CA2RE+ MILANO

Community for Artistic and Architectural Research

Collective Evaluation of Design Driven Doctoral Training

COMPARISON

BOOK OF ABSTRACTS

PhD Program in Architectural Urban Interior Design

POLITECNICO MILANO 1863

DIPARTIMENTO DI ARCHITETTURA E STUDI URBANI

Ca²re Online Conference for Artistic and Architectural Research
Book of Abstracts

AUID PhD School in Architectural Urban Interior Design, DAStU Department of Architecture and Urban Studies, Politecnico di Milano

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Community for Artistic and Architectural Research

Collective Evaluation of Design Driven Doctoral Training

Partners

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Introduction

CA2RE is a joint platform for research in all fields of architecture, design and arts, and supports early-career researchers and PhD students to improve the quality of their research within the realm of Design Driven Research.

CA2RE+ Strategic Partnership builds on the experience of the CA2RE community is supported by The Erasmus+ Strategic Partnership. It comprises 9 european Universities in association with ARENA (Architectural Research European Network Association), EAAE (European Association for Architectural Education) and ELIA (European Nework for Artistic Research). The project, running for 3 years, develops a collective learning environment through Evaluation of Design Driven Doctoral Training. Design Driven Doctoral research (DDDr) is taken as a multidisciplinary example of an experiential learning-through-evaluation model, appropriate for identification and promoting relevance of research singularity, its transparency and recognition, to award excellence in doctoral training for creative and culturally rooted solutions of contemporary design driven developments.

CA²RE+ is intended to bring together senior staff, advanced researchers and early-career researchers to understand, scrutinize and improve research quality through an intensive peer review at key intermediate stages. The conferences are platforms to develop a "Collective Learning Environment through the Evaluation of DDDr Training; to create Evidence of DDDr Learning Environment and Evaluation Materials; to identify the DDDr Strategies, to explicate the DDDr Evaluation process and to prepare the DDDr Framework. We wish to contribute to the open and diverse fields that exist in architectural, design and artistic research, to include subjects such as environmental design, sustainable development, interior design, landscape architecture, urban design/ urbanism, music, performing arts, visual arts, product design, social design, interaction design, etc.
Its backbone is a series of biannual international and intercultural INTENSIVE STUDY PROGRAMMES for doctoral candidates, guided by experienced evaluators from participating universities and invited experts.

The 8th CA²RE conference together with the 3rd CA²RE+ event series, is promoted by the Department of Architecture and Urban Studies (DAStU) and the PhD Program in Architecture, Interior and Urban Design at the Politecnico di Milano. The main topic of the event is COMPARISON. The focus will narrow by comparing design strategies and tactics applied to highlight common approaches and methodological recursions.

Practice & Design Driven Research encompasses many different forms of research in which (architectural, design and artistic) practice and the results thereof, are implemented as means to generate and disseminate new knowledge. This includes contemporary alternative formulations of the field, like: Artistic Research, Research by Design, Practice Based/Led Research, Creative Practice Research. The CA²RE+ explicates the transformative and innovative power of highly individual strategies in artistic research, the diversity of research traditions and the integrative nature of architectural design research, able to face the contemporary knowledge fragmentation from humanities, social sciences and technology. It explicates the interdisciplinary relevance of convergent thinking, mastering wicked problems, open-ended processes, resilience and risk, as well as orientation to future, all present in Design Driven Doctoral Research (DDDr). It explicates the didactic relevance of DDDr for training creative professionals how to use the integrative power of design thinking to master open-ended processes while solving contemporary spatial dilemmas (sociological, climate-change related, political).

WORKSHOP AND POSITION PAPERS

Although widely discussed, the problem of what "scientific research" in architecture means, and its implications in the design practice, is still an open question. It engages both the internal disciplinary debates and, in a broader context, today searches for standard references to "how scientific behaves in research" when weakening its traditional relation to deductive processes and applied science.

The dualistic position of considering design research either related to the logic-based approach of hard sciences or as an expression of the artistic poiesis external to the field of scientific knowledge progress seems to be overcome compared to the initial attempts of standardization (Buchanam 1992). However, this stereotype still resists, sometimes being a real obstacle, within funded research schemes at the European level and scientific journals' standards, still characterized by rigid positions. There have been several attempts to assign a different space of research in design disciplines affirming the necessary recognition of "a third culture" (Cross 1982) grounded on abductive forms of knowledge and generative techniques for "design thinking" (Cross 1999). Also, the recent debate of Research by Design (Van Ouwerkerk & Rosemann 2001) opens up other perspectives that attempt to articulate design research, besides slight differences of definition, by the tripartition of "research on design" (Roggema 2015; Zimmerman 2009) focusing on generative processes and methods; "research through design" (Rosemann 2000) enlightening the empirical nature of design research as a heuristic form of knowledge production, "research as reflective practice" (Schoen 1983) as critical praxis whose internal processes are often implicit (Owen 2007).

Following the Ca2RE+ timeline - and the steps of Observation, Sharing, Comparison, Reflection, Reformulation - as part of the Design Driven Doctoral Research Training and Collective Evaluation project, the focus of Milano online event will narrow by comparing design strategies and tactics applied to highlight common approaches and methodological recursions. Therefore, its aim does not push for attempting DDR definitions (ontologically ever under discussion), but rather on explicating (and comparing) the consortium universities' positions within the broader ongoing debate. We want to ask ourselves, for example, how possible forms of hybridization in approaches can be/are developed by partners concerning those briefly described, or if, on the contrary, resistances emerge where the DDR field becomes too open. We want to reflect on the methods applied and the ways for scientific validation of research. If and how universities, in doctoral programs, can position DDR results within the international scientific community. Finally, if applied techniques can differ (writing/drawing) and how the Ph.D. programs relate.

The Open Workshop is our horizontal platform for discussion between Ph.D. candidates, professionals, early-stage researches, and academics. The participants will actively cooperate within three subsequent sessions about positioning and comparing Approaches, Methods, and Techniques in Design Driven Doctoral Research across the CA2RE+ consortium partners' heterogeneous set. After a short discussion on keywords and critical questions, extrapolated by the consortium partners' position papers, participants will reflect upon and map research trajectories on personal paths and research community focus. The results, preferably based on visual maps/drawings/sketches, will be collected and eventually elaborated for the Book of Proceedings.
on visual research maps will be collected.

TABLE 1/APPROACHES

chair
Pier Paolo Tamburelli, Politecnico di Milano
participants
TU Berlin; Ljubljana University; Politecnico di Milano

keywords
REFLECTIVE PRACTITIONER / BETWEEN SCIENCE, ARTS AND HUMANITIES / PERSONAL PATHS AND SHAREABLE KNOWLEDGE
key questions
How to compare DDR approaches within the CA2RE+ consortium community?
Can we recognize forms of hybridization in DDR approaches?
Is there still a necessity to affirm the predominance of the design-based approach?
How do personal paths of researchers meet DDR recognized approaches?

TABLE 2/METHODS

chair
Fabrizia Berlingieri, Politecnico di Milano
participants
TU Delft; HafenCity University Hamburg (HCU); NTNU University Norway

keywords
LEARNING BY DOING / CREATIVE THINKING / AUTONOMY_HETERONOMY / DESIGN AS A FORM OF KNOWLEDGE PRODUCTION
key questions
How to compare DDR methods within the CA2RE+ consortium community?
Which are the relevant drivers for design research?
How do the Ph.D. programs validate the results of DDR within the international scientific community?
How do researchers build/modify/transform the traditional doctoral research methodology by using design-based drivers?

Table 3: TECHNIQUES

chair
Jacopo Leveratto, Politecnico di Milano
participants
Aarhus School of Architecture, University of Porto, KU Leuven

keywords
INTERDISCIPLINARY_TRANSDISCIPLINARY_ MULTIDISCIPLINARY / WRITINGS & DISSEMINATION / RESEARCH BY TEACHING
key questions
How techniques coming from diverse and external disciplines enrich the design research?
Which is the role of writing in DDR experiences?
How could DDR challenge dissemination codes?
How could Ph.D. programs enforce teaching as a tool for research?

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Aarhus School of Architecture

Claus Peder Pedersen, Prof. Dr., Aarhus School of Architecture

The Aarhus School of Architecture, an educational institution under The Danish Ministry of Science, Innovation and Higher Education, has approximately 750 students and employs a staff of about 175. The School offers an international Master in architecture as a supplement to Bachelor and Master's degree programmes taught in Danish. See www.aarch.dk.

The Aarhus School of Architecture introduced a research education programme in 1988. Since then over 60 PhD students and four licentiates have finished their degree in the School. The very first dissertation was based on a theoretical as well as an empirical reflection on the design processes carried out as part of a design project carried out during the PhD in collaboration with an industry partner. As such, the Aarhus School of Architecture can claim to have been involved in "research-by-design" from the very first steps of its research education.

The PhD has subsequently entered through several stages that reflect the development of design-driven research and changing institutional strategies and priorities at the Aarhus School of Architecture. The current phase took its staring place in a reorganisation of the School in 2012. The reorganisation intended to increase the focus on collaborative projects, innovation and practice-related skills under the heading 'Engaging through Architecture'. The change had significant implications for research education as well. It implied a stronger emphasis on the relationship between research and practice, focusing –once more– on how to value design thinking and design methodology as research. The previous consolidation of the research education was as discussed at least partly based on a strengthening of research methodologies and theories found in the humanities and to some degree, the social sciences as well. This development had, by and large, been successful. Still, one consequence was that the research education was not up to date with the recent rapid international developments in the field of design-based research.

The reorganisation allowed for the School to create a new professorial chair in research by design that would also lead the PhD programme. Johan Verbeke took up the position in 2013 as former dean and professor of Sint Lucas (which has since become part of KU Leuven) in Belgium Verbeke strengthened the international networks considerably. This international focus led to the PhD School participation in the ADAPT-r (Architecture, Design and Art Practice Training-research) focused on practice-driven and design-led research. The project ran from 2013 to 2017 funded by the 7th Framework of Research of the European Commission. Subsequently, the PhD School engaged actively in the CA2RE Network as well in other transdisciplinary collaborations around design-based and artistic research in the context of ELIA (European League of Institutes of Art).

The strong international focus has continued to this date where the PhD School is headed by Professor of Research by Design Claus Peder Pedersen. The PhD School is organised jointly with the Kolding School of Design with the responsibility of the research training of 20-30 PhD fellows. The core activities consist of two core elements arranged in a T-shaped competence profile that covers general research competencies, and an in-depth focus on design-driven —and to some extend artistic— research. The core activities are supplemented by topical and sub-disciplinary courses and seminars organised by the three research labs

at respectively Aarhus School of architecture (1—Territories, Architecture and Transformation, 2—Technology, Building Cultures and Habitation and 3—Emerging Sustainable Architecture) and Kolding Design School (LAB for Sustainability and Design, LAB for Social Design and LAB for Play and Design). The PhD School keep a strong focus on design-driven research combined with an inclusive approach to the wide range of research methodologies that are relevant to the field of architecture and design. The design-driven PhDs include projects where design activities are the main driver for exploring delimited research questions, for instance within the field of digital design and manufacturing supported by the well-equipped workshops at the Aarhus School of architecture. It also includes industrial PhD where the research is carried out through real-world projects in collaboration with industrial partners contributing to research-driven innovation. Finally, the School hosts a small cohort of practice-led PhD fellows, where the systematic investigation of well-established and peer-recognised professional practices aims to provide insights into architectural design processes and contributions.

TU Berlin
PEP
Programm Entwurfsbasierte Promotion
Program for Design-Based Doctorate

Ignacio Borrego, Prof. Dr., TU Berlin
Ralf Pasel, Prof., TU Berlin
Jürgen Weidinger, Prof., TU Berlin
Donatella Fioretti, Prof., Kunstakademie Düsseldorf
Matthias Ballestrem, Prof. Dr., HCU Hamburg

Concept and Quality Criteria

1. Objective
The design disciplines of architecture and landscape architecture at the universities have a long academic tradition, including doctorates. Today, the proportion of design-relevant topics and design-based methods in the total number of doctoral theses is low. Engineering, historical or social science topics and methods are dominating.
For this reason, PEP (Programm Entwurfsbasierte Promotion —program for design-based doctorate) aims to promote design within the framework of research in architecture and landscape architecture. This is implemented as an innovative form of doctoral supervision that incorporates design results and uses design as an epistemic tool to develop relevant knowledge contributions for the design disciplines. PEP offers suitable research methods and criteria for design-based research within the framework of doctoral studies.
PEP is suitable for candidates of design disciplines who have developed very good skills in design and have already found and worked on new topics through their individual design activities. PEP understands design as a process that produces spatial solutions. Spatial solutions represent complex and indissoluble penetrations of aesthetic, ethical, social and technical aspects as a holistic spatial presence and therefore cannot be adequately described by text and numerical values.
Problem-solving procedures without spatial and design-based deepening, such as area planning or management and moderation processes, are not suitable for participation in PEP. In PEP, projects are an indispensable part of design-based scientific work.

2. Involved Professors
PEP is an initiative of professors and not of universities. It was founded in 2016 by the professors of the Technical University (TU) Berlin Prof. Dr. Ignacio Borrego, Prof. Ralf Pasel and Prof. Jürgen Weidinger, Prof. Dr. Matthias Ballestrem of the HafenCity University (HCU) Hamburg and Donatella Fioretti of the Düsseldorf Art Academy (Kunstakademie Düsseldorf). PEP proposes a first supervisor to each doctoral candidate, who in turn confirms the supervision of the doctoral thesis. If Prof. Dr. Ignacio Borrego, Prof. Ralf Pasel or Prof. Jürgen Weidinger is recommended as the first supervisor for the doctoral studies, the doctorate will be registered at the TU Berlin. If Prof. Dr. Matthias Ballestrem is recommended as the first supervisor, the application for the doctoral studies will be made at HafenCity University. Doctorates are not possible at the Kunstakademie

Düsseldorf. Prof. Donatella Fioretti is involved in the PEP as supervisor and second reviewer.
Depending on the assignment, the doctoral regulations of the respective university are applicable. All doctoral candidates in PEP are obliged to comply with the respective doctoral regulations.

3. Methodological Framework for Design-Based Research in PEP
Design-based research serves to tap new areas of knowledge of the design disciplines and to qualify this knowledge also through inter- and transdisciplinary scientific discourses. To this end, design itself is applied as a method and the design results are understood and described as scientific findings.
Design-based research is about developing and lifting new knowledge from your own design results. The knowledge contained in the projects is made explicit and accessible through critical examination. This takes place through an iterative process of designing, reflecting on the design results, explaining and re-integrating the results of the research into new designs. By comparing their own contribution to the discourse with related and relevant knowledge of the design disciplines, doctoral candidates position their own contribution in the discourse, make the newly acquired knowledge available to their own discipline and at the same time create connecting points to other disciplines.
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.

4. Structure of the Supervision of the Doctoral Studies in PEP
All requirements for a doctorate are regulated in the respective doctoral regulations.
For design-based research, PEP has formulated a procedure that structures the process of extraction of knowledge from design practice, makes it comprehensible and assessable. The doctoral candidates must pass through the following steps, i.e. presentations with specific objectives:
. Letter of application
. PEP 0 Application presentation
. PEP 1 to 4 presentations
. PEP 5 Milestone presentation
. Submission of the Dissertation
. PEP 6 Defense and Exhibition
After a successful PEP 0 application presentation, at least 6 more PEP presentations will take place in the context of biannual joint colloquia of all participants.
In order to ensure the consistency of the processing and supervision, each presentation may be suspended a maximum of once. In consultation with the supervisors, it is possible to extend the completion time after the PEP 5 presentation.
The objectives of the presentations PEP 1-6 build on each other and provide a methodological framework. Doctoral candidates are required to present artefacts of the design work in the PEP colloquia. After each PEP presentation, doctoral candidates receive suggestions and critical feedback on the status of their doctoral studies. The colloquia are held in English and/or German.

PEP 0: Application presentation
The applicants present the outline of their proposed doctoral studies.

PEP 1: Design projects, leading interest, outline of the research question and corresponding methodological approach
The doctoral candidate present the deepening of the doctoral studies. It should be shown how and which new projects are employed to answer the research question. Criteria for investigating the research question are being elaborated.

PEP 2: Specification of the research question by old and new projects
New projects contribute to the clarification of the research question. Reflections on the new projects sharpen the argumentation and form the basis for those questions that will be investigated through the next projects.

PEP 3: Clarification of the argumentation by old and new projects and initial comparison of the found results with existing knowledge stocks on the research topic
New projects contribute to the clarification of the research question. Reflections on the new projects and initial comparisons of the found results with existing knowledge stocks on the research topic sharpen the argumentation and form the basis for future studies.

PEP 4: Further specification of the argumentation by old and new projects and in-depth comparison of the found results with existing knowledge stocks on the research topic, draft of a structured presentation of the entire investigation
More projects, repeated reflection on the projects and an in-depth comparison with related knowledge stocks to sharpen the candidate's own results. In preparation for PEP 5, a structured presentation of the entire study is to be prepared.

PEP 5: Presentation of the entire study as a milestone presentation
The milestone presentation has the structure of approx. 75 % of the doctoral studies, including preliminary studies through the candidate's own body of work, working out the topic of the doctorate (research question), examination of the doctoral topic by means of at least three projects developed in the process of the doctoral studies and reflection on the projects until the research question has been clarified and comparison of the results with related positions of the discourse in theory and practice.

PEP 6: Scientific defense including an exhibition
Furthermore, the combination of the scientific defense with an exhibition is requested, which includes preliminary work and those design results that have made significant contributions to the gain in knowledge. The exhibition must include at least three projects relevant to the topic of the doctoral thesis, which have been developed within the framework of the doctoral studies and which show the design-based development of the work.

Modelling Hall / Collective Workspace, TU Delft Faculty of Architecture and the Built Environment

An Expanded Field: Design Research in TU Delft

Roberto Cavallo, Prof. Dr., Faculty of Architecture and Built Environment, TU Delft
Alper Semih Alkan, Prof., Faculty of Architecture and Built Environment, TU Delft

Shifting Paradigms

Starting from its earliest days in 1960's, the "Design Methods" movement tried to make distinctions between design and science. Their main argument that science was analytic and design was constructive has been echoed in the succeeding years and passed on from generations of design methodologists with a shift in focus from design methods, to design issues, and to design thinking. Perhaps one of the most illustrious account of this transformation can be found in Horst Rittel's theory of "generations." According to Rittel, the "first generation" of design research of the 1960s prioritised scientific methods, while the second generation moved its attention to argumentative methods for the appropriate solution-types and participatory processes in which design the problem was seen in a wider social context (Rittel 1984). In this regard, succeeding accounts of design research can be seen as reincarnation and combinations of these two dualistic undercurrents. In a similar way, the way design research has been evolving at TU Delft can also be seen as a reflection of these shifting paradigms.

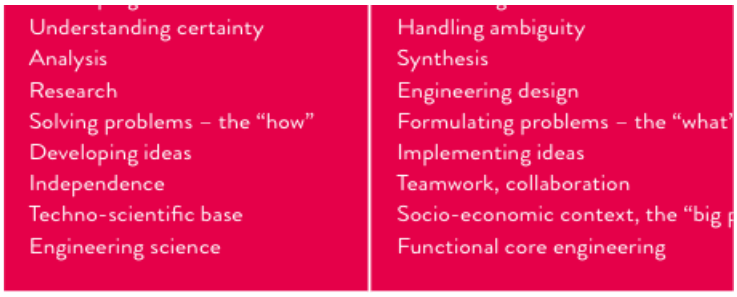
One of the most profound paradigm shifts in the genealogy of design (studies) research can be associated with the emergence of research-by-design. Namely, the shift of emphasis from the methods to the epistemology of design has brought forward not only a renewed understanding of design but also situated design in a tight relationship with technology, science and society. In 1980's, research by design emerged as the successor of the design methods approach that was dominated by the methodologies of natural sciences and humanities. Marked by several critical publications, like Nigel Cross' essay "Designerly Ways of Knowing," Bryan Lawson and Peter Rowe's study of architects' design and thinking process, this period has culminated in a new formulation of design research (Cross 1982);(Lawson 2005);(Rowe 1987). It designates an epistemological transformation in the conception of design that has led to the integration of practical (tacit) knowledge in architectural research. The primary epistemological questions of design have shifted from being object-centred (from optimisation and standardisation) to being more process-oriented, where the what and how questions are seen as part of an iterative feedback cycle in the acts of design.

One of the most significant written contributions elaborating on design as a discipline, is undoubtedly Donald Schön's book titled The Reflective Practitioner (Schön 1983). In his book, Schön studied design with its own parameters and terms, taking into account the artistic and intuitive steps enclosed in design process. He puts clearly forward the intuition and artistic components as important features to tackle with uncertainty and instability but also with the struggle on the value and uniqueness of design. Yet, Schön's definition of "reflective practice" is still primarily based on the methodological aspects of design. He perceived design methods as a chain of intuitive acts based on experience rather than structured frameworks. Therefore, his approach does not formulate an epistemological foundation

for research-by-design beyond the proposed focus on the act of design as a self-conscious iterative process of “action design”.

Experimental & Across Disciplines

Pursuing the analytical approach to design thinking in 1990’s, Delft Protocols represent the last phase of the methodologist approach and marks a pivotal and internationally acclaimed body of research. The Delft Protocols Workshop was designed to put emphasis on the research methodology in analysing design activity (Cross, Christiaans, and Dorst 1996). Although primarily focusing on industrial design processes, it can be defined as a critical step in the history of design research in Delft to be recognised at a wider perspective within and beyond the university. However, the dualistic foundations of the design theories and methods largely remained a division line between architecture and the engineering disciplines for another two decades.
The paradigm shift that engineering education currently undergoes is well illustrated in a scheme in Engineering Education in the Rapidly Changing World (Kamp 2016). The table shows clearly how the emphasis in engineering education should be leading towards experiential learning, including the socio-economic context and enforcing teamwork and collaborative approach. The necessity of having a basic knowledge of other disciplines, understanding their different working methods, becomes in this framework a fundamental step because it helps to get a grip on the multi-faceted feature of complexity. In addition, if being acquainted with other disciplines and working methods is a basic requirement when dealing with complex problems, in collaborative, inter- or multidisciplinary approaches participants need appropriate communication’s pathways enabling the exchange of concepts, materials, findings, data or tools coming from the various disciplines. In short, next to the uncontested trend of disciplinary specialisation in research and education, the complexity of nowadays problems calls for professionals able to integrate simultaneously multiple and diverse types of input with a high degree of synthesis. This is the reason why the designerly approach is increasingly gaining interest in academia as well as in practice; design is par excellence a synthetic way of communicating and can be an important vehicle of communication when working with different disciplines in cross-disciplinary projects.



Engineering Education in the Rapidly Changing World, TU Delft, October 2014

: Engineering Education in the 21st century, from A. Kamp, Engineering Education in the Rapidly Changing World, Rethinking the Mission and Vision on Engineering Education at TU Delft, 2016, TU Delft.

Design-Research in an Expanded Field

The research and design processes should unfold in different time frames and durations, reinforcing the common goal of anticipating and responding to the transformation and restructuring processes of urban environments. On top of that, design and research should also actively contribute to the improvement of the physical, social and cultural context. For these reasons we would like to emphasize the importance of the relationship between academic work and practice in order to develop stronger perspectives on the future of our discipline by tackling currently relevant urban issues. In order to properly address these complex urban assignments, it is crucial that design and research are in constant connection at the university and that cross-departmental and even inter-faculty collaboration is further developed and applied. In such a way the result of design and research can be used as breeding ground for discussions on the future transformations of the city, bringing together various parties and disciplines while also creating opportunities for cooperation and collaboration outside the academic world.

Looking at the Faculty of Architecture's research agenda of the last two decades in TU Delft, it is undoubtedly true that the challenge of putting forward design as a scientific activity has constantly been considered as one of the pivotal issues. In tandem with this, the education of designers has also been one of the primary focus in both the Faculty of Architecture and Faculty of Industrial Design. In this respect, the introduction of the term "research by design" marks the need for reconsidering design as a scientific endeavour and yet with distinct aims in research. However, this concern predates the recent changes in the engineering fields within the university.

Joyce Ouwerkerk, in her article published in 1996 in Delta, addressed this topic referring to Taeke de Jong's book "Kleine methodologie voor ontwerpen" [J. Ouwerkerk, 'Ontwerpend onderzoek vergt een andere beoordeling', article in Delta nr. 14, April 1996.]. In his book, de Jong suggests that "research by design" should be evaluated using other criteria than the ones applying to empirical and theoretical research. According to de Jong, design focuses on what's logically possible, theoretical research on what's necessary while empirical research deals with the probable. He believes that "research by design" should really lead to new solutions and that the value of this type of research should be demonstrable if compared with similar but existing designs.

For Henk Engel on the other hand, "research by design" should be conducted following three criteria. First of all, a design should be the solution for a determined class of problems. Secondly, way of thinking and rules to be applied during the design process should be established a priori. Finally, the design should put forward new knowledge and alternative skills or prove how acquired knowledge can be used to generate new and unique solutions. Depending on the disciplinary framework, these criteria should be adequately specified following theoretical assumptions and testing methods applicable to the particular field in question.

Additionally, there have been a number of events on an international level focusing on and around this theme: Research by Design (2000), European City (2004) and The Urban Project (2008). These events resulted in more international initiatives and events, but also acted as a spin-off for the research projects engaging with practitioners. Examples are the "5x5 projects for the Dutch city", and the "Renewal of Urban Renewal" project, in which the vision of several researchers at the Department of Architecture acted as a connecting force between research and design teams out of practice (Cavallo 2014). In the meantime, a logical consequence, research

on design as a scientific activity has driven the interest of many academics and practitioners about pursuing PhDs based on design or through design. As one of the largest architecture faculties in Europe, TU Delft Faculty of Architecture and the Built Environment's education and research programme combines these paradigm shifts with its specific focus on design. Combining the experience of many practitioners involved not only in education but also tied to the culture of scientific inquiry, the research programme regards the architectural project as the junction where the complex combination of cultural, social, functional, economic and ecological factors is articulated as a concrete spatial proposal. Therefore, the multi-disciplinary character of the education community at TU Delft with diverse fields of expertise provides an extensive platform where different kinds of research in the field of design can be pursued. In this respect, the recent expansion of the concerns in design disciplines to include the living systems in conjunction of with the artificial is important to underline the integrative frameworks instead of the dualistic ones. The different research tracks in TU Delft Faculty of Architecture and Built Environment, in this regard, also reflect the overlap of different concerns in design research.

The emphasis on methodology in design research studies have led to unproductive dualisms such as scientific versus designerly or research versus design. In 1960's, this has found its echoes in what Herbert Simon called the "sciences of the artificial" (Simon 1996). In a comparable way but quite distinctively, we are facing a critical turning moment when the design disciplines require a new look not only at the so-called "artificial" or human-made (built environment) but also at the natural (living and non-living) and for that reason even more importantly with a multi-disciplinary perspective. In TU Delft, we observe different research and design cultures and design frameworks situated within different methodologies (Brown et al. 2013). Further articulation of design-research cultures could be a good bracket within the CA2RE+ framework. That is why we see the CA2RE+ project as an outstanding opportunity to stir up the debate at our faculty on design-driven PhD research, boosting this matter on the research agenda of our institution. We claim that we must replace the dominant dualistic notions of design research and embrace learning from other approaches and experiences. The expanded field of design and design research requires not only exchanging ideas and sharing best practices on the international level but also necessitates an integrative, pluralistic conceptions of design-driven research with multi-disciplinary foundations.

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Position on Design Driven Research

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Design-driven research (DDR) aims to understand individual architectural design products as a specific form of knowledge. Intuitive, divergent, non-linear ways of thinking are an integral part of the scientific process in DDR. The results, be it buildings, drawings, models or else, are themselves multirelational. They are open to interpretation and address and touch multiple dimensions of our environment and life.[1]

Architecture is a foremost sensual art. Its modality is spatial experience.[2] Knowledge in architectural design therefore is enscribed in space and space-defining artifacts. In DDR, designing itself is applied as a method and the design results are understood and described as scientific findings. Due to this nature of the disciplinary language, knowledge in the results and processes of design will not be fully accessible through terms and texts—it will remain blurry and open to signification and interpretation.

Methods of DDR therefore function more like focal lenses that enable us to approach, identify and name specific themes and practices in design work. They will help to explicate their origins and their effects in the designs, the design process and eventually in the designer.[3]

This reflection has two trajectories. First, it will impact the researchers as designers by making their individual implicit ways of designing explicit and thus making it possible to understand and improve the rigour and quality of their designs.

Secondly, knowledge production through DDR will make it possible to relate specific work to its community of practice and to relevant architectural theory and history. Hence, they will build a body of practical and theoretical knowledge that is actively forming our habitat and beyond that make it accessible to be built upon and reflected on by other disciplines.

Next to the necessity to provide the missing scientific framework for a third cycle academic qualification in design as the core expertise of the design disciplines,[4] DDR is contributing to the integration of intuitive individual knowledge, expertise and problem-solving in the scientific discourse. The value and significance of design results lies in their individual contribution to the cultural dialogues in society. DDR should accordingly be regularly discussed and evaluated by a diverse group of peers.[5] Critically differentiating the original particularity of projects and practices in this way will impact the design community and eventually our built environment.

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1 “L’architetto si trova condannato, per la natura del proprio lavoro (in cui è costretto a divenire sociologo, politico, psicologo, antropologo, semiologo...) ad essere forse l’unica ed ultima figura di umanista della società contemporanea: obbligato a pensare la totalità proprio nella misura in cui si fa tecnico settoriale, specializzato, inteso a operazioni specifiche e non a dichiarazioni metafisiche” (Eco 1968, 245).

2 See also: Schmarsow, August. 1896. “Ueber den Werth der Dimensionen im menschlichen Raumgebilde.” *Berichte über die Verhandlungen der Königlich Sächsischen Gesellschaft der Wissenschaften zu Leipzig, Philologisch-Historische Klasse* (48): 44–61.

3 Exemplary for this explication is: Rossi, Aldo. 1981. *A scientific autobiography,* Cambridge, MA: MIT Press.

4 Verbeke, Johan. 2013. “This is Design Research.” In *Design research in architecture,* edited by Murray Fraser. Farnham: Ashgate.

5 See also: EAAE. 2012. “Criteria and Characteristics for Quality.” In *EAAE Charter on Architectural Research.* Accessed 7 March, 2018. http://www.eaae.be/about/statutes-and-policy/eaae-charter-architectural-research/.

Position Statement Departement of Architecture KU Leuven

Departement of Architecture KU Leuven

KU Leuven's **Department of Architecture** brings together researchers from the Faculty of Engineering Science and the Faculty of Architecture with offices in Leuven, Brussels and Ghent. With over 40 full time professors, 30 guest professors, 14 postdoc and 180 other researchers, this is Flanders' largest research department in the field of Architecture. The department is situated at the crossroads of a variety of research methodologies and traditions. It has its roots in both polytechnics and artistic tradition, and is enriched by perspectives from the social sciences.

In **Flanders** we aim to be the standard for policy-oriented, applied research and research by design. The research performed by the department is intended to have a positive impact on urban and spatial planning policies, encouraging the advancement of architecture in Flanders. Keeping sustainability, social innovation and quality high on the political agenda for the near future and in the long run remains the paramount objective of the department. In addition to this, the department plays its part in fortifying the research base for the practice of interior architecture, architecture, conservation and urbanism and spatial planning. This is achieved by developing close working relationships with a variety of different actors, to include public institutions, social organisations and architectural and design firms.

On an **international level**, the department has solid, permanent representation in a number of key areas: architectural theory and history, conservation, urbanism and spatial planning (including human settlements, research by design and sustainable construction). In each of these areas, the department aims to lead the way by directing European projects, supporting international organisations and promoting the exchange of researchers. In the case of architectural theory and history, conservation, urbanism and spatial planning, the department plans to reinforce its current position as an authority in the field. Research by design is a relatively young field of research, and the department thus far has been at the forefront of recent European developments. In the area of sustainable construction, interdisciplinary partnerships with technical fields and the social sciences are of paramount importance.

KU Leuven's **Department of Architecture** is organized in the following sub departments :

. History, Theory & Criticism of Architecture
. Urban Design, Urbanism, Landscape & Planning
. Constructing Architecture & Materialisation
. Architecture and Design

The sub department Architecture and Design aims to raise spatial awareness and intelligence by identifying, developing and honing design strategies which facilitate a deeper understanding of the time and person-related processes of imagining, re-thinking, creating and experiencing space and contains the following research groups (https://architectuur.kuleuven.be/departementarchitectuur/english/research/onderzoeksdomeinen/d esign-driven-research):

. Architecture & Wicked Matters
. Architectural Engineering

. Architecture, Culture and Sustainability
. Radical Materiality
. Research by Design
. Leuven&Learning/Architecture/Project&Practice
. The Drawing and The Space
. Architecture in Practice

These research groups regularly provide contributions to the CA2RE+ events (papers, artefacts and abstracts, panel members and members of the scientific committee). The research group The Drawing and The Space has been one of the initiators of this Erasmus+ project.

Design as a Hybrid Driver of Research

Tadeja Zupančič, Prof. Dr., Faculty of Architecture, University of Ljubljana

Design-Driven Research, Research by Design, Creative Practice Research, Architecture

In Europe, the development of doctoral scholarship in architecture has revealed three types of approach: “conservative”, “pragmatic” and “liberal” (Gillies, cited from Kälvemark and interpreted by: Dunin-Woyseth 2005, 85-86, 99).
“Architectural research is original investigation undertaken in order to generate knowledge, insights and understanding based on competencies, methods and tools proper to the discipline of architecture. It has its own particular knowledge base, mode, scope, tactics and strategies.” This is stated in the *Charter on Architectural Research*, approved by the General Assembly of the European Association for Architectural Education (EAAE) on the 3rd of September 2012. Research by design is exposed there as: “Any kind of inquiry in which design is the substantial constituent of the research process is referred to as research by design.”
In *The Florence Principles on the Doctorate in the Arts,* (2016) and *The Vienna Declaration on Artistic Research* (2020), developed by the European League of Institutes of the Arts (ELIA) and supported by other relevant networks, architectural and design research are recognized in the area of arts, where the pragmatic and especially the liberal approaches are developed. “Artistic Research (AR) is practice-based, practice-led research in the arts...”
Practice-based research can be primarily imagined as “field”, while research through design can be defined as “lab” (for the explanation of “lab”, “field” and “showroom” in design research through practice see: Koskinen et.al. 2011). Practice-based research in architecture can combine both. The third practice-based research mode is the “showroom”; the hypothetical designs, in this case, grow beyond the limited “lab” options; as the complexity of reality is taken more than seriously. This doesn’t mean that specific questions don’t require the “lab” circumstances to be answered, but the awareness of “lab” isolation needs to be enhanced (Zupančič 2013).
The University of Ljubljana is active in the EAAE, ELIA and ARENA debate through its different members. The Faculty of Architecture is currently one of the 26 members of the University of Ljubljana (academies and faculties). Its research tradition is developed from the sensitivity to delicate and even fragile places of our contemporary architectural and urban environments. The architectural culture in Slovenia reflects the small-scale hybrid landscapes of settlements with a very high level of vulnerability of places, due to both natural and cultural spatial dynamics. The architectural and design research culture is thus hybrid and inclusive, open and flexible to a wide variety of design-driven research approaches. It integrates arts and humanities (architectural design theory and practice), social sciences (urban design theory and practice) and technology (building technology, architectural computing). It takes the advantage of the institutional experience with:
. Some traditional doctorates in urban design since 1938 and
. A set of pragmatic ones in architecture since 1960,
. Creative practice related doctorates since 1980,

. A structured faculty-based doctoral program since 1984,
. Some liberal examples of doctorates since 2000,
. A renewed faculty-based doctoral program since 2009, where Architectural research by design is one of the orientation courses,
. The partnership in the ADAPT-r ITN project 2013-16 (Architecture, Design and Art Practice Training-research),
. The CA2RE network (Community for Artistic and Architectural Research), in association with ARENA, EAAE and ELIA, since 2017 and
. The CA2RE+ project (Collective Evaluation of Design Driven Doctoral Training), since 2019.

It also builds on the established research ties between the Faculty of Architecture, the Academy of Fine Arts and Design, the Faculty of Arts and the Faculty of Social Sciences in Ljubljana. It brings environmental psychologists, philosophers, anthropologists, urban sociologists, geographers, experts in cultural studies, experts in human resource management, and other related experts into the discussion.

From this perspective, design-driven research is seen as an inclusive, open-ended, future-oriented research area. Its boundaries are blurred but its directionality is identifiable through relational knowledge development and sharing. (More about this relationality: Zupančič and Pederson 2017.) It can be theory and/or practice-based (-led, -rooted). When and where research is design-driven, thinking, feeling and acting are intertwined, calling for the freedom of hybrid research methods and sharing modes. Design-driven research is thus open to the experimentation "by design" and to the "creative practice research", where and when relevant:

. There are research questions in (the field of) design, that can be answered only by (through) design experimentation. We can shift to the experimental mode when we can formulate those questions. That (also) means:
. "Not all creative practice is research." (Del Vecchio and Zupančič 2017) The creative practitioners may become researchers through their essential input and output knowledge creation, capable to develop relational knowledge, when they investigate their areas sensitively and rigorously, beyond the commercial success.

In design-driven research, new knowledge is created from theories and practices and represented by theoretical developments and methodological investigations. We can argue that research is design-driven, as long as we can recognize design as the main or as a supportive driver of research. Research can be design-driven from the problem statement motivation, approach (future orientation and open-ended-ness), method (analytical/interpretational methods, design experimentation in the studio or field-actions) and/or relevance (socio-spatial responsive design of objects, processes, systems; depending on knowledge transferability).

Oya Atalay Franck (2016) says: "The criteria for doctorateness in architectural design depend on the nature of the 'doctoral thesis' itself. But whatever the thesis primarily consists of —a report on empirical research, a philosophical reflection, a concrete architectural design project— a key aspect of 'doctorateness' will always be that the doctoral candidate demonstrates that he or she belongs to a professional élite and has excelled through doctoral work in specific, describable ways." From the Ljubljana research perspective, we can add that a hybrid nature of research exists as well, where there are several directionalities intertwined and integrated potentially. The contents can be combined in different ways, but the wider contribution to cultural development is what creates its directionality.

In architectural design-driven research, the (Ljubljana) research community is seeking for the balance between theoretical and practical developments of individuals and research communities, blurring the boundaries between

theories and practices and between artistic and scientific understanding of research. Feeling that we need to fight for the position of artistic sensitivity and the dissemination modes, appropriate for artistic research, at the national level, we are in the process of accreditation of a new university-based doctoral program in the arts. In this process, design is seen as a hybrid driver of research.

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Design Driven Research

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When we look at research in the field of architectural design, we meet, from the very beginning, complicated questions and very few practical instructions and solutions.
Some international organizations (see, EAAE and others) and universities have sought to establish fruitful connections between design and research by elaborating formulas such as “research by design” and “research by practice.” Also, they activated international initiatives, such as the Practice Research Symposium Series, promoted in Europe by the Royal Melbourne Institute of Technology, and the CA2RE consortium, which manages periodical meetings among doctoral professors and candidates of European universities.
There is no doubt that design is more a technique —or an organized and flexible system of different techniques— than a science. It is difficult to fit it into the parameters that many other disciplines share without particular problems. For architecture, study, observation, recording, and understanding of reality always aim at goals that, however convincing, remain questionable and based on elements that cannot be wholly objective and accepted. The personal and creative aspect, which is the design’s living heart, becomes a challenging obstacle to scientific codification. Indeed, this ambiguous status of architecture, specificity, and interweaving of profound implications with many different branches of knowledge, from techniques to the arts to the social sciences, is the source and the reason for its richness and cultural uniqueness.
Therefore, the carrying out of an architectural design doctorate must address these disciplinary problems. It must identify the topics that compete with it. These are the issues that belong to other fields that are often very close but even separated by different methodological rules and goals. We have to explore and treat the possible contiguities with historical, urban, and technological studies with caution; to avoid research paths that would drive from our course’s focus.
How to overpass these ambiguities is something that we cannot easily put in an exact form. Then it is necessary to accept the challenge that every research must somehow build its premises, motivations, and the boundaries of its field. It is very similar to what happens when an architectural project has to express the order that inspires and regulates it.
Fluid and recurrent issues cross our field; our discourse must self-determine its profile, it has to find a balance in a continuous oscillation in a process that must combine “learning by doing” with a critical gaze, open to confrontation and change.
An investigation of research methodologies cannot provide recipes that do not exist. However, it can give a precise scenario of the appropriate tools and help gain a full awareness of the terms of research development, with which methods and with which results.
The Ph.D. Program in Architectural Urban Interior Design (AUID) promotes research, studies, and projects focused on design processes and techniques belonging to contemporary architecture.

The Program is part of the Polimi Ph.D. School, which gives several cross-disciplinary courses. Its home is the Department of Architecture and Urban Studies (DAStU), one of Italy's most important research structures located in a well-established international network of excellence centers.

Research topics

The Program studies architectural design in all aspects, nearly through two main methodological frames:

· Theoretical design research addressed to the elaboration of original theoretical and critical texts;

· Applied design research, where design is considered the field to test and produce theoretical and technical knowledge.

The Program this year focuses on some specific topics to be explored theoretically and designerly.

Within the 36th Cycle, starting in 2020 -21, the preferential research lines are:

· The architecture of crisis, emergency, and prevention facing questions related to obsolescence and decay; catastrophic effects of technical, social, and natural cause.

· Forests and rivers: regeneration and reuse of rural architecture and landscapes; recovery of abandoned lands, relationships between infrastructure, landscape, architecture; architectural and landscape design tools and methods for a sustainable approach to vulnerable environment.

· Built environment and innovation in urban transformation. Advanced technologies, sustainability, and participative processes.

Design Driven Doctoral Research in Architecture

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This Paper regarding our research position (methods, approaches and techniques) on Design Driven Doctoral Research (DDDr) is essentially based in two different backgrounds. The first perspective takes in account the vision of our academic institutions on DDDr research, in Portugal. The second is acquired from our personal experience as teachers and researchers.

The Institutional and Academic General Position about DDDr in Portugal

In Portugal, studies in the domain of architectural research, of a scientific nature or doctoral scope, despite maintaining the disciplinary specificity, in its purpose, themes and questions, in a generalized way, uses methodologies borrowed from the field of the social sciences and humanities. These methodologies based, on systematic research and validation of data, history facts, documentary bases, carried out through analytical and descriptive studies, are closer to the inductive method.
There are some exceptions to this general rule, namely researches committed to the discovery of new design materials or techniques that are supported in the pure sciences or technologic research methodologies and that are closer to the deductive method.
In the architectural research domain, there are still some residual doctoral studies based on the analysis of their own designed products, such as the PhD thesis of João Mendes Ribeiro entitled “Architecture and scenic space” done at the Darq-University of Coimbra. In fact, more and more, independently of the general strategies of the universities research centers, the study subjects seems more often linked to one’s own professional design practice. But as mentioned, these recent researches, so far, support themselves in a retrospective reading and not in a methodology based on, or upon, an experimentation or action through their own particular disciplinary field methods or tools. This methodology could allow to tests their design hypotheses a priori and their relevance in a systematic research of founding’s and scientific argumentation based.
All these prevailing studies, despite being thesis of undeniable scientific value, constitute an a posteriori analytical observation about the products produced and are rarely a reflection of an a priori idea, a preconceived idea or a hypothesis prior to all and any experimental verification. As referred by Claude Bernard (Bernard 1865) a priori as an idea that is presented in the form of a hypothesis whose consequences must be submitted to the experimental criterion or as referred by Kant (Kant 1781) whose a priori, is, universal and necessary, pure forms or intuitions of sensitivity (space and time), as the categories of understanding and the ideas of reason. In this sense, the debate in Portugal around architectural and design research, has, lately, increased in approaches and themes with a special attention upon DDDr. Young researches rather than just focusing themselves on the analyses a posteriori of data’s, facts or products are more motivated in studying in the ways or forms of the conception of the products as a priori idea and its reason as a correlation design research. This approach even

seems to pursuit the experimental design action as a means to unveil the process of designing as research.
So it seems imperative to define what may be DDDr for which we resort to the three models proposed by Margolin (Margolin 2002). According to this author there are three possibilities for a research study in design. The first Nuclear research over design consists mainly of traditional studies, studies of methodologies, products or ontological discourse and meta discourses. The second Research through the design is guided by practice, such as the study of the behavior of materials, technological development, methodological reflection or the development of a design project. The third Research for the design is where the results are carried out by the designed object and which this author understands to be the most difficult because it is on the borderline of what may or may not be considered research.
The two initial model are already well established in our field and do not raise doubts. We believe the ambiguity of his third Research for the design model has a disciplinary depth that properly and rigorously used and developed as a conscious a priori idea to be tested may allow to improve the validity of DDDr. Research model uses not only as subject but also as a method which is reflected in the ability of the researched product to constitute itself as a contribution to knowledge, this being the central objective of a doctoral research. Safeguarding, however, that the result of this research will not be the “product” itself, but the fact of materializing in graphic, verbal and written support a knowledge that constitutes itself as a critical reflection of itself, communicable to others as a thinking tool and as an advance of disciplinary knowledge.
Never the less, we understand that DDDr still shares with design practice a disciplinary autonomy based on parameters and processes as the need to elect an initial issue and some tools and resources that establish the process or method (methodological procedure). A solution that is configured in the produced “object” as a reflection and transmission of knowing being able to configure knowledge only in the scientific approach of DDDr.

Personal Position while Researchers and Teachers about DDDr

As researchers and professors we have whiteness, in the last three years, in the submitted work plans for the Portuguese National Architecture, Urbanism and Design PhD Research Scholarships call, an increased number of applications with thematic and methodologies, oriented to DDDr. Not that this small but growing percentage of research works reflects a change in the strategy of the universities, but it seems to mirror a change in the interest of researchers. So, in respect to our research position (methods/approaches/techniques) on DDDr for our unit, seems easier to us, than instead of saying specifically what it should be, to say what it cannot be, as mention above, leaving room for the unforeseen and for the various possibilities of a DDDr.
Being the DDDr approach important in all the fields of architecture including in the professional practice one, paradoxically we understand that this type of research should not be confused with the mere development of an architectural design project.
For much that architectural design project may use or even constitute investigation in a methodological and quasi scientific way, in principle, DDDr, for scientific research or doctoral purposes should have clearly distinct scope and objectives from that of an architectural project. For much that architectural design project may use or even constitute investigation in a methodological and quasi scientific way it has clearly distinct scope and objectives from that of a DDr for scientific research or doctoral purposes.

An architectural project has as main aim to respond to an order with specific users and is subject to contingencies of reality as well as other professional constraints (product delivery schedule, et al.). Even though, for the professional practice of architecture, investigation is important and is necessarily present in the best examples of our profession, the basic conditions, objectives and expected results are fundamentally different from that of a scientific research or doctoral thesis. In fact, in professional practice, the realization of a design has neither the ultimate objective of advancing knowledge nor configuring scientific research, that is, does not have as fundamental principle a systematic character of verification and validation of results, step by step. Above all, passable of being of transmissible universal knowledge, crudely meaning, for a specific question or problematic using the same methodology to obtain necessarily the same final result or expected frame of results.

We may say that the specificity of a DDDr with a scientific scope (research or doctoral), in addition to the disciplinary particularities of its subject linked to architectural design project, have differences that lie in its methodology and techniques. Specificities in the nature of its intrinsic disciplinary character that contaminate the approach, formulation of objectives, questions and expected results, methods and research tools. An understanding based on the reinforcement of DDDr as a process of transforming disciplinary practice and its conceptual path in the field of architecture, as applied art. In this regard, it also seems important to follow Mário Krüger recommendations in "The art of research in architecture" that bases the research on architecture in formulations of abductive hypothesis subjected to the refutation of methodological objectives and conclusions developed with the purpose of refuting not its reliability but its robustness. This author explains the importance of centering issues on abductive reasoning, given that, unlike other areas of knowledge, this prevails in architecture over deductive and inductive. "This research is done through the preposition of new theories or the analysis of new facts or even interrelating in a new way architectural facts and theories, established so that the advance of knowledge transforms the apparently inexplicable into a predictable result" Mário Krüger (Krüger 2001)

With regard to scientific methods, the DDDr may support itself more on the basic tools and techniques, of the practice, namely on the drawing (sketches or rigorous) or models not only as an element of documentary basis but also as register, investigation or communication. In fact the use of a graphic record as a disciplinary tool, improves design project research. We can also rely on the understandings of Prada Poole (Prada Poole 2000) who states that, besides the necessary exposure and analysis of the research with a great predominance of graphic elements as essential to the disciplinary area, also the communication support can be based on graphic elements although in his judgment hardly exclusively. It is from this point of view that we think it is important to focus on the understanding of the DDDr innovation potentialities.

The use of architecture tools in design driven taken as a work research method permit to highlight the visual intelligence as defined by Hélio Piñon (Piñón 1999). Visual intelligence is taken as judgment for evaluating the fundamental criteria of the design project in order to motivate theoretical critic and architectural knowledge. The DDDr method, grounded on instrumental analysis through sketches, models, rigorous drawings, details, photographs and writings, must expose the various disciplinary expertise's, in written and visual (graphic) reading of design production, so that, in parallel with other more traditional pertinent methods (as case studies analyses, et. al.) may allow to obtain and enhanced a more

disciplinary research result. These interpretative representations of the research are taken in order to multiple readings of multiple disciplinary configurations, so that the communication maintains a global coherence in the interpretation of the research work (facts, products, results) in order to when browsing its structure, one can make the interpretation of the work's contents viable also by the expression of its graphic elements, insisting on the DDDr methodology of "visual intelligibility".
Curiously, or not, it seems, to us, that drawing or others are, as a methodological process and tools, essential to DDDr and common to professional practice, and so, it is important to explore these tools as a register, investigation or communication support or combined in Research for the design driven. In fact, the instrumental component of the design project thus becomes a parameter for analysis. This understanding is, on one hand, of the design as an identifying vehicle of a way of doing and acting, on the other, to avoid the extreme danger of overestimating only interdisciplinary researches more than the specific ones of the design project and, therefore, allowing to assess the real weight of scientific Design Driven Doctoral Research.

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Architectural Research between Arts, Technology and Practice. A Position Paper Sketch on Practise-Based/ Design-Driven Research at the NTNU, Trondheim, Norway

Markus Schwai, Prof. Dr., Faculty of architecture and Design, Norwegian University of Science and Technology Trondheim
Eli Støa, Prof. Dr., Faculty of architecture and Design, Norwegian University of Science and Technology Trondheim

The Faculty of Architecture and Design is one of nine faculties at the Norwegian University of Science and Technology (NTNU). It is Norway's oldest and largest institution for architecture education, which dates to the establishment of the Norwegian Institute of Technology in 1910. The four departments of the faculty are architecture and technology, architecture and planning, design and the Trondheim Academy of Art. Roughly around 500 students are involved in architecture, planning and visual arts studies, 60 doctoral and post-doctoral researchers and around 110 employees constitute the faculties employees. Approximately 55% of them are scientific staff. Doctoral studies represent an important part of each university. Right now, there are three different study-programs for PhD education at the faculty. The PhD program in architecture, the PhD program in design and the PhD program in artistic development. The latter one is shared between the Faculty for architecture and design and the Faculty of humanities.

The contemporary global societal and environmental challenges require new questions and answers as well as new ways to approach them. Knowledge production cannot be limited to one pre-defined study-program, method or approach. Still different periods of establishment, fragmented interests and the need for combined administration led to the existence of several different study programs. To approach the question on the faculty's position in practice-based/ design-driven research, first a short introduction to architecture related research programs.

The traditional PhD program in architecture is a research education lasting three years. Candidates address topics in architecture, planning, art and technology related to important and "traditional" research questions in our knowledge field. In our faculty the majority of PhD projects over the last decade have dealt with technical topics related to zero emission buildings. Three years ago, the first two architects (both with MA Arch from NTNU) were accepted as research fellows in the Norwegian Artistic Research Fellowship Program, which traditionally was attended only by candidates from music or the visual arts. The national program as such was replaced with study programs at the respective participating universities soon after, at the NTNU with the PhD program in artistic development established in January 2019, which is open for students from music, art, design and architecture.

The latest activity of the faculty's endeavors to answer steadily more complex contemporary research questions is the focus on practice-based/ design-driven research. In 2020, PhD candidates were employed at each department. The PhD candidates will follow the "traditional" PhD program

in architecture, but a revision of the PhD regulations at NTNU (December 2018) opens for submitting a thesis that consist of a written component in combination with a product or production documented in a permanent format.

This “product or production” can be a building, and object, a project or plan, a service, a work of art or other kinds of creative work. The “product or production” is in itself not regarded as research as such. In order to qualify as research, and not merely as practice, the PhDs must fulfil general requirements of “doctorateness”: Contextualization, critical reflection, theoretical framework, transparency and communicability is necessary. It is therefore required that the thesis contains a written part.

The thesis could be either a monography or a compilation of a body of work. In the last case, the contextualization, theoretical framework, reflection and summary of the new knowledge developed, will in most cases be presented in the “kappa” (comprehensive summary). The practical/creative work can be documented in models, drawings, video, photos, diagrams or digital media. Such material must be in a retrievable form. PhD candidates who submit a dissertation that includes a body of creative work may choose to arrange a presentation of this work, e.g. through an exhibition, allowing the assessment committee to view it prior to the defense Practice based PhDs attain to the same overall criteria for “doctorateness” as other PhDs: significance, originality and contribution to knowledge. Even if the methodology and outcomes of the research may differ form more traditional PhDs, they are regarded as a version of scientific PhDs. This implies that the research should relate to, make use of or critically reflect upon established epistemological and scientific approaches and methods along with the more practical elements.

The particularities of this type of research, and what it means for knowledge production and study program content will have to be reflected upon along the process. This is valid also for mutual gains in between programs and research approaches and the possible interchange of theories, best practice examples and methods.

The fertile ground for this at the faculty is framed by a horizonal approach, combining different types of research and the explorative way of working towards new fields. Practice-based/ design-driven research at the faculty is not seen a replacement, but a supplement.

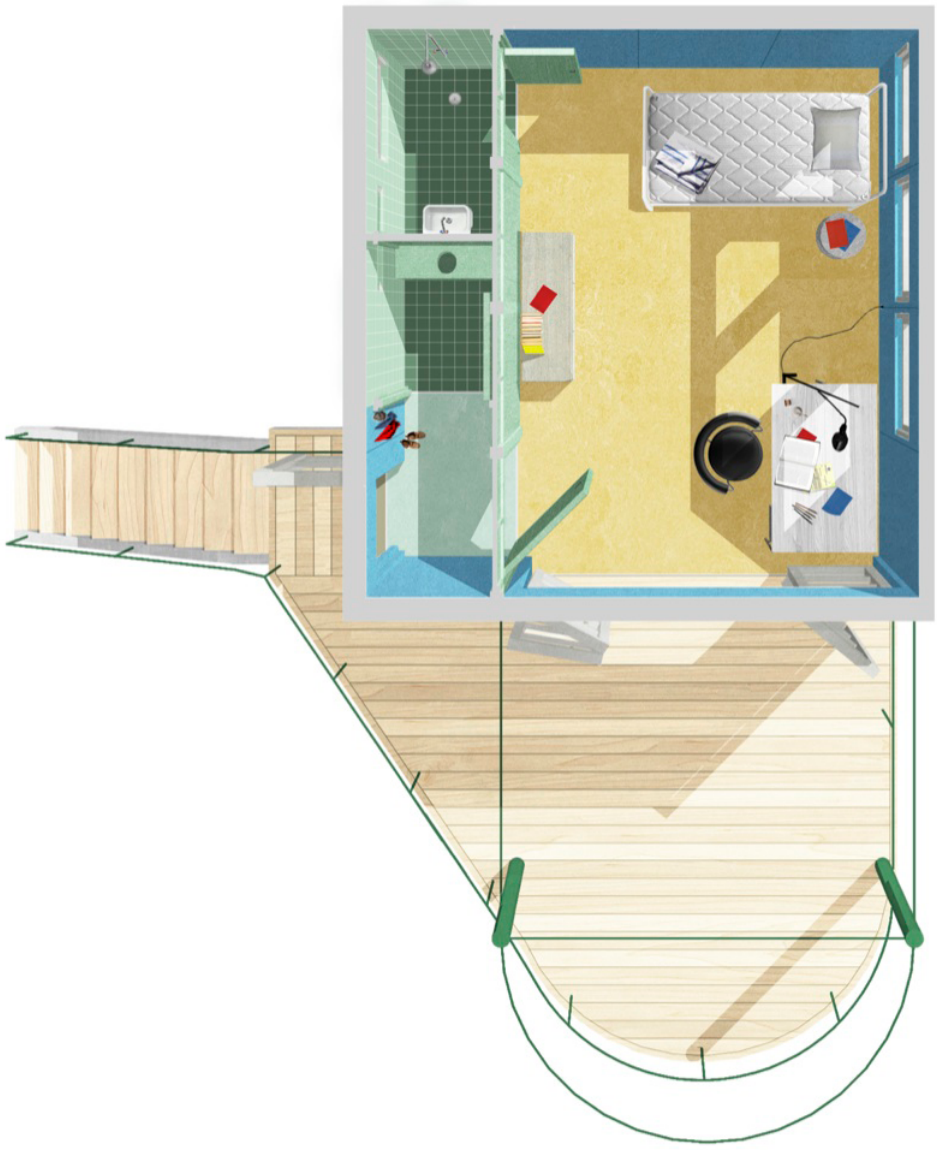
KEYNOTE SPEAKERS

Exploring by Drawing

Virtual Conference 29 October 2020 3-7 pm Drawing is an architectural act.
Architectural drawings are not only instrumental to building or per se valuable, architectural drawings can be instruments in an investigation ranging from geography to archaeology to sociology. Architectural drawings can be understood as a product (a work of art, an intellectual construction) on its own, independently form their relations to buildings. Architectural drawings are a way to travel the world. As such drawings are tools in the construction of an intellectual position, they are specific objects inside of deliberate intellectual trajectories. The production of architectural drawings can be treated as an autonomous field of investigation demanding a specific approach and developing a particular form of knowledge. The CA2RE+ MILANO ONLINE CONFERENCE explores the potentials of design driven research by investigating the work of three contemporary practices operating at the border between design and academic research. Our guests will be Keith Krumwiede (California College of Arts, San Francisco), Alex Lehnerer (Alex Lehnerer Architekten, Zurich/ TU Graz), and Martino Tattara (Dogma, Bruxelles/ KU Leuven). Together with them we will address the issue of contemporary architectural drawings as an element of design beyond their relation to the production of buildings. How can drawings be used to build up a theory of architecture? And how can drawings be used to describe and highlight an agenda architecture? How can drawings be used as tools in the making of a career?

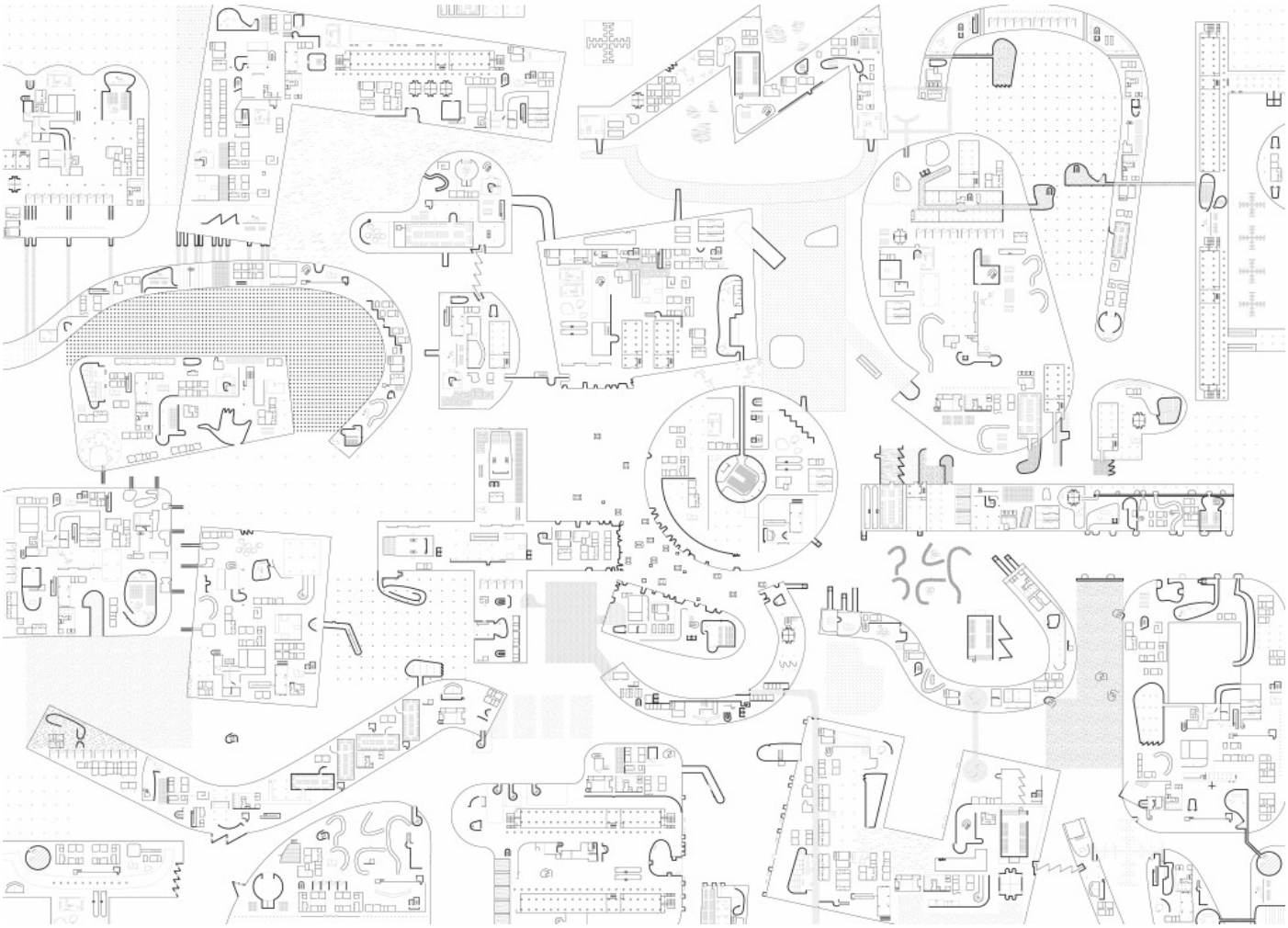
Martino Tattara

Martino Tattara is a practicing architect and Assistant professor at KU Leuven, Faculty of Architecture since 2016. After graduating at the Università Iuav di Venezia, he obtained a postgraduate Master degree at the Berlage Institute in Rotterdam and a PhD in Urbanism at the Università Iuav di Venezia with a dissertation centred on Lucio Costa's project for Brasilia. He has taught at the Berlage Institute in Rotterdam (2006-2012) and was the head of research and teaching at ETH/ Studio Basel (2012-2015). Together with Dogma, his architectural practice, he is working on a research by design trajectory that focuses on domestic space and its potential for transformation. In the last years, Dogma has exhibited studies and projects at different venues, among which the Tallinn Architectural Biennale 2014, the HKW Berlin 2015, the Biennale di Venezia 2016, Chicago Architectural Biennial 2017. His writings and projects have appeared in many journals and magazines, while a forthcoming book titled Living and working is currently under preparation. He regularly participates at international conferences and is frequently invited to lecture on his work at universities and cultural institutions.



Alexander Lehnerer

Alex Lehnerer is an architect and urban designer, currently holding a professorship in Spatial Design at Graz University of Technology after working as Assistant professor at ETH Zürich, where he was Co-principal Investigator of the project 'Tourism and Cultural Heritage: A Case Study on the Explorer Franz Junghuhn.' Prior to that he was based in Chicago, where he was a professor at the University of Illinois, School of Architecture. He received his PhD from ETH Zürich, his MArch from the University of California in Los Angeles (UCLA), is partner of the firm Kaisersrot in Zürich, and founded the Department of Urban Speculation (DeptUS) in Chicago. His Zürich based architectural practice Alex Lehnerer Architekten tries to understand architecture as cultural practice through the joint practicing of building, writing, and teaching.



Keith Krumwiede

Keith Krumwiede is Dean of Architecture at the California College of the Arts in San Francisco. In 2018, he was the Arnold W. Brunner/Katherine Edwards Gordon Rome Prize Fellow in Architecture at the American Academy in Rome. His research and practice explore the relationship between architecture and its cultural, social, and political milieus. His recent book Atlas of Another America: An Architectural Fiction (Park Books, 2017) is a satirical assessment of the American Dream presented as an architectural treatise for a fictional, but uncannily familiar, suburban utopia. An award-winning educator, Krumwiede has taught at the University of California at Berkeley, the Massachusetts Institute of Technology, the New Jersey Institute of Technology (where he served as Director of Graduate Architecture Programs from 2012-2017), Yale University (where he served as Assistant Dean of the School of Architecture from 2004-2012), Rice University, and the Otis College of Art and Design. He is the recipient of the Phi Beta Kappa Teaching Prize at Rice University and the King-lui Wu Teaching Award at the Yale School of Architecture. He holds a a Master of Architecture degree from the Southern California Institute of Architecture, where he was awarded the best thesis prize and a Bachelor of Arts degree with honors in architecture (with a minor in the history of the built environment) from the University of California at Berkeley.

ABSTRACTS

Call for Abstract

Dear CA²RE applicants,

We are delighted to announce the 8th CA²RE conference for Artistic, Design and Architectural Research at the Department of Architecture and Urban Studies (DAStU), PhD School of Politecnico di Milano, together with the 3rd CA²RE+ event series, entitled Collective Evaluation of Design Driven Doctoral Training.
The Erasmus+ CA²RE+ Learning Teaching Training events (Intensive Study Programme and Joint Staff Training) are organized from October 28th to October 30th, 2020, as online event. This call invites the conference contributions and is open to all the CA2RE community.

The Architectural Research European Network Association - ARENA, the European Association for Architectural Education - EAAE and the European League of Institutes of the Arts - ELIA are together seeking to offer a joint platform for research in all fields of architecture, design and arts. One of the objectives in doing so is to support early- career researchers and PhD students in the fields of architecture and the arts to improve the quality of their research. Another objective is to show that senior researchers CARE about the work that is being done by more junior researchers.

The Erasmus+ Strategic Partnership CA²RE+ aims to develop a collective learning environment through Evaluation of Design Driven Doctoral Training. Design Driven Doctoral research (DDDr) is taken as a multidisciplinary example of an experiential learning-through-evaluation model, appropriate for identification and promoting relevance of research singularity, its transparency and recognition, to award excellence in doctoral training for creative and culturally rooted solutions of contemporary design driven developments. The CA²RE+ Strategic partnership, which comprises of 9 European universities, the European Association for Architectural Education (EAAE) and the European League of Institutes of the Arts (ELIA), is seeking to offer a joint platform for research in all fields of architecture, design and arts. CA²RE+ advances the doctoral training from being a support to an experimental collective evaluation training environment for DDDr. The project objectives are achieved iteratively through the main project steps from observation and sharing, comparison and reflection to reformulation and recommendation. The focus of the CA²RE+Milano event is comparison.

CA²RE+ is intended to bring together senior staff, advanced researchers and early-career researchers to understand, scrutinize and improve research quality through an intensive peer review at key intermediate stages. The conferences are platforms to develop a "Collective Learning Environment through the Evaluation of DDDr Training; to create Evidence of DDDr Learning Environment and Evaluation Materials; to identify the DDDr Strategies, to explicate the DDDr Evaluation process and

to prepare the DDDr Framework. We wish to contribute to the open and diverse fields that exist in architectural, design and artistic research, to include subjects such as environmental design, sustainable development, interior design, landscape architecture, urban design/ urbanism, music, performing arts, visual arts, product design, social design, interaction design, etc.
Practice & Design Driven Research encompasses many different forms of research in which (architectural, design and artistic) practice and the results thereof, are implemented as means to generate and disseminate new knowledge. This includes contemporary alternative formulations of the field, like: Artistic Research, Research by Design, Practice Based/Led Research, Creative Practice Research. The CA²RE+ explicates the transformative and innovative power of highly individual strategies in artistic research, the diversity of research traditions and the integrative nature of architectural design research, able to face the contemporary knowledge fragmentation from humanities, social sciences and technology. It explicates the interdisciplinary relevance of convergent thinking, mastering wicked problems, open-ended processes, resilience and risk, as well as orientation to future, all present in Design Driven Doctoral Research (DDDr). It explicates the didactic relevance of DDDr for training creative professionals how to use the integrative power of design thinking to master open-ended processes while solving contemporary spatial dilemmas (sociological, climate-change related, political).

The event invites researchers, at any stage of their research, to meet and participate in two-way discussions. For 40 minutes, researchers and practitioners can present their research project have their work discussed by international panels in these diverse fields. There will be two categories available for submission with each their own protocol:

1/ Practice & Design Driven Research - PAPER submission
Submissions for this category are subject to a two stage double blind peer review process.

2/ Practice & Design Driven Research - ARTEFACT submission
Submissions for this category are subject to a two stage double blind peer review process.

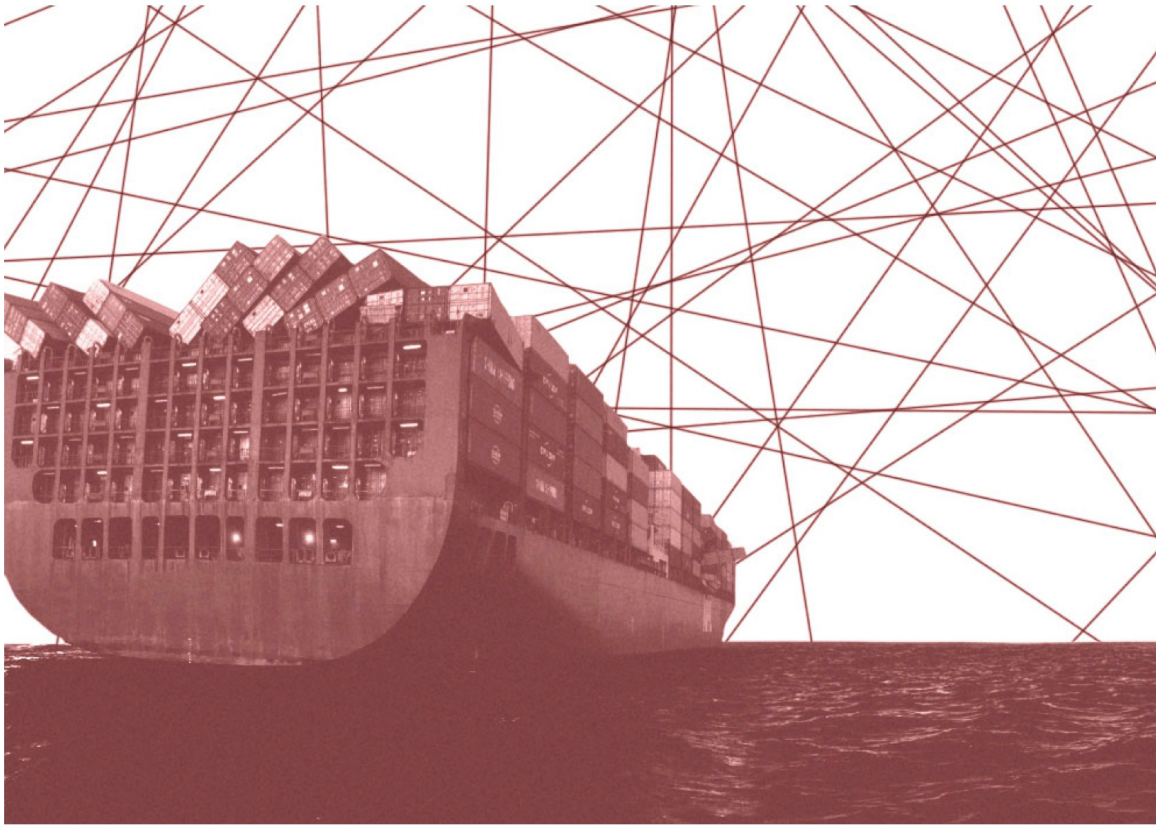
For the first stage of submission the applicants are asked to provide an extended abstract (selecting if it is a paper or artifact submission), a short description of methodologies/techniques/instruments applied as Design Driven Research, a short bio/cv and one image. Format and contents of the submission are provided on the website of AUID PhD program in Architectural Urban Interior Design.

Knowledge Space(s) of Globalization. Musealizing Things, People and Spaces of Global Trade

Melcher Ruhkopf, HafenCity University Hamburg

Keywords: Knowledge Space, Museum, Globalization

Paper



“Knowledge Space(s) of Globalization”. Collage © Melcher Ruhkopf, original photo © Australian Maritime Safety Authority (AMSA)

How do the spaces of global trade fit into a museum space? Whose story is told and how can art-based methodologies help to open the knowledge spaces of globalization? These are the key questions addressed in this ethnographic-artistic PhD-project.
Research object and cooperation partner is the future German Port Museum in Hamburg, one of the best-funded and most-discussed museum projects in Germany at present. It will be located on three sites including a newly constructed building in the prospective neighborhood Kleiner Grasbrook, a historic warehouse in the Hamburg port area, and the early twentieth century four-masted barque Peking.
The museum's aim is to not only narrate the historic dimensions of ports and seafaring via the presentation of historic ships, artefacts and stories, as most traditional port museums do worldwide. Instead, the German Port Museum seeks to address ports and maritime trade as a model that helps the understanding of a globalized world. It is supposed to provide a space for discourse on globalization as an inherently contemporary matter, involving complex economic, social and cultural relations. The museum thus aims at establishing a knowledge space of globalization.
Space, in this regard, can not only be understood as a mere container of knowledge production, but has to be considered an element of epistemic contingency. This is especially true for museums: Considering their explicit stakes in collecting, organizing and sharing knowledge, they can fairly be considered epistemic spaces par excellence. At the same time, space is no a priori precondition for human action in general and knowledge production in particular. Rather, it has to be considered product and substrate of the social, being constructed through as well as constituting social practice (Lefebvre 1991).
In addressing ports as hubs of globalization, the Port Museum again deals with inherently spatial issues. Global trade and relating processes of socio-cultural exchange, as well as disparities and inequalities between north and south, create a powerful spatial fabric. They engender a global assemblage involving an almost infinite number of human and non-human actors, facilitating the virtually seamless flow of goods through global spaces (Cowen 2014). This spatial assemblage, now, has to be transformed into the museum. It has to be folded and compressed until it fits the exhibition spaces. This happens through contingent processes of translation and mediation (Latour 1999): Museal artefacts, academic discourses, visual and literal inscriptions, spatial designs, institutional structures and exchange processes between actors within and outside the museum form another complex and heterogeneous network of relations. This network's specific configuration determines how globalization is presented in the museum, i.e. what kind of a space of globalization is constructed and musealized.
The PhD-project seeks to disentangle and to intervene into this space-producing network of human and non-human actants that shape the Port Museum as a knowledge space of globalization. It does so employing a two-phase research design combining ethnographic and participatory art-based methodologies.
In a first research phase taking place right now, the museum's formation process is researched using ethnographic means of qualitative field research. Semi-narrative interviews are

conducted with key actors of the field to gain insights in 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 are mapped, exploring their interdependent relations

and their role in the spacio-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.

Based on this first research phase, I will turn to implicated actors in the field, i.e. actors who are constructed in the discourse or are part of the field in other ways, without actually being present and being able to take active part in the institutional production of knowledge and space.

Implicated actors regarding the discourse on globalization and global trade are the seamen and women that play key roles in moving cargo through the "seamless corridors and gateways of logistics space" (Cowen 2014, 19) without hardly ever being seen or heard by the public.

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. They only have very limited means of participation and articulation inside the space of globalization they help producing. This discrepancy between the almost limitless freedom of stuff and the harshly restricted freedom of people will be addressed in a second research phase through means of art-based research and experimental collecting.

This will take place in a space where the otherwise invisible and unheard human actors of global trade appear: the Duckdalben international seamen's club at the center of Hamburg's container port. Surrounded by staggering stacks of containers and roaring motorways, the Duckdalben is often the only place seamen get to see when they berth in Hamburg. It provides them internet access, drinks, a room of silence for various religious observance, basic entertainment and an opportunity to make conversation with people beyond the 20-men-crew of their own ship. The Duckdalben can be considered some kind of interspace between sea and land, ship and city, global north and global south. It thus provides an opportunity to open the museum's knowledge space towards non-hegemonic perspectives on global trade.

Art-based methods will be used to involve and explore the "corporeality, materiality, situatedness and performativity of knowledge" (Peters 2013, 8, own translation) and to mobilize non-academic bodies of knowledge. Collaborating with the Port Museum, a series of experimental setups will be realized in the Duckdalben to collect objects and narrations and to explore the participatory dimensions of performative collecting (Lorey 2014). These setups can include various formats of assemblies of people and things, live and mediated conversations or medial recordings. The precise implementations are to be developed with the cooperation partners and will be discussed at the conference. All setups will address the question: What do the invisible actors of global trade have to say about globalization? Which objects and discorses produce a knowledge space that meets their space of globalization?

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Design Driven Research

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 aim is to intervene into the design process of the German Port Museum in terms of its powerful production processes of knowledge and space. This is realised by creating specific situations that enable non-academic actors to take part in the research process and thus rendering them co-researchers or co-designers of the museum. Performative moments of collecting – meaning the gathering of material as well as ephemeral items such as narrations or emotions, and their collaborative (re-)ordering and presentation as collection – explore non-hegemonic views on globalization that reconfigure the museum’s spacio-epistemic formation.
The research design thereby parallels main principles of Practice & Design Driven Research as proposed by CA²RE, emphasizing the “transformative and innovative power” of artistic research strategies. The project employs experimental research setups to supplement well- established ethnographic methodologies and to highlight new ways of opening the research process, while explicitly impinging upon the object of research.

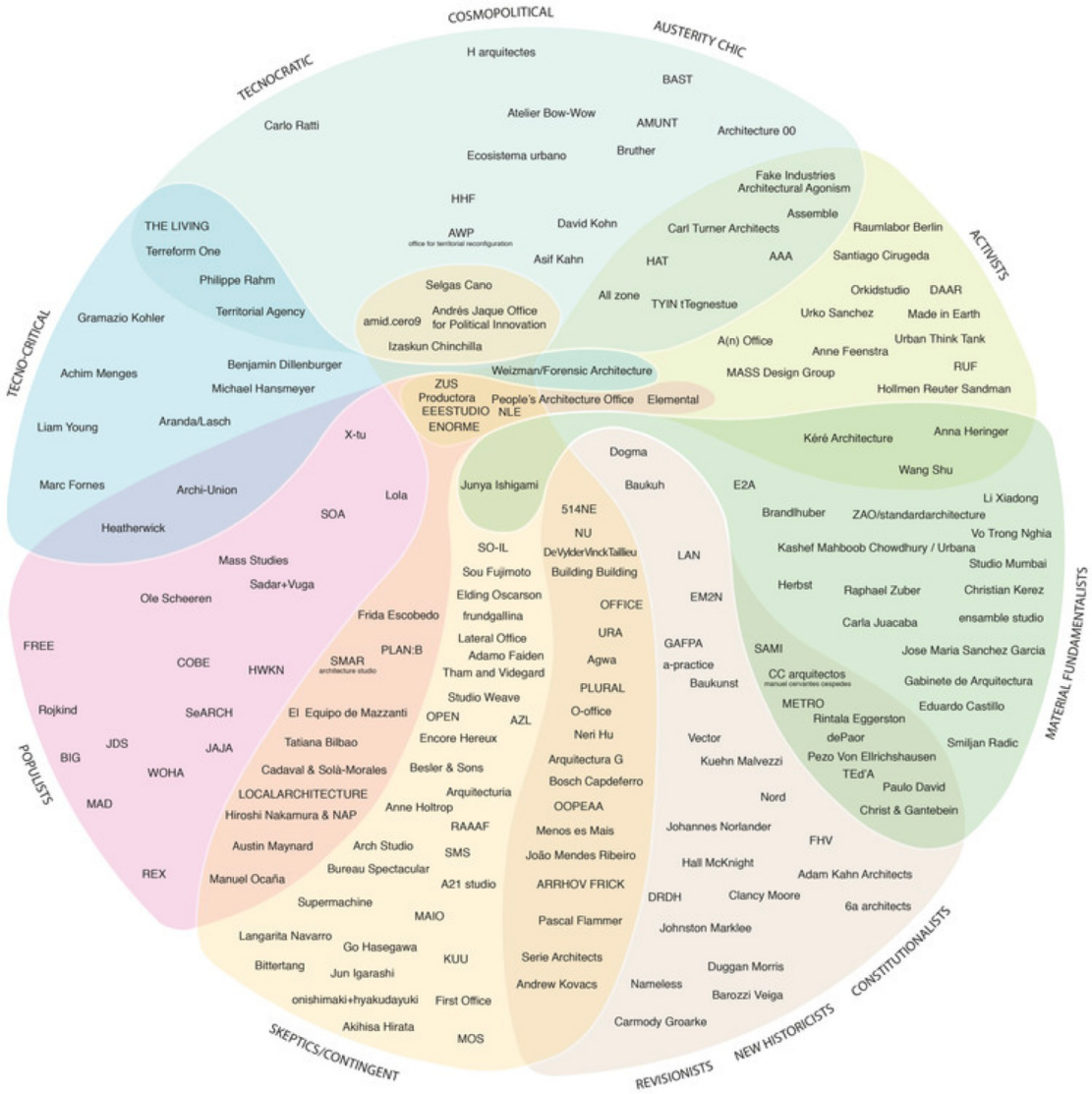
Melcher Ruhkopf,
PhD-candidate at HafenCity University, Department for Metropolitan Culture Stage of Research: Initial/Intermediate
Since 2019: PhD-scholarship funded by Claussen-Simon-Stiftung, associate member of the research project “Participatory Art-Based Research” (PABR) conducted by HafenCity University, Kampnagel K3 and Fundus research theatre
2016 – 2019: Master of Arts “Culture, Arts and Media”, Leuphana University Lüneburg, 2012 – 2016: Bachelor of Arts “Metropolitan Culture”, HafenCity University Hamburg

Towards a Tentative History of 21st Century Practice: Codification of Architectural Epistemes in Emerging Agencies

Claudia Mainardi, Department of Architecture and Urban Studies, Politecnico di Milano

Keywords: Architecture Practice, Tacit Knowledge, Ethnographic Research

Paper/Artifact



Alejandro Zaera-Polo & Guillermo Fernandez Abascal, The Full Political Compass Diagram, 2016

Over the years spent practicing both as employee in various offices–ranging from Rem Koolhaas' OMA/AMO to Stefano Boeri's Multiplicity.lab passing through the Het Nieuwe Instituut, MVRDV and The Why Factory, among others–as well as with my collective of design and research Fosbury Architecture, the project has always been a pretext to do research, and research an instrument through which to communicate the project. In Fosbury Architecture codification of knowledge happened through a series of tacit (Polanyi, 2009) references ultimately defining our common ground; instead, in offices lead by others it is a matter of alignment with the office position, which very implicitly passes through generations of employees as well as digital and physical archives, and which evolves unfolding project by project.

Now, as researcher, my aim is to disentangle such implicit knowledge inherent to the transfer between discourses and practice, by isolating the process of codification from institutional narration to daily production. My interest is to look at the last twenty years defining a timeframe that could possibly allow to reach relevant, meaningful and useful discoveries as a medium of interpretation for critiques, instrument for a conscious design for practitioners and as brand new vocabulary for pedagogy.

In fact, as pointed out by Alejandro Zaera-Polo in his essay "Well Into the 21st century" (Zaera- Polo 2016), if the last century could be organized more or less in streams (Jencks 2000) based on a shared cultural background, in the recent architectural scene debate seems instead fragmented into a series of micro-discourses that emerge trough an increased variety of themes object of several collective exhibitions involving a large pool of participants that epitomize different agencies (Cupers and Kenny, 2009). Appearing through tacit epistemes (Foucault 2001) (Banham 1990) regardless of major manifestos, independently from their geographical location and in most cases without a direct link to consolidated trajectories or traditions, these agencies represent the forefront of the current ways of practicing and the pioneers in a brand new cultural, social and economic context.

The economic crisis of 2008 has represented a major factor in accelerating these tendencies (Zaera- Polo 2016) and it could constitute a line of demarcation that questions the consolidated structures of the profession. In addition, technological advancements in communication have encouraged exchanges between architects, producing an unprecedented condition of shared epistemes across the globe. In this sense, the argument by Michel Foucault in The Archeology of Knowledge (1971) on the need to understand a social constructed knowledge (Foucault 1971) beyond individuals and cultures, in recent years has not only demonstrated its validity, but it has also become a global phenomenon that can be taken as reference for the analysis.

The research is imagined to be developed through two main phases complementary in terms of structure, object and intentions.

The first one is a horizontal analysis at the macroscale, that spans from early 2000s to present days aiming to map the history of the present practice (Cuff 1992) building up the context of the contemporary discourse in architecture, ideally expanding Charles Jencks' Evolutionary Tree Diagram. The investigation will be oriented towards the verification of an augmented influence of social, economic and political factors in the evolution of the discipline. Biennales and Triennales will be used as an observatory on the current practice in order to highlight major themes, recurring protagonists, emerging geographies (Požar, Petra and Čeferin 2008) and eventually marking paradigmatic shifts (Kuhn 1996) in the discourse.

The second phase is instead a vertical analysis at the microscale (Gingzburg

1980) based on a selection of firms that emerge from the previous and aforementioned investigation.
A series of offices that embody different practices will be analysed in order to study the influence of the different epistemes on their creative process. The investigation on such tacit knowledge (Cross 1984) applied to the act of designing should let emerge those consolidated patterns (Alexander 1977) that represent the codes of each practice.
The research is proposed as a real-time investigation that does not aim to achieve a definitive response, on the contrary it has the intention to track dynamics while being formed, thus requiring an experimental approach that accepts mistakes and approximations, aware of the possibility of failure. The ambition is to test how the fast evolution of society in the last twenty years has produced a paradigmatic shift on the profession, now oriented towards transdisciplinary approaches, thus transforming its traditional codes. The architectural discourse todays seems in fact informed by the most evident challenges of the current societal shift, such as an increased awareness of equality at large -with a particular attention towards the role of women and minorities-, a critical take on the environment and technology after the optimism that had characterized the beginning of the new millennium, and a search for alternative solutions to globalization. How then are these new disciplinary interests altering the practice? How are they affecting it? If from a theoretical and rhetorical point point of view -which generally becomes manifest through occasions such as exhibitions and publications- the preoccupations emerge clearly, how are the preoccupations themselves reflected into practice?

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Design Driven Research

The second phase of my work has the character of a design driven research, structured around an ethnographic method (Yaneva 2009) whose research tools are an in-progress list of instruments and methods of investigation that I intend to use to analyse the practice. The list includes subjective ones such as reports, interviews, sketches and observations as well as objective ones such as polls and rough data to be processed. The set of methods and tools will be tailored on the character of the practice as well as in relation with each specific series of sources.
The goal is to enrich as much as possible my researcher toolkit and to find suitable and, if possible, innovative approaches to grasp concepts beyond traditional communication. On this purpose, Architecture: History of Practice (Cuff 1992), together with Made by the Office for Metropolitan Architecture: An Ethnography of Design (Yaneva 2009), represent two very interesting and unconventional references both in terms of content and methodological point of view. Written in first person to reinforce their journalistic nature, they allow a close-up glance made of observations, reflections, interviews, anecdotes, images, data, diagrams and vignettes, giving a tangible feeling of the working environment in the firms described. The discoveries will constitute the basis for the definition of what contemporary processes of codification could be, as guiding principles of innovative design approaches. In the next months, in relation to the evidences that I will be capable to collect, I aim to define a suitable comparative method to frame codification processes in different design approaches.

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Prior to the current position, Claudia worked for numerous offices including OMA/AMO, MVRDV and Studio Folder with whom she won the special mention at the XIV Venice Biennale. In 2019 she was head curator of the exbition and graphic design of UABB Shenzhen Biennale and in 2017 she was assistant curator of BIO 25, the 25th Biennial of Design in Ljubljana. Since 2013 Claudia is partner of the architectural design and research collective Fosbury Architecture.

As Blue Dogs are Passing by, Unravelling the Shifting Paradigms of Pollution Through Matter, Space & Context

Bram Van Breda, Luca School of Arts Ghent

Artifact

Title and source of the attached image (Helvetica Neue Medium, font 9)

"We are conditioned over time to regard environmental forces
such as dust, mud, gas, smoke, debris, weeds, and insects
as inimical to architecture."
(David Gissen 2009, Subnature: Architecture's Other Environments)

Intruding light, descending dust, noise, … it changes the way we experience space and our surroundings. The layers that arise carry information and tell us more about time, space and context. Spaces are porous and because of this subjected to material flows and forms of human activity, where we find ourselves in a constant state of "proximity," an active form of mutually-enforced contact.
So why is it that we tend to obstruct these material flows and forms of human activity?
In an attempt to control the unpredictable, aren't we ignoring the possibilities it might have in regards to site-specific art?
Today matter is changing our environment rapidly, infecting our ways off living. We therefor need more multispecies stories, practices and new narratives of becoming with instead of becoming one. If we approach space and the art-studio as a "living" room, we can no longer ignore the presence of "another" such as smell, noise, intruding light, unwanted matter and other forms of "subnature" (Gissen 2009).
In 2017 blue dogs appeared in the suburbs of Mumbai where discharged untreated color pigments colorized the hides of the local street dogs. While these dirty and unwanted dogs are normally being ignored, a shift occurred, leading to a global commotion.
In science, art- and design-studies we see a growing conscience for the vulnerability of our surroundings and environment. Within material-based science, researchers are looking for new ways to deal with waste and are creating materials that are less harmful. In her book Vibrant Matter (2010) Jane Bennet focusses on the active potentials of the objects and materials we surround us with. Also waste and dirt can be an agent that transforms and influences us and our environment. Using these theoretical developments and applying them on the concept of pollution can result into new insights about how we percept dirt and purity, how these perceptions can shift from one to another. The ignorance for the potential of pollution as a concept have created a problematic situation where we still can't deal with something that is inseparably with our being. Instead we continue to focus only on the negative and disruptive aspects of pollution and dirt. We're not enough aware of how it's related to socio-political, cultural, religious and psychological contexts. If we can counter this situation embracing the transformative possibilities of pollution as a concept and the richness of dirty matter, we open up new perspectives on how we can relate towards others, our surroundings and ourselves.
In her book Purity and Danger, an analysis of concepts of pollution and taboo (1966) the anthropologist Mary Douglas describes "dirt" as "every matter out of place or order." This definition is the epitome of her study on "dirt" in relation to different contexts and cultures. Her book became one of the keystones in research on the concept of pollution. By explaining "pollution" through various rituals, religions, lifestyles, … Douglas shows the complexity of dirt, which is defined by the dictionary as only a substance, such as mud or dust, that soils someone of something.
I note that pollution is in fact more than only an unwanted matter. It is remarkable that most studies about pollution are mainly focusing on the material aspects and the reactions they cause, such as;
disruption, infection, stains, chaos ... We use these tangible characteristics in our language to describe certain people, places, situations, cultures,

sexual preferences, … and we do this deliberately to amplify the negative. In English you say for example ‘do someone dirt’ to harm someone’s reputation. In this way pollution is not only linked to ecology but also to socio-political, religious, and cultural dimensions, it’s in fact a complex and multi-layered socio-cultural and political concept.
Within art dirt is used not only as an aesthetic tool but also as a way to question our environment, the other and our behavior. Artists such as the Surrealists or the Arte Povera have worked with dirt for its liberating aspects. Working with the concept of pollution is to be open for coincidence, the unpredictable, the dark side and freedom of the formless. Carolyn F. Strauss talks about a ‘slow’ matter in relation to the work ‘ethics of dust’ by the architect and theorist Jorge Otero-Pailos. With his artworks Otero-Pailos wants to encourage to reflect on “one of humanity’s most neglected, and also abundant, cultural products: pollution.” By covering the walls of buildings with latex, such as the old industrial gold mine Old Mint in San Francisco, he creates a cast with the dust and dirt that slowly covered these walls over the centuries. In this way he’s able to make the past again present.
He uses the different layers of matter to visualize the historical layers of the environment.
In his work the gathered material is still experienced by the viewer as gathered dust. Which is different from the work ‘En El Aire’ 2006 by Teresa Margolles, where the dirty waste is transformed into a highly aesthetic tool and people don’t longer experience it as something disruptive but as something seductive and even playful. In the work she makes use of the water from Mexican funeraria to make soap bells floating in the air. With her work she wants to address the Mexican drug and migration conflicts. This shift in the viewers perception in relation to the installation and the material, shows the vitality of the matter and the concept of pollution as a transformative tool. While current research is being done on the agency of matter and things, there’re no studies that focus on the qualities of ‘sub- nature’ within the creating of site-specific or ‘site-conditional art’, and especially the effect of pollution on our spatial experience.
My preliminary research project Reconnaissance (see attached image), at the KADOC Ku-Leuven archive and research center, enabled me to determine three dimensions which are important in the research on the concept of pollution and its relation to the shift in our spatial experience, being; matter, space and context. These three dimensions influence the way we conceive and experience pollution and therefor also the way we can make use of it.
During a three month stay within the chapel of KADOC, while restauration works where going on, I became aware of how light would intrude the building. My stay allowed me to notice that the main entrance hall could be used as a camera obscura. Light that entered through the keyhole left a stain, containing a moving image of the outside. After my historical research on the site I decided to enlarge one of the images I obtained and present them on nine translucent textile panels. Visitors could enter the installation, become with the image. Its translucency allowed to artwork and architecture to constantly change and intensify each other.

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Design Driven Research

As Blue Dogs Are Passing By considers the concept of pollution as an important medium to question our perceptions in relation to matter, space and context. In the methodology of this qualitive research I incorporate an ethnographic approach, which allows me to position myself within a space unravelling all its forms of human activity and material flows.I make use of several techniques such as participant observation, close reading of literature, historical analysis, conceptual mapping and most important residencies. The use of multiple methods has the intention to enable cross-verification with the goal to redefine what we call pollution and may contain multiple types of data obtained through these residencies and the close reading on the context.In order to find and understand the changing perception and explore the different dimensions of pollution, instead of just opposing it to purity, I’ll have to engage in practice-oriented research. My hypothesis is that we can only understand it if we study it in relation to various contexts. I’ll therefore be working with and within different locations and relevant contexts in the form of residencies. The project Reconnaissance (see attached image) is the result of such a residency.

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As an ethnographer I question our environment, with a concern for the social and political conditions of places. Through historical research, site-specific works and material studies, physical places are transformed into ‘environments’ or installations, where spatial narratives deploy. From an interest for materiality and making processes, grew an interdisciplinary practice where different media encounter each other. In my work the viewer becomes an active player, or even a user.
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The Variation of Architecture Identity in the Age of Globalization

Andrea Crudeli, University of Pisa

Keywords: Frampton, Bourriaud, Criticalregionalism

Paper

Moving roots. Opensource image from https://www.designspiration.com/.

This research moves its first steps from the theory of Critical Regionalism by the British/American critic and historian Kenneth Frampton, who has been developing it from the 80s. Critical regionalism is an architecture attitude that resolves the placelessness of the International Style and proposes an alternative to Postmodern architecture, proposing an architecture rooted in the contemporary tradition, and, at the same time, in a specific geographical and cultural context, mediating the global and the local influences.
Frampton stopped writing about this theory about a decades ago. The discourse of this paper follows a published conversation with the British historian happened in 2018 at Columbia University of NYC, about the last ten years: what emerged is that after the failure of regional Architecture schools, in order to promote an authentic local identity, it has been necessary to revisit the Martin Heidegger's concept of raum–a territorial boundary inside which a civilization manifests its presence–expanding the definition of region towards macro-areas of the globe, with an undefined elastic perimeter. So this research doesn't want to be a
continuation of the theory, neither a second phase, but, fully conscious of Frampton's works, it aims to be a sort of new path inside uncharted territories, with the main goal of studying the permanence of specificity and locality in the globalized construction process of the current architecture panorama, focusing mainly on the last decade, with particular attention to the new technological developments in the building industry.
This critical perspective on the design practice aims to analyse the mediation phenomenon between local and global developments, under the economical, production, cultural and political points of view, picking up those designers who promote a sort of resistance without being regressive: in fact the identity is conceived, in this research, as something to cultivate with a view to the mutability, so it's something that changes over time and space.
The targeted architects of this research are those designers who can be called the "new locals," who mainly built from 2010-2020, and acted in the periphery of the megacities, facing the tension between the universalization of the construction process and a local architecture culture. These architects are picked up from different macro-areas of the world, that can be considered a finite set in terms of civilization, general culture characteristics and climate, and choosing young firms who have designed small/medium scale buildings in the periphery of this area.
In his last contribution to Critical Regionalism, during an itinerant lecture titled "Critical Regionalism Revisited," Frampton provided a list of architects, framed inside a new category, called "outsiders." These designers are defined by their sensibility to read the complexity of a specific place, its regional peculiarities, even if they come from a place which is far away from the design site. The production of a new cultural identity is in the hands of those who travels and lives in different places, and who gains the critical attitude to compare their own native identity with new ones. This Framptonian category responds to some new issues of the XXI century, for example the intense migrations fluxes which characterized our age.
This stage of the research evolves with new unexpected perspectives when it is compared with another theory, a very recent one, written by Nicolas Bourriaud in his book "The Radicant".
Bourriaud states that the " … 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 the Frampton's "outsider," naming it "the radicant," 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
'radicant' captures this contemporary subject, caught between the need for a connection with its environment and the forces of uprooting, between globalization and singularity, between identity and opening to the other. It defines the subject as an object of negotiation."
Considering the emerging ideology of a multicultural society, encouraged by the digital revolution and its consequences in terms of globalization, heterogeneous vocabularies are usually mixed following a visual juxtaposition. In order to contrast this phenomenon, Bourriaud put forward a figure, the radicant, 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. Young architects who mainly built in the last decade, and who opened emerging firms, are part of the so called "Erasmus generation," consisted in designers who travelled during their education and who are not familiar with an unique place. Those designers have the capacity to make their singularities enter in relation with others in order to trigger a meaningful translation process with their design practice. Responding to the NAF/NAAR 2020 Symposium call from University of Oulu, the first chosen macro-area has been Scandinavia. Inside Frampton's and Bourriaud's theoretical frames, the research analyses Scandinavia as a cultural enclave, and the emerging young architecture practices as case studies, in order to research the permanence of a cultural environment, and the production of a new one, in the last ten years built-works. The methodology aims to expand three key-themes, topics that can be considered bridges between historical and present-day design practise. The first topic is the permanence of the construction culture and language, the second is topology, the attitude of conceiving the site as a layered entity result of human and natural gestures, and the last one is tactility, intended as the culture of a particular material dimension.

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Design Driven Research

The strategy consists in expanding a series of key themes, concerning the relation to some specific characteristics such as topography, climate, light and tectonics, topics that can be considered bridges between historical and present-day design practice. These issues are also tools in the hands of the designers in order to critically understand their own practice when they want to make site specific architecture with a qualitative design approach.
The methodology is based on some main topics, that will be at the same time analysing tools and reflection fields, both theoretical and practical, as the permanence of the constructing culture, is topology, the attitude of conceiving the site as a layered entity result of human and natural gestures, and the last one is tactility, intended as the culture of a particular material dimension.
Some chosen geographical area, some designer, and some specific building will pass through these topics, and they will be examined in terms of historical connections, evolution of the construction process, thanks to a comparative analysis. The areas are intentionally wide and not specifically defined: in fact, according to the necessities of the specific topic, we can consider them elastic perimeters, so that the study can be more adaptable to find remarkable relationships.

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Exploring the Impact of Dwellers' Psychological, Social and Cultural Needs on Generating the House's Experiential Qualities

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Keywords: Experiential Qualities Of The House, Psychological, Social And Cultural Factors

Paper/Artifact

The home is more than just a shelter. Its physical structure should mimic the everyday patterns of living; represent the identity of its dwellers to the tiniest details; host the memory of the past and afford comfort for imagining and dreaming about the future; provide common spaces for socializing and private ones for retreat and contemplation about the self and the world; … in a word, its physical structure should afford possibilities for fulfilling the multiple needs of its dwellers. The more the experiential qualities of the house fit the psychological, social and cultural needs of its dwellers, the higher is the level of satisfaction with the house and hence the greater is the possibility for its occupants to feel at home (Gifford 2014). The fact that house should be congruent with the dwellers' needs is an enormous responsibility and challenge for architects because they should know very well the nature of the people they are designing for, how to decode the complex and diverse needs of different persons in relation to the house and how to adapt the qualities of the house in accordance to their needs.
Unfortunately, considering the issues that arise continuously in my architectural practice and the concerns expressed by many global interdisciplinary initiatives among architects and researchers from other disciplines such as psychology, sociology, anthropology, neuroscience, etc., many architects, especially the novices, are very superficially equipped with insights on how individuals perceive, experience and interrelate with the built environment. Therefore, in practice, the cases when architects fail to predict users' behavior, preferences and satisfaction with the designs they appraise and suggest are not rare. (Holl, Pallasmaa and Gomez 2008, Mallgrave 2010) Moreover, the system of values toward the spatial qualities of the building between architects among themselves as well as with laypeople very often displays substantial differences (Gifford 2014). Nevertheless, these contradictions initiated many studies to understand how people perceive and experience the built environment and what affects their building preferences, choices and satisfactions.
House - related studies were initiated by real estate interests with the intention to understand the factors that affect preferences and choices for house attributes in order to predict future developments that would be more acceptable to people, but also from shared interests of few architects and psychologists, sociologists, anthropologists, etc. that intended to understand, for example, how different types and traits of personality affect the perception and experience of the house attributes, ...; how various socio-cultural contexts affect different ways of inhabiting house, … ; or how different features of buildings as style, shape, functional entities, height of ceiling, presence of windows, the color and many other things influence experiences, preferences and choices of house attributes. (Coolen 2005, Augustin, Coleman and Frankel 2015) However, considering that people experience buildings with a body equipped with multiple sensory/motor capabilities moving through its spatial configuration to pursue their goals, makes the impression that these studies and findings provide partial knowledge of the house's experiential qualities. Either they narrow the study of the experience of the house for one particular physical attribute, neglecting the impact of the broader context and the whole, provide only frameworks that might explain how different factors affect the experience of the house but not supporting empirical evidence, or provide empirical evidence that measures the experience and preference of some house's attributes through questionnaires and general pictures that detach the individual from a real setting and can hardly grasp the experiential qualities of the house as felt through inhabiting it. Besides, apart from being partial, this generated knowledge is also scattered in many different sources. As such, it requires too much effort to be found and the architect can hardly

use it to understand and inform the individual he/she is designing for.
Therefore, this research intends to develop a methodology that might help to understand how multiple factors as a whole, in individuals with certain characteristics, embedded in a particular socio-cultural context, that live in houses with a particular spatial configuration, cooperate and compete to yield house experiences, preferences and choices. In this way, the findings are expected to complement the existing body of knowledge with new insights that grasp the experience of the house in multifaceted manner as felt by different dwellers through inhabiting it. To develop the methodology, the inhabitants of some existing houses in Tetovo will serve as instrumental case studies with the idea that they will provide valuable information on how different personal, social and cultural factors, as well as the impact of the architect, have affected the choice for particular house qualities. From existing houses, it would also be easier to extract post-occupancy evaluation perspectives and hence better understand how people experience the house through inhabiting it, to elucidate people's own conceptions of home. Later, during the design process, the same methodology could inform the architects on how to understand the needs of different individuals.
In order to explore the impact of personal, social and cultural factors on the generation of the experiential qualities of the house, the first part of the research will review the literature in the fields of architecture, philosophy, sociology and psychology that has investigated and described what the home is, how people experience it and what influences the preferences and selection of its qualities. The second part will analyze the socio-cultural context of Tetovo, to extract the main historical, social, cultural, economic and political turns related to architectural production, and the third part will elaborate the methods that will be used to become acquainted with the dwellers and through them with the personal and socio-cultural factors behind their choices for particular house qualities. Whereas the last one will present the findings.

Methods

To conduct the research will be adopted the qualitative case study approach. The case unit is the process of the generation of the experiential qualities of the house whereas its purpose is exploratory, explanatory and descriptive. To explore the case unit will be necessary multiple instrumental cases. They will not be seen as typical of other cases, but will only facilitate the understanding of the main unit. The instrumental cases of this research will be the dwellers of a few houses in Tetovo built after North Macedonia's independence from Yugoslavia. They will be selected in stages. Analysis of the data will begin after the first time of data gathering and depending on the insights- concepts and questions that will arise, new individuals will be recruited purposively, to complement the concepts with more in-depth insights or address additional issues until it will be found that no new issues are emerging. The data gathering will depend primarily on open-ended in-depth interviews. However, adapted questioners developed by psychologists and sociologists to measure personality types and traits as well as socio- cultural influences on preferences will be distributed at the end of each interview in order to see whether there is any interdependence between certain personal, social and cultural factors and house preferences, choices and satisfactions. Moreover, field notes, archival documents and building regulation policies will be considered in order to enrich the principal data with insights about the broader socio-cultural, political and economic context of architectural production in Tetovo. The method called qualitative content analysis will be used to analyze and

classify the content of the qualitative data gathered from the interviewees. The categories and themes that will be developed from the interviews are expected to provide descriptions of how the personal, social and cultural factors are manifested in the spatial configuration of the house and how the later affects the experience of the house as a whole.

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Situated Artefacts - Exhibition Making as a Discursive Practice

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Keywords: Exhibition Architecture, Embodied Manifesto, Discursive Practice

Paper

Photo of Cabinet of Iterations, Royal Hibernian Academy Dublin 2019, by Encarnacion Sanchez

Academic debates about research into explicit and tacit knowledge in architecture often put the two forms into opposition with each other labelling one as “conservative” and the other as “liberal”. Recent theory has posited hybrid forms that combine both critical and creative approaches to form new research practices. These types of research sometimes encounter resistance along established disciplinary boundaries that tend to silo architectural knowledge into history-theory-criticism models on the one hand, and reflections on creative practice on the other. Another way to think about them is to view explicit and tacit knowledge as different research areas with porous connections, and to explore practices that operate at the nexus between them producing, papers, books, drawings, buildings, and exhibitions, as related outputs to be experienced by different audiences where “knowledge is produced in both tacit and explicit form and is formulated both as...concepts and as particular answers
to specific local questions”(Van de Weijer and Van Cleempoel 2014: 17-29). By rejecting a binary opposition between theory and practice it becomes possible to imagine multiple ways for philosophy to be spatial and for design to be theoretical. There are many precedents for these ways of thinking from conceptual art’s move beyond objecthood in the nineteen seventies (Voorhies 2017), to the philosopher Francois Lyotard’s exhibition Les Immateriaux in the Centre Pompidou in nineteen eighty seven, where pure philosophy was presented spatially (Birnbaum 2019). What they each share is a rejection of disciplinary autonomy in either theory or practice.
My design and research work in the field of exhibition making is a situated practice where the spatial and cultural contexts are considered as fields where the designed interventions create reciprocal relationships that the viewers activate. Through a series of exhibition projects across multiple sites ranging from park landscapes to international biennales and white cube galleries, these artefacts connect their host environments and the viewers to produce discursive encounters. In this way the sites of the interventions become spaces of production rather than merely spaces of display. The artefacts are both operational and compositional interventions and are necessairally temporary being precisely situated in the context of their host environments. Some of them have been deliberately designed as nomadic structures that can activate a number of specific contexts. I have also worked with a photographer to document the interventions and have produced written texts that reflect on these events and articulate the conceptual dimensions of the work. This movement from explicit intention to designed intervention, to documentation and critical reflection returns on itself so that each design process is informed by the previous ones. The methodological approach was articulated by Murray Fraser when he proposed that “..design research in architecture has to form its operations around a dialectical engagement between ideas and practices (and) a very real task for design research is to act as a mechanism for a wider critique of architecture itself” (Fraser 2013).
I have explored my process through a series of papers presented at previous CA2RE conferences:
. A paper at the CA2RE conference in Ghent in spring 2017 titled PhD by Prior Published Work, A Case for Appropriation set out the context of disciplinary debate about the status of tacit and explicit knowledge in architectural research.
. A paper in Ljublanja in autumn 2017 titled Pavilions and Positions explored the potential of the architecture exhibition to act as a discursive space.
. A paper in Aarhus in spring 2018 titled Seeing Myself Seeing explored the process of designing my own house and the spatial ideas that it contains.
. A paper in Berlin in autumn 2018 titled Constructing a Position looked at

the potential of the architectural detail to articulate an explicit theoretical idea.
. A paper at Ghent in 2019 titled Entropy and Performance explored thinking about the recent past through a conservation project for the retrofit of an important modern school building from the nineteen seventies.
These CA2RE conferences have provided me with invaluable peer-review feedback and have enabled me to contextualise my research within a wider community of practice. I have found that other researchers presentations have given me insights into my own process. As I am based in a small school of architecture on the periphery of Europe I have found that the discussions with the review panels open up new perspectives in my research and I have left each conference with a sense of discovery and new direction. Each paper has developed from the discussion with the review panels at previous conferences.
My paper for Milan will build on these earlier papers by comparing and contrasting the formal and operational designs of the exhibits and host environments. This was a suggestion in a previous CA2RE review. Through a comparative analysis it will elaborate the principles that run through the spatial organisation of the connections between host and intervention.
The projects were situated inside older structures that themselves had previous uses. These spaces have been recycled because of their their reduced use value. This in turn opens up perspectives on the ways that we think about the past and ascribe historic value to buildings. The design of exhibition environments is informed by the power of temporary interventions to change our readings of permanent spaces. Since the architecture exhibition only really has impact when we remember that architectural practice does not reside inside the exhibition, but in the external world, it is also possible to then venture out and start to design the buildings that house the exhibitions themselves (Patteeuw and Vandeputte 2012). In conclusion I will discuss how the principles of exhibition making informed my designs for adapting the National Archive building in Dublin which itself is housed in a former biscuit factory into a space of productive conflict.

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Design Driven Research

As an practicing architect and academic I am interested in the relationship between theory and design and the ways that they can mutually nourish each other as a dialectical critical practice. I approach research as a theory driven design practice where the critical ideas act as drivers for the designs. I have developed these through a series of designed manifestos presented as pavilions and exhibits at international biennales and triennales as well as through the slower practices of designing buildings and writing books. Concieved as a spatially distributed discourse, I think of this mixture of methods as a triadic movement of design, documentation, and critique, that then returns to design informed by the rigour of the critical process itself.

John McLaughlin is a practicing architect and senior lecturer (associate professor) in architectural design in University College Cork. He is currently undertaking doctoral research on dialectical critical practice and the architecture exhibition as a discursive space. He curated the Irish Pavilions at the Venice Architecture Biennales in 2012 and 2014, and he was an invited exhibitor in the Venice Architecture Biennale in 2016. He co-edited the book Infrastructure and the Architectures of Modernity in Ireland 1916-2016, (Ashgate 2015). He won the Arthur Gibney Prize from the Royal Hibernan Academy in 2019, and exhibited at Words + Works Biennale of Artistic Research in Architecture at KADK, Copenhagen in 2019-20.

Green Walls: Shaping Urban Communication

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Keywords: Green Walls, Urban Design, Perception Of Space

Paper

Green wall as surface and volume (photo: Jana Kozamernik)

In my doctoral research, I focus on urban open space design and incidence of green facades in Europe's temperate climate zone. The research concept proceeds from interest in the reasons that have led to the increasing use of vertical greenery (green facades, living walls and combination systems) in cities and questions about its contributions to or effects on the urban environment in the sense of both the physical environment and people perceiving and using the outdoor space. Green walls can be understood from various perspectives related to both physical reality itself (i.e., green walls as physical elements and their contribution to creating a greener living environment) and the broader architectural discourse on the importance of merging natural elements with architecture. Based on this, the research investigates various urban open spaces and basic types of vertical greenery that appear in various forms in the urban environment, and it raises questions about the relationship between traditional forms (which are conventional for a specific environment) and newly emerging forms, in which vegetation is incorporated into the facades in an unconventional way.
Because of the environmental problems identified and changes that also affect the quality of life in urban settlements, awareness of the importance of natural elements in cities is increasing among both the professional community and the general public. These increasingly highlighted topics are also included in modern urban planning strategies, which not only focus on using sustainable construction materials, but also reflect on envisaged natural processes that can help improve the built environment. The latter may entail anything from providing a larger share of green areas and using trees to using greenery on buildings, in which using plants in designing building envelopes is especially highlighted in densely built parts of cities (Medl, Stangl, and Florineth 2017).
The facade is a key element of an architectural story or concept, in terms of both design and function. It may also be conceived merely as an external wall or a construction element. Establishing a green film over the "face" of a building impacts how the building's architecture communicates from the outside. Due to the intrinsic characteristics of the living material (i.e., vegetation) that defines a green building envelope, its architectural expression is in constant contrast with the non- living elements (i.e., the built outer shell that protects the building's interior). Together they represent both a boundary and contact between the outdoor and indoor environments. Modern technology, modern systems, and the modern use of (vegetation) material make it possible for designers to play with geometries, patterns, and textures, allowing them to create anything from diverse overgrowth to homogenous abstract surfaces, and hence the identity of both the building and the environment that the building architecturally communicates with. In exploring architectural expression, there is tension between the two extremes (i.e., the living and non-living) as a tendency to create new physical and semantic hybrids in architecture.
In studying the urban environment as an experience of a city, an important role is played by the socio-psychological aspect, which is closely connected with urban design and architecture.
Alongside this, other characteristics of the urban environment that affect people's perception of space are also important. Studying green building envelopes and their impact on the outdoor environment is difficult because most qualitative aspects of such elements are not directly measurable and therefore their impact is difficult to determine accurately. However, it is clear that the facade is the part of the building envelope that is strongly present in people's field of view because it is mostly part of public space and its visual presence affects the perception of space, its recognizability, and attractiveness in terms of use.

Incorporating natural elements into architecture can be studied from various perspectives, either within the context of designing buildings following the basic principles of architecture (i.e., durability, utility, and beauty) or from the perspective of social and political changes and environmental awareness. With these facade forms, for example, the West does not emphasize biophilia or the concepts of vertical forest cities, and so on, which are especially typical of Asia, but it tends to primarily direct architecture toward using green, ecological solutions (addressing environmental problems, especially urban heat islands and using green infrastructure to regulate their effects). This topic always extends into the social context and the philosophical discourse on Western culture and its architectural activity; what is valued and sought in modern times is the authenticity of (architectural) experience alongside the simultaneous satisfaction and validation of ecological views. Questions arise whether every green building is also ecologically acceptable and sustainable. The need to understand the connections between the cause or purpose of using green facades as a building design element and the consequence or (both short- and long-term) effects on its surroundings is an issue with both a social and environmental character.
Part of the background of the research topic is thus connected with green architecture design itself. This research explores the occurrence of these elements of architecture from the perspective of their impact on the urban environment studied. The communication of green walls is a metaphor that addresses this topic in the wider sense of both the exchange of flows or processes in the physical environment (as green elements they affect the physical environment) and expressiveness. All this influences people, their perceptions, and indirectly their quality of life in the urban environment. The purpose of this research is to investigate people's perceptions towards urban environments and to create criteria for evaluating selected urban areas and the prudence of implementing green walls, while also addressing sustainability and the relationship between environmental preferences and environmental responsibility.

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Design Driven Research

Design is the main driver of this study, including its premises, the background of the research topic, and the research tools. The urban environment, green or less green with green walls, is studied using a combination of subjective and objective methods. The research process comprises theoretical issues, collecting data through a survey, makes it possible to combine and use material for application of the experimental method, and includes qualitative and quantitative indicators of evaluating urban space. The design perspective is part of all research stages, but it is included in various ways: as an identified co-creator of spatial relationships, as one of the analysis criteria, through the creation of concrete examples during the preparation of research material, as a perceived generator of value judgments, and as part of research conclusions.

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Jana Kozamernik is a landscape architect involved with urbanism, landscape planning, and urban open spaces. She has been employed as a researcher at the Urban Planning Institute of the Republic of Slovenia since 2018 and is enrolled in the doctoral program at University of Ljubljana's Faculty of Architecture. She has worked on urban and landscape architecture design projects as a collaborator in various design offices. As a coauthor of competition projects in architecture, landscape architecture, and urban design, she has received several rewards. She is a member of the Chamber of Architecture and Spatial Planning of Slovenia. As a researcher she works on national and EU research projects, both basic and applied..

The Potentials of Urban Design for a Seismic Resilient City

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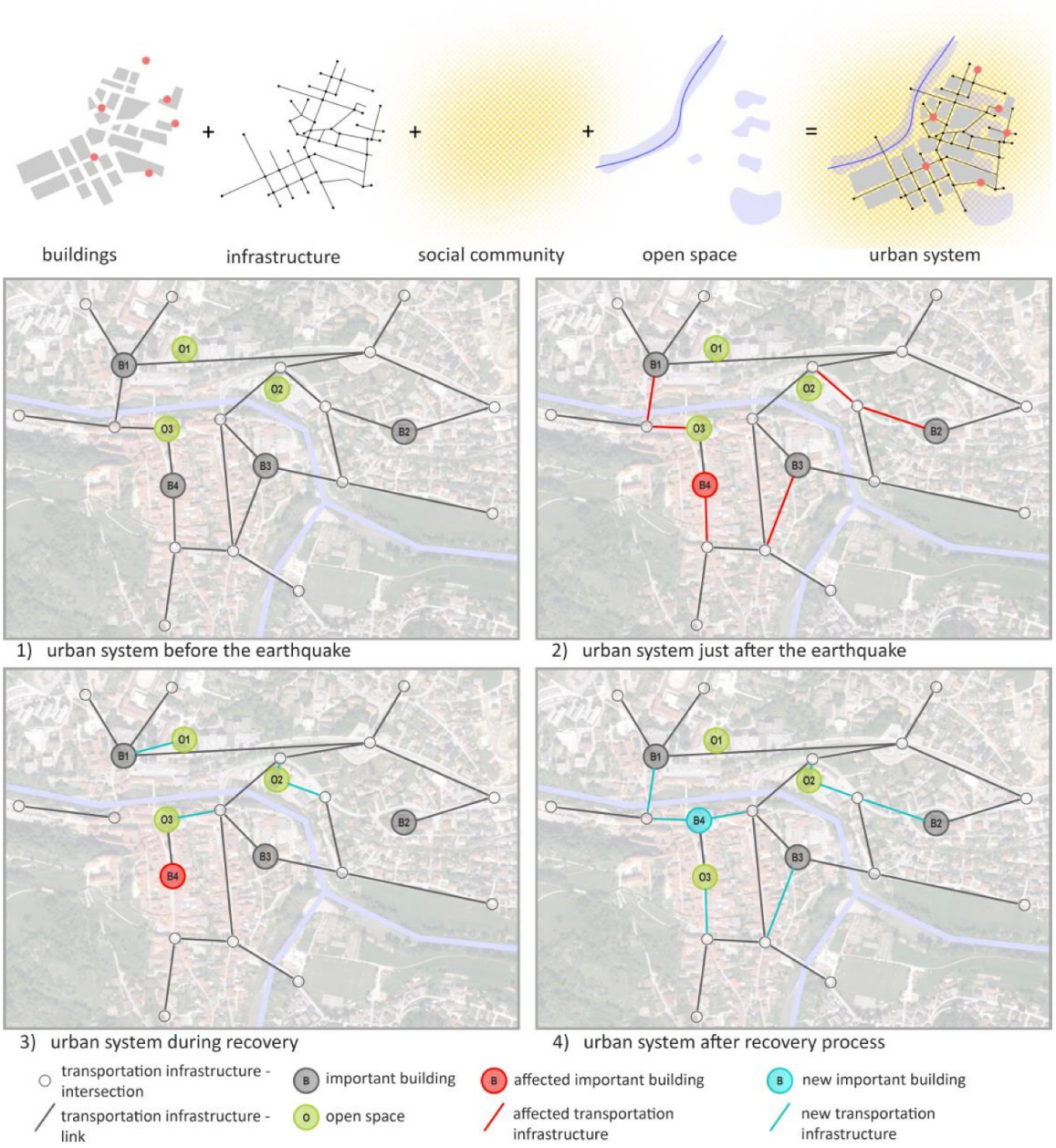
Keywords: Seismic Resilient Design, Complex Urban System, Open Space

Paper



Conceptual presentation of the proposed network model of the urban system and its seismic resilience assessment. (Author's work)

Cities are complex technological, social and spatial systems, providing interactions between different components at different levels. Physical components (buildings, open space, infrastructure) act as the body of the system, its skeleton, lifeblood and muscles. Social components (social community), on the other hand, act as the brain of the city, directing its activities, responding to its needs and learning from their experiences (Godschalk 2003, Desouza and Flanery 2013). Functionality of an urban system depends on a design, diversity, density and quality of individual elements of its components, their interaction, morphology and topology of a city as a whole. These quantitative and qualitative city's properties create a variety of urban functions, and the way of connecting and intertwining elements determines the accessibility of the offer and choice (Norberg-Schulz 1984).

However, due to various dangers that threaten the functionality of an urban system and its cultural sustainability (heritage, morphology of built pattern, social structure, etc.), lasting prosperity cannot be fully guaranteed without enhancing urban resilience. Although the global probability of earthquakes is much lower than extreme weather events, the consequences of an earthquake can be more expansive, both in terms of casualties and economic losses. As earthquake is a rare event, society is unable to develop an adequate perception of seismic risk before a strong earthquake occurs (Shrestha et al. 2018). In order to avoid the worst-case scenarios and limit the extent of damage, more attention needs to be paid to raising public awareness of the importance of reducing risk and increasing the resilience of urban systems.

A resilient city is a sustainable network of physical systems and social community capable of coping with extreme events. During an accident, this network is able to survive and operate in a stressful situation, and after an accident, despite possible altered relationships between individual elements, it is able to recover quickly and efficiently and re-establish impaired urban functions. Highly resilient urban systems are able to adapt, upgrade, and even improve the performance of the entire system compared to the pre-disaster situation.

The subject of the research is the seismic resilience assessment of an urban system, taking into account the interactions of its basic urban components (buildings, open space, infrastructure and social community) and the overall time dimension (before, during and after the disaster). The work focuses on the analysis of the impacts of open space for the recovery of the urban system after an earthquake. Urban resilience is assessed from an urban design point of view, so we are interested in the configuration of an urban landscape, the relationships between individual components of a system and various urban processes. The focus is not on the structural resistance of an individual building, but on the resilience of an urban structure as a whole. The research deals in depth with the analysis of the potentials of open space for seismic resilience of an urban system, especially during the response and recovery after an earthquake. We investigate the relationship between built and open space. An earthquake only affects buildings and infrastructure facilities, which causes victims among the population, disruptions of infrastructure networks and various social organizations, while open spaces remain largely intact. The latter offer the potential for disaster recovery of an urban system and its transformation into a more resilient urban form. The current usability of open spaces as well as their flexibility to take on new tasks in stressful situations was recognized as important facts (Allan et al. 2013). The research thesis has been set, that the seismic resilience of an urban system depends on the characteristics of the basic urban components and the configuration and topology of the urban landscape, which can be evaluated by assessing its functionality

before, during and after the accident. Moreover, city can be modeled as a socio-spatial network system and its functionality can be evaluated both qualitatively and quantitatively using urban-design and graph theory indicators. The proposed model of the urban system assessment enables the identification of weak points such as hubs with high centrality, poor accessibility and resistance of critical facilities (e.g. hospitals, civil protection facilities, emergency care, etc.) and vital infrastructure (e.g. bridges), which represents basis for proposing measures and strategies for seismic resilient design of urban systems. It is possible to analyze the less explored potentials of an urban system, such as potentials of open spaces, which has a positive impact on the resilience of a city, especially during evacuation and recovery after earthquakes.

In the initial phase of the research descriptive method was used, which includes the technique of studying and analyzing the existing literature in order to propose a city model for a comprehensive resilience evaluation. The study continue with experimental method which is used to create a network model of an urban system (graph from points, connections and patches), which is formed from various networks of basic urban components based on geospatial data. An individual network is formed from elements that could be separately evaluated using quantitative and qualitative parameters (various engineering and urban-design indicators). The overall assessment of an individual element is thus multi-layered consisting of its essential properties, which can be shown in the form of graphical diagrams. Afterwards, interactions between individual components and the functionality of the urban system as a whole are going to be analyzed. Simulations of different seismic scenarios are planned as well as the analysis of effects on the built environment, analysis of interactions (impact radius of buildings on transport infrastructure and open spaces, affected residents living in damaged buildings and impaired functioning of organizations in damaged buildings) and impacts on the functionality of the entire urban system. Threat to cultural sustainability and the impact of urban design on the resilience of the city (topology and morphology of the urban landscape) will be observed. Different scenarios of system recovery is planned to be analyzed by taking advantage of open spaces to replace disturbed urban functions. The potential of urban design for seismic resilience enhancement should be evaluated and included in the proposal of measures and guidelines for strengthening the resilience of cities.

In the thesis we want to provide new fundamental knowledge about the functioning of cities in stressful situations and offer directions for seismic resilient urban design. The main expected result of the research is the design of a model for evaluating the seismic resilience of the urban system and its potentials with emphasis on the analysis of the effects of open space on urban resilience, especially in the phase of evacuation, reconstruction and post-earthquake adaptation.

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Design Driven Research

The issue of urban resilience is approached from an urban-design point of view, as the main focus of the research is on the design of urban system, both in terms of morphology of individual elements and topology of the whole urban system. Based on the literature, a model for a comprehensive evaluation of the seismic resilience of an urban system is proposed. Topologically arranged network model consist of different networks of basic urban components. An individual network is built from elements that can be individually evaluated, based on their qualitative and quantitative properties. For example, open spaces can be assessed on the basis of their capacities (size, shape, flexibility, composition, ecosystem services, etc.), spatial distribution and strategic location (proximity to critical urban functions). The model allows the analysis of interactions between individual components and functionality of the urban system as a whole using indicators and algorithms of graph theory. The analyze is going to be performed using GIS tools and computational software (e.g. Wolfram Mathematica). Beside functionality of the whole system, cultural sustainability, accessibility to important urban functions, critical points and bottlenecks of system will be observed. In the analysis of resilience in the phase of evacuation and recovery after an earthquake, the focus is on the potentials of open space for the needs of the affected population and disrupted urban functions. Different scenarios of system recovery is planned to be analyzed by using open spaces to replace truncated urban functions and create more resilient urban form.

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I was born on June 22, 1988 in Ljubljana. After high school graduating with honors, I continued with the study of architecture at University of Ljubljana. I completed my master study in 2016. In the same year, I accepted the work of a young researcher under supervision of Assist. Prof. David Koren and enrolled in the PhD study of architecture University of Ljubljana, where I participate in the research program Sustainable Design of Quality Living Environment. During the study, I have presented my current findings in several scientific papers for which I have already achieved more than 30 citations.

In/Visible Geographies
An Investigation of the Swiss Italian Borderscape

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Keywords: Borderscape, Photography, In/Visibility

Artifact

Landscape where the border is invisible # 12, Balcone d'Italia, Lanzo d'Intelvi. Image by the author

The PhD research “In/visible geographies. An investigation of the Swiss Italian borderscape” develops a theoretical and visual investigation of the border landscape between Italy and Switzerland through the notion of borderscape, an emerging conceptualization of borders as multilevel and mobile which include overlapping socio-political and physical dimensions, against the flat and static representation of the modern map (Brambilla 2015). In contrast to the growing invisibility of the border physical infrastructure, its space continues to be produced (Lefebvre 1974) by multiple in/visible processes, by the performativity of its crossings and by the imaginations associated to them. The geography of the border is constantly re-shaped by the bodies routinely moving across it, sometimes displaced far away from the boundary line itself. Combining photography, urban studies and oral history, the research is developed first along the border and then across it, by focusing on the stories of transits of people who are differentially included by the border – cross border workers and migrants – with the aim of developing alternative imaginations of these spaces. The practice based part is developed as a photographic practice engaged with places, which allows to see and understand places differently, deepening the immaterial and symbolic dimensions associated with material space. For CA2RE, an artifact will be presented, i.e. a series of twelve photographs taken during walks along the border, where the border infrastructure itself is often invisible or in ruins, accompanied by a narrative text of the encountering made along the line. This constitutes the first part to fieldwork for the thesis.

According to Lefebvre’s theory on The production of space (ibidem), space is produced through the triplicity of (1) spatial practices, (2) representations of space, and (3) spaces of representation – corresponding to (1) the perceived, (2) the conceived and (3) the lived dimension of space – and are deeply conditioned by mechanisms of economic production, which in the case of borders depend on the differential between two neighboring territories. The representations of space (2) correspond to the space thought by experts, technocrats and urban planners, materialized in maps and drawings, which he identifies as a manifestation of hegemonic power. The spaces of representation instead (3) coincide with those each one experiences individually, often dense with symbols and images linked to the hidden aspects of social life, tending towards nonverbal systems and signs of representation and containing counter-hegemonic expressions. In the context of the research, the most obvious representation of space is first the cartography of the border, where it is identified as a fixed line on a map, and the resulting laws (such as the Dublin regulation for asylum seekers or tax exemption within 20km from the border for cross-border workers, i.e. the things that establishes the framework within which people can move). In contrast, the spaces of representation are more complex to identify and must be sought both in the borderscape places and social life. The geographical discourse of the sixteenth and seventeenth centuries, after pursuing the idea of vague natural borders linked to geographical elements such as mountains, found the most suitable expression of borders in a line exact and without thickness. There is a sort of ontological relationship between cartography and borders, as they come to exist first of all in being drawn (represented) on a map. Yet maps, while they are useful to understand the

ideology of the nation-state, are not enough to grasp the complex historical reality of borderscapes, which extend far beyond the boundary line. The border between Lombardy and Canton Ticino, established in the Treaty of Varese in 1752 and then revised at the beginning of the 1900s1, identifies an area that has peculiar characteristics. It is the only flat stretch of the

border, not running in the Alps, therefore not ‘natural’. It divides two regions where the same language is spoken - Italian - but where the mechanisms behind the economy and the production of space are very different, linked to the in / visible processes of the borderscape.
Moving from west to east, the research considers different areas of the border. In Ponte Tresa, on lake Lugano, the two sides of the coast almost come to touch each other. Here smugglers used to pass into the water. Then comes the flat area south of Lugano, full of industries where Italian cross-border workers are employed. In this area the border was closed with the ramina, a metal mesh, that soon fell into disrepair and is now almost completely dematerialized, allowing people to constantly move from one side to the other for daily activities such as running or biking. More east, there are transnational woods - sometimes crossed by migrants on foot - where the border barely appears at times as a faint trace, the city of Como and further on the top of the Sighignola, where the border pass through its transnational panorama.
The photographs of landscapes where the border is invisible, collected along these itineraries, question the very nature of the borders and how they function, what is ‘present’ in places and which meanings are associated with them. The invisibility of the infrastructure counters the cartographic reality of the line and its allusion to immutability. If in aftermath photography (i.e., photographs taken in a place where something has happened but is no longer visible) the images are deliberately made at the ‘wrong’ time to develop a reflective practice (Brett 2016), the photographs of invisible borders are taken in the ‘wrong’ places. The most scenic appearances of the border, such as customs, are not shown. At the same time, its less obvious appearances, which are the majority and which are associated with local memories, are made visible. This approach is particularly relevant for internal European borders, which do not function as militarized borders where the iconic architectural element of the wall can be taken as a reference, but which live on in / visible processes that continue to produce their space. Images of landscape had been used in the past to build national identity (see the German Heimat, ibidem), something which makes landscape the element where to interrogate and deconstruct this narrative. Along with the photographs, a narrative text developed thanks to a series of interviews allows to deepen the knowledge of the places. The meaning of photos, like places, is indexical, as it is given by the context and by our knowledge of the context conditions, showing how our engagement with landscape is historically situated, embedded in social relations and political (Bender 2002). Rethinking the prevailing, often hegemonic, narratives can open up to a better understanding of lived spaces and their imaginations.

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Design Driven Research

The method combines in-depth fieldwork engaging with place through photography as a practice to see and understand places. Moving away from traditional cartographic representations that characterize both urban studies and border studies, it enters into dialogue with the landscape photography tradition of the Italian school, which played an essential role in the design culture. The photographic practice is developed through a series of walks whose parameters - time, duration, route - are established a priori to retrace specific itineraries, such as those of smuggling, under certain conditions. It is accompanied by narrative texts whose content is shaped by a series of interviews with people providing oral histories. In doing so, the method relates to Girot's (1991) four trace concepts, meant as tools for landscape investigation and design, which cluster around issues of memory. The first act of knowing a site is landing, something which may revolutionize the preconception that one has of a place. The second is grounding, connected to coming back multiple times to a place while researching its evolution. The third is finding, summarizing the searching and the outcome, the tangible and the evanescent. Finally comes the founding, which formalizes a transformed construction of the site. In this case, the practice is situated in the finding and before founding, in that necessary stage of conscious reading a landscape before writing on it.

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Nicoletta Grillo graduated with a master's degree in architecture from Politecnico di Milano in 2016. After the graduation, she studied photography at CFP Bauer in Milan and worked as an architect and photographer. In 2018 she started a PhD in Urban Planning, Design & Policy at the Department of Architecture and Urban Studies, under the supervision of prof. Hilde Van Gelder (KU Leuven, Lieven Gevaert Research Centre for Photography, Art & Visual Culture) and Luca Gaeta (Politecnico di Milano, DAStU). Her main research interests are landscape, photography and border studies.

The Potential of Form. Assessing the Transformative Potential of Existing Buildings in the Post-Functional Era

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Keywords: Adaptive-Reuse, Transformative Potential, Morphotype

Paper

Title and source of the attached image (Helvetica Neue Medium, font 9)

The building stock is a crucial issue in the circular economy and plays a crucial role in sustainability (Merlino 2018). The construction industry has the unfortunate primacy of being the largest consumer of resources and raw materials (Foster 2020). Central to the contemporary architecture debate is the adaptive reuse of existing buildings; within the preservation debate, also prominent architects argue that the total demolition of any historic building to make way for new architecture seems unthinkable (Koolhaas et al 2014).

Stemming from the roots of the preservationist debate, the research embraces the contemporary theories both related to the adaptive reuse practice (Wong 2010; Byard 2005; Douglas 2006), and as to the most innovative approach of "Experimental Preservation" (Otero-Pailos 2016), "Postpreservation" (Desilvy 2017), and "Counterpreservation" (Sandler 2018).

The concept of potential emerges as a commonly used term in this 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 in an operative perspective through its generative elements in the architecture realm.

At first, the literature review links the notion of potential in post-structuralist philosophy (Delanda 2002, Jullien 2002) with the prominent theories from hard sciences-starting from the 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. The potential acts in a detected force field, and it may be positive or negative, it is multiple and not unique, acting as a function or a flow that needs a trigger element in order to be activated.

Secondly, references to the potential related to existing buildings (Douglas 2006, Byard 1998) —involving the concept of flexibility (Schneider and Till 2007, Habraken 1990, Kendall et al. 1999) and morphological patterns (Clark and Pause 2012, White 1999, Ching 1943, Stone and Brooker 2004)— underlines the main elements consisting the concept of transformative potential in architecture.

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 elements. 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.

Building's location both in space —centrality, connectivity, 'urbanity,' open-space— and in time

—physical obsolescence— structures the exogenous conditions of transformative potential.

The research will analyze 20 adapted buildings across Europe, North America and Asia as cases study through the starting potential elements and the reuse intervention.

The cases studies selection will consist of studies within a variety of morpho-structural types, as Weberian ideal types (Weber 1949).
The classification of buildings in typologies crossed the classical treatises spanning from Vitruvius to Durand (Cesariano 1581, Durand 1809). 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.
Such buildings faced diverse adaptive reuse approach, from radical to minimal, that started from a diverse state of decay of the original building. The cases selection includes the primary structural materials, such as bricks, concrete, steel and timber.
The research method follows a multidisciplinary approach integrating the Research-by-Design method with the retroactive-embodied energy assessment of the existing structure. A critical re-drawing of original buildings –highlighting dimensional features and configurational aspects– and graphical analysis of the adaptive reuse project will underline plausible links between them. The embodied energy analysis will show the amount of added, removed or displaced in each reuse activity. (Jackson 2005, Benjamin 2018). Exogenous conditions assessment follows the Space Syntax's theory that will measure the connectivity of the former building (Hiller 1984, Marshall 2008) and the ARP model for the obsolescence calculation (Langston 2013).
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 the usage options and the intervention of adaptive reuse. Through which characteristics does an existing architectural object underlie its options for 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 potential average? May exists several kinds of transformative potential in the built environment?
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.
The task is to express the transformative potential as a relationship between computable elements, capable of giving weight to multiple use-options in existing buildings.
The case studies are all kind 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.

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Design Driven Research

The research aims to impact on sustainability issues of buildings, rescuing the central role of architecture in orientating the future while addressing the 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 Research by Design method as the main drive. By analyzing several buildings, the first instrument is the drawings of the two main steps recognized as crucial; the original project and the adaptive reuse one. The redraw of the existing allows rediscovering the buildings through the lens of the research questions. The relationships between information already present emerge by diagrams and schemes. The quantitative data analysis lead by the embodied energy assessment and the quantitative dimensional factors ingrate the qualitative findings. The spatial network analyses integrate both qualitative and quantitative results.

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Modernity of the Antique, or the Politics of Roman Monuments Renovations in Pula through Nineteenth and Twentieth Century

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Keywords: Heritage, Modernism, Pula

Paper/Artifact

Allason, Thomas, 1819. Picturesque Views of the Antiquities of Pola in Istria. London: Published by John Murray, Albemarle-Street.

The focus of the research is the relation of modernist processes and ancient heritage. This relationship was ambiguous through the past, since modernism was characterized by a linear understanding of history, with an emphasis on progress and the future development which has often neglected the material culture of previous periods. However, the very notion of a “historical monument” (Choay 2001), which was crucial for the development of modern conservation discipline, is the result of the same modernist process, initiated by the French Revolution at the end of 18th century. Also, modern architecture has repeatedly returned to the ancient canons in search of inspiration, from neoclassicism to modernist architecture. Given the specific social and cultural conditions in different countries of Europe, this relation of modernity to the antiquity has taken different forms and developed various approaches to the interpretation and restoration of heritage. Among the larger European “schools”, with their specific traditions, we can distinguish, for instance, French, Italian, English, German or Austrian to the same problem. Therefore, Pula, a town in Croatia, situated on the northern Adriatic coast whose ancient heritage was internationally recognized during the Renaissance, was selected as a case study. Due to its specific modern history, this town was ruled by Venetian Republic before the French Revolution, France in the time of Napoleon, the Hapsburg Monarchy until the end of WWI, Italy between two world wars and Yugoslavia after the WWII. These historic discontinuities make Pula’s ancient monuments a unique source for the comparative study of restoration methods and architectural interventions from three major European approaches to the heritage conservation. The aim of the research is to analyze different methods, which coexist on specific roman monuments in Pula, primarily the Amphitheater, the Augustus Temple and the Arch of the Sergii, and to compare different approaches created in the historical circumstances of extremely opposite cultural processes of modernization, such as Austrian imperialism, Italian fascism and Yugoslav socialism.

The historical overview of the research begins with the Enlightenment, a period that laid the foundation for a modern view of ancient heritage. These foundations were aimed at rejecting the assumptions of previous written sources and focusing on the scientific exploration of the ruins through archaeological excavations, technical surveys and historical interpretation. The pioneers of this approach to the ruins of Pula were in the mid-18th century Giovanni Battista Piranesi (1720- 1778), James Stuart (1713-1788), Nicholas Revett (1721-1804), Gianrinaldo Carli (1720-1795), Julien David Le Roy (1724 -1803) and Charles-Louis Clérisseau (1721-1820). Through their work, excavations, drawings and writings ancient monuments of Pula gained wider European significance and were included in archaeological, historical and architectural surveys of the time. During the period of French revolution, a French painter and architect Louis-François Cassas (1756-1827) visited and described Pula and, several years later a British architect Thomas Allason (1790-1852), while a Swiss architect Pietro Nobile (1774-1854), who explored and described the monuments of Pula during the Napoleon rule, finally managed to produce first interventions on the monuments themselves in the form of a stylistic restoration during a period of post-revolutionary restitution.

The next historic phase in the development of Pula was under the Hapsburg administration.

During this period, the city underwent a radical transformation from a small fishing village to a central naval port of the Monarchy, prompting intense process of industrialization, infrastructure construction and rapid population growth. In these circumstances, the ancient heritage of Pula became a kind of obstacle to urbanization, and at the same time the first

Commission for Cultural Heritage was formed, whose task was to valorize the existing historical heritage and set boundaries to the processes of modernization in order to protect the monuments themselves. During that time the chief conservator of the 2nd division of the Central commission for the study and maintenance of artistic and historical monuments was Viennese art historian Alois Riegl (1858-1905), and it was precisely in his famous essay "The Modern Cult of Monuments" (Riegl 2006) that the process of modernization in relation to cultural heritage was lucidly summarized.

After World War I, Pula became part of Italy, shortly before the rise of fascism to power. The attitude of the new state, and especially of its political system, to Roman monuments was completely opposite to the previous Austrian one. Ancient heritage has moved from a position of protection to the position of an ideological carrier of modernity. Roman antiquities have become important elements in the construction of fascist's political myth, and thus the monuments of Pula have undergone intensive work on conservation, restoration and reconstruction. Such an active process of valorization of heritage also required a new form of knowledge, so the treatment of the monument shifted from the specialized domain of art history to the broader interdisciplinary field of conservation, archeology, architecture and urban planning. This methodological change was stimulated and defined by the Roman architect Gustavo Giovannoni (1873-1947) and his notion of "integral architect" (Giovannoni 2018). In addition to redefining the discipline, Giovannoni's merit was the valorization of the urban environment as an important aspect of heritage, which in the Pula example resulted in a specific synthesis in the form of an urban plan in 1939 whose development points were the ancient monuments of the city.

Post-WWII socialist modernization introduced a new discontinuity in the treatment of antiquity. Given the distinct ideological charge that this heritage had during fascism, Yugoslav archeology focused on exploring other historical periods, primarily Illyrian and Old Slavic ones. However, ancient heritage gradually gained increasing economic value with the development of tourist industry. With the formation of the Archaeological Museum, as a special institution that took over the care of ancient monuments, an epistemic transition took place again. If it was art history a discipline that determined the methods of intervention in Roman architecture during Austria, and architecture in Italy, then it was archeology in Yugoslavia. It was not until the mid-1980s, in the midst of post-modernism, that architecture returned to antiquity. In the case of Pula, this was also the last major intervention at the Amphitheater conducted by architects Jerko Marasović (1923-2009) and Attilio Krizmanić (1935-).

Pula's antique monuments have so far generated a great deal of interest among various researchers. Art history dealt with the influence of the Roman monuments in particular historic periods, such as the Renaissance (Keckmet 1969; Gudelj 2014) and neoclassicism (Pavan 1996), or the conservation of monuments in the specific period (neoclassicism: Rusconi 1926, Bradanović 2013; Austrian period: Mader 2015; Italian period: Spada 2017). Based on a critical examination of these works, the topic of this research focuses on the question of the relationship of different periods of modernization to the ancient architecture. The question of interpretation of the monument, which arises from a broader theoretical, social, scientific, aesthetic debate, is a prerequisite for any physical intervention, and it is therefore essential to shed light on the background and the broader context of the relation of architecture to antiquity in order to understand the reasons for the different approaches to its renovation. In this work, research relies on a general theory of renewal (Choay 2001), as well as individual theories that have influenced pulverized renewal cases (Boito 2013, Riegl 2006, Dvorak 2015, Giovannoni 2018, Spikić 2009).

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Design Driven Research

Principal method used in the research is historical. It analyzes and traces the historic changes in treatment of roman architectural heritage. The analysis is based on the examination of three types of material. First are the monuments that can be analyzed on site, where the level of various historic interventions is classified, grouped and sorted in different layers. The second group of material are existing documents, drawings, projects and discussions produced by architects, art historians and archaeologists that were engaged on the preservation and valorization of Pula's monuments throughout the 19 and 20 century. These are the primary sources kept in the archives of the Archaeological Museum of Istria, the Patrimony department of Pula, Rijeka and Trieste, the National Archives in Pazin, Rijeka and Trieste, and other archives. The third type of material are the theoretical discussions in the field of art history, architecture, renovation techniques and philosophy of art, which place the actual interventions on Pula's monuments into a broader cultural context, characteristic for each specific modernization period. The work will therefore be guided by the following methodological steps: (1) hypothesis setting; (2) design and distribution of the fundamental problem; (3) research and classification of actual interventions on ancient heritage; (4) study and critical evaluation of selected primary sources and archives; (5) comparing theoretical work with examples of renovation; arrangement of a systematic whole that leads the introductory hypothesis into a final thesis.

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From Modulation to Algorithm

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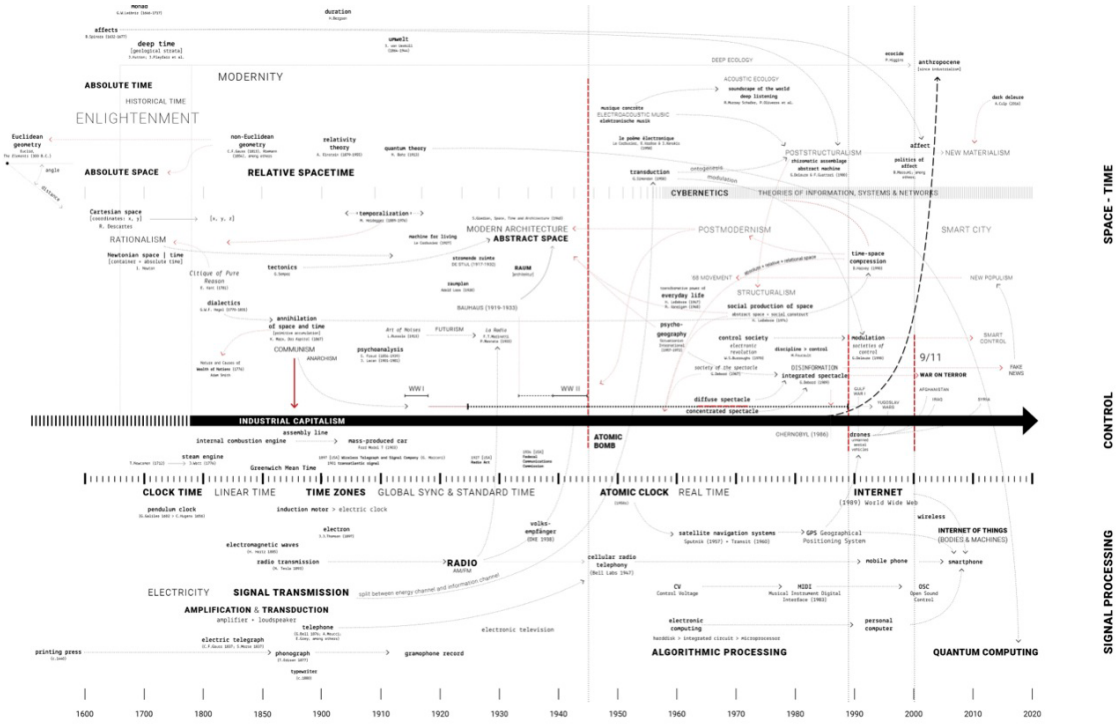
Keywords: Signal Processing, Architectures Of Control, Spatio-Temporality

Paper



Conceptual framework and timeline by author.

Signal processing enables mobile telecommunication and global navigation, geolocation tracking and site-specific responsiveness as well as ubiquitous control and remote warfare. It significantly modifies our sense of space-time – changing habit and perception, proximities and spatio-temporalities. Algorithms are designed to automate decision-making, gatekeeping and distribution of information. To keep pace with the progress, we increasingly rely on machines which require compatibility and continuous updates. This increasing dependency, coupled with the decrease in clarity of their inner workings, which is in part inherent in their expanding complexity, may create unprecedented forms of automation, normalisation, uneven distribution, segregation and exclusion. In the context of this concrete entanglement between abstract machines and sensing bodies, or abstract space-time and social realities, how could we address the problem of spatial control in order to recuperate the recognition of the right to actively engage in making our habitat? and how to develop the means to do so?

The formation of today's architectures of spatial control cuts across different levels, with respective scales and temporalities. On the one hand, we can identify transnational entities intervening in geopolitics and spatial governance (Google, for instance, in particular with its Google Maps component, or SenseTime, or G4S, to name a few and to indicate the range). On the other hand, they operate at the level of interactions and relations between people and machines. For example, they can govern access to resources, spaces and infrastructure, or modify perceptions and spatio-temporalities.

As "planetary-scale computation" increasingly transforms modern geopolitics, Benjamin B. Bratton (2016) proposed a specific diagram (The Stack) to map the shifting political geographies. Along with Bratton, I think it is needed to develop diagrams that allow for mediating between different scales and temporalities. This requires abstraction, and a sense of modularity – that is, independently operating units that can be linked in various ways. The emphasis of my research, however, lies on signal processing rather than specifically on computation or the digital – on signal more than interface and process (or structuring process) more than pre-established structure mediating between body-machine and space-time.

A signal is the physical carrier of information, of content and expression, transmitted through a medium. Modulation impresses the information into the signal by varying the properties (e.g. amplitude, frequency, phase, pulse width or pulse sequence) of a carrier wave that transmits the information. Demodulation is needed to make the signal become heard. With the development of electric telecommunication from the late nineteenth century onward, the term signal became more significant. Coupled with the increasing precision of clock time, from mechanical to electric to atomic clock, signal transmission enabled the development of radio- navigation systems, such as the satellite-based Global Positioning System.

Umberto Eco defined signals as "units of transmission which can be computed quantitatively irrespective of their possible meaning" (Eco 1976, 20-21). They are precisely what Antoinette Rouvroy understands as the raw data of a new mode of government after the computational turn. "Raw data function as deterritorialised signals, inducing reflex responses in computer systems, rather than as signs carrying meaning and requiring interpretation." (Rouvroy 2012, 147-48) She argues that "algorithmic governmentality" implies a shift from targeting actuality (facts) to targeting potentiality (relations). For example, page ranking based on the number of hyperlinks rather than on content, or profile-based advertisements

and focused political propaganda. In short, the utilisation of predictive algorithms, especially when motivated by neoliberal logic, anticipating events in real time and affecting one's choices at a preconscious stage, tends to prevent no less than the very possibility of critical thinking (i.e. the process of individuation) and action or event.

The research seeks to explicate the transformative power of signal processing in the production of space by means of in-depth theoretical research and historical analysis intertwined with explorative spatial and sonic experimentation – or practice-driven research. It is an interdisciplinary study situated within architecture and sonic practice. Amid the spectral complexities we are confronted with, amplified by technological advancements in signal processing, a renewed interest in sonic space has emerged. The expanding field of sound studies moves across many disciplines and interconnects them in different ways. Sonic practices, however, are rooted in a much longer tradition in the arts, which developed alongside electric and electronic media – for example, Italian Futurists' noises and radio in the first half of the twentieth century, electroacoustic music (elektronische muzik and musique concrete) from the late 1940s onward, acoustic ecology, stochastic and algorithmic composition and design (for example Iannis Xenakis), computer music, media and sound art.

The research is divided into three parts. The first part explores the relations between control and signal processing with respect to waves, information and abstract space-time. It seeks to explain how signal processing – from modulation to algorithm – brought about not only the bifurcation of energy and information, and signal and meaning, but also a shifting sense of space-time and mode of governance and the difficulties these shifts entail for both spatial practice and critical thinking. It moves from time-continuous oscillations and analogue thinking to time-discrete functions and digital logic, situating them as intertwined technologies of mediation and modes of thought.

The second part elaborates on the shifting modes of operation in relation to aesthetics in architecture, art and music – focussing on spatial and sonic practices. This analysis seeks for the correlations and isomorphism between cultural, politico-economic and technological developments in relation to spatio-temporality. In particular, it explores the shifting sense of space and time, from early telecommunication (telegraph, telephone, radio) and time-based reproduction (phonograph, tape, film) onward. It contextualises the modern concepts of space, time and signal, and tries to identify certain paradigmatic shifts, from absolute representation and notation to abstract diagram, for example, as well as from tonal harmony to noise and symbol to signal. It investigates correlations between these shifts within the broader historical context – the development of industrial capitalism from the nineteenth century up until now. Furthermore, it looks more closely into cross-disciplinary relations, for instance, in early telecommunication and neurology, in artistic and scientific experiments, and in dual-use (military and civil) signal processing technologies.

The third part explores more deeply the concrete entanglement of abstract machines and sensing bodies, and its spatio-temporal implications, by means of sonic and spatial experimentation and design, or practice-driven research. In reciprocal relation with the theoretical study and historical analysis, this part seeks to develop diagrams, compositions and strategies, which expose, and ultimately explore ethico-aesthetic alternatives to, the processes of machinic subjugation we are encountering today.

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Design Driven Research

The research consists of (1) a theoretical research which provides conceptual and theoretical framework; (2) a historical analysis contextualizing different artistic strategies; (3) a practice-based research which seeks to develop and test new diagrams, compositions and strategies.

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Synthesis of Arts: Ico Parisi's Interiors

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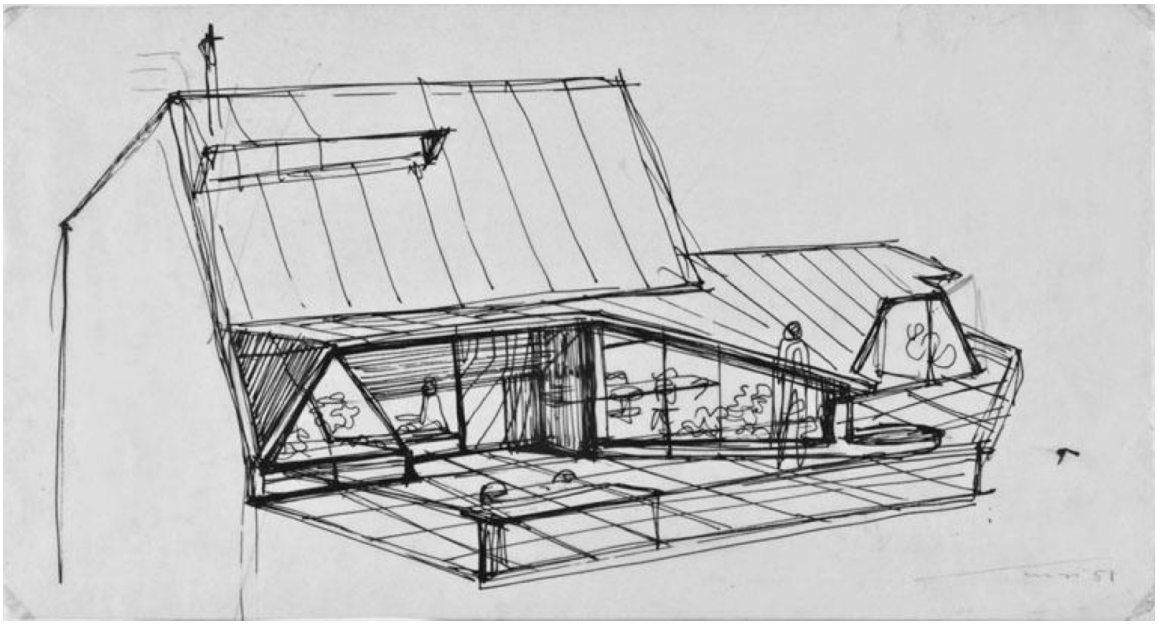
Keywords: Synthesis of Arts, Ico Parisi, Italian Interiors

Paper



Studio per casa Parisi, Fondo Ico Parisi - Galleria Civica di Modena

“Il y a dans l’air du temps des possibilités extraordinaires enivrantes, stimulantes, une rencontre de la Porte-Dorée des arts majeurs. L’un aidant l’autre, ils dissiperont les brouillards qui noient et les idées et les artistes”(Le Corbusier 1946, 17). With these words, in 1946, Le Corbusier focuses the debate on the relationship between the artist and the architect, an approach that will be object of reflection, subject of many exhibitions and ideal to chase for a long time. He is convinced that architecture must once again work together with sculpture and painting enabling the creation of a new architectural register, a new artistic expression able to overcome the individuality of each discipline. After the Second World War, collaborations between artists and architects represent one of the cores of architectural studies. These assumptions give birth to some movements and expositions that experiment and carry on with all the studies done up to that point, spreading the knowledge on this subject and increasing their international interest. Emblematic examples of this collaboration between artists and architects are the IX and the X Triennials of Milan, held respectively in 1951 and 1954, and the exhibition of 1957 entitled Colori e forme nella casa d’oggi held at Villa Olmo, in Como. All events were promoters of the synthesis’s concept, not as “affaire théorique, discussion byzantine entre esthètes, mais avant tout [comme] une affaire de pratique courageuse, de croyance, de croisade” (Guéguen 1967, 55). Some domestic interiors, designed by Milanese architects from the late 1940s to early 1970s, could be considered as a field of experimentation of interactions between architecture and artistic disciplines. The work of Ico Parisi fits into this historical and artistic context, in particular, some emblematic examples of the mutualism between arts and architecture are recognizable in his works presented on the occasion of the exhibitions mentioned above.

For the IX Triennale, inside the Abitazione section, the project for a holiday home, conceived as a single large room, is created by Parisi in communion with the architects Renato Angeli and Gianni Saibene and it’s part of a series of experiences that promote an architectural direction of painting and sculpture. Here Parisi treasures the contribution of numerous artists in order to obtain unity between architectural design and artistic expression: Mario Radice, Umberto Zimelli, Vittorio Tavernari, Antonio Voltan, Giancarlo Illiprandi and Aligi Sassu. During the X Triennial, among the park’s installations, Parisi’s project for the Padiglione del Soggiorno conceived with Silvio Longhi and Luigi Antonietti is paradigmatic. A plastic spiral structure, “result of the collaboration between architects and engineers, together painters and sculptors – Bruno Munari, Mauro Reggiani, Francesco Somaini – [...] informed by shared views and aspirations” (Lietti 2017, 179).

Within the Como exhibition, focused on the “problem of interior architecture considered as the point of greatest adherence of the plastic arts to life”(Associazione Belle Arti della Provincia di Como 1957, IX), Parisi presents two projects: the Casa per vacanze – with Gian Paolo Allevi and Luisa Parisi – conceived as an example of an “industrial standard” applied to the artistic disciplines to which the artists Giovanni Campi, Mario Radice, Manlio Rho and Francesco Somaini contribute (Ibid., 4-17); the Stanza per bambini where, “the collaboration between architects, – Ico Parisi, Salvatore Alberio, Fulvio Cappelletti, Silvio Longhi – painters –Mario Radice and Manlio Rho – and sculptors – Francesco Somaini – had the opportunity to take place in the whole setting”(Ibid., 64).

Leaving the temporary dimension of exhibitions, again in those years, precisely between 1957 and 1958, Ico Parisi designs with his wife Luisa Aiani Parisi, his own house, which they themselves call La casa della vita and that is located on the top floor of the Sant’Antonio condominium – also built on a project by Parisi – in via Scalini in Como. The architect, convinced

of the importance of a design integrated to the artistic intervention, with this project shows that “creative unities will be formed, in which architect, painter and sculptor, in the manner of the Comacini Masters, will give a new face to modern architecture. [...] The synthesis of architecture with the other arts can only be conceived in the coexistence of architects with painters and sculptors” (Gualdoni 1999, 7). For that reason he call to him his circle of artists, namelly Francesco Somaini for the sculptures, Lucio Fontana for the floor, Fausto Melotti for ceramic tiles and Bruno Munari for the art’s works as well as numerous other artistic presences that dot the interiors. The choice is to “create a sort of scenic space in which the artist’s work is not subordinate to the project but necessarily completes it” (Lietti and Brambilla 2019, 36). A single large open-space without any wall division dug under the roof at the top of the complex “like a real hut, […] a house of atmospheres, climates, temperatures even more than shapes” (Gualdoni 1999, 12). In that sense, the link between the architect and the artists is much more than a simple professional collaboration, it is a partnership that generates new experiments and new research every time.

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Parisi, Ico. 1991. Foto a memoria, NodoLibri: Como.

Design Driven Research

The figure of Ico Parisi and his design path, that led him to deal insistently with the theme of the synthesis between arts and architecture, will be examined through an in-depth investigation which aims to achieve greater and more articulated knowledge and awareness of the project. Through the tool of drawing and by retracing the steps of production and elaboration it will be possible to understand the maturation of the design process and, within the latter, to carry out the form of collaboration and the variety of figure and effects that the dialogue between arts and architecture leads to. The investigation of the spatial complexities, of the relation between internal and external places, the analysis of spatial experience and so the phenomena of interaction with architecture and its inhabitant and the examination of the cooperation between the architect and the artist will allow to open different perspectives on the project and above all to understand the mechanisms and the project methodologies used. In that sense the project, or perhaps better to say the step by step reconstruction of the project, can become the beacon of a research that aims to extrapolate a design practice and the peculiarities of an architecture, typical of the second postwar period, that saw a close collaboration between architects and artists.

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An Echo of the Sun
Autopoetic Observations and Rhythmic Compositions, Tuned by the Fine Structures in our Space-Time Realm

Pepa Ivanova, KULeuven, LUCA School of Arts

Keywords: Radio-Observations, Visual Score, Collaboration

Artifact

Zebra Patterns from Fictional Observations Series, 2019, monotype silkscreen, 60cmx45 KHM, Malmö, in collaboration with Dr. Jasmina Magdalenic (Royal Observatory Belgium)

The title of my application comes from Anton Vidokle's script: "The communist revolution is caused by the Sun"
Two interconnected concepts frame this research (1)autopoiesis of solar observation data and
(2)Sun-Earth symbiosis. I reimagine the scientific data as cultural phenomena narrating our perception. Embodied in machine generated structures, data maps the evolution of knowledge, intervenes in our understandings about the world and reshapes the visual inputs we receive. 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.
This research investigates the architectural and digital realm in which we wander and considers the importance of a collaboration between art and science in introducing new modes of perception. For the past ten years I've been researching the ways that one's perception is shaped by developing new stimuli and studied how to provoke sensations with the help of the advancing technology. I experimented with light and sound, electromagnetism and electricity as the intangible matter to construct artworks and interact with spaces. With this research I continue my trajectory by focusing on the relational patterns between the Earth and the Sun, expanding on the epistemologies of solar science (Chizhevsky) and philosophy (Barad, Parisi, Morton) with a hybrid approach combining the legacy of a multitude of artistic fields. Drawing from electronic, software generated and sound art, light installation and science, my practice-based research generates new modes of experiencing the physical and immaterial architecture of the Sun-Earth cohabitat.
Through the autopoiesis of solar observation data and emphasizing 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. With this new framing, I acknowledge intra-relations between the two astronomical bodies (Barad), which can be found through the comparison of observational data of the Sun and the Earth. How similar are patterns, rhythms, and phenomena on the solar surface, recorded in the different types of burst and plasma structures to soundscapes and light conditions on the Earth? Through this unusual approach of composing sound, winds and waves, solar spikes and birds, bursts and wales sounds, songs and shouts sonify the Sun-Earth symbiosis.
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.
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 appear to have a cultural value? I am referring to algorithm aesthetics and, more specifically, to Luciana Parisi's book "Contagious Architecture". There she introduces the autopoetic ontology of computational data in machine generated cognition. The autopoiesis puts light on autonomous reproduction and creation, therefore the experiments in this research draw the foundation for self-directing, aesthetical, knowledge and narrative science-art interaction.

With this multidisciplinary research, interconnecting science and art, I will investigate closer the work of Alexander Chizhevski, pioneer of Russian cosmism, who presents a great example of merging different research fields in science as solar observations, history and natural sciences to signify the importance Solar radiation on our existence. Chizhevski's unusual link of physical factors of the historical processes is still debated, but the influence of solar radiation on living organisms is undeniable. While technological advancements help us expand the image of our space-architecture realm, to grasp the different materiality and influences, Object Oriented Ontology (G. Harman) links scientific naturalism and social relativism to draw attention to the importance of everything existing (T. Morton). 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.
Research questions
1. What are the relational patterns between the Earth's phenomena and the Sun's fine structures in the solar plasma, from a human perspective?
2. Light - solar and artificial, inevitably brings darkness in equal importance. What is the role of the shadow - architectural and human in influencing our perception? How does the play between both bring memories and change perception?
3. What are the different modes of experiencing architecture, physical and immaterial? How can we construct space-time realm stories of the sun-earth symbiosis through artistic interpretation?
4. What added value for science can art create?
5. Do solar observations tell us aesthetic narratives? Might raw unfiltered data, errors, and glitches captured by sensors hold important stories? Often, this information is filtered by scientists, assumed to be unnecessary, background noise.

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suNEARrth

sun - earth interconnection in frequences
suNEARth is 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 is to delicately overlap tools and methodologies from the scientific and the artistic domains to highlight commonalities and divergence. The aim of this investigation is to connect the scientific and artistic methodologies to analyze and translate recorded phenomena, layering languages and interpretations intrinsic to each field.

Technique

The prints are 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.
The 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.

Pepa Ivanova
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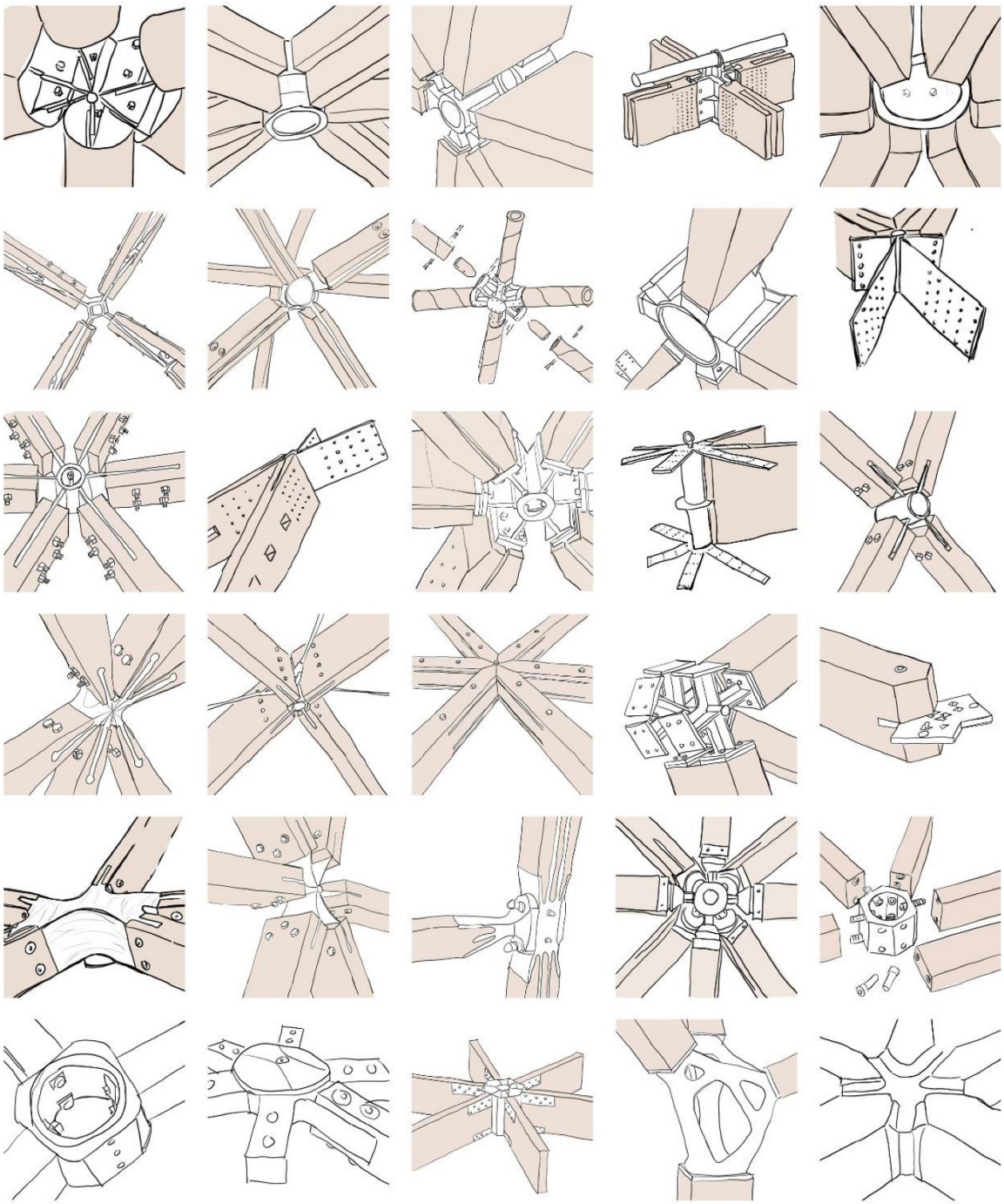
Pepa Ivanova is an interdisciplinary artist and researcher based in Brussels. She is a HISK, Ghent Laureate (2017), and she holds an Advanced Master in Arts from LUCA, Brussels (2013), and MA in Sculpture at the Royal Academy, Antwerp. While in Bulgaria, she studied Porcelain and Glass design in the National Art Academy, Sofia.
Her recent works question the epistemological values of numeric languages and their scientific and art translations. Fascinated by how to materialize temporality, she constructs decaying installations, and she composes light and sound experiences, as well as physical scenarios to interact with.
Currently, her works are exhibited at the 20th Small format in Paper Biennial, Nisme, Design Museum, Ghent. She has been exhibited at NOVA XX exhibition at Centre Wallonie-Brussels in Paris among other female artists, with an emphasis on art, science and technology, KIKK festival, Namur, at KANAAL, Brussels, De Warande, Turnhout, Goethe Institute, Sofia and Thessaloniki, Sofia City Gallery. She has performed at M HKA and De Singel, Antwerp, Z33, Hasselt, CAMP Festival Stuttgart.
Pepa's current research on the light on earth is supported by KIKK, Namur and funded by Wallonie Government, Belgium and is part of the objectives of her Ph.D. in LUCA, Ghent/ KULeuven with focus on autopoietic of observational data.

Nodes

Steinar Hillersøy, Dyvik, Department of Architecture and Technology, NTNU

Keywords: Gridshell, Nodes, Joints, Tectonics

Paper



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This PhD-project studies the design of structures consisting of nodes and members connected at the nodes. More in detail, it explores timber gridshells with aluminium nodes. The project aims to shed light on design options and provide proposals for explicit design to inspire further exploration of shell structures bridging architectural and structural concerns. A substantial part of this project is to design and develop new node principles. In this paper a framework of built gridshell nodes is presented, categorizing the main parts of the nodes. Building on this, a selection of node-principles that are not found in the framework is deducted and drawn as design proposals. The following paragraphs describes the technical and theoretical background of gridshell nodes and discusses their aesthetic or tectonic potential.

Gridshells can be slender and material-efficient structures with variation in spans and forms. They can be constructed with visually interesting patterns that together with the detailing and materials explain the structural behavior of the architectural forms. There are at least three types of gridshells.

Smooth, where members are pre-curved and connected with nodes or lab joints. Kinematic, where the members are bent into shape. And discrete. In general, a discrete gridshell is made from two main parts: members, straight with varying lengths, and nodes that connect the members. Design of gridshells relies on good collaboration between the disciplines of architecture, engineering, and manufacturing.

Decisions on shape, topology, and cross-section, together with the node design are all interconnected and play a huge role in how a gridshell works as structure, how it appears visually and how it is manufactured. (Chilton and Tang 2016). In terms of digital design of gridshells, the members are usually modelled with a discrete mesh segmentation or a subdivided NURBS-surface, where the “mesh edges” or “sub-division lines” represent the members, coupled with form-finding and optimization methods.

Nodes are key elements in a gridshell regarding structural performance as well as costs, assembly, and visual appearance. To save manufacturing costs, it can be crucial to use bulk materials for manufacturing. Proprietary node-systems often combine mass production or bulk material, with customization through machining or welding. Bulks can come from profiles (cylinder, tube, or rectangle), castings (spheres, cups or plate-like), or plates (thick, with thickness as tall as the member height, or thin, typically one machined plate or several pieces welded together). The node can be considered consisting of two main parts: (1) a kind of “gripper” connecting the timber member to the node-element, and (2) the “core of the node” where the geometry of the members connected by the node meet. Due to conditions and preferences for manufacturing and assembly, there are many design options for these two parts. Nodes which are quite straightforward to design and manufacture are “splice-
nodes”, typically a hollow cylinder with welded vertical splices and bolts, however, this often results in gaps where the members meets the cylinder and/or a cylinder proportionally large compared to the members, which may not be visually appealing.

As described, gridshell nodes are about joining materials. When discussing the links between materials, structure, and shape from an architectural point of view, “tectonics” has become a keyword. The origin of the term is Greek, where téktōn means a carpenter, joiner, or builder (Frampton 1995, 3). Through the history of architectural theory, the term has later been used in somewhat different meanings. Gottfried Semper describes the four technical arts, where tectonics, an art which originated in timber carpentry, describes the art of assembling stiff, plank-like elements into a rigid system (Semper 2004, 623). According to Semper, the joint, or knot, is the oldest and most original construction part (Semper 2004, 219), and it

is out of the connections that the beauty of architecture emerges. Kenneth Frampton uses tectonics in a more general meaning, describing a kind of approach to architectural design which is also is a qualitative property (Frampton 1995). According to Frampton, tectonic can be a way to reveal the essence of a building and a structure should therefore be logical and understandable. To archive this clarity, an articulation of the joints is crucial. In short, tectonics is about exploiting qualities embedded in the different materials and combining and connecting parts and materials in interesting and meaningful ways. Different materials can represent interesting contrasts where the one strengthens the characteristics of the other. While timber can be characterized as natural, soft, and warm by color as well as by tactility, aluminium represents an industrialized precision that can appear in many ways, ranging from sharp and shiny to round and smooth. This project works with the tectonics of gridshells, expressing the structural system as well as the different materials. Gridshells are by default readable structures, consisting of almost pure structure. Gridshells with timber members and aluminium nodes possess a huge potential for tectonic articulation. And the node, the joint that binds the parts together, is key to the appearance of any gridshell.

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Design Driven Research

This PhD projects work is described as a kind of research by design, which can be explained as the general concept of producing new knowledge through the act of designing (Hauberg 2011, 51-52). The output in research by design can be the object itself, but in this case, the main output and purpose is the knowledge gained through designing. A realistic design task is needed to study the competing issues of aesthetics, structure, manufacturing, and assembly in the design of gridshell nodes. Therefore, several cases are selected for exploring gridshell nodes. Smaller pavilions and theoretical cases are used, but as the main case, a known building is selected, more precisely, the roof covering the British Museum Great Court completed in 2001. The method consists in examining the steel gridshell-structure of British Museum redesigned by the combination of timber members and aluminium nodes. The overall shape, grid-member-dimension, and particularly the nodes and the connection between node and member will be examined. Nodes are examined with focus on the aesthetic and tectonic potential, as well as structural integrity, manufacture, and assembly, as described in the main section.
Repeated nodes, like in a geodesic dome, can be drawn manually, but when it comes to free form gridshells, manual drawing of nodes is very inefficient. Instead, the relations between nodes and members in a free form gridshell should be established digitally. A digital parametric design workflow handling these geometric relations are more efficient and expedient and the chosen framework for this is through visual programming in Grasshopper.

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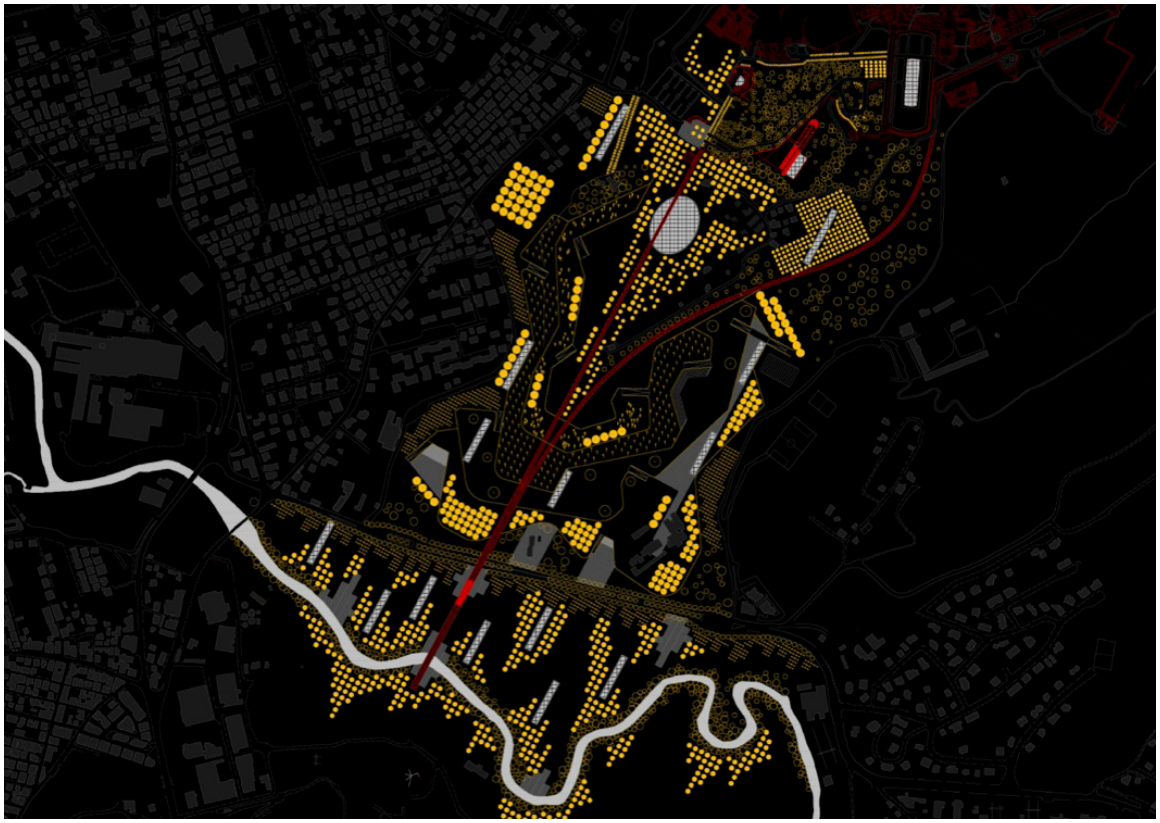
Architecture and UNESCO Buffer Zones. The Scientific and Academic Research for the Definition of Layouts of Design Actions for Profiles of Fragile Territories

Department of Architecture and Urban Studies, Politecnico di Milano

Keywords: UNESCO Buffer Zones, Architecture, Territorial fragility

Paper



Masterplan for the Buffer Zone of Villa Adriana UNESCO Archaeological Site, Project elaborated during the PhD Workshop Ascending the city, ascending the history. Tivoli: from antiquity to industrial archaeology (Tivoli 2019, Prof. Pier Federico Caliari, Prof. Marco Vaudetti, Prof. Marco Borsotti), project by: Greta Allegretti, Carola D'Ambros, Mina Ghorbanbakhsh, Chiara Lionello, Enrico Miglietta, Valerio Sorgini, Greta Taronna.

The objective of the research is to develop Design Models for the UNESCO Buffer Zones of archaeological sites located in the so-called fragile territories. In particular, the research defines three profiles of fragile territory (low, medium, high density), each identified by its own special features, needs and design questions.
Each territorial profile is studied and investigated through a selected case study, with the final objective of extrapolating a layout of design actions. The resulting layout is to be applied and verified onto three specific sandboxes (one per case study, one per territorial profile), chosen among the archaeological sites in Italy that already have a Management Plan. The final purpose of the research is to elaborate a specific design model for each of the three territorial contexts. Regarding the selection of the case studies, the focus is set on scientific and academic research – as there are still no concrete architectural projects (as intended in this research) approved or ongoing on UNESCO sites. More specifically, the research refers to some International Calls for Projects organized (or planned) by "Accademia Adrianea di Architettura e Archeologia". These Calls are set on World Heritage Sites, their Buffer Zones and the so-called "areas of interest"; they were/are addressed both to universities and architectural firms. The outcomes of the Calls constitute materials for the organization of further research activities such as publications, exhibitions and conferences.
By design action we do not simply mean an operation conceived, designed and finally built. We mean an architectural gesture that acts on the existing in order to determine a new status – which tends to be better than the previous one. The power of the gesture is determined by its essential reasons (the triggers) and by its final form. If the final form corresponds to a concrete and tangible nature – or at least designed and potentially defined by volumes and materials –, an abstract and intangible nature corresponds to the essential reasons, consisting of that system of reflections and triggering causes that determine its need. The nature of the design action is therefore twofold, suspended between matter and thought.
The design action can be defined as a sign, in which a signifier and a meaning are distinguished. In this direction, it is possible to define that the meaning of the design action lies in the intentional/strategic nature of the gesture; that is, in its will to answer a formulated question, a well-defined need (the essential reasons). The signifier, on the other hand, coincides with the formal nature of the gesture, which is, in its translation into architecture, the final form.
In order to be identified and recognized, therefore, the design actions must be defined through both natures. Especially when the study framework is real/realistic (as it happens in the case of the International Calls) the two aspects cannot be considered separately. The fact that the context of investigation is territorially defined, makes the essential reasons traceable; the fact that they have been faced during the Calls, implies the existence of a collection of possible solutions.
Keeping the focus on the International Calls, the strategic nature (or meaning) precedes the formal nature (or signifier) – if not in importance, at least for logical and practical reasons. In fact, if the first is drafted in the competition notice and deeply studied by the project teams, the second is more detectable in the project proposals developed and presented by the participants. We can define a logic that allows to identify the project actions starting from the Calls, or rather, from the related competition notices and project outcomes.
The considered Calls are very wide, both in terms of surface and design topics: depending on the case, they range from strategic/landscape

design, to interventions on single buildings, to museography and exhibition design. To understand them, it is necessary to think at different scales (from a very general one to a more specific one), according to the logic of the multiscalar and integrated project. In this perspective, both with regard to the strategic and formal aspects, it is possible to develop an architectural thought on several scales, which involves the different phases of the Calls.
The "meanings" of the project actions are to be found in the competition notice, but not only. Having also defined the meanings as "strategies", they concern the questions defined by the Call about the site, its needs and its potential.
But how does the Call define these strategies? The prerequisite for drafting a good announcement is the complete and profound knowledge of the place and its relations. This must be investigated according to the nature of the corresponding territorial profile, and the underlying relationships. From the analysis of the requests of the Call it is therefore possible to understand which strategies are not only focused on the site, but also on the entire territorial profile. The more general they are, the more they will have to do with the territorial profile; the more specific they are, the greater their relationship with the site. Moreover, it is not excluded that some strategic aspects may arise from the individual project proposals. Therefore, the meanings/strategies of the project actions include: the questions on the territorial profile and site, the needs defined by the competition notice (or by the designers), the definition of some open topics.
The "signifiers" of the project actions are to be found in the outcomes, but not only. It cannot be excluded that some formal aspects are already mentioned by the competition notice, such as dimentions (volumes, surfaces, …) or architectural approaches.
Both the "what" and the "how" of the projects fall into the category of signifiers, as they define the tangible and perceivable aspect of the design actions. In this sense, the signifiers of the project actions include: an abacus of the solutions selected from the final projects presented (the "what") and a list of more general formal guidelines (the "how").
The layout consists of a series of "strategic" design actions, plus some "formal" design actions. Their reorganization in a layout derives not so much from putting them in a hierarchy, but from the recognition of their unavoidable and constant interrelation. The applicability of the layout derives from the possibility of building links between these actions, as well as from their identification in a specific profile. They constitute a structure, a schedule within which the project should move, which oscillates between the fixed points (the project actions identified for the profile) and a margin of freedom (given by the reciprocal relationships between the design actions).
The layout does not constitute a fixed scheme, but a system of actions – already applied and recognized in the case study – which can be reiterated within the reference profile and, more in detail, to the corresponding sandbox.

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Design Driven Research

After the preliminary profiling of the territory, two phases of study and research are defined to arrive at the definition of the Design Model.
The first phase (investigative), is focused on some case studies and aims to extrapolate a layout of project actions; one layout for each of the three identified profiles. The second phase (experimental) is focused on some sites that are used as sandboxes; the layouts are applied onto them and verified, with the aim to finally develop the Design Model. While the first phase provides scientific support for the Design Model, the second one defines its applicability and verifiability.
The analysis of case studies allows to become aware of the design themes of each profile. The comparative study of the outcomes, together with any new hypotheses of solution elaborated on other occasions, will be codified in a set of design actions in a specific layout. The layout must clearly meet the requirements of integration to the Management Plans (and other regulatory systems) and multiscale towards the components of the assets.
The reinterpretation of the layout within a new context – the sandbox – will define the structural elements represented by the design actions. After having tested their application and inclusion within the existing Management Plans, it will be possible to draw/write the basis of the Design Model of the corresponding territorial profile.
Currently, the research is focused on the extrapolation of the layouts of design actions, in particular working on the first profile “low density Buffer Zones”.

Greta Allegretti is a PhD candidate in the program “Architectural, Urban and Interior Studies” at DAStU, Politecnico di Milano.
Currently enrolled in the second year of the program, she is deepening the investigative and experimental phases of her research, focusing on “design driven research” aspects.
After obtaining a Master’s Degree in 2017, also at Politecnico di Milano, she specialized by attending the Master in “Architecture and Museography for Archaeology” by Accademia Adrianea di Architettura e Archeologia. She dedicates herself to the themes of the valorization and design for heritage.

Architecture *on* the Modern.
Methods and Design Actions for the School Heritage within Seismic Italy.

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Paper

Keywords: School, Modern heritage, Architectural Design

Re-think, Re-draw, Re-form. Suggestion for the “A. Pecorini” school in Gorizia - collage
In the background, a picture of the school “A. Pecorini” built in 1956-59, in: Aloi, Giampiero. 1960. Scuole. Milano: Hoepli Editore.

The research I am developing concerns the adaptation and preservation of the Modern architectural heritage in Italy. In particular, it focuses on the school heritage, built between 1950-1970, with reinforced concrete frame structures and located in high vulnerable seismic areas.
The leading aim will be the intervention, through a methodology based on architectural design actions, that can guide and interpret the buildings' seismic adaptation from the point of view of spatial modifications.

A general overview on the theme

The Modern: the "Masters" and the "minors"

The choice of this field of investigation 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. This is especially evident referring to the buildings designed by the so-called Masters of the Modern whose fortune, in the architectural panorama of that time and in today's one, derives precisely from their ability to introduce innovative typological and spatial solutions still valid today. Alongside the Masters, however, 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.
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 in several aspects. First of all, a broad discussion on the issue of the legitimacy of interventions to be applied to the buildings designed by the Masters, is already open. Those ones, if suffer, from one side, from an almost absent regulatory protection, just think about the inefficiency of the copyright law (L. 663/1941) or the possibility of applying monumental restrictions only after 70 years from the construction of the building (D.L. 70/2011), are architectures undoubtedly recognized 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 center 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 that must be adapted mainly because of the strategic role they fulfill.

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 fulfill specific functions rather than, as in past years, the adaptation of those designed in earlier eras for different uses. The awareness the school building should satisfy specific purposes and that its spaces' characterizations 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 the new essential characteristics of schools in the modern era.
Furthermore, it is essential to consider the most recent data presented 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 1970.

Risk factors

Referring to these buildings' structural consistency, most schools of this period were realized with a RC frame structure. The 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 and Irpinia earthquakes, a revision of the possible effects of the seismic event on the Country was required. However, only the promulgation of the NCT2008 was able to increase the sensibility about the seismic alert level, classifying the entire territory into four seismic zones in which apply specific preventive actions.

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, 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 methodologies of intervention on these typologies 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.

The 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 practice in the adaptation and prevention of Modern 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, trying to categorize them in a sort of abacus to identify problems and possible strategical design solutions; working in contrast with the widespread Italian emergency practices and rapid interventions that often change the architectural object irreparably and undermine its liveability; trying to find solutions that can improve the use of the school buildings all over the day and that can also revitalize the urban and social context in which they are located, improving connections with close public open spaces that can work with the adapted building in a wider system; taking advantage from the already experimented methodology and research works developed by international research laboratories (i.e. MIT Urban Risk Lab), trying to pair the resolution of architectural and structural issues with the social and hazard prevention ones.

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 case studies (among them: 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). The three case studies, selected as a paradigm of the typological innovation of their time and also, according to dimensional and typological criteria as representative of the extensive series of Italian

school buildings, 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 safety living conditions.

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Design Driven Research

The work developed 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 1950-70 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 analyze their structural and compositional elements' fragilities and potentialities. Re-drawing plans, sections and elevations were the way to find design rules and guidelines for the third phase. In this last stage, the experimentation on case studies, the design tool will be used to suggest solutions of intervention on the heritage to prevent it from the seismic loss and revitalize the architectural object. Plans, sections, collages will be 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 design actions that can be adopted in similar contexts and heritage

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A New Urban Stereotomy
Design Strategies for the Base of Social Housing Districts

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Keywords: Stereotomy, Section, Social Housing

Paper

"*Il Basamento pubblico*". Open spaces as vital spaces.
Collage with the Perspective view by G.A. Antolini for Foro Bonaparte in Milan, with Gratosoglio residential buildings and towers on the background. The red huge open space is considered a "common ground" and the field on wich the research wants to find its design outcomes.

The Object of the Research

The research object is the “base” of social housing districts, which here seeks to find a new, more open definition. It is a conspicuous legacy, with marginal and imprecise boundaries, which is interpreted here as the enzymatic space of urban regeneration par excellence, and can be defined as an inseparable set of open spaces and the connection to the ground of public residential buildings, forming a strong and often latent system of relations with the city and the landscape.

Why Stereotomy

The research title, A New Urban Stereotomy, referring to Gottfried Semper’s theory of architecture, wants to emphasize a specific methodological tool to formulate correct questions and seek possible solutions for these spaces.
As an independent discipline, stereotomy wants to delimit the research horizon by defining a specific formal field to investigate, which is, in fact, that of the bases, metaphorically linked to the “base” of the “public city”.
On the one hand, it recalls the possible and future design outcomes of this research, which can be summarized, like the work of stereotomy, in a series of open guidelines capable of comparing different outcomes and design strategies implemented in similar and specific contexts.
On the other hand, it wants to refer to the investigation method, which wants to use the architectural tool of section as a generative instrument, capable of defining some ideas and connections both for the analysis and the achievement of that desired “fluidity of urban processes”.
Finally, the title wants to borrow from Semper’s theory the idea of “reactive solidity” between the parties. As in a wall system, the various components collaborate for the solidity of the entire structure. The theory of assemblage and the collaboration of a system made up of parts is also the basis of the conception of these districts, characterized (in a defined time frame) by the idea of the “large size” also implemented by the use technological systems based on prefabrication processes.

Reading Phase: a Geography

Therefore, the investigation intends to address, first of all, two different Italian urban contexts, the ones of Milan and Rome. At first, attention is paid to two particularly significant districts, the Gallaratese 2 district in Milan and the Corviale district in Rome, both for the relevance of their public grounds and architectural significance of their “form”. In fact, the section is their generative architectural sign, and it is also the tool that best allows us to understand and hold together that complex system of public and open spaces that have to respond and confront themselves with the volumes of the residences.
These two examples are read in the research as “containers” of meanings and possible responses to be coded, interesting fields useful for the future investigation on different case studies (always in the same urban contexts), in which a strategic design outcome is sought. These two exemplary cases are also the instrument for interpreting certain choices already made for their revitalization.

Time-frame and case studies

The chronological frame selected examines a precise portion of the

production of social housing in Italy, including the last phase of the use of prefabrication systems and patents imported from abroad. It goes from the mid-Sixties to the late Seventies.
The case studies that can expect some possible design answers offered by the research are thus defined by some chronological cornerstones, relevant from a critical point of view and marked by a general desire to review previous outcomes in the same sector (the project for Gratosoglio district in Milan by BBPR, in 1963, can be considered a beginning). In fact, these districts' designers started an interesting debate about the strategic role of the public space. Thus, even in the discussion regarding the Milanese quarter of Quarto Cagnino (1973), the regulatory "imbalance" is evident and founded on an increasing attention paid to the domestic space, despite an appropriate vital consistency of public ones.
Even if in a different urban context, in Rome, the realizations see this strong asymmetry, and L. 513/1977 can be considered a negative result of this process of "functional optimization" of the construction site in social housing. These normative processes strongly mark the designer's work that, far from any compositional outcome, is limited exclusively to a masterplan definition of parameters dictated by approved types (i.e., for example, the standard projects published in occasion of a competition made in 1978), with increasingly weaker attention paid to the common space. Some examples are the Torrevecchia district (1977) and the Zone Plan for Val Melaina in Rome (1979-88), all built with prefabricated components and strictly regulated by these new normative tools for social housing.
Last but not least the fact that, in the case studies identified, there is a strong will to distinguish and identify different typologies of open spaces and different types of "public bases", for a more general desire for architectural synthesis on possible ways of interpreting and re-designing these spaces, also through their comparison.
This chronological framework's crucial and critical conclusion can be detected in Mario Fiorentino's project for his "Corviale rivisitato" (1979). Thus, reconnecting to the premises of the research, which investigate the two reference projects of the Gallaratese in Milan and, precisely, of the Corviale in Rome, there is the will to emphasize the importance of the system of open spaces that is significantly expressed in this solution (a declared "repentance" of the author), through the assemblage of projects that design an alternative and enrich Corviale's public base. An assemblage "procedure" which, as happens in stereotomy, is read as a metaphorical key for a possible "reactive solidity", a solution to the problem of that fragmentation of the public space of these districts, to achieve that urban "fluidity".

The scales of the outcomes

The chance offered by architectural design defines both the investigation's object and the preferential point of view for a general re-thinking of these marginal urban contexts. Furthermore, the characters and the dimension that the various case studies have in common allow us to make an interesting argument on two different scales in a parallel way. On the one hand, the building's scale and its connection to the ground, on the other, the larger scale of the landscape, interpreting the link with the city and with large agricultural spaces as a potential quality to be activated.
The inclusion of new uses and the study of a different "reactive" morphology of these spaces are the goal, achievable through drawings, projects,

and open criteria, which allow the definition of a new urban stereotomy, conceived, therefore, as a summa of all the analytical and synthetic intentions of the research.

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Design Driven Research

The methodological path moves on a double track. On the one hand, there is the reading of the “exemplar” cases, primarily through bibliographic and archival research, which aims to highlight some key points that can be explored in the case studies selected for a possible design outcome. On the other hand, there is the aim to create a taxonomy of public grounds, which are summarized in the form of “abaci”, essential tools for comparing the consistency, the morphology and the structure of the open spaces of the districts examined, and also for comparing them, for example, with other districts outside the chronological framework but still significant from some architectural points of view. The highlighting of some issues is an ongoing process, an “emergence” that occurs through design (and for this reason, it can be defined as design-driven research). Thus, the act of drawing several sections of these social housing districts, taking this main and significative instrument of representation from the discipline of stereotomy, also makes the object of the research evident graphically. This space is the horizontal system, the “ribbon” that develops at the base, in fact, of these residential buildings.
A measurable space that can be defined in section, a generative space of design occasions, articulated and fluid. These critical reading taxonomies will then be accompanied by the “abaci” of design synthesis described above, which want to deepen and differentiate, with the same methodologies, the design outcomes of the selected case studies, comparing and problematizing some other solutions in different national and international contexts.

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Limits of Change: Changing Character of Lithuanian Small Towns During the XX – XXI Centuries

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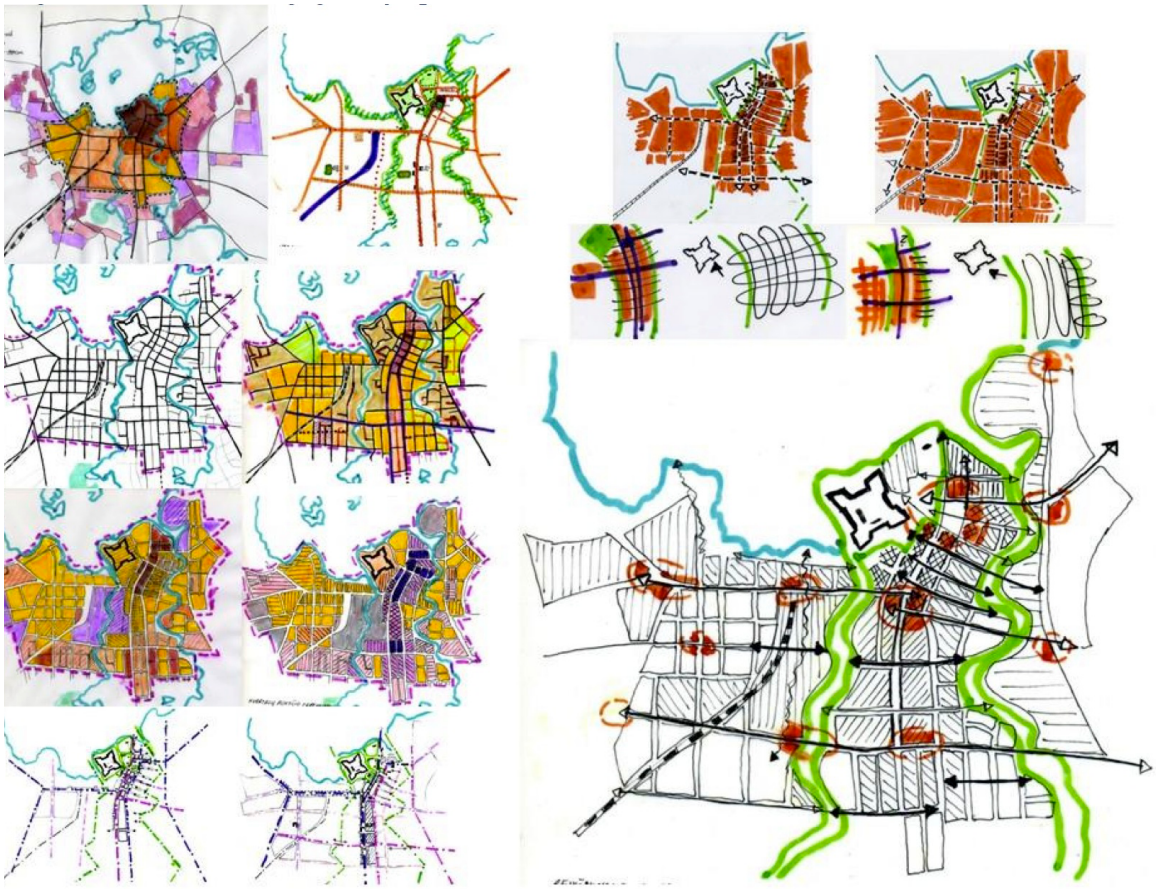
Keywords: Town Form Character, Urban Transformations, Limits of Change

Artifact



Example of the research material prepared by Agne Vete

With the process of globalisation and integration in the world, the convergence of the nations and their cultures is inevitable, but at the same time the identity of nations may be lost. This process affects many areas, but has a particularly strong impact on the cities and towns, which are gradually losing their character of town form (Dringelis, Ramanauskas and Steponaitytė 2015, 484).

Contemporary problems of town form are inseparable from the assimilation processes in towns that have intensified in the twentieth century. Soviet planners formulated the concept of socialist urbanism in the 1930s, which fundamentally shaped urban development in Eastern Europe in the later decades and led to functional segregation between industrial and residential areas and elongated green spaces. After the collapse of communism at the end of the twentieth century, the political and economic context changed dramatically in the Eastern Europe, and the forces of global economy became apparent (Haddad and Rifkind 2016, 536). In general, urban development in post-socialist countries can be described as free market concentration in the sector of private property, which has affected not only urban sprawl processes but also overall uncoordinated external and internal urban development (Hirt 2012, 254) (Kiril and Sykora 2014, 360) (Mantey and Sudra, 2019). Under such conditions, the overall visual appearance of town form becomes a non-priority issue and presupposes local drastic changes or, conversely, the neglect of significant structures in towns.

Although forms of towns are constantly changing, changes may have a major impact on town character. Changes of town form can be caused by several main factors: natural growth; catastrophes; globalisation, internal forces. Town form is a physical, built form of a town. Fundamental elements of town form are blocks, spaces associated with them and streets (Moudon 1997). Town character is: peculiarities of a place; models of development, townscape and use; a combination of all aspects that sets a town apart from others (Cowan 2005, 468). Town form character reflects the essential features of a physical structure of a town and there is a risk that town may change unrecognisably.

This issue is particularly close to small towns, which characters are especially fragile. Shrinking small towns are experiencing a decline in public services and a resource-based economy, abandonment of the cultural landscape, increasing areas of unused land and emptied housing, social exclusion and lack of political vitality, an aging population. On the other hand, small towns are like an oasis in a rapidly changing world, away from noise and pollution. They can offer a small close community, a sense of attachment to a place, and a less standartised, homogenised environment. Small towns can suggest a sustainable future by reaping the benefits of their cultural, economic and natural environment. Counterurbanisation processes began emerge in the 1960s as opposed to globalisation and intensive urbanisation. One-fifth of people live in small European towns, and in more intensively urbanised, metropolitan regions, as many as a third or a half in some cases (Knox and Mayer 2014, 208). Due to the development of technology, better travelling conditions and opportunities to work and receive services or goods remotely, small towns are emerging as attractive living environments, which can offer slow life and exceptional character.

Lithuanian urban settlement system consists of mostly small towns, so the research of changes of town form character is extremely important. The small town has a population of up to 20 thousand in the context of Lithuania (Daunora 2006). The significance of small towns in Lithuania was strenghtened in 1970s by the scheme of development of a unified urban

settlement system in the territory of Lithuania. This scheme presented the polycentric urban settlement system in Lithuania, emphasised role and importance of smaller towns, and gave an impulse for further and more intense transformations in small towns: redevelopment of central parts of towns, development of industrial areas, multi-storey complexes, etc. (Šešelgis 2000, 280). However, there are no analysis of the transformations of the whole town form during the socialist period and their impact on the town form character.

A general idea of the research is to identify peculiarities of changes of town form of Lithuanian small towns after the World War II in relation with town form character: what is the extent of changes in towns; did those changes transform the essential features of town form and some actions are needed; is it possible to identify the model as a prototype of specific town form character or a model could be the same for more than one town. The concept of the research presents changes of the town form as a process and searches for the limits of change beyond which the town form character completely distorts. The analysis allows to identify the model of town form character which presents the essential features of town form and how they changed during the second half of the twentieth century. This base could play not only a role in finding principles how to nurture the character in particular cases, but also as a tool of survivol and growth. If the changes of town form and their impact on the character of the town form are not studied, towns may continue to change unknowingly or dissapear from the map of the country. Therefore, especially in the regard that most towns of Lithuania are small, the establishment of town form character model as a prototype in the context of changes are vital for small Lithuanian towns.

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Design Driven Research

Object of the research is based on the list of 67 urban monuments of Lithuanian SSR settlements defined in the second half of the twentieth century (Miškini 2005, 211). 29 out of 67 are small towns and considered as primary potential objects of the research. At least 1 case study is planned to be presented comprehensively.
First of all, historical urban development of towns is analysed considering political background (e.g. ideology, orders, plans), cataclysms (e.g. war, flood, fire), vitality (e.g. economics, culture). Historical maps are digitalised and layered using the QGIS. Secondly, changes of street network, structure of blocks and their form, building principles, structure of urban public spaces, urban composition are measured in comparison to their original form (mostly formed till World War II) and relation with natural environment. Complex analysis presents town form as a process. Changes are comprehensively categorised into different levels. As a conclusion, key findings are structurised in a form of schemes, models, which present town form character before the World War II and now. Results show was the town form character distorted during the second half of the twentieth century or not. Finally, recommendations for the nurturing of town form character are presented.
As research evolves in future, there is a wider aim to be able to compare town form character models as prototypes not only of all Lithuanian towns, but in a wider context as well.

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The Matter of Form: Reason of Form in Structural Components

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Keywords: Form, structure, ground connection

Paper/Artifact

The Delfi Charioteer, 478 e il 470 b.C - Delfi Archaeological Museum

What role does the ground connection has in the relationship between form and structure? Can this be the tangible element for the creation of new forms in contemporary design?
The thesis aims to investigate form in its generative relationship with structure, within the contemporary Swiss cultural context (tewnty-first century), focusing attention on the relationship with the soil. It investigates how structure can be the founding element of the project in its aesthetic aspect and material concreteness, capable through variations, alterations, to become generative text of form. The matter is intercepted in the structural, load bearing, and therefore founding components of architecture. This is the search for an imperative, where instead of choosing a new style, or following a fashion, it is sought through the fundamentals, such as structure. The connection on the ground in fact, becomes the element of synthesis, on which to focus attention within the research. How the loads from the top arrive at the crucial point of relationship with the soil and how the soil relates to the project.
According to Deplazes the contact between the building and the ground not only determines the transfer of the loads, but also the interface with the topography of the place, in a compositional as well as structural relationship with it. The translation of an idea into a built architecture, structurally stable and adequate in its spatial location, finds a decisive moment in the way the building touches the ground-focusing attention on the tectonic choices from time to time designed.
Through a targeted analysis, six authors from the Swiss contemporary panorama are selected who interpret the theme through their projects. In the work of architects such as E2A, Christian Kerez, Scheddeger Keller, Pascal Flammer, Raphael Zuber, Baserga Mozzetti we try to identify common criteria that place the relationship between form and structure in the ground attack, at the center of the project. The goal is not only to analyze these projects as ends in themselves, but through common interferences to identify design invariants.
To clarify the concept, it is necessary to define what is meant by shape.
“Form is a totality, whose parts are not linked by a simple relationship of juxtaposition and contiguity, but obey an intrinsic law, which is the only one able to determine their meaning in totality” (Forty 2004). Form therefore as totality, a unicum, which identifies itself with the constitutive essence of an object and alludes to the disposition and general order of its parts, identifying itself in the concept of structure. This idea of logical and physical unity between different components, can be connected to the idea of tectonics. Bottincher, in fact, interprets the term tectonics giving it the meaning of a complete system that binds each part into a unique whole, endowed with meaning.
In Frampton, tectonics becomes the poetics of construction and thus becomes art. In this way, the connection on the ground is not only a technical element, but a formal/poetic expression of the project. Through the reading of this component (ground connection) we analyze the relationships that are established within the projects, reconstructing the intrinsic general order.
(components) Deplazes, describes and catalogues architecture as a material vocabulary (modules), a constructive grammar (elements) and a structural syntax (structures). This type of procedure focuses on the individual components, which we could define “assembly requirements” to identify the relationships that are established between them and then the principles of composition that govern them. As P. Zumthor states, to construct means to give a whole endowed with meaning, which starts from a multiplicity of individual parts.
These are fundamental prerequisites, a sort of “mechanics of architecture”.

Only in conjunction with a concept follows a strong design process in which technical and structural fragments, initially isolated, are at the same time willing to define a consolidated architectural form. It is therefore evident how the physical components are related to the conceptual elements underlying the project.
The investigation intends to isolate one of these components in order to read, analyze and interpret it as a component through which to reconstruct the meaning of the project.
Tomà Berlanda, within his research "Architectural topographies", in the chapter Elemental forms, highlights how the different forms of architecture can be traced back to common principles of relationship with the soil and (more important) highlights how through the reading of the relationship with the soil it is possible to describe the entire building. Wim Eckert, of E2A Architekten, states that when an object is placed on the ground, it is not simply placed on the ground, but relates to it, creating a contact. This type of contact can identify images and metaphors that describe buildings that are anchored, rooted, seated, in flight, floating. This outlines the intention to understand the ways of meeting and bring the materialization back to some basic situations such as: adherence, detachment, interlocking.
From the entire panorama mapped out, it is evident that in the relationship between form and structure, the ground connection plays a crucial role, starting from the abstract idea, up to the definition of a technological detail.
But why the Swiss cultural context? In this place there is an approach to the project based on concrete material aspects, an attention to detail in the definition of the overall aspect of the project.
Many of these projects are characterized by the concreteness of raw materials, (such as concrete, stone, wood) trying to pursue a "correct construction"; the almost artisan attention to details; the design importance given to common elements, such as roads, viaducts, tunnels, bridges, which then become real built works; the idea of always creating something that straddles tradition and innovation; a strong link to the ideal as well as the real aspect of the project; the constant search for dialogue between technique and aesthetics in a territory characterized by difficult orography that imposes an important reasoning in the relationship with the soil. In fact, the Alpine topographic nature, poses an always new challenge in the projects, that imposes to the architects to think in three dimensions since the beginning. All this makes the Swiss context the cultural context where to investigate the relationship between form and structure in contemporary design.
The concept of the project in a unified way between the formal and structural components not only gives the projects strong aesthetic characteristics but allows a greater coordination between the figure of the architect and that of the engineer.
An approach of this type also guarantees greater efficiency in the use of materials; a strong material presence, which outlines a long duration over time; a development of the technological components; the creation of spaces adaptable for future variations.
The theme of the relationship between architecture and soil has rarely been addressed with reference to specific geographical areas/schools and regional groups, such as Switzerland, whose architectural production is recognized a certain degree of homogeneity. Usually these themes are addressed in the work of a single architect, marking differences or constants in his approach to the theme; or a specific character is defined that is analyzed in the work of different authors. The intention here is to take a geographical/cultural framework as a basis for this type of investigation.

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Design Driven Research

This theme is linked to both theoretical and real elements (form/structure) which can also be found in the meaning of these terms. For this reason, the thesis intends to structure itself through a theoretical investigation, alongside the analysis of real case studies, in the idea of a research by design.
To do this, tools are identified, tools that link the theoretical component with that of analysis and reading of projects. Using the ground plan, sections, structural models and details, projects are studied.
The ground plan, together with the section, allows to study how the whole project relates to the soil, defining how this crucial point is solved. By comparing the different authors, common solutions and differences in the selected case studies are identified.
Through structural models we analyze the relationship and consistency between the ground connection and the overall structure. The intention is to “eradicate” the case studies and show them in their intimate relationship with the soil on which they arise also showing the project foundations.
Finally, the technological aspect is studied in construction details, reading, analyzing, identifying design coherence, aesthetic qualities and technological innovation. It is verified how conceptual choices are confirmed in the technological component of detail. As P. Zumthor expresses, details have the duty to express what the basic design idea requires, in that specific point of the object

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A Safe Space.
Architecture and Preparedness in the Era of Uncertainty

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Keywords: Preparedness, Safe Space, Critical Infrastructures

Paper

Title and source of the attached image (Helvetica Neue Medium, font 9)

The research aims to investigate how to design a safe space facing unpredictable and uncertain events.
It considers the project of safe spaces which, by embodying a potential emergency, are designed to be inhabitable before, during and after a catastrophe. By focusing on those strategies, projects and actions which address the design of critical infrastructures and by investigating the relation between design and uncertainty, safety and inhabitability, duration and transience, the work aims to study the design possibilities which underpin the architectural project in vulnerable and uncertain conditions.
Today, risks such as floods and earthquakes are more and more threatening the human environment. In the environmental crisis of the climate change, the increase in the risk generates on the one hand new vulnerable territories to which will correspond a growing need for security, on the other hand a global interest in the concept of preparedness.
According to Andrew Lakoff preparedness does not seek to prevent the occurrence of disastrous event, but rather assumes that the event will happen. It enacts a vision of the dystopian future in order to develop a set of operational criteria for response. It organizes a set of techniques for maintaining order and safety in a time of emergency. It considers the disaster not as a fracture, but as an important event in the biography of a context which lives its continuity through changes (Bassoli 2015). From a design perspective, it challenges architecture as a research for determination of a certain space (Bertagna 2010) by introducing the dialogue with possible scenarios and principles such as flexibility, duration, adaptability, interconnectedness.
In particular in the Italian inner areas grafted into the Appenins, the vulnerability is increased by multiple factors that overlap and intersect each other. The high seismic risk, depopulation and abandonment of agriculture and silvo-pastoral activities generate a complex realm that strongly depends on the spatial construction of safety. In these areas, characterized by a permanent “security state” (Agamben 2015), protective infrastructures overwrite and transform the environment, shaping cities and the way people produce, understand and inhabit spaces and places. Protective walls, secured building as well as red zones can be barriers, voids, artifacts of exclusion that generate interruptions in the context. At the debris and provisional architectures which characterize the uninhabitable ghost town of the red zones correspond new safe and standardized settlements in which the displacement from the original site and the lack of site specificity increase the fragility in spatial, social and cultural terms. Here, the post-disaster construction of safety follows the logic of separation, generating spatial – and temporal – fracture between -pre and post- disaster spaces. This leads on the one hand to consider the spatial design in forecasting scenarios for natural disaster, on the other hand to couple disaster resources with daily-life amenities (Mazereeuw 2017).
But if the natural disasters, which are predictable in the probability of happening, are unpredictable in time, form, scale and effects, what does it mean to design a safe space able to exist – and resist – before, during and after a potential catastrophe? Considering a disaster as an event in the biography of a space, how can catastrophes be embodied by the architectural project? What does imply, from a design perspective, to be prepared?

If the safety is given, from a physical point of view, by a series of “lifelines”ß infrastructures which are necessary for the daily lives of citizens as well as recovery efforts (Mazereeuw 2017), it emerges that often the

technocratic and mono-functional nature of infrastructural design can generate additional and social vulnerabilities. In fact, a primary concern in dealing with natural disasters is failure and disrupted access to critical infrastructures, system whose functioning is understood to be vital for the existence of an environment. In addition, in disaster scenarios, the quality and inhabitability of the space, the site specificity and the cultural embedded systems are decisive to build the resistance of a certain community. Starting from the design of critical infrastructures as dual-functions integrated infrastructures that increase interconnectedness and adjust to unpredictable risks, the research focuses on the design of safe spaces which, considering different scenarios and duration, are designed to be inhabitable in daily-life as well as during and after catastrophic events. The research will be composed by an analytic phase and a practical phase. A prodromal theoretical dissertation and literature review on architecture and uncertainty, spaces for survival and the role of critical infrastructures in the design of safety will illuminate preparedness, inhabitability and safety as key concepts on which the research is built.
The lack of site specificity, accessible open space and local embedded systems which characterize of the red zones of the Italian inner areas lead to the definition of three typologies of safe spaces that are considered at the scale of the building, the open space and the widespread system. Beyond inhabitability, intersystemic capability and cultured-based solutions, their spatial declination of duration, and therefore the phase of emergency addressed by each of them (response, recovery, reconstruction), will be considered as qualitative and comparative criteria in order to identify variable and invariable design principles. In the practical phase a prototyping work will be lead as experimental research on the field. Through a creation of a Collective group, the collaboration with local realms and the civil protection, and experimental design campaign will be lead in a small town of the Italian inner region Umbria to test the analytical research and to tackle, by design, the reflection on the architectural project, preparedness and design of safe spaces able of sustaining the resistance and the growth of endangered environments.

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Design Driven Research

Investigating how to design a safe space facing unpredictable and uncertain events such as natural disasters means to deal with what Rob Roggema defined as ‘wicked problems’ which have no final solutions as well as no single, accepted formulation.
Drawing on his definition of research by design, the research is structured in three different macro-phases which are not linearly subsequent, but fluidly interrelated.
A prodromal phase of understanding, a pre-design phase, is composed by the formulation of a theoretical framework through a selection of case studies. These are conceived as tools to introduce input, questions and themes to inform the theoretical dissertation. The case studies share the same design strategies, but present different sites, scales, forms and are organized according to their spatial declination of the duration. A comparative analysis between them will illuminate variable and invariable design principles which will lead to a design phase. This is not conceived as a separating thinking, but as an interwoven phase to test and inform thepreliminary investigation. A prototyping work will be developed as experimental research on the field. Through a creation of a Collective group, the collaboration with local realms and the civil protection, a program and a proposal will be developed in a small town of the Italian inner region Umbria. Finally, a synthesis of the work will be developed in order to define a possible, reasoned and structured solution.

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The Potential of a Tectonic Approach for the Experiential Qualities of Architecture

Tim Simon Meyer, HafenCity Universität Hamburg

Keywords: Tectonics, Architectural Experience, Designbuild

Artifact

KAIROS Pavilion, 2012 ; VERTIGO Pavilion, 2014; POVERA Pavilion, 2015; ALBERTO Pavilion, 2019

Topic

The research project is investigating the relation between the tectonics -understood as the poetics of the construction - and experiential qualities of the architecture.
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 the projects were characterized by a high degree of affordance, which became obvious through the willingness of their users to appropriate and interact with the architecture. These interactions that clearly form a part of the individual architectural experience are apparently not evoked by functional aspects or formal gestures but by the physical nature of the architecture and its construction. As Juhani Pallasmaa argues, an authentic architectural experience is depending on the comprehensibility of the construction to the senses (see Pallasmaa 1996). Going beyond structural needs, our 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 (see Sekler 1965). This understanding of the term tectonics will be the focus of further 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. In this context, the physical organization of architecture in relation to the organization of the own body plays a role just like phenomena we share between our body and the architecture, like gravity. Also the implicit physical and manual knowledge, which is common to most people through their interaction with the material environment becomes relevant in this consideration.
How can we make use of that knowledge in order to create tectonic poetics in architecture? The goal is to be able to define and characterize a working method that generates a coherence in the construction, the spatial structure and the architectural expression. That means getting clarity about the process and every important step and decision that causes or prevents that desired result.

Methodology and findings

In the focus of my research are the DesignBuild Projects that are realized by myself either in my practical work as architect or in the context of the university with students. They serve as case studies and should provide findings on the research questions.
The initial point of the research is marked by the reflection on the DesignBuild projects realized within my practice throughout the last years, for instance:
. the KAIROS Pavilion which consists of 327 prefabricated concrete pieces of 7 different types all based on one specific cross section.
. the POVERA Pavilion which is assembled with modules made of filigree wooden slats to form an ellipse-like overall shape.
. the VERTIGO Pavilion which is stacked from red-painted wooden blocks to form a permeable box.

In all projects the design process started with defined materials and the final result is characterized by a specific architectural expression. By analyzing and evaluating these projects I tried to uncover their architectural qualities and name them. Differentiating between the perceiving subject and the architectural object the outstanding terms have been interaction, appropriation and affordance as part of the experience with the architecture and the coherence of the structure, the construction and the architectural expression, a specific scale, simple and comprehensible details, basic geometries and an expressive materiality as the crucial characteristics of the physical object.
Within the framework of this theoretical analysis in the early stages of my research the origin of the architectural qualities was assumed in the haptic properties of the materials both within the design process and the experience of the architecture. While I have started to research practically the focus of my research has moved from the haptic properties to the handling and joining of the materials/elements and is now seen in the tectonics. In the following I will present the first findings:
In September 2019 I could realize (together with a group of students) the ALBERTO Pavilion as a first DesignBuild project within the PhD that gave me the possibility of participating in the process and observing carefully the progress of the project.
By documenting and evaluating each step of the process from the first sketch to the architectural experience with the final project I did a first try to define its meaning for the architectural expression and accordingly for the architectural experience. The reflection has led to a sequence of phases including several design decisions:
1. ELEMENT Choosing proper materials that fulfill on one hand structural needs and on the other hand atmospheric intentions. The capacities of our own body are defining the dimensions of the single elements and by this giving scale to the architecture.
2. JOINT The detailing of the joints 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 joining a meaningful expression. Technical and handcraft possibilities are detemining the simplicity and coherence of the details and by this the comprehensibility of forces that the construction needs to resist to.
3. STRUCTURE Elements and details are merged into a spatial structure through repetition including variations and exceptions to highlight specific moments. Repetition can be a strategy to rationalize the structural system and to simplify the architectural language in order to enhance the legibility and the traceability of the construction.
4. GESTALT Taking final decisions in order to concretize the architectural expression and react to contextual circumstances. Formal gestures are always based on the structural system. This phase can also take place partially during construction.
This sequence is an approach to define the specific working method and resulted from the reflection on the ALBERTO Pavilion. It needs to be verified and refined throughout the research with the help of further DesignBuild Projects.
The experiential qualities of the ALBERTO Pavilion could be evaluated by making use of different strategies to document people's interaction with the built architecture. By observing how people moved unselfconsciously through the architectural structure or how they appropriated the architecture and interacted to it I could estimate the degree of invitation character and affordance that the architecture provides. By listening to peoples impressions and critics I could get clarity on the architectural expression.

By watching artists performing within the architecture I could follow how they are consciously reacting to the physical nature of the architecture and the construction.
Those observations emphasized the relation between the tectonics and the architectural experience.

State of the research

The mentioned sequence of design steps ELEMENT, JOINT, STRUCTURE, GESTALT as a working method to bring the tectonics into the architecture was recently tested in a seminar with students. Strictly following the defined steps they designed small spatial structures as DesignBuild projects, unfortunately because of Corona Pandemic just as projects and not as built architecture.
At this stage of my research I´m trying to figure out at which point in the process the tectonic qualities occur. The reflection and evaluation of the students results in relation to previous findings will be part of my following presentation at Ca2re Milan.

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Design Driven Research

My Research derives directly from my practical work as an architect and is based on a series of Design Build Projects I have realized so far.
My interest focuses on their intrinsic qualities and the process beyond the architecture.
The projects serve as case studies and are developed, realized and reflected regularly throughout the research. They form the methodological starting point of the process of opening up knowledge.
The format of the DesignBuild projects allows an intuitive and experimental working method in which the act of making is more than just building what was planned before. Instead it becomes part of the design process since it gives the possibility of taking decisions and adaptations in progress.
Being actively involved in the process of each project allows an intensive reflection on the progress. Accordingly, I can learn from the previous project in order to apply the knowledge to the following.
By documenting people´s interaction with the built architecture and discussing their impressions and critics on its experiential qualities I am developing an awareness of the architectural qualities.

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Tim Simon-Meyer graduated in Architecture by the Universität der Künste Berlin and Universidade Autonóma de Lisboa. He worked for several architectural offices such as PezovonEllrichshausen or Max Dudler before founding his own practice AtelierJQTS together with Joao Quintela. Between 2015 and 2017 he was teaching at the Technische Universität München and since 2017 has been teaching at the HCU Hamburg.

Home: Things & Bodies
A Thing-Based Exploration On Contemporary Ways Of Living

Marta Fernández Guardado, HCU HafenCity University Hamburg

Keywords: domesticity, things, juxtaposition

Artifact

Image from the project “a room of her own / a thing for herself” commissioned by Petri for her daughter Inga. Source: Marta Fernandez Guardado, 2020.

"Habitualisation devours work, clothes, furniture, one´s wife and the fear of war." Art as a device, Viktor Shklovsky, 1917.

Home is a complex and inseparable relation between material, social and poetical 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 1986, 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 1957, 101).

At home, we live with objects. The everyday mediation of our material objects allows us to participate in society, to achieve inner warmth and joy, and to construct our own identity. They are not merely functional devices, value holders or metaphors and representations; they are crucial entities for understanding specific social practices (Miller 2001, 1-23). Reflecting on the things that we live with gives us the chance to reflect on ourselves. The material culture within one's home is reckoned as both one's problem and solution; reproduction of prejudices and social conventions, but also opportunity for resistance, revolution and transformation.

As we spend time with objects, they embed in our everyday, melt in our routines and disappear, becoming harder to perceive and evaluate (Shklovsky 1917). "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 (Bachelard 1957, Miller 2001, Brown 2001, Law 1992). 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" (Law 1992, 72); they invite affordances but also compel. Therefore, if design is a form of making things, it is also a means for shaping agency.

I am interested in the daily practice of inhabitation in relation to typological notions and layouts in space, and I concentrate my design work on big objects and small spaces that encourage active interaction and support body experiences. My proposal is an exploration of contemporary ways of inhabitation through a series of design studies which register people-objects behaviors within a specific domestic realm, transforming the results into new things. My investigation stands for the vital role of our material home in understanding and transforming the domestic experience, and it claims for this home –that has a voice– to be listened, so that one can depict how one actually lives, and consciously decide how one wants to do so. It aims to problematize the notion and balance of design standards in architecture and related fields by approaching the domestic experience as a holistic more-than-human practice, addressing the responsibility of the architect as an agent of social transformation.

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 them, and on the other, what is the most powerful tool

to represent their uniqueness. The goal is not to redefine standards but to investigate hitherto-hindered alternative domestic practices. To avoid generalization, 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 bring this information to light, 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 1917).

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 uses – rather than identities–, it places things in the centre of the process 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 –as argued by various research projects such as the Thing Tank on digital fabrication and business development, or the Object Research Lab on materially-engaged artistic practice– makes this interrelation visible by relying on the collaboration with things as a way of solving problems. In my proposal, the use of a thing-centred design method means that a thing captures the people-thing-interaction data, which is made visible through its "estrangement", that in turn reconstitutes it as "some-thing" which transforms the way of relating to it.

On the search for media that allows the distracted interaction to be articulated, I experiment with different fieldwork documentation media: mappings, drawings, photos, videos, interviews, writings, etc. All these practices result in a lack of attention to one or another aspect, and only the juxtaposition of different material provokes an "estrangement" of the experience that allows for legibility. The disruption of one element by another does not offer a total representation, but challenges the authority of any media and allows problematizing the representation of the domestic everyday complexity and multiplicity (Highmore 2002, 19-24). Likewise, none of the findings offer a monolithic solution for the domestic problematic, but the juxtaposition of findings leads to an "estrangement" of the thing that triggers the necessary critique and reaction for the intended transformation.

Juxtaposition of medial practices becomes the main recording tool to recognise alternative ways of relating to things, and juxtaposition of findings, the main designing instrument to envision new ways of living together. In the upcoming CA2RE+ conference I want to share the material produced during a complete process, from the access to the domestic network to the "estrangement" of the thing and its effects, in order to discuss the relation between tool, translation of the discordance, and integration of the behaviour into the existing system of relations.

NOTE: 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).

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Design Driven Research

My research is based on a “thing-ethnological” method initiated in the body of the inhabitant, and that navigates through the domestic network, connecting it with other objects, of which I elaborate “object- portraits” that include conventions as symbol (what it evokes or represents) and signal (what it prohibits or allows), particular object life and sentimental value for the inhabitant, and justified exchange value. During a defined period of time, I register their interactions, and I select the thing(s) that presents the highest variance between discrepancy and coincidence with its portrait, which becomes the centre of the design. In a second documentation exercise and using a different media, I concentrate on the nature and effects of the mismatch, and I juxtapose the resultant material to the first documentation. The combination of material is processed and translated 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 record the interactions through the same media as initially used, and again juxtapose the mismatch material. Lastly, I process the new combination and compare it with the first one. The comparation evaluates the level of raised awareness about the concerned people-things behaviour, and the adjustment of the earlier variance achieved by the “estranged” thing through its relational and performative qualities. In other words, it assesses the extent to which the terms of interaction have become intentional and reciprocal, ultimately enabling conscious transformation.

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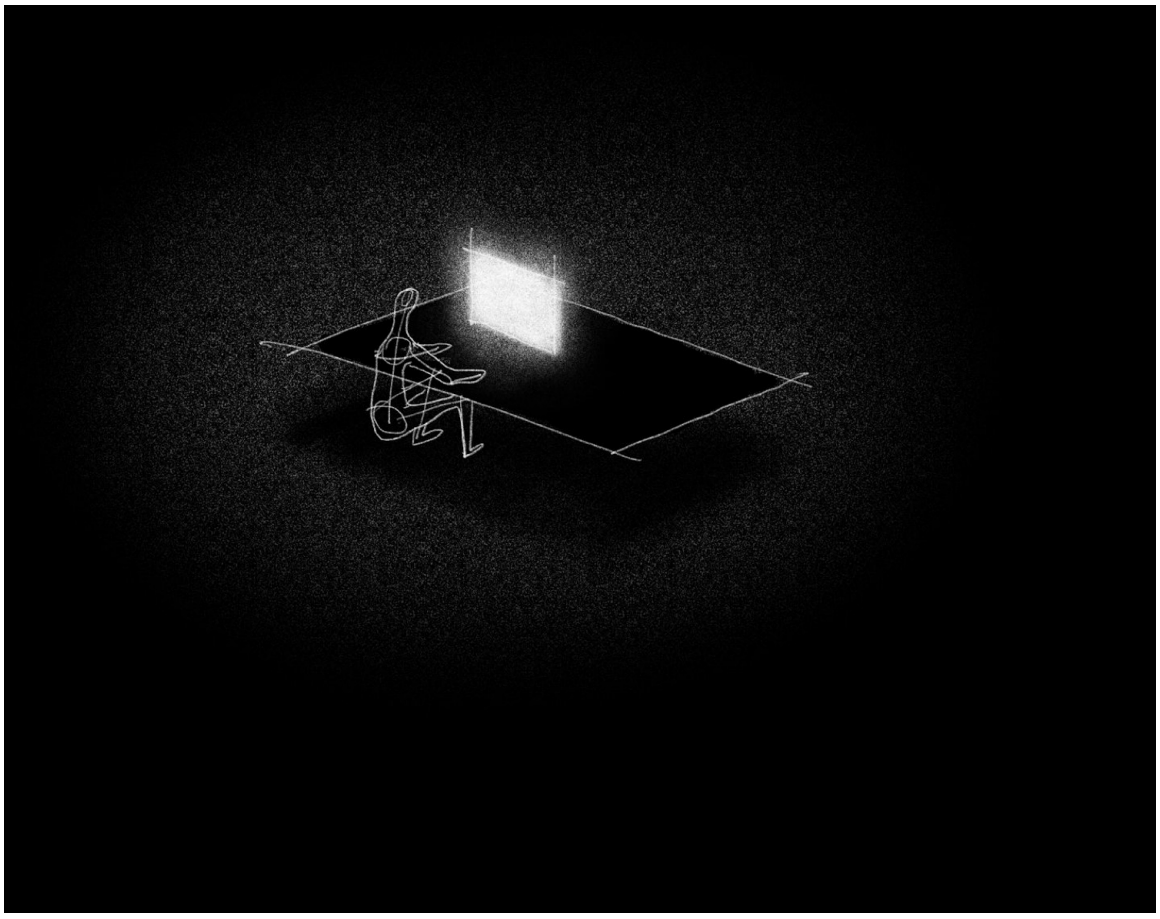
Marta is a Spanish architect focused on teaching work and research on contemporary ways of inhabitation by capturing and transforming specific things-bodies relations. In 2012 she joined the office June14 Meyer- Grohbrügge & Chermayeff in Berlin, and during 5 years she worked as a head designer in different projects, including a housing building in Berlin, Kurfurstenstraße 142-143, currently under construction. From 2017 to 2019 she worked as professor assistant at TUBerlin, and currently she is teaching member of the Design Studio Brandlhuber at ETHZürich, using time-based media and storytelling to communicate architecture as a discipline that affects the everyday.

Proprioception and Immersion in the Implicit Design Processes

Skrzypczak Wiktor, HafenCity University Hamburg

Keywords: Improvisation Scores, Bodily Techniques, Transmedia Spatial Representations

Paper



The architect in the foveal space. Author‘s drawing.

> "Design practice that is not grounded in the complexity and subtlety of experience withers into dead professionalism devoid of poetic content and incapable of touching the human soul, whereas a theoretical survey that is not fertilised by a personal encounter with poetics of building is doomed to remain alienated and speculative and can—at best, only elaborate rational relationships between the apparent elements of architecture." (Pallasmaa 2009, 145)

This paper postulates the preliminary hypothesis of the interactions between the soma—the sentient body and the architectural environment and their impact on the design processes and eventually on the design results. Firstly, it asks how the notion of embodiment in phenomenology can gain an operative, pragmatic relevance in architectural practice and it argues that it requires seeing the "human embodied essence", widely addressed by Pallasmaa, against the background of the currently dominant disembodied forms of organisation which has been addressed among others by the historian Arran Gare (Gare 2013). The notion of embodiment gains then a pragmatic relevance when it is understood as a quest for the re-embodiment, that is more embodiment within the architectural design process—understood as the process of self-education through the bodily-informed practices of spatial experiencing and contemplation, spatial imagination, categorisation of spatial qualities and their assessment and spatial compositional decision-making.

Further, the paper argues that the quest for the re-embodiment of the design practice can be effectively applied if the architectural practice is understood as a confluence of explicit and implicit forces of space organisation and through the focus on the latter. This focus seems to be justified by the relatively new research available in such disciplines as embodied cognition and somatic movement education which could provide the better understanding and more importantly the better embodiment of the implicit design processes—that is a more skilled use of one's own body within them.

The concept of implicit design processes leads to implicit perception processes. The paper underlines the relevance of such processes, such as implicit visual perception, but more importantly of the proprioception for the spatial perception and imagination. It follows the reasoning of architect and scholar Matthias Ballestrem, who argues that the architectural environment impacts us not only through a conscious reflection, but also and mainly through bodily reflexes or subliminal and unconscious impressions and interpretations (Ballestrem 2014). But while Ballestrem limits his research to the implicit visual perceptions, this paper applies his argument to the proprioceptive perceptions, which in neuropsychology are considered to be constitutive for the spatial representations in the Central Nervous System (Ceunen, Vlaeyen and Van Diest 2016).

In practical terms, the paper addresses the proprioception through the lens of the somatic movement education (Eddy 2009) and derives from it the principles of somatic spatial inquiry—a practice of addressing the implicit, proprioceptive aspects of the design process in an explicit, operative way. This short analysis shows that it is a technique of recognising one's own habitual patterns of the interaction with the environment, a technique of attaining the novel, non-habitual patterns of interaction as well as a technique of releasing the internalised patterns of restriction. This experiential approach supports Walter Benjamin's opinion that the habitual use of architecture is its main, although subtle und unspoken mode of appropriation (Benjamin 1935). Interestingly, the attentive use

of proprioceptive listening in somatic spatial inquiry seems to disprove Benjamin's further claim, namely that the habitual, implicit appropriation does not allow the conscious contemplation.
But which skills do such practice train and what relevance they may have in the design process? The paper argues that somatic movement practice in general and somatic spatial inquiry in particular train the designer's skill of navigating and operating in between the explicit and implicit patterns of spatial interaction. A similar skill has been assumed by Juhani Pallasmaa in Alvar Aalto's design approach and praised as leading to more embodied, that is strongly related to the existential values and thus to better architecture.
Finally, the paper ponders how the practice of somatic spatial inquiry can eventually lead to better architecture. For although it is widely acknowledged that good design practice has to be "grounded in the complexity and subtlety of experience . . . [and] fertilised by the personal encounter with poetics of buildings" to speak with Pallasma (Pallasmaa 2009, 145), it remains unclear how such experiencing of one's own interactions with architecture exactly impacts the design results and how such impact can be empirically documented.
The above hypothesis is an attempt to describe and explain the author's design practice. It is being tested and verified through the ongoing, movement based, non-visual imagination experiments, excerpts of which will be included in the paper presentation.

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Design Driven Research

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 facilitation of the bodily and attentional movement; formats of spoken and written experience protocol; and transmedia formats of spatial representation (text into drawing or text into movement or text into mental imagination). These methods set the frame for iterative trials which aim at the facilitation of an immersive spatial experience or imagination. The results of such short trials (5-45 minutes) are then weaved back into architectural theory (such as Empathy Theory and Bachelard's Phenomenology of Imagination) and into my own theorisation of the design process. Finally, the scores for the following trials are adjusted so that the facilitated spatial experiences exist not only in the naive, subjective reality but also in the intersubjective, intellectual discourse. These adjustments aim at finding diverse application possibilities of this experiential tool—the technique of somatic spatial inquiry within the design process as a whole. The tool is developed individually by the researcher and tested with architecture students and peers.

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is a licensed architect with a background in dance improvisation. Currently, they are in the third year (out of four) of doctoral research about correlations between bodily self-consciousness and space perception in architecture. After

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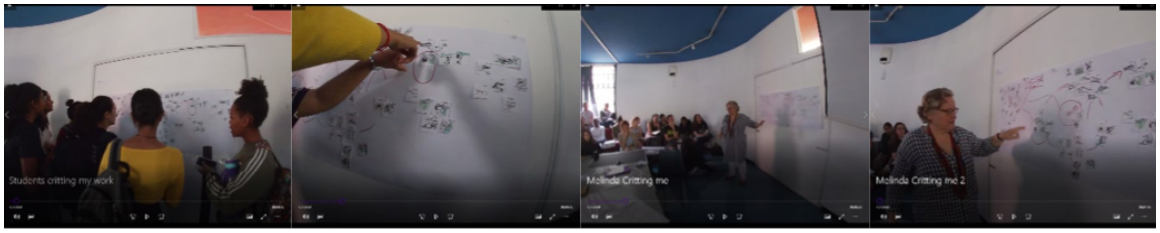
Design Research: Reflection on Past Practice Embedded in Local Research Traditions

Sandra Felix, University of the Witwatersrand

Keywords: Practice Based Design Research; Reflection

Paper/Artifact



Poster of reflective exercise- in situ in the studio- authors own

Social reflection- conversation with students and colleague around the reflectivce exercise in the studio- Wits

Archive timeline- my design “diverse”practice over last 20 years with a SA GDP overlay

The School of Architecture at Wits, has a long history of practice based design research as defined by Hill as a productive relationship between practice, drawing, writing, building and teaching (Hill 2013). The production of interlinked design and texts has characterised the school since the 1930s where “drawing may lead to building but writing to drawing or building to drawing and writing” (Hill 2013), which as per Hill is within the tradition of design research from Palladio to Le Corbusier to Koolhaas.

The school of architecture at WITS has arguably had three seminal periods. The Modernists of the Transvaal Group as dubbed by Corbusier (Herbert 2013) who collaboratively designed many of the campus buildings in the International Style in the 1930’s was arguably the first seminal period. The second period, from 1975 to 1990 with Pancho Guedes’ 15 years at the helm of the school, advanced on the early modernist tradition but sought to embrace both African and European traditions and draw from a local artistic and material culture to explore what only later was termed tropical modernism. Pancho claimed “for architects the rights and liberties that painters and poets have held for so long”. In the last period, Post-Apartheid from 1994 to date WITS developed an increasingly close relationship to the city of Johannesburg, arguably started with Lindsay Bremner’s series of articles that were later collated into the book “Writing the City into being”. Current local research trajectories are thus influenced by this local design research traditions which are collective, collaborative, intersecting modernism with local artistic and vernacular material culture within political landscape of the city of Johannesburg.

Underpinning all these research threads is the local culture of thought and philosophy. In the vein of Epistemology of the South (De Sousa Santos 2014), the local Southern African philosophy of Ubuntu or “ I am because you are” is very different from the Western Cartesian “ I think therefore I am” which posits an abstraction of thought and the separation of mind and matter, and hence to objective epistemologies. “Ubuntu points instead to participation, interdependence and collectivity, and hence to subjective epistemologies, where intuition, revelation and inspiration are all valid ways of knowing” (Keane 2005). These ways of knowing so intrinsic to process and embedded in a social-relational world are evocative parallels to Cross’ “designerly ways of knowing” (Cross 1982) and very pertinent to the subjective ways of knowing explored in design research.

The artefacts presented embody the retrospective reflective research process and explicate the collaborative philosophy of Ubuntu sharing many embodied, subjective ways of knowing.

The first artefact is a series of videos and drawings which record a design project in the vein of Blythe’s synthesized reflection model “reflecting on the body of work” through an exercise of “social reflection…that takes place in non-hierarchical and multiple iterations and exchanges between body, world and language and by social means” (Blythe 2013). The social means was a conversation between myself, my undergraduate design students and a design lecturer colleague. This collaborative education model is not only rooted in Ubuntu, but also in Freire’s (2018) notion of “walking alongside” the students in a co-responsible model of education of, as well as in Schon’s demonstrative method of design pedagogy where the teacher and student enter into a reflection dialogue.

The exercise proved fruitful drawing out myriad fascinations and common threads in my body of work. A deep and recurring engagement with the local “highveld” landscape, topography and water especially as expressed in section, that emerges within the critical regionalism and local material culture grounding at WITS, and is developed through formative engagement with the work of the Porto school of modernists at the FAUP (Faculty of Architecture of the University of Porto) including Siza Vieira and Souto Moura.

The other insight gained was that this exercise obscured or did not reveal all types of knowledge as it was after all just a snapshot of favorite or memorable projects from a body of work that spanned more than 20 years and 270 projects. In drawing an archive timeline, the second artefact, I attempted to reveal other types of knowledge.

The timeline revealed more quantitative knowledge on my practice tracking projects by year and type, showing a focus on residential (yellow) and hospitality(blue) projects, as well as a thread of landscaping(green) projects that overlap with these. It tracked the projects and revealed the property and economic cycles of boom and bust over the last 20 years, as well as the inherently collaborative nature of my practice, where close and recurrent relationships were developed with some clients and close female colleagues running other practices, as well as with certain contractors. These collaborations were reflective of a more open and democratic practice, where the architect is not the sole purveyor of design knowledge but rather facilitates "participation, interdependence and collectivity" (Keane 2005). The architect is both "central and marginal simultaneously" (Hughes 1998) by virtue possibly of her gender, the philosophical grounding of core Ubuntu values which are a core part of the Wits tradition where there is a recognized need for solidarities, and run counter to architecture as an individualistic and competitive pursuit as framed so often in modern capitalist countries.

Both the timeline and the reflective drawing/curating/ pedagogical exercise are revisited, adding, subtracting, re-arranging, re-mining for further insight, "looking within creative work for something, that you're not sure what it is, perhaps you don't necessarily find it at all, maybe what you find is its' direction, which is its' future" (Lowe 2019).

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Design Driven Research

My design research is currently at a curatorial stage of reflection on a body of work (Blythe 2013) based on Schon's ideas of the reflective practitioner (Schon 1983), merged with the "social reflection" (Blythe 2013) which so closely mirrors the social-relational philosophy of Ubuntu. The practitioner reflects on the body of work, and draws connections between their own projects, as well as with precedent projects of other architects as evidence of a "community of practice" (Van Schaik and Johnson 2019). Then the practitioner invites a local community, in this case students and a colleague into the conversation, both to question but also possibly to illuminate further tacit knowledge. Methods of reflective practice based design research include drawing, photographing, analyzing, curating as well as the performative "reflective conversation with a unique and uncertain situation" (Schon 1983, 130).

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Underground Hubs. Connecting Soil and Subsoil

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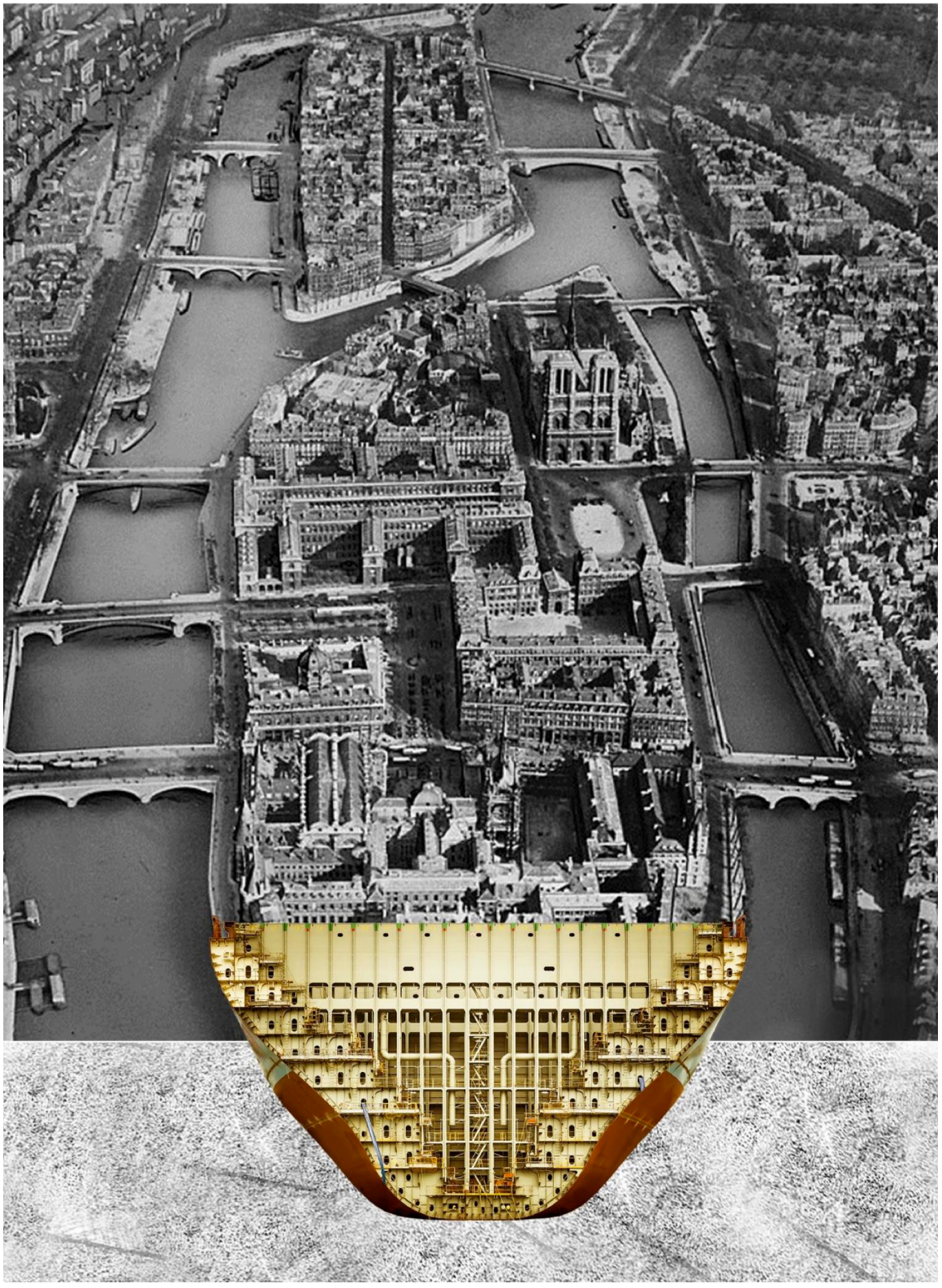
Keywords: Urban, Underground, Hub

Paper



Cover image of the exhibition “Mission Île de la Cité le Cœur du Cœur. L’Île de la Cité à l’horizon 2040” Paris, 2017

The research is a study about the existing city and the future one - built and to be built - whose development is located below the ordinary ground level. The focus is on the subsoil, a part of the city, often very extensive and articulated, that contributes to the offer of public space in the contemporary urban dimension. The study is based on a period of time starting from the second half of the nineteenth century, with the birth of the first underground transport infrastructures and the need to move large crowds during the universal exhibitions in the European capitals. These big towns are rooted in history and are configured as stratified territories, from ancient times to modernity. Other cities of more recent development, such as the Nort American ones, are linked to modern and contemporary "infrastructuralisation" and the provision of strategic and commercial services linked to the use and enhancement of flows. We then find the Asian megalopolis with their unstoppable transformation along the years. These models of cities represent a contemporary area of research about alternative uses of the subsoil.

Underground hubs, located in many international metropolises, are models that combines and systematizes the flows with the levels of the city, in a framework of public space offer that is both performative and contemplative. These spaces that link the ground with the subsoil becomes areas of research and experimentation, in a multi-scale perspective able to relate cities, underground infrastructures, interiors and instrumental equipment. A first consideration highlights how the generation of interconnection spaces, between different infrastructure hubs, leads to the identification and subsequent design of spaces connected to them. These constitute an extension of the city in the subsoil through services and places of gathering, acting as filters between the city on the soil and the one on the subsoil.

The aim of this research is to define a framework on the issues involving interlinking spaces in the underground hubs, and the relation between soil and subsoil. So how the contemporary design interacts with levels, flows and networks in an underground context? To answer this question the research will focus on emblematic cases that allows to understand how the descent of cities underground is the result of morphological implications and cites evolutionary processes. Samples of it include, over the years, Rome and Naples with their great archaeological finds and the rush to infrastructure, Paris with its complex and articulated underground city, London and New York City with their branched metro systems and many others.

A number of specific case studies have been selected to support the research, including Paris with the Carrousel du Louvre and the Forum des Halles, New York with Calatrava Ground Zero Oculus, Rome and C Line metro stations, London Jubilee Line Canary Wharf station, Naples with Piazza Garibaldi hub by Dominique Perrault. These are all examples of the strict connection between different levels of an evolving city and the dense networks that cross it.

Part of the references used to argue the research are scientific articles appeared in field's magazines which focuses on studies investigating innovations in technology and design related to the use of underground spaces. We then find a large body of monographic works describing artefacts in line with the theme of underground hubs: different writing approaches to the theme and points of view that allow to carefully analyse architectural works of relevant importance for the development of cities. The research will also attempt to convey the intrinsic value of the subsoil through some references to the literary world.

A different perspective is given by international exhibitions investigating the subsoil held over the last 20 years. Among these there is Mission Île de la Cité which came to life in Paris in 2017 thanks to the studies carried out by Philippe Belaval and Dominique Perrault that shows numerous design reflections for the central area of future Paris. The exhibition shows a city that does not stop at the surface and continues underground where activities, transport infrastructure and pipelines are concentrated. The projects on display propose a city that descends, populating the subsoil and playing with flows and heights, involving infrastructures and buildings. The challenge posed by Paris for 2040 becomes an important reference point and leads to think about its feasibility in other urban contexts.
The final point of the research will be the demonstration and explanation of the processes leading to the definition of projects for underground hubs involving flows on different levels. The focus will be just on the connection tools between these levels and different points of the city, investigating the upper and the lower city. It will also make -those who are interested in the research results- aware of how the careful and planned design of underground space directly affects the surface, explaining the indissoluble interconnection between soil and subsoil.

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Design Driven Research

The research is based on a methodology that takes into account several aspects related to the issue of underground hubs by putting into system existing specific literature, historical documentation, the involvement of the main actors related to the object of the research through the creation of meta-projects that can be applied to possible scenarios. The research will open with the identification of precise case studies in which the redesign of schematic project sections and plans allows to compare the different solutions analysing them through a taxonomic design investigation. Only through the observation of the sections is it possible to perceive the complexity of the different interconnections. In parallel, interviews will be conducted with the actors involved in the design, that will allow to clarify the issues related to the choices made by contractors and designers. The research will continue with the study of existing literature in order to provide a basic knowledge to help understand the features of subterranean spaces and the design of underground hubs. In the last part of the research, meta-projects will be outlined: this will highlight the different design approaches to the theme. Numerous projects involving other fields such as art, museography and archaeology will be considered. The process described will lead to the definition of possible applications to existing projects. The commitment will thus be to investigate which contexts can directly experience the research results in order to see a practical application.

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Designing Departure
Examining End-of-life Care Spaces as XXI Century Collective Living Types

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Keywords: Assisted Living Facilities, Dwelling Forms And Practices, Collective Living

Artifact

Title and source of the attached image (Helvetica Neue Medium, font 9)

In recent years various trends have reignited a wide interest towards community living, in particular in the developed world. The main aspect of this current is the fact that an aging population is increasing the demand for assisted living facilities[1] in most nations. This fact is particularly evident in regard to the growing incidence of dementia (Prince et al. 2015).

The growing importance of assisted living facilities corresponds with the rise of healthcare architecture, both in the academic and professional sectors. Within the field of architecture for healthcare, assisted living facilities occupy a peculiar position at the margin, representing the edge towards domesticity and collective living. In this realm, numerous architectural experiments have regarded facilities involved in end-of-life and palliative care, such as hospices or dementia villages.

A recurring aspect of recent architectural literature is attention towards the body-human or other-and its relation with the space that surrounds it. In the introduction to Warped Space, published in the year 2000, Anthony Vidler writes: “Ever more often space has been defined as the product of subjective projection and introjection, thus the opposite of a stable container for objects and bodies” (Vidler 2020, 26). This research builds upon this body of work, with the aim of testing its potential ramifications in contemporary design: if “design always represents itself as serving the human but its real ambition is to redesign the human,” (Colomina and Wigley 2019, 23) the design of end-of- life facilities puts architecture in a situation of extreme stress that allows for a reconsideration of its effectiveness in this domain.

As reported by Beatriz Colomina in her 2019 book X-Ray Architecture, Robert Musil wrote in The Man Without Qualities that “Modern Man is born in hospital and dies in hospital-hence he should also live in a place like a hospital” (Colomina 2019, 94). This statement is seen by Colomina as representative on how healthcare architecture contributed in developing the modernist imaginary. In the same way, recent developments in healthcare architecture, developed in a interdisciplinary realm in conjunction with neurologists, psychiatrists and others have the capacity of driving the discipline in new directions.

This paper partially illustrates an ongoing Ph.D. research project that focuses on end-of-life facilities as emerging collective living types in the West. The subject consists of the ensemble of architects and developers involved in their construction. The research aims to study the principles that underpin the design of facilities related to end-of-life care and provide a framework for future collective living models in western Europe.

A review of the disciplinary literature on the subject reveals an overwhelming focus on quantitative and compilatory methods. This research consists instead of a qualitative examination of end-of-life facilities, based on an in-depth study of construction documents and interviews with the involved developers and architects of a few case studies in different European countries. The research is expected to provide insights regarding the logics that underpin the construction of these facilities and the skills that architects and developers acquired during construction, allowing for an evaluation of these building types’ influence on the broader field of the architecture of assisted living facilities.

This research considers end-of-life facilities as examples of sharing based on social intentions, following the categorization illustrated by ETH Wohnforum in their History of Collective Living. This research thus contextualizes end-of-life spaces as intentional communities, or “self-contained, planned communities that attempt to pursue a peaceful ideal, as

1 According to a report published by UBS, in 2019 the retirement home industry’s revenue totalled 72 billion $ in the United States, employing more than 1 million workers. The global growth of retirement homes is expected to hit 3% between 2019 and 2022.

opposed to a community created and run without an organizing principle," (Young 2010) positioning this work within the disciplinary platform of architectural literature on the subject.
End-of-life spaces will thus be studied through the lens of collective living and domesticity, on the model of publications such as Kommunen in der Neuen Welt by Liselotte and Oswald Mathias Ungers.
The artefact will consist of a drawing set divided in two parts: typological plans and interior perspectives. Borrowing methodologically from the literature on collective living, this paper will examine three examples of end-of life facilities through a typological lens, generating comparative plans of private, collective and public spaces within the different facilities. The typological study will be complemented by three interior perspectives representing the space of the bedroom from the point of view of the patient. These three perspectives will allow for a comparative experiential study of the space in terms of openings, natural light, use of materials and spatial configurations. These drawings represent a projective impression based on documental evidence, as no site visit has happened thus far, on the model of. They will become part of a benchmark set of documents that will be integrated through site visits.
The three case studies belong to three distinct categories, graded from institutional to domestic: a hospice (Urban Hospice, Nord Architects, 2016), a dementia village (Hogeweyk, Molenaar Bol & Van Dillen, 2012), and a house designed for a terminally ill person (Refuge 2 by Wim Goes Architectuur, 2014).

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Design Driven Research

The research is composed of a reflective and a projective phase. The reflective phase methods are arranged so to investigate the principles and practices that define the architecture of the case studies. The investigation of the principles is mainly tackled with archival research, while the investigation of the practices takes the shape of observation on site and interviews with architects and developers.
The projective phase will consist in the drafting of a prototype for contemporary coliving based on the results of the reflective phase. The two moments are not envisioned as separate, but rather as a continuous generation of a body of knowledge

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Architectural Drawing: the Agent of Rupture

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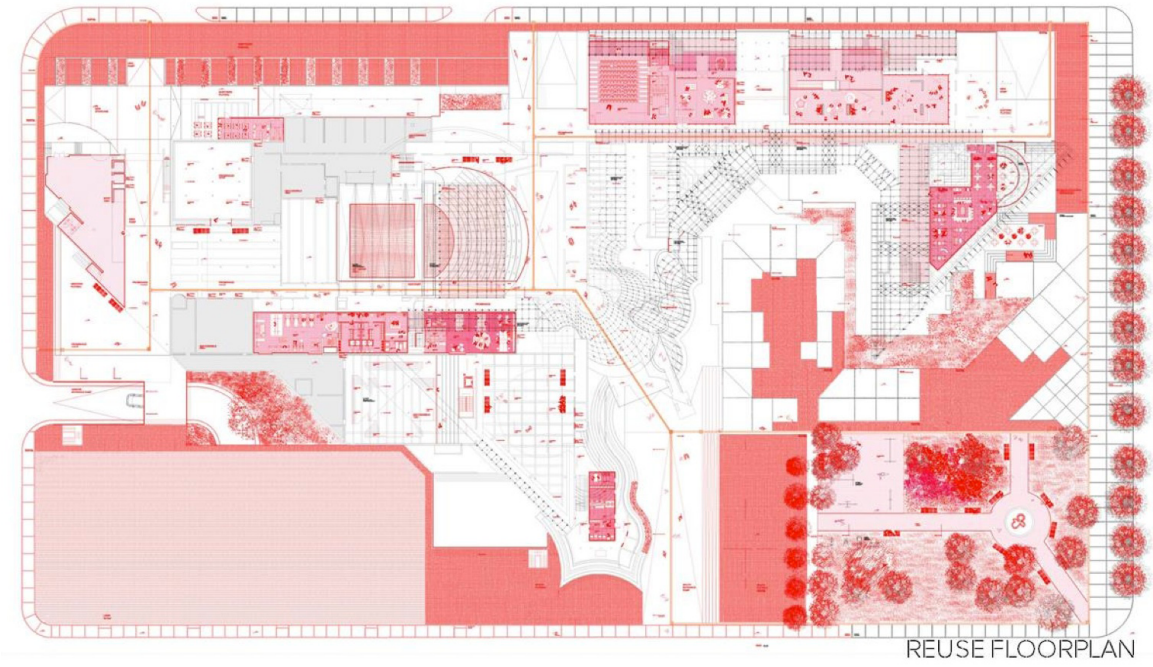
Keywords: Architectural-Drawing, Rupture, World-as-it-could-be

Paper/Artifact



Anachronistic drawing (3,5m x 2,5m). “Reuse floorplan” combines 6 decades long construction site with a reuse concept of covered public space. Home of Revolution, Nikšić. Black - architect Marko Mušič. Red - new project: Sadar+Vuga, HHF and DVARP. Drawing: Danica Sretenović, Sadar+Vuga for 2nd Chicago Biennial.

In the following paper I examine the potential of architectural drawing as an agent of rupture of any given set of conditions. To rupture given conditions is to open the world, open for its possible transformations. The architectural drawing is understood here as a materialized architectural object, not as an intermediate step which precedes the execution of built architecture.

Why is this important?

Currently, the architecture is realized on demand and when realized it functions as a service to reproduce the world as it is (De Graf 2017; Deamer 2015; Frampton 2005). Thus to act as an architect is primarily to receive the commission to meet client requirements which leads to the profession dead end—if there is no commission to design there is no architecture. It results in a culture of adaptability—architects are advised to adapt to given conditions or to foresee future conditions in order to offer solutions to acute problems. In this case, the exterior conditions under which architecture is conceived are taken as terminal, unchangeable. The danger here is that the very conditions are not brought under the questioning. The architects instead of finding architectural questions and testing architectural hypothesis align with the continuum of the world as it is given.

On the opposite architectural drawing allows architect to operate uninvited. Le Corbusier compared the drawing with the entering of the house of a stranger. The drawing is thus an act of an intruder; by drawing we intrude the reality which is (over)drawn. By drawing we also enter an unknown territory. “To enter is to see, not to see a static object, a fixed place or an inert world, but to see, architecture as an event” (Colomina 1994). Most importantly architectural drawing can be exercised anywhere. It can territorialize any real or imaginary place regardless of the standard categories of ownership, legislations, and managerial plans. The drawing occupies place in a way to turn it in a place of architectural thinking. If architecture is theorization of space (Vidler 2015), architectural drawing is the material proof of such practice.

What is the function of architectural drawing?

This process of looking at the outside world with an internalized look of an architect is materialized across photography, modelling, writing, drawing, diagrams, collages, graphics, etc.

With each architectural concept/act, the architects are producing the material from the empty spot. What is this empty spot? When architecture is practiced as a creative thinking practice, which means, without a prescription, the empty spot is its starting point, and it is the place of perpetual uncertainty. The empty spot is never definitely filled with certainty, because over and over again, same questions are raised: How do architects know that they are on the right track? What is telling them that the concept they work on is the adequate one? The truth is: nothing, there is no assurance on the correctness of the concept. But the empty spot can be balanced with the architectural techniques and modes of expression. Architect’s only alliance is found in the tools and techniques of materialization of the idea: the model, the sketch, the text, re-models, re-drawing, re-writing, the cycle of testing concepts is infinite. “Le Corbusier has, for example, enigmatic trait of sketching his own projects again and again, even long after they have been built. He redraws not only his own photographs but also those he found in newspapers, catalogues, postcards.” (Colomina 2004, 98). We can read an interesting trait here–as soon as his object becomes the part of the exterior reality Le Courbisier continues to manipulate and re-construct the reality where his object is included.

The built object is not a finished project. It is idea realized which needs

revision. The built object, being part of reality enters again the domain of questioning in the re-drawing practice.
Now, if photographic image does not simply reproduce, drawing likewise does not simply record—it is the process where the reconstruction of the given context takes place. The drawing is inscribed on "the outside reality", to appropriate it. Then, after the concept-drawing is constructed, it becomes the object of the outside.
world, and stares right back at us from the outside world. It is when the process of reflection and reconstruction on the drawing itself begins; it is how we insert and test architectural cracks in world-as-it-is. The drawing is an architectural tool for reconstructing the given, and by redrawing the existing reality we already enter its reconstruction.
Instead of the repetitive production of one type of world, the transformative practice rearranges each given world. The existing context reconfigured emerges in an unexpected way; it is transformed from the world as it is to an open world. And this is never ending, elliptic process.
On the other hand, by drawing that which is not yet present in the existing—by drawing object of architecture—architect materialize it in the given context–that is to say, we made architecture visible, present. The act of drawing is in this way similar to the act of the ruined object. Both interrupt the given reality, both materialize the point of distinction from what can be "objectively recorded" in the world-as-it-is, both operate by the logic unfamiliar to the reality classifications.
A good case in point are Sverre Fehn's drawings. All too often architects stop at describing them as "poetic". Instead, what if we ask who is the user of architecture depicted in his drawings, or who is the user of the drawing outside the drawing, the one who looks at it? Does one see oneself differently in the world after seeing oneself inhabiting architecture in Sverre Fehn drawing? Sverre Fehn user is the inhabitant, the one who inhabits the world differently after seen oneself inhabiting the drawing.
Or to take the example the drawings of Japanese architects (Sejima, Ishigami, Fujmoto,etc), not only as subtle illustrations, but ask what people do there, when they inhabit the drawing (by seeing it)? Can we identify what they do by the program prescriptions used in contemporary building? No, the people there are living in architecture, (which is living in nature) not in the prescribed categories of the world-as-it-is.
What does this drawing do when placed in the world? It represents a constant potential to be seen, and in being seen, the drawing itself acts architecturally (Sretenović 2019).

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Design Driven Research

The first part of the research is the theoretical construction of architectural drawing as the agent of rupture based on the relevant work of architectural theory and philosophy. In addition, the analysis will focus on the question “how drawing works?” while reviewing the history of architectural drawing. The process of reading and analyzing of existing the material comes across as conventional methodology, however, it is design-driven, as the material will not be passively intaken but “redesigned” and decontextualized when faced with a new set of questions.
The second part will test the assumption that architectural drawing solely can change the given conditions. It will include the organization of international architectural idea competition on a conflicted territory (e.g. privatized former public space). The competition will consist of several steps - first, setting the task and a brief, secondly PR of the competition on relevant platforms, thirdly critical reflection on the received ideas and material and finally getting in touch with the relevant managerial structures in order to change the given conditions on the basis of ideas received which will be recorded in interviews. This is a designed process or testing ground for an agile way of practicing architecture.

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Gaze(s) in Dispute: Reformulating the Tools

Dirim Dinçer, TU Delft

Keywords: Mapping, Migrant Spatial Practices, Atlas

Paper

The growing numbers of persons displaced from their places of origin, since the turn of the millennium, has discriminately exposed practices of exclusion of the "national orders," in which nations bounded by their geopolitical borders as spatially discontinuous territorial units. Through diverse practices such as successive opening and closing of borders, resurrection of border walls fully equipped with surveillance technologies, individual and selective asylum application processes migratory movements have been restricted, controlled, monitored and examined. The required sheltering spaces are produced in line with these strategies: isolated rural settlements, camps or reception centers, and various other forms of spaces of waiting. Territories crossed are redefined by the indefinite durations of waiting and the uncertain spatial relations it creates. They became the grounds of making people wait, which, according to Bourdieu, come as a signifier of domination as a way of regulating social interactions by delaying hopes without destroying them. In waiting, both the effects of power and the link between time and power are experienced. Thus, migration is about "the time in-between" articulated both by moving and waiting as practices which establish a mutual link between the regulations implemented and the oppressions facilitated. This extended period of waiting means "not being in-time with others," a thought-time.

Turkey, as a country bridging between the beginning and the desired end of the contemporary movements, here provides a paradigmatic case. Especially the recent west-bound journey of migrants from Syria have recreated in-between zones with a wide variety of physical manifestations throughout the country. Particularly, the cities of the southeastern region such as Hatay, Kilis, Şanlıurfa, Gaziantep have transformed by 21 newly built camps after 2011, de facto buffer zones between two countries. Many settlements around border gates have emerged, and 24 reception and accommodation centers have been built. Subsequent to the escalation of violence after an uprising in the city of Dara'a in 2011, together with Jordan and Lebanon, Turkey, positioned on the primary west-bound transit route for the migrants since the 1990s, has been one of these countries.

Presumptuous of the governmental bodies that the so-called crisis would be temporal, the migrants were labelled as "guests." By doing so, their presence would be subjected to the hospitality of the host country for a short period, not on a permanent basis removing their rights to apply for the refugee status.

In the absence of legal status of refugee and up-down spatial strategies, 92% of the migrants in Turkey live outside the camps; they are scattered across the country, mostly in urban areas, living among the local population. Migrants' will-to-move precedes a migrant territory, a fragmented, unsteady, and discontinuous one which cannot be grasped by neither the traditional notions of territory nor analyzing the static, fixed, and merely physical boundaries attached to it. Thus, the visible and invisible changes in these territories necessitates a shift in the scholarly perspective studying the transformations, discontinuities and multiplications in both the spatial and material practices.

However, as the present body of knowledge is heavily loaded with Cartesian and binary conceptions, design disciplines fail to engage in grasping the complexities of the tangible and intangible spatial practices employed by the migrating individuals and collectives. Hence, migration as a contemporary human condition urges for a critical reformulation of vocabularies and methodologies used to analyze, classify, reflect or project spatial conditions in the design disciplines. Thus, instead of following linear chronological, spatial or sequential order, a set of relations emerging from migrant spatial practices in a multiscalar territory should be investigated.

From this point of view, this research focuses on in which ways can modes

of representation become operative in migrant territories constantly redefined by complex socio-political context. Stepping into another disciplinary framework, how representing enables and gives the central role to autonomy and imagination in the investigation of spatial conditions? In this research, I do not propose a fixed theoretical framework to work with. My field and domain of research require a matrix in which multiplicities, complexities, relational and fragmentary aspects produce, broadly defined, a constellation. Inspired by artistic projects helped to widen the understanding of it by making use of this specific genre as a critical medium, this research takes atlas as a medium for the investigation to experiment in between places and times through migrant spatial practices. Aby Warburg, in Mnemosyne Atlas, offers a non-linear vision of history with the images by transforming the cartographic and scientific notions of "atlas." Warburg aimed to explore how meaning are formed by the themes and styles, and how it creates a dynamic in-between space, a "thought-space." Such spatial constellation allows its conceptually, geographically and temporally made up content to offer an anachronistic order which can be seen as against the ascendant art historical order. Hanna Darboven's work, Cultural History 1880-1983, shares similarities with Mnemosyne Atlas in terms of the interconnectedness between the materials by proposing alternative modes of classification. Darboven brought together a wide variety of materials such as postcards, photographs, magazine covers, and other graphic materials in 1,590 framed sheets and 19 sculptures in a strictly ordered arrangement. Unlike Warburg, Darboven's work was ordered with data-based records which are cross-sum calculations based on the day's date. Gerhard Richter's ongoing Atlas project which he started in 1962, on the other hand, consists of diverse visual materials from photographs to sketches, drawings and collages combined in a way that reveals a potential to orderly yet open ended heterogeneity.

What connects these works, among others, is using a specific type of ordering to create a visual form of knowledge. The main question lies not necessarily in the form but in the process, gathering different materials together to produce an interconnected collection. This requires a system, and because of its complexity laden with various types of information, that system needs a code, a self- order that offers a possible ground for its fragments; not a dictating but an open one to allow room for changes and possibilities through editing, translating and organizing. An atlas, structured as such, can offer that foundation to render visible the complexities by enabling multiple and critical reading of its fragments. Given also the constant emerging complexities of the research topic, this atlas is structured around clusters derived from the relevant disciplines, i.e., border studies, forced migration/refugee studies and cartography to construct a set of relations and meanings, which in turn, to propose an alternative spatial argument. These clusters, namely the (bio)politics of movements, territorial imaginations, and spatial practices aim to provide the main framework by re- defining and examining the notions of territory, orders, and practices contested, transgressed, and produced by examining the forms and modalities of displacement. Moving beyond from observing world to interpreting it, I will discuss how can a spatial notational system be formulated as structure of this atlas through a hybrid graphic language which is open to transpose into different settings.

In this scope "mapping" is both a practice and tactic, which will be used to explore the potentials of such a system and open space for imagining alternatives by reconsidering it in architectural perspective. Mapping as "a representation of a social construct within a spatial and temporal frame," offers to activate further investigations that any exploration that broader objective deals with.

However, mapping contains a paradox, using cartographical means and tools might result in producing another instrument which distort the realities or make the subjects hyper-visible. Thus, they should be constantly questioned, criticized and revised in order to make sure they reflect the purpose at first place. Simply because of that, there is a need to have a system that enable to question them. Therefore, a spatial notational system work within the specific framework of atlas needs to be explored to reformulate the gazes directed towards the territory. In this paper, I will also discuss the possibilities, potentials and limitations of such notations by giving an overview.

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Design Driven Research

My research is situated in the context that I defined as migrant spatial practices and spatial notational systems that operate within territorial understandings. Even though it might be clear from extended abstract, representation tools serve both to comprehend, and simultaneously, to act by placing territories, times and subject side by side to create possible geographies.
This research problematizes the shortcomings of current terminology and methodologies used to analyze, classify, reflect or project spatial conditions in the design disciplines. It does not aim to produce a factual representation of territories of migration or precise visualization of any data regarding these territories. Rather, it aims to reformulate architectural tools as modes of representations to open the present body of knowledge towards differentiation, multiplicity and complexity through multiple and multiscalar viewings of a specific territory.
It uses mapping as a tool to understand emerging spatialities. The form of atlas allows to act within this area, which contains different readings of the parts of a territory, makes it particularly versatile to representing the multiple and intersecting elements that create place. By not totalizing, reducing, or alleging to be single mode of presentation, it remains open to differentiate multiple viewings of territory and operates critically to question also its presentations.

Dirim Dinçer / architect-researcher-editor
PhD researcher @ TU Delft / Borders and Territories, at beginning of the second year

The Design of a Continuous Flow: Mapping Water in City's Solid Topography

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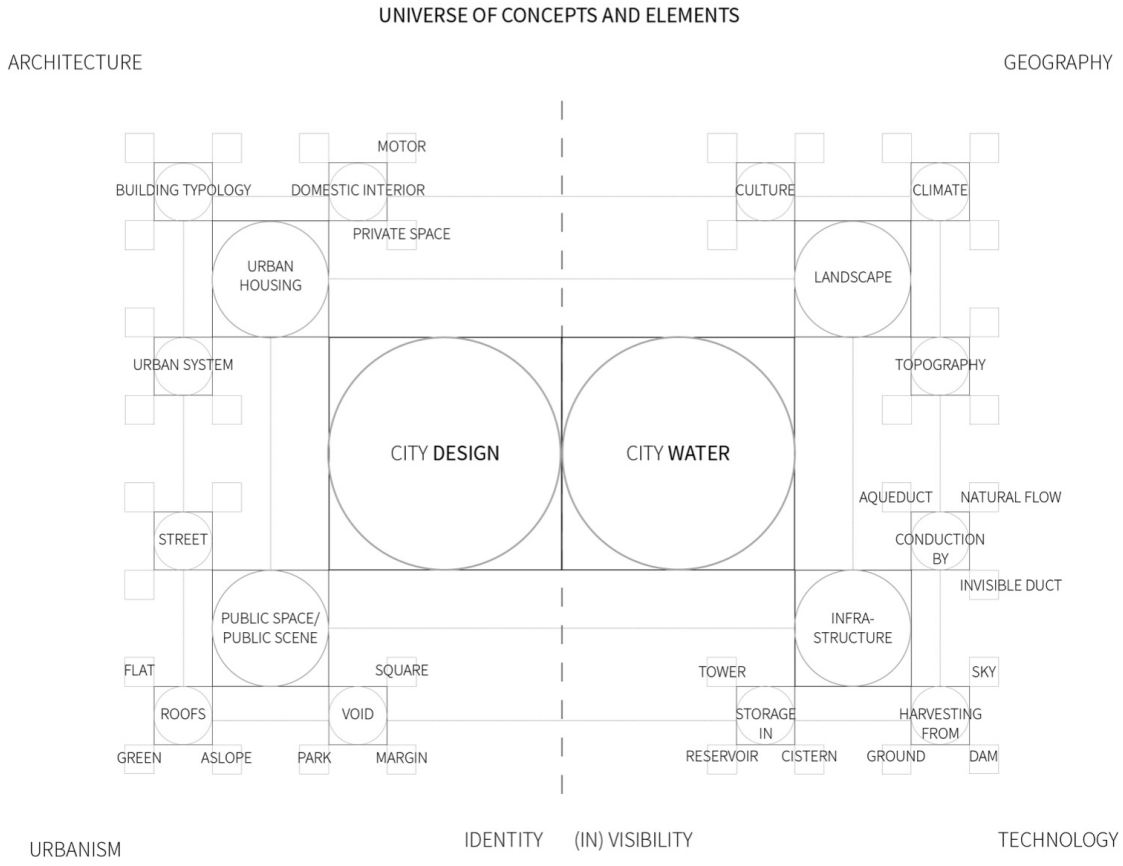
Keywords: Water and Architecture; Mapping Infrastructure; 21st Century

Paper



universe of concepts and elements of the research; from the author

The present research focuses on the evolution of the urban form and its relationship with water.
Worldwide, the limits of accessibility and availability of this resource are being pressed—rupture events in contemporary cities lead to questioning the infrastructure model in current city design.
Pursuing a theoretical systematization, evidence of the progressive participation of water in the city and in housing is revisited, through a historical and (cartho)graphical framework.
Departing from a community distribution system in public places, to the rationalization of the street and the emergence of infrastructural logic in the nineteenth century, the twentieth century appears as a period of important formal and conceptual syntheses for the production of housing. The mastery of residential infrastructure—the housing machine—produces a domestic lexicon that translates into served and server spaces.
From architectures of water celebration to its condition of utilitarian invisibility in the contemporary urban landscape, the challenge of the twenty-first century will oppose the rationalization of design and water consumption to a more integrated vision between urban environment and natural dynamics. It is intended to defend that the design of architecture oriented to this purpose can contribute to this achievement.
The city of Lisbon will be approached as a central case study; research may be supported by complementary case studies.
Often the spatiality and narrative of a secular urban agglomerate can be understood from its relationship with the presence of a natural movement of water, through the integration of a space design capable of using and, if possible, manipulating that same movement. The resulting technological sophistication produced the modern infrastructure that characterizes contemporary developed cities and allowed to disconnect two universes: the water cycle and the design of cities and buildings. The realization that the model practiced—based on the exploitation, consumption and disposal of this resource on a territorial scale—may be exhausted in itself, not ensuring sustainability in the medium term motivates the construction of a perspective on the evolution of cities and their design in function of water, in its movement—free and programmed—as a way of contextualizing and calling for future innovations.
In the first architectural treatise on record, dated two millennia ago (first century BC), Vitruvio dedicated one of his ten books to the theme ‘water’, consecrating it as a fundamental theme of thought related to architecture and as humanization tool for the territory.
The book is dedicated to the explanation of techniques to locate water reserves existing in unknown territories, to evaluate the different qualities of the same, and also points out some constructive solutions with a relative degree of sophistication for a design of its artificial conduction over and under the natural territory, through exclusive circuits and the construction of specific support objects for this purpose.
In the present and young twety-first century, the 17 Goals for Sustainable Development have defined since 2015 a common goal for the global population, regardless of their geographical condition, politics or level of prosperity, centering the issue of development on a common agenda of well-being, sharing and responsible use of resources in the common house we inhabit.
Objective 6, “Drinking water and sanitation” unambiguously isolates the urgency to guarantee accessibility to water, at least half of the global agenda is complementarily related to this idea, referring to “sustainable cities”, “responsible consumption”, “health and well-being”, “innovation and infrastructure “, among others.
The easy access to water motivates daily consumption and a lifestyle

without guarantee of sustainability in the medium term. The natural imbalances are a reflection of the fact that the intensification of urban activity on the natural water cycle is approaching a point of aggravation that could, in a few generations, affect directly or indirectly half of the world population.
The challenge of the twenty-first century for the use of water in cities will be to maintain the quality of life that current technology allows, minimizing its consumption globally. Guarantee accessibility, through an efficient artificial infrastructure, and availability, through the good maintenance of the natural infrastructure—that promote small local water cycles in an urban environment.
The city is the physical support of the access systems to this property, and its architecture, individual and collective, a consequence of the technologies in force. It appears that the growing domain of water infrastructure promotes an urban design that is increasingly independent of the territorial base that gives rise to places - their own natural and social history. The water point forms a collective public space in the historic city. The linear water infrastructure is defined together with the street, and from it determines the constructions. The fully infrastructured building with private supply points, along with the domain of structural construction solutions, becomes quite free from a formal point of view, integrating spaces that are progressively more specialized in their interior composition. In the period of the twentieth century, various solutions are explored that articulate a sense of "motor", which endows the house with functionality, and a sense of enjoying the habitable space.
The water element in its natural state was banned from the urban space, in which it does not participate as a visible element, its presence being highly domesticated and seen as a consumer good with easy access, or as a surplus to be forwarded in the case of rainwater.
There is a need for a typological moment capable of framing the presence and use of water in contemporary construction. Or perhaps a synthesis of knowledge currently dispersed, since the successful domestication of water use has led to the disposal of a set of design and construction processes dedicated to it and its present use is not optimized, having this potential. It will make sense to revisit some vernacular-based solutions and interpret how they can be integrated and combined in twenty-first century projects, making the most of technology and global knowledge in constant evolution, without losing the accumulated timeless knowledge linked to the local scale of proximity.
In the city, housing is the program that has the greatest expression, highest gross consumption and therefore the most urgency to be optimized. It is also the most effective.
For a more humanized view of water, it is important to be aware that it is not an abstract resource, and architecture can contribute to this integration.

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Design Driven Research

The methodological process of development of the proposed investigation follows a non- interventionist methodology, supported by qualitative, theoretical and documentary research, supported by a main study case (evolution of city of Lisbon), using primary and secondary sources of information, and critical analysis of the information collected.
The research will follow two main pathways:
1) historical synthesis and contemporary theoretical framework of the research question;
2) analysis of the case study, constituting approaches to the question at different scales.

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concluding first year of research in Architecture: Project Theory and Practice mariamauricio@edu.ulisboa.pt
Master in Architecture since 2012 and Architect since 2013 after an internship focused on rehabilitation of Lisbon's historic center housing, with Carlos Valles Architects. From 2013 to 2017, worked at Roseta Vaz Monteiro Architects in rehabilitation of buildings with public programs such as municipal pool, local church and a school. Selected at national level for participating in the international governmental program of exporting young professionals (inov contacto), for a 6 months professional experience in São Paulo, Brazil, collaborating with Carvalho Araújo Architects and OODA studio. Currently working since 2017 in Cascais city council and researcher since 2019.

The Accessible Frame
Research on Ancient Chinese Landscape Architecture Towards an Interactive Practice Paradigm

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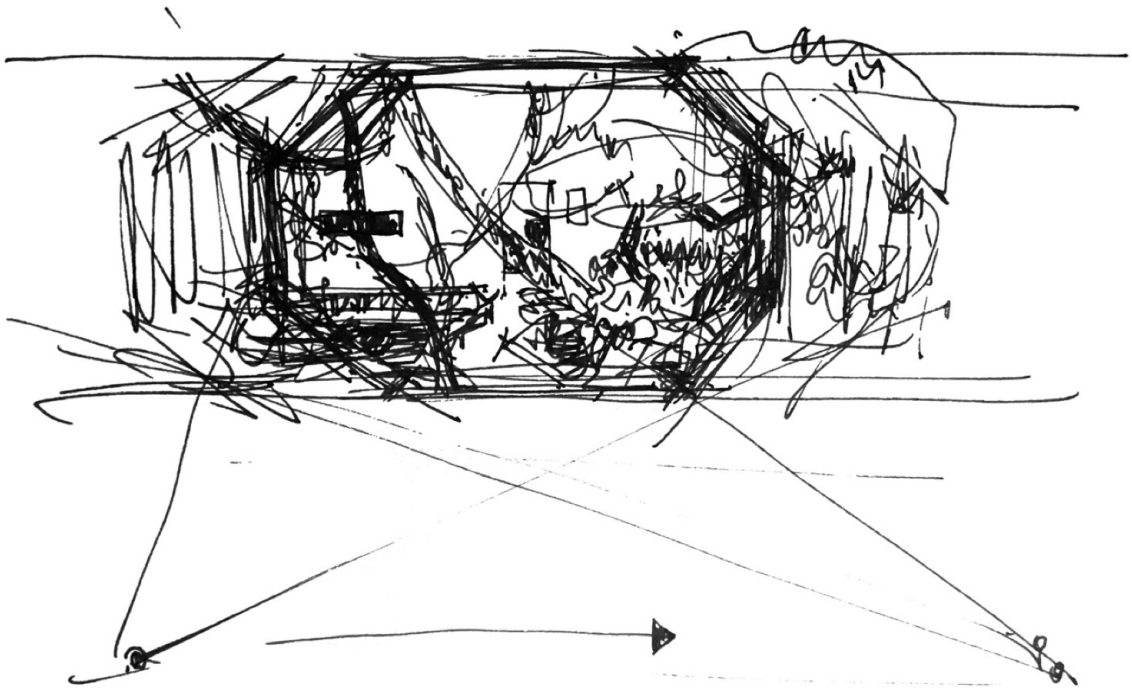
Keywords: Perception of Space; Ancient Chinese Landscape; Interactive Practice Paradigm;

Paper



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Human's perception of space is inhomogeneous and multisensory. While, mathematical projection drawing, the tool to represent space in the architecture field, tends to solidify, simply stabilize this complex perception; and it facilitates visual hegemony. This is not only a gap between the expression tool and the expressional thing-in-itself, but may be related to the essence of architecture. In contemporary architectural discourse, discussions on this topic are mostly put forward by phenomenological architects, which is the best evidence. They are critically thinking about architecture at the ontological level.

Frame is the symbol of mathematical projection drawing. As an operational fulcrum point in the translation of 3D spaces into 2D pictures, frame provides a boundary between real space and pictorial illusions. The boundary leads isolation, which means the completion and closure of creation. In the field of architecture, the built space is unilaterally controlled by the architect, in other words, the perception of the user about the built space is pre-set by the designer by a rigid expression tool. This is not in line with the nature of human perception of space. Especially in the contemporary era of globalization, the users of built space are so diverse, the limitation of this kind of boundary frame is more markable.

This Ph.D. thesis takes a spatial phenomenon, Enframing the Scene, from Chinese traditional gardens as the research object, and argues that here frame is accessible. Moreover, through cross-cultural comparative study, in-depth analysis of the philosophical foundation of this spatial phenomenon, it will demonstrate that this accessibility means a shifting paradigm of interaction between people and space on the ontological level.

Taking one spatial phenomenon from the Ancient Chinese landscape as a practical case to study is because that, as the same as modern architecture, it is a design system with space as the core focus. However, as Leibniz pointed out, ancient China is another globe1, Chinese landscape is another space design system, independently born and bred in ancient Chinese culture. This civilization has generally believed it might be complementary/supplementary with the western one.

The full thesis extending the discussion around a word - frame, contains three main parts.

The initial part begins with an introductory narrative analysis of a typical spatial phenomenon concerning the ancient Chinese landscape, called Enframing the Scene. The study tries to explore the "another way of seeing" and its connections with "another way to follow this visual habits to create space" in ancient China.

For "another way of seeing", briefly, by analyzing handscroll painting, it demonstrated that the pictural space created by Chinese traditional painting, which extending two-dimensional horizontal - unlike Western classical paintings that extend perpendicular to the horizontal plane mainly- no need frame to mark the boundary between the illusion and real space, they are in parallel, won't interfere with each other.

Because of this parallelism, a person who reads the painting gets permission to enter the illusion world. The existence of frameless paintings provides the legitimacy of cultural roots for the existence of an accessible frame in a garden spatial organization. It is "another way to follow this visual habit to create space".

Since then, the chain between human visual perception and architectural space creation in ancient China is pointed out. However, here the chain is quite different from the current and globally dominant one, which is mainly based on Western tradition and tamed by linear perspective, criticized as limiting humanization in culturally diverse contemporary society.

In Enframing the Scene, frame is not a boundary but can be accessible,

which means, there is an interaction between the user and the built space. In the second part, aiming at moving from observations of phenomena to extract a certain paradigm, the research has been extended to a retroactive investigation on the philosophical roots at the base of the ancient Chinese landscape. From the ancient Chinese cosmos model to the influence of Tao Te Ching on the Concept of Space, this research further points out that interaction between the user and the built space is a kind of user-involved on ontology level, it has accumulated experience and techniques at a broad epistemological level. (for example,
the traditional Chinese painting) So, the inference is, in ancient Chinese spatial design, it is not only reflected in the space phenomenon: Enframing the Scene, but widely exists in the spatial composition.
This interaction happens in the field of human perception, is here considered as a sort of intersubjectivity. It works through empathy, both in designing and enjoying spaces. This deals with the phenomenology framework in many aspects. Thus, it may be expected that by some reducing method, this type of spatial interaction that was a design method itself in ancient China, could be also used in today's society.
It indicates a kind of shifting paradigm, which could face the requirement of more context- sensitive in this globalization and immigration era.
In the last part, it will explain one project on the bases of the mentioned interactive paradigm, as a practical application and a test-case of the proposed research findings. It is a home construction project, placed in a sensitive culture context with well-educated clients. The architect here would play the role of a guide/inspirer instead of that of a decision-maker.
While users decide their own living space concretely.
The main aim of explaining and reflecting this project is to articulate some guidelines for a practice that might be more sensitive to the realities, values, and questions arising from the depths of context and lifeworld. From these guidelines, different implications may be drawn in different design conditions.
Frame here is the practical project's construction, and it is accessible, that is, the user is involved in the design-to-use whole process.

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Design Driven Research

The emerging relationship between users and the built space in contemporary is the main motivation of this research.
In today's era of globalization and immigration, from a practical point of view, space design has faced the requirement of more context-sensitive and function-flexible, this is because the service objects/users of the will-be-built-space will be more diverse that with various cultural and educational backgrounds.
For new situations, perhaps a shifting paradigm is called for, which is different from the prior based on certainty, which may contain ambiguities and flexible metaphoric thinking.
Taking a spatial phenomenon, enframing the scene, from Chinese traditional gardens as a research object, this research ultimately hopes to call for a shifting paradigm on the ontological level.
This is a cross-cultural study, and ethnography is one of its main research methods. This ensures that the analysis of the research object is based on its own cultural context. But its results are merely mainly reflected in the appendix: Brief history of Chinese landscape.
In the main body of text, narrative description and theoretical deduction are the main methods. Various forms of hand-drawn drawings are the main technique of this research, aims to restore the architectural composing that retains ambiguity.
A kind of anti-technical technique.

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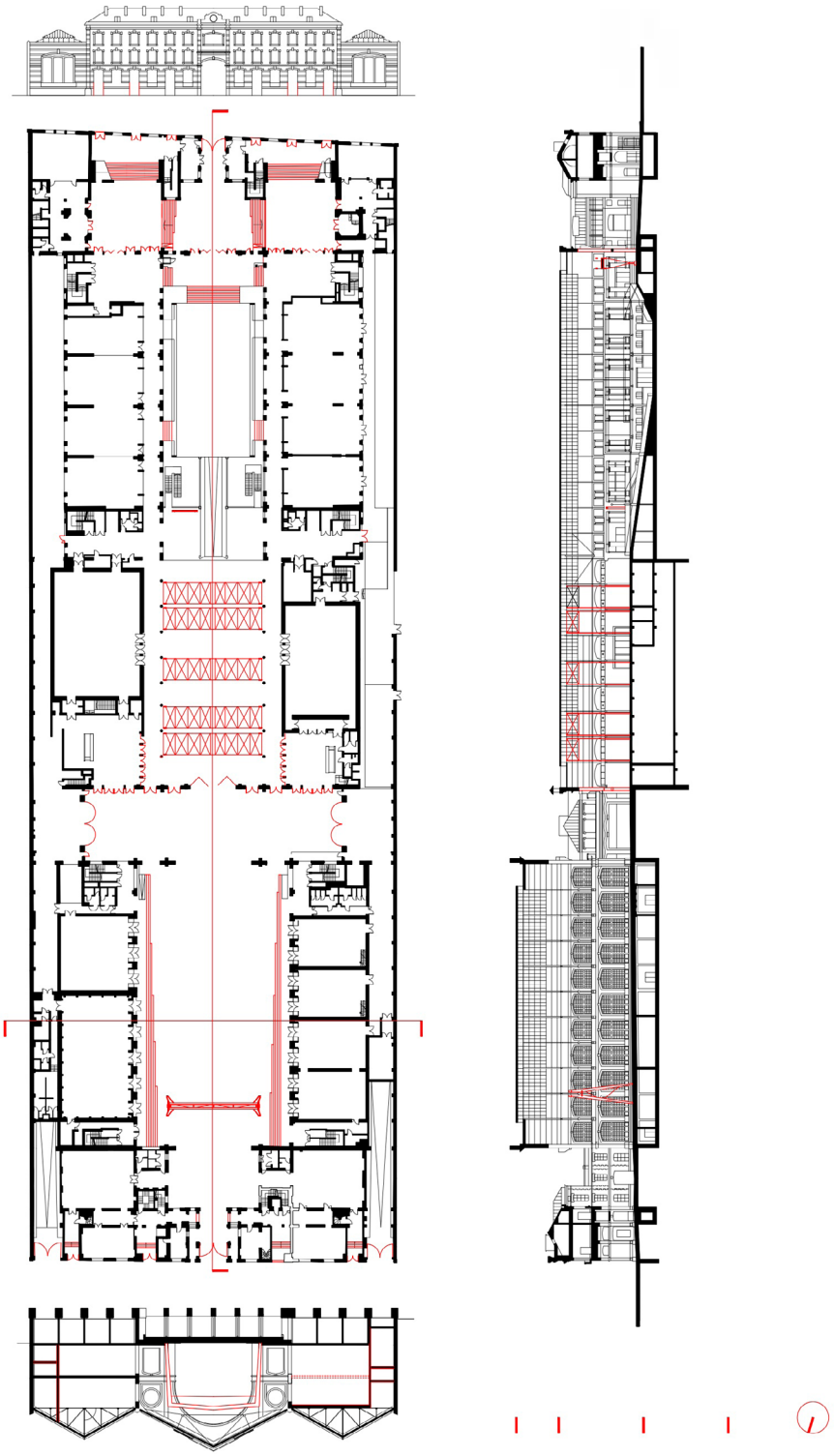
I grew up in the reforming and opening up modern China, accepted the global general education system; in university, accepted modern architecture training, which was totally western imported. While, my hometown is located in the hinterland of China which maintains a deep traditional lifestyle, even though in a somehow hidden way. Parallel to formal education, I also accepted a traditional private education, which let me study Chinese painting and tradition general culture. These double backgrounds lead me to raise this thesis topic, and I believe it also supports me in the capacity to analyse it.

Architecture and Public Space, a Typological Hybridation

Janet Hetman, CRENAU (Centre de Recherche Nantais Architectures Urbanités)

Keywords: Architecture, Public Space

Paper/Artifact



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The paper reviews adaptive reuse processes of cities to reactivate dismantled industrial buildings and to reintegrate them into urban fabric of the suburbs where they are usually located. In some countries, like in France, this kind of intervention is part of the program for culture regeneration within the local urban policies.
Our analysis builds on the case of the Centquatre-Paris, a public equipment of 39,000 square meters. Used as a theatre building, where everything that happens on the "stage" follows the programme register, and the activity takes place in a sequence of architectural scenes. The translation of the programme into changing configurations of use over a short period of time imposes a type of scenographic set-up of the space due to the particular nature of the reversibility and speed of the assembly and dismantling operations. The simultaneous performance of activities that differ in size and duration limits them to a faded and dynamic threshold.
The intention of this text is to consider architectural spaces as situational spaces, in which the process of dynamic adaptation operates on a delimited spatial field (building), but within which configurations of use (architectural scenes) are set up.
The Centquatre is a situational space because it was first designed and then put into operation on three architectural levels which guarantee the scenographic layout of the elements on different scales by means of "almost infinite" configurations of use. The first level concerns the morphology of the building, the second level the mobile devices, and the third one concerns the furniture. The architecture, here proposed as an open stage, can act by capillary emptying, temporary addition, alternating connection, suspended covering if, however, these design actions generate an articulation of spaces and scenes whose result is a living and evolving dynamic where the intelligence of the actions elastically define the limit of their action in the sequence of configurations.
By doing a work of abstraction, we've been able to observe that the redefinition of the threshold, and the mobile setting that follows, makes the architecture a landscape. Hybrid typology between architecture and public space is a result.
Generally speaking, the main results revolve around two axes. First, the Chronocarta, which represents and compares the "almost infinite" configurations of the Centquatre-Paris, in showing the situational character of the boundaries in which the spaces are organized during the day. Second, we discuss how the architecture reflects a situational space, one where a combination of diverse spatial and temporal events is manifested. We claim that the versatility of the program and the architectural design provide a platform for this elasticity to flourish, allowing or limiting the different uses configurations of the building. With this paper we will show all the architectural devices allowing the Centquatre to be an 'Elastic Space' and an incubator of uses.

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Evans, James, Andrew Karvonen and Rob Raven. 2016. The experimental city. New York, NY: Routledge.

Design Driven Research

We approach the wide range of socio-cultural, artistic, and economic activities taking place in the Centquatre; as well as the architectural aspects such as typology, distribution,
program, devices.
The study was based on an ethnographic research that comprised six months, and aimed at understanding the mechanisms and the complexity of the management and the building life, and also at capturing the dynamism of an 'event building' in terms of space and time. In particular, we used a methodological approach commonly used in open urban spaces, called Chronotopia, to draft a drawing tool of an evolutive architecture.
Further analysis of the architectural artifact allowed us to identify the morpho-typological elements characterizing the design-driven approach in the hybridization between architecture and public space.

Janet, Hetman, ECR (Early career researcher); janet.het@gmail.com; architect, PhD. Urban dwelling and its socio-spatial manifestations constitute the main area of interest. Her research is explored through an academic and design-based approach, together with a disciplinary integration between architectural design and social sciences. She has collaborated with the LAA (ENSA Paris La Villette), the Department of Architecture of the University of Roma Tre, the DAD and the CRD-PVS of the Politecnico di Torino. She has also worked in several design firms on projects at different scales, mainly related to the rehabilitation of architectural and industrial heritage. Her current work aims to investigate the morpho-typological developments of architecture in the face of the urban dynamics of hybridization and intensification.

PANELS

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Alessandro Rocca is an architect, PhD, based in Milan, head of the PhD Program of Architectural Urban Interior Design (http://www.auid.polimi.it). He is a full professor of Architectural and Urban Design at the Department of Architecture and Urban Studies (Dastu) of Politecnico di Milano (Polimi), where he teaches courses of Architectural Design. He obtained a PhD, Methodological Questions in Architectural Design, in Genoa University. His research topics focus on the relation between the formal aspects of architectural composition and infrastructure, forest, and new environments. Among his books: Natural Architecture (Princeton Architectural Press, 2006), Planetary Gardens: The Landscape Architecture of Gilles Clement (Birkhäuser, 2008), Architecture Low Cost Low Tech (Actes Sud, 2010), Lo spazio smontabile (Letteraventidue, 2017). He is founder and editor of the architectural review "Fuoco amico" (https://issuu.com/mmxiipress).

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Almudena Ribot is co-founder and director of Núñez & Ribot Architects, a professional practice based in Madrid since 1997 in collaboration with architect Teorodo Núñez. The practice is focused on the architectural development through the inclusion of researching and thinking processes at the same time that the action of the physical proposal. Nowadays, the studio is working on the project of industrialized-housing called "CUATRO50", which has obtained several construction and architecture prizes in Spain since 2007.
Almudena studied architecture at ETSAM Madrid where she got her PhD. From 1994 to 2001, she was a lecturer in the Construction Department of ETSAM, and lecturer, associate professor, senior lecturer of Project Department of ETSAM. She has worked as a researcher for ETSAM since 2009 when she started CoLab: To industrialize, Prototype and Collaborate. After that, she worked in different research and innovation groups such as GIE Project Integrated Mechanism and ProLab Contemporary Project Strategies.
She has participated as an invited lecturer for several Universities around the world, such as Escuela Técnica Superior de Arquitectura of Madrid (ETSAM), Swiss Federal Institute of Technology of Zurich (ETH), Penn State University in Pennsylvania and Pontificia Universidad Católica de Perú in Lima.

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Alper Semih Alkan is Lecturer and researcher, Architectural Design Crossovers, Department of Architecture, Faculty of Architecture and the Built Environment, TU Delft. His research inquires in disjunctions in architectural design media with a focus on the regimes of 'technical images' and traces mimetic and informational theories in architectural representation. In addition to his involvement in education he is also member at the editorial board of the journal Footprint and acts as the education coordinator of the Architectural Design Crossovers program. He is actively engaged in architectural education and has been invited to juries in schools like KU Leuven (BE), Berlage Institute (NL), CUHK (HK) among others.

Dr. Anđelka Bnin-Bninski
Faculty of Architecture University of Belgrade

Anđelka Bnin-Bninski is an architect PhD, lecturer and interdisciplinary researcher. Her PhD thesis "The role of the architectural drawing in the dynamics of living space partition" (2018) is in the fields of philosophy and theory of architectural drawing, and it is based on drawing practice in architectural analysis. Her current investigations are focused on strategies and tactics of architectural drawing research. She is specialized in theory of arts and media (University of Arts in

Belgrade, 2009) and philosophy of architecture (École Nationale Supérieure d'Architecture de Paris-La Villette, 2014). She teaches studio design and methodology courses at the University of Belgrade – Faculty of Architecture. She is involved as representative for ARENA – Architectural Research Network.

Associate Prof. Anders Kruse Aagard
Aarhus School of Architecture

Anders Kruse Aagaard is assistant professor at Aarhus School of Architecture. His research focuses on materials and material processing in relation to architectural design. This includes materials behaviours and their effect on design and design potential, as well as the connection between design, design representation and machined reality. Materials and machining are investigated primarily through digital fabrication technologies, and computational design, modelling and workflows. Since 2017 the undertaken research has solely focused on the material wood.

Mag. Dr. Andrea B. Braidt
Institut für Theater-, Film- und Medienwissenschaft, Universität Wien
President ELIA European League for the Institutes of the Arts

Mag. Dr. Andrea B. Braidt MLitt is Vice-Rector for Art and Research at the Academy of Fine Arts Vienna.
As a reseacher with degrees in film studies and comparative literature her research focus and publication lies activity on narratology, genre theory and gender/queer studies. International fellowships and appointments brought her to USA, Canada and Budapest, where she was guest professor at CEU Central Euroepan University. From 2004-2011 she was Senior Scientist at the TFM Department for Theater, Film, and Media Studies at Vienna University, leading numerous research projects, organising international conferences, teaching extensively.

Assist. Prof. Dr. Andrea Oldani
Politecnico di Milano

Andrea Oldani is assistant professor in Landscape Architecture at the Department of Architecture and Urban Studies at Politecnico di Milano, where he is Faculty Member of the School of Architecture, Urban Planning and Construction Engineering, where he teaches in the degree courses in Architecture Design and Landscape Architecture, Land, Landscape Heritage. At the same University he graduated in Architecture (2006) and obtained a PhD in Architectural and Urban Design (2011) in the Department of Architecture and Planning – DIAP.
Research interests and activities focus on two main domains developed in a cross-comparative perspective. The first is the landscape of contemporary infrastructure, where, in particular, he examines riverscapes and waterscapes. The second is the field of landscape recovery, architectural recycle and requalification. On these themes he has been developing research projects in Italy and abroad, publishing as well as presenting and discussing in the context of invited lectures, seminars and international scientific conferences. Research outcomes are documented by a consistent number of scientific publications including the books: "Paesaggi Instabili. Architettura tra terra e acqua" (Maggioli, 2016) and, "Acque e paesaggi d'invenzione. Descrizione, meraviglia e nuova interpretazione di infrastrutture e architetture dell'acqua" (Libria, 2020). He participated in national founded researches (PRIN) and curated seminars, exhibitions and editorial works.

Assist. Prof. Dr. Angeliki Sioli
TU Delft

Angeliki Sioli, PhD, is assistant professor of architecture at the Chair of Methods of Analysis and Imagination, TU Delft. She hails from Greece, where she obtained

her professional diploma in architecture from the University of Thessaly and was granted a post-professional master's in architectural theory and history by the National Technical University of Athens. She completed her Doctor of Philosophy in the history and theory of architecture at McGill University. She is a registered architect and has worked on projects ranging from residential and office buildings to the design of small-scale objects and books. Her research seeks connections between architecture and literature in the public realm of the city, focusing on aspects of embodied perception of place in the urban environment. Her work on architecture, literature, and pedagogy has been published in a number of books and presented at numerous conferences. She recently edited the collected volume Reading Architecture: Literary Imagination and Architectural Experience (Routledge, 2018). Before joining TU Delft, Sioli taught both undergraduate and graduate courses at McGill University, in Montreal; Tec de Monterrey, in Mexico; and Louisiana State University in the U.S.

Dr. Anna Katrine Hougaar
Institute of Architecture, TU Berlin

Anna Katrine Hougaard was born in 1979 in Copenhagen, Denmark. She holds a diploma in architecture since 2007 from the Royal Danish Academy of Fine Arts, School of Architecture. In 2011 she received a PhD scholarship form the same school. She is specialized in new developments in architectural drawing. Her interest is focused on aesthetic and form, drawing, visualization, diagrammatics and artistic research in architecture.

Dr. Arja Veerman
HKU University of the Arts Utrecht

Arja Veerman started her career as a teacher in primary education. In addition, she studied Educational Science at Utrecht University, finishing a PhD on collaborative learning through the internet. She had her own educational research company and wrote a couple of children's novels. Switching to HKU, she became a full member of the research programme Research in Creative Practices, where she's doing a postdoctoral project on the methodology of creative research. She also works as a research lecturer and developer at the HKU Master of Art and Education. E-mail: arja.veerman@hku.nl.

Prof. Bostjan Botas Kenda
Faculty of Architecture, University of Ljubljana

Boštjan Botas Kenda graduated from Publishing Design at Istituto Europeo di Design in Milan (Italy). After finishing his study, he participated in educational processes as a lecturer at various higher education institutions, including the Faculty of Architecture of the University of Ljubljana, where he was elected to the title of assistant professor in 2002. He received pedagogical andragogical education at the Faculty of Arts of the University of Ljubljana. Since 1984, he has worked as an independent graphic designer and pedagogue until his full-time employment at the Academy of Fine Arts and Design of the University of Ljubljana in 2010, where he first worked as an assistant professor, as associate professor from 2012 to 30th June 2017, and as full professor since 1st July 2017. In 2013, he was appointed to the function of the Dean, which lasted until 30th September 2017. In 1994 he founded studiobotas, practice of visual communications, especially graphic design in architecture, publishing graphics and exhibition design. In 2010, he represented Slovenia with the project All shades of green at the 12th Venice Biennale of Architecture. He has also received numerous awards for his works- Among other in 2013, the Best of the Alpe Adria Awards (Venice); in 2015 the ADI Compasso d'Oro Award – Design for Food and Nutrition (Milano) and in 2017, the Zlati svinčnik (the Golden Pencil) (Ljubljana). He is currently the Vice-rector of University of Ljubljana for the field of artwork.

Associate Prof. Bostjan Vuga
Faculty of Architecture, University of Ljubljana

Boštjan Vuga graduated at the Faculty of Architecture in Ljubljana in 1992 and completed the postgraduate masters course at the AA School of Architecture in London from 1993-1995.
Together with Jurij Sadar, they founded the SADAR+VUGA (S+V) office in Ljubljana in 1996, which in two decades took place as one of the critical European architectural practices with production and communication based on an open, integral and innovative concept. The office has received many national and global architectural awards (Bauwelt Prize, Iconic Award, Archmaraton Award, Piranesi award, Plečnik Prize) and eight Mies van der Rohe nominations. In addition to his work at SADAR+VUGA, Boštjan Vuga has taught at the Berlage Institute Rotterdam, the IAAC Barcelona, the Faculty of Architecture Ljubljana, TU Berlin and MSA Muenster. In 2017 He was visiting professor at Technischen Universitat Graz, Institut fur Architekturtechnologie. In addition, he was appointed associated professor for architecture at the Faculty of Architecture in Ljubljana.
He was a visiting critic at AA London, the Bauhaus Kolleg in Dessau, the ETH in Zürich, Leopold-Franzens-Univeristaet Innsbruck, EIA Ecole D'ingenieurs et d'architectes Fribourg, the Academy of Visual Arts Vienna among others. He regularly lectures at architectural schools, conferences, and symposia in Slovenia and abroad. He publishes articles about current issues in architecture and urban planning.

Prof. Dr. Catherine Dormor
Head Research Programmes at RCA

Catherine is a practicing artist, researcher and lecturer. Her practice is concerned with bringing together the materiality, imagery and language of cloth as a way for thinking, making and writing about materiality and making. She incorporates stitch, photography, video installation and sculpture into her works, always referencing cloth, its structures and behaviours.
She predominantly works with silks for their fluidity and lustrous qualities. Deeply sensuous, her work offers cloth as a potent carrier of expression.
Catherine has a practice-thesis PhD and is currently working on an expanded and revised version of the project for publication. She regularly exhibits both in the UK and internationally and has work in a variety of public and private collections. Catherine is lecturer and research co-ordinator at Middlesex University, where her area of specialism is textile and fashion theory.

Prof. Dr. Cecile Andersson
Faculty of Architecture and Design, Norwegian University of Science and Technology

Cecilie Andersson received her Master in Architecture from Bergen School of Architecture, with exchange to Århus. She has worked as an architect at HLM Arkitektur in Bergen and at Helen & Hard in Stavanger, on various projects related to building, transformation and planning. In 2012 she defended her PhD in urban planning at NTNU on Migrant Positioning in transforming urban ambiences, exploring the situation in urban villages and the city of Guangzhou, China. She has taught master courses and workshops at BAS, NTNU and several schools in China (SCUT, GAFA, XAUAT, Tongji). She is currently rector at Bergen School of Architecture. She trained as an architect, and is currently Rector of Bergen School of Architecture. She received her doctorate from Norwegian University of Science and Technology on the topic of migrant positioning in the cities with emphasize on urban villages in China.

Prof. Christoph Heinemann
HCU Hamburg

Christoph Heinemann is professor at HafenCity University, Hamburg. He works in the ifau (Institute for Applied Urban Studies) architects, which he and Susanne Heiß and Christoph Schmidt founded. Until 2009 he was also employed at the chair for urban development and design at the faculty for architecture, civil engineering and urban planning at the BTU Cottbus.Heinemann has carried out various projects for cultural institutions with ifau, such as the renovation of the Palais Thinnfeld in Graz, The Showroom in London, project rooms for the Goethe Institute and the renovation of the Artists Space in New York. ifau also deals intensively with participatory forms of living and inexpensive housing construction. In cooperation with Jesko Fezer and Heide & von Beckerath, the joint residential project R50 was implemented in 2012, another residential project that mixes different uses and forms of living is currently being completed.

Prof. Dr. Claus Peder Pedersen
Aarhus School of Architecture

Claus Peder Pedersen is professor at the Aarhus School of Architecture. He is head of the joint PhD School of Aarhus School of Architecture and the Design School of Kolding. Before this, he was head of research at the Aarhus School of Architecture. His research focuses on architectural design methodologies and creative processes with interest in representation and digital design tools. He is active in promoting practice- and design-driven research as part of the of CA²RE network and the ADAPT-r Marie Curie ITN. He is educated as an architect from the Royal Danish Academy of Fine Arts and holds a PhD in architecture from The Aarhus School of Architecture.

Dr. Corneel Cannaerts
KU Leuven

Corneel Cannaerts is an architect and postdoctoral researcher, interested in the impact of emerging technologies on the culture and practice of architecture. He obtained a Master in Architectural Engineering from University of Ghent and a PhD in Architecture from SIAL / RMIT University Melbourne. He is currently researching and lecturing at the Faculty of Architecture. He was a guest researcher at the Architectural Robotics and Computation Lab of the Aarhus School of Architecture. His research and work has been presented, published and exhibited and he has lectured and taught workshops internationally. He has co-founded MMlab, a digital fabrication lab at KU Leuven Faculty of Architecture, and is member of the fieldstations network, a non-profit organization exploring models for architecture in the anthropocene and the technosphere.

Prof. Dr. Débora Domingo Calabuig
Universitat Politècnica de València

Dèbora Domingo-Calabuig is architect, PhD and professor at Universitat Politècnica de València. She is a Research Academy member of the EAAE - AEEA (European Association for Architectural Education), in charge of the Architectural Periodicals database project. Her research focuses on the social consideration in architecture and urban design, particularly in the Western-European post-war contexts of the 60s and 70s and with regard to changes in higher education and new campus planning.

Prof. Dr. Edite Rosa
Lusofona University, Porto

Edite Rosa is associate professor of the Study Cycle of Master Architecture Program of Lusofona University of Porto. Graduated in Architecture at FAUP in 1991, since 1991 collaborates with architect Alvaro Siza. She taught at FAAULP since 1994. In 1997 she co-founded ER&JA Architects. She held a FCT (Foundation for Science and Technology) research grant, she obtain the DEA by ESTAB and her PhD in Architecture from University Politecnica de Catalunya (UPC-Barcelona, with the PhD Thesis “ODAM- modern values and productive reality confrontation”. She is examiner and adviser teacher of PhD Thesis and Master’s Dissertation in Portugal and abroad. She led workshop as visiting professor, namely as Critical Guest Review in the Summer Program of the CAInstitute, ETSAV of the UPV and the Master Rhode Island School of Design USA, among others. She publishes in architectural newspapers and magazines, and she is commissioner of scientific events and author of several communications, conferences and lectures in Portugal, Navarra, Santiago de Compostela, Valencia and Helsinki.

Prof. Dr. Eli Støa
Faculty of Architecture and Design, Norwegian University of Science and Technology

Eli Støa is a professor in housing design at the department of architecture and planning, at the faculty of architecture and design, Norwegian University of Science and Technology, Norway. Her research field is sustainable housing and the interplay between housing architecture, values and use. She is currently leading a research project on the municipality as a driving force for socially inclusive housing solutions.

Assist. Prof. Esther Venrooij
KU Leuven

Professor of Mixed Media, performance and sound art at KU Leuven, Esther Venrooij considers her dual roles as artist and composer as occupying two different sensorial planes. She creates work in a variety of media, such as composed music, improvised combinations of electronica, video and site-specific installations. With a sharp focus, both in her studies and creative impulses on audio topography, Venrooij explores the way sound and movements inhabits space. Having collaborated live and in the studio with a variety of visual, sound and dance artists, Venrooij’s biography reads like a mixed media map of projects. She has performed and presented her works extensively for audiences in Europe, Asia and United States. She frequently collaborates with visual artists, creating site-specific installations. Other collaborations are with musicians Heleen Van Haegenborgh, Min Xiao-Fen, Wu Na and Lander Gyselinck. Most of her sound works are available on British label Entr’acte.

Prof. Fabienne Hoelzel
Stuttgart State Academy of Art and Design

Fabienne Hoelzel (dipl. Arch. ETH MAS gta) founded in 2013 “FABULOUS URBAN”, a design and planning practice, focusing on community development in conflictual-controversial regions, after working during three years for one of Latin America‘s largest slum-upgrading program as the Urban Design and Planning Program Coordinator at São Paulo’s social housing and urban development authority Sehab, Brazil. Fabienne was the assistant-curator of the 4th IABR 2009 in Rotterdam, the Netherlands, to Kees Christiaanse and worked before with Herzog & de Meuron, Basel, after studies in architecture in Switzerland and the

US. Since Fabienne has again joined the chair, she pursues a research project on urban governance, planning processes and instruments. She is also an Associate Lecturer at the Lucerne School for Engineering and Architecture.

Assist. Prof. Dr. Fabrizia Berlingieri
Politecnico di Milano

Fabrizia Berlingieri graduated in Architecture at the University of Reggio Calabria in Italy, in collaboration with the Mendrisio Academy of Architecture in 2004. She held a Phd in Architectural and Urban Design in 2007. From 2011 to 2013 she was Post Doc Researcher at the University of Reggio Calabria and at the Department of Architecture TU Delft. From 2012 to 2017 she was guest Researcher at the TU Delft Department of Architecture. In 2015/2016 she was Expert Team Member of IBA Parkstad, collaborating with the curator Jo Coenen to the research MUTATIONS and co-editor of the volume IBA MANUAL Zommer 2015. Since 2019 she is Senior Lecturer and Assistant Professor at the Department of Architecture and Urban Studies of the Politecnico di Milano, within the program “Department of Excellence Fragile Territories”.

Prof. Dr. Gennaro Postiglione
Politecnico di Milano

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).

Dr. Giulia Setti
Politecnico di Milano

Giulia Setti, architect, PhD, Lecturer in Architectural and Urban Design at DAStU Department, Politecnico di Milano. Her researches focus on topics related both to the disposal and reuse and recovery of industrial architectures and productive spaces, and to the different typologies of contemporary public spaces, with particular interest in the design transformations underway in the city of Milan. Currently, she is involved in the research project called “Territorial Fragilities”, coordinated by DAStU Department – Department of Excellence (2018-2022), with the aim to define projects and strategies able to respond to the growing fragilities of the Italian territory.
Between 2014 and 2015, she carried out teaching and research activities at the School of Architecture, CEPT University, Ahmedabad (India). Following this experience, she has continued to develop research organizing workshops and seminars, studying characters and variations of informal public spaces and architectures in these contexts. Moreover, between 2016 and 2018, she carried out researches at Shanghai Jao Tong University and Xi’an Jao Tong University coordinating international exchange activities and workshops.

Prof. Dr. Hugo L. Farias
Lusofona University, Porto

Hugo L. Farias is architect, PhD and professor. He gained his master degree in Housing Architecture 1996 at the Faculty of Architecture of the Universidade

Técnica de Lisboa. He held a PhD in Architecture in 2011 from the Escuela Técnica Superior de Arquitectura de Madrid, Universidad Politécnica de Madrid. He was Professor in the scientific area of Architecture Project at the Faculty of Architecture of the University of Lisbon (FAUL) since 1997.He has taught various subjects of the Doctorate Course in Architecture since 2011, and he is currently responsible for the disciplines of Housing Architecture I and II.
He is the Co-Coordinator of the Doctorate Course in Architecture at FAUL since 2015. He is a permanent researcher at the Centre for Research in Architecture, Urbanism and Design (CIAUD), being responsible for three lines of research of the centre: a. The House - Experiment and Matrix. The House in Portuguese Architecture of the 1950s and 1960s; b. Contemporary Housing - Principles and strategies of design, new models for new ways of living; c. Intervention on the Portuguese Architectural Heritage - Principles and Strategies. He develops research in the areas of Portuguese architecture of the twentieth century, focusing mainly on the architecture of housing of the second half of the century; on contemporary housing, collective housing, housing of social interest and single family housing; and in the area of conservation, rehabilitation and architectural intervention on complexes or heritage buildings.

Prof. Dr. Ignacio Borrego
Institute of Architecture, TU Berlin

Ignacio Borrego is architect, PhD, academic and researcher focused on the intersection between design and industrialized processes. He is 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 with Néstor Montenegro and Lina Toro 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 or A+ Prize.

Assist. Prof. Dr. Jacopo Leveratto
Politecnico di Milano

Jacopo Leveratto, architect and PhD in Interior Architecture at the Politecnico di Milano, focuses his professional, teaching and research activities on the interferences and contacts between urban design and interior architecture, with a strongly interdisciplinary approach. Author of numerous essays on public living and curator of several anthologies on architectural interiors, he is also associate editor of Iijournal_International Journal of Interior Architecture + Spatial Design and correspondent for Op.Cit. A selection of contemporary art critics. Among his latest publications: “Città personali: Interni urbani a misura d’uomo”(LetteraVentidue 2015); “Città da abitare: La misura urbana dell’inclusività”(Maggioli 2017); “Dall’interno: Verso un approccio multiscalare all’abitabilità”(LetteraVentidue 2018).

Prof. Dr. Joao M. Barbosa Menez de Sequeira
Universidade Da Beira Interior

Joao Menes de Sequeira, architect, PhD, is a Professor Art and Architectural Drawing at Universidade da Beira Interior. His PhD research focuses on the perception of space at the scale of architecture and urban design. He is Vice-President of the Portuguese Order of Architectural - South Section.
He is currently involved in two funded research projects one at CIAUD Lisbon University and other at CHAIA Évora University and maintains multidisciplinary art research - music, sculpture and architecture - at LabART with Architect Luisa Paiva.

Prof. Dr. Joaquim Almeida
Lusofona University, Porto

Joaquim Almeida is a architect, PhD and Professor. He held his PhD in the Doctorate Program
of the Department of Architectural Projects of the ETSAM of UPMadrid, called “Teoría y Práctica del Proyecto” from 2004 to 2006. He specialized in Architecture and Construction, University of Coimbra with the thesis entitled “Project Matter. Ideais puristas e razão técnica na arquitectura contemporânea,”. He is Assistant Professor of Project I and Introduction to Building Culture and Poetics of Contemporary Architecture: Form and Tectonics. He is integrated research professor at the Centre for the Study of Architecture and Urbanism (CEAU-FCT) of the Faculty of Architecture of the University of Porto (FAUP) since 2011. He carries out research in the field of architecture (theory and practice of architecture), on the instruments and discourses of contemporary architecture. He has published articles on the theory and practice of contemporary architecture in specialist journals and has held conferences, communications and participated in workshops. He is the author and co-author of diverse projects (ER&JA Arq), such as housing, equipment buildings, urban space planning and design.

Prof. Dr. Johan De Walsche
Faculty of Design Sciences, University of Antwerp

Johan De Walsche is trained as an engineer-architect, and currently teaching and researching at the Faculty of Design Sciences of the University of Antwerp, where he is head of the architecture programme. He has a strong research interest in the epistemology of design research both in academia and practice and is an expert in educational philosophy of design pedagogies. Next to this basic research, Johan De Walsche runs the interdisciplinary research unit ISTT (International Studio for Territories in Transition), where architecture, urban design activism, regional planning, governance and heritages studies are brought together in addressing fast transformations in urban and rural areas in non-Western societies. Since 2016, Johan De Walsche is curator of the annual International Design Workshop Week (IDW) Re-Act by design, organized by the Faculty of Design Sciences. He is council member of the EAAE (European Association for Architectural Education) where is founder and head of the EAAE Education Academy. He was project leader of the EAAE Charter on Architectural Research and of the EAAE position paper Principles and Practices of Architectural Education. He is founding member of the international ARENA research network. He is currently involved in an Erasmus+ KA2 research project investigating current employment and occupation skills of architecture graduates (Architecture’s Afterlife: The Multi-sector impact of an architectural qualification). Johan De Walsche is member of the reading committee of ARIA (Antwerp Research Institute for the Arts) for PhD’s in the arts. He is reviewer for several journals and conferences in the field of architecture, design and artistic research, and
been member of expert committees and scientific committees of conferences about design and artistic research.

Prof. Dr. Johan Van Den Berghe
Faculty of Architecture, KU Leuven

Johan Van De Berghe is associate professor at KU Leuven Faculty of Architecture campus Sint-Lucas and Program Director for the architecture curriculum at KU Leuven Faculty of Architecture. He is founding member of research group “The Drawing and the Space” (www.thedrawingandthespace.info) at KU Leuven Department of Architectur and of “Studio Anatomy” (www.studio-anatomy.org) at KU Leuven Department of Architecture. Architect since 1984, with a critical reflective practice in architecture since 1986, his research domain is the connections between Technè and Poiesis in architecture.

Prof. Jorn Mortensen
ELIA vicepresident

Jørn Mortensen is currently dean at School of Arts, Design, and Media at Kristiania University College, Oslo. From 2015 to 2019 he was rector at the Oslo National Academy of the Arts. From 2011 to 2015 he acted as the dean at the Department of Art and Craft at the same institution. Previous jobs include Associate director at Office for Contemporary Art Norway (OCA) (2007-09), Head of communication and programming at Public Art Norway (KORO)(2005-07), Director at Momentum – Nordic Festival for Contemporary Art (2001-05), Director at Young Artists Society (UKS)(1993-01).
In 2011 he edited "Visual Art in the Oslo Opera House" (Press Publishing 2011) with essays from amongst others Marta Kuzma, Hans-Ulrich Obrist and Jürg Heisser. He also chaired the art selection committee responsible for establishing two national memorial sites after the July 22 attacks in Oslo.
Jørn Mortensen is educated from the University of Oslo in media and communication, history of ideas and musicology. Mortensen is also a performing musician.

Prof. Jurgen Weidinger
Technische Universitat Berlin

Professor, 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 serveral municipal planning boards and competition juries.

Prof. Dr. Kathrin Wildner
HCU Hamburg

Kathrin Wildner is professor for Cultural Theory and Practice at the Institute "Metropolitan Culture" (Kultur Der Metrpole) at HafenCity University in Hamburg since 2012. Between 2015 and 2016 she led Team Grace "Performing Citizenship". She was visiting Professor at the Master Program "Spatial Strategies" at Art Academy Weißensee, Berlin and and from 2010 to 2013 she was the scientific-artistic coordinator of the interdisciplinary and international research project "Global Prayers- Redemption and Liberation in the City". (www.globalprayers.info). Her research deals with urban anthropology (history, theory, methodology), ethnographic methods of urban studies, artistic research practices, theory of public space, urban transnationalism, identity politics and practices. Wildner's main research areas include Mexico City, Instanbul, Bogotá, Hamburg/Berlin and other urban agglomerations.

Laura Ferrarello
Royal College of Art London

Before joining the RCA Laura worked between architecture and design in a different range of projects. From 2011 to 2013 Laura was a leader designer at Atelier Manferdini in Venice, California. Projects included Tempera the MOCA pavilion for the Getty Center show "A New Sculpturism: Contemporary Architecture from Southern California"; the Waves lamp exhibited at the 2012 Fiera del Mobile in Milan; Secret Gardens, a fashion collection exhibited at the A+D gallery in Los Angeles; Bianca, the 60 meters cruise boat in the lake Biwa, Japan; and the design of the monograph "Elena Manferdini: The Domain of Drawings" published

by EqualBooks, South Korea. In 2006 she was one of the masterplan designers of the utopian city VEMA, theme of the 1st Padiglione Italiano curated by Professor Purini for the 10th Venice Architectural Biennale “Cities, Architecture and Society”, curated by Ricky Burdett. In 2008 she was the lead graphic designer of the 2008 Beijing Architectural Biennale “(Im)material Processes. New Digital Techniques in Architecture” curated by Neil Leach and Xu-Wei Guo. Laura has exhibited her work in Sci-Arc, Pacific Design Center, Wuho Gallery in Los Angeles, USA (2010- 2011), Politecnico di Bari Italy (2009/2014), Wroclaw, Gdynia, Poland (2013), Brighton, UK (2009), Ischia, Italy (2007), São Paulo (2004), and Camerino, Italy (2004).

Dr. Lidia Gasperoni
Insitute of Architecture, TU Berlin

Lidia Gasperoni studied Philosophy in Rome, Freiburg, Briesgau and Berlin and obtained her doctorate from the TU Berlin in 2015. The Monograph resulting from the dissertation was published by De Gruyter in 2016 in the series Actus et Imago, edited by Horst Bredekamp and Jürgen Trabant, with the title Versinnlichung. She has been teaching philosophy with a focus on aesthetics and spatial theory at the TU Berlin since 2014, and develops interdisciplinary seminars between philosophy and architecture in cooperation with other researchers at the Institute of Architecture, TU Berlin, as well as at the University of Kassel since 2017. In her habilitation thesis, she explores the role of aesthetic practices and media in design processes. Her research focuses on the philosophy of architecture, media philosophy, language, and epistemology and theories of visual culture. Information about her research, publications, teaching and curatorial work can be found on her personal website (lidiagasperoni.com).

Prof. Dr. Manuel Bogalheiro
Lusofona University, Porto

Manuel Bogalheiro teaches in the Faculty of Communication, Architecture, Arts and Information Technologies at Lusófona University of Porto, where he is the director of the PhD in Media Arts. He has a PhD in Communication Sciences – Contemporary Culture and New Technologies (FCSH-UNL), with a thesis entitled “Materiality and Technicity: On the Technical Objectuality”. He was FCT research fellow. He researches and publishes in the fields of philosophy of technics, media theory and culture.

Dr. Maria Hansen
Executive Director ELIA European League for the Institutes of the Arts

Maria Hansen worked in the performing arts for almost 30 years. She was Fundraiser and later Executive Director of Opera Lyra Ottawa until 1995 when she moved to the Netherlands. For 11 years, Maria managed the Netherlands Bach Society, a baroque ensemble she toured internationally. In 2007, she became Managing Director of the Municipal Theater and Concert Hall Philharmonie of Haarlem. After 10 years in Haarlem, she decided to take on a new challenge and made the move to ELIA, the globally connected network of Higher Arts Education based in Amsterdam.

Assist. Prof. Maria Topolkanska
Academy of Fine Arts Prague

Maria Topolcanska is an architect and theorist of architecture and urban culture. Her research and teaching examine contemporary architectural practices and discourses of architectural labour, housing, urban planning and public pedagogy. She is assistant professor at the Academy of Fine Arts in Prague, where she teaches courses in theory of architecture. She is running a platform for research and education Fake Cities True Stories.

Prof. Mark Pimlott
TU Delft

Mark Pimlott is an artist, architectural designer and teacher. His work in photography, film, installation, interiors and public art attempts to make the specific characteristics of places visible and available to new uses and understandings. Trained both as an architect and a visual artist, Pimlott works within and across the disciplines of art and architecture, and he uses his interpretations of both to influence the making of each. His works takes the forms of photography, video, installation, interiors and permanent interventions within existing places. He has taught widely since 1986, and frequently lectures and acts as a critic at European schools of architecture. He is currently an assistant professor of Architectural Design (Interior) at Delft University of Technology, the Netherlands, where he lectures and teaches. His research concerns, public interiors, and in particular, very large and extensive or continuous interiors.

Prof. Dr. Markus Schwai
Faculty of Architecture and Design, Norwegian University of Science and Technology

Markus Schwai has a master degree in Architecture from Graz University of Technology in Austria and a PhD from Graz University of Technology and NTNU. He was employed at the department in 2007 as associate professor for urban planning and design, first teaching in the Master programme for physical planning and now teaching students of architecture in urban design and planning. He was head of department for Urban design and planning between 2013 and 2015 and became full professor in urban design and planning in 2017. His expertise is in local planning and urban design, where Typological development and participation in planning and building processes are his peak competence. He is using architectonical small-scale intervention in the urban realm to change the use and behavior of the citizens. He works and researches with and supervises doctoral students within the field of practice-based research.
He organized the CA2RE conference held in Trondheim.

Dr. Matevž Juvančič
Faculty of Architecture, University of Ljubljana

Matevz Juvancic is an architect, a teacher and a researcher at the Faculty of Architecture, University of Ljubljana. His research work was initially focused on architectural education of general public and public participation. In later years, he has become fascinated by anonymous, generic elements in urban environments as well as more distinct ones, studying their significance in space orientation, space use and spatial character. His main research focus has recently shifted towards spatial semantics, spatial character in connection with identity issues, and fundamental questions related to what makes places recognizable and identifiable. At the Faculty of Architecture, he is teaching at bachelor, master and doctoral level. Large proportion of his daily activities consist of Erasmus and other international exchange programs management. He has been practicing architecture since 2002 and is a licensed architect.

Prof. Dr. Matthias Ballestrem
HafenCity University

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 “Research by Design”, experimental design, space perception, spatial complexity and the architectural typologies of interior spaces.

Associate Prof. Dr. Mia Roth-Cerina
University of Zagreb

Mia Roth-Čerina is an architect, PhD and Associate Professor at the Department of Architectural Design at the Faculty of Architecture, University of Zagreb. She has taught architectural design since 2001, won numerous architectural competitions and awards, led extracurricular workshops exploring new modalities in higher architectural education, served as a member of national and international professional, public and faculty bodies, engaged as guest critic and jury member, written and exhibited on both her work and research interests. Her primary interests in both professional, teaching and research practices are educational buildings, spaces for achieving social standards, public space and architectural education at all levels, from early built environment education to higher education. From 2010 she has served as the Croatian delegate of the international UIA working group Architecture & Children and has been elected as council member of the European Association of Architectural Education in 2018.

Prof. Michael Mc Garry
Queen’s University Belfast

Michael McGarry, architect, urban designer, and teacher, born Dublin 1955, educated UCD Dublin and UVa Virginia, worked in London (Richard Rogers), Germany and Berlin (Josef Paul Kleihues and Internationale Bauaustellung Berlin 84/87). In practice in Ireland with Siobhán Ní Éanaigh since 1984. Design tutor at the Dublin Institute of Technology 1987 to 1996. Founder member Group 91 Architects, RTPI Sir Patrick Abercrombie Gold Medal winner, RIAI Silver Medal for Housing, RIAI Awards winner, AAI Awards winner, CCCB European Prize for Urban Public Space. Professor of Architecture Queen’s University Belfast since 2009; Associate Professor Royal Melbourne Institute of Technology since 2014.

Prof. Michelle Teran
Willem de Kooning Academy

Michelle Teran was born in Canada and works as a teacher, artist and researcher in the interdisciplinary field of modern art. Her areas of research include socially engaged and site-specific art, transmedia storytelling, counter-cartographies, social movements, urban design, feminist practices, critical pedagogy and activism. Michelle Teran has been working as a professor of Fine Art at the Trondheim Academy of Fine Art / NTNU since 2016. Her fields of expertise include online performance, transmedia storytelling, surveillance architecture, urban infrastructures, psychogeography, micro-history, urban geography, critical cartography and interactive interface design. Michelle Teran also contributes to the Neighborhood Academy in the Prinzessinnengarten.

Prof. Dr. Mona Mahall
HCU Hamburg

Mona Mahall is a professor for Architecture and Art at HafenCity University, Hamburg. She examines architecture in relation to the critical and reflective practice of art. In various media and formats, especially in exhibitions, installations, typologies and texts, she has already developed projects in the past that capture existing artistic and architectural positions and translate them into the technological present. Mahall’s works are exhibited and published internationally, including the Istanbul Design Biennale (2016), the Art Center Los Angeles (2015) and the Shenzhen Bi-

City Biennale of Urbanism / Architecture (2015). Since 2007 she has been co-editor of the international magazine “Junk Jet. Magazine on Architecture, Art, and Media ”. Mahall has a PhD on speculative design strategies in modern times. She was visiting Professor at the College of Architecture, Art and Planning of Cornell University, Professor of Foundations of Design and Experimental Architecture at the Stuttgart State Academy of Art and Design, Professor of New Media at the Macromedia University for Media and Design in Stuttgart.

Prof. Dr. Naime Esra Akin
Department of Architecture, Baykent University, Turkey

Naime Esra Akin currently works at Beykent University as a full time professor. She ran several ar-chitectural design and diploma studios, Erasmus projects, national and international research projects since 2000. She worked as a Ph.D program coordinator at Istanbul Kultur University, EAAE (European Asso-ciation for Architectural Education) representative for Istanbul Kultur University and Beykent University. Her fields of interest are: architectural design, social/cultural sustainability, spatial reading and mapping, innovation and entrepreneurship in architecture. She has national prizes of architectural design contests; articles published in international citation index and peer reviewed magazines and books, papers pub-lished in national and international scientific meetings proceedings books. She organized several national and international workshops and scientific meetings.

Assist. Prof. Nina Katrine Haarkaser
Faculty of Architecture and Design, Norwegian University of Science and Technology

Nina Haarsaker is an architect with special interest in the relationship between aesthetic theory, place and the making of space. How can unexpected ways of organizing our surroundings make us understand and experience things differently? In addition to teaching at NTNU, she enjoys arranging intensive workshops with hands on methods from the concept of “making is thinking”. She works at the Department of Architecture and Technology Studies (IAT) at the Faculty of Architecture and Design (AD) at NTNU as assistant professor. Nina graduated from NTNU in 2001, after both philosophy studies and several years abroad studying architecture at UP Madrid/Spain, TU Delft/Netherlands and LTH Lund/Sweden. Her main field of interest is on creative processes and learning-processes; methods and design-tools based on the concepts of “lateral thinking” and “making is thinking”, both for professionals and beginners of form studies. She advocates open reflection on aesthetical attitudes and bodily habits through different tools, interpretation- and form exercises.

Prof. Dr. Ollie Palmer
TU Delft

Ollie Palmer is an artist, designer, and educator whose work focuses on control systems and the absurd. His work encompasses film-making, installation, programming, composition and performance. He has exhibited at venues including the V&A Museum, Royal Institute of British Architects, Palais de Tokyo, Seoul Museum of Art, and Paris Opera Garnier. He holds a PhD from Design at the Bartlett School of Architecture, funded by the Arts and Humanities Research Council, titled Scripted performances: designing performative architectures through digital and absurd machines, which examines methodologies of working through scripted design processes and the role of the absurd as a critical tool within design.
Teaching

Prof. Dr. Oya Atalay Franck
President EAAE & School of Architecture, Design and Civil Engineering, ZHAW Zurich

Prof. Dr. Oya Atalay Franck is an architect, architectural historian and academician. She is the Director of the School of Architecture, Design and Civil Engineering at ZHAW Zurich University of Applied Sciences in Winterthur, Switzerland. She studied architecture at Middle East Technical University METU in Ankara and at Rensselaer Polytechnic Institute RPI in Troy, NY, USA. She received her PhD from the Swiss Federal Institute of Technology ETH in Zurich. She acts as an expert in various scientific bodies, a.o. the Swiss National Foundation of Research (SNF) and The Research Foundation Flanders (FWO), as well as in peer review committees and in quality audits.

Dr. Paul O. Robinson
Faculty of Architecture, University of Ljubljana

Paul O Robinson teaches design and theory at the Fakulteta za Arhitekturo v Ljubljani. His primary academic research emerges from the intrinsic relationship between architectural and artistic modes of representation with an emphasis on process and production. He posits that these relations are dialectical and that to enter into this research he must simultaneously embrace both theoretical and material processes in his own work; wherein which they inform both formal and narrative spatial systems manifesting as concrete material forms. Robinson argues that architecture is a form of representation. He received a master's degree with high honors from the University of Florida School of Architecture (SoA), at which time he received the national AIA Henry Adams Medal for design excellence. In 2004 he began teaching design seminar and theory courses at the SoA and in 2009 was awarded a Fulbright Scholar Fellowship in art & architecture to Ljubljana, Slovenia. He has had residencies, solo exhibitions and installations in museums in Europe and the USA. In 2016 he was a recipient of Slovenia's Recognition of Important Works of Art.Within his primary studio, located in Ljubljana, Slovenia, x-rays, paintings and 3-dimensional constructions are developed as correspondences between art and space. studio Paul O Robinson is presently developing a major body of work titled Site Castings: Entwinements From Palazzo Fortuny, Venice, Italy. Installations there are projected for the fall of 2018.

Assist. Prof. Pier Paolo Tamburelli
Politecnico di Milano

Pier Paolo Tamburelli (Tortona, 1976) studied at the University of Genoa and at the Berlage Institute. In 2004 he founded baukuh. baukuh won international competitions in Amsterdam (2004), Budapest (2004), Pavia (2006) and Genoa (2009) and took part in the Istanbul Biennial (2012), Rotterdam Biennale (2007, 2012) and Venice Biennale (2009, 2012). baukuh is currently building the House of Memory in Milan. Tamburelli took part in the exhibition Mutations (2000) and collaborated with Domus from 2004 to 2007. He has lectured at a number of schools and cultural institutions, including AA London, AUC Cairo, Columbia University, Cornell University, Triennale di Milano and USI Mendrisio. Tamburelli has taught at the PUSA Aleppo (Syria), at TUM Munich, and he is currently unit coordinator at the Milan Politecnico and at the Berlage Institute. Tamburelli has been guest editor of OASE 79: James Stirling 1964-1992 and he is one of the founders and editors of San Rocco.

Prof. Ralf Pasel
Institute of Architecture, TU Berlin

Ralf Pasel is Professor for architectural design and construction at the Technical University 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 Catolica 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.

Dr. Riet Eckout
Faculty of Architecture, KU Leuven

Riet Eckout, architect, PhD, currently holds a full time post-doctoral position at the faculty of architecture of KU Leuven, Catholic University Leuven (Belgium). As a practitioner and researcher she develops and writes about her drawings within the architecture discipline. Her drawings have been exhibited internationally including at the Venice Biennale 2014 (IT), Tchoban Foundation, Museum for Architectural Drawing, in Berlin (G), La Gallerie d'Architecture in Paris (FR), COAAC in Barcelona (SP) and in Darc Space Gallery in Dublin (IE). In 2014, she concluded a PhD titled "Process Drawing" under Dr. Martyn Hook within the invitational Practice based Research program at RMIT University (Melbourne), led by Leon van Schaik. She is a guest speaker and teacher at a number of international universities and conferences where she talks on her research in relation to practice.

Prof. Dr. Roberto Cavallo
Faculty of Architecture and the Built Environment, TU Delft

Roberto Cavallo is Associate Professor, Chair group Architectural Design Crossovers and Head of section Theory & Territories, Department of Architecture, Faculty of Architecture and the Built Environment, TU Delft. He is member of the steering group for the Department of Architecture research program. Between 2014-2019 he has been the faculty director of education; currently he is council member of the EAAE and member of ARENA research network. In 2013 and 2014 he worked in China as senior researcher (Shanghai, Hong Kong, Beijing). He has extensive experience in workshops, symposia, conferences, exhibitions, keynote lectures and as scientific committee member in international academic and professional events

Arch. Stefano Tropea
Directory board of the Chamber of Architects of Milan

Stefano Tropea is the founding partner of B22, an architecture practice based in Milan and focused on architecture, landscape and urbanism. He graduated at Università Iuav di Venezia in 2007, he gained a Socrates-Erasmus scholarship at Universitat Politècnica de Catalunya – Escola Tècnica Superior d'Arquitectura de Barcelona in 2003-04 and Architecture and management workshop student at SDA Bocconi in 2015-16. His work includes the Cascina Merlata social housing building (Gold Medal for Italian Architecture – First work special award, Triennale di Milano) and the Kingdom of Bahrain pavilion at the 13th and 12th Venice Architecture Biennale (Golden Lion award for the best national participation, La Biennale di Venezia). He has been selected in 2016 for the Europe 40 under 40 award by The European Centre for Architecture and The Chicago Athenaeum, and nominated for the Italian Architecture Young Talent Prize 2015 by the National Council of Architects and Planners. Before founding B22, from 2004 to 2011, he has worked for several architectural firms, among other Cino Zucchi architetti and Mauro Galantino in Milan, and Claus en Kaan architecten and SeARCH architects

in Amsterdam. Between 2010 and 2020 he has been teaching as adjunct professor at Politecnico di Milano in the fields of landscape design and architecture. Since 2013 he is member of the board of directors both of the Chamber of Architects of Milan and of its Foundation, with responsibility for cultural activities.

Dr. Sergio Koch
Lusofona University, Porto

Antonio Sergio Koch is an architect, PhD. He held his PhD “Problemas de la Arquitectura y Ciudad Moderna: Teoria, Historia, Proyectos” at the University of Valladolid. Between 1997 and 2012 collaborates in the office of Eduardo Souto de Moura in several projects, national and international. In 1996 begun also activity in his own office.

Assist. Prof. Spela Hudniik
Faculty of Architecture, University of Ljubljana

Spela Hudnik is more than 20 years presented in the architecture scene as architect, designer, artist, researcher, curator and professor. Her current position is at the University of Ljubljana Faculty of Architecture. She is co-founder of the architecture studio MONOCHROME ARCHITECTS together with Peter Vezjak. They create recognizable architecture dialog and global network inside cultural and social filed. They are international related and presented in Slovenia as well as abroad through exhibitions, critical debates, writings, workshops. Their innovative and experimental approach, series of extraordinary interiors, critical thinking and creating the dialog through Architecture Biennale (IABL 2000-2008) is continued with international architecture projects in Paris, Klagenfurt, London and last Villa Jenny in Portugal. Their work was awarded and published in many international magazines. For many years, she is also a member of the International Scientific Committee for Architectural Awards “Global Awards for Sustainable Architecture” in Paris. In last few years she was guest professors involved in research and art project in Lisbon, Paris and Trieste and she regularly runs many international workshops in Europe and abroad.

Dr. Stamatina Kousidi
Politecnico di Milano

Matina Kousidi is a Research Associate at the Department of Architecture and Urban Studies, and an Adjunct Professor at the School of Architecture, Urban Planning & Construction Engineering, of the Politecnico di Milano. Concerned with the interrelation between architecture, the sciences and the body, concepts of the building as skin, and issues of embodiment, materiality, sustainability and performance, her research and teaching center on the area of history, theory and criticism of modern and contemporary architecture. She has previously held postdoctoral research positions at ETH Zürich, and jointly at Humboldt Universität zu Berlin and HS Anhalt. Her work has been supported by the Politecnico di Milano International Fellowship, the Swiss Government Research Scholarship, and the German Academic Exchange Service Research Grant, among others. Her research findings have appeared in various journals, namely the Journal of the International Association of Research Institutes in the History of Art, The Architectural Review and the International Journal of Interior Architecture and Spatial Design, as well as in edited volumes, catalogs and conference proceedings.

Prof. Dr. Tadeja Zupančič
Faculty of Architecture, University of Ljubljana

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). Currently she is Vice President of eCAADe (Education and Research in Computer Aided Architectural Design in Europe).

Prof. Dr. Thierry Lagrange
Faculty of Architecture, KU Leuven

Thierry Lagrange graduated from University of Ghent, Master of Science in Civil Engineering Architecture in 1993 and obtained a PhD, “Look Here Now, Mapping Design Trajectories”, in 2013 at the Faculty of Architecture KU Leuven. He is a practitioner-architect in Belgium since 1997, (www.alt-architectuur.be) and a photographer, (www.thierrylagrange.com).
He is the coordinator of the Master Architecture of Faculty of Architecture KU Leuven and head of research Art & Architecture, where he teaches architectural design in his master dissertation studio The Drawing and the Space (together with Prof. Johan Van Den Berghe). Together with visual artist Dr. Dimitri Vangrunderbeek he teaches architectural design in their experimental studio “The Double Look – Abstraction”. He works as a researcher in the field of “New Spatialities” at KU Leuven Department of Architecture, where he founded the research group “The Drawing and the Space” with Prof. Jo Van Den Berghe (www.thedrawingandthespace.info). In his current Design Driven Research he is developing new spatialities, so-called “Analogous Spaces”, wherein intangible and mental elements become explicit.

Assist. Prof. Dr. Tomaž Novljan
Faculty of Architecture, University of Ljubljana

Tomaž Novljan graduated from the Faculty of Architecture in Ljubljana in 1987. The same year he started working as a practicing architect. He completed his master’s in 1993 and his PhD in 2000. In 1993 he gained the status of licensed architect, and in 2003 the title of Assistant Professor in the field of architecture and design. He is a member of the Slovene Chamber of Architects, and Lighting Engineering Society of Slovenia. He is concerned with the research on lighting and humanisation in architecture. Since 2003 he conductes the courses Lighting in Architecture and Colors in architecture at the University of Ljubljana. He also acts as a mentor and as an advisor in the field of lighting and colors. He publishes papers at international level. Since 2006 he gives yearly lectures at Escola Tecnica Superior d’Arquitectura de Barcelona.

PROGRAM

Community for Artistic and Architectural Research

Collective Evaluation of Design Driven Doctoral Training

COMPARISON

Politecnico di Milano
28/30 October 2020
Online Event

28th October

Time zone UTC +1

OPENING & WORKSHOP SESSION

h. 14:30

Conference Opening

Paolo Biscari, PhD School Dean, Politecnico di Milano
Alessandro Rocca, AUID PhD Program Head, Politecnico di Milano
Gennaro Postiglione, CA²RE+ Head, Politecnico di Milano
Urs Leonhard Hirschberg, ARENA founding member
Jørn Mortensen, ELIA vicepresident

h. 15:00

Workshop Opening Session

Ilaria Valente, EAAE vicepresident, AUIC School Dean, Politecnico di Milano

h. 15:30/18:00

Design Driven Research Open Workshop / COMPARISON

From a phase of disciplinary opening of SHARING during the Trondheim event, the focus of Milano conference will narrow by comparing design strategies and tactics applied to highlight common approaches and methodological recursions. The participants, Phd candidates, JST, scientific committee and professionals, will discuss on three subsequent sessions about positioning and comparing Approaches, Methods and Techniques in Design Driven Research across the heterogenous set of the CA²RE+ consortium partners. After a short discussion on keywords and topics, the participants will reflect upon and map research trajectories on personal paths and research community focuses. Student results on visual research maps will be collected.

h. 15:30 Table 1: **Approaches**
chair: Pier Paolo Tamburelli, Politecnico di Milano
Keywords: REFLECTIVE PRACTITIONER / BETWEEN SCIENCE, ARTS AND HUMANITIES / PERSONAL PATHS AND SHAREABLE KNOWLEDGE

h. 16:15 Table 2: **Methods**
chair: Fabrizia Berlingieri, Politecnico di Milano
Keywords: LEARNING BY DOING / CREATIVE THINKING / AUTONOMY_HETERONOMY / DESIGN AS A FORM OF KNOWLEDGE PRODUCTION

h. 17:00 Table 3: **Techniques**
chair: Jacopo Leveratto, Politecnico di Milano
Keywords: INTERDISCIPLINARY_TRANSDISCIPLINARY_ MULTIDISCIPLINARY / WRITINGS & DISSEMINATION / RESEARCH BY TEACHING

h. 18:00

Conclusions

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PANEL SESSIONS & KEYNOTE LECTURES

h. 9:15

Introduction
Fabrizia Berlingieri, Politecnico di Milano

h. 9:30/13:30

Panel Sessions

The panel sessions of PhD candidates and researchers (for CA²RE and CA²RE+) will be set on three online parallel streams, using MS Teams platform. The duration of each panel will be one hour

	Stream 1	Stream 2	Stream 3
h. 9:30	Agnė Vėtė	Elena Guidetti	Gino Baldi
h. 10:30	Maria Maurício	Aurora Saidi	Nicoletta Grillo
h. 11:30	Taufan ter Weel	Greta Maria Taronna	Marta Fernández Guardado
h. 12:30	Jana Kozamernik	Andrea Crudeli	Dirim Dinçer

h. 15:00

Introduction
Pier Paolo Tamburelli, Politecnico di Milano

h. 15:15/18:00

KEYNOTE LECTURES

The production of architectural drawings can be treated as an autonomous field of investigation in which architecture is explored through a specific, immaterial design driven research. CA²RE+ MILANO explores the potentials of design driven research by investigating the work of three contemporary practices operating at the border between design and academic research.

h. 15:15 **Martino Tattara**, Dogma, Brussels / KU Leuven
discussants: Pier Paolo Tamburelli, Enrico Miglietta

h. 16:10 **Keith Krumwiede**, California College of Arts
discussants: Fabrizia Berlingieri, Chiara Pradel

h. 17:00 **Alexander Lehnerer**, Alexander Lehnerer Architekten, Zurich / TU Graz
discussants: Jacopo Leveratto, Francesca Zanotto

h. 18:00

Open discussion

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PANEL SESSIONS & WRAP UP

h. 9:15

Introduction
Jacopo Leveratto, Politecnico di Milano

h. 9:30/13:30

Panel Sessions

The panel sessions of PhD candidates and researchers (for CA²RE and CA²RE+) will be set on three online parallel streams, using MS Teams platform. The duration of each panel will be one hour

	Stream 1	Stream 2	Stream 3
h. 9:30	Janet Hetman	John McLaughlin	Claudia Mainardi
h. 10:30	Luyi Liu	Melcheer Ruhkopf	Bram van Breda
h. 11:30	Emil Jurcan	Beatrice Balducci	Alberto Geuna
h. 12:30	Valerio Maria Sorgini	Wiktor Skrzypczak	Katarina Rus

h. 14:30/17:30

Panel Sessions

	Stream 1	Stream 2	Stream 3
h. 14:30	Amath Luca Diatta	Steinar Hillersøy Dyvik	Sandra Felix
h. 15:30	Danica Sretenović	Greta Allegretti	Tim Simon-Meyer
h. 16:30	Pepa Ivanova	Carola D'Ambros	

h. 18:00

WRAP UP. Report on COMPARISON and Panels Comments
chair: Gennaro Postiglione, Alessandro Rocca, Politecnico di Milano

Oya Atalay Franck, EAAE president
Urs Leonhard Hirschberg, ARENA founding member
Jørn Mortensen, ELIA vicepresident

h. 18:30

Closing drinks

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PANEL SESSIONS

	Stream 1		Stream 2		Stream 3	
h. 9:30	**Agnė Vėtė** Vilnius G.T. University	chair: C. Peder Pedersen panel 1: C. Dormor panel 2: A. Alkan panel 3: T. Novljan observer: J.Van Den Berghe	**Elena Guidetti** Politecnico di Torino	chair: A. Bnin-Bniski panel 1: G. Setti panel 2: M. Schwai panel 3: M. Juvančič observer: M. Ballestrem	**Gino Baldi** Politecnico di Milano	chair: A. Oldani panel 1: T. Lagrange panel 2: B. Vuga panel 3: M. Roth-Čerina
h. 10:30	**Maria Maurício** FAUL	chair: E. Venrooij panel 1: T. Novljan panel 2: A. Alkan panel 3: M. Juvančič	**Aurora Saidi** University of Ljubliana	chair: D. Domingo-Calabuig panel 1: A. Sioli panel 2: A. Bnin-Bniski panel 3: Š. Hudnik	**Nicoletta Grillo** Politecnico di Milano	chair: M. Roth-Čerina panel 1: A. Oldani panel 2: J. De Walsche panel 3: S. Kousidi observer: C. Peder Pedersen
h. 11:30	**Taufan ter Weel** TU Delft	chair: J. Van Den Berghe panel 1: M. Juvančič panel 2: C. Dormor panel 3: A. Rocca	**Greta Maria Taronna** Politecnico di Milano	chair: T. Zupančič panel 1: Š. Hudnik panel 2: M. McGarry panel 3: F. Dombois	**Marta Fernández Guardado** HCU Hamburg	chair: S. Kousidi panel 1: J. De Walsche panel 2: T. Lagrange panel 3: E. Venrooij observer: F. Berlingieri
h. 12:30	**Jana Kozamernik** University of Ljubliana	chair: M. Schwai panel 1: B. Vuga panel 2: J. Van Den Berghe panel 3: L. Gasperoni	**Andrea Crudeli** Università di Pisa	chair: P. P. Tamburelli panel 1: A. Sioli panel 2: J. De Walsche panel 3: F. Dombois observer: T. Zupančič	**Dirim Dinçer** TU Delft	chair: T. Lagrange panel 1: C. Cannaerts panel 2: M. Ballestrem panel 3: A. Ribot

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PANEL SESSIONS

	Stream 1		Stream 2		Stream 3	
h. 9:30	**Janet Hetman** CRENAU	chair: I. Borrego panel 1: T. Zupančič panel 2: C. Andersson panel 3: E. Støa observer: G. Setti	**John McLaughlin** University of Cork	chair: A. Rocca panel 1: O. Palmer panel 2: F. Hoelzel panel 3: J. Van Den Berghe observer: S. Kousidi	**Claudia Mainardi** Politecnico di Milano	chair: H. Farias panel 1: C. Heinemann panel 2: D. Domingo-Calabuig panel 3: L. Gasperoni observer: A. Oldani
h. 10:30	**Luyi Liu** Politecnico di Milano	chair: E. Støa panel 1: J. Weidinger panel 2: M. Ballestrem panel 3: G. Setti	**Melcheer Ruhkopf** HCU Hamburg	chair: J. Leveratto panel 1: F. Hoelzel panel 2: F. Berlingieri panel 3: M. Pimlott observer: I. Borrego	**Bram Van Breda** KU Leuven	chair: R. Cavallo panel 1: C. Heinemann panel 2: S. Tropea panel 3: C. Cannaerts observer: A. Rocca
h. 11:30	**Emil Jurcan** University of Ljubliana	chair: J. Weidinger panel 1: I. Borrego panel 2: C. Andersson panel 3: M. McGarry	**Beatrice Balducci** Politecnico di Milano	chair: M. Topolčanská panel 1: R. Cavallo panel 2: L. Ferrarello panel 3: K. Wildner observer: D. Domingo-Calabuig	**Alberto Geuna** Politecnico di Milano	chair: P. P. Tamburelli panel 1: S. Koch panel 2: H. Farias panel 3: M. Teran observer: M. Ballestrem
h. 12:30	**Valerio Maria Sorgini** Politecnico di Milano	chair: J. Leveratto panel 1: I. Borrego panel 2: E. Støa panel 3: M. McGarry	**Wiktor Skrzypczak** HCU Hamburg	chair: M. Schwai panel 1: A. Ribot panel 2: K. Wildner panel 3: M. Topolčanská	**Katarina Rus** University of Ljubliana	chair: S. Koch panel 1: O. Palmer panel 2: M. Teran panel 3: H. Farias
h. 14:30	**Amath Luca Diatta** Politecnico di Milano	chair: G. Setti panel 1: S. Tropea panel 2: C. Heinemann panel 3: N. Haarsaker observer: P. P. Tamburelli	**Steinar Hillersøy Dyvik** NTNU	chair: L. Ferrarello panel 1: P. Robinson panel 2: G. Postiglione panel 3: B. Kenda observer: J. Leveratto	**Sandra Felix** University of the Witwatersrand	chair: E. Rosa panel 1: A. Veerman panel 2: A. Kruse Aagaard panel 3: M. Bogalheiro
h. 15:30	**Danica Sretenović** University of Ljubliana	chair: G. Postiglione panel 1: E. Rosa panel 2: M. Pimlott panel 3: N. Haarsaker	**Greta Allegretti** Politecnico di Milano	chair: P. P. Tamburelli panel 1: C. Peder Pedersen panel 2: M. Mahall panel 3: B. Kenda	**Tim Simon-Meyer** HCU Hamburg	chair: A. Kruse Aagaard panel 1: M. Bogalheiro panel 2: F. Berlingieri panel 3: A. Veerman observer: M. Roth-Čerina
h. 16:30	**Pepa Ivanova** KU Leuven	chair: B. Kenda panel 1: A. Veerman panel 2: N. Haarsaker panel 3: M. Bogalheiro	**Carola D'Ambros** Politecnico di Milano	chair: J. Leveratto panel 1: P. Robinson panel 2: E. Rosa panel 3: M. Mahall observer: A. Bnin-Bniski		