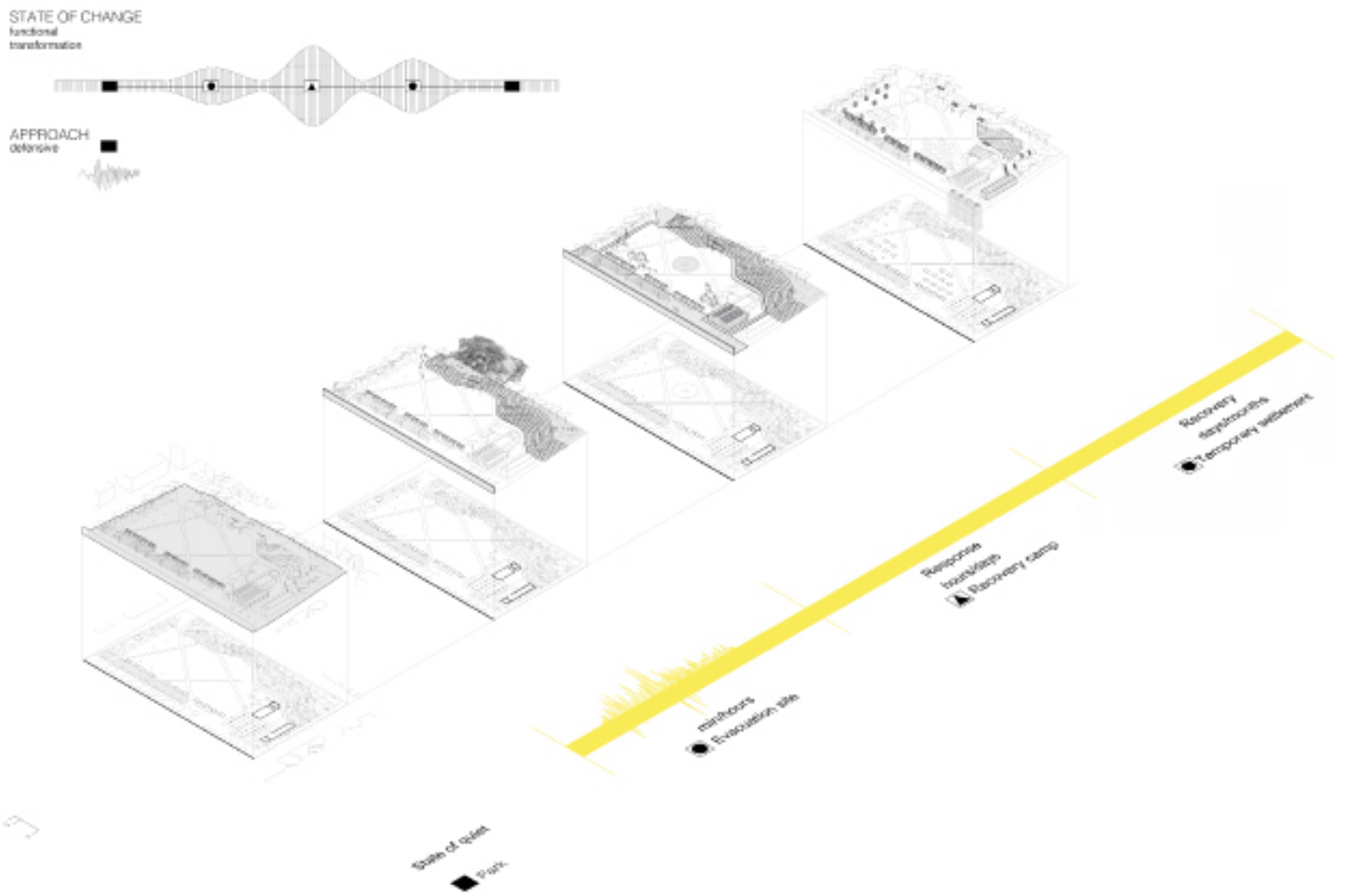


Figure 2. Tokyo Disaster park: a speculation in time, Beatrice Balducci



STATE  
OF QUIET

EMERGENCY

EVENT  
min/hours

RESPONSE  
hours/days

RECOVERY  
days/months

RECONSTRUCTION  
years

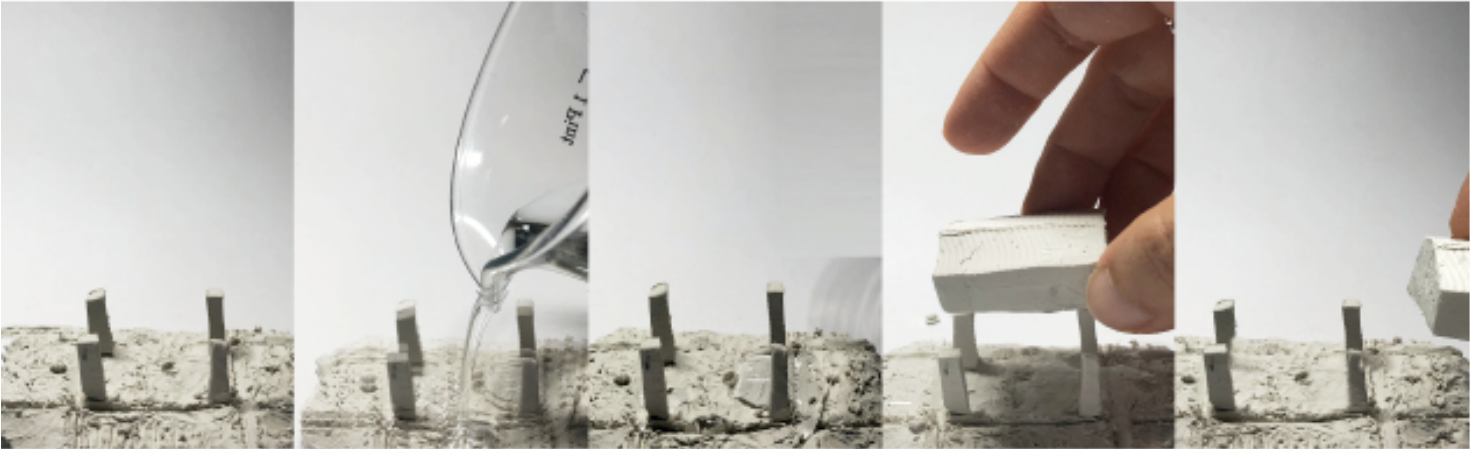


Figure 3. Clay model as a research tool, Beatrice Balducci



**Architecture *on* the  
Modern.  
Methods and design  
actions for the school  
heritage within  
seismic Italy.**

Greta Maria Taronna  
DASStU Department  
and Excellence  
Department “Fragilità  
Territoriali”  
Politecnico di Milano

## ABSTRACT

The investigation that will be presented is part of a broader research programme titled “Fragilità Territoriali”, promoted by the Excellence Department of DASTU (Department of Architecture and Urban Studies) at Politecnico di Milano which was selected, for the period 2018-2022, by the Italian Ministry of University and Research, to conduct innovative research projects on the multiple sides of “fragility”. In this wider framework, the specific investigation concerns the adaptation and preservation of the Modern architectural heritage in Italy, focusing on the school buildings, realized between the 1950s-1970s, with reinforced concrete frame structures in high vulnerable seismic risk areas. The dense net of school buildings from after the Second World War up to the Seventies constitutes, in fact, more than half of the actual buildings of this typology in our Country. The absence of awareness about seismic risk exposition of Italy (only classified into four seismic risk areas with the OPCM 3274/2003) caused a consequent lack of prescriptions about minimum structural requirements for buildings that, most of the time, were realized with r.c. frame structures not questioning, above all, about the problems of durability. In this context, the obsolescence, especially in the structural elements, to which these buildings are exposed, highlights the fragility of a heritage that must be adapted, not only for the interesting typological innovations introduced but, above all, because of the strategic role it fulfils. On these bases, the development of a methodology grounded on architectural design actions can be a guide to interpret the buildings’ seismic adaptation from the point of view of spatial modifications.

**Keywords:** School, adaptation, seismic risk

The school heritage, both from an architectural and institutional point of view, is currently at the centre of a broad interest that can be clarified and understood only through some fundamental premises. Identifying them with risk factors, inherent or induced, to which school buildings are exposed in Italy, the research interest in the field can be explained, and a programmatic action’s urgency can be highlighted. In particular, school buildings, whose design and construction had a substantial hike after the Second World War and was almost stopped at the end of the 1970s (source:

report on school buildings, Fondazione Agnelli, 2019), had the value of having introduced new typological and structural schemes capable of responding to the renewed pedagogical needs which, resulting from experiences developed abroad since the early decades of the 20th century, had spread with some delay in our Country. The recent data provided by Anagrafe dell'Edilizia Scolastica (AES) established that more than half of the current active schools in Italy were built before the 1970s. This heritage, considered as a reference for the research and built over the years 1950s-70s, may be exposed to risk factors. These can be linked to obsolete design principles and structural prescriptions that need a revision to adapt to current requirements and face risks factors to which our Country is exposed (also considering the last months' pandemic outbreak). It, therefore, appears relevant that the identification of these risk factors is fundamental not only to understand the subsequent modalities of intervention on the heritage but also to make evident the topicality of the research that is being conducted, paying attention to issues on which often, and contrary as far as one might think, architecture is hardly involved. In the following paragraphs, the risk factors and fragilities of the heritage, alongside with criteria for case studies' selection and recurring problems, will be briefly exposed to comprehend the research methodology better in order to achieve the overall objective: the adaptation of the heritage and its spatial consequences seen through the instrument of architectural design.

### **Overview on risk factors and fragilities**

#### **The Modern heritage: the “Masters” and the “minors”**

The selection of the specific field of investigation, already briefly introduced, comes from the awareness about the risk factors and intrinsic fragilities owned by Modern heritage.

The buildings of this period, built from the early twentieth century in Italy, show constructive techniques, materials and innovative solutions that have determined their success and fortune. These aspects are especially evident referring to the buildings designed by the so-called Masters of the Modern, whose success, in the architectural panorama of that time and today's one, derives precisely from their ability to introduce innovative typological and spatial solutions. However, alongside the Masters, many architects, which we can call “minors”, arose their activity. They are less known in the vast panorama because their works were often developed in regional contexts or fewer buildings, so significantly reduced literature on them is available.

In this field, the decision this research sets itself is to take an interest in buildings, precisely among the school heritage, designed by the so-called “minor” architects.

A selection made upon consideration of several aspects. First

of all, a broad discussion on the issue of the legitimacy of interventions to be applied to buildings designed by the Masters, is already open. Those architectures, in fact, are undoubtedly recognised for possessing values that need to be preserved and protected over time. For that heritage, the uncertainty consists of identifying valid and common *modus operandi* for acting on basically new materials, on which a well defined and shared prevention technique is not developed yet.

Although, therefore, the architectural heritage of the Masters, which presents an undoubted value, is already at the centre of a debate about the most appropriate actions and interventions to be adopted on them, a gap is found in the context of those “minor” buildings. In fact, these last ones must be adapted mainly because of the strategic role they fulfil, but also as representative of their era’s typological innovation in regional contexts and as a reference for the widespread existing school heritage.

### **Time frame**

The settlement of the period between 1950 and 1970 is linked to several considerations.

First of all, the years after the Second World War have seen a mature consciousness about the necessity to set up buildings that fulfil specific functions rather than adapting those designed in earlier eras for different uses. The awareness that the school building should satisfy particular purposes and that its spaces’ characterisations could influence the students’ level of learning begins to be affirmed in this period. In fact, in 1952, Centro Studi per l’Edilizia Scolastica was established by the Italian Ministry of Public Education to conduct studies on schools’ new essential characteristics in the modern era. The proof of an open debate on school typological innovation was demonstrated by the publication of a Casabella Continuità monographic number about school (n.245, 1960) and the XII Triennale di Milano on the theme “La casa e la scuola” set up in 1960.

Furthermore, it is essential to consider, as introduced before, the most recent data provided by the Anagrafe of the Italian Ministry of Education, according to which more than half of the actual school buildings in our Country were built before the 1970s, making evident that the most of them are, above all, in a state of structural and spatial inefficiency compared to current standards.

### **Risk factors**

Referring to these buildings’ structural consistency, most schools of the 1950s-1970s period were realised with a RC frame structure. Concrete is a material that is much more and in less time exposed to obsolescence, thus undermining the structural safety of the buildings. Another critical aspect is linked to the high seismic

exposition of our Country. After the Friuli (1976) and Irpinia (1980) earthquakes and, above all, the Apulia and Molise ones (2002), a revision of the possible effects of the seismic event on the Country was required. However, only the promulgation of the OPCM n.3274/2003, confirmed by NTC2008, increased the sensibility about the seismic alert level, classifying the entire territory into four seismic zones in which apply specific preventive actions. Moreover, the Italian seismic legislation and concept of concrete durability were developed only after the 1970s-1980s, proving that the heritage considered within this research has been designed in a context of absence of regulations that could be read as an additional element of weakness for the selected buildings.

### **The issue today**

Nowadays, the necessity to work on the school heritage with seismic preventive actions is widely shared also by the experiences carried out by the department “Casa Italia ”[1] and by the Ministry of Education, both financing, especially after the recent central Italy earthquakes in 2016 and 2017, a series of interventions aiming to a broad knowledge about the interested heritage consistency and to intervene quickly and programmatically in these contexts.

However, the urgent matter outlined is related to the most appropriate intervention methodologies on this typology of buildings and contexts. In fact, most of the time, intervention motivated by the emergency and rapidity make prevail solutions that tend to undervalue the implications on the architectural space. These are the cases in which the use of structural systems that adopt anchors, tie rods and props insert themselves with “force” into the architectural space, forever changing its perception and habitability. Moreover, the outbreak of Covid19 underlines another risk factor primarily related to the school heritage. The pandemic determined the necessity for flexible spaces to face the problem of reducing people’s contact. This aspect adds a certain degree of complexity in the adaptation field of a heritage already exposed to risk, but it can also be read as a chance to interpret the problems of seismic/structural and spatial adaptation in a comprehensive way.

Tools, aims and the importance of the research

Therefore, we must ask ourselves about the role the architectural design has, or may have, in this context. In fact, the research aims to redefine the role of architectural design in the adaptation and prevention of Modern school heritage, using the architectural project, applied to case studies, to develop simulations and prototypes of intervention.

This can happen starting from the recognition of schools’ most relevant “fragilities” in the structural elements (i.e. double heights,

structural plan regularity/irregularity, thin and weak structural elements, etc.), trying to categorise them in a sort of abacus to identify recurring problems and possible strategical design solutions. The methodology that will be developed aims to contrast the widespread Italian emergency practices and rapid interventions that often change the architectural object irreparably and undermine its liveability. The evaluation of recent school adaptation projects (“Capograssi” school in Sulmona, 2020; “Fiori” school in Formigine, 2019), in which structural adjustments appear as concealed or evident “foreign bodies”, will help to define the opposite direction the research wants to set itself. The challenge is also to try and to find solutions that can improve the use of the school buildings all over the day and that can also revitalise the urban and social context in which they are located (promoting the use of school spaces by the local community), improving connections with close public open spaces that can work with the adapted building in the broader system within the city. Taking advantage of a research period at the Heritage & Design section of the AE+T Department at TU Delft, the work has been implemented with already experimented strategies, methodologies and research works developed within international programmes like the Portuguese School Programme by Parque Escolar and the Scholenprogramma Groningen. Moreover, the specific insight about the seismic risk, induced by offshore gas extraction, of the Groningen area in the Netherland and the experimentation that will be developed on the B-Bekkersschool, selected as a case study in that area, could also be a way to pair the resolution of architectural and structural issues with the social and hazard prevention ones in very different contexts (especially from the constructive point of view and typology of seismic risk), verifying their validity and flexibility.

The use of specific tools like Carta del Rischio developed by the ISCR, the data provided by the Ministry of Architectural and Cultural Heritage or Ministry of Education and “Casa Italia”, helped in the selection of the Italian case studies (Primary school “A. Pecorini” in Gorizia by Roberto Costa, 1956-59; “E. Mannucci” Art Institute in Ancona by Paola Salmoni, 1962-67; “P. Maroncelli” Secondary School in Forlì by Luigi Pellegrin and Ciro Cicconcelli, 1963-70). These three case studies have been selected highlighting their role as a paradigm of their time’s typological innovation (also considering the influence of Centro Studi per l’Edilizia Scolastica and the 1950s-1970s debate on the field), using the criteria of time frame (1950-1970), structural typology (r.c. frame structure) and seismic risk exposition (1-3 seismic zones). For this reason, the selected case studies were compared to Masters’ designed schools (secondary school in Gentofte by Arne Jacobsen, 1952-54; not built school in Darmstadt by Hans Scharoun, 1951; school in Sassari by Ciro Cicconcelli and Luigi Pellegrin, 1956). These



reference buildings helped identifying the most common design principles of the time that must be considered as elements to be preserved within the intervention of adaptation. The three case studies were also selected according to dimensional and typological criteria as representative of the extensive series of Italian school buildings and, according to the Italian risk map, because of their localisation within the seismic areas. In fact, they belong to seismic zone two, which is now addressed for fundings by Casa Italia and MIUR. The proper investigation of the case studies design principles, structural plans and details (using the interpretative tool of drawing and re-drawing), and the depth analysis of current problems (structural weakness and modifications), supported by site surveys, guided the design suggestions. The analysis phase, helped by archival investigations, was also intended as complementary to develop design proposals on case studies. The possible design strategies, currently under development, will aim to show how architectural design and accurate planning could support more complex intervention, as to say a more comprehensive reading of specific problems faced to increase the potentialities of a building and its context. In the end, the design proposals on the Italian case studies, along with the parallel experimentation on the Netherland case study, must not be intended as the only possible and correct ones but will act as a testbed to develop guidelines of essential and possible intervention to adopt on the buildings and their context as a decisive element of action and modification on the Modern architectural heritage, and the improvement of safe living conditions. They can also be a way to understand the implications on the original designed spaces and typologies of buildings in order to comprehend the unavoidable effects that an essential intervention, like the structural reinforcement one, could have on the building and, consequently, how to select the most appropriate one considering pro and cons of them.

#### **DDDr Statement:**

The work under development can be defined as a design-driven research because the design is an essential tool, a way of thinking, understanding and improving its results.

The research is structured following subsequent steps in which design and drawings are used to solve questions and clarify the next phase.

After the theoretical and critical context settlement, the analysis of the widespread innovative school typologies of the 1950s-70s started. This step consisted of comparing plans, sections, structural and distribution schemes, making notes, diagrams, and sketches to understand the valuable elements (all collected and classified into summary reports) to be found in case studies selected as a testbed. After selecting case studies,

it was necessary to study the original drawings and analyse their structural and compositional elements' fragilities and potentialities. Re-drawing plans, sections and elevations was the way to find design rules and guidelines for the third phase. In this last stage, the experimentation on case studies, the design tool has been used to suggest solutions of intervention on the heritage to prevent it from the seismic loss and revitalize the architectural object. Plans, sections, axonometric views and collages are being used to set up new configurations of the buildings. This way will permit categorizing similar typologies of weakness in the school building's broad panorama and abstracting a methodology of possible design actions that can be adopted in similar contexts and heritage, stressing out the implications that such modifications may have on spaces and building typologies.

## NOTES

- 1 After the 2016 earthquake in the Centre of Italy, the "Casa Italia" department was established by the Italian Government to promote natural hazard risks prevention for the built heritage. It is recently finishing studies and works on the school heritage, being aware of the obsolescence to which it is exposed.

## BIBLIOGRAPHY

Ministero della pubblica istruzione, Centro Studi, Servizio centrale per l'edilizia e l'arredamento della scuola. 1954. Scuole elementari: Studi e schemi. Firenze: Tip. E. Ariani e L'arte Della Stampa.

Cicconcelli, Ciro. 1958. "Gli edifici per l'istruzione e la cultura". In Architettura Pratica. Vol.3. ed. P. Carbonara. 835-1082. Torino:Unione tipografico-editrice torinese.

Casabella Continuità. Numero speciale dedicato alla scuola, n.245, November 1960

Emery, Nicola. 2007. Progettare, costruire, curare: Per una deontologia dell'architettura. Bellinzona: Edizioni Casagrande.

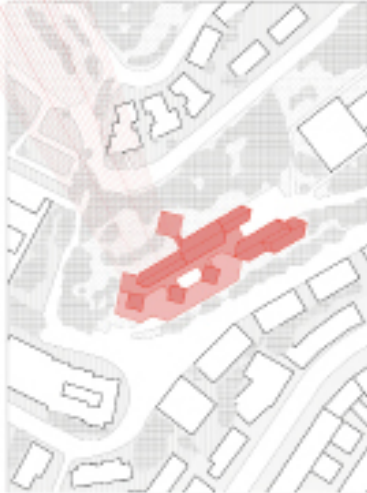
De Man, Hans. 2013. Het Groningse Scholentype. Rolde: Uitgeverij Servo

## BIOGRAPHY

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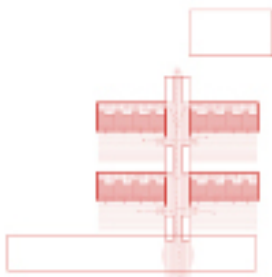
Primary and nursery school "A. Pecorini", 1956-1959  
Aloj - seismic zone 2  
Built Area: 4.600 mq



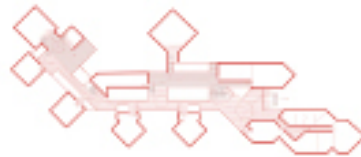
Art Institute "E. Mannucci", 1962-1967  
Ancona - seismic zone 2  
Built Area: 6.500 mq



Secondary school "P. Maroncelli", 1965-1970  
Fofi - seismic zone 2  
Built Area: 3.500 mq



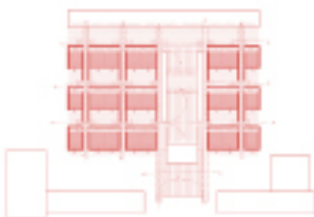
B. Costa, primary school in Giardinello, case study, 1956-59



F. Silvani, art institute in Ancona, case study, 1963-67



L. Pellegrini and C. Grassano, secondary school in Fofi, case study, 1965-70



A. Janssens, secondary school in Giardinello, Caprioglio, 1956-59



B. Silvani, school in Darsnabok, case study, 1974



L. Pellegrini and C. Grassano, secondary school in Sassari, 1966

Figure 1. The selected Italian case studies (identification of typologies, urban contexts and dimensional aspects) and the comparison with Masters' reference typological systems.

Drawings by Greta Maria Taronna

Picture 1: "A. Pecorini" primary school in Aloj, Giampiero, 1960. Scuole. Milano: Hoepli.

Picture 2: "E. Mannucci" Art Institute by F. Paci

Picture 3: "P. Maroncelli" secondary school in Censimento DG-AAP: <http://architetturecontemporanee.beniculturali.it>

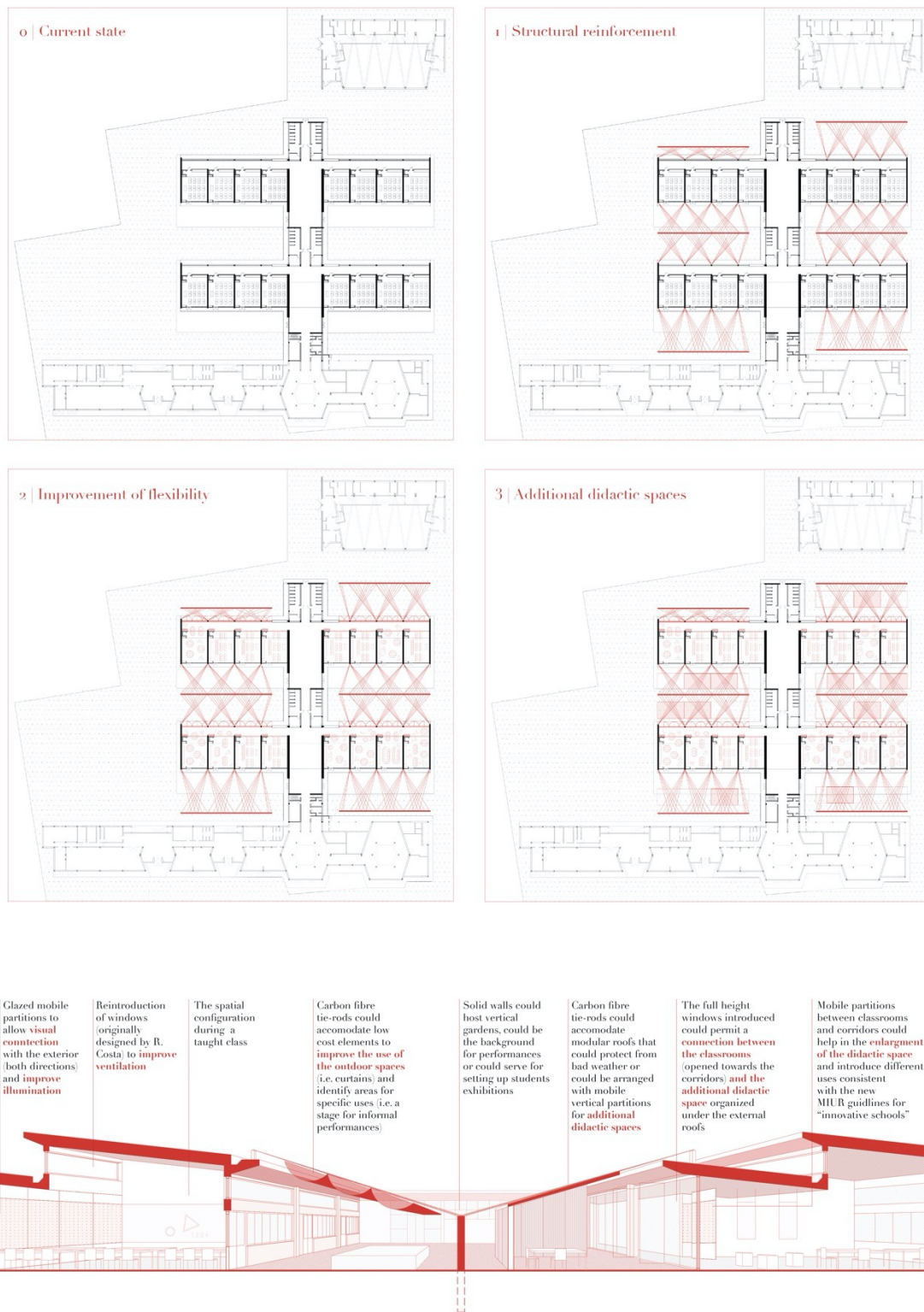


Figure 2. Design suggestions for "A. Pecorini" primary school in Gorizia. Three steps, from the structural reinforcement to the improvement of flexibility and didactic spaces, using external carbon fibre tie-rods and solid walls to not affect the interiors of the building and improve the use of courtyards. Plans and perspective section by Greta Maria Taronna.



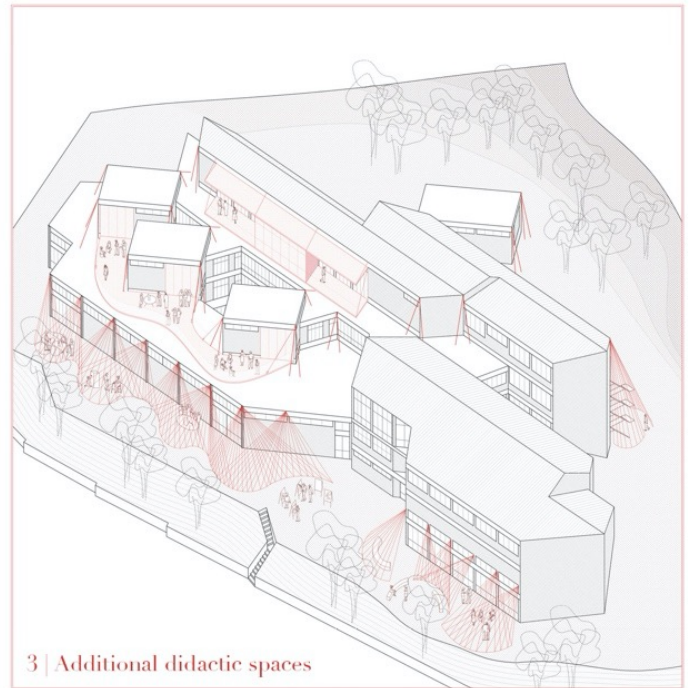
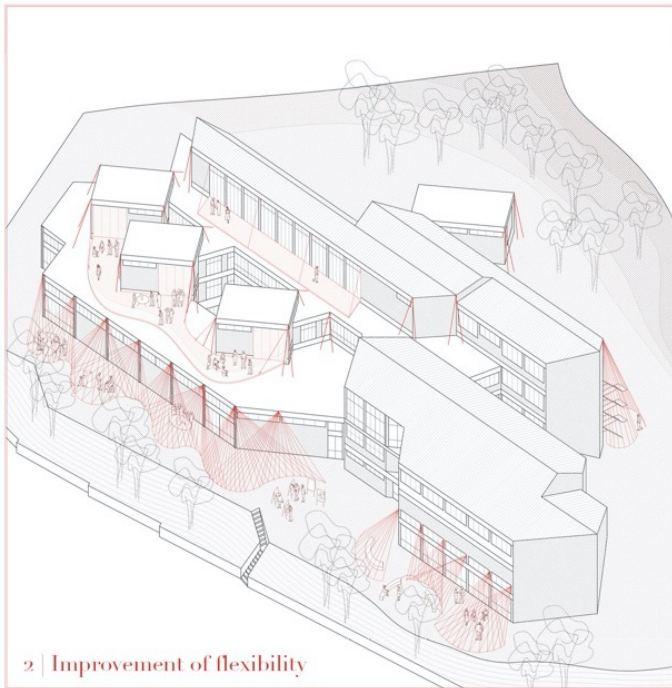
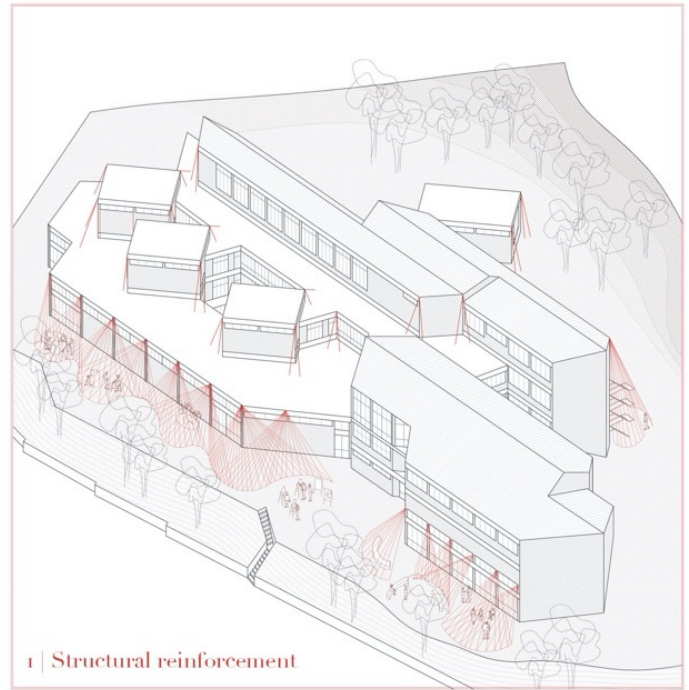
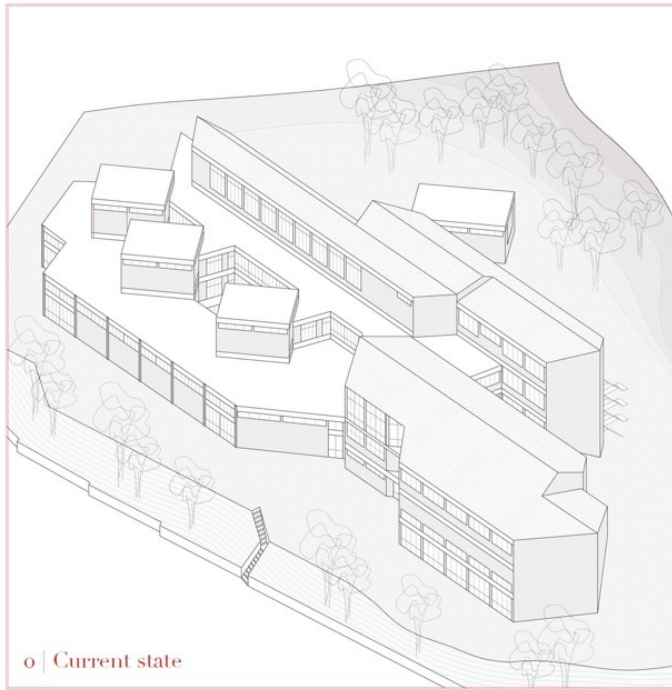


Figure 3. Design suggestions for “A. Pecorini” primary school in Gorizia. Three steps, from the structural reinforcement to the improvement of flexibility and use of open spaces but also to be easily distinguished as additional elements. The three subsequent steps design suggestions for the art institute “E. Mannucci” in Ancona. Drawings by Greta Maria Taronna



# **HOME: THINGS & BODIES.**

**An object-based  
exploration into new  
forms of living.**

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## ABSTRACT

**Home is a complex and inseparable relationship between symbolic, material and social meanings. At home, we live with and through objects, which define our domestic experience and enable us to participate in society. In doing so, they reproduce and perpetuate social convictions, but also offer us the possibility of transforming them.**

**Following new material and topological approaches, I document neglected practices and overlooked relationships between the inhabitant and its things, in order to identify the personal experience of inhabitation. Using different media practices, I depict and select specific moments of interaction, and reorganise these fragments for the design of ‘new things’: material and social entities with the capacity to manifest and consolidate alternative living practices, so that they can be celebrated and shared.**

**Keywords: Home, things, bodies, medial practices, juxtaposition, estrangement.**

“What does it mean to live in a room? Is to live in a place to take possession of it? What does taking possession of a place mean? As from when does somewhere become truly yours? Is it when you’ve put your three pairs of socks to soak in a pink plastic bowl? Is it when you’ve heated up your spaghetti over a “Campingaz”? Is it when you’ve used up all the non-matching hangers in the cupboard? Is it when you’ve drawing-pinned to the wall an old postcard showing Carpaccio’s ‘Dream of St Ursula’? Is it when you’ve experienced there the throes of anticipation, or the exaltations of passion, or the torments of a toothache? Is it when you’ve hung suitable curtains up on the windows, and put up the wallpaper, and sanded the parquet flooring?”  
Georges Perec. *Species of Spaces*, 1974.

Home is a complex and inseparable relation between symbolic, material and social meanings. It is the house, but also “everything that is in it and around, the inhabitants and the feeling of well-being that it brings” (Rybczynski 2015: 62). To attend to the historical construction of home is to attend to the history of an increasing intimate interaction with a material world of one’s own, that can mediate between oneself and the changing world beyond it, “a house of care that appears to have been built and rebuilt from the interior (...) with walls and furniture in equilibrium” (Bachelard 1983: 101). At home, we live with and through objects. The everyday mediation



of our material objects allows us to construct our own identity and to participate in society. They are not merely value holders or functional devices; they are crucial entities for understanding specific social practices, which requires “the intrusive investigation of the particular and diverse ways in which this intimate relationship is being developed” (Miller 2001: 1-23). Reflecting on our things gives us the chance to reflect on our lives. The material culture within one’s home is reckoned as both one’s problem and solution; our daily habits reproduce prejudices and social conventions, but they are also an opportunity for revolution and transformation (Highmore 2010: 226-228).

As we spend time with objects, they embed in our everyday, melt in our routines and disappear, becoming harder to perceive and evaluate (Shklovsky 1991). “As they circulate through our lives, we look through objects, but we only catch a glimpse of things” (Brown 2001: 4). It is only when an object stops working for us that it asserts itself as thing, referring to a particular subject-object relation rather than to a particular object – what it does rather than what it is –, manifesting its ‘thingness’ as material and social entity that can only be approached through its relational and performative qualities.

The closer our things are to us, the more we shape them, while being shaped by them (Miller 2001, Brown 2001, Latour 2007). Things are neither what we think they are, nor are they fully autonomous. They exist in constantly shifting networks of relationships with other not-only-human materials, defining social situations together. This means that things have agency to “authorize, allow, afford, encourage, permit, suggest, influence, block, render possible, forbid and so on” (Latour 2007: 72); they invite affordances but also compel. Therefore, “if design is a form of making things, it is also a means for shaping agency” (Atzmon and Boradkar 2014), and at home, for shaping lives.

My investigation approaches home as a holistic more-than-human practice, and builds on the vital role of the material home in defining the personal domestic experience, aiming to manifest it, so that one can understand how one actually lives, and consciously decide how one wants to do so. I explore specific practices of inhabitation in particular scenarios, in which I document people-objects relations, and translate them into ‘new things’. I am interested in daily practices of inhabitation in relation to typological notions and spatial layouts, so I work on big objects and small spaces that encourage interaction and support body-experiences. I develop individual design solutions, but that surely relate to others, not by generalization but from the acknowledgment of a diversity of identities and ways of living, problematising the notion and balance of design standards in architecture and related fields.

To develop a method that enables the discussion on how everyday

things are truly used, my proposal resolves on one hand, what is the best mode of attention to it, and on the other, what is the most powerful tool to represent its uniqueness. The goal is not to redefine standards, but to investigate hitherto-hindered alternative living practices. To avoid generalisation, I decide to obviate the macroscopic attention to the whole, and to concentrate on the microscopic attention to the particular case. My research relies on the ordinary as extra-ordinary source of original creativity and critique. To make it visible, I choose to use 'estrangement' – so its strangeness can be recognized – as a tool for defamiliarization, to fight habitualisation, reactivate perception, trigger new readings and generate reactions (Shklovsky 1991).

My study is based on a 'thing-ethnological' method that starts in the body of the inhabitant, and that navigates through the domestic network, connecting with other things. Since it is concerned with practices – rather than identities –, it places things in the centre of the process in order to obtain fruitful information. Whereas traditional user-centred design methods assume that creativity is exclusive to people, already integrate the notion that people shape things as much as things shape people. A thing-centred design method brings this interrelation forward by relying on the "collaboration with things as a way of solving problems" –as argued by various research projects such as the Thing Tank (project funded by the Skoltech Institute, Moscow, 2014-2019) for design, digital fabrication and business development, or the Object Research Lab (project by Yvonne Dröge Wendel, 2009-2010) on materially-engaged artistic practice. In my proposal, this means that a thing can embody specific forms of interaction, which are made visible through its estrangement. This, in turn, reconstitutes it as a new 'some-thing', which transforms the way of relating to it.

In the photo documentation of Matthias' private room for the design of a fitting storage piece, we discover that an old tiled coal stove –the main reason for the lack of space– is already doing part of the job. Beautiful paper models and books accumulate around it, material is stored in the gaps against the wall, and small pictures and flags hang on its shiny white tiles. The different layers of the oven are traced: the volume, the mouldings, the openings...and the tiles, whose scale correlates to the objects, and whose pattern naturally modulates the new piece, extending towards the edges of the room and offering the compositional and structural logic for a shelving system: a new oven's skin built in stacked floors of thin plywood boards painted in the colour of its mouldings. The behaviour of storing and displaying around a broken piece of equipment allies with the oven's idiosyncratic physicality, for the design of a estranged shelf. The oven is no longer an obstacle in the room but an assertive architectural element that stops ignoring us back: small objects and books now levitate proudly around it, drawing our attention. The

sequence of material processes and formal transformations raises the question of when exactly the work is no longer a reproduction of an object, and it becomes an autonomous thing – is it the old oven or a new shelf? Or rather, was the old oven already a shelf? The result invites us to reflect on the relation between functionality, value and affection, within the intimate cohabitation with other material entities.

The renovation of Marta's one-room-apartment – with independent kitchen but no bedroom– starts with a 30-day video documentation of the actual use of her bed, with the intention of finding a strategy for designing a new furniture to sleep in the main space. The portraits did not point to any clear direction for the re-design of the bed itself, but to a reconsideration of its relations to other objects and spaces. They show the bed as centre of her apartment, a space for her body where she does things that can be done somewhere else, but in there, they are experienced differently. It is a place to rest but also a space for entertainment, work, socialising, private encounters...and also for sorting her belongings and dressing or undressing before leaving or upon arrival. It is a cosy multi-programmatic core that, in this case, should not be at the end of the house but at the entrance. Thus, a new bed-size bedroom is built within the entrance walking closet, pushing the kitchen to the living space. Entrance and bed(room) – completely different notions of space – cross-define each other, transferring qualities of intimacy and exposure. There is no gradient from public to private – as in the nuclear-family type –, but rather an intimate filter that prepares you to enter Marta's home.

The commission for a periodically-inhabited kids-room leads to the study of the kid Inga's behaviour, as well as her father Petri's reactions to it, expanding the network of relations presented in the previous cases. Petri becomes both means of and filter for the documentation, recording the interactions between her and their domestic objects in different spatial settings. His photos display door thresholds as adult-free areas, temporal and spatial left-overs created by swinging openings, small inhabitable in-between-walls niches, ambiguous-age settings, horizontal layers with different overlapping uses, and self-initiated design prototypes, among other things. The images are processed into line-drawings and reorganised, resulting in a design that emerges from the existing entrance wardrobe. The dimensions of the wardrobe are enlarged to fit Inga's bed, keeping the original opening and adding one on the back side, creating a small double-oriented reading niche downstairs and sleeping niche upstairs, both connected to a platform with several swinging openings with a hidden guest mattress, that lifts the ground for her to access the window, and that opens and expands around the living room corner, connecting back to the entrance room. Multiple openings, partitions and circulations

encourage intentional adaptation, asserting the choice of location and acting as social mediator. This enables the emergence of new parallel outer routines, that take over when Inga is not there. The design avoids an often-empty room, while conciliates wants and responsibilities of inhabitants with specific needs of independence and care. The result is a stage-like artefact for the changing domestic scenography of a non-standard family life.

### **DDDr Statement**

My research is based on a 'thing-ethnological' method initiated in the body of the inhabitant, that then navigates through the domestic network, connecting it with other objects. I photograph them and elaborate 'object-portraits' that include particular object-life, value for the inhabitant, typological conventions as symbol –what it evokes or represents– and signal –what it prohibits or allows–, and typological spatial relations. I register the interactions in space using photo and video, and I select the thing(s) and images that present the widest range of discrepancies and coincidences with its portrait. Through conversations with the inhabitants, I investigate the nature and effects of the mismatch, and this verbal material facilitates the redistribution of the information on the images into line drawings and codes. The material is used to translate the thing(s) into a 'some-thing' –a possible 'estranged' version of the thing(s)– which is placed within the domestic network, if reasonable, including the original object(s). I photograph the new interactions, and again address the verbal information from the inhabitants about the mismatch. I process the new combination into line-drawings and codes, and compare them with the first ones to evaluate the level of raised awareness about the concerned practice, and the achieved adjustment of the earlier variance. This assesses the extent to which the terms of interaction have become intentional and reciprocal, to enable its conscious transformation, and the inhabiting qualities brought to the particular form of life.

## NOTES

- 1 In the text the term “object” is used to designate a human-made material artefact, and “thing” to designate an object that is at the same time material and social entity, emphasising its relations with other objects and subjects, and its potential to shape them while being shaped by them. With the same intention, the title deliberately avoids the term “people” – subjects in clear opposition to objects –, and instead, it uses the term “bodies” – as vital materialities that interact with things and participate of this reciprocity of agency. In this home, “the body is a thing among things” (Brown, 2001: 4).

## BIBLIOGRAPHY

- ATZMON, Leslie and Prasad Boradkar. “A Design Encounter with Thing Theory.” in *Design and Culture*, vol. 6, no. 2 (07.2014): 141-152. <https://doi.org/10.2752/175470814X14031924626988>
- BACHELARD, Gaston. “La Poética del Espacio (The Poetics of Space).” México D.F.: Fondo de Cultura Económica, 1983.
- BROWN, Bill. “Thing theory.” in Brown, Bill (ed.) *Things*. Chicago: The University of Chicago Press, 2004.
- HIGHMORE, Ben. “Ordinary Lives. Studies in the Everyday.” New York: Routledge 2010.
- LATOUR, Bruno. “Reassembling the Social: An Introduction to Actor-Network-Theory.” New York: Oxford University Press Inc., 2007.
- MILLER, Daniel (ed.). “Home possessions: Material Culture Behind Closed Doors.” Oxford: Berg, 2001.
- RYBCZYNSKI, Witold. “La Casa. Historia de una idea. (Home. A short story of an idea.)” San Sebastián: Editorial Nerea, 2015.
- SHKLOVSKY, Viktor. “Art as a Device.” in *Theory of Prose*. Champaign Illinois: Kalkey Archive Press, 1991.

## BIOGRAPHY

Marta Fernández Guardado is a Spanish architect based in Berlin. During 6 years she worked as Project Architect at the offices June14 Meyer-Grohbrügge & Chermayeff and Sam Chermayeff Office, and designed furniture, interiors and buildings, such as the building group at Kurfürstenstraße 142. She has taught in DIA Dessau, ETH Zürich and TU Berlin, where she works as Scientific Employee. She is Doctor Candidate at HafenCity University Hamburg, regular participant at PEP Practice-based Doctoral Program at TU Berlin, and at CA2RE Conference of Artistic and Architectural Research.

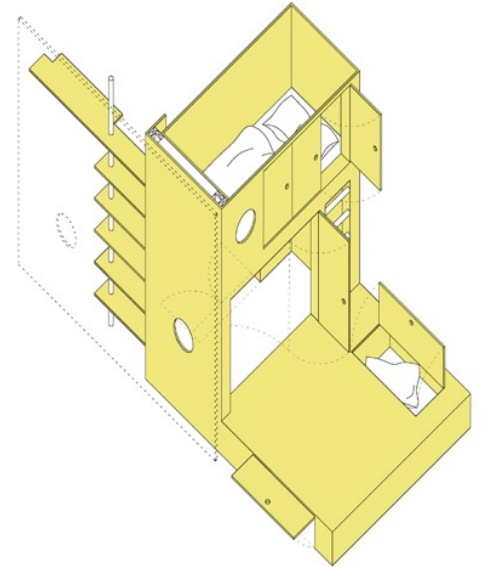
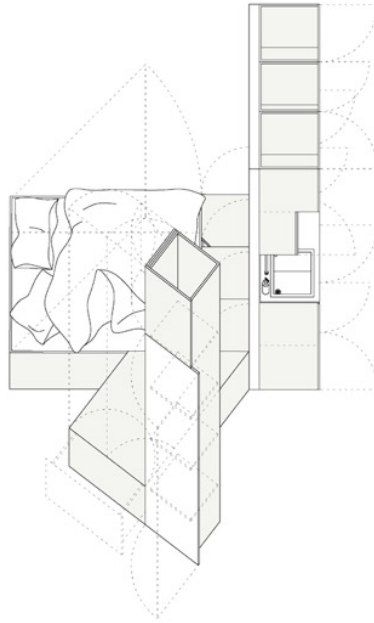
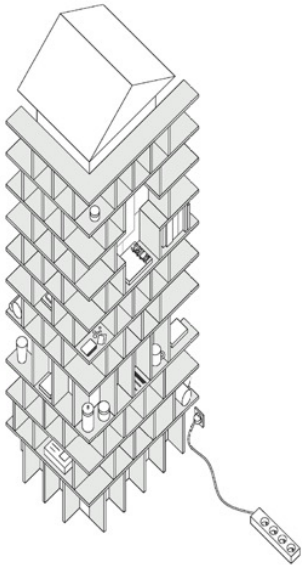


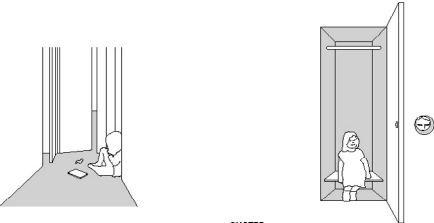
Figure 1. Matthias's shelf, Marta's apartment and Inga's room. Marta Fernández Guardado.

**QUOTES**

Image 2020-05-12 at 17:19  
Inga loves to hang out here next to my studio. She really likes to sit between doors and the possibility of being on her own at the same time that she is hanging around in the same spaces as me.  
\*Talk 2020-05-07 at 00:42:35  
What I really like from our old apartment is what we did with the doors. The living room was open, and the kitchen was inside in a corner, and we connected it to Inga's bedroom with a small door. She was always sitting and playing there. She likes to have her privacy, but not all the time. Sometimes she closes the door a little bit more, sometimes a little bit less. She can be between rooms and connected. The door is a social space in a way. I. She can spend from one room to another because the space at the door is always free. Anyway I don't use the space at the door, and I can walk over her without bothering each other.

**CONCEPTS**

Adult-free space, connectedness-separation, in-between.  
**CODES**  
Door thresholds and annexed areas are adult-free areas that can be temporarily appropriated.  
Doors allow the regulation of connectedness and separation, articulating domestic space and family time with others beyond.



**QUOTES**

Image 2020-05-20 at 11:16  
She likes to hide and play with windows and doors. This is an image from yesterday when she started exploring the inbuilt closets in the new house.  
\*Talk 2020-05-19 at 00:39:13  
She would like that a lot. Now I feel almost sorry to take the wardrobes of the bedroom out. We were playing in the apartment and she put me inside and she said 'you have to be here now, I go to the other one, and you come and visit me'. She said the bedroom is my place and that's good for her. She loves to hide in those if she knows that I will pass by sooner or later and take something from there. The entrance wardrobe is perfect for that.

**CONCEPTS**

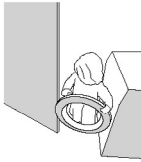
Occupied space, appropriation, connectedness-separation.  
**CODES**  
Wardrobes and cupboards are kid-size big objects and small spaces that can be recognized and appropriated (even if occupied by other's belongings), providing privacy but assuring ventural context, especially if they are connected to circulation areas.

**QUOTES**

Image 2020-05-21 at 11:53  
Here is a house I got built today using the washing machine door and bathroom door as flexible walls. I was invited to have coffee at her house.  
\*Image 2020-06-07 at 17:40  
The kinder garden in our block is really fun. It actually reminds me to her washing-machine house.  
\*Talk 2020-05-07 at 01:08:51  
I feel that what is very important for her is that she feels that she has a space that is hers. It can be quite compact. I don't want that she is hiding in her room and doing everything there. I think it is good that there is interaction in between us, that most of the things happen together but she still has a safe corner where she can go. She does not need a lot, but some kind of corner under or inside, and the rest can be more open, and more generic. That is what she does when she plays: she creates corners here and there.

**CONCEPTS**

Temporal left-over, appropriation, skills.  
**CODES**  
Doors and other swinging elements can define temporal spaces as adult-size left-overs and potential kid-size hubs.  
Holes and openings of different sizes at different heights provide different levels of connectedness, trigger the imagination and the use of the body in different ways, and help to develop new creative and physical skills in relation to space.



**QUOTES**

Image 2020-05-25 at 12:27  
Inga says that she wants a door so she can hide in here.  
\*Image 2020-05-10 at 11:07  
Everything is quite random because when I moved to Oslo I had to quickly buy stuff second hand. She has a bed that is quite similar to her mother's, but actually much higher so there is space for her to stand under. I think she prefers to sleep up, once she said that the mosquitoes will never get so high up there, but on the floor they can enter the bed.  
\*Talk 2020-05-07 at 01:06:03  
What we have now is really improvised. There is little space under, the space is a bit too low and she can't really be standing there anymore. There is a thin mattress and we read there every evening. We go there together and I am also saying there and I read to her. I have to lay down because there is no comfortable way to sit. It is too small, but it is still very nice. I hope it continues happening, hopefully we will read together for many more years.

**CONCEPTS**

Horizontal layering, continuity, safety.  
**CODES**  
Bunk structures define two stories that connect differently to the space where they are placed. The space underneath can expand and provide independence while ensuring care and togetherness (ideal for an active state), the space on top can contract and provide protection while ensuring view and safety (ideal for a passive state).



**QUOTES**

Image 2020-06-10 at 10:20  
Inga's understanding of space!  
\*Talk 2020-05-07 at 01:00:30  
Also, when we are in the living room, we are mostly doing things together. I mean with each other. Even if she is playing in the carpet and I am reading, we are there with each other, in the same space. How can she feel that we are still together when we are actually not with each other?  
**CONCEPTS**  
Pacemaking, horizontal layering, togetherness.  
**CODES**  
Carpets, seat and tables define different horizontal layers of space that relate each other, overlapping time but not space. Textiles and superficial treatments can be directly transferred to help to navigate in a new context.

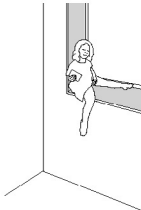


**QUOTES**

Image 2020-08-19 at 22:24  
And there is the window before painting it.  
\*Image 2020-05-09 at 15:02  
I went to the apartment today and made some measurements and this is how it looks. Inga helped me to measure, especially those that required climbing.  
\*Talk 2020-05-07 at 01:12:05  
Inga loves to climb up and sit there, to look through the window and also at the room from up there.

**CONCEPTS**

Horizontal layering view, quietness.  
**CODES**  
Windowsills create lifted counters and seats with a privileged view towards the room and the outside, inviting quietness.



**QUOTES**

Image 2020-05-21 at 11:54  
This is the second place at her room where she plays more often.  
\*Image 2020-05-10 at 11:14  
She likes to play on the blue bench and pretend that she is cooking and preparing stuff.  
\*Talk 2020-05-07 at 01:09:15  
She now has an old blue bench where she puts things and plays as if it would be a kitchen.  
\*Talk 2020-05-23 at 00:27:00  
I think that having a step under the bed can be nice as a playing room. When she plays, she uses a step or a bench as a kitchen, and sometimes as a look where she sells me stuff.

**CONCEPTS**

Multi-purpose space, double orientation, negotiation.  
**CODES**  
Adult-size steps and seats (naturally empty) are kid-size counters and tables (naturally occupied), multiplying their possibilities of use, while demanding a more flexible understanding of tidiness.

**QUOTES**

Image 2020-07-19 at 22:22  
This is now.  
\*Talk 2020-06-07 at 01:09:15  
My chair can work as her table, a place where she can do things.  
\*Talk 2020-06-19 at 01:02:04  
This is actually a very nice corner. The living room is quite big, but it is not huge. It is a nice place to sit, read and hang out. It would be a job to lose it. I wonder how could we do something there that she feels is for her and that I can also use comfortably.  
\*Talk 2020-05-25 at 20:47  
Maybe another option would be to place my bedroom in the living room and Inga in the big bedroom. Then there is no need for making it huge... But it is nice to put Inga alone in the big bedroom, and when she is not there, again, it would be empty.

**CONCEPTS**

Multi-purpose space, territories, negotiation.  
**CODES**  
Adult-size objects and spaces can potentially be used differently, but as long as they look as clearly made for adults, they will be only temporarily appropriated, and vice-versa about kids. Combining elements for different generations creates enigmatic settings. Adding a different generation element to a setting activates processes of negotiation.



**QUOTES**

Image 2020-07-05 at 17:42  
Inga made her house all for herself. She says she wants a facade like this for her house.  
\*Talk 2020-06-18 at 00:31:24  
It will somehow look like a tiny building. It makes me think about her models of her house. She needs to recognize her house. We have to think about the openings, balancing soundproof and airflow.  
\*Talk 2020-07-04 at 01:12:18  
Her room now is yellow, and her carpet has some yellow too. For her it is a kind of symbolic thing. Normally when I ask her to choose a color, she usually chooses rose, but in this case she wants yellow. I think it is for safety because she knows she goes to a new place but if she knows the yellow there will be something familiar, not everything will be completely new, exactly the same way as her carpet will still mark her territory.

**CONCEPTS**

Representation, composition, materiality.  
**CODES**  
Models and samples explore the composition and materiality of the house as an object on its most basic level, as a tangible, perceptible entity, subsequent to the subject's emotional and physical needs.



**QUOTES**

Image 2020-08-19 at 22:24  
Prototyping the room!  
\*Talk 2020-06-18 at 00:31:38  
In order to fall asleep, Inga needs quietness and be if light, but neither complete silence nor darkness. Every night I go with her to bed and scotch her back until she falls asleep. She still does not fall asleep alone, and if she wakes up completely isolated, she freaks out. It would be great if I can do that and after, sit in the living room and do something else without waking her up, but she still can feel that I'm around if she wakes up. I don't know what that means, but she needs both.

**CONCEPTS**

Essence, atmosphere, affection, connectedness-separation.  
**CODES**  
Prototypes with ordinary objects further the development of a relation with the new object through lived memories and experiences, slowly desensitizing the separation of the object-subject relation towards a thing-body relation, and accelerating processes of homing.

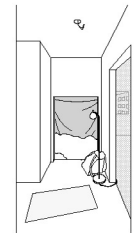


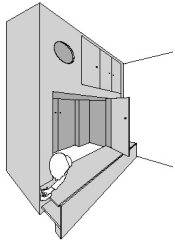
Figure 2. Inga's room, phase 1. Marta Fernández Guardado.



**QUOTES**  
 Image 2020-09-26 at 22:24  
 The beams.  
 Image 2020-08-28 at 17:50  
 Inga's reaction when she saw the structure.  
 \*Talk 2020-07-04 at 01:18:20  
 By the way, we already want to the construction site and I explained Inga how her room will be, and she sees very excited! She was making coffee for me in the structure downstairs and I was cooking in the kitchen, and then she said: 'how you have to make coffee for me and I make food for you'. The connection between her space and the kitchen is very nice and direct. I also explained her how to go up and that she will get two rooms instead of one!

**CONCEPTS**  
 Experience, appropriation, understanding

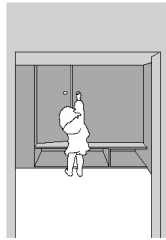
**CODES**  
 The first encounter with the spatial structure complicates the previous object-subject division, but once inside, the feeling of distrust vanishes. Its ability to provide a unique experience despite the need for full objectual understanding, which would be required in the case of clearer types.



**QUOTES**  
 Image 2020-09-11 at 21:42  
 Inga cleaned her house today and I was not allowed to help.  
 \*Talk 2020-09-02 at 00:05  
 We are already living here in the middle of the construction site. It is a huge mess, but luckily Inga enjoys it. The structure is ready and the carpenter starts covering it tomorrow morning. She is already having and doing the walls all the time, even when he is working.

**CONCEPTS**  
 Exploration, care, maintenance.

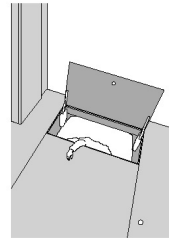
**CODES**  
 The involvement in the construction process contributes to a conscious appreciation of the qualities of the design.



**QUOTES**  
 Image 2020-09-10 at 17:46  
 Inga is obviously using her room.  
 \*Talk 2020-09-21 at 00:43:02  
 Before she was sleeping with me in my bed, but as soon as her bar was ready, she wanted to move there, even before the platform was built and all the tools were still around. She instantly made it hers, opening and closing the doors and deciding when and how could I access or not. They offer her a lot of possibilities that she now explores giving a lot of different imperatives. (...) The first time she entered the room, she closed all the doors and prohibited me to enter. After a while, she ordered me to do it, sit down and wait for the night. After that, it has been a little bit back and forth.

**CONCEPTS**  
 Possibilities, self-expression, exploration.

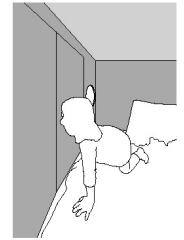
**CODES**  
 Flexible partitions and multiple circulations aids the active intended adaptation of the design according to particular temporal and social needs.



**QUOTES**  
 Image 2020-09-17 at 17:47  
 She uses the platform as the backyard of her house in a way.  
 \*Talk 2020-09-21 at  
 I think she still likes the color, but I am too careful to ask. I am afraid that if I ask now, she will say she would say she wants more rose. I actually bought a pair of rose sheets for the mattress underneath the platform, for me to use if I have to pull it out, rotate and lift it, but she just has to lift the platform hatch and she can enter and hide there. We have the wardrobe or behind the washing machine.

**CONCEPTS**  
 Identification, in-between, adult-free space.

**CODES**  
 The readable transfer of documented qualities from previous settings maintains old routines while transforming them.



**QUOTES**  
 Image 2020-09-09 at 17:09  
 \*Talk 2020-09-21 at  
 She is growing up fast, but also I have the feeling that in the old apartment her room was too isolated. It was a dark backyard and the shadows were a bit scary. Sometimes she woke up and wanted to come with me, but now I feel she is more in control.

**CONCEPTS**  
 View, quietness, safety.

**CODES**  
 The contrast of the dark niche with the bright room underlines and strengthens the relation while asserting the choice of location.



**QUOTES**  
 Image 2020-09-21 at 11:59  
 Someone is chilling.  
 \*Talk 2020-09-21 at  
 She enters the apartment and her carpet is already here so her room is already here. She does not have to cross other 'bolar' spaces, so they stay tidy. The epoxy floor is very durable and easy to clean, and resists all her plays, but if she is calmer, she goes inside, to the platform, or to rest upstairs.

**CONCEPTS**  
 Address, adjacent spaces, atmospheres.

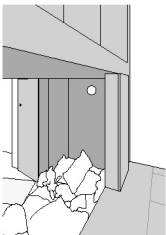
**CODES**  
 The fluid limits of the room, starting in the entrance and penetrating in a gradient of decreasing intensity, require the will to explore the sequence of spaces.



**QUOTES**  
 Image 2020-10-14 at 14:23  
 Sunday games.  
 \*Image 2020-10-09 at 15:41  
 Sun hitting the floor and reflecting into the kitchen.  
 \*Talk 2020-09-21 at  
 For me it is really nice. I can see all through and the view from the kitchen is really nice. The height of the bed cuts a little bit the window, but still can see a lot. And now that the platform is here, she can also look outside without reading me to lift her up; the other windows are too high but in this one she has another relation with the outside (...). She can climb or use it as a sort of table. For me it is also possible to sit and look to her doing things in the platform. The platform is perfect because this is the sunniest spot of the apartment.

**CONCEPTS**  
 Continuity, view, prospects, backdrops.

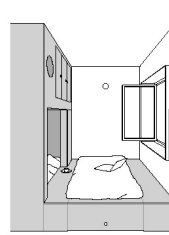
**CODES**  
 The articulations of the different fragments in a continuous sequence act as social mediator.



**QUOTES**  
 Image 2020-10-13 at 19:03  
 Inga cleaned her house today and I was not allowed to help.  
 \*Talk 2020-09-21 at  
 Quite often I am cooking and she is here and we are totally connected with all open. She is sitting on the floor or on the platform making puzzles or reading. Other times she closes the door towards me and keeps it open to other side, but mostly we have it quite open. Towards the evening, maybe because of the feeling of the sunset light, she likes to close the doors and be here by her own (...). It is suddenly nice that both mattresses are here, one up and one down. There are so many different constellations that is also possible to let her play it out and decide how she wants to use them. It is not yet fixed.

**CONCEPTS**  
 Possibilities, self-expression, design-expression.

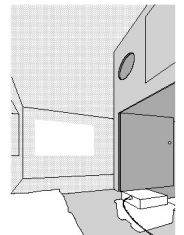
**CODES**  
 The design is not a blank room for any possible scenario but a specific artifact with several specific possibilities from which to choose.



**QUOTES**  
 Image 2020-09-16 at 17:49  
 My home studio. There is a beautiful light in this spot.  
 \*Talk 2020-09-21 at  
 I have been working mostly here in the platform. It is sunny and cozy. I have been switching between kitchen and here. If I want to read and concentrate, this is the best place to be. Now it is really lifting this point, until 19:00 or so. And I don't know if you ever saw, but I have neighbors quite close, and if you sit in the middle of the living room, they see you, but not if you sit here.

**CONCEPTS**  
 Extension, negotiation, other's appropriation.

**CODES**  
 The fading sequence of overlapping horizontal spaces with specific qualities boosts the emergence of secondary user's new routines.



**QUOTES**  
 Image 2020-10-03 at 22:42  
 Home cinema in the new room.  
 \*Talk 2020-09-21 at  
 This platform works really well for laying around with pillows, but it is really intimate in a way. It is perfect to lay down and watch a movie for example. It works with people you really know well, but not for a regular visit. I hope the sliding door works as a separation and it helps to keep the living room tidy. If there is a mess, I can close it and I don't have to deal with it, but if I want, I can clean it and use the platform as living room.

**CONCEPTS**  
 Other's appropriation, new routines.

**CODES**  
 The support of secondary users' life eases their engagement with the design.

Figure 3. Inga's room, phase 1. Marta Fernández Guardado.







**Movement  
and drawing  
improvisation scores  
in architectural  
design.**

Wiktor Skrzypczak  
HafenCity University  
Hamburg

## ABSTRACT

**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 paper presents the application of the method to three experimental design seminars and the resulting insights and questions – instead of answering the initial research question, the method has proven to be a practical way of filtering, which spatial phenomena might be bodily addressed and how. Moreover, instead of strengthening the constructive thinking, the approach seemed to support rather students’ descriptive thinking. These insights led to less open-ended design experiments and underlined the need for better understanding which aspects of the embodiment are constitutive for the composition and form and for formulation of more objective design assessment criteria.**

**Keywords: Experimental design, improvisation scores, sense of space, embodiment, proprioception, immersion**

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 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 aims 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. (Fig. 1)  
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. (Fig. 2)

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 sensitisations 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 to address these phenomena more accurately in the design process and by doing so, to 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 apply independently 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 themselves 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 the 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 might 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 Wöllflin'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 a 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.

### **DDDr Statement**

The starting point of this doctoral research was a specific problem, which 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 perception 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.

Home is a complex and inseparable relation between symbolic, material and social meanings. It is the house, but also "everything that is in it and around, the inhabitants and the feeling of well-being that it brings" (Rybczynski 2015: 62). To attend to the historical construction of home is to attend to the history of an increasing intimate interaction with a material world of one's own, that can mediate between oneself and the changing world beyond it, "a house of care that appears to have been built and rebuilt from the

## BIBLIOGRAPHY

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): *Einführung 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.

## BIOGRAPHY

Wiktor Skrzypczak is a licensed architect and dance artist. Currently, they are working on a doctoral thesis about correlations between bodily self-consciousness and space perception in architecture at HafenCity University Hamburg. After graduating in architecture from Technical University Łódź, they have been planning social housing in Hamburg. They are trained in dance improvisation (Contact Improvisation and New Dance at Triade Tanzforum e.V. by Sigrid Bohlens), somatic pedagogy (Environmental Somatics at Somatische Akademie Berlin by Katja Munker).



Figure1. Drawing improvisation © author



Figure 2. Drawing improvisation © author

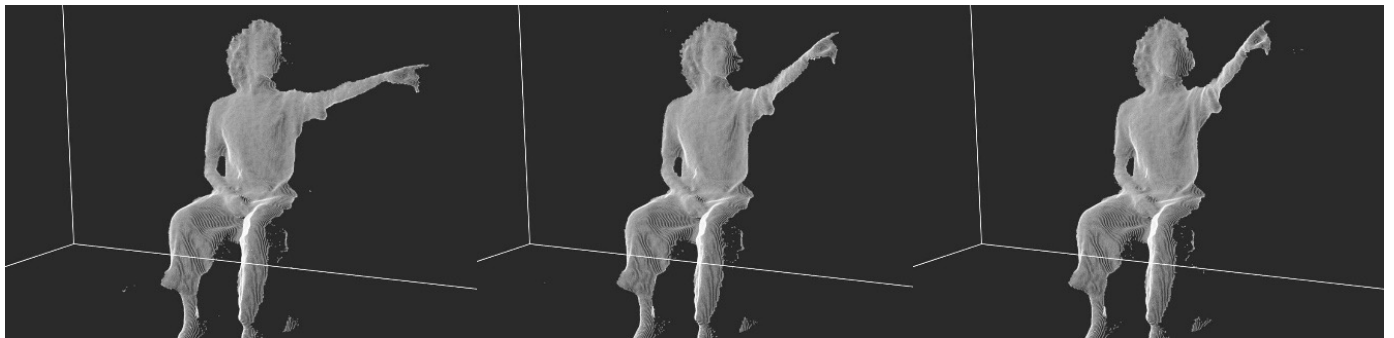
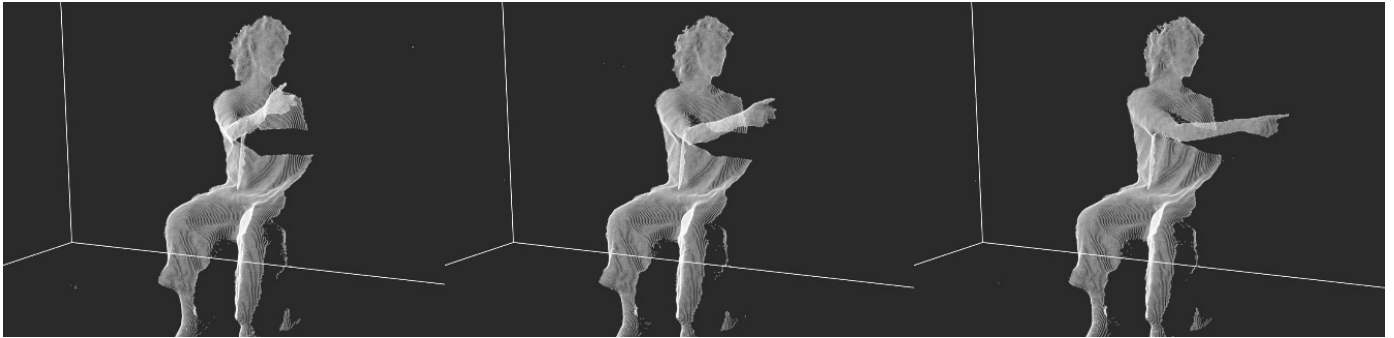


Figure 3. Depth recording of the movement improvisation. Video still © author







**Needs-Based  
Clothing Design -  
How females  
affected by breast  
cancer articulate  
individual bra needs  
and how these can  
be implemented into  
design.**

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Centre for Design

## ABSTRACT

**This practice-driven research addresses unfulfilled clothing needs of females affected by breast cancer, including females living with different sized breasts, one breast, or flat after a mastectomy. The research investigates how females can articulate and visualise specific bra needs and how these can be implemented into clothing design. It strategises novel approaches towards inclusive fashion designing through interactive, participatory design sessions and alternative prototyping processes that centre on the garment wearer as an expert of the garment wearing experience.**

**Two consecutive research studies, embrace1 and embrace2, trial approaches of designed modularity and mass customisation within a participatory approach to prototyping. Based on findings from participatory design sessions, the research questions normative pattern-making methods and bra construction standards based on body symmetry. It seeks to contribute value to the existing discourse around needs-based clothing design in the spectrum of body asymmetry and breast cancer.**

**Keywords: Participatory fashion design \_ garment wearer experience \_ modular clothing design \_ fashion mass customisation \_ breast asymmetry \_ breast support**

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%. Cases are predicted to rise by 50% until 2030 (DM et al., 2019). Most treatments involve some form of mastectomy, which includes the 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 life with different sized breasts, one breast, or flat (Ncin.org.uk, 2019).

Post-mastectomy bras are the type of breast support offered to females after mastectomy scars have healed. These garments are worn as everyday bras in conjunction with external breast prostheses, which are gel-like, silicone forms inserted into the bra's frontal pockets to reinstate body symmetry. There are few alternative bra options available for females who opt-out of wearing external breast prostheses and live with different-sized breasts, one breast or flat. Universal body measuring systems use symmetrical and stereotypical body shapes to determine their base standards for garment sizing. Industrialised pattern-making

formulas are founded on these normative size charts. Therefore, post-mastectomy bra patterns are constructed, just as regular bra patterns are, by adhering to the concept of body symmetry. Individuals whose bodies deviate from these established norms are usually not considered. Therefore it can be challenging to find ready-to-wear garments for unique body topologies.

To understand the spectrum of specific breast support needs, this practice-driven design research facilitates participatory design sessions that introduce the participating females, as critical stakeholders, to a simplified design development process. Participants work with a prototyping method adapted from seasonal fashion designing. While wearing a neutral paper vest that functions as a three-dimensional notepad and a design template, females visualise and articulate individual bra needs by drawing and writing directly onto the vest in the areas of their bodies where needs occur. In this exercise, they are both designer and model alike. While breast support prototypes develop during the course of the design session and become the blueprints of individual designs, synergies and conversations tend to emerge between participants. Reflections and observations, personal stories and experiences are shared and compared, overlap or diverged. These interactions fill the emerging prototypes with a tacit knowledge that narrates the framework in which needs and desires are experienced. Theresa Almeida, who established 'women-centred design' as a term and a research area in her doctoral dissertation, describes how her research practice of intimate female care takes inspiration from experimental artefacts that enable her to engage with the layered experiences of females. She points out that researching sensitive topics, such as intimate female health, requires collecting these shared narratives. Particularly in a health care context, experiences can be highly unique. Thus the methods and tools offered to participants in practice research settings should be conceptually rich.

“... it is pertinent to look at each woman as an individual when accounting for the fact that each and every woman may find themselves in a wide-ranging and varied circumstances, or have a distinct range of subjective experiences.” (Almeida, 2017, 38)

Almeida stresses the importance and value of unforeseen and unplanned encounters and conversations in participatory studies. Even if these accounts might have limitations and are difficult to analyse, they are sources of essential learnings for the researcher, teaching her “communicative competence, imaginative empathy, and reflective self-awareness” (Almeida, 2017, 49).

The design process is usually a structured collaboration between experts in seasonal fashion industry cycles. A design team develops the clothing designs into existence and sees them through to completion. The clothing designer is one entity in this larger group. By following Almeida's understanding of 'engagement' with the garment wearer, embrace2 (as a consecutive research study to embrace1) was concerned with changing the structure of the prototyping process by including a female affected by breast cancer as the garment wearing expert and co-designer into the design team. Adenauer and Petruschat discuss a prototyping culture beyond the focus on deliverables, demonstrators and final outputs, in which prototypes are results and proof of concept. Instead, they investigate placing the prototype at the beginning of the design cycle as a matrix that experts can infuse with information. They argue that prototyping is a shared process, and the prototype is a common good of all experts involved.

"The new prototyping is not a condition but a process. The new forms of prototyping focus not on the object but on the experience one can have with it; they are tools with which new cultural experiences and new cultural capital can be generated. (Das neue Prototyping ist nicht Zustand sondern Prozess. In den neuen Formen des Prototypings steht nicht das Objekt im Mittelpunkt, sondern das Erlebnis, das man mit ihm haben kann. Sie sind Werkzeuge mit denen neue kulturelle Erfahrungen und neues kulturelles Kapital erzeugt werden können.)" (Adenauer, Petruschat, 2012, 12)

Within embrace2, the prototype fostered what Almeida calls 'imaginative empathy' within the design team. The garment became a communication tool amongst the team and a vessel holding the garment-wearing experts' narratives and responses from design experts. Technical improvements resulted from such 'communicative competence'. In reaction to the garment wearing expert accounts, the breast support structure was advanced to circumnavigate problematic pressure and tension that breast support structures of conventional bras exert onto the skeletal muscles that carry the weight of one or both breasts to secure the garment around the body. This tension can cause discomfort at the shoulders and around the torso below the breasts and lead to lymphoedema (swelling of the limbs), especially if lymph nodes have been removed during breast cancer surgeries. Expert collaborators WINT Design Lab experimented with novel, decentralised, soft support structure to eliminate such risks and discomforts.

As this practice-driven research continues to prototype iterations of embrace in collaborative settings, at the threshold of medicine and fashion, it aims to open up design processes to all

stakeholders, humanising medical aid products and normalising and standardising asymmetrical body topographies in clothing design.

### **DDDr Statement**

The seasonal fashion industry cycles are rapid processes that allow little room for designers to consider extreme users' specific and underserved clothing needs. Practice-based research, however, offers space to investigate and test new and inclusive design strategies. We can potentially influence how consumers and designers think about and engage with clothing design by moving from the production agency of the industrial system to the emotional needs of our bodies (von Busch, 2018, 102-103). As this research has evolved through several stages of practising and adjusting designing-with and designing-on-behalf-of-the-garment-wearer approaches, in embrace1 and embrace2, it has developed two consecutive co-creation processes that amplify the unmet clothing needs of females affected by breast cancer. Participatory design sessions re-centre garment wearer voices, emotional needs, and bodily experiences in the design process. Research methods and design tools have been adapted from the fashion industry to inform through a needs-centred feedback loop between practice design research and commercial manufacturing. Transferability of design tools between research and industry can potentially benefit alternative clothing design and widen the stakeholder network to include garment wearers as experts of the garment wearing experience in design teams. This approach could assist novel breast support strategies for and with females affected by breast cancer and contribute to critical design discourses around clothing diversity in the spectrum of body asymmetry.

## **BIBLIOGRAPHY**

Adenauer, Julian and Petruschat, Jörg. 2012. Prototype! physical, virtual, hybrid, smart; tackling new challenges in design & engineering. Berlin: Form + Zweck.

Almeida, Teresa. 2017. Designing Technologies for Intimate Care in Women. PhD. School of Computing Science Newcastle University.

DM, P., J, MP, F, B, HR and D. 2019. Cancer Incidence in Five Continents (CI5) Volumes I to X. [online] Publications.iarc.fr. Available at: <http://publications.iarc.fr/Databases/Iarc-Cancerbases/Cancer-Incidence-In-Five-Continents-CI5-Volumes-I-To-X-2014>

Ncin.org.uk. 2019. [online] Available at: <http://www.ncin.org.uk/view?rid=612>

von Busch, Otto and Hwang, Daye. 2018. Feeling Fashion: The embodied gamble of our social skin. SelfPassage.

## **BIOGRAPHY**

Silke Hofmann is a clothing designer and design researcher. She investigates the aesthetic and ergonomic bra needs of females affected by breast cancer in participatory design processes. Her doctoral research at the Royal College of Art is funded by the London Doctoral Design Centre through the Arts and Humanities Research Council. She has been a JASSO-funded visiting researcher in the KYOTO Design Lab at the Kyoto Institute of Technology. Her research has received funding awards from the European Social Fund through DesignFarm Berlin and the Horizon 2020 ReFREAM grant.



Figure 1. Participatory design session, Laura Knoops and Julia Lee Goodwin





Figure 2. Embrace1, Laura Knoops and Julia Lee Goodwin





Figure 3. Embrace2, Arnaud Ele



# **Tessellated Material Systems. Designing hierarchical structures to achieve context sensitivity and multifunctionality**

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## ABSTRACT

In nature, tessellated morphologies appear convergently across species and at all length scales - Tessellated Material Systems (TMS) are evolutionary successful because of their ability to unify mechanically opposing properties in one functional system. In these systems the tile is the structurally hard unit of a tessellation acting as building block, while the joint is the flexible carrier membrane that unites all tiles. To date natural scientists have developed a far-reaching understanding of hierarchical organization principles, which are responsible for the self-assembling (growth) of multifunctional and context aware systems. While nature's patterns have ever since inspired Design and Engineering, principles such as tiling have found application as building strategy and in decoration from antiquity on. The application of tessellations in Design and Architecture was and is ever since focusing on the geometrical and structural benefits of these systems. As the mode of the material has played a minor role in the application of TMS, this practice-based PhD project shall be a contribution to refining our current Design approach from structure to material focused. The aim of this research is to develop methods of designing hierarchical materials that lead to multi-functionality and allow for context sensitivity. In the following text two Design Studies will be introduced. The first study explores the material dichotomy of flexible pre-stretched textiles, laminated with hard plastic to predefine surface deformation. While the second study explores the application of TMS as context sensitive design and construction tool in a specific Design scenario.

**Keywords:** Biodesign, parametric structures, programmable materials

### Overview

In nature, tessellated morphologies appear convergently across species and at all length scales ranging from molecular structures to macroscopic units. Tessellated Material Systems (TMS) are evolutionary successful because of their ability to unify mechanically opposing properties in one functional system e.g. crack prevention, flexibility and protection against predators (Fratzl et al. 2016). Nature's patterns have ever since inspired design and engineering. Principles such as tiling have found application as building strategy and in decoration since the antiquity (i.e. Egyptian, Persian, Roman, Greek, Arab, Japanese and Chinese civilization)

(Chang 2018). The replication (mimesis) of natural patterns was and still is based on observations. These observations are usually described by geometry “Geo-metry, the word measuring out earth” (Fuller 1971). As only this can be measured what one can see the mimetic approach towards nature's structures is correlating with the technological advancements in microscopy (seeing) and imagery (capturing). The ability to study micro structures concluded into the understanding that most biological materials are hierarchically organized. Today geometric tessellations are widely applied in modern architectural design, specifically in computer aided design (CAD), computer aided manufacturing (CAM) and computer-generated imagery (CGI). Geometric tessellation refers to the covering of an Euclidian plane, using one or more shapes resulting in neither gaps nor overlaps between tiles (Chang 2018). In most applications geometric tessellation is leading to structures that actually resemble cellular foams. In those structures arrays of empty cells share edges, resulting in stable but lightweight structures. One prominent example of application is the fuller dome, which can be observed as the structural inverse of natural tessellation. In natural TMS the tile is the structurally hard unit of a tessellation acting as building block, while the joint is the flexible carrier membrane that unites all tiles. These joints and gaps between tiles, allow for overlaps and irregularities. To represent structural irregularities and complex gaping behaviour of natural tessellation with means of geometry is rather challenging. But exactly this gaping, overleaping and irregularity in tile shape and size is considered an integral part of achieving context specific functionality.

### **Hierarchical structures**

The structure of most biological materials is hierarchically organized, which provides the opportunity for adapting to various functional needs at different levels of the hierarchical structure (Weinkamer and Fratzl 2016). We can consider this multifunctionality a design strategy, allowing to build performant structures with a minimum amount of resources and energy - “minimum inventory/maximum diversity” (Reznikov et al. 2016). The hierarchical structures in nature rely on information encrypted in proteins to guide the material properties. In fact, only a singular type of polymer can express various structural motives that lead to different material properties. It means as natural patterns grow, parameters such as nutrition, attacks by predators and many more environmental factors influence the pattern building (Fratzl and Weinkamer 2007). Apparently pattern irregularity results from a direct adaptive and efficient response to environmental and internal requirements of the organism. Exactly these irregularities in natural patterns are the macroscopic expressions of self-organizational

forces reacting to context-specific information. In contrast, engineered materials develop functionality through chemical variation and combination of e.g. polymers or metals. Technology relies on a wide range of materials and compounds with very specific properties to serve single specific functions. Temperature change to emulate chemical processes are a core strategy to produce material compounds with specific material properties (Fratzl and Weinkamer 2007). Today up to 70 percent of all technical problems in material processing are solved with the help of energy. In biology, energy is a rather rare control variable (Julian Vincent, Achim Menges, Michael Hensel, n.d.).

## **Scope**

This practice-based PhD project shall be a contribution to refining our current Design approach from structure to material focused. The aim of this research is to develop a method of designing hierarchical material structures that lead to multi-functionality and allow for context sensitivity. To demonstrate the relevance of applying design driven research methodology I have argued that irregularities and asymmetries in TMS create inherent functional properties that can be productive strategies for constructing adaptive and context aware surfaces. The underlying natural processes responsible for pattern formation can be regarded as functions or programs, which are per definition context specific. Meaning the context of a pattern is an essential parameter to consider. If such context is misunderstood or insufficiently understood, a biomimetic approach alone cannot lead to meaningful designs (Julian Vincent, Achim Menges, Michael Hensel, n.d.). The challenge of applying principles of TMS in real word scenarios is therefore not purely technical, but involves the implementation, coordination and evaluation of contextual information – Design practice.

## **Design Study (a)**

### **A workflow towards designing surfaces with distinct kinematic properties**

I am part of an interdisciplinary research group (Cluster of Excellence - Matters of Activity) consisting of morphologists, engineers, material scientists and designers, we are commonly interested in the relation between form and function in TMS. As a group we started to collect over 120 specimens according to the presented definition of natural TMS (fig.01-04). We started to develop a taxonomy to describe their morphological similarities and differences. The following categories have been developed to describe the macroscopic structures: Tile Shape (fig.10), Granularity (fig.11), Tile to Tile Interaction (fig.12), and Tessellation Pattern (fig.13). This study aims to replicate the strategy of hierarchical structural variation between soft interface and hard tiles as observed in natural systems. The gaps between solid tiles

are mostly filled with relatively soft (often fibrous) material, due to this structural duality multifunctionality can be achieved. Such a complexity of properties is difficult to simulate digitally (i.e. Finite Element Analysis) to overcome limitations in computer-based simulation I developed analogue prototypes.

Here structural hierarchy can simply be introduced by combining structurally different materials such as jersey textile and 3D printed PLA. The developed workflow relies on two established design techniques: 1st: The parametric pattern generation is performed with Rhinoceros 7 and its plugin Grasshopper, as well as the Kangaroo Physics extension developed by Daniel Piker. 2nd: The simulation of surface kinematics is performed with 3D printing on pre-stretched textiles, as presented by MIT Self-assembly Lab (Tibbits, Skylar 2017).

The computational approach translates the developed taxonomy into parameters to create the functionality for parametric iterations, and the systematical exploration of parameter spaces (fig.14). In the process of physical prototyping mechanically rigid elements are laminated to pre-stretched textiles using 3D printing. The selected textile (jersey 94% cotton, 6% elastane) therein simulates the soft interfacing membrane between the hard plates as observed in natural systems (fig.15). It structurally traps surface tension, which after the lamination is applied to the whole system (activation power). Once the tension of the fabric is released, those areas laminated with 3D printed material are structurally reinforced and resist the shrinking force. This duality of properties allows disproportional shrinkage, resulting in three-dimensional surface deformation (fig.5-8).

The presented technique is able to generate surfaces that transform from plane to dome like morphologies, expressing gaussian curvature (fig.6). Gauss mathematically explains how a flat surface can only bend one directional (into a cylinder), while for it to be double curved the geometry would need to tear, shrink or fold, similar to wrapping a sphere with newspaper. These mathematical constraints are overcome due to the materiality introduced in this workflow. This workflow does not try to mathematically predict dedicated material behaviour but uses parametric modelling techniques to generate patterns that can be laminated. The effect on the lamination/material is observed and the resulting behaviour classified. The parametric iterations and prototypical simulations were documented, relating each morphology to its respective digital twin and their biological role models. This way clear interdependencies between pattern morphology and surface kinematics could be observed (fig.1-8).

### **Design Study (b)**

#### **embrace 2 - need-based clothing design**

The second study builds on findings presented above and is



situated in a collaborative design project developed by Silke Hofmann. In her research she is interested in the wearer-garment relationship and in design processes that advocate participation. Embrace 2 is situated in the female health spectrum and focuses on aesthetic and ergonomic bra needs of females affected by breast cancer after mastectomy. This directly results in wearable objects that materialize the participating women's needs in individualized garment solutions. Coming from different backgrounds we had individual research goals that benefited from each other's specific competencies and profession. Viktoria Prantauer (health tech activist) was at the centre of the development as garment wearer and model for this design development (fig.16). Case studies (knitting experts) have developed the 3D knitted garment prototypes. My focus lied on the possibility of applying principles of tessellation in a concrete, user centred design scenario. An in-situ study of how tessellation can be applied as design method, exploring the trade-offs between functional, aesthetic and technical requirements.

Differing from the workflow in design study (a) the 3D knitted garment is laminated with a heat transfer foil. Instead of laminating hard plates on pre-stretched textile the relaxed textile is laminated, with semi-hard tiles. This leads to a reversed activation principle that activates when set under tension. The moment of wearing the garment applies tensile forces and the prescribed structural properties are activated (fig.19). Natural morphologies regularly express gradual shift of tile sizes and incoherencies in tile shapes, which suggests a strategy to introduce functional gradients. What appears as pattern inaccuracy to the engineering eye turns out to be a functional feature in the natural system. In our research group (MoA) scientists are investigating how tessellation changes within the growth phases of an organism. For example, how does the macroscopic pattern behave as the animal develops from a young to an adult organism? Are new tiles formed, do the tiles become uniformly larger, or does both happen simultaneously? In nature, these growth processes are usually governed by principles of self-organization; biochemical processes then regulate and control pattern formation (Fratzl and Weinkamer 2007). The goal was to develop a parametric definition containing quasi similar rules, which were specifically adaptable to the individual body shape, sensations and feedback of Viktoria as the wearer (fig.16-17). Parametric design is, in effect, nothing more than a set of rules that describes how patterns must respond to a limited number of parameters in order to achieve a consistent result.

To develop a parametric logic, material performance, aesthetic properties and the assessment of the wearer need to co-evolve. Central to the evolution were collective fittings, here Viktoria tried and commented the developed prototypes. These fittings were situations in which individual and common interests were negotiated, discussed and evaluated right on the physical



prototype (fig.20). The needs of the user group (which were represented by the in-depth research and interviews conducted by Silke Hofmann) manifested in design decisions which build the foundation for the parametric definition. One example was the development of a tessellated pattern with rounded tile shapes. We spent over two weeks searching and evaluating the perfect tile shape. While a simple circle had functional limitations, I came up with the “oblong hole” for which the length, width and orientation of the tiles then became the functional and aesthetic parameters of the pattern design (fig.18). The rounded edges made the pattern appear less technical, which was equally relevant as achieving the support function.

As the overall project is situated in the field of fashion design and woman’s health wear the aesthetics and materiality of the tiles as smallest building block of the pattern were essentially important. In embrace 2, tessellation is used as a design principle for developing individualized and flexible support structures. Tessellation has proven to be an alternative for creating functional surfaces as opposing properties can be gradually integrated in one functional system, offering the possibility of responding to individual body shapes and needs.

Tessellated Material Systems (TMS) are of interest to a range of scientific disciplines and beyond. At Matters of Activity (MoA) we formed an interdisciplinary group (of researches from Morphology, Material Science, Engineering and Design) to collaboratively explore TMS. Within the group my role as Designer is to perform methodological Design investigations. The notion of prototyping and iterating with materials and software, became an inherent part of the interdisciplinary conversations and therefor a relevant research approach. DDDR in this context means to support or replace virtual simulation processes with physical prototyping techniques or visualizations, this results in a degree of abstraction that is modulated by the choice of material, process and context. Instead of dealing with virtual simulation environments, physical prototypes are created and valued. These research objects are used as mediators allowing to efficiently communicate across disciplines to define common grounds and goals. To demonstrate the relevance of DDDR methodologies I have argued that the context of a pattern is an essential parameter to consider, if such context is misunderstood or insufficiently understood, a biomimetic approach alone cannot lead to meaningful designs (Julian Vincent, Achim Menges, Michael Hensel, n.d.). The challenge of applying principles of TMS in real word scenarios is therefore not purely technical, but involves and relies on the implementation, coordination and evaluation of contextual information – Design practice.

## BIBLIOGRAPHY

Chang, Wei. 2018. 'Application of Tessellation in Architectural Geometry Design'. Edited by M. Mostafa. E3S Web of Conferences 38: 03015. <https://doi.org/10.1051/e3sconf/20183803015>.

Fratzl, Peter, Otmar Kolednik, F. Dieter Fischer, and Mason N. Dean. 2016. 'The Mechanics of Tessellations – Bioinspired Strategies for Fracture Resistance'. *Chemical Society Reviews* 45 (2): 252–67. <https://doi.org/10.1039/C5CS00598A>.

Fratzl, Peter, and Richard Weinkamer. 2007. 'Nature's Hierarchical Materials'. *Progress in Materials Science* 52 (8): 1263–1334. <https://doi.org/10.1016/j.pmatsci.2007.06.001>.

Julian Vincent, Achim Menges, Michael Hensel. n.d. 'Grenzüberschreitungen Architektur -Biologie'. *ARCH+ FORM FOLLOWS PERFORMANCE* (188): 99–101.

Reznikov, N., J. A. M. Steele, P. Fratzl, and M. M. Stevens. 2016. 'A Materials Science Vision of Extracellular Matrix Mineralization'. *Nature Reviews Materials* 1 (8): 16041. <https://doi.org/10.1038/natrevmats.2016.41>.

Robert Snyder. 1971. *The World of Buckminster Fuller*. Documentary.

Tibbits, Skylar. 2017. *Active Matter*. The MIT Press.

Weinkamer, Richard, and Peter Fratzl. 2016. 'Solving Conflicting Functional Requirements by Hierarchical Structuring—Examples from Biological Materials'. *MRS Bulletin* 41 (09): 667–71. <https://doi.org/10.1557/mrs.2016.168>.

## BIOGRAPHY

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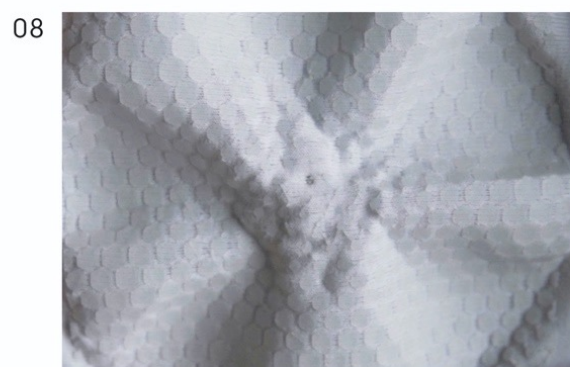
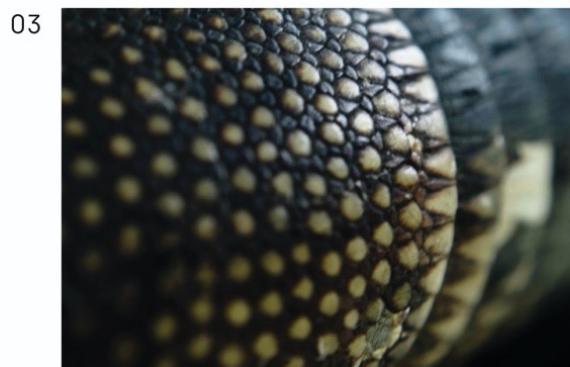
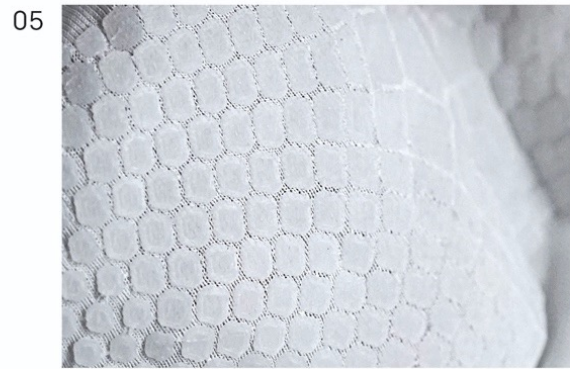
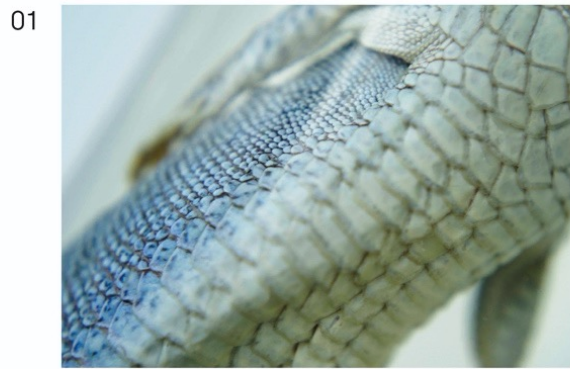


Figure 1. 01 LACERTA VIRIDIS - Green lizard, 02 CHELONIA MYDAS - Green turtle, 03 DASYPUS NOVEMCINCTUS- Armadillo, 04 GYMNOPTIONA - Caecilian (Specimen from HU Zoological collection) 05 - 08 3D Print on pre-stretched textile (images by Felix Rasehorn)



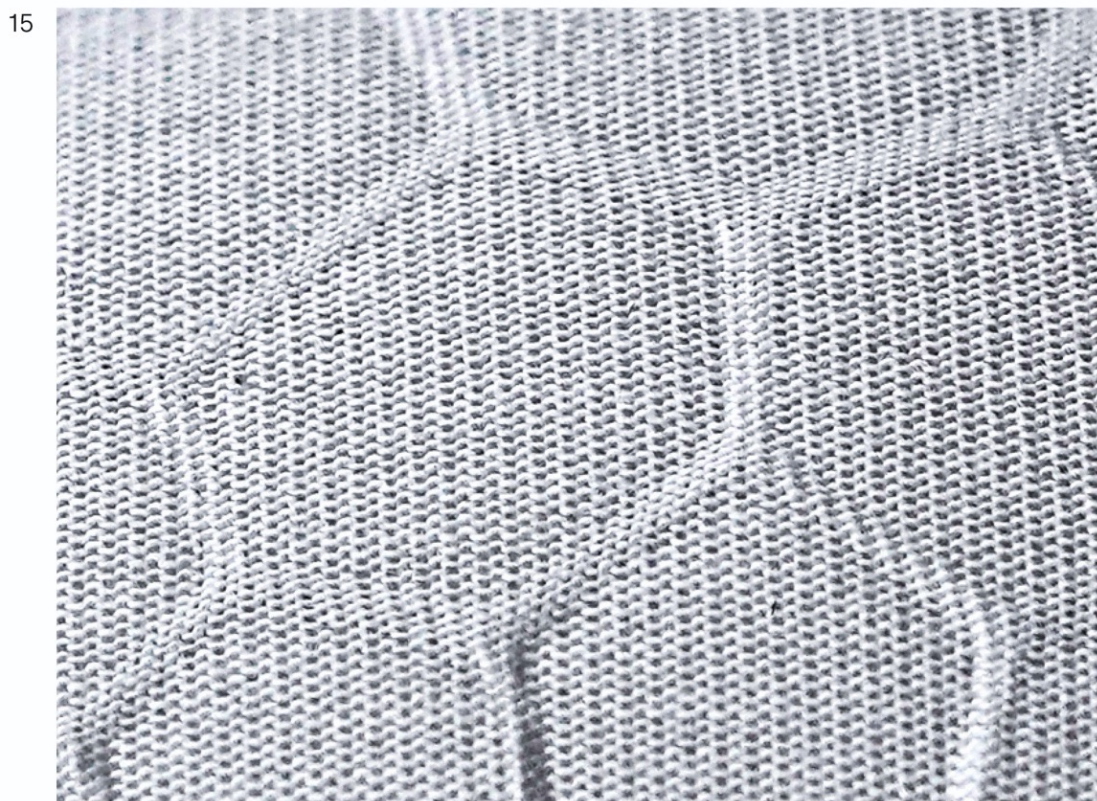
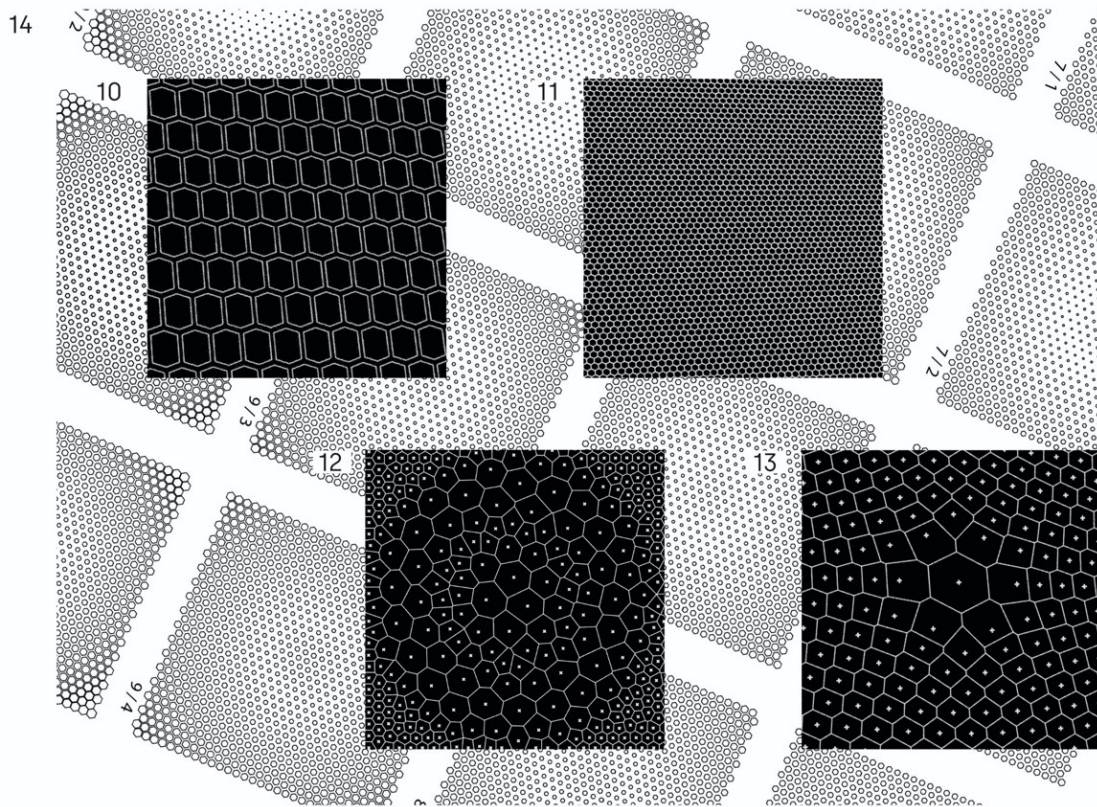
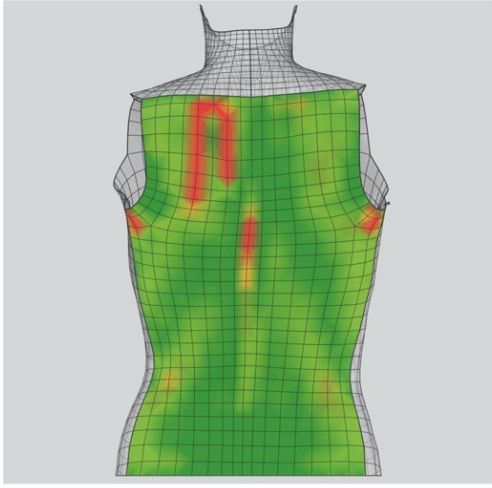


Figure 2. 10 - 13 Parametric setup for TMS categories (10 - Tile Shape, 11 - Granularity, 12 - Tile to Tile Interaction, 13 - Tessellation Pattern), 14 - Parametric variations, 15 - Close-up of laminated jersey (structural difference between interface and joints) (images by Felix Rasehorn)



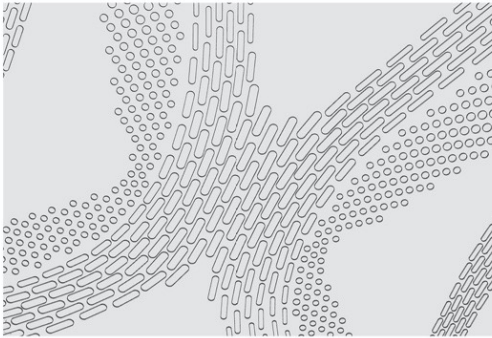
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Figure 3. 3D Scan of Viktoria Prantauer (force diagram), 17 - Detail of CAD production file, 18 - Samples of Tile Shape, 19 - Textile system under tension 20 - Preparation for final Prototyping fitting (images 16-19 by Felix Rasehorn, image 20 by Silke Hofmann)



# V.3 DDDR TECHNIQUE





# ***The transformative potential of Form***

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## ABSTRACT

**Central to the contemporary architecture debate is the reuse of existing buildings to foster sustainable design approaches. Investigating the nebulous concept of potential emerges a relevant concern within the adaptive reuse field. However, the concept of potential is still nebulous in architecture. Among many potentials, this research focuses on the potential related to the architectural form adapted to host new uses.**

**The research aims to define, decode and assess the concept of transformative potential of form in existing buildings through a post-functional perspective. The methodological approach taken in this study is a mixed methodology based on the collective-case study method integrating morphological analysis, embodied energy method, following a trans-scalar and diachronic approach. This paper begins by introducing the literature review and the hypothetical definition of transformative potential. Then, the multidisciplinary approach is discussed across the methodology of collective case studies analysis. To conclude, the paper underlines the expected results. The findings should make a relevant contribution to the field of adaptive reuse by assessing a range of transformative potential for existing buildings.**

**Keywords: Potential, adaptive reuse, morphology, embodied energy.**

In preservation theory, cultural heritage studies, and decision-making studies, choosing what to preserve from the totality is central to contemporary debate (P. Bullen and Love 2011; P. A. Bullen and Love 2010; Plevoets and Van Cleempoel 2019). However, determining what is suitable to be preserved and in which way to preserve it has been a dynamic process across history. Indeed, the idea of preserving “obsolete forms” even if not suit current needs is a quite recent concern, even in European culture. The built environment could thus be read as a palimpsest, composed of diverse layers from different epochs (Machado 1976). Thus, this shift from monument to palimpsest might potentially include all the built environment under the preservation domain. The role of adaptive reuse in conservation practice was introduced in the 1970s as a means of enlarging the traditional approach to

heritage buildings and the object of conservation itself. However, building stock is a crucial issue in the circular economy and plays a critical role in sustainability. (Merlino 2018) Stemming from the roots of the preservationist debate, the research embraces the contemporary theories both related to the adaptive reuse practice (Byard 2005; Douglas 2006; Wong 2016). There is a growing body of literature that recognizes the importance of adaptive reuse practice, attempting to disclose the untapped potential of existing buildings.

The concept of potential emerges as a commonly used term in the adaptive reuse literature, and yet its univocal meaning is questionable. Evidence suggests that the amount of potential is among the most important factors for design within the existing buildings.

Although the term potential varies in the literature, there appears to be some agreement among the adaptive reuse field that potential refers to the 'unexpressed transformability'.

The research aims to define, decode, and assess the concept of transformative potential in the existing buildings through a post-functional perspective. The work intends to define the nebulous concept of transformative potential following an operative view through its generative elements in the architecture realm. At first, the literature review links the notion of potential in post-structuralist philosophy (DeLanda 2002) with the prominent theories from hard sciences -starting from Galilei's gravitational theory- in shaping the potential as a secular concept. The first essay attempts to provide a broad definition of potential, stemming from the roots embedded in other disciplines, the previous analysis and the investigation of such meaning within the architectural field allow us to propose a set of behaviours of the transformative potential in architecture.

Some shared features emerge in all the disciplines; the potential acts in a detected force field, it may be positive or negative, it is multiple and not unique, it can act as a function or a flow. It seems to require a trigger element to be activated.

Secondly, references to the potential related to architecture studies address this concept as 'incompleteness' (Choay 1992), 'indeterminacy', 'loss' (DeSilvey and Harrison 2020), 'capability to change' (Habraken 1991). The potential appears as a sum of 'transformative' features embedded in architectural form, as a state of equilibrium between the structure of space and the materials. The literature about adaptive reuse practice addresses several references of potential. Douglas presents the 'building's adaptation potential' as the sum of multiple characteristics; property's location, condition, construction, morphology, and legal restraints as elements assessing the degree of freedom in adaptive reuse intervention. (Douglas 2006). Brand focuses on how to prevent

the loss of potential during the building's life span, even without defining such a potential (Brand 1995).

The literature review in architectural studies suggests the transformative potential composed by endogenous elements affected by exogenous conditions. The transformative potential may express the relationship, both qualitative and quantitative, between multiple components. As spatial elements –size, height, the geometry of the plan, configuration pattern, and tectonics of structure– and matter elements –materials and embodied energy– in a trans-scalar and diachronic perspective.

The research will analyze 16 adapted buildings across Europe as cases studies through the starting potential elements and the reuse intervention. The methodology of collective-case studies. The unit of analysis is the building as an individual object which is located and connected with its physical context. The current research does not evaluate the legal implications and norms in adaptive reuse practice, as a construct of society, which had to follow the empirical findings, not the other way around.

The cases studies selection will consist of studies within a variety of morpho-structural types, as Weberian ideal types (Weber, Shils, and Finch 1949) According to Weber, the ideal type represents a conceptual framework that is not real; it serves as a template, a scheme of reality that allows measuring, to unveil its significant elements according to the research purpose.

The classification of buildings in typologies crossed the classical treatizes spanning from Vitruvius to Durand. (Durand and Legrand 1801; Krinsky 1989) Here, the proposal is to unbuild the classical typological classification in place of a morphological one, assuming the questionable role of the new building over the present sheer amount of built stock. The ex-post sort of the built environment allows considering existing buildings as infrastructures beyond their previous functional purpose. This classification ex-post of buildings as morpho-structural types lead to believe a case generalizable to the whole category, admitting a selection between various buildings, that may not be comparable to each other. (Figure1)

The intervention actions novel selection permits to test the conditions of main approaches in the current adaptive-reuse practice (White 1999; Brooker and Stone 2004; Jäger 2010), shifting from “interventions” to constructive and deconstructive actions. Specifically, the actions are intended under the lens of Brand's shearing layers theory, in order to reconstruct the crucial phases of the evolution of buildings' form through adaptive reuse approaches.

The selected buildings faced diverse adaptive reuse approaches, from radical to minimal, that started from a diverse state of decay of the original building. The various decay stage offers an overview of obsolescence that existing structures may address, attempting a correlation between former conditions and reuse approaches.

The research method follows a multidisciplinary approach integrating the morphological analysis with the retroactive-embodied energy assessment of the existing structure. The first method employs the critical redrawing of original buildings as a tool to highlight both dimensional features and configurational aspects; the graphical analysis of the adaptive reuse project will underline plausible links between them. (Figure 2) The second method measures the embodied energy related to primary material flow during the adaptation. The embodied energy analysis gives weight to the amount of added, removed or displaced in each reuse activity to assess the impact of these projects on the sustainable use of resources. (Jackson 2005; Benjamin 2017). Exogenous conditions are included in the morphological analysis, contextualizing each project in a specific urban context that takes part in the “deformation” of the original building. (Borie, Micheloni, and Pinon 1978) To conclude, the impact of time is highlighted across all the research, as a crucial element affecting both morphological variation and the material flow.

The need to apply an interdisciplinary approach, which merges morphological analysis, energy account embracing a diachronic perspective turns out to be suitable to analyze through multiple lenses a complex issue.

The results may underline a correlation pattern between the formal starting conditions of a building and its adapting reuse intervention.

Some sub-questions emerge. Such transformative potential increases in the balance between constructive and deconstructive approaches of adaptive reuse? Through which characteristics does an existing architectural object underlie its options of use? The concept of transformative potential may link morphotype and possible use inherent in the existing form and materials. Both conscious decay approaches and radical design projects may show an analogous transformative potential average. (Figure 3)

The present research is still ongoing, while results are not in discussion yet.

However, the current research stage allows organizing the

16 cases in four leading groups: footprints, ruins, structures and boxes. Each of these groups might be seen in terms of transformative potential, through its level of completeness and its morphological structure that per se shows a “tendency”(DeLanda 2002) of the form to be adapted in more than one way.

Among the other, the projects actualized shows a trajectory in the adaptation, that was influenced by a multiplicity of factors. Among these factors, concerting the physical features of an existing building, the form plays a prominent role.

The theoretical objective is to add the concept of transformative potential to the current preservationist debate. The novel notion may enlarge the preservation theory following a post-functional perspective in the evaluation of existing buildings. Post functional in the context of this research means both recognizing dismissed buildings as independent from functional types and the proposal of a focus on morphology according to our increasing need for flexible spaces in contemporary society.

The task is to express the transformative potential of form as an open relationship between selected elements, such as dimensional features, embodied energy and decay, that are capable of outlining a pattern between existing buildings and adaptive reuse intervention. Such a transformative potential may give weight to multiple use options in existing buildings.

The case studies are all kinds of relevant buildings in architecture panorama, as ‘monuments’ in adaptive reuse practice. Further research should focus on ‘anonymous’ buildings, that faced a process of decay and change of use even if not under the adaptive reuse label. To conclude, this particular kind of potential related to the transformation of form through an adaptive reuse project aims to be complementary to the many other potentials that concur to define variations of the built environment. The transformative potential of form is not unique nor absolute, but it is a part of a manifold net of actors taking part in any architectural transformation.

### **DDDr Statement**

The research aims to have an impact on the sustainability of buildings, by rescuing the central role of architecture in orientating the future while addressing environmental awareness. The process follows an interdisciplinary methodology, as fundamental in dealing with complex systems such as the built environment. The research path follows the morphological analysis as the main drive. By analyzing in-depth 16 buildings, the first instrument is the drawings of the two main steps recognized as turning points of

adapted buildings; the original spatial asset and the adaptive reuse one. The redraw of existing buildings allows rediscovering the buildings through the lens of the research questions and provide the graphic support for a multi-methods analysis. The relationships between elements, such as dimensional features, embodied energy related to materials and decay, emerge thanks to diagrams and critical schemes. A quantitative data analysis led by the embodied energy assessment and the quantitative dimensional factors ingrate the qualitative findings. The spatial network analysis integrates both qualitative and quantitative results. An in-depth analysis of the design project both in preexistences and in new designs on them may underline a pattern in design approaches based on the existing building form as a fundamental condition. The research aims to assess a transformative potential average to the existing buildings to support adaptive reuse approaches.

## BIBLIOGRAPHY

- Chang, Wei. 2018. 'Application of Tessellation in Architectural Geometry Design'. Edited by M. Mostafa.
- Benjamin, D.N. 2017. *Embodied Energy and Design: Making Architecture Between Metrics and Narratives*. Columbia University GSAPP.
- Borie, A., P. Micheloni, and P. Pinon. 1978. *Forme et Déformation Des Objets Architecturaux et Urbains*. Eupalinos. Marseille: Parentheses Eds.
- Brand, S. 1995. *How Buildings Learn: What Happens After They're Built*. Penguin Publishing Group.
- Brooker, G., and S. Stone. 2004. *Rereadings: Interior Architecture and the Design Principles of Remodelling Existing Buildings*. London: RIBA Enterprises.
- Bullen, Peter A., and Peter E.D. Love. 2010. "The Rhetoric of Adaptive Reuse or Reality of Demolition: Views from the Field." *Cities* 27 (4): 215–24. <https://doi.org/10.1016/j.cities.2009.12.005>.
- Bullen, Peter, and Peter Love. 2011. "A New Future for the Past: A Model for Adaptive Reuse Decision-Making." *Built Environment Project and Asset Management* 1 (July): 32–44. <https://doi.org/10.1108/20441241111143768>.
- Byard, P.S. 2005. *The Architecture of Additions: Design and Regulation*. Norton.
- Choay, F. 1992. *L'allégorie Du Patrimoine. Couleur Des Idées*. Editions du Seuil.
- DeLanda, M. 2002. *Intensive Science and Virtual Philosophy*. Series Editor. Bloomsbury Academic.
- DeSilvey, Caitlin, and Rodney Harrison. 2020. "Anticipating Loss: Rethinking Endangerment in Heritage Futures." *International Journal of Heritage Studies* 26 (1): 1–7. <https://doi.org/10.1080/13527258.2019.1644530>.
- Douglas, J. 2006. *Building Adaptation*. Butterworth-Heinemann.
- Durand, Jean-Nicolas-Louis, and Jacques Guillaume Legrand. 1801. "Recueil et parallèle des édifices de tout genre anciens et modern, remarquables par leur beauté, par leur grandeur, ou par leur singularité, et dessinés sur une même échelle." <https://doi.org/10.11588/diglit.1608>.
- Habraken, NicholasJohn. 1991. *Supports: An Alternative to Mass Housing*. 2th, reprint of the 1972 English edition ed. Urban International Press.
- Jackson, Mike. 2005. "Embodied Energy and Historic Preservation: A Needed Reassessment." *APT Bulletin: The Journal of Preservation Technology* 36 (4): 47–52.
- Jäger, F.P. 2010. *Old & New: Design Manual for Revitalizing Existing Buildings*. Basel: Birkhäuser.
- Krinsky, C.H. 1989. *Cesare Cesariano and the Como Vitruvius Edition of 1521*.
- Machado, R. 1976. "Old Buildings as Palimpsest: Toward a Theory of Remodeling." *Progressive Architecture* 11 (Restoration and Remodeling): 46–49.
- Merlino, K.R. 2018. *Building Reuse: Sustainability, Preservation, and the Value of Design*. Sustainable Design Solutions f. University of Washington Press.
- Plevoets, Bie, and Koenraad Van Cleempoel. 2019. *Adaptive Reuse of the Built Heritage: Concepts and Cases of an Emerging Discipline*. <https://doi.org/10.4324/9781315161440>.
- Ruskin, J. 1849. *The Seven Lamps of Architecture*. The Seven Lamps of Architecture. J. Wiley.
- Weber, M., E. Shils, and H.A. Finch. 1949. *The Methodology of the Social Sciences*. Free Press.
- White, E. T. 1999. *Path, Portal, Place. Appreciating Public Space in Urban Environments*. Architectural Media.
- Wong, L. 2016. *Adaptive Reuse. Extending the Lives of Buildings*. Basel: Birkhäuser Verlag AG.

## BIOGRAPHY

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morpho-structural types

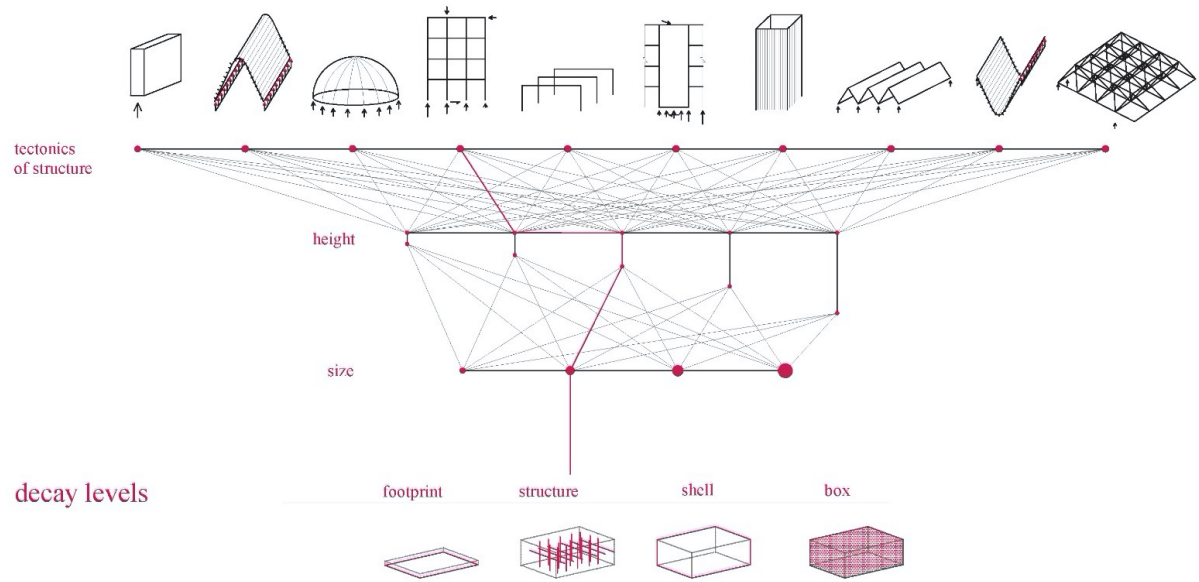


Figure 1. Morpho-structural types and decay level assessment, Elena Guidetti, 2022

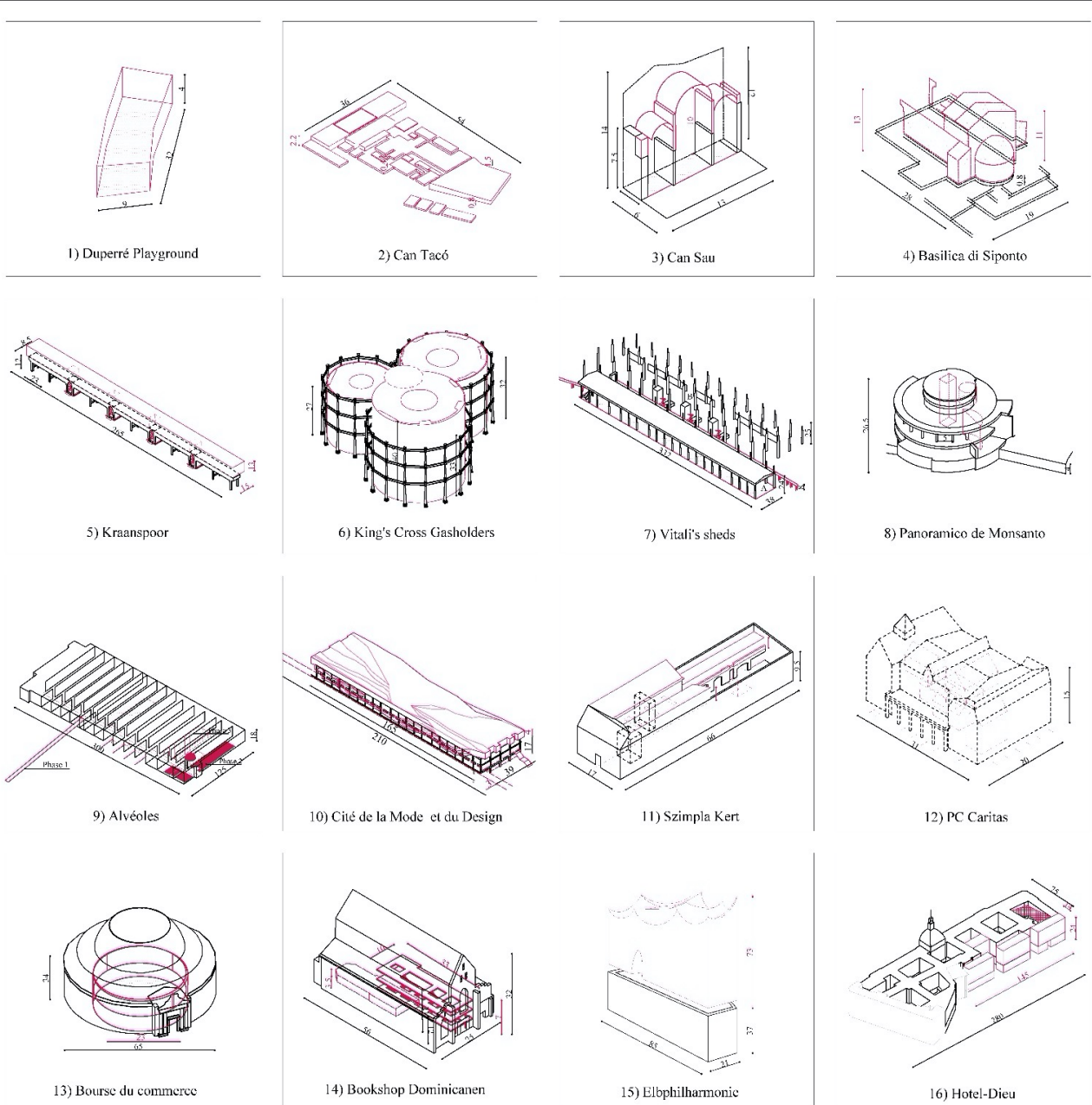


Figure 2. Morphological analysis, case studies' transformations, Elena Guidetti, 2022

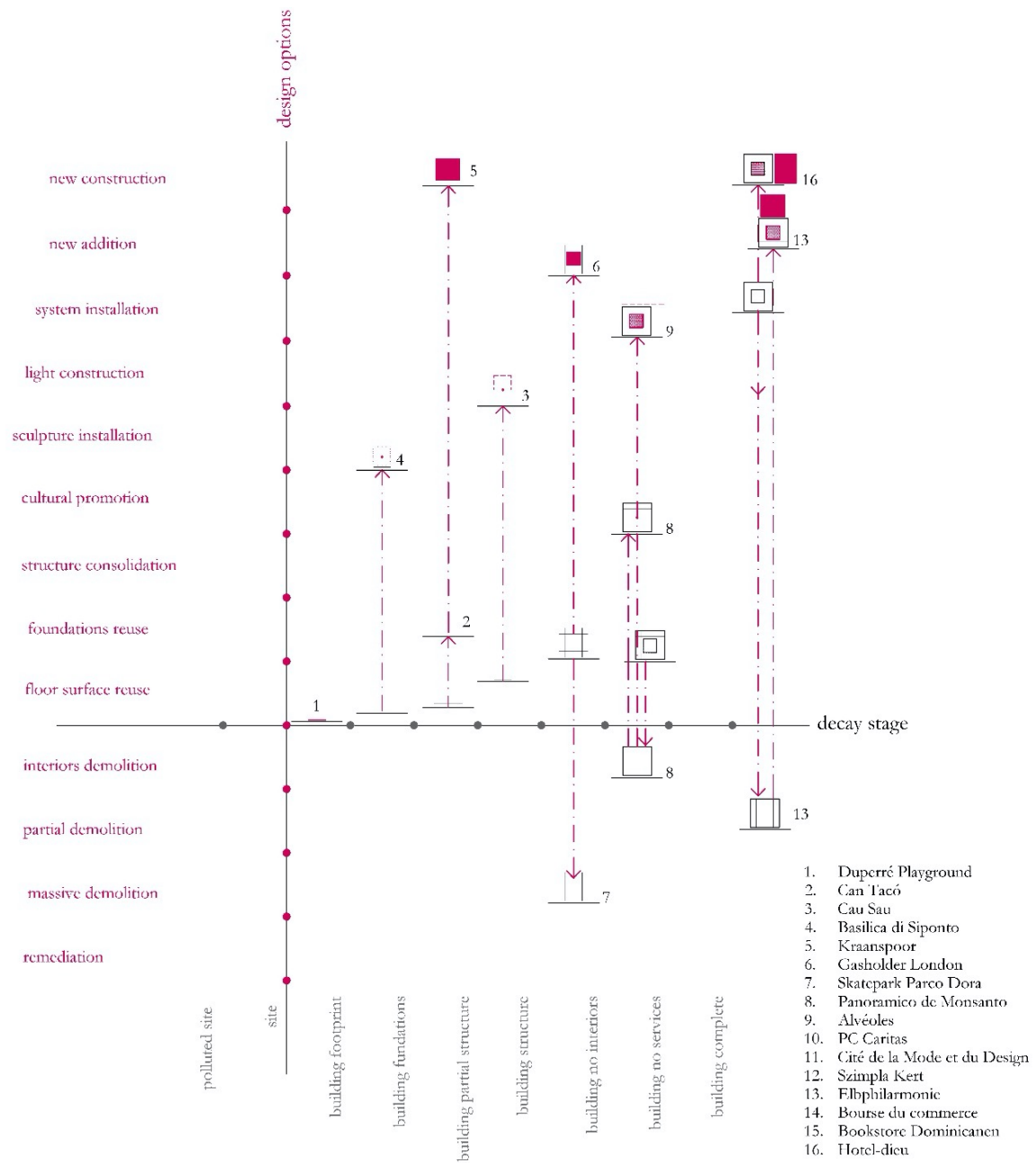


Figure 3. Constructive and deconstructive actions, Elena Guidetti, 2022



# **It Depends on The Lens: Film as Experiential Teaching in Architectural Design and Design Representation**

Anita Szentesi  
University  
of the Witwatersrand

## ABSTRACT

**My proposed PhD research study is an interdisciplinary exploration between architecture and film, and stems from the Master of Arts Film and TV that I completed in 2018, and from how I applied the knowledge that I gained from my Masters' towards architectural pedagogy. In architectural pedagogy, I introduced film and its narrative formats into the architectural design process and design representation. I developed these formats as part of a methodology that focuses on design from different character's lived experiences in the form of narratives. I have coined this notion a character-led architecture. Briefly, character-led architecture introduces storytelling, screenwriting and character design as the first step in the architectural design process. Through characters and fiction, alternative worlds are imagined which may be based in real contexts with new alternative paradigms, or imaginary worlds. In architectural pedagogy, this method aims to encourage students to teach and learn through the processes of their own productions, starting the design process from a story and not exclusively from traditional top-down teaching methods. Through this teaching methodology, my research aims to achieve an inclusive collaborative method of design for socially conscious place-making.**

**Keywords: Practice-Based Research; Interdisciplinary; Architecture and Film; Character-Led Architecture; Architectural Pedagogy; Screenwriting; Narrative in The Design Process; Film and Design Representation; Story Telling; Historical Narrative; Postcolonial; Decolonial**

The background of this PhD research study proposal stems from the Master of Arts Film and TV that I undertook whilst lecturing in the Wits School of Architecture and Planning in Johannesburg, South Africa. 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.

I was inspired to contribute the knowledge that I gained from my Masters' towards architectural pedagogy because of a problematic paradigm that I identified. In current architectural design processes and representations, there seems to be an exclusion of the depth of how society and culture intersect with the material world of buildings, and the relationship between architecture to its people and its situatedness to specific contexts. The complexities of our society seem to get stripped out in the design process and people and life are viewed as abstractions and simplified objects within the architecture. People and culture, however, are highly diverse and complex. The way in which people and culture connect with places is also diverse and complex. These connections to place could be pleasant or traumatic. Buildings and places can be seared into people's memories, giving these built forms meaning and relevance to a person's history, culture and identity. These feelings, emotions, memories, subjectivities, and time attached to buildings and places are usually not felt or considered during the design process or seen in architectural representations. Could we design more meaningful, socially conscious places if we acknowledged these diverse and complex aspects of life in the design process, and how could we show and feel these aspects in our architectural representations? We need to consider how we reengage with the world, in a collaborative participatory manner so that we achieve a socially conscious design (Escobar, 2018). **Character-led architecture** proposes a teaching methodology that combines architecture and film to explore this.

As an architect and lecturer working in this problematic paradigm, I was inspired to contribute **character-led architecture** to our existing curriculum to explore how the emphasis of a character and their lived experience could enable a more socially conscious approach to a design. Also, at this time, there was an openness for change amongst colleagues in the School of Architecture because of the #FeesMustFall student-led protest movement which began on the 14 October 2015 in South Africa at The University of the Witwatersrand in Johannesburg. Students reacted to a national announcement about university fee increases and protested for free tertiary education and for a decolonised curriculum. The protests were impactful, universities were shut down, course work and final exams could not continue. It took some time to negotiate between students and government before the universities reopened. I was highly affected by the protests and was made aware that most students felt isolated and excluded because of the existing inherited curriculum that we were teaching.

In summary, the problems that I have identified and am responding to, is that we need to explore an inclusive collaborative

method of design for socially conscious place-making. Without realising it, we may be excluding students because of the way in which we are teaching that may no longer be relevant to a context. We are most likely teaching from a universal point of view that we believe is the only way to be. So, another problem I am responding to is that we may be excluding other ways of being and other diverse situatedness' in the world.

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.

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 (Sendra, 2020). There is a vulnerability that the educator needs to address in the sharing of personal lived experience and the equal exchange of knowledge (Sendra, 2020). 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." (Sendra, 2020, 69)

I introduced **character-led architecture** by introducing screenwriting and character design as the first step in the design process. Starting a design with a script, meant that characters were involved who embodied places in which their emotional journeys unfolded. 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." (Field, 1982, 22). I first learnt about the importance of the character's journey within a story from screenwriting. This is how I imagined that a character-led story could achieve a **character-led architecture**. 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.

Could screenwriting be a narrative form that could be linked to the decolonising methodologies of story telling? Linda Tuhiwai Smith (Tuhiwai Smith, 2012) 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." (Tuhiwai Smith, 2012, 146)

In exploring **character-led architecture**, we set out to create new projects where alternative worlds were imagined into being through characters and fiction. The worlds could be based in real contexts but with new alternative paradigms, or they could be imaginary worlds. I connected the creation of these alternative paradigms to Walter D. Mignolo's concept of the pluriverse. "Pluriversality as a universal project is aimed not at changing the world (ontology) but at changing the beliefs and the understanding of the world (gnoseology), which would lead to changing our (all) praxis of living in the world." (Mignolo, 2018, x). Pluriversality renounces that the world must be perceived as a unified totality but views the world as an interconnected diversity; giving us the freedom to inhabit the pluriverse rather than the universe. Mignolo states that pluriversality also sets us free to think decolonially about the pluriversality of the world rather than its universality. If pluriversality was a universal project, it would mean that the universal would not have one single owner but a world in which many worlds coexist. Western universalism would have the right to coexist in the pluriverse as one of many cosmologies, but it would no longer be the one that subsumes and regulates all the others. Pluriversality is the entanglement of several cosmologies (Mignolo, 2018).

As already mentioned, my inspiration for introducing a **character-led architecture** coincided with the need and awareness to transform our curriculum because of the #FeesMustFall protests. Our first-year design studio teaching team collaboratively conceptualised a new project, which was an initial exploration of a different world view; of an architecture that is part of a greater or bigger cosmos; a cosmos that offers an alternative paradigm to the current world that we are living in.

We discussed the potentials of film; that it could be a powerful

method in which to imagine a parallel universe as well as to represent it. Filmic narrative could be a method of designing a building through fiction rather than inherited methods. The idea of designing characters, including indigenous characters, could make the process relatable to all designers. Through film, we could read the same place from the point of view of multiple characters; one place contains multiple narratives. Designing the building from a character's point of view could remind us that we are fundamentally designing a building for people who are going to be using and inhabiting it. Film can reach a wider audience and be understood without the use of spoken language. Film can convey meaning outside of our immediate optical system. It communicates more than just spatial coordinates assigned to a plot, but also communicates to our subconscious perception. Cities and urban sites in films are spaces within spaces, which reflect our prevailing cultural norms, ethical mores, societal structures, and ideologies (Koeck, 2013). With these exciting possibilities of creating characters in imagined worlds, we proceeded to design our new projects.

These projects were initially introduced in 2018 with a specific focus on exploring **character-led architecture**. In the first-year design studio, student 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. Below are the summaries of these two projects.

The Utopias Project is the first-year Design project, conceived by a teaching team of five lecturers who each contributed their expertise, and 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.

Script-Sketch-Animate is a second year Design Representation project, which I designed and ran, that 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 “socio-spatial” 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” (Mack, 2019, 347)

The significance of my research is that I develop the original notion of a **character-led architecture** to explore a way in which to approach inclusivity in design. Speculative architectural stories and histories previously unrecorded are recorded through an interdisciplinary method that combines film and architecture. **Character-led architecture** sets out a reading of architecture as a frame for historic social interactions and inhabitations, exposing narratives that are normally forgotten or unspoken, or that cannot be retrieved through the archive, enabling multiple viewpoints to counter the hegemonic view. Films are produced with a rich relationship between character and place; an exploration of place and identity. **Character-led architecture** combines film and architecture which both inform one another. Parallel modes of process initiate transformation, reveal the marginalised voice, as well as reach a wider audience. In **character-led architecture**, screenwriting situates the narrative in the design process to bring feeling and emotion to architectural experience. Film captures something that is usually not there in architectural representations; memory, subjectivity and time are achieved through the films. Interdisciplinary experimental forms of designing and presenting are achieved in films and presentations. The research explores a socio-spatial approach to architecture and hopefully a conscious method of researching which could explore new ways of reviewing spatial situations of marginal subjects. The relationship between character and place is the focus in filmmaking. In the script, place becomes one of the characters, perhaps supporting, opposing, or

reflecting the emotional experience of the main character's journey. Or place itself could be the main character who develops along the other character's transformative journey in the narrative. This new knowledge contribution could answer my research question which could possibly be: Could the interdisciplinary approach, exploring architecture and film, achieve an inclusive collaboration for socially conscious place-making?

My PhD research study 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.

### **DDDr Statement**

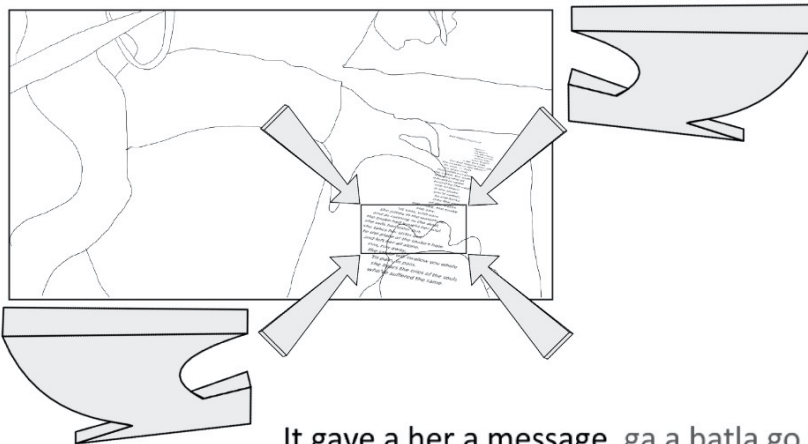
This practice-orientated PhD research project involves practice-led research, where the research leads to new understandings about practice through new teaching methodologies that are proposed in architectural pedagogy. It also deals with practice-based research in that the new methodologies result in student work which become the artefacts that form new contributions to knowledge (Candy, 2002). 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). This is also a performative research where the data collected expresses the research and the expression becomes the research itself (Haseman, 2006). 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 design 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.

## BIBLIOGRAPHY

- Candy, Linda. 2002. *Practice Based Research: A Guide*. Sydney: Creativity and Cognition Studios.
- Cross, Nigel. 2006. *Designery Ways of Knowing*. UK: Springer Press.
- Escobar, Arturo. 2018. *Designs for the Pluriverse Radical Interdependence, Autonomy, and the Making of Worlds*. Durham and London: Duke University Press.
- Field, Syd. 1982. *The Foundations of Screenwriting*. New York: Publishing Co.
- Haseman, Brad. 'A Manifesto for Performative Research'. *Media International Australia incorporating Culture and Policy*, theme issue "Practice-led. Research", no. 118. (2006): 98-106.
- Koeck, Richard. 2013. *Cine-Scapes Cinematic Spaces in Architecture and Cities*. New York and London: Routledge.
- Mack, Jennifer. *Working the Field, Ethnographic Methods in the Built Environment*. In *After Effects: Theories and Methodologies in Architecture*, edited by Helene Frichot and Gunnar Sundin, 347-359. Barcelona: Actar, 2016.
- Mignolo, Walter. 2018. *Constructing the Pluriverse: The Geopolitics of Knowledge*. Durham and London: Duke University Press.
- Sendra, Estrella. 'Video Essays: Curating and Transforming Film Education Through Artistic Research'. *International Journal of Film and Media Arts*. Vol., No2 (2020): 65-81.
- Tuhiwai Smith, Linda. 2012. *Decolonizing Methodologies Research and Indigenous Peoples*. London: Zed Books Ltd. New York: Room 400.

## BIOGRAPHY

Anita Szentesi is an architect, filmmaker, lecturer and researcher creating her own individualized interdisciplinary study between the two academic disciplines of architecture and film. In her research she identifies that diverse and complex relationships exist between people, culture, identity, history and buildings and places. She proposes a design methodology called **character-led architecture**, which combines architecture and film, to explore possibilities to engage new ways of designing to achieve socially conscious place-making, and new ways of communicating the complexities of life in design representations.



It gave a her a message, ga a batla go tshela botshelo bo bo iketlileng, a sa tshelele mo letshogong, go tlokega gore a tlise lewelana la gagwe mo legageng le mo bosigong bona (if she wants to live a life of peace, and not live in fear, she needs to bring her twin to the cave tonight).

Group 03. (2021). Project Kgoro Ya Kuruman. *Tales of a Two Faced Snake*. Wits School of Architecture and Planning.

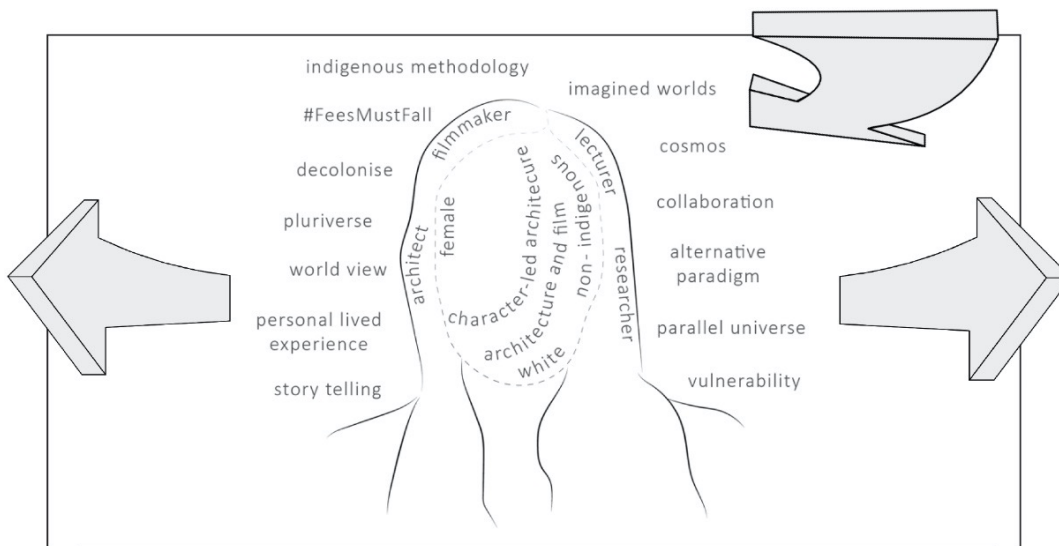


Figure 1. Character-Led Architecture Reflection on Decolonising the Curriculum Storyboard by Anita Szentesi

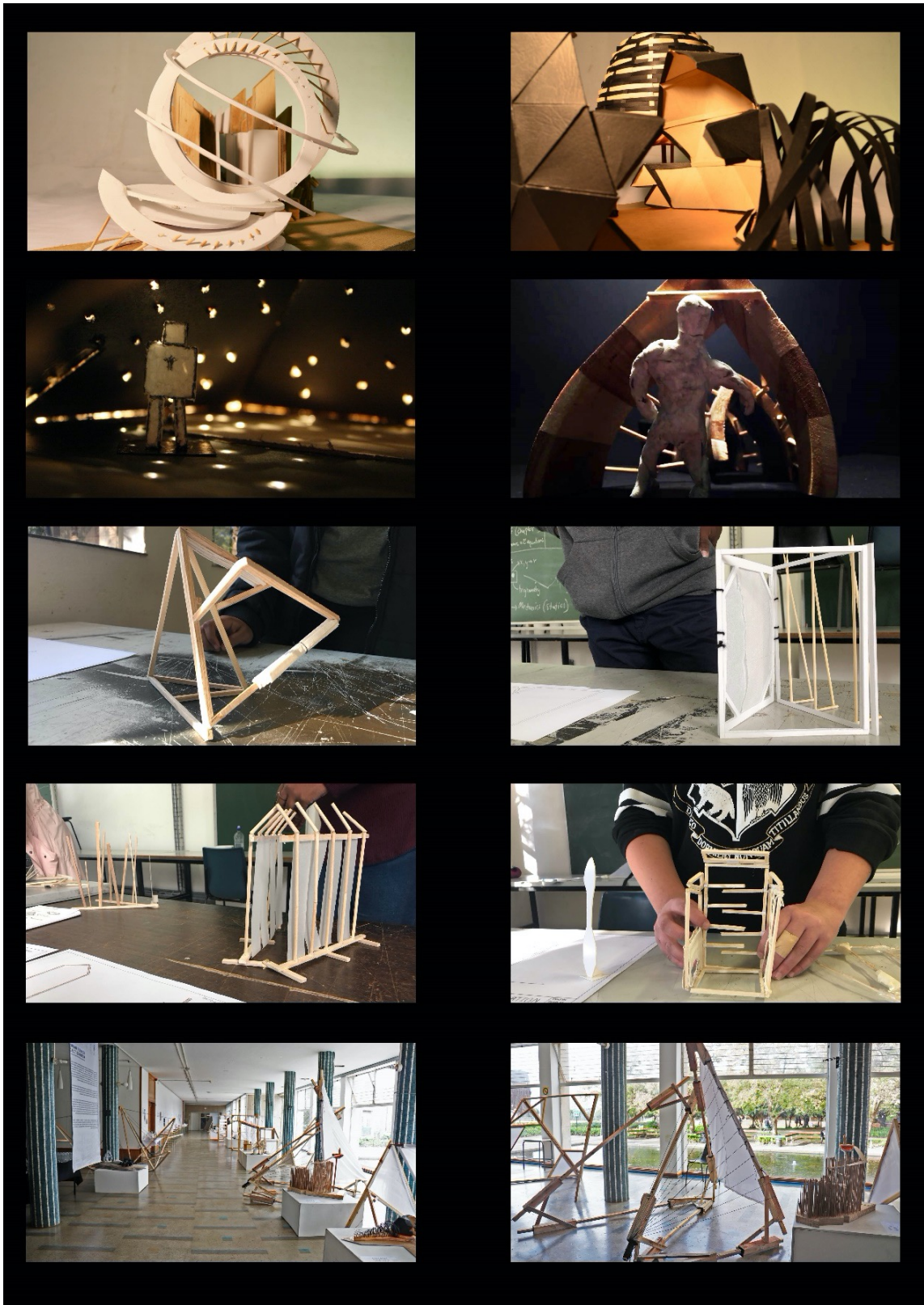


Figure 2. The Utopias Project 2018, Various Student Animations and Set Designs photographed by Anita Szentesi



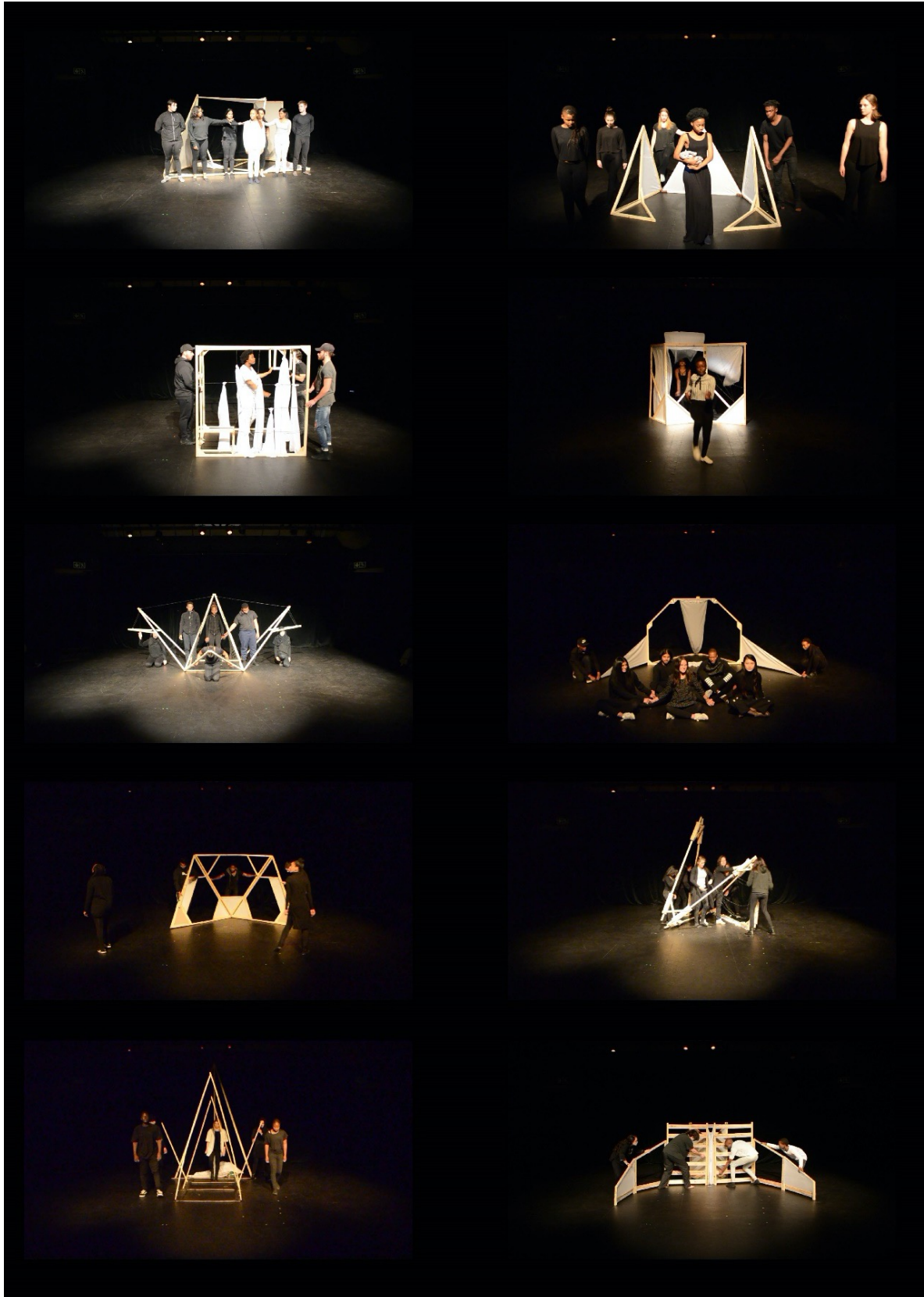


Figure 3. The Utopias Project 2018, Various Student Performances at Wits Amphitheatre filmed by Anita Szentesi.







# **Under Construction: A Real-World Fiction**

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## 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 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.

**Keywords: Anthropocene, Fiction, Model, Representation, Reuse**

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 (e.g., Turpin 2013; for a critique of the concept of the Anthropocene, see e.g., Malm 2016). 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 (2019, 23) 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”. This proposition resonates with design theorist Tony Fry’s (2003b, 290) 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). The Sustainment sought to move beyond a reductive technological framework by turning issues of sustainability into “cultural content through critical inquiry, argument, literary and visual creative projection” (Fry 2003a, 47).

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 (2018, 58) 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”. 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” (Hunter 2020, 46). 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”, 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 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 to construct 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 (e.g., Brilliant and Kinney 2011) and adhocism (Jencks and Silver [1972] 2013). 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 washbasin, 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. 3). 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. 2). 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.

**DDDr Statement:**

The conception and production of Under Construction has intentionally drifted between several types of research activity, from design exploration and field trips to scholarship of design precedents and theory. The project has been developed in relation to academic research environments as well as near a design practice. It uses artistic inquiry 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.

## BIBLIOGRAPHY

Brilliant, Richard, and Dale Kinney, eds. 2011. *Reuse Value: Spolia and Appropriation in Art and Architecture from Constantine to Sherrie Levine*. Burlington: Ashgate.

Dunne, Anthony, and Fiona Raby. 2018. "Design for the Unreal World." In *Future Fictions in Art and Design*, 48-65. Z33 House for Contemporary Art.

Fry, Tony. 2003a. "The Voice of Sustainment: An Introduction." *Design Philosophy Papers* 1, no. 1: 41-48.

Fry, Tony. 2003b. "The Dialectic of Sustainment." *Design Philosophy Papers* 1, no. 5: 289-297.

Hunter, Matthew C. 2020. "Modeling: A Secret History of Following." In *Design Technics: Archaeologies of Architectural Practice*, edited by Zeynep Çelik Alexander and John May, 45-70. Minneapolis: University of Minnesota Press.

Iturbe, Elisa. 2019. "Architecture and the Death of Carbon Modernity." In "Overcoming Carbon Form," edited by Elisa Iturbe, special issue, *Log*, no. 47 (Fall): 10-23.

Jencks, Charles, and Nathan Silver. (1972) 2013. *Adhocism: The Case for Improvisation*. Cambridge, MA: MIT Press.

Malm, Andreas. 2016. *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*. London: Verso.

Turpin, Etienne, ed. 2013. *Architecture in the Anthropocene: Encounters Among Design, Deep Time, Science and Philosophy*. Ann Arbor: Open Humanities Press.

## BIOGRAPHY

Daniel Norell and Einar Rodhe are cofounders of Stockholm based architecture studio Norell/Rodhe. Their work has been featured in exhibitions at the Oslo Architecture Triennale, Yale University School of Architecture, the Venice Architecture Biennale, ArkDes, and at Bildmuseet. Daniel is senior lecturer and doctoral candidate in architecture at Chalmers University of Technology in Gothenburg and Einar is senior lecturer in interior architecture and furniture design at Konstfack University of Arts Crafts and Design in Stockholm.

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Figure 1. Daniel Norell and Einar Rodhe, Under Construction, 2019.

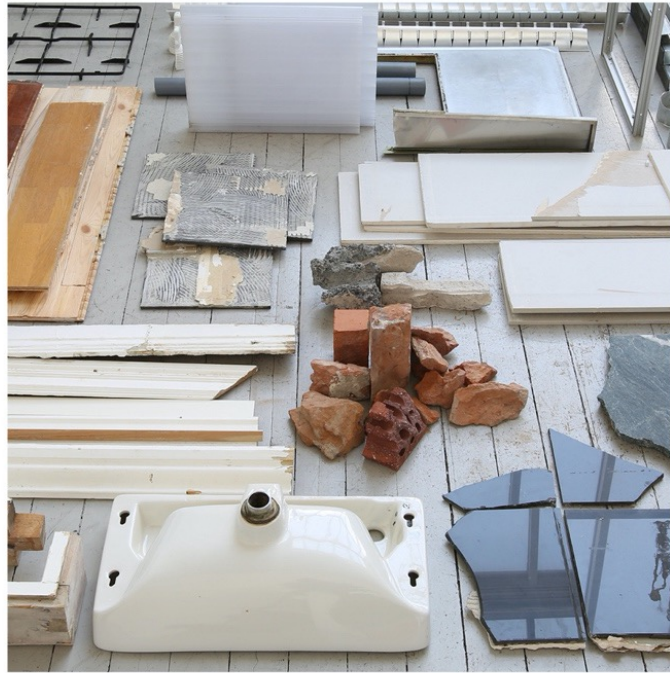


Figure 2. Under Construction, stock of materials (top) and flash fiction by Josefin Wangel (bottom).



Figure 3. Under Construction, single fraction houses.



# **Utopian Imagery of Urban Peripheries in the Context of the Anthropocene's Cultural Concept**

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Martin Roth  
TU Berlin

## ABSTRACT

**Using spatial aspects of the Anthropocene's social concept as methodology - such as the manifold entanglements between city and landscape, 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. In this abstract two competition projects are used as case studies to consider new forms of low-density housing in combination with small-scale agriculture.**

**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, it 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 and the co-authorship is used as a method to inform and develop a multiperspective outcome.**

**Keywords: Anthropocene, Fiction, Model, Representation, Reuse.**

### **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 Trischler [1], it is much more than that. According to him 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 (in artistic expression) 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, between object and subject. They are based on a changed relationship between natural and man-made spaces, between humans and the environment, in which the dichotomies dissolve - not only because they are increasingly intermingled, but because they are in a systemic context, mutually influencing and interdependent.

For us as urban designers and architects, this raises many questions about how to analyse, design and visualize future projects within these parameters. They require a reassessment of the limits of our discipline, how it operates and for whom. Two of the three challenges described above have inherent spatial components and thus are especially important for us, namely ‘entanglement’ and ‘clash of scales’.

### **Multi-scale Analysis / Clash of Scales**

The challenges of achieving resilient, economically and ecologically sustainable global urban environments are beyond the means of traditional planning mechanisms. According to Alex Wall [3], urbanisms [4] firstly comprise geography, morphological patterns and spatial structures; secondly, the human needs and experiences in the city, and thirdly, the concept that every society and economy produces its respective urban form (cf. Henri Lefebvre). [5] Hence, he argues that contemporary global urbanization can be analyzed as an interplay of multiple and different urbanisms, each with its own logic, lifestyle, morphology and scale.

“A decisive starting point for re-visioning architecture and urbanism for the Anthropocene is to simultaneously think at multiple scales - the large scale of regional ecosystems; the meso-scale to deal with social and economic performance of an urban quarter or neighborhood; and small scale for the linking of buildings and public spaces, and individual behavior and consumption practice. Integrated multi-scale design and planning is the design tool that measures the consequences of action at one scale with the conditions and needs at the other scales.” [6]

This multi-scale approach requires two actions: first, a multi-scale analysis of the respective project site beyond formal studies (like figure ground plans, circulation diagrams, traffic analysis, distribution of programs etc.) as human system analysis and secondly, it also has to consider questions of other disciplines from geography to biochemistry, from sociology to field ecology as ecosystem analysis. In other words: what kind of ecological and social relationships and connections do we find and at what kind of ‘urbanism’ are we looking at? Vittorio Gregotti describes this multi-scale approach as the analysis of the “ground condition”. [7]

## Specific Entanglements

The definition and the understanding of 'sustainability' has a long history, originally defined and applied in Italy for managing forestry. However, the Brundtland Report (1987) made our environmental responsibility 'official'. The report focused on men's impact on global environmental conditions and our responsibility to change our personal and corporate strategies to support a sustainable future.

Alex Wall introduces several 'sustainabilities' [8] as counterparts to the diverse fragments of global urbanisms which look beyond formal design guidelines and scientific sustainability criteria to an engagement between the elements of the city, its buildings and spaces, regional ecosystems and users.

"Sustainabilities as plural [...] means that each urbanism, such as low density urbanism, landscape urbanism, or the familiar urbanism of the historic European city has specific inherent potentials to support the issues at stake." [9]

Following Alex Wall's argument, sustainability parameters vary and change according to the context. Just as there is no such thing as one global urbanism, there is not just one correct answer to the question of sustainability either. The answer is to be found at the specific location with its respective entanglements.

## 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 landscapes and the 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. "Non-Landscapes, which have neither a relevant historical value nor landscape properties worth protecting, are allowed to disintegrate and do not have to be structured according to figurative goals. Their meaning begins with the analysis of their formal characteristics. They are traditionally not beautiful, but are often very rich and have the most dynamic morphology." [10]

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 conditions. [11] In architectural theory, peripheral and suburban



areas have been theorized and examined as well (see *Zwischenstadt* by Sieverts and *Horizontal Metropolis* by Vigano). [12] Nevertheless, there are only a few spatial (German) designs that focus on those issues, particularly on the ecological potentials of low-density urbanisms.

A set of different settlement and urbanization models are to be developed on the basis of speculative designs in order to contribute to the discourse and to the state of knowledge in Germany. The aim is to investigate which spatial combinations and mixing ratios between built and unbuilt spaces are possible, whether synergies arise and atmospheric effects can be achieved that have an influence on the design. The design driven research investigates new housing forms 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**

As urban planners and architects, we often have the utopian, unbuilt projects of the late 1920s to early 1990s in mind when we think about new urban concepts (such as Leonidov's *Linear City*, Frank Lloyd Wright's *Broadacre City* or Andrea Branzi's *Agronica*, etc.).

In her book "Utopia as a Method" Ruth Levitas [13] 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". [14] 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.” [15]

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.

Brigitte Nerlich and Carol Morris underline the importance of ‘Spatial Imaginaries’ as a key element of social and political life that is based on urban patterns. With ‘Spatial Imaginary’ they describe a common or collective understanding of a certain space that arises in connection with the life practices in this space. Utopian imagery as design tool has the potential to complement the scientific (and social) discourse of the anthropogenic concept of culture and to contribute to the search for a new aesthetic.

### **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.” [16]

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”.

### **DDDr 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, there is a need for new design strategies concerning the adaptation and mitigation of “hyperobjects” [17] 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 detached housing areas that both fail to encounter those challenges.

As the state of research, the Anthropocene’s cultural concept [Trischler 2016, Horn 2020, Morton 2018], assemblage theory [Deleuze 1988, McFarlane 2011], 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 1995, Vigano 2018], Dutch [Geuze 1995, Sijmons 2014, 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” [18] 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.

## NOTES

1. Corner, James. 2003. *Recovering Landscape*. New York, NY: Princeton Architectural Press.
2. Corner, James, and Alison Bick Hirsch. 2014. *The Landscape Imagination: collected essays of James Corner, 1990-2010*.
3. Deleuze, Gilles, Félix Guattari. 1988. *A Thousand Plateaus*. London: Athlone.
4. Dramstad, Wenche E., James D. Olson, and Richard T. T. Forman. 1996. *Landscape Ecology Principles in landscape architecture and land-use planning*. Washington: Island Press.
5. Dürbeck, Gabriele, and Philip Hüpkes. 2020. *The Anthropocenic Turn: the interplay between disciplinary and interdisciplinary responses to a new age*.
6. Feldhusen, Poerschke, Weidinger. 2016. *Vermischungen in Architektur und Landschaftsarchitektur = Mixings in architecture and landscape architecture*.
7. Foucault, M. / Faubion, J. D. 1998. *Aesthetics, method, and epistemology*. New York: The New Press.
8. Gregotti, Vittorio. (2013). *The Territory of Architecture*. In: McGrath, Brian. *Urban Design Ecologies*. Chichester: Wiley
9. Heidegger, Martin, and Herrmann Friedrich-Wilhelm. 1983. *Die Grundbegriffe der Metaphysik: Welt - Endlichkeit - Einsamkeit : [Freiburger Vorlesung Wintersemester 1929/30]*. Frankfurt am Main: Klostermann.
10. Lefebvre, Henri. 2016. *The Production of Space*. Malden, Mass: Blackwell.
11. Levitas, Ruth. 2014. *Utopia as Method: the imaginary reconstitution of society*. Houndmills (Basingstoke), Hampshire: Palgrave Macmillan.
12. MacHarg, Ian L. 1971. *Design with nature*. Garden City [u.a.]: Doubleday, Natural History Press.
13. McFarlane, Colin. 2011. *Assemblage and Critical Urbanism*. In: *City*, 15 (2): 204-224.
14. Morton, Timothy. 2019. *Ökologisch sein*. Matthes & Seitz Berlin. Original title: Morton, Timothy. 2018. *Being Ecological*. (Pelican Books)
15. Sennett, Richard. 2019. *Building and dwelling: Ethics for the city*. London: Penguin Books
16. Sieverts, Thomas. (2008). *Zwischenstadt zwischen Ort und Welt, Raum und Zeit, Stadt und Land*. Gütersloh [u.a.]: Bauverlag
17. Trischler, Helmuth. 2016. *The Anthropocene - A Challenge for the History of Science, Technology, and the Environment*. NTM.
18. Turpin, Ahmed, Archer, Bobbette, Cheng, Davis, Dean, et al. 2013. *Architecture in the Anthropocene: Encounters Among Design, Deep Time, Science and Philosophy*. Open Humanities Press.
19. Viganò, Paola, Chiara Cavalieri, and Martina Barcellona Corte. 2018. *The Horizontal Metropolis, Between Urbanism and Urbanization*. Cham: Springer International Publishing.
20. Wall, Alex. Müller, Sabine. 2012. *The Contemporary City - Urbanisms & Sustainabilities*. Karlsruhe Institut for Technology (KIT). Unpublished.

## BIOGRAPHY

Marcus Kopper, born in 1978, studied architecture and urban design in Karlsruhe and London. He worked in architecture offices in Germany, England and Switzerland, including muf architecture/art (London) and Christ&Gantenbein (Basel). He also worked as a research assistant in Karlsruhe and Miami and has received several prizes and awards, including a career grant from the Bund Deutscher Baumeister.

Martin Roth, born in 1980, studied architecture and urban design in Karlsruhe, Trondheim and Princeton. He worked at Front Inc. New York and as a research assistant at the chair for "International Urban Design" (Prof. Alex Wall, Karlsruhe Institute of Technology). He has received several prizes and awards for his work, including the Suzanne Kolarik Underwood Prize for Design Excellence from Princeton University.

Both authors founded the architecture and urban design office KOPPERROTH in Berlin in 2012. Since February 2020 both pursue a design driven PhD (PEP/Ca2re) at TU Berlin.

# **The Potential of a Tectonic Approach for the Experiential Qualities of Architecture**

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## **ABSTRACT**

**The research project is investigating the relation between the tectonics - understood as the “poetics of the construction”(Frampton, Kenneth 1995) - and experiential qualities of the architecture.**

**It is based on the assumption that a design process, which starts with the examination of predefined building materials and is dealing with its properties throughout the process, can result in an architectural expression, that encourages people to enter into a dialogue with it. This focus of the investigation resulted from the observation of several DesignBuild projects I have realized in various contexts throughout the last years within my architectural practice. The comparative study of these projects showed that most of them were characterized by a high degree of affordance, which became obvious through the willingness of their users to appropriate and interact with the architecture.**

**Thereby the architectural expression is never forcing or determining specific interactions but allowing various ways of interpretation and appropriation by not following any specific form or unique function. This invitation for personal interpretation and appropriation of the architecture, described by Sarah Robinson as Generative Affordances (Robinson, Sarah 2019), is assumed in an architectural expression and spatial character that is determined by the structural elements. In that sense the Tectonic Approach tries to transform the act of construction into an act of giving meaning by addressing the poetic expressive potential of the structural elements.**

**Along a series of three DesignBuild Projects, I am researching the question, how through designing and building yourself, tectonic qualities are entering the architecture and why these can generate specific experiential qualities.**

**Keywords: Tectonics, Generative Affordance, DesignBuild**

### **Topic**

The research project is investigating the relation between the tectonics - understood as the “poetics of the construction”(Frampton, Kenneth 1995) - and experiential qualities of the architecture.

It is based on the assumption that a design process, which starts

with the examination of predefined building materials and is dealing with its properties throughout the process, can result in an architectural expression, that encourages people to enter into a dialogue with it. This focus of the investigation resulted from the observation of several DesignBuild projects I have realized in various contexts throughout the last years within my architectural practice. The comparative study of these projects showed that most of them were characterized by a high degree of affordance, which became obvious through the willingness of their users to appropriate and interact with the architecture.

Thereby the architecture is never forcing or determining specific interactions but allowing various ways of appropriation by not following any specific form or unique function. Sarah Robinson describes this possibility for interactions with the architecture, that are “performative but not deterministic” and “generate unforeseen responses”, as Generative Affordances (Robinson, Sarah 2019). Likewise the tectonic approach strives for a physical presence of the architecture that forms a “counterform” (van Eyck, Aldo 1962) to the physical presence of the human body and its actions allowing it to interpretate and appropriate the architecture in a not deterministic way. Accordingly a structure of stacked wooden pieces can become a climbing wall or steel profiles arranged as an open crossed pillar invite to interweave textiles and embracing it with the body (fig. 3).

By working with the materiality and the structural elements, the Tectonic Approach tries to transform the act of construction into an act of giving meaning.

The gesture of joining materials transfers constructive necessities into poetic expression by giving them a tangible appearance and making the acting forces perceptible to the senses.

The simplicity of the joining seeks a comprehensible expression of the construction, which illustrates the processes of building and makes them physically perceptible in the experience of the architecture. As Juhani Pallasmaa argues, an authentic architectural experience is depending on the comprehensibility of the construction to the senses (Pallasmaa; Juhani 2005). Going beyond structural needs, my design intention in the arrangement of the structural parts of the construction was always to define the spatial structure and the architectural expression in mutual dependence. For those qualities that “are expressive in a relation of form to force”, Eduard E. Sekler uses the term tectonics (Sekler, Eduard F. 1965). This definition of the term tectonics can be understood as a base of the investigation.

### **Research question and goal**

Along a series of three DesignBuild Projects, I am researching the question, how through designing and building yourself, tectonic qualities are entering the architecture and why these can generate specific experiential qualities. The goal is to be able to define and

characterize a working method that can generate those tectonic qualities.

### **Contextualization**

By making use of common materials and comprehensible principles of construction, the artists of the Minimal Art intended to create a public art, which is accessible physically and not intellectually – without any need of specific knowledge: “Such work that has the feel and look of openness, extendibility, accessibility, publicness, repeatability, equanimity, directness, and immediacy...” (Morris, Robert 1967). This intention of addressing a common knowledge also forms one of the key aspects of the given research.

The mentioned characteristics in the context of the Minimal Art can also be applied to an architecture that is open for interpretation and appropriation. In contemporary architecture we can find several approaches that allow the structure to simultaneously define the spatial qualities as well as the architectural expression. For instance in the work of BRUTHER a comprehensible structure forms an initial point of creating possibilities for coincidences both within the process as well as in the experience of the architecture (BRUTHER 2020).

My research is located within the context of DesignBuild Projects, but in difference to current investigations on different themes (including production methods, construction potentials, ecological and economic sustainability, local construction methods, social activation), it pays special attention to creative qualities. Those seem to play an important role in the outcome of the DesignBuild projects like the Studio of Tom Emerson at the ETH for example, which are often defined by a given material and result in a coherence of the construction, the spatial structure and the architectural expression.

However, there seems to be a lack of comprehensive studies of experiential qualities in the context of DesignBuild projects and the working methods underlying certain effects, to which I would like to respond.

### **Methodology and findings**

Three DesignBuild Projects serve as case studies and should provide findings on the research questions. The initial point of the research is marked by the reflection on and evaluation of the DesignBuild projects realized within my practice throughout the last years, for instance, the KAIROS Pavilion built with prefabricated concrete pieces, the POVERA Pavilion assembled with modules made of filigree wooden slats or the VERTIGO Pavilion which is stacked from red-painted wooden blocks on top of a base of prefabricated concrete pieces. All these projects



started from a given material and they all have created situations of generative affordances.

Within the PhD I could realize the ALBERTO Pavilion together with Students of HCU Hamburg and UAL Lisboa that gave me the possibility of observing and documenting each step and decision of the process, from the first contact with the material to the architectural experience with the final project. The analysis offered an insight into the meanings of each step for the architectural expression and accordingly for the architectural experience. The following sequence of five steps roughly described here is an approach to define the specific working method – the Tectonic Approach – behind the mentioned qualities and resulted from the reflection.

1. Universe of Instruments. Materials are defined and limited. Their examination forms the starting point to get clarity about specific properties both physical and sensual. By carrying, holding, grasping and working with the materials, the sensual and structural properties of the building materials become bodily experiences.

2. Art of Joining. The Joint connects the parts and puts them in a context, it considers the materials inherent properties and answers to structural needs but moreover it fulfills creative intentions to give the act of joining a meaningful expression. Through the interaction with the materials we can rationally understand the possibilities of construction and intuitively we can test solutions that could go beyond the technical and structural needs.

3. Structure as Space. Through repetition elements and joints are merged into a spatial structure that exposes its inner logic, variations and exceptions can highlight specific moments or create tensions. By this we strike for a comprehensible architectural language but with the intention of creating a poetic expression that invites the human to go beyond the visual perception of the architecture.

4. The Generic becomes specific. The context comes into play and excerpts its influence on the architectural expression. By taking final decisions in order to react to contextual and functional circumstances the generic structure becomes its specific Gestalt! The Architecture creates a place in relation to the place where it's located.

5. Building as an Act of Design. Self-building allows to take decisions during construction, following primarily intuition and seeking a strengthening of the architectural expression. In the process of building we can test ideas directly on the object at a scale of 1:1.

This sequence of steps does not necessarily have to be chronological. Especially the act of building plays a role in every moment of the process as the direct physical interaction with the building materials forms the focus of the Tectonic Approach. Design-relevant questions are negotiated and decisions are made in the interaction between people and materials.

The experiential qualities of the ALBERTO Pavilion could be evaluated by making use of different strategies (such as observations, surveys or performances) to document people's perception of the built architecture. Reflecting on the two lives of the architecture, the process on the one hand and the interactions on the other, tectonics seems to take a mediating role, the role of communication.

### **State of the Research**

The application of the Tectonic Approach to different teaching formats and building tasks revealed a potential in the context of circular building economy. The concepts of Refuse, Reduce, Reuse, Recycle, Rot defined by Daniel Stockhammer (Stockhammer, Daniel 2021) or the concept of Bricolage by Levi-Strauss center around the main concern of working with the existing and the available. In the same way the Tectonic Approach considers "a defined stock of materials that is not selected by the architect neither it's connected to a certain project" (Merlau-Ponty, Maurice 1962) as the starting point of the design process, no matter if it's new or old materials.

Two Case studies in the making focus on those concepts by working primarily with discarded and reused materials following the Tectonic Approach in order to create a meaningful architecture. This investigation researches the potential of a Tectonic Approach as an ecological approach (Beim, Anne 2016).

### **Relevance**

The climate crisis demands a rethink in the use of building materials and forces concentration on the dealing with what we already have. One corresponding approach is the use of discarded materials that have lost their meaning within a past context but carry the potential to give meaning to a future context.

Nevertheless architecture should not solely be reduced to ecological issues and processes but always pay tribute to its responsibility as a sensual discipline that creates places within the physical world, places "one can truly inhabit, one that is affirming, a place which one feels like they belong" (Robinson, Sarah 2019) and like this manifesting tangible and bodily experiences with the built environment as part of the daily life.

The matter of the Tectonics refers to immanent parameters of the architecture and sensations that we as humans share with the architecture, like gravitational forces. These have always been and will always be of justification and meaning for the architecture. In that sense a Tectonic Approach has the potential to create a built environment as a kind of parallel world of permanence and slowness to a world of short living needs and tendencies permanently accessible through digital interconnectivity.

### **DDDr Statement**

My Research Project can be considered as practice based as it derives directly from my practical work as an architect and is based on a series of Design Build Projects I have realized so far. The field and the topic of the research have been developed through the observation and analysis of my own work in comparison to others. Within the research the Design Build Projects form the methodological key point of generating new knowledge. They serve as case studies and are developed and realized regularly throughout the research.

With the help of different methods of reflection past and present projects are investigated in order to provide findings for future projects. Two faces of the architectural project are of interest - both seen from a phenomenological point of view:

The Making of the architecture – focusing on the specific design process that starts with a given material – called the Tectonic Approach.

The Appropriation of the architecture – looking to experiential qualities that are revealed through the observation of bodily interactions with the architecture

An iterative process of analysis, reflection and evaluation tries to unfold the particular characteristics of the specific design method, name them and investigate their meaning for the relation of Tectonics and the architectural Experience.

By making use of different methods commonly known as methods of architectural design like sketches, photographs, drawings, movies, models, mock ups, constructions, etc. the research tries to find ways of communicating the findings and make them accessible and comprehensible for a bigger community. The research is based on a particular (personal) design approach but seeks for knowledge that can be of common interest.

## BIBLIOGRAPHY

Robinson, Sarah. 2019: *Articulating Affordances: Towards a New Theory of Design*

Van Eyck, Aldo. 1962: *Place and Occasion*. In: *Progressive Architecture*

Pallasmaa, Juhani. 1996: *The Eyes of the Skin - Architecture and the Senses*. England: John Wiley & Sons.

Frampton, Kenneth. 1995: *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture*. US: MIT Press

Sekler, Eduard F.. 1965: *Structure, Construction, Tectonics*. In: *structure in art and in science*. Great Britain: Studio Vista Ltd.

Beim, Anne. 2016: *Towards an Ecology of Tectonics: The Need for Rethinking Construction in Architecture*. Stuttgart: Edition Axel Menges

Lévi-Strauss, Claude. 1962: *The savage mind*. France: Librairie Plon

Frasconi, Marco. 1983: *The Tell-the-Tale Detail*, in: Deely J.N., Lenhart M.D. (eds) *Semiotics*. Springer, Boston, MA.

ARCH+. 2020: *Neuer Realismus in der französischen Architektur*. Berlin: ARCH+ Verlag GmbH

Stockhammer, Daniel. 2021: *Reuse and Repurposing as a Design Principle in Architecture*. Zurich: Triest Verlag

Morris, Robert. 1967. *Notes on Sculpture, Part III*. New York: Artforum

## BIOGRAPHY

Graduated in Architecture by Universität der Künste Berlin. Between 2015 and 2017 he was teaching at the Technische Universität München and since 2017 has been teaching at the HCU. Since 2018 he has been working on his PhD under the supervision of Prof. Matthias Ballestrem.

Besides the academics and research he is also developing architectural projects together with the portuguese Architect Joao Quintela as Atelier JQTS. The office's work consists in a serial research into the open field of architecture combined with a process of learning from the empirical knowledge.







Figure 2. TECTONICS  
ALBERTO Pavilion, 2019, Minde, Portugal, Atelier JQTS with Matthias Ballestrem and Students of HCU Hamburg and UAL  
Lisboa, Photo by Flora del Debbio





Figure 3. TECTONICS  
ALBERTO Pavilion, 2019, Minde, Portugal, Atelier JQTS with Matthias Ballestrem and Students of HCU Hamburg and UAL  
Lisboa, Photo by Flora del Debbio





**suNEARrth.  
sun - earth  
interconnection  
in frequencies**

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## ABSTRACT

### **from An Echo of the Sun**

**Autopoetic observations and rhythmic compositions, tuned by the fine structures in our space-time realm**

**This practice based research juxtaposes solar observational data with audio recordings recorded on the Earth.**

**Throughout spacial-performative installations I explore light and sound as constructive materials in evolution processes. Through analogue and digital art methods, I use technological means to disclose the poetics embodied in information. In a convergence of art, philosophy, science and technology this project explores multisensorial experiences. While undertaking these research processes where both science and art can benefit from each other. I place emphasis on the sun-earth symbiosis and explore the aesthetics behind solar observations and the cultural phenomena embodied by scientific communication. I refer to my ongoing research into audio and light recordings to construct narratives about the vivid sun-earth coexistence.**

**Keywords: Radio-observations, visual score, fieldrecordings.**

An attempt to view the world larger-than human

In attempting to view the world larger-than human point of view stretch in-and-out human understandings about physical and ephemeral phenomena. In this rather ecocentric mix of science, art and philosophy my aim is to draw a link of the sun-earth coexistence.

My initial fascination with how the sun functions has grown into a search about interconnectivity. Starting from the sun's ever present power has been a perennial feature in mythology to Alexander Chizevski, a russian scientist and artist, associated with russian cosmism who was convinced about the sun's influence of the earth beyond energy source. He, like me, did not wish to mystify or form a new mythology around the sun, which was one of the comments from my peers during the CA2RE, Milano conference. He used statistical data, recorded from as long as he could possibly find, to construct an interconnection between the solar cycles and the earth's phenomena. Chizhevski presents a great example of merging different research fields in science as physics, history, humanities and natural sciences to signify the influence of Solar radiation on our existence. From the tiny molecular changes to spreading of diseases and political conflicts, he has drawn graphs and tables to prove his totalizing concept.

While Chizhevski's unusual link of physical factors of the historical processes is still debated, the influence of solar radiation on living organisms is widely accepted..

My approach to the suNEARrth concept echoes in the **languages** used to express scientific observations. The observational data and algorithms, designed to analyse and store information are 'no longer to be understood as finite sets of data but as interactive instructions open to change'(Parisi 2013,10). Luciana Parisi liberates the algorithmic epistem beyond predetermined structure and mere functionality. I am referring to her book "Contagious Architecture" where Parisi introduces an autopoietic ontology of computational data in machine generated cognition where data creates cultural narratives. The autopoiesis puts light on autonomous reproduction and creation, therefore the experiments in this research draw the foundation for self-directing, aesthetic knowledge and dialog between science and art.

Through the autopoiesis of solar observation data and emphasising the Sun-Earth symbiosis I reimagine the scientific data as cultural phenomena narrating our perception. The word 'symbiosis', which initially comes from biology marking an interspecies mutual relationship, is here used to expand symbiotic relations beyond the Earth's atmosphere, interlinking the historic dichotomy between the Sun and the Earth. In that sense I use autopoietic observations to compare observational data of the Sun and the Earth, to highlight their rather 'sympoetic' (Dempster, 2000) bounderless relation, which goes beyond data comparative patterns and is continuously changing.

**Questions** of the research are: Do solar observations tell us aesthetic narratives? Might raw unfiltered data, errors, and glitches captured by sensors hold important stories? How does coding hold an aesthetic translation of science, while data appears to have a cultural value?

### **Methodology**

At first I started looking for patterns and similarities in the observational data. Not just any data but the one which brings me closer to the suNEARth - as a cohabitate, an interconnected unity and not separate cosmic bodies. In order to emphasise this cohabitat I use radio-observations of the sun and field recordings from the earth. In this way I compare similar patterns, rhythms, and phenomena on the solar surface, recorded in the different types of burst and plasma structures to soundscapes and light conditions recorded on the Earth. Visual and sonic interpretations of radio observations, where coronal zebra patterns of the solar bursts are mixed to earthy rhythmic soundscapes and solar spikes to ocean shrimps.

## Data in sound and visuals

Computational aesthetics and information from radio astronomy data of the sun is a resourceful field for sonification and multi-wave imaging of the Sun. The identified fine structures and events observed in the solar corona, like radio bursts and spikes, link phenomena present on the Earth's surface, like rhythmic vibrations in sound and light. Those fine structures are important because they give information about the vibrant dynamics in the Sun, even during solar minimums. On other hand the field recordings of the earth give information about the continuous changes in the ecosystems. By sonifying the observational data with field recordings I can use unfiltered, not processed observations. My PhD supervisor, Prof. Stephan Poedts noticed that in this case I might be even closer to actual observations. Instead of filtering specific phenomena, the background noise in data might carry not yet understood information. Similar to the field recordings, which never captures a single type of sound but several who shape the soundscape conditions during the recording.

In order to understand the data I start constructing my own databases and tools.

Here is the initial plan drawn in 2019 aiming to tame a data monster, made of fine structures found in the solar plasma and recorded by radioastronomy?

- Acknowledge it size, weight, physical appearance
- Habitat
- Behaviour characteristics
- Plan a personal approach
- Imagine your coexistence
- Become the data monster for some time
- Make an archive, a living space

\*This plan draws the content of an art edition on observational data autopoiesis scheduled for 2021-2022.

This research in the architectural and digital realm in which we wander highlights the importance of a collaboration between art and science in introducing new modes of perception. To deeper understand the relational patterns between the Earth and the Sun, I study the epistemologies of solar science (Chizhevsky) and philosophy (Barad, Parisi, Morton) with a hybrid approach combining the legacy of a multitude of artistic methodologies or strategies. This philosophical approach points out the intra-connectivity (Barad) and the symbiotic relations in our realm in all the possible scales and factors, and recognises the expanding of this symbiosis beyond the earth's atmosphere. Drawing from electronic, software generated and sound art, light installation and science, my aim is to generate new modes of experiencing the physical and the immaterial of the Sun-Earth cohabitat.

For me, the Sun presents not only an excess of energy (Bataille), powering life on Earth, but has an agency and is a recipient of specially designed sound compositions.

### **Design Driven Research**

During CA2RE, Milano conference I presented the suNEARth concept, as a hybrid, multimedia installation intertwining the material and the immaterial through the use of images and sound. suNEARth combines and encompasses 2 works of mine; a digital interface, which uses radio observations of the sun to generate sound compositions, and monotype silkscreen prints interpreted by astronomers from the Royal Observatory of Belgium as if they were scientific graphs of data. The aim was to delicately overlap tools and methodologies from the scientific and the artistic domains to highlight commonalities and divergence. I compare the languages intrinsic to each field. I design artworks highlighting their similarities and interconnection in understanding phenomena and shaping human knowledge.

### **Juxtaposed artworks**

1. Abstract graphic works, produced in a monotype technique, which means that each print is unique, as the daily observations of the Sun can never be the same. Often artists take inspiration from the scientific objectives and methods, interpreting science through their means of expression. In this particular artwork, I reverse the process by inviting astrophysicist Dr. Jasmina Magdalenic to interpret my work. She could easily reimagine observational phenomena and patterns in the artworks. I asked her to write on the prints directly as for me they are collaborative work, complete by both of us.
2. Sound compositions result from a phenomenological comparison of the structures found in radio emissions of the sun and sound experienced and recorded on the Earth. This method derives from the similarities in rhythms and cycles patterns in both the Sun and the Earth. As a result, I have developed a visual score/ rhythm manifesto, a site-specific installation to meet the acoustic experience of experiencing the Sun on the Earth.

## **BIBLIOGRAPHY**

Chizhevski, Alexander, 1984, The Earth Echo of the Sun Storms (in bulgarian), Наука и Изкуство, Sofia, BG

Parisi, Luciana, 2013, Contagious Architecture Computation, Aesthetics, and Space, MIT Press

Dempster, Beth, 2000, Sympoetic and Autopoietic systems: A new distinction for self-organising systems. School of Planning, University of Waterloo, .pdf

Barad, Karen, 2007, Meeting the Universe Halfway, Duke University Press

Morton, Timothy, 2017, Humankind, Verso, London/ NY

Bratton, H. Benjamin, 2015, The Stack, MIT Press, USA

Bataille, George, 1967, The Accursed Share, Vol.1, Zone books, NY, 1991  
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## **BIOGRAPHY**

Pepa Ivanova is an interdisciplinary artist and researcher based in Brussels. She is a HISK, Ghent Laureate (2017), she holds an Advanced Master in Arts from LUCA, Brussels (2013), and MA in Sculpture at the Royal Academy, Antwerp, she studied Porcelain and Glass design in the National Art Academy, Sofia.

Pepa's current works are supported by KIKK, Namur and Wallonie Government, Belgium and are part of the objectives of her Ph.D. in LUCA, Ghent/ KULeuven focusing on autopoietic of observational data.



Figure 1. Zebra Patterns from Fictional Observations Series, 2019, monotype silkscreen, 60cmx45 KHM, Malmö, interpreted by Dr. Jasmina Magdalenic (Royal Observatory Belgium)

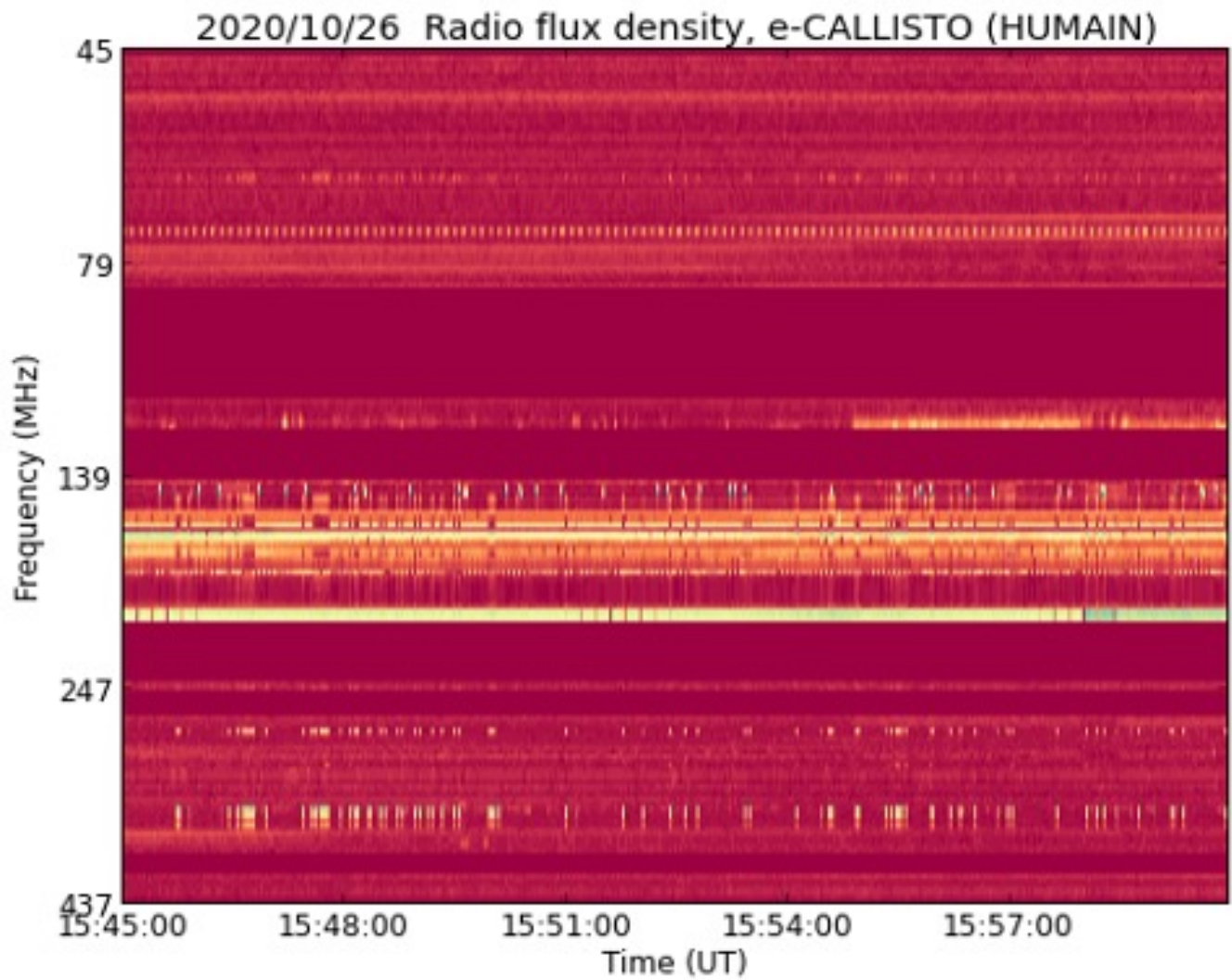


Figure 2. Source data: Daily radio observations from HUMAIN radioastronomy station,  
Royal Observatory of Belgium  
Contact: Christophe Marqué. The daily observations become scores for my sound compositions



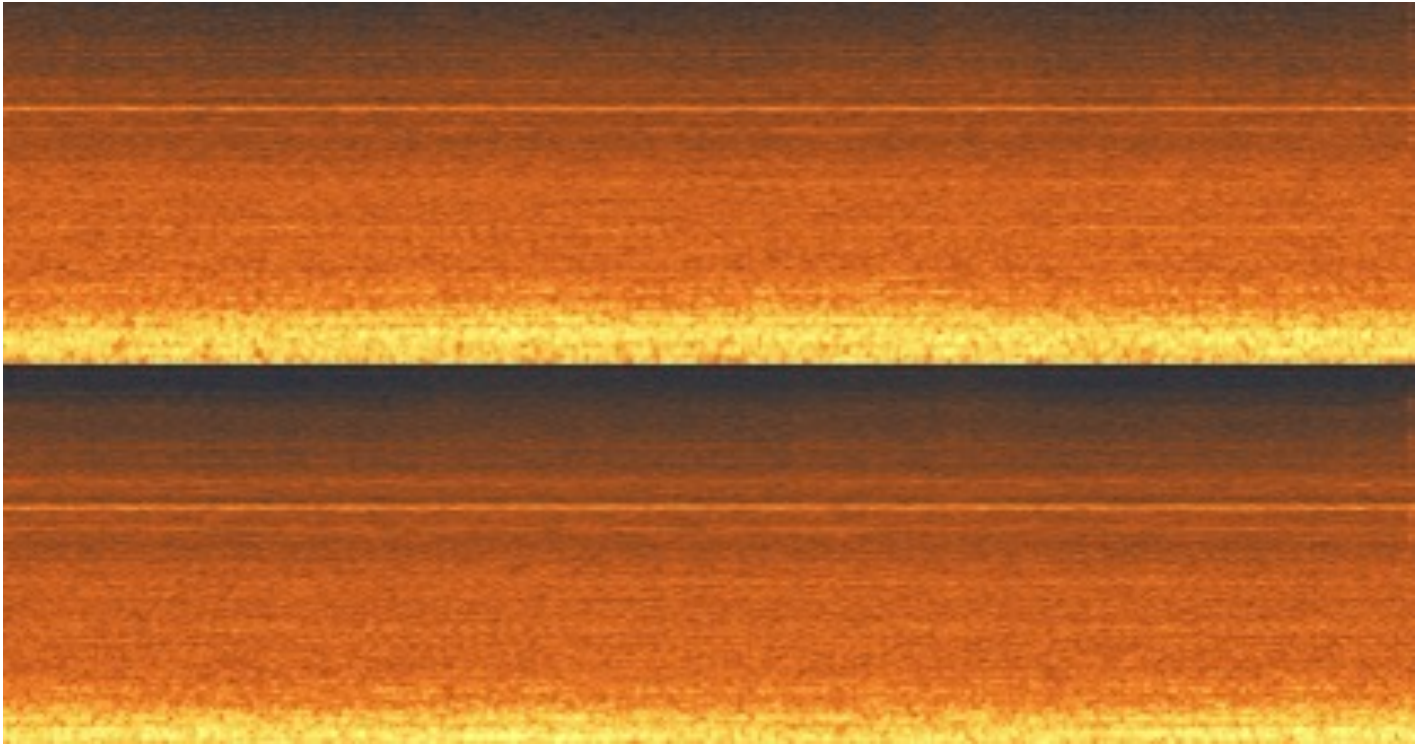


Figure 3. Spectrogram extract from Sun Lullaby, reverberate by the fine structures in the solar plasm in earthly soundscapes, 2018, music composition for 6 speakers, soprano, variable musicians, 20min in collaboration with composer Paolo Galli, premiere concert in DeSingel, Antwerp 26 September, 2018

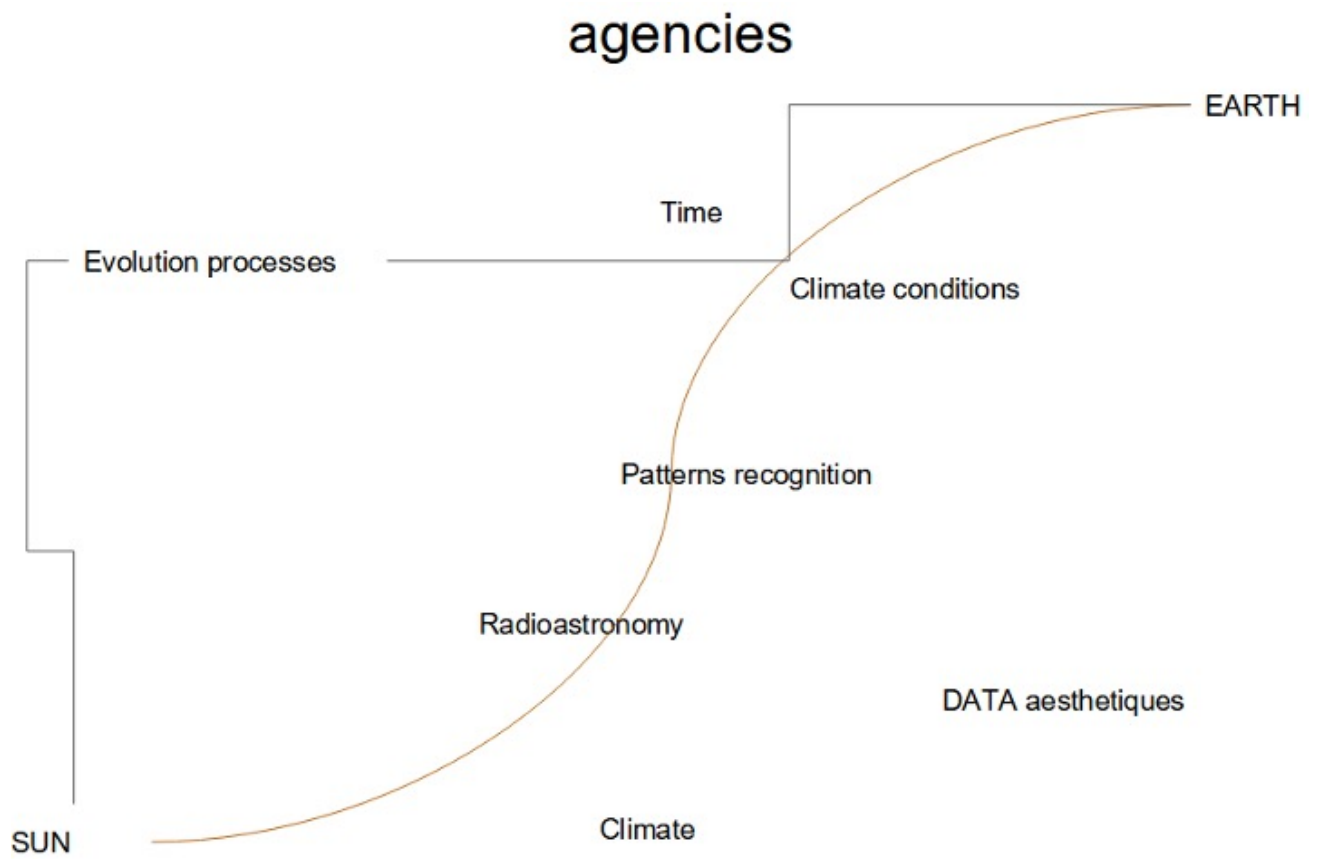


Figure 4. Visualisation of the start agents of the research, 2019.





# VI CONCLUSION

A screenshot of a Zoom meeting interface. The main area displays a grid of 20 video thumbnails, each with a name and a red 'X' icon indicating muted audio. The participants are arranged in a 5x4 grid. The names are: Urs Hirschberg, Tim Simon-Meyer, Jørn Mortensen (ELIA), aileen iverson, Matthias Ballestrem, Bernd Dahlgrün, Annette Bögle, Mona Mahall, Marta Fernandez, Christoph Heinemann, Marie Nike Strutz, Alessandro Rocca, roberto cavallo, Marcus Kopper, Franz Kirsch, Kathrin Wildner, Martin Roth, Einar Rodhe, Lidia Gasperoni, and Andelka Bnin-Bninski. A blue chat bubble is visible in the fourth row, fourth column, containing the text "Aufhebung der...haltung anfordern ...".

At the bottom of the screen is a control bar with the following icons and labels from left to right: "Audio ein" (muted), "Video abbrechen", "Sicherheit", "Teilnehmer" (79), "Chat", "Bildschirm freigeben" (highlighted in green), "Abfrage", "Aufzeichnen", "Reaktionen", "Mehr", and a red "Verlassen" button.

Navigation arrows on the left and right sides of the grid show "1/4", indicating the current page in a sequence of thumbnails.

# **Conclusions and reflections from the Book 2 and for the CA2RE/CARE+ program.**

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## ABSTRACT

**The CA2RE+ network has concluded four conferences conceived with a sequence of themes ‘Observation’, ‘Sharing’, ‘Comparison’, and ‘Reflection’. In line with what was initially defined for the CA2RE+ project, the conclusions of Book 1 - STRATEGIES [1] are grounded in the themes ‘Observations’ and ‘Sharing’ dealt with in the first year, while the conclusions of Book 2 - EVALUATION draw on the CA2RE+ Milano and CA2RE+ Hamburg events’ themes, ‘Comparison’ and ‘Reflection’. They take on the outcomes of Evaluation concepts addressed in this book as well.**

**This conclusion text, structured according to the main findings of the five chapters of the book, acts as a guiding string of the partial results, interconnected through the two directions of Design-Driven Doctoral research, (DDDr) understandings and its “Evaluation”, thus allowing global reading.**

**In the items I-INTRODUCTION, II-ENCOUNTERS, III-CONDITIONS, V-EVENTS: CA2RE+ MILANO / CA2RE+ HAMBURG and V-SELECTED RESEARCH the main outcomes of the consortium DDDr’s understandings are identified, as well as its processes of assessment and the considerations from participants and other parties involved.**

**Keywords: CA2RE+, evaluation, design-driven research, outcomes.**

Throughout item I, the outcomes respond to the open questions referred to in the conclusions of Book 1. It also addresses CA2RE+ partnership’s shared understandings of DDDr, which were widely pursued in the Milano and Hamburg events.

Throughout item II, findings regarding how other fields evaluate design-led research are conveyed by identifying similarities and linkages with the architectural research area. Findings established how they take and evaluate DDDr with a shared viewpoint for creative areas from a broader academic perspective.

Throughout items III, IV, V the outcomes regarding how Professors and Fellows evaluate design-led research come across. Findings are presented on how to clarify DDDr with perspectives on how to evaluate its relevance to the design field. Outcomes are divided in two main directions, “reflection” through “comparison” of the DDDr understandings and its concept of evaluation addressing the CA2RE+ learning-teaching assessment model. Both of these directions examine texts concerning the several steps, presentations, actions and experiences identified at, or after the



Milano and Hamburg CA2RE+ events.

In item III the outcomes of the main responsible partners' texts addressing evaluation key topics about design-driven research within the consortium positions stand out, while in item IV, the contributions from observers Join Staff Trainee, workshops organisers and panel reviewers can be found; and item V collects input from selected doctoral fellows' statements and DDDr work reflections. This final item V also contains the outcomes of the project's reflection related to how these chosen works by the consortium partners reflect DDDr understandings and the DDDr topic evaluation.

The text occasionally goes beyond this structure to expand the debate or reflect on future perspectives for the CA2RE+ community, to finetune further development of design-driven research and to contribute to a precise framing of this European project in its final steps of 'Reformulation' and 'Recommendation' of Book 3 - FRAMEWORK.

A selection of quotes characterizes the findings set out in the text, hoping to offer clear insights about contributions of CA2RE community members and outsiders. Nearly all are representative of the common views expressed by the variety of participants. Some, however, are individual observations that may not be widely shared by the CA2RE community, but add a broader range of critical debate to these conclusions.

The CA2RE+ conference adopted a digital format due to the Covid-19 pandemic. Feedback on the advantages and disadvantages of the digital format are discussed here as well.

### **ONLINE CA2RE+ EVENTS, COVID-19 FORMAT**

One point, not yet explained but important to contextualize these outcome trends, is the fact the 3th and 4th CA2RE+ events adopted a digital format due to the Covid-19 pandemic. In fact, the online presentations tested the crucial design-driven-production, but enabled the continuation of the collaborative project CA2RE+. The online events facilitated the involvement of more participants, such as PhD fellows' presenters or panel members, geographically distant or from other creative research fields, bringing in new perspectives. Despite providing an ongoing exchange, allowing intellectual interactions impoverished some of the more disciplinary presentations of design, by making it difficult to read artefact presentations essential to the basis of DDDr work. In-person sessions carry spatial and tactile dimensions, especially when regarding specific design techniques involved in DDDr works, enabling the audience to perceive the correct scale and proportion, and adding clearer perspectives. Facts that could have given a more critical view to the book outcomes.

These advantages and disadvantages between in-person and digital support conferences could mean the combination of the best of both worlds in a hybrid event.

The uniqueness of the digital format of the events, when compared with the first book, justifies the lack of photos of the CA2RE+ events' physical spaces and consequently fewer images in Book 2. Of course, another reason may be that the CA2RE database digital platform is now fully operational, functioning as a graphic repository, enabling presentations to be consulted, and making it mandatory to visit <https://ca2re.eu/>.

In this sense, images of the selected fellows' presentations of chapter V-Selected Research can be viewed in greater detail and larger format in the database. However, the written texts of these selected presentations and their reviews are original and expressly written for this book. In sum, the possible advantages of a hybrid event and its best format remains to be studied, possibly in the next publication, Book 3 - FRAMEWORK.

## **MAIN OUTCOMES OF EACH ITEMS**

### **ITEM I – INTRODUCTION**

This first item presents outcomes from the two introductory texts by editors that are partners of the consortium.

“Introduction to CA2RE+ Book 2 – Evaluation”, by the main editor, reflects upon the way in which the consortium addressed the shared perspective of DDDr and the concept of ‘Evaluation’ during the 2nd year. It responds to Book 1’s outcomes, as Claus Pedersen underlined, of a lack of “shared conception of design driven research among the partners’ participants, regarding the applied methods nor the alignment of the research with the standards of other academic fields”. The major efforts to respond to this common goal, in the above reference to two directions, came through the CA2RE+ Milano “Comparison” event and was consolidated in the CA2RE+ Hamburg “Reflection” event.

As Fabrizia Berlingieri stated “(...) Milano online event developed by comparing design pedagogical traditions to highlight different approaches and, eventually, common routes. (...) and to compare the several positions, we chose to establish a common ground”. Milano asked each consortium partner to write a short position paper on how DDDr was conducted within doctoral research and by comparing, extrapolated some recurrent topics, “(...) we asked for statements related to approaches’, as a general design-based research framework, Methods’, or ways of directing research trajectories and ‘Techniques as tools’ related.”

Hamburg deepened this DDDr understanding with Matthias Ballestrem asking “Which DDr approaches, methods and techniques are established across institutions that can be formulated as a common basis?” Answers confirmed the establishment of three parameters of DDDr approaches, methods

and techniques, as a shared consortium delineation. These parameters are all constituents of the DDDr research, but with different intentionality and weight usage taken as a base for epistemological procedures of design-driven research and its teaching-through-evaluation model.

The DDDr approach focuses on a design problem statement that gives rise to the question or idea. The DDDr method emphasises research problem-solving through the use of design-led processes. The DDDr techniques stand on a systematic use of disciplinary design tools supporting research as media and design-driven results.

Extending this line of thought, Hamburg also requested from the partners a response to the position papers, with other questions also formulated by Mathias “How are these methods of reflection employed by the candidates and what are their outcomes? How do employment and outcome relate to the involved media and techniques? How is the diversity of DDDr compatible with a common framework?” complemented by Fabrizia’s questions, “Which are the techniques and tools applied in DDDr and how do Ph.D. programs investigate meaningful and original uses?” These main questions generated reactions and outcomes for Book 2, such as the general setting of the DDDr procedures used by researchers.

The specific outcomes reacting to the above questions are therefore revealed through this conclusion text structured through the three design-driven research architectural parameters. Subjects present in the debate involving academics and researchers, through selected examples and statements exposed in this text “conclusion”, from items III to V, result from an interlaced and plural reflection on the outcomes’ settings. Another response to an important question raised at these events addressed by Matthias, “(...) does DDDr distinguish itself from other research practices, and where are overlaps and similarities to other practices and disciplines?”, are clarified in item II, ENCOUNTERS.

The narrow categorization of representative examples of the participants’ works was essential to pinpoint consortium members’ shared points of view and the common ground of fine DDDr understandings as well as to achieve its evaluation. This simplification maintains our initial intention of tracing specificities of each institutional design-led cultural identity that structures the exchange of methodologies among different partners, both peers and candidates. Thus, the serialisation of DDDr in three different parameters attempts to bring a sense of relative clarity, by approaching “reflection” by “comparison” as a shared experience, while it also helps to better understand one’s own particular position.

“The CA2RE Evaluation Stages”, by Tadeja Zupančič, addresses the “Evaluation” of the CA2RE+ project in its middle-term

development. Tadeja points out that, concerning design-driven research stages, during the selection process, ‘preparation’, ‘implementation’, and ‘wrapping up’, the collective assessment aims of rigor and the pertinence of the Design-based endeavours seem to be the most outstanding criteria.

Throughout the ‘implementation’ phase, evaluation of research cases is done through reviews of research explanations, demonstrations, performances, and artefact presentations.

According to Tadeja “collective assessment seems to have been the key to address originality, relevance and rigour in in-depth specific interplay of each evaluation case and again for the research community during the preparation, implementation and wrapping-up”. So CA2RE+’s collective evaluation process is simultaneously an answer to the assessment of each design-driven research fellow’s case as well as to the project evaluation itself results carried out during its different stages. This reveals the adequacy of evaluation stages, practiced by the CA2RE research community, preparation, implementation and wrapping-up, this last one being the key for the assessment of its impact. Equally important for the evaluation of this project, as Tadeja states, is the evaluation of the whole CA2RE+ process, internally by the executive board, externally by the advisory board.

Tadeja also raises the issue that the advisory board is concerned with the question of how to reach research contributions, regardless of the uniqueness of the research evaluated. This seems to be answered by Tadeja’s preparation of the forthcoming CA2RE+ Ljubljana ‘Reformulation’ event, which aims to identify the boundaries of DDDr’s relevance: when is the approach specific enough to be engaging, and generic enough to be applicable, which is expected to be unveiled in Book 3 - FRAMEWORK.

## **ITEM II-ENCOUNTERS**

This second item presents outcomes divided into two main points. The first one evaluates how the design-driven doctoral research is linked to art-based fields. The other set of reflections are by authors from several fields of research within the humanities.

“When research meets art: from art-based research to design-driven doctoral research” by editor Manuel Bogalheiro seeks to evaluate some seminal contributions to the DDDr debate by pointing out “common concepts and general guidelines for a coordinated articulation in the field of arts education and research of design-driven doctoral research”. Manuel Bogalheiro considers that what has been tested as design-driven doctoral research (DDDr), within the scope of CA2RE, can be viewed “as methodologies for monitoring, transmitting and evaluating research

projects, at different stages of progress, by specialized juries in the respective areas. (...) an expanded methodological field that experiments not only the research methodologies in the art, but, above all, the use of artistic processes and languages as a tool for research in creative domains at the academic level of PhD (...) Under the cultural, political and technological challenges of a globalized world, that requires ontological transdisciplinarity, DDDr can be seen as an expanded perspective for reviewing traditional research models, more particularly at the doctoral level in creative domains". Manuel Bogalheiro as PhD professor of Media Arts, in the communication arts field, hereby settles the DDDr evaluation transference to other artistic fields within a broader framework of doctoral research.

"Artistic research and practice-based methodologies in music performance studies: a personal reflection" by Ana Telles, asserts the recent central role of performance in the musicological debate apart from the previous supremacy of the written text. Ana explains that this type of research, through practice-based objects, methods, and techniques, was essential for her to achieve results otherwise not possible to produce. However, she acknowledges that complementary methods (including those from the Social Sciences and Humanities) are necessary and beneficial due to the fact that research supposes an array of methodological approaches. Ana recognized that several of the issues being investigated in the CA2RE+ events meet her own research interests, and that she benefited from knowledge contributions from related creative fields to her own field of studies, "even if the concrete design-driven methods applied to those architectural projects were quite specific and substantially different from those I have developed in my own work, the fact is that they all share identical purposes, large-scale methodologies and overarching preoccupations." Ana Telles, settles the link to the CA2RE+ design-practice-based or DDDr pertinence and transference. But, most of all, she validated the reverse process, meaning that other creative fields seem to be struggling with the same issues and questions concerning led-based research as is DDDr within the CA2RE+ program.

"Reflections on Practices" by Anke Haarmann, points out some ambiguity to the CA2RE+ events, "For non-verbal, aesthetic, practice-based research methods are neither necessarily nor obviously articulated in the mode of word-based language. But this word-based language is a standard tool for communicating content at conferences-including CA2RE events." To solve this communication issue, Anke defends that "exhibiting could be understood as the central field of activity of practice-based, aesthetic research (...)." Anke provides a new and important contribution by addressing one of the main questions of aesthetic-led research findings, namely, how to communicate them. However, the answer may not be that a single form of media is

necessary to design research, but what knowledge it expresses and which is the most appropriate for both the objectives of the research and the target audience, bearing in mind that the former should contribute to disciplinary advancement, means of which are not mainly concentrated in an exhibition format, and the latter should be as broad as possible, albeit both with the required methodological research rigor.

Anke's contributions also point to the "current practice-based aesthetic research struggle with the epistemological task of explaining what makes some aesthetic practices research," highlighting as answer those "Contributions relevantly focused on disciplinary methods". To clarify the possible design-driven procedure, she links practice-based aesthetic research to her field of expertise, philosophy, deconstructing the "Procedures of theoretical knowledge".

Another challenging topic emanating from Anke's text is the added value of our own techniques, which we sometimes hold as hermetically ours, as being possibly important for other disciplinary areas, as she states, "The relatively new, practice-based aesthetic research (...) could also apply this expertise to reveal respective traditions in those sciences that often still perform poorly in their representational practice".

"Building Relationships in Design Driven Research through the CA2RE Database" by Débora Domingo-Calabuig, concerns readings of the CA2RE database. The main outcome is making this database available to a broader audience, a searchable material repository that provides new reflections and an overview of the evidence, strategies and evaluation methods of design-driven research. Despite seeming arbitrary at first sight, the wide diversity of cases is structurally filtered by its navigation paths. The high number of contributions, over six hundred, also validate CA2RE's work and at the same time draw a varied landscape of research in architecture. Debora draws some important conclusions regarding the DDDr research projects: "the diversity of the contents is enormous and, although underlying all the registers is the use of design (...), the combination of working methodologies, the variety of methods used, and the diversity in the approach to the problems, are all factors that are reflected in a wide variety of ways of working (...)".

Another conclusion concerns the use of a disciplinary tool in design-driven research, as stressed by Débora, "there is a high incidence of the use of 'non-written' tools". Finally, Debora seems to suggest, as Anke Haarmann previously, the same premise of transference of DDDr expertise by recognising the benefit of our own techniques and disciplinary knowledge to other fields, as transdisciplinary value, "design as a method, a working tool or as a goal allows us to progress in the knowledge of fields such as economics or archaeology. While acknowledging that the cases collected in the database are few (...). What if DDr proves to be the

link that can unite research in a transdisciplinary way?”

“La Mariée Mise à Nu: The Arts at the University” by João Sousa Cardoso, reflects on the current challenges posed to academic research in the artistic field. This paper seeks to give an account of a horizon for aesthetic experimentation in an academic environment through case studies, examples of research and teaching methodologies, aiming to ascertain how cultural transmission, interdisciplinary research and artistic experimentation can converge in the construction of new aesthetic elaborations and an objective production of knowledge. Another reflection is from João’s own works, in the field of the performing arts and cinema, with contributions from conceptual and methodological research-led approaches through creative artistic processes he offers a view to a critical debate in higher education. He suggests that the use of concrete tools that derive from experience are necessary for theorization, to avoid the a priori and ideological conditioning that affects the still embryonic articulation between artistic practices and the university. As João states “(...) one of the recent transformations in university policy concerns the possibility of a student enrolled in a PhD, being able to dedicate themselves to the development of a personal artistic creation project (exhibition, film, work in performing arts, etc.) informed by the experience of the academic community, in the dialogical relationship with the parameters of scientific production, critically monitored by peers and the faculty, supporting the final form ‘definitely unfinished’ (...) subject to the public scrutiny of a jury.” This is a progress, in the anticipation of the expanded ramification between artistic creation and academic research, necessary for aesthetic knowledge. He stresses the same issues and questions of the CA2RE+ project, making the interdisciplinary creative led-based research in performance arts and cinema understandable.

“The Artistic A in CA2RE+” by Maria Hansen, executive Director of ELIA, reflects on what has been the experience for the many panellists that she has recruited for the CA2RE+ conferences. Maria asked some relevant questions to an artist, Michelle Teran, and to an architect, Dan Dubowitz. Maria Hansen asked Michelle what was educational for her, as an artist, professor and researcher, in being part of a conference dominated by architectural design. Michelle recognised that “It’s interesting to hear how a project is set, how the research is being framed, what the discourses are, and what kind of feedback that candidate is receiving”. Maria Hansen reports that Michelle found the diversity of CA2RE+ informative for, by comparison, she was led to question her own institutional approach to research teaching.

Maria Hansen also asked an architect, Dan Dubowitz, professor at Manchester Metropolitan University, about his CA2RE+ experience as a panellist, “For me, one of the strengths of the CA2RE+ programme is its success contrasting academic approaches,

methods, cultural approaches that are often dissonant flourish side by side in the same space. This is rare in academia”.

These two panellists, from whom Maria intelligently sought different disciplinary points of view, agree with CA2RE+'s perception that there are commonalities in the approach to doctoral programs between arts and architecture. These are reflections that extend to design driven research as a common point of work, even if addressed in different ways, from different creative fields.

Another relevant issue that Maria Hansen tackles is the debate between the online or in-person format for CA2RE+ events. For Michelle, a fully online conference condemns participants to two-dimensionality, using Power Point rather than claiming space for material experimentation. Dan also agrees that CA2RE's in-person, physical interventions are fundamental for CA2RE+. However, he also sees some benefits in somehow retaining the online dimension of the programme. As Maria explains, there may be value in hybrid events from her experience; On the one hand, the indispensable presentations from 'around the work' and, on the other hand, online presentation taken as a useful tool, when acting as observer “(...) if I wanted to catch two parallel presentations”. Maria writes “CA2RE really is about feedback in the interdisciplinary space. How different perspectives come from whatever knowledge or whatever that reference point is to what the candidate is presenting”. She also thinks that CA2RE+ could benefit from a stronger participation by artist candidates and panellists. As Maria concludes “Looking from the perspective of ELIA, president Andrea Braidt makes up the balance: CA2RE has been a very important resource to reckon with in Europe. (...) Design based research and CA2RE have become linked very tightly in the heads of artistic researchers in Europe and beyond. What an enormous achievement!”

“Research inside Architecture, tensions with outside”, by Teresa Fonseca, a theorist professor and a practical architect, asserts that the present development of PhD programs in architecture concentrated on research through design, seems to be underestimated or even avoided due to detours into other fields of knowledge. Teresa develops content points all raised by examples or facts of the theory and practice of architecture, the use of its instruments, simultaneously with architecture words and drawings in research, and research as architectural profession.

Teresa Fonseca's remarks make a great contribution by pointing out a direction for current design research in architecture, as she states “(...) few shifts may be envisioned from this new availabilities to further fields of doctoral research, design driven included: a) from bibliographic research towards documentary; b) from historical comfort zone to the present; c) from past to on-going lives and critical subjects; d) from already made design contemplation to critical design production, problem findings and



opportunities for following up, eventually debate with the authors themselves, that would mean a side-by-side innovative practise of research". In this final statement, Teresa also addresses the necessary design-driven research process involving its methods and techniques. This text confirms the necessary debate in the understanding of DDDr and its continuing struggle within in the field of architecture.

"Questions on evaluation in the artistic field" is a double voice between Sabina Jallow and Gennaro Postiglione. Gennaro poses questions related to the evaluation process in the artistic and Landscape Architecture field from a conversation on assessment and tutorials. Important questions are asked that themselves retain important matters "(...) what is evaluation about? Who is involved? Why, what and how do you do it? How did it become accepted (...) subjective interpretation by an accredited expertise? Should it be a one-time of evaluation or does it need to be a process over time? Should the process of evaluation be documented and accessible?" The main answers to these questions lie in the understanding of evaluation as necessary to have the potential for renewal, long-term perspective, and impact outside academia and itself as working value. Regarding the evaluation process, the outcomes are that the selection criteria should be transparent, competence-based, conducted with rigor to make a relevant assessment from the scientific research field and based on a quality (scientific?) trusting base, as Sabina states: "(...) judgment on relates to an established canon. It must follow certain things, but in order to be innovative, it must also build on or challenge the canon. So there is some kind of preconception and reference bank that belongs to a guild, a profession, a discipline (...) There should be a certain transparency in the reasoning as to why certain aspects are highlighted as valuable or that others have been missing. (...) One must therefore trust that people who are different and trained differently should be able to understand and relate to what is quality in each other's work".

This set of reflections by authors from several fields of research within the humanities, from music to media arts, philosophy, scenic arts, visual arts, architecture, design and landscape architecture, by authors outside the consortium, establish the link to design-led research. They reflect upon process and features addressing DDDr (approaches, methods and tools) with its evaluations and transferences to and from its disciplinary artistic research fields. These elected considerations explore design-driven research processes from a wider perspective with creative fields in order to ensure evaluation quality and relevance.

### **Item III-CONDITIONS**

This third item presents the outcomes, in two different directions. The first direction gathers two editors' own considerations regarding 'conditions' on DDDr's major themes, highlighting general concepts and results to contribute to a more general reformulation of the CA2RE+ project, and to its final Reformulation and Recommendation phases. The second direction analyses differences, and initiates key topics about design-driven research within the consortium partners' 'Constellations' texts.

Main outcomes of the editors' own views in the "Conditions" text  
The main conclusions of the editors Matthias Ballestrem and Fabrizia Berlingieri "conditions" text involve how they addressed the statements of the CA2RE+ partners focusing on the common understanding of the requirements needed for Doctoral Design-Driven Research (DDDr) namely its approach, method and techniques. Another consideration is that the core of the debate was set on the dialectical position of the DDDr technique, considering it central for disciplinary epistemological achievements, and simultaneity as the main ambiguous grey area due to its connection to design practice. The final consideration focuses on how to evaluate the DDDr research process, by suggesting to expand it to other architecture-related interdisciplinary fields beside the actual link to the artistic and creative field of CA2RE+ research, "(...) we should further investigate the differences with other research paths in other disciplines, specifically the scientific ones, to understand possible points of encounter".

Responding to this challenge for design-driven research's clear evaluation, we find an attempted proposal in chapter V-SELECTED RESEARCH. The fellows were asked to present in their texts their reflection according to the parameters of DDDr (approach, method, technique) in which they were framed when selected. Simultaneously, there is a statement by the senior peers regarding each work selected and an argumentation regarding its inclusion in a DDDr parameter, its categorization and comparative evaluation. This categorization of the variety of approaches at CA2RE+, through peers' evaluation process and fellows' awareness tries to give clarity to the specificities of the various DDDr research projects, their methodological frameworks, expertise and relevance.

Main outcomes of the partners' constellations texts.  
These partners' Constellations texts, on the one hand, are self-thesis concerning Design-Driven Doctoral research and, on the other hand, are enriched by fellows' research projects as exemplary case-studies of DDDr approach, method or techniques, this

way enlightening these parameters and notions shared by the consortium partners.

In the Constellations texts, Fabrizia and Matthias identify key aspects in the contributions of the partners' position papers "(...)first to the specificity of media in architectural and artistic research, which embrace different techniques (...) influencing the research outputs and findings; A second issue is about the research process with two different aspects: is about the balance between personal inclinations, scientific relevance, and shareability of research processes or findings; the second is about the multi-dimension of research approaches and spheres". The main common contributions among the partners' texts are implicitly understood as linked to the design-driven procedures mostly focused on the research approach, techniques, its knowledge relevance, and transference.

In fact, the common focus in the partners' texts is established mainly in DDDr techniques. These present some differences in the intentional use of developing design-driven research. As Mathias stresses, some, more extreme, insights almost consider design-driven-research findings to be very close to the product itself. Fabrizia noted that although this insight needs deepening it does "(...) reminds us that the first requirement for architectural research is to adhere to its specificity, starting from using proper tools, such as, non-verbal techniques".

In this sense, several contributions underline a tacit knowledge dimension highly present in the architectural practice, and some even state it as taking the techniques "(...) deriving from being a 'practice' and therefore ruled by internal codes of transferability" as possible research media of communication. This is recognised, for example, in the contribution of the TU Berlin PEP program, where developing the architectural design process is taken as one of the main objectives of the research program itself. However, Fabrizia and Matthias again remind us that the CA2RE+ DDDr quest is "(...) yet, not the transferability of architectural practice but its validation as research (that so) remains an open problem". On this matter they also recall Roberto Cavallo pointing out that "(...) the artefact, has a limited scope and is only of limited meaning for the understanding of a general phenomenon", adding a clarification "(...) media or techniques can turn out not only to be instruments of restitution, but moments of discover". This complex balance between personal and universal use of tools and knowledge aims is the focus of Alessandro Rocca's contribution on the exogenous or endogenous nature of DDDr.

In the quest for acknowledging the potential scope and its accurate comprehension of the DDDr research Fabrizia and Matthias call in Roberto and Claus's position texts beyond the sole importance of the design techniques. "(...) that architectural research embraces a more expanded field, even more in our

contemporary” distinguishes the research questions from originating in practice, in theory or in the interest in a specific phenomenon (...) the architectural media (...) play a different role (...) in the research process depending on these initial questions”. Claus’s statement seems to search the clarity of epistemic demand to decide on the accurate research methodology and techniques to be used, focusing more as a decision maker in the DDDr approach than in the DDDr techniques per se.

Another insight into the value of the method as a DDDr parameter is provided by both Matthias’s texts, with Fabrizia referring that they “(...) reflect on the use of analogy and references as methodology. (...) base of abductive and heuristic approaches that do not follow specific models of logical deduction or inductive and experimental practice in the architectural”. A view also emphasizing DDDr Methods is held by Tadeja Zupančič demanding that “(...) the specific methodology of DDr will produce clarity and significance only in the course of the research process”.

So, although the main debates revolve very much around the issues of DDDr techniques, we also find subtly addresses to the importance of the other DDDr parameters, as approach (Claus) or DDr methods (Matthias and Tadeja) that seem explicitly less disciplinary but equally important as guides and drivers of design research. However, perhaps the consensus lies in the importance of the rigor and relevance of conducting research in its many facets of approach, methods, and techniques.

By “reflecting” on “comparing” the diverse approaches to Design Driven Doctoral Research (DDDr) through the partners’ positions texts and by following recurring aspects, Fabrizia and Matthias are, on the one hand, evaluating and, on the other, visualizing the common ground of the project landscape of the CA2RE+ consortium, focusing on the specific research idea, the nature and format of the knowledge that is produced, and the use of research quest or questions, methodologies, and techniques of DDDr.

#### **Item IV-EVENTS: CA2RE+ MILANO / CA2RE+ HAMBURG**

This fourth item presents outcomes build up on panel reviewers from the CA2RE+ Milano and CA2RE+ Hamburg events, and is divided into two main Points. The first point, “Comparison / Reflection”, derives from texts done during the preparation or at the time of the events. The second point, “Testimonials”, regarding texts containing observations done after the events.

##### **Comparison / Reflection**

The first point Comparison / Reflection evaluates by addressing, Join staff Trainee and workshop teachers’ considerations, notes and observations.

“Of Squirrels and Trees: Individuating by Comparing” integrates the main findings by Jacopo Leveratto, built on the workshops and presentation and on how the LTTA activities within the Milano

CA2RE+ conferences were designed to foster participants to compare and reflect upon their design-driven doctoral research. He explains how the workshop and panels were designed to bring PhD fellows “(...) to compare the approaches, methods, and techniques used in their design-driven doctoral researches in a contextual and relational way.” For this reason, for Jacopo, when it comes to method, there is no such thing as a particular methodology for design research, with the exception that it should always be carried out through a contextual and relational construct positioning and a comparative analysis of topologic references in a rigorous situated procedure.

On the evaluation level, the workshop and panels for the Milano conference established a critical discursive setting in which participants could evaluate the relevance, transparency, and rigor of doctoral research by comparing similarities and differences between knowledge trajectories, and in so doing contradicting the individuals' own static position. By identifying the differences and similarities between current research practices as well as different pedagogical traditions, current trends are detected to configure a matrix as evaluation, allowing candidates to determine their position in this scientific community network. As Jacopo states “All this, with the maximum possible openness in terms of comparison with other disciplinary traditions, local trends, and personal practices. And through a research philosophy open to the evolution and integration of new theories, simply based on their usefulness, without the need to receive them in full or to refute all the previous ones”.

In “Drawing and/as architectural discourse: Comparative analysis of patterns of dwelling” Stamatina Kousidi, acting as a reporter, focuses her considerations on the first two keynote presentations: “Thinking through Drawing” by Martino Tattara and “Drawing Dwellings, Discursively” by Keith Krumwiede. Both present expanded meanings assigned to drawing in the context of design-driven research in its connection to the architectural discourse. The outcomes are concentrated on the debate between two opposite authorial attitudes toward the work or research, as Stamatina shows us: “(...) issues of authorship, time and typology in connection with the architectural project: If the first lecture acknowledged the relation between author and artefact, the second conceived of an alternative stance of anonymous architecture”. Stamatina makes other considerations regarding the dialectical use of drawing as an instrument of opposing attitudes, “Focused on the dichotomy between the intellectual and the corporeal/sensual dimension in the drawing process which in light of the proliferation of digital tools in architecture becomes even more pressing”.

The issues raised were elucidating different aspects of the importance of drawing in design-driven research as if this tool were the essence of DDDr itself, revolving around the main

notions: drawing as artefact, drawing as a reference, analysis, and speculation tool, drawing as embodied practice, and drawing as architectural discourse. Summing up, drawing is presented as a tool with many possible intentional uses.

In “Reflexive Design And Artistic Research” Margitta Buchert, acting as observer at CA2RE+ Hamburg, clarifies that the subjects and scope of DDDr and the CA2RE+ project go beyond design research. Starting from a collective concern for interdisciplinary transfer, it addresses the wicked problems of design research, through “diverse design-oriented research as well as of self-inquiry and common ground this concept for increasing individual and collective competence and possibilities to handle complexity”. She defines a concept of ‘Reflective Design’, reminding us of the specificity of architecture based on other interdisciplinary fields, converted into synthesis of form, features necessary to develop its research specificities. As she states, ‘Reflective Design’ (...) 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”. She considers DDDr to be based on both rational and artistic thinking, raising both epistemological and empirical questions as integral parts of a whole. The DDDr base is necessary to lead to the discovery of the explicit, the implicit and the unknown in the creative formation of architectural knowledge necessary for future inventiveness. For this she establishes a reflexive methodology of possible strategies and tools of founding questions. So ‘Reflective Design’, as Margitta proposes, is not a method in the first line “(...) but is a methodological stimulation of design driven research by putting them it into an iterative sequence of probing questions”. ‘Reflective Design’ is taken as a tool for research with an impact on the advancement of disciplinary knowledge as well as at the service of other interdisciplinary and societal issues.

#### Testimonials

This second point named Testimonials presents outcomes from texts written at the end or after the events, as a posteriori reflections, held by Join Staff Trainee or Teachers.

“Reflecting on a multi-disciplinary, learning-through-evaluation model” by Elena Montanari, considers the CA2RE+ project as an opportunity to explore and improve educational strategies, teaching actions and learning processes that revolve around the field of design. Elena declares this European project to be an “(...) enriching experience for all the players involved. (...) especially to partake in the development of innovative evaluation practices and methodologies, in the promotion of excellence in research and skill building and in the establishment of networking possibilities within international scientific communities”. She takes the CA2RE+

evaluation model as one of the main achievements, by structuring intensive peer reviewing processes, whose specificity draws on enhancing a learning-through-evaluation model carried out at a meta-level with an assessment act performed with a qualitative goal, “(...) acquisition and assessment practices are not merely focused on the scientific results of the research, rather, they especially address the quality of processes”.

These highlighted factors, meta-level and qualitative ‘Evaluation’, are of fundamental importance not only due to the concept of Evaluation addressed in this book or the assessment of the CA2RE+ project per se, but also because through them emerge the most challenging points of design-led orientation research, raising the fellows’ research and presentation problematics that allow framing possible expected outcomes of disciplinary knowledge. For Elena “This model is particularly congruent and profitable in relation to the special features of DDDr”. Elena’s ‘learning-through-evaluation-model’ reference also addresses the aspects of research results communication supported by disciplinary media “(...) graphic, performative communication strategies and tools, hence also accommodating the account of the transfer of tacit knowledge (...)”. Finally, she reports the major achievements of the model adopted by CA2RE+ overcoming the difficulty of integrating the heterogeneity and singularity of the research and participants “(...)The adopted model allows for the positioning of the single researches within a shared spectrum constructed at a meta-level, hence overcoming the criticalities related to singularity, or even taking advantage from them”.

In fact, the CA2RE+ Community brings together different disciplines the specificities of which are established in methodologies, tools and reference frameworks relating not only to research topics but also to perspectives, contents, and evaluation models from which it tries to identify the main commonalities. However, this also means identifying the different design cultures with their singularities, not to homogenize them, but rather, while maintaining their strengths, to find a common way of communicating and understanding. This model that generates the opportunity to compare, learn and exchange disciplinary and interdisciplinary artistic areas and to create transferable and transparent assessment procedures, has, however, proved to be a challenge, since its enriching results seem sometimes too complex to be covered in the most desirable simple and clear way.

“CA2RE Testimonials”, by Andrea Oldani, starts by synthesizing the CA2RE+ evaluation model recognising its value for the candidates “The aim is to synthesise her/his research work to receive notes, comments, and suggestions for a general improvement or the development of specific theoretical issues. (...) On the other front, an observer offers an alternative focus on the key issues that link each

interview to the general intentions of the initiative of exchange and collective research”.

However, he considers that the challenge for the CA2RE+ community's evaluation model rests on identifying relevance in the heterogeneous understandings of the DDDr approach by PhD fellows. Andrea's criticism is based on developing the balance between two fundamental aspects, theory and practice, which he considers fundamental in the field of design. He remarks that design-driven is focused on research that assumes the problem of reflexive praxis as the main scope of the investigation. As he describes it, “(...) design-driven research implies the consideration of the design as a set of practical and intellectual operations, able to build a ‘cognitive process’ (...) capable of responding to a variety of critical conditions that require the deployment of the design as a tool for think and action”. In this regard design-driven research is formulated as theoretical hypotheses of universal value as DDDr approach.

Regarding this nexus between theory and practice, he identifies three problems in the fellows' presentations: “(...) taking refuge in pure theoretical speculation. (...) capacity of criticism, but without risking to draw a synthesis to describe a possible future. (...) The design thus becomes research path that is only observational and not propositional”.

One last criticism is the lack of a priori features, an approach similar to Teresa Fonseca's considerations that design research themes should have a present or future prospective ambition, looking at what is currently happening in the disciplinary field as an inspiration to reorient design and theory itself. This challenge seems to meet CA2RE+'s own objectives, to encourage more project-oriented research by doctoral students based on the most relevant problems of the architectural reality, as well as a DDDr methodology supported by an extensive theoretical base, as an essential ingredient for scientific validation. This also means that the project partnership's aims may still be unclear or insufficiently communicated.

“An inquiry on Design Driven Research: a comparative approach” by Giulia Setti, presents reflections made after the CA2RE+ conferences, about the various forms of conducting research and their different applied procedures, based on the three parameters of design-driven research, approach, methods and techniques. Curiously, from another perspective, she reaches the same fundamental nexus as Andrea between theory and practice in design research. For Giulia “significant aspects emerged from the individual panels underlining the three main themes: design-driven approach, research methodologies, and representational techniques. The essay compares different applied research methodologies that could be traced back to two main areas, on the one hand, research that develop a ‘learning by doing’ approach, on the other, works based on critical reflection in relation to



design practices.” Giulia highlights some significant aspects that emerged from the individual panels, accentuating the research methodologies and the representational techniques. Regarding the research, methodologies “(...) can be traced back to two main areas, on the one hand, research that develops a ‘learning by doing’ approach, on the other works based on critical reflection in relation to design practices.”

The “reflection” on “comparison” has helped to understand better procedures and aspects of the design-driven research relationships. From the previous section, we identify several key outcomes:

Firstly, DDDr taken as an integration of artistic syntheses with rational and scientific thoughts, issues and searches. Secondly, the debate concerning the correct balance between theory and practice in design-driven research. Thirdly, two important levels of consideration, in DDDr methods, one on the level of learning-evaluation model, and the other through comparative-critical reflection. Fourthly, the debate between individual and collective, common and singular, heterogeneous and homogeneous. Fifthly, the comparative reflection on design-driven fellows’ research by grouping, valuing, detecting understanding, ordering, without encapsulating the creative richness of the diverse and heterogeneous conception. Sixthly, the insistence on the manipulation of design tools, emphasizing their creative disciplinary aspects influencing the debate developed around research techniques assuming a substantial role in the construction of the research work. Finally, the rigorous procedure of thinking and questioning to shed light on what is implicit in the design process related to its technique such as drawing, language, image, and model making, however mainly focusing on the drawing tools.

We think the development of the three parameters of DDDr, a novelty implemented in Milano, at the beginning of the 2nd year, was a turning point for the CA2RE+ community, not just in terms of the mid-term step learning-teaching-evaluation model of the Erasmus+ project, but also as an opportunity to debate with representatives, colleges and PhD fellows, a larger conceptual map developed through the proposed events programs and themes and allowing time to position each research project, school and methodology in a referential way. This was made possible by comparing and grouping, as well as by self-reflecting for the identification of a common ground as well as the diversity in it.

## **Item V-SELECTED RESEARCH**

This item is divided into two main points. The first contains

conclusions on how the consortium chose the selected presentations, reflecting on the topic evaluation of design-driven research through the mentioned three parameters of the DDDr, approach, method and techniques. The second is a set of reflections covering the outcomes of the contributions from doctoral fellows, from the eleven partners in CA2RE+, comparing them within the structure of grouping of these three parameters.

The first point is the consortium-shared perspective of DDDr. It streams from the evaluation process comparing the partners' position papers as well as the research fellows' work, identifying the recurrent core elements taken as specific to design-driven research, to its relevance, and the way knowledge is produced, summing them up in main outcomes as the three parameters of DDDr:

- The design-driven research approach focuses on a design problem statement that gives rise to the question, or idea, of the thesis research and its significance for the design field;
- The design-driven research method focused on design methods and methodologies used by the researcher, which emphasize research problem-solving through the use of design-led methods;
- The design-driven research technique grounded in the highlighting of the systematic use of the design media and representational techniques mainly employed in the research by the PhD candidate.

After answering the evaluation questions of what could be a common framework between the consortium partner fellows' work and representatives of their schools' way of doing, the partners, analysing, comparing and reflecting on the fellows' research projects by grouping, valuing, understanding and ordering them, simultaneously detected recurring procedures as the same three DDDr parameters. Identifying, positioning, and making this selection criteria and evaluation process, of the three levels of DDDr as a matrix, and also categorized DDDr into families of ways of doing.

This evaluation is done both in terms of individual self-recognition through the DDDr statements of the fellow researchers, as through the consortium partners' arguments for the selection of the representative works of each of the DDDr parameters. Fellows and partners are taken as representatives as internal evaluators. External evaluation was also done by the observers and testimonials that also identified this matrix as mentioned above.

The second point is a set of reflections responding to the questions of whether the diversity of DDDr is compatible with a common structure. As well as how the identified families and categorization criteria do not encapsulate the creative richness of the diverse and heterogeneous conception.

As we have shown, within each of the three parameters of DDDr

(approach, method and techniques) the diversity is still pursued, always to be considered as an enrichment of 'ways of doing' design-led research. However, this does not mean that each one does not belong to a wider family of similar 'thinking and ways of doing' focused on specificities that stand out compared to others. Comparing them helped to understand better the internal diversity in each DDDr parameter related to aspects of the relationship between research and design investigated.

#### Design-driven research approach

The grouping of this 'family' of case studies is traced on three main levels: Use of design as a trigger or motive in an approach to topics of practices; Use of design as an approach to theoretical design topics; Use of a hybrid approach as the mix of the levels above.

Some research, such as, "Architecting Twenty-six Toilets to Re-figure Inhabitation: J for Jewel, S for Soil Times, T for Thigmophilia", "Diagramming the 21st Century Agency: between Biennales and the Everyday" and "PUBLIC THRESHOLDS. Indeterminacy in Public Building Design" use design as a trigger or motive in an approach to topics of practices, to define research questions and to select and interpret references and case studies from the discipline. Research through design is a possibility, in these cases, to define a cultural position with respect to the topics chosen by the candidates to underline practices, uses and transformations. Inquiry of specific design aesthetic qualities, or use of design in the research understandings and results, is done by interconnecting abductive questions and reasoning, nearly always with open-ended results. Issues address design practice's wicked problems by examining the codification of diverse forms of practice, tacit knowledge in architecture or design, with approaches to extract design questions and design premises.

A more hybrid approach can be found in "Knowledge spaces of globalization - Musealizing the spatial assemblages of global trade", "Los Angeles: Fragments of Four Ecologies", "A continuity between Kenneth Frampton's 'Critical Regionalism' and Nicolas Bourriaud's 'The Radicant.'" which use design results of other architects' representation fieldwork in the research. This design-orientated approach proposes topics of practices but now mixed with theoretical concepts as 'devices' to critically understand them, normally also used for that diverse research codification outside of its own discipline boundaries. This is an approach based on the critical reflection of theoretical topics and from which design practices are developed through the reading of case studies, projects, and places.

#### Design-driven research method

The grouping of this "family" of case studies is traced on three main levels: A 'learning by doing' method, based on critical reflection in relation to a design practices method as an operative tool to identify

the strategies to transform the existing buildings with a 'learning by doing' procedure; A critical method reflection in relation to design practices or based on the critical reflection of a theoretical nature, very relevant for the discipline, and from these last ones developing design practices through the reading of case studies, projects, and places; One hybrid methodology from a combination of the two previous ones.

The learning by doing' methodology seen in "Architecture on the Modern. Methods and design actions for the school heritage within seismic Italy" is a good example of learning by doing through the practical application of the methodology of design actions intended to be systematically adopted in similar contexts. Also, "Needs-Based Clothing Design - How females affected by breast cancer articulate individual bra needs and how these can be implemented into design" highlights methods of practice strategies and tacit understanding in actively-practice-learning-by-doing research.

Based on the critical reflection of a theoretical nature, relevant for the discipline, and from here developing design practices, we can find the project "Movement and drawing improvisation scores in architectural design," as the transfer of the use of disciplinary design-driven methods in relation to a broader context of research methodologies from other disciplines.

In the hybrid methodology of 'learning by doing' and methods based on critical reflection in relation to design theories and practices, we can place "HOME: THINGS & BODIES" producing knowledge through a design process." In this research, a design-driven process combines theoretical disciplinary state of the art with applied and experimental design. "Tessellated Material Systems" also uses a mixed method since in the frame of DDDr it produces knowledge through a design process while simultaneously applying a theoretical interdisciplinary concept. "A Safe Space. Designs for Possible Emergencies" uses design-driven method structured into three macro-sections: one theoretical, one case-study collection, and one research by applied design.

All these DDDr methods are interdependent on a high level of interventional and trial-error basis.

#### Design-driven research techniques

The design-driven research technique is grounded in the highlighting of the systematic use of the design media and representational techniques mainly used in the research carried out by the PhD candidates.

The grouping of this 'family' of case studies is traced on three main levels: the representational techniques used by the researcher with analytical or descriptive aims; the representational techniques used with a speculative or prepositive dimension; the

representational techniques with a mixed speculative and analytic dimension.

The representational techniques with mixed speculative and analytic dimension seen in “The transformative potential of Form” consist of well-known architectural design tools, such as drawings, used as design-driven techniques, mainly analytical, survey, and rigours drawings but partially prepositive drawings. In the work “Utopian Imagery of Urban Peripheries in the Context of the Anthropocene’s Cultural Concept” these authors used words and design-led utopian imaginary graphics developed in easily understandable visual description, design and mapping projects, experimental design strategies and communicational design experiences. In the work “The Potential of a Tectonic Approach for the Experiential Qualities of Architecture,” the focus is on the specific design process that start with a given material through mock-up constructions and sketches as tools of a speculative dimension to envision how they can result in architectural expression.

The representational techniques used with a mixed speculative or prepositive dimension, can be seen in the work of “Under Construction: A Real-World Fiction” with the models taking on a speculative dimension, producing original works as practice actions and theoretical tool. In “It Depends on The Lens: Film as Experiential Teaching in Architectural Design and Design Representation” the use of film is taken as a medium and as a speculative design tool. In the work “suNEARrth,” the sun-earth frequencies are represented using paintings, hybrid multimedia installation driven in an inter-connection between scientific and artistic methods, where analogue and digital art techniques are used as speculative tools.

Although the representational techniques used with analytical or descriptive aims are not focused in these researchers’ work selection, in the CA2RE+ event presentations, they prevailed. However, since the aim of the selected fellows’ works in this item was to clarify the use of tools more directed at design-driven as research technique, naturally here the case studies using tools with a speculative or prepositive dimension are predominant. In addition, besides writing, drawing is the prevailing tool used in the research of the CA2RE+ program due to its flexible intentionality and use, as highlighted in item IV.

The recognition of the systematic use by students and the preponderance of certain aspects and actions of design-oriented research in their work naturally conformed the comparison task grouped into the above-mentioned parameters.

Even if this categorization into parameters may seem to reduce the variety, complexity and even richness underlying each work, it enables us to understand what hierarchy commands the research.

However, it is important again to state that in each student's work all these types, approaches, methods and techniques, necessary to structure the doctoral research, co-exist or can co-exist. At the same time, this process of assessment and selection through comparing also tries to provides clarity to the specificities of the various DDDr fellows' work and the schools they are from, their methodological outlines, expertise and relevance, trying to achieve some of the goals of the CA2RE+ project's cultural research singularities and topics of evaluation.

## **PEER REVIEWING**

Peer review plays an essential role in the CA2RE+ project's ambition to strengthen quality assurance and the rigor of design-driven research. In Book 2, similarly to Book 1, peer review was carried out at several stages, so the doctoral students' presentations, included in this publication, also underwent four reviews.

The first peer-blind-review took place for the selection of candidates to participate in the CA2RE+ event. The second was carried out during the event, and the third corresponds to the final selection for the book, conducted among the Consortium partners. A fourth review was performed by the advisory board.

The first stage review of the abstracts submitted by the candidates was carried out by the scientific committee of the events. Each abstract was blindly reviewed by three independent committee members. The reviewers commented and scored extended abstracts. The abstracts with the highest score were admitted to the limited vacancies of the CA2RE+ presentations. Presentations were made at the conference related to ongoing research work, from a paper or an exhibition or artifact.

Unlike most conferences, the second review took place at the event. Sessions ran for sixty minutes for presentation and feedback. This immersive feedback is particularly relevant to promote and ensure design-driven quality and rigor.

For this publication, we carried out a third phase of peer review to select the best presentations within the framework of the book's theme, evaluation. Underlying this theme, lie differentiated groups according to three parameters of design-oriented research procedures (approach, methods and techniques) jointly identified by the consortium. Based on this selection criteria, authors were invited by the consortium to submit a full article for this second book.

In the fourth step, the publication is peer-reviewed entirely by the CA2RE+ advisory board. The board comments on the structure, consistency, and overall quality and validity of the contributions.

We plan to conduct a fifth post-publication peer review of the CA2RE+ book series when the, subsequent third, and final, publication is brought out. External reviewers will carry out this review to contribute to the continued development of the research field.

Regarding the first peer review process that took place for the selection of candidates to participate in the CA2RE+ event, we would like to underline a possible outcome that we think would be useful to explore within the framework of Book 3. This is the fact that we noticed that, in the first review, conducted for the CA2RE+ Milan and Hamburg events, in the blind review process the reviewers usually gave a similar grade to each paper. These evaluators belong to a broad scientific council of Higher Educational Institutions not only from the consortium but also guest reviewers. With rare exceptions, there was in fact an alignment in the score of the three reviewers who remain unaware of each other's peer review. This statistical finding is even more aligned in the highest or lowest rated papers than in the average rated ones. Although this quantitative and statistical evaluation is available in a table of the papers' grades, it would be interesting to do a qualitative evaluation of the scientific reviewers' appreciation and arguments, which unfortunately is not available and could prove useful, if possible, to be done for Book 3 – FRAMEWORK.

## **Item VI- CONCLUSION**

The feedback from the third and fourth CA2RE+ events shows the evaluation of the DDDr 'comparison' and 'reflection' conferences themes. We may conclude that it is more important to contribute with a meta-level structure of research than to provide a unique methodological framework for conducting research. This meta-level, however, enables us to identify 'ways of doing it' and 'forms of how and what we are doing' through the DDDr approach, methods and techniques, helping us all to understand and position ourselves, both students and teachers. It also permits to raise awareness through comparative reflection, identifying what is done, how it is done and other ways of doing that aim at the same common disciplinary objective but with multiple forms to achieve it.

The purpose or perhaps the relevance of DDD research stands out above all when taken as a supportive action-research process, inexhaustible in the particular universe in which it expresses itself (infinite 'forms' of design approaches, methods and techniques), where the structure aims at its applicability, universal and scientific, as a resource of achieving and disseminating design knowledge, and contributing to the renewal of the architectural design field.

The conclusions for the Evaluation of the CA2RE+ process and program steps provide the answers that allow to:

- identify how we progressed in Book 2 by responding to Book 1's questions and challenges;
- show the Intermediate findings from the CA2RE+ program's third and fourth steps;
- identify the evaluation questions and reactions of the intermediate CA2RE+ project through the "comparison" and "reflection" themes;

-reflect on collected evaluation of DDDr procedures to and from other artistic fields in order to apprehend their transferability and relevance;

-compare doctoral fellows' and supervisors' statements, testimonies and assessments to grasp the scope of DDDr's common understandings and the CA2RE+ project's learning-teaching-model evaluation.

Finally, envisioning continuing themes for future debate, some clues and questions of possible interest for Book 3 – FRAMEWORK were also raised, from which we highlight:

How to identify the boundaries of DDDr's relevance, i.e., when is it specific enough to be applicable research, and universal enough to be transferable?

How can we qualify the different levels of reflections on DDDr research to frame its quality?

How can we improve our understanding of the processes of ongoing DDDr?

What to keep and what to reformulate from this intermediate Book 2's outcomes, and why, how and what should be taken as RECOMMENDATIONS to maintain or change from the outcomes of Book 2 for DDDr's final framing or FRAMEWORK?



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# CA<sup>2</sup>RE +

## 2 EVALUATION OF DESIGN-DRIVEN RESEARCH