CA²RE BERLIN

PROCEEDINGS

Conference for Artistic and Architectural (Doctoral) Research

PEP PROGRAMM Entwurfsbasierte PROMOTION

TU berlin

AAE European Association for Architectural Education
Association Européenne pour l'Enseignement de l'Architecture

ARENA ARCHITECTURAL RESEARCH NETWORK

ELIA

13.-16. SEPTEMBER 2018

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CA²RE

PROCEEDINGS

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Magdalen Droste
Wolfgang Schäffner
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SOME REFLECTIONS ON THE BERLIN CA²RE CONFERENCE

The fourth CA²RE, the Conference for Artistic and Architectural (Doctoral) Research has been hosted in September 2018 at the Institute for Architecture of the Technische Universität Berlin, in association with the Architectural Research European Network Association (ARENA), the European Association for Architectural Education (EAAE) and the European League of Institutes of the Arts (ELIA).

CA2RE intends to bring together senior staff and early-career researchers to improve research quality through an intensive peer review at key intermediate stages. It contributes to the diverse fields of architectural and artistic research 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., gathering different kind of approaches.

One of the main objectives is to support early-career researchers, PhD students and Postdocs in the fields of architecture and the arts, and to improve the quality of their research.

These reflections are based on the experience of this conference, and the ones published on the proceedings of the previous event in Aarhus and shared by its chair Claus Peder Pedersen.
To allow equal access to the conferen¬ce we the CA²RE committee has established a two-stage peer-review process.

The first stage is performed on the submit¬ted abstracts. Each abstract is checked blindly by three independent reviewers. The highest scoring abstracts are ad¬mitted for the limited number of pre¬sentation slots.

In 2017 for the Ghent CA²RE conference almost all submissions were accepted whereas in the following CA²RE conference in Ljubljana about two-thirds of the contributions were passed.
In 2018 in Aarhus 46% of the candidates, and in Berlin 61% were invited. The second-stage review takes place at the full-content stage.
The authors of accepted abstracts are requested to submit the full research before the conference.
In case of the CA2RE Berlin event, the full presented research was formatted in DIN A 1 in order to prioritize the design based process and to deepen the reflection about the graphic aspect of the individual research subjects.

Scientific criteria and standards were the only restrictions for the layout. The graphic was the specific decision of each candidate.
The posters together with the artefacts, models and 1:1 prototypes were showcased in a public exhibition. All research projects where publicly displayed and debated upon.
Unlike most con¬ferences the third second and final reviewing stage takes place at the public event itself. During the three-day event, the selected participants had the opportunity to present in 30 minutes their PhD research to a panel of experts in the field, senior researchers and post-docs.
In the next 30 minutes the panel discussed and ultimately peer-reviewed the presentation.
The presentations could include traditional formats as well as design-based contributions such as drawings, prototypes, artefacts, exhibitions, performances, etc.

The panelists were also invited to provide feedback on the most successful presentations, which will subsequently be forwarded to an independent scientific journal (e.g. AJAR) where they will be submitted to further peer-review before their potential publication.

Unlike most symposia, the CA²RE conferences are not based on specific topics.
They address early-stage researchers within the fields artistic and architectural research and aim to provide a generous and inclusive frame for the discussion and development of their investigations.
The CA²RE conferences value dialogue and discussions highly and allocate substantial time to each presentation in order to allow thorough reviews.
Despite the lack of a gene¬ral theme for the conference, some shared topics and research interests emerged across the accepted abstra¬cts.
For the conference presentations, the accepted research topics were classified in three groups according to the identified scale of approach, and organised in three parallel sessions.
A first group of topics dealt with urban scale, includ-

ing urban study cases, public space and landscape.
A second group focused on a building scale addressing heritage, body, participation, psychology, design process and representation.
A third group concentrated on technology and materiality, with special interest on new technologies and digital fabrication.
This assortment intended to help the participants to find their own field of interest during the presentations, and we have transferred it to these proceedings with the same goal, assuming the risks of this simplification.
During the conference, all posters together with objects and artefacts were shown in an exhibition at the main hall of the Architecture Building of TU Berlin. This hall became the scene for some of the presentations. Especially the ones that were presented along artefacts, models or original large format drawings.

The event was introduced on Friday the 28th of September with three keynote lectures under the title “Research by Gestalten”.

These presentations had the aim of introducing the concept of design in the German context where several possibilities and conceptual specifications are offered. Research by Design introduce at least the German concepts of “gestalten” and “entwerfen”, that where in the core of the lectures of Magdalena Droste , Wolfgang Jonas and Wolfgang Schäffner.
Droste showed us the methods and their optimization from theory to praxis in the model of the Bauhaus, Schäffner introduced the perspective of an interdisciplinary research, and Jonas remarked some specifics of the Design Research.
All three interventions were a theoretical approach to the topic that afterward in this Conference was to be tested with the research by design presentations.

The CA²RE community is growing, and further conferences are already plan¬ned.
The next host will be the Faculty of Architecture of the University of Lisbon, 10-13 April 2019
KU Leuven, Faculty of Architectu¬re, Campus Sint-Lucas in September/October 2019, Glasgow School of Art, Mackintosh School of Architecture in March/April 2020, Milano, Politecnico di Milano, DAStU - Department of Archite¬cture and Urban Studies in September/October 2020 and in Tallinn, Estonian Academy of Arts, Faculty of Architecture in March/April 2021 will follow.

Thanks to all of you who contributed to the Berlin CA²RE Conference.
Thanks to the past events chairs and other members of the CA2RE community who shared all their experience and knowledge.
Thanks to the academic staff and students of the Institute for Architecture of TU Berlin who have made the conference and the exhibition possible.
We are also especially thankful to the presenters, blind reviewers and panel members whose engagement in sharing knowledge, thoughts and insights contributed significantly to create a generous en¬vironment for learning and exchanging ideas.
We are delighted to have received a high number of registered guests, who have carefully followed the event; we hope to see them as presenters in the future.

Looking forward to seeing you all in Lisbon in April 2019.

Prof. Ignacio Borrego, Prof. Ralf Pasel, Prof. Matthias Ballestrem, Prof. Jürgen Weidinger, Prof. Donatella Fioretti

[CONFERENCE FOR ARTISTIC AND ARCHITECTURAL (DOCTORAL) RESEARCH]
TU Berlin, Friday September 28 2018 – Monday October 1 2018

Friday September 28

RESEARCH BY GESTALTEN (IFA FORUM)

15:00–16:00 Conference Registration
16:00–16:15 **Jürgen Weidinger**. Berlin Design Based Phd Program introduction (PEP)
16:15–16:45 **Magdalena Droste**. Form-Creation at the Bauhaus. Methods and their Optimization from Theory to Praxis

16:45–17:00 **BREAK**

17:00–17:30 **Wolfgang Jonas**. Playing Fields and Circularities – Some Specifics of Design Research
17:30–18:00 **Wolfgang Schäffner**. Material & Gestaltung: Perspectives of Interdisciplinary Research
18:00–18:30 Round table with **Magdalena Droste, Wolfgang Jonas und Wolfgang Schäffner**. Moderator: **Ralf Pasel**

18:30 **DRINKS**

Saturday September 29

9:00 **BREAKFAST**

9:30 – 18:00 Presentations and sessions

9:30-10:30 Panel 1A (A052): **Federico Cioli**. Artisans and Craftsmanship. The Florentine Historical Commercial Activities
SC: Matevž Juvačič, Thierry Lagrange, Alessandro Rocca*, Filipa Roseta

Panel 1B (A060): **Roland Poppensieker**. Zeichen und Erinnerung
SC: Donatella Fioretti, Ralf Pasel*, Claus Peder Pedersen, Edite Rosa

Panel 1C (Forum): **Uwe Rieger**. Real Time Reactive Architecture - A Fusion of Physical Materiality and Digital Information
SC: Matthias Ballestrem, Ignacio Borrego*, Corneel Cannaerts, Cyrus Zahiri

10:30-11:30 Panel 2A (A052): **Javiera Gonzalez Zarzar**. Architecture, Discourse, and Work within Migrating Spaces. Chile 1980-2010
SC: Roberto Cavallo, Thierry Lagrange, Ralf Pasel*, Bostjan Vuga

Panel 2B (A060): **Marta Fernandez Guardado**. Home: Things and Bodies
SC: Matthias Ballestrem*, Matevž Juvačič, Sergio Martín de Blas, Edite Rosa

Panel 2C (Forum): **Agata Kycia**. Hybrid Textile Structures as Means of Material-Informed Design Strategy
SC: Anders Kruse Aagaard, Ignacio Borrego*, Charlotte Bundgaard, Corneel Cannaerts

11:30-12:30 Panel 3A (A052): **Anne Mette Boye**. Younger Industrial Areas as Free Zones for Urban Experiments
SC: Matevž Juvačič*, Sergio Martín de Blas, Alessandro Rocca, Filipa Roseta

Panel 3B (A060): **Sara Cristina Molarinho Marques**. Juha Leiviskä: Architecture as a Dialog between Body – Brain – Space
SC: Johan Van Den Berghe, Riet Eckhout, Edite Rosa, Tadeja Zupančič*

Panel 3C (Forum): **John McLaughlin**. Construction of a Position. Prototype and Manifesto
SC: Donatella Fioretti*, Arnaud Hendrickx, Anne Katrine Hougaard, Bostjan Vuga

12:30-13:30 **LUNCH**

13:30-14:30 Panel 4A (A052): **Eduardo Aguirre**. Across Scales
SC: Ignacio Borrego*, Thierry Kandjee, Ralf Pasel, Cyrus Zahiri

Panel 4B (A060): **Bernardo Amaral**. From the Drawing Board to the Building Site: how to Inhabit Collectively the Architecture Project
SC: Roberto Cavallo*, Riet Eckhout, Anne Katrine Hougaard, Sergio Martín de Blas

Panel 4C (Forum): **Kristof Gavrielides**. Spatial Code Lab
SC: Anders Kruse Aagaard, Corneel Cannaerts, Filipa Roseta, Jürgen Weidinger*

14:30-15:30 Panel 5A (A052): **Chiara Pradel**. Moving Ground. Rethinking and Recycling Earth, Actions and Reflections in Landscape Architecture
SC: Thierry Kandjee, Bostjan Vuga, Jürgen Weidinger*, Cyrus Zahiri

Panel 5B (A060): **Teresa Palmieri**. Prototyping Residential Subdivisions. Experimenting with Prototyiping for Collective Learning.
SC: Matthias Ballestrem*, Roberto Cavallo, Sergio Martín de Blas, Petra Pferdmenges

Panel 5C (Forum)**:** **Aileen Iverson**. Rabbithole Research (rbt_h0l): Towards a Hybrid Modeling Technique in Architecture
SC: Anders Kruse Aagaard, Charlotte Bundgaard, Corneel Cannaerts, Ralf Pasel*

15:30-16:00 **BREAK**

16:00-17:00 Panel 6A (A052): **Hanna Malik-Trocha**. Urban Inclusion – City Development Achieving Systemic Accessibility in Poland.

SC: Roberto Cavallo*, Eduard Führ, Thierry Kandjee, Petra Pferdmenges

Panel 6B (A060): **Ana Kreč**. Bridging the Gap: Architecture Practice as a Bridge between Parallel Aproaches to Similar Problematics.

SC: Johan Van Den Berghe, Claus Peder Pedersen*, Riet Eckhout, Bostjan Vuga

Panel 6C (Forum): **Sven Pfeiffer**. Material Machine Trajectories

SC: Anders Kruse Aagaard, Charlotte Bundgaard, Corneel Cannaerts, Jürgen Weidinger*

17:00-18:00 Meeting for organizers

19:00-23:00 **DINNER** at the Geodäten Rooftop

Sunday September 30

9:00 **BREAKFAST**

9:30 – 18:00 Presentations and sessions

9:30-10:30 Panel 7A (A052): **Isabel Zintl**. Vertical Open Spaces

SC: Thierry Lagrange, Jürgen Weidinger*, Cyrus Zahiri, Tadeja Zupančič

Panel 7B (A060): **Tiago Molarinho**. Proportion and Metric Systems in the Portuguese Building Tradition.

SC: Margitta Buchert, Arnaud Hendrickx, Donatella Fioretti*, Eduard Führ

Panel 7C (Forum): **Tim Simon-Meyer**. The Potential of a Haptic Approach for the Perceptible Quality of Architecture

SC: Matthias Ballestrem*, Johan Van Den Berghe, Charlotte Bundgaard, Lidia Gasperoni

10:30-11:30 Panel 8A (A052): **Sophie Holz**. Aesthetic of Climate – The Potential of Microclimate as Immaterial Element for the Design of Distinctive Places in Landscape Architecture

SC:, Thierry Kandjee, Claus Peder Pedersen, Jürgen Weideinger*, Cyrus Zahiri

Panel 8B (A060): **Wiktor Skrzypczak**. Introduction to a Somatic Inquiry of Architectural Space

SC: Matthias Ballestrem*, Margitta Buchert, Lidia Gasperoni, Bostjan Vuga

Panel 8C (Forum): **Mania Lohrengel**. Eco without "Jute"

SC: Charlotte Bundgaard*, Riet Eckhout, Arnaud Hendrickx, Sally Stewart

11:30-12:30 Panel 9A (A052): **Petra Pferdmenges**. Lived Space

SC: Johan Van Den Berghe, Anne Hougaard, Matevž Juvačič, Claus Peder Pedersen*

Panel 9B (A060): **Sebnem Cakalogullari**. Accident: Transformative Effects of Organic and Mechanical System unity in Architectural Space and Time Experiences

SC: Margitta Buchert, Donatella Fioretti*, Eduard Führ, Edite Rosa

Panel 9C (Forum): **Petra Marguc**. Displaced.What is the Productive Distance to Situate oneself as an Architect in Transversal Design?

SC: Ignacio Borrego*, Arnaud Hendrickx, Sally Stewart, Tadeja Zupančič.

12:30-13:30 **LUNCH**

13:30-14:30 Panel 10A (A052): **Nafiseh Mousavian**. Porosity and Playfulness

SC: Johan Van Den Berghe*, Eduard Führ, Lidia Gasperoni, Alessandro Rocca

Panel 10B (A060): **Tomas Ooms**. Arrows of Operationality: (Un)Folding the Manifold Work(S)

SC: Margitta Buchert, Riet Eckhout, Anne Katrine Hougaard, Ralf Pasel*

Panel 10C (Forum): **Viktorija Bogdanova**. Poem-Drawings: Instantaneous Emotive Traces of the Design Process

SC: Donatella Fioretti*, Arnaud Hendrickx, Sally Stewart, Tadeja Zupančič

14:30-15:30 Panel 11A (A052): **Chiara Scanagatta**. Guidelines for the co-Design: how to Solve Urban Issues

SC:, Johan Van Den Berghe*, Matevž Juvačič, Alessandro Rocca, Filipa Roseta

Panel 11B (A060): **Erika Henriksson**. Exploring Architecture: The Architectural Making Process as Filedwork and Therapy

SC: Roberto Cavallo, Lidia Gasperoni, Claus Peder Pedersen, Tadeja Zupančič*

Panel 11C (Forum): **Maja Zander**. Agencies in Architectural Becoming – Intermedial and Cross-aesthetical Transpositions

SC: Jürgen Weidinger*, Anne Katrine Hougaard, Thierry Lagrange, Sally Stewart,

15:30-16:00 **BREAK**

16:00 **Plenary Session (Forum)**

Monday October 1

9:00 **BREAKFAST**

10:00 – 12:30 Sessions on Research methods for PhDs and supervisors (Forum)

* Each Panel will have one pannel member as moderator in charge of procedure and timing

IMPRESSIONS

ABSTRACTS

ANA KREČ

‘BRIDGING THE GAP’
ARCHITECTURAL PRACTICE AS A BRIDGE BETWEEN PARALLEL APPROACHES TO SIMILAR PROBLEMATICS

Through grounded research process that looks into built case studies of SVET VMES architectural practice from Ljubljana, Slovenia, linked to research interviews made with various stakeholders (policy makers, headmasters, pedagogues and pupils), this practice based doctoral research explores the spatial, social and learning potential of non-formal, in-between space of Slovene educational buildings that has been, according to the last valid update, the 2007 Normative - Instructions for the Construction of Elementary Schools in Republic of Slovenia, stripped down to the utmost minimum. Summed up in a functionalistic triad of ABC spaces (primary - ‘A spaces’ for teaching - 53%, secondary - ‘B spaces’ for supporting activities - 25% and tertiary - ‘C spaces’ for merely connecting purposes - 22%), hierarchically last - ‘C space’, defined as the shortest corridor of minimum widths, ‘suffocates’ within the dogma of spatial, financial and mental ‘existenzminimum’.

By transforming the left-over ‘C spaces’ into places of events, comfort, interaction, negotiation, solitude, seclusion and ***delight***[1] - coined by SVET VMES as ‘***the loaded nooks’***, one establishes new, encouraging, non-formal, loaded in-between environments, where unknown programs, spontaneous behaviours and emotions can arise among pupils, recognizing their autonomous right to choose their own activity in a particular time and place, while being in a school institution.

Through dense, isometric, line drawing of utopian Ljubljana, comprised out of public, institutional buildings where numerous research interviews and activities took place, the forthcoming presentation at Berlin CA2RE Conference gives insight into a complex, dual position of an architect-researcher, who acts like a bridge between various realms and groups of people, in order to evaluate and position SVET VMES’S built case studies. Through this ongoing research process one does not seek for a mere confirmation of success/non-success of architectural intervention but wishes to demonstrate how the ***‘loaded nooks’*** appear to become a stimuli for new insights: pupils, pedagogues, headmasters become aware of the shortcomings of the Slovene educational system and formulate a critique against it. Hence architecture can instigate a debate on the improvement of the outdated merely quantitative ‘ABC normative’ for designing school buildings.

Keywords: educational architecture, intermediate spaces, loaded nooks, delight, research interviews, practice-based doctoral research.

1 **Delight** with its contemporary synonyms like pleasure, happiness, joy thrill, captivation, excitement, etc. first occurs as an intriguing translation of Vitruvius’ ***venustas***, used by Sir Henry Wotton, in his Elements of Architecture from 1624, where he wrote: ***“Well building hath three conditions: Commoditie, Firmenes, and Delight”.***

CA2RE
Conference for Artistic and Architectural (Doctoral) Research

Ana Kreč
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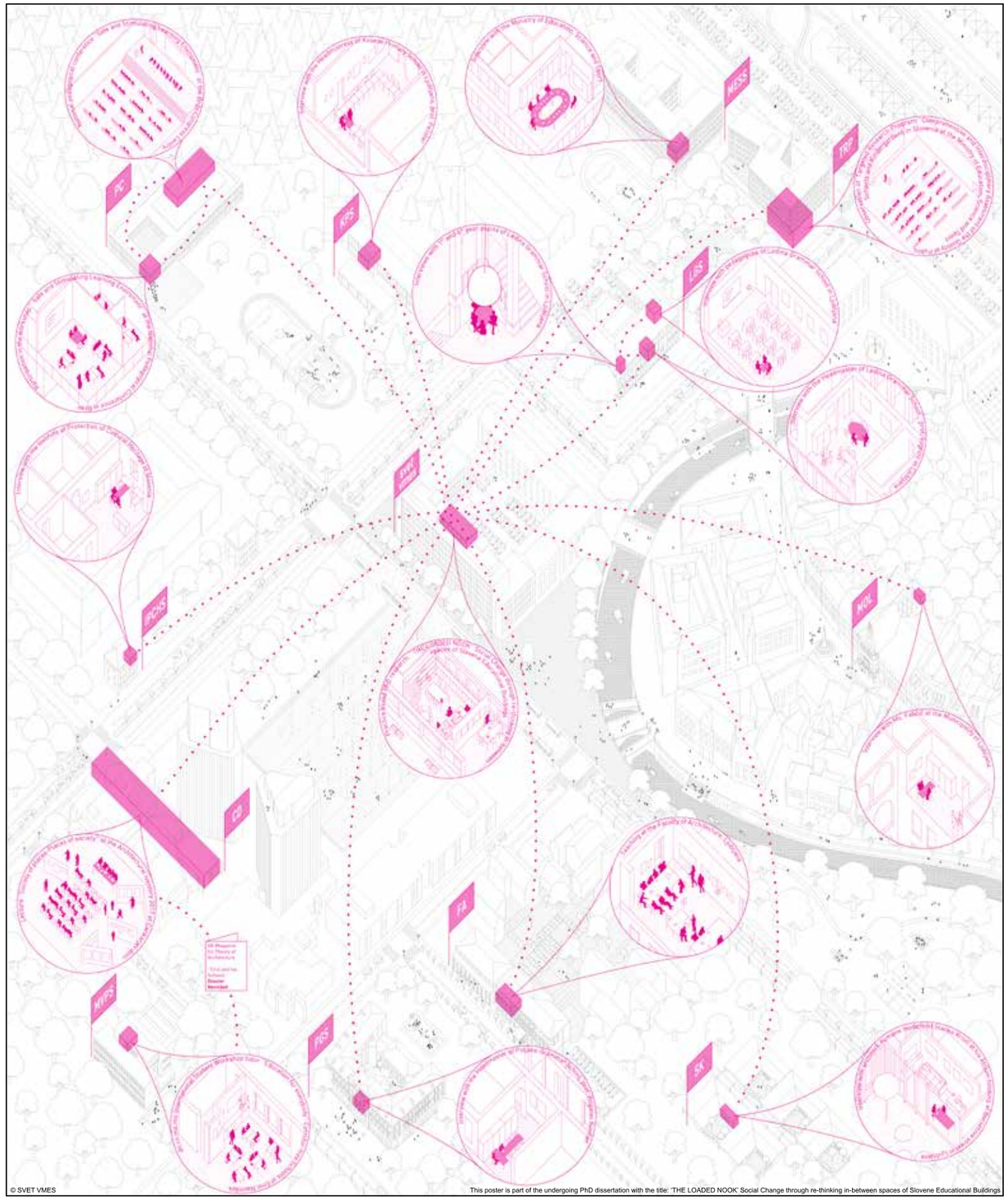
Bridging the gap: Architectural practice as a bridge between parallel approaches to similar problematics



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Technische Universität Berlin
PEP

WIKTOR SKRZYPCZAK

INTRODUCTION TO A SOMATIC INQUIRY OF ARCHITECTURAL SPACE

Keywords: space perception, body consciousness, somatic movement, phenomenology, perception psychology, embodiment theory, practice-led artistic research, design methods

A heightened bodily self-consciousness enhances the perception of the environment[1]. How can this correlation be consciously and effectively applied in architectural praxis? An account of the first phase of doctoral research will be presented, including its interdisciplinary theoretical framework (in the fields of architecture and somatics) and introduce somatic inquiry as a spatial research method and explore the concept of architectural design through documentation of experienced spatial relations.

The study’s framework draws from body-oriented architectural theory (Einfühlungsästhetik[2], phenomenology[3], perception psychology[4]) and exemplary somatic methods (Body-Mind Centering®[5], Feldenkrais Method®[6]). This study examines the reduction of a spatial experience to bodily felt phenomena[7] - a method used in both somatics and phenomenological analysis. It also discusses how the tacit knowledge of the body ‘feeling’ itself correlates with explicit knowledge about the environment.

As a field of corporeal practices and methods which mostly developed throughout the 20th century, somatics seeks to heighten body consciousness and relate the body-mind to the environment, by means of perception training[8] (cf. a similar concept in architecture[9]) and particularly through its focus on kinaesthetic and proprioceptive modalities.

This research includes empirical trials of specific bodily practices oriented towards spatial phenomena. Part of its documentation is a first-person perspective record of relational interaction with spaces and places. This kind of documentation of spatial relatedness has properties of architectural design: Despite originating from an ephemeral experience, it is material (non-abstract) because its roots are in the material world. It can define relationships before it addresses structures (cf. Cohen[10]). It has the characteristics of ‘construction documentation‘ because it describes the method and circumstances of spatial experience induction (or emergence).

This performance lecture provides an account of movement-related architectural thinking. Besides a verbal presentation of the above-mentioned topic, it will include the researcher’s movement. It also addresses the audience’s direct kinesthetic response and may require seating modification in the conference hall. This contribution can be illustrated with work samples from current research.

Keywords: space perception, body consciousness, somatic movement, phenomenology, perception psychology, embodiment theory, practice-led artistic research, design methods

[1] Pasqualini, Isabella; Llobera, Joan; Blanke, Olaf (2013): “Seeing” and “feeling” architecture: how bodily self-consciousness alters architectonic experience and affects the perception of interiors. In Frontiers in Psychology 4. DOI: 10.3389/fpsyg.2013.00354., Fingerhut, Jörg. (2013): Philosophie der Verkörperung: Grundlagentexte zu einer aktuellen Debatte. Berlin: Suhrkamp

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Mallgrave, Harry Francis (2011): The architect's brain. Neuroscience, creativity and architecture. paperback ed. Chichester: Wiley-Blackwell.

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[8] Eddy, Martha (2016): Mindful Movement. The Evolution of the Somatic Arts and Conscious Action: Intellect L&DEFAE.

[9] Neutra, Richard Joseph (1956): Wenn wir weiterleben wollen. Erfahrungen und Forderungen eines Architekten. Hamburg: Claassen. 10 Cohen, 2014

Conference for Artistic and Architectural (Doctoral) Research

Wiktor Skrzypczak
HafenCity Universität

Introduction to a somatic inquiry of architectural space

Thesis

The correlation of bodily self-consciousness and spatial perception and action

(we embody space)

We are embodied. That is, we are bodily self-conscious, and we embody space. More precisely, our bodies already know space before we consciously analyse it. For instance, when we go upstairs, sometimes, without expecting it, we ‘step’ on the last tread, which turns out not to be there, and we stumble as the foot falls into a void. In this case, the knowing body was mistaken. What this mistake reveals to us is a glimpse into implicit knowledge of the body, which usually allows us to climb stairs without us controlling this activity explicitly.

(bodily self-consciousness and spatial experiences)

Bodily self-consciousness correlates with spatial perception, but we do not fully understand this correlation yet. In a recent study on “The Architectonic Experience of Body and Space in Augmented Interiors,”[1] Pasqualini, Blefari, Tadi, Serino and Blanke (2018) conducted controlled experiments to investigate how the mechanisms of embodiment interact with the experience of surrounding space. Particularly, they examined three components of embodiment, or bodily self-consciousness: ‘the experience of feeling one’s physical body as one’s own (body ownership or self-identification), . . . [the experience of] being at a specific location in space (self-location), and [the experience] of facing the external world from a unified, embodied perspective (first-person perspective)’. In this and previous studies,[2] such aspects of spatial perception like the experience of containment, closeness to and illusory touch with surrounding walls or length estimation of presented bars were investigated in relation to bodily self-consciousness. The researchers influenced bodily self-consciousness through visuotactile stimulation (e.g., stroking the participants with a stick), which significantly influenced mentioned spatial experiences and performance of length estimation. The sophisticated study design isolated unwanted factors, among others by deploying virtual reality and Full-Body-Illusion procedures.

(modification of bodily self-consciousness)

I am interested if methods other than stroking with a stick can modulate participants’ bodily self-consciousness. As a dance artist, I deploy somatic methods of movement education, in particular those of Body-Mind Centering (BMC). BMC involves sensory stimulation, or disturbance through touch and movement, as well as explorations of specific movement patterns and states of being between activity and rest.

(spatial relating)

Which aspects of spatial perceptions does this study focus on? In the first phase it addresses simple sensory-based spatial phenomena such as (1) the spatiality of one’s own body (i.e., the relation of head to tail, the relation of centre and periphery, the relation to gravity and the sensation of the containment of organs) along with a number of external relational phenomena including (2) relating spatially with the environment (i.e., sensory-motor relating to light, warmth, floor, stairs); (3) sensed measuring (i.e., perceived depth of the space or one’s own level above the ground); (4) interpersonal relating (i.e., being alone, sharing space); and (5) noncategorical relating (i.e., addressing ‘spaces in-between’ or ‘seeing before naming’).

(sensing spaces)

These simple forms of sensory-based relating may constitute experiences of physically accessible spaces: (1) the kinesphere (the peripersonal space); (2) the extended kinesphere (with a stronger external intentionality); (3) nonhabitual space (i.e., backspace); and (4) the prominent background space (i.e., the space of auditory aura). Finally, the timespace as an inseparable experience of movement, space and passing time completes the set of categories that I propose to structure the practices of sensing the space. I will be using Bonnie Bainbridge Cohen‘s BMC concept of ‘Sensing, Feeling and Action’[3], which proposes a general order of somatic movement education. According to Cohen, sensing is a phase of somatic inquiry during which the focus lies on sensory-motor perceptions themselves, before they convey emotion or affect. In this way, sensing is a pre-aesthetic engagement with the world, a setting for focused play, a process of trial and error, a practice that has no aim or use other than the accumulation of possible choices and ways of interacting with environment.

(research gap)

Although authors from several disciplines converge on the central role of the knowing body in the constitution of spatial phenomena, there is not much empirical research on this topic, as Pasqualini et al. (2018) recently stated.[4] Somatics delivers methods of exploration and experience of bodymind-space correlation that are, in my opinion, suitable for experimental, practice-based and praxis-relevant research.
We have little evidence and few verified theories explaining bodymind-space correlations. We do not have explicit, elaborated knowledge describing it within architectural contexts, and we do not have applicable design methods to build upon it. The aim of this study is to describe experienced correlations, develop open-ended practices of spatial inquiry and propose applications in architectural design. This study does not intend to explain or rationalise the investigated phenomena or what might build upon the richness of artistic research and somatic practices.
The research gap seems to be wide, and it seems to be unclear what we are looking for. But, the body knows. Despite all of those questions, what the correlations are, why they work, how they can be deliberately applied, we have always been embodied and relied on our knowing bodies without realising it. So, the leading meta-question of the somatic inquiry could be: ‘How can I witness my body acting before my mind acts?’ But this question is a dualistic articulation that is irresolvable. Instead, since movement always has components of corporeality and cognition, the meta-question might be: ‘What does my movement reveal about me being in a particular space?’ And because I inquire about my own movement, I can also ask: ‘How does it feel to move and be in the space?’ If this implicit knowledge has always been in us but not consciously articulated, however, how can we all of a sudden access it? Movement not only carries implicit knowledge but also is the method to reveal and study that knowledge.

(becoming more or less embodied)

Visuotactile stroking applied by a stick to participant’s back in the Pasqualini et al. (2018) study established the earlier mentioned condition of embodiment—bodily self-consciousness. More interestingly, participants became self-conscious not of their own physical body but identified themselves with a virtual image of an avatar, in the process off full-body-illusion.[5] The seen movement of the stick and felt touch of a stick had this surprising effect. But what does the embodiment of an avatar tell us about the embodiment of the physical body. This study did not examine this question explicitly, but in their closing discussion, the researchers applied the findings observed with the avatar to a general consideration of human embodiment. The data gathered through the questionnaires confirmed participants felt that ‘during the illusion . . . the virtual body was my body’. On the other hand, statements like ‘ . . . I might have more than one body’ or ‘ . . . I was in two places at the same time’ were not confirmed. These statements suggest that the physical body become less embodied, at least in regard to components of self-ownership and self-location.

(arriving in dance practice)

On the other hand, well known phenomena of arriving in the room and arriving in the body are reported by dancers who carry out specific preparatory practices before dance training or performance. For instance, the components of Underscore: arriving energetically (‘Bringing your attention, your presence, your will into the room.’) and arriving physically (‘Arriving into sensation. Focusing your attention on physical sensations, the textures and locations of sensation throughout the body.’).[6] These practices promote awareness of the spatial situation and of one’s own body, thus becoming more embodied in terms of self-location and self-ownership. Needless to say, these practices consist of movements scores - varying from circulation through the room to observation of one’s own breath movement.

Aim of the work

(feeling)

The aim of this study is to reinforce the practical skill of feeling within the field of architecture as a competence and a relevant line of inquiry and a foundation for intersubjective communication in a design process. *Feeling* is an act of resistance[7] against dominant architectural professional culture where statements that begin with ‘I feel that…’ are perceived as of negligible relevance. How much easier is it to state ‘I think, that…’, ‘I know, that…’, or ‘My experience shows, that...’? Concerning architectural design in its immeasurable spatial qualities: The process of designing involves virtual (imaginative) inhabitation of the emergent architectural object. If it is a well-elaborated design, the documentation of it, the plans, models, etc., will depict a few facets of its appearance, yet the actual value of the object in its relatedness and multisensory complexity remains archived in the designer’s feeling. Feeling includes those aspects of the design that encompass sensory-based, poetical and existential values. These values must be felt in order to be incorporated into the design. And if at some point ‘I *know* that my design is ready‘, it is actually because, with good conscience, ‚I *feel* it‘. It is potentially possible to document every conscious decision made in the design process in order to state, ‘I *know*, that it is a good design, and I can prove it’, but this kind of proof would overlook the metaphorical tissue that brings the design to life, both during the creative process and in the use of the built object.
‘I *feel*, that this is the adequate design’ might often be understood as an expression of uncertainty. The aim of this research is to associate *feeling* with certainty: certainty that the design process addressed the potential atmospheric experience of the site, deployed the embodied know-how of the designer and strived for meaning through dwelling within the structure over its quantitative values.

(beyond dualism)

Further aim of the work is to demonstrate how the Cartesian preconception of divided ‘body’ and ‘mind’ still shapes profession of architecture and how somatic movement practices can overcome this dualistic view, in line with embodiment theory[8] and the philosophy of phenomenology. Attaching an absolute value to the mind and disregarding the body as its mere container raises practical problems - it overlooks the actual, tangible interactions that occur between the corporeality and intellectuality of humans, communities and places. In this respect, this research will fan out and differentiate the cognitive modes of the thinking body within the spectrum between abstraction and physical interaction, focusing on the alleged ‘gap’—the skill of feeling, where the bodily and mental sensations converge. Because we address tacit knowledge, pre- and anti-logical[9] interactions and holistic, non-divisible phenomena, it is necessary to employ means of reflection other than rationalising, verbal discourse. Here is where movement can help. Movement allows us to comprehend the unity of conceptual dualities like ‘body and mind’ or ‘action and reaction’ and reveals the responsive nature of the world.
We know intuitively that certain problems arise when architects build with materials they have never held in their hands; when they deploy crafts or technologies they have never haptically, proprioceptively experienced; when they collaborate without meeting people face to face; when they design for a site on which they have never stood or when they deliver design plans they have not ‘mentally’ inhabited. So, we intuitively know, therefore *feel*, that the design process will not work optimally if the mental assembling is not backed with and built upon physical experiences. But the body feels and knows and interacts before we identify with those acts. It is our animalistic, primitive nature, which we traditionally neglect due to Western Cartesian bias. What somatic methods reveal are access points to these primordial abilities as they manifest themselves in movement. In its basic setting, somatic research is an educational and artistic practice confined to a laboratory-like situation of a dance studio, provisionally detached from dominant social conventions and focused on simple, sensory-based experiences.

Potentials of somatic design practices

Design through the body

(researcher‘s experience)

Moments marked by a profound experience of my presence in space perceived through dedicated movement practice and resulting from my double professional training as an architect and dancer confirm the correlation of bodymind and space. In my observations, practices that improve body consciousness alter and intensify the perception of space. I propose that space conceptualization, skills of spatial imagination and architectural planning are also altered in this process.

(generating affordances)

I examine this assumption through practice-led artistic research consisting of somatic and compositional practices and envisaging a transition or these practices into architectural design. Despite being methodologically structured, somatic practices are intrinsically creative because they confront the practitioner with a considerable freedom and with possibilities for bodily movement and unconstrained mental focus. Consequently, these practices invigorate the (co)constitution, intensification and differentiation of the experience of movement in space. My main field of interest lies in the progression of ‘listening’ to and noticing existing precepts, relating them to each other and composing new relationships and finally capturing those relationships in a design.

(intersubjective expression and sensitivity)

Moreover, I seek to create a collaborative ground for reflection on personally (partially implicitly) perceived spatial qualities by training practitioners’ intersubjective expression and sensitivity. I propose that somatic practices may strengthen those skills, for they awaken one’s personal authority and self-confidence and increase sensitivity, sense of responsibility and agility (Coogan, 2016). As the postmodern perspective places us in a world characterized by complexity, fluidity and contradiction, I want to verify whether somatic practices, as the art of directing attention and action and developing flexible self-regulation habits, may establish a relational and questioning attitude and prevent reductionism and routine in the creative process.

Design for the body

Finally, my broader interest lies in the recognition and induction of existential values of space (Pallasmaa 2009, Pérez-Gómez[10]) and in effectively embedding these bodily perceived values in the design process. Pérez-Gómez pleads in favour of architecture ‘for the body’ and specifies its characteristics and tasks:

(holistic architecture, complete human, presenting meaning)

Architecture may offer an experience of (1) wholeness, which is not reducible to semantic description. ‘[L]ike in a poem, its “meaning” is inseparable from the experience of the poem itself.’ The wholeness, the poetical meaning, is possible only under the premise of sensory experiencing. If these qualities are not reducible to a semantic concept, like a design documentation, I maintain it is reasonable to include more experiential practices into architectural design. Pérez-Gómez further states that architecture for the body can help with (2) ‘recognizing ourselves as complete, in order to dwell poetically on earth and thus be wholly human’ and refers to the phenomenon of Stimmung. Stimmung, or mood of the room, is a bodily felt resonance with a place that is spontaneously expressed and picked up (Dreyfus, 2013).[11] Thus, we cannot be wholly human if we do not feel. Pérez-Gómez emphasises the need of recognising ourselves, underlining the modern Western perspective, which seems to neglect the faculty or skill of feeling. This plea is in line with the aims of this study, which I articulated as the development of a skill of feeling beyond the dualistic concept of separated body and mind. Further, Pérez-Gómez pleas for architecture that (3) presents meaning as it appears instead of superimposing it. He calls for a poetic language instead of a rhetoric one, presenting what appears as opposed to trying to convey or convince to something that is absent. In my opinion, this approach implies a positive programmatic understatement on architectural experience. Architecture for the body is probably not spectacular.

(subversive design)

According to Pérez-Gómez, a design process that aims to create architecture for the body must (1) resist the dominant technological processes of production through planning and building poetic works or through the artistic creation of critical, theoretical, metaphorical ‘imaginative universes’. In other words, the process of designing (modernist) machine houses using (digital) machines operated by (dualistic) mechanical bodies needs to be resisted. Pérez-Gómez presents Prianesi’s Carceri etchings as an example of an ‘imaginative universe’. In this sense, the results of documenting experienced spatial relations, which I propose as one of the somatic design practices but which will not necessarily lead to the building of an object, can be perceived as architecture, and a subversive one at that. Pérez-Gómez goes on to imply the need for (5) determining the role of digital media ‘beyond its current tautological, formalistic, instrumental, and biomorphic obsessions’.

Theoretical framework

In order to examine the earlier mentioned assumptions and questions, the theoretical framework is developed by combining architectural discourse, which refers to the body conceptually, with somatic discourse, which presupposes and builds upon bodily practice. The discourse analysis is based on the following approaches in architectural thinking: perception psychology (i.a., Pasqualini et al., Ballestrem, Mallgrave), phenomenological analysis (i.a., Holl, Pérez Gómez, Zumthor, Schmitz, Gleiter, Böhme) and Einfühlungsästhetik (i.a., R. Vischer, Wölfflin). It also refers to philosophical concepts regarding the poetic and existential qualities of space (Pallasmaa, Bachelard), as well as concepts from ecological philosophy (Guattari, Deleuze). The analysis of somatic methods will be based on the method of Body-Mind Centering®, the work of Bonnie Bainbridge-Cohen[12,13] and Moshé Feldenkrais’ Awareness Through Movement[14], as they exemplify somatic methods of first and second generation, as well as on newer fields such as environmental somatics (Reeve, 2013; Meehan, 2016; Munker, 2016).
Somatics is the field of corporeal practices and methods, mostly developed throughout the 20th century, which defines the notion of soma as a living body that is aware of itself: a continuum of body and mind as inseparable aspects of a human being. It covers three branches: somatic bodywork, somatic psychology and somatic movement, which find applications in “dance, fitness, theatre, music, education, health, neuroscience, research, organisational management, community organizing”[15]. By means of perception training (cf. similar concept in architecture by Neutra[16]) and particularly through its focus on kinaesthetic and proprioceptive modalities, somatics seeks a heightening of body consciousness and relating to the environment.

Methods

First phase of the study

This study will be conducted in three phases. The comparative analysis of somatic and architectural discourses in the first phase references somatic primal notions and creative tools as well aspects of composition relevant to those of architectural discourse, resulting in an extended taxonomy of existential space qualities. It aims at linking intellectual concepts with corporeal practices and ‘exercises’, and will be substantiated through my daily explorative movement practice. The challenge of this phase lies in translating the immediate way of referring to sensory, non-verbal phenomena in somatics and complementing it with the verbal, conceptual way of referring to phenomena in architectural thinking, in order to develop a transdisciplinary framework for the following phase of this study.

Epistemological interest

(epistemic goals of the study)

Relying on the theory of embodiment (Varela 1991, Fingerhut 2013) and accepting the premise that the body is the source of spatial experience and the primary context of space conceptualization, somatics may deliver new insights into architectural praxis because it appropriates the actions of experiencing and categorising through dedicated bodily practice. This study aims at transferring knowledge between the disciplines of architecture and dance but also at revealing tacit knowledge within them. Through the use of a personal, reflective perspective, implicit (operational) knowledge can be focused, partially explicated and woven into descriptive knowledge.

(modulating embodiment)

In light of current perspectives of the philosophies of embodiment and phenomenology, the question arises whether they imply a specific personal attitude to the researcher who investigates the world from a first-person perspective. These theories address the operational, tacit knowledge gathered in our bodies and movements. The general thesis states that because we are embodied we perceive and perform. Do these theories describe embodiment as a constant condition? Or is there a potential for the increase or decrease of embodiment, understood as bodily self-consciousness (self-ownership, self-location, coherent first-person perspective)? Can the degree and intensity to which I am being-in-the-world be influenced? And can the researcher herself modulate her embodiment?

(difference embodied vs. somatic practice)

In order to differentiate between embodied and somatic movement practices, I propose an understanding of somatic practice, as aiming at revealing tacit interrelations of embodiment, perception and performance. I would argue that we are always embodied to some extent. What makes a practice a somatic one is the real-time investigation of how the modulation of bodily self-consciousness influences perception and performance; how the modulation of perception (i.e., change in environment or sensory deprivation) influences bodily self-consciousness and performance; how the modulation of performance (i.e., changing the speed of movement or estimating a room’s dimensions) influences perception (the kind of space that appears) and bodily self-consciousness (how we are in the space).

(pre-logical experiences)

What kind of ‘thinking’ is the thinking of the body? What kind of thinking is feeling itself? Which epistemological attitude do we need if we want to learn more about how we are bodily in the world? Kakuni Takashi makes useful suggestions: The world will appear to us as pre-logical experiences. Sometimes our rational thinking will be confronted with anti-logical perceptions, coexistence of contradicting concepts and merging of dualisms. Kakuni Takashi analyses the concept of phenomenological space within the context of Japanese philosophy.[17] He uses Merleau Ponty’s example of ‘inhabiting’ the virtual space of a mirror, which is possible, he explains, because we instantly incorporate the bodymind on the other side. This kind of experience is pre-logical and occurs regardless of the subject’s logical understanding of a mirror’s optical functioning. Kakuni also locates the presupposition of a common world within the pre-logical space. Pre-logical experiences can be superimposed with logical, abstract categories or not, but what we as animals share is in first line the experience of an unexplained world. In this sense, a useful attitude in somatic practices might be to halt the urge to explain and, instead, observe. Space, body and time are bound through causality and through chaos. And out of all of our interactions, probably only a fraction are grasped logically.

(anti-logical experiences)

Kakuni also points out the anti-logical experiences, referring to Victor von Wezisäker’s theory of perception. In everyday experience, contradictory logical concepts may coexist and dissolve. Kakuni quotes the example of a view of a railroad, where the rails visually cross on the horizon and, at the same time, we know that they never meet. In the somatic practice of BMC, practitioners may experience the inversion of causality, for instance in observing the movement of the breath in the chest. It seems that the muscles contract and release because the lungs alternately fill themselves with air and empty. A logical, mechanistic explanation would suggest the opposite order, which is counterintuitive or might deploy the concept of external ‘mind’, which controls the body. In this example, the phenomenon of feeling one’s breath seems primary to its logical, mechanical explanation.

(movement merges dualisms)

An attitude that replicates Cartesian dualism of separated ‘body’ and ‘mind’ can be counterproductive in somatic work. Although it is an old concept of (dis)embodied cognition that cannot be scientifically supported any more, regarding the studies on embodied cognition, it still dominates Westerner’s daily life understanding of corporeality. An attitude that does not force a conceptual division of bodily and mental aspects is necessary to experience one’s own thinking body. This logical challenge is solved by the act of movement. Movement, as the oldest form of thinking, is simultaneously the intention, attention and displacement of matter. In this sense, the moving body - the thinking body dissolves the dualism of ‘body’ and ‘mind’ into one phenomenon. Also, the abstract categories of space and time appear in movement practice as one.

(corporeality, spirituality)

If we think of a sacral building, we can notice how the relationship between a somatic, corporeal practice and spirituality might be comparable to the relationship between built architecture and religion. This research doesn’t inquire into spiritual experiences of any type and is written from an atheistic stance. It acknowledges, however, the corporeal deepness of celebrative and casual rituals as well as of personal bodily practices such as prayer, meditation, contemplation of nature, etc.

(we share corporeality)

The phenomenon of spiritual experiences across cultures is, in my opinion, not proof of the existence of a sacred absolute but an indication that those experiences originate in something that we all share, that is in our corporeality. I would argue that spiritual experiences have a simple physiological origin and a strong enactivist dimension. For example, putting the hands together in a prayer in the main aisle of a church and hugging a tree both directly refer to the middle line of the sensitive body. The phenomenon of middle line has been extensively investigated in cranio-sacral approaches. And the sensation of the middle line, with its evolutionary, functional and aesthetical meanings is a strong, intersubjective, intercultural reference that can be elevated to spiritual experience through attentive practices.

(denouncing implicit manipulation)

The ability to influence the mood in the room or induce intersubjective resonance, such as sense of togetherness through clapping hands in a church or verbally addressing corporeal feelings like anger or wholeness, is a powerful skill that includes intuitive understanding of implicit, bodily processes. This tacit understanding may be misused in religious and esoteric contexts for manipulation. Research on tacit knowledge may denounce these kinds of misuses and reclaims the authority from gurus to the subjects, establishing a personal authority. This power imbalance also raises ethical questions regarding an architect’s power to lastingly influence moods.[18]

(unverifiable information)

In space phenomenology and somatics, we encounter in real-time unverifiable facts (i.e., the sensation of being embraced by a dome or the sensation of arriving in one’s own body). From a scientific and humanistic point of view, it is crucial to differentiate between an unverifiable implicit feeling and unverifiable explicit information—a dogma. In pragmatic terms, these ‘facts’ are unverifiable, yet we receive this information and have to cope with it. In these situations, somatics suggests orienting towards the sensory grounding of information. ‘The feeling body and not the method stands in the centre.’[19] In this sense, somatic practice may sharpen the awareness of the source and the reliability of the information: sensory, unverifiable; or rhetoric, unverifiable; or rhetoric, verifiable. For it is proved that the Earth is round even if we do not sense it.

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[1] Pasqualini I, Blefari ML, Tadi T, Serino A and Blanke O (2018) The Architectonic Experience of Body and Space in Augmented Interiors. Front. Psychol. 9:375. doi: 10.3389/fpsyg.2018.00375

[2] Pasqualini, Isabella; Llobera, Joan; Blanke, Olaf (2013): “Seeing” and “feeling” architecture: how bodily self-consciousness alters architectonic experience and affects the perception of interiors. In Frontiers in Psychology 4. DOI: 10.3389/fpsyg.2013.00354.,

[3] Cohen, Bonnie Bainbridge (2014): Sensing, feeling, and action. The experiential anatomy of body-mind centering : the collected articles for Contact Quarterly dance journal 1980-2009. Johanneshov: MTM.

[4] Pasqualini I, Blefari ML, Tadi T, Serino A and Blanke O (2018) The Architectonic Experience of Body and Space in Augmented Interiors. Front. Psychol. 9:375. doi: 10.3389/fpsyg.2018.00375

[5] cf. Lenggenhager et al., 2007

[6] Koteen, David; Stark Smith, Nancy (2008): Caught Falling

[7] cf. Pérez-Gómez in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press.

[8] Fingerhut, Jörg. (2013): Philosophie der Verkörperung: Grundlagentexte zu einer aktuellen Debatte. Berlin: Suhrkamp

[9] Kakuni Takashi in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 221, 226

[10] Pérez-Gómez in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 467

[11] Hubert L. Dreyfus in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 26

[12] Cohen, Bonnie Bainbridge (2014): Sensing, feeling, and action. The experiential anatomy of body-mind centering : the collected articles for Contact Quarterly dance journal 1980-2009. Johanneshov: MTM.

[13] Hartley, Linda (1995): Wisdom of the body moving. An introduction to body-mind centering. Berkeley, Calif.: North Atlantic Books.

[14] Feldenkrais, Moshé; Beringer, Elizabeth (2010): Embodied wisdom. The collected papers of Moshé Feldenkrais. San Diego, Calif., Berkeley, Calif.: Somatic Resources; North Atlantic Books.

[15] Eddy, Martha (2016): Mindful Movement. The Evolution of the Somatic Arts and Conscious Action: Intellect L & D E F A E., 274

[16] Neutra, Richard Joseph (1956): Wenn wir weiterleben wollen. Erfahrungen und Forderungen eines Architekten. Hamburg: Claassen.

[17] Kakuni Takashi in: Pérez-Gómez in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 226

[18] In this sense it would interesting to identify “popes, preachers and shamans” in architectural community. However, it is not the concern of this study.

[19] “Der Leib und nicht die Methode steht im Zentrum der Somatischen Akademie.” Author’s translation, accessed 23.08.2018 https://www.somatische-akademie.de/index.php

Investigation: Temporality of Space - Patterns of Flow

Theoretical framework

The following chapter discusses the experience of the temporality of architectural space and of bodymind as a flow. This consideration relies on Lena Hopsch’s phenomenological analysis of spatial rhythmisation of Borromini’s baroque architecture and on a somatic understanding of fluid systems of the body in BMC (Cohen). Both Cohen and Hopsch used the notion of flow as a pattern in nature, or architecture, that has a kinaesthetic origin and which carries, respectively, expressive and communicative or dramaturgical qualities.

(origin in movement)

Hopsch stated: ‘When you move past or through architecture, spatial sequences change and beholder shapes (rhythmatizes) the formal contentual events in flow.’[1] She underlined the enactivist role of the moving body in bringing the flow of events to appearance. In the same sense, the internal movement in the proprioceptively feeling body facilitates the flow of bodily fluids, as an spatial, temporal and expressive quality, according to Cohen.

(flow patterns in Hopsch)

Which ‘coherent patterns’ of flow did Hopsch and Cohen distinguish? Hopsch described the act of entering Borromini’s San Carlino as a *dramaturgical* sequence, comparing it to the structure of ancient drama: tension - culmination - dissolution.[2] This sequence consists of (1) flow of ‘Direction’ towards the building, with qualities of forwarding force and being embraced; (2) flow of ‘Border’, with qualities of entering, concave/convex consummation, fulfilment of expectation; and (3) flow of ‘Completion’, with qualities of being admitted, enclosed, timeless, non-directional, whirled about, part of and merged with the space.

(flow patterns in Cohen)

Cohen identified specific dynamics of flow in relation to bodily fluids: cellular fluid, intercellular fluid, blood, lymph, cerebrospinal fluid, synovial fluid. Flow is understood here as sensing the circulation of fluids and feeling the influence of the circulation on the practitioner’s expression. Cohen proposed methods, through movement, props, touch and voice that may allow exploration and differentiation of each fluid’s sensation as well as scores for their combining, contrasting and balancing. For overview of suggested characteristic qualities of each flow confer Table 1.

‘Arterial flow travels away from the heart and is an expression of the heartbeat based upon precise pulse, alternating action and rest. Characteristic qualities of arterial bloodflow are pulsating, rhythmic, active, assertive, flowing outward from the heart.’	‘The intercellular fluid is the foundation of vitality and flow of power through the organs and muscles. It is the ocean wherein the cells dwell. . . . Characteristic qualities of intercellular fluid are vitality, strength, fluid muscularity, sensuous, spongyness, . . . activity-oriented, active involvement with outer environment.’	‘The cerebrospinal fluid (CSF) relates to meditative rest and the central core of unbounded self. Characteristic qualities of cerebrospinal fluid are effortlessness, lightness, stillness inactivity, awareness, flow through the spine (head to tail) and from the spine outward to the periphery, sustained, timelessness, infinite spaciousness, suspension between Earth and Heaven.’

Table 1 (Excerpt): Overview of flows/fluids in BMC and citation of their suggested qualities.[1]

(spatiality of fluids in Cohen)

A fluid’s expression can have spatial qualities, such as direction of ‘flowing inward to the heart’ (arterial flow), or sense of scale - ‘infinite spaciousness’ (cerebrospinal flow) and, thus, may allow one to relate to natural and architectural spatial structures. In ‘Sensing, Feeling, and Action’ (2014), Cohen exemplified the flows with photographs of ‘moments in nature [and architecture] that resonate familiar states of consciousness within ourselves.’[3] One of the photographs depicts a winding flight of stairs leading to a beach. The caption suggests: ‘Arterial flow travels away from the heart and is an expression of the heartbeat based upon precise pulse, alternating action and rest.’ Characteristic qualities of arterial bloodflow are pulsating, rhythmic, active, assertive, flowing outward from the heart.’ Other photographs depict Gaudi’s curved facade and refer to the venous flow. It seems plausible to characterise this architecture through never-ending, wave-like, nurturing flow. But in contrast to the obvious sensation of flow going upstairs and feeling the rhythmic, arterial flow, this image does not necessarily involve locomotive movement. The image of the facade evokes a sensation of internal movement of venous blood, or (sub)consciousness of this movement.
Cohen used another architectonic illustration—a photograph of the Taj Mahal mausoleum, or actually its reflexion in the long water pond in front of it, and connects it to the flow of cerebrospinal fluid in its ‘lightness, infinite spaciousness and suspension’. The architectonic configuration of the marble-white building mirrored through the water and suspended upside down between endless blue sky and endless mirrored sky seems to resonate aptly with the description of cerebrospinal flow. These examples suggest that the temporality of architecture, in terms of a flow, does not necessarily have to be experienced by moving through it, as explained by Hopsch, but can also be experienced through internal, proprioceptive movement.

(open attitude)

As tools, both phenomenological and somatic explorations require from the researcher similar, open attitudes. Hopsch stated: ‘To experience architecture as a temporal event connects to letting oneself *become engaged* by what comes first and what comes next.’[4] Cohen asked for ‘being open with whatever . . . resounds in you. . . . The purpose is not to have the same experience but to have the possibility of *being touched*.’[5] Whether *being touched* or *becoming engaged* is the method or the aim of the work is discussed later in this study.

(why exploring flow)

What the explorations of flow seem to promise is a differentiated understanding of how architecture works as a temporal event. In everyday life, we usually notice spatial situations that have great sequentiality, such as a well-planned museum exhibition. And we notice situations where the flow has irritating qualities, for instance feeling disoriented in a symmetrical train station. Exploration of flow might allow us to reflect on and design spatial situations apart from the duality flow–no-flow because it shows that experience of space is always also experience of passing time and moving ‘body’.

(flow as design objective)

It seems that architecture is able to induce certain qualities of flow, as Hopsch suggested in her description of experiencing Borromini’s San Carlino and as Cohen illustrated using the images of stairs, Gaudi’s facade and the Taj Mahal. Using this premise, a design objective can be formulated as a specific somatic experience: ‘[F]assade as a hug, that draws the visitor inside and encloses her.’[6] In this way, measurable and pragmatic design objectives may be extended with a differentiated intention of addressing existential or simply somatic experiences. A pragmatic function of ‘a place of gathering for a religious community of 100 people’ can be achieved through the architect’s intention of flow of ‘drawing in, embracing and enclosing’. Because this intention comes from bodily experience and is articulated as movement and bodily gesture, the probability that it will affect the users is high, even if they come from different cultural contexts. What if the intention is not ‘understood’, or the actual use differs from primal function? I propose that the intention, if clearly articulated and felt by the architect, will still affect the user, providing an enriched experience of individual flow as its contrast or colouring.

Movement exploration

Exploration 180726

Go through the room at a chosen speed but never stay still. Pay attention to (feel) the places you go through. Modulate your speed. Go as slow as you can. Keep your movement continuous. What is your comfortable speed? At which speed does your gait feel unusual (unhabitual)? For a moment, stay at this speed. Pay attention to the distance between your heels and the top of your head. What kind of sensation emerges? Let your body remember and keep this sensation. Allow your attention to wander through the room. What are you passing by? Passing through? What are you approaching? What are you leaving behind? Which zones are you entering? Which are you not? Which borders are you crossing? Which not? …
Keep the continuity of the movement and switch between slow motion and habitual speed. How do the different speeds influence the direction of your attention?
Finish by standing still. Jump several times, if you feel dizzy.
Talk with a friend about what you’ve experienced (2 minutes each).
(Duration: 15 min)

Exploration 180828 - Re-performance and development of Exploration 180726 (excerpt)

Environment: Stairs, Holzhafen

The second trial took place on waterfront in Holzhafen, on the stairs in front of highrise building. Being more exposed to the crowds passing by surprisingly helped me ignoring others’ attention and establishing freedom of non-habitual movement. I have chosen a route for the slow-motion exploration beforehand - a walk over a rough granite block. Again, the divided attention between coordination of the unusual gait and lively, vast environment was a dominant effect. The changing cloudiness, breeze and sunshine engaged me, however, into the spaciousness of Holzhafen. Feeling that my eyes, ears, sense of balance accommodate more and more smoothly to the open, changing space made the practice more effortless and led me to moments of thoughtless suspension while ascending the stairs. (Duration: 7 min)

Environment: Plateau, Holzhafen

The third trial took place on the plateau at the top of the stairs. This time I did not use the extra slow, neutral flow, but I carried out, instead, the simplified BMC exploration of cerebrospinal flow[7] in sitting, facing camera (7 min). Then I repeated it (10 min) but facing a distant perspective of Elbe’s bank flanked by the pylons of the highrise. Also here I was investigating, to what extent it is possible to keep a clear double-focus on inner work and on a particular external image. Last repetition (10 min) took me into movement on all-fours, standing and running. Similarly to the first one, this trial placed me at moments in unusual standpoints and oriented toward new visual perspectives in actually familiar to me places. I felt that I have enough time to notice whatever came into my view field. The effect of pleasant disorientation, looking around and looking back delivered more impressions than a habitual walk in this area. Also looking upwards at the highrise, at the birds, at the tree branches seemed new, easy and stimulating.

How can the documentation of experienced spatiality induce an architectonic image, become the inception of a design? The sequentiality of spatial relations experienced through this exploration can be described and documented using eleven characteristics which I identified in essays on flow by Hopsch and Cohen. Those are: mechanics or situation of origin, direction, preposition, relation, rhythm, temporality, attention, effort, form, materiality and metaphorical gesture or image. In work with body fluids and flow Cohen describes its “combining, contrasting and counterbalancing”. Accordingly, this exploration can be seen as combination of the sequentiality of the environment - chosen places in Holzhafen and sequentiality of movement practices done there - the “slow motion walk” and cerebrospinal flow exploration.

In following I confine the description to the explorations on the plateau and its stairs. I am standing on a firm surface of granite. It has a flame-cut finish. I take off my shoes, the stone does not feel cold. There is lots of sun and wind and people passing by. I see a roughly split stone block, it seems to be inaccessible for the pedestrians and I decide to do my trial on it. I start the slowest ever stroll on it. It feels like standing exposed on a pedestal. I maintain the idle continuity of the gait, it is demanding. Now, the people and the street disappear in their own time. The sun and the wind confront my eyes. The sun and the wind choose, in which direction I turn. I turn away. I arrive in front of the next boulder, I feel over-challenged. I pause aimless, for a moment, and my attention wanders back to the sunny warmth. I look into the sky. Then I jump over and arrive on the plateau.

I choose a spot on the plateau, on the office workers’ pathway. I sit down and notice in the frame of pylons the river shining far. I look for the sensation of my vertebrae resting on each other. I know this place in me. I play with this chain of pearls, I drop my weight in it. Behind the line of spinal discs is the spinal cavity, spinal cord, cerebrospinal liquid. I bow a little initiating from the feeling of resting discs and vertebrae. Then, I bow a little initiating from the feeling of the space just behind them. It feels light. I want to stay here. It is where the soft medulla dwells. I bow a bit more, I joggle it lightly and look where it brings me. I dropped out. The shine of the river in front of me. I go back. I know the resting discs well. I move from there. I want to go into the medulla and its fluid. I find it again, I am more careful now. I wander up the thoracic spine into the cervical, and down, and up again. And up into the cranial cavity. I feel the weight of my brain. It floats in the fluid, the fluid pours down the spine. I want to give more space to it. It pours up the spine, into the head. My eyes follow. I see the highrise passing by, I look into the sky. My head perks up and to the side and I fall, almost. People go by, they don’t know, they don’t care. I begin again, I go there again, the spine knows what I want and lets me in. I let myself fall, my hands know exactly, where the floor is. Granite feels surprisingly soft. I roll, and my medulla rise me. I’m astounded by the openness, the elevating force. I walk and jog over the plateau. The sight of the highrise, moving when I move, makes me curious. I run. How easy it is to see it from different angles. People at the bus stop down there watch me. I watch them. I want them to know that I know that they watch me. The medulla rises me again and I let myself fall. And again and again, endless. The highrise behind my back seems to justify my dance. I will come back here tomorrow.

I wrote this text the day after doing the explorations. My bodily state was typical for work with computer - a confined focus and restricted mobility. During writing and recalling the experiences from yesterday my state changed and picked up the qualities of the past exploration - released muscular tone, soft neck. Apparently the words brought up bodily memory, in a surprisingly vivid way. I never experience that vividness when I use other media.
On my next vacation I will write poems instead of taking photos.

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[1] Lena Hopsch in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 320

[2] 321

[3] 66

[4] 320, emphasis added

[5] 66

[6] 317

[7] “The Dynamics of Flow: The Fluid System of the Body” in: Cohen, Bonnie Bainbridge (2014)., 78

Investigation: Sensory Sensitization - Listening

Theoretical framework

The theoretical framework for this section is in writing process. The following exploration is an example of embodied inquiry, which per se is conducted with minimum of external abstract references. The facilitation of the exploration was conceived in accordance with concepts of auditory aura of architecture (Sylvain de Bleeckere), practice of listening (Nancy Stark Smith) and order of support of the senses (Bonnie Bainbridge Cohen).

Movement Exploration

Exploration 180713
cf. Sylvain de Bleeckere: Aural Architecture and Its Phenomenological Roots[1]
Duration: ca. 1h

This score was inspired by de Bleekere’s essay on aural architecture, which we perceive, among others, through hearing, and by Nancy Stark Smith’s concept of listening as a dedicated practice. The aim of the score is to become aware of what roles hearing and listening play in our spatial orientation. How do objects, the studio and the environment, appear to us through listening? The idea is to listen to the background, to the stillness. The world is never still; there is always white noise there, which informs us.

‘Can you hear what is not making a noise?’[2]
If you move your hands around your head—on its sides, in front of it, behind it—you will feel that they are there. Try it out and focus on hearing. Listen to your hands, feel where they are in the space.
You can also use your palms to direct your hearing sense. If you put you open palms behind your ears you will hear your front space better. If you put your palms on the other side of your ears, you will hear more of your backspace. [People experiment with their hands]

I want to invite you to explore your backspace through hearing. Our front spaces are sometimes dominated through seeing, and it may be challenging to really focus on hearing. In our backspace we have no choice, we have to trust our hearing. I want you to walk backwards across the studio towards the wall at its end. Move at the speed that is comfortable to you. Listen to the architecture of the studio, use your hands to cut off the sounds from the front space.

Wiktor demonstrates approaching the wall backwards and stops just before touching it. People follow with their own trials of approaching the wall. After that, every participant has an opportunity to give one sentence of feedback. There is no moderation of the talk. The participants are asked to mind a pause of silence between each statement.

The group agrees to explore this phenomenon outdoors. The studio is located on land, surrounded by forest, meadows and ponds. After 15 minutes, the group comes back to the studio. The specific focus and interest are noticeable. The group follows the suggestion to do a dance improvisation with this focus.

At some point the quiet becomes more and more cultivated. Wiktor asks every participant to finish the score by filling the space, one after another, with the sound of their name.

In the group feedback, participants reported their sensations: The approached wall felt like a void, was perceivable as a quiet figure in the background of the white noise. Concentration on the backspace positively altered participants’ posture and balance. Despite the prespecified focus on the auditory modality, the presence of the wall was also perceived in its tactile and thermal quality. Some participants also felt that the ‘psychological’ presence of other participants influenced the ‘physical’ space. Others preferred to use their whole body for ‘listening’. The architecture of the rectangular studio became more asymmetrical because of the soundscape pouring into the studio through open windows in one of its walls. Passing the windows was a rhythmic sensation, due to crossing the sound shadows.

Participants’ feedback (exact wording):

“As I walk backwards, listening the space and wall coming towards me, I got lost noticing other bodies in space. Shadows and temperature also created an spatial sensation and I wasn‘t anymore sure which was the physical space and which the psychological/sensitive space. Outside, details became more clear. I could feel the presence of trees before touching them. As I roll on the floor I enjoyed to listen the grass coming towards my head and leaving it. Afterwards, the quality of my movements where light, and I relate this to the attention on the listening channel, the ears and the equilibrium system of the inner ear, which is pretty close to my head joint. Opening the ears help me to open the space of the atlas joint and that affect my general coordination.”

“I could not hear with my ears, I was listening with the whole body, I took off my hands from the years, opened my eyes and the whole body perception (skinesphere, kinesphere). I could feel very clear the wall behind me, and than the small distance to the wall, the feeling was like the wall suck me in, it covered me. After the exploration outside - It was a feeling of opening the whole perception (bodymind?) to the space and people and objects in it. Listening to the presence of the lake, waterfall, ground, trees... listening to the silence of the trees. I was also listening to the listening people. During the exercise it was very concentrated, may be too much. And then while they were walking back to the studio I could see there attention was not so tensed anymore, but still all of them were very present and still continuing to listen and perceive the space, being relaxed and wide.”

“Could the sound of nothingness have anything to do with body temperature? Or is it that I have the sense of touch more developed than my hearing? Can we perhaps hear the warmth of our hands? When exploring the backspace I realised that I got bored very quick, then I reflected and noticed that I didn‘t feel comfortable walking backwards and having the sensation of moving away of something. So I changed my fronts and had my internal eyes placed on my back. This became more interesting for me, having the sensation of reaching something and moving towards it.”

“I felt i was falling into the void as i was getting very close to the wall. It felt as if the space behind me had a thick density and colour, somehow dark, like sea. I felt [it] only for a while. “

„Ich finde den Effekt, wie präsent der Raum hinter mir durch das Anlegen der Handflächen die Ohren wird, so stark, dass ich mich frage, wie es wäre, wenn derselbe Effekt für die Augen so einfach möglich wäre.“

“Approaching the wall was scary, because I could felt it without seeing it, and surprising because the feeling was precise and clear, nevertheless. The score relaxed my eyes and pulled me up. After it, took a little rattle to my hand and was surprised how very loud it was. Apparently, the practice also increased the volume of perceived sounds.”

Translation of practices

Architectural design as documentation of experienced spatial relations

This research includes empirical trials of specific bodily practices oriented towards spatial phenomena. Part of its documentation is a first-person perspective record of relational interaction with spaces and places. This kind of documentation of spatial relatedness has properties of architectural design: Despite originating from an ephemeral experience, it is material (non-abstract) because its roots are in the material world. It can define relationships before it addresses structures (cf. Cohen[3]). It has the characteristics of ‘construction documentation‘ because it describes the method and circumstances of spatial experience induction (or emergence).

The concept of architectural design as documentation of experienced spatial relations is currently evolving out of documentation methods of this study. Potentially it can be conducted using varying media, however, what I observed is, that it is helpful to (1) articulate verbally or in writing the chronological order and objective setting of the original exploration. This is a distanced relation of the procedure. Then, (2) repeat the articulation, but in a more informal way allowing metaphorical references and intuitive understanding of experienced situation. This process of recalling the experience induces in my observation a kinesthetic and proprioceptive response of researcher‘s or designer‘s bodymind, for example an illusory sensation of wind on own face, or illusory sensation of a void behind one‘s back. The recalling, gathering and induction of past spatial experiences results in a lively pool of ‘architectural matter‘. By (3) changing the medium of documentation from writing to drawing I experienced, that this matter easily crystallizes in new perspectives of past experience and is a seed for its creative transformations and spatial design.

. . . .

Fig. 1 - Exploration 180713.
Presence of ‘white noise’ (white), auditive rhythmicality of windows, silence of the wall (blue) and presence of other practitioners (purple) becomes prominent.

Fig. 2 - Exploration 180828, trial 3, part 3, video still.
Exploration of cerebro-spinal flow induced openness which harmonised with the vast spatiality of the site. The observation of temporality of bodily flow supported the focus on temporality of the site.

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[1] Sylvain de Bleeckere: Aural Architecture and Its Phenomenological Roots in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press.

[2] Alan Watts, The Way of Zen, 165 in: Jacquet, Benoit; Giraud, Vincent (2013): From the things themselves: Architecture and phenomenology. Kyoto: Kyoto University Press., 87

[3] Cohen, Bonnie Bainbridge (2014): Sensing, feeling, and action. The experiential anatomy of body-mind centering : the collected articles for Contact Quarterly dance journal 1980-2009. Johanneshov: MTM.

Technische Universität Berlin

ISABEL ZINTL

THINKING OPEN SPACES VERTICALLY
NEW PERSPECTIVES THROUGH
VErTICaL Open SpAcEs

Thinking about verticality - A change of perspective expands space and opens up for new points of view. This change also enables a new way of thinking about the future of urban open spaces. Because if we expand horizontal open spaces into verticality, we find new and inspiring perspectives. Considering urgent social problems and climatic challenges worldwide, these new approaches are more necessary than ever: How do we want to live together in the city of the future? We need to find new answers - especially spatial ones.

The basis of this design-based doctoral project is the consideration of the relationship between verticality and open space – in a first step separately with their specific characteristics and in a next step in the spatial combination: as “vertical open space”. In a first definitory approach, a “vertical open space” is a layered, accessible „exterior space“ with at least two levels.

Till now, a systematic reappraisal of this type of open space has not yet been carried out. For a wider and conscious use of „vertical open space“ in design practice, through the professions of Landscape Architecture and Architecture a specialist knowledge is essential. The design-based doctoral project aims at closing this gap and providing an overview of specific features of „vertical open spaces“ in addition to basic principles such as categorisation and definition. This knowledge will and has been acquired through the elaboration of a thematic approach, analyses of own design projects and built examples through case studies, test designs and also through the consideration of history.

Keywords: Verticality, open space, new typologies, urban density, hybridity, Landscape Architecture + Architecture

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Zintl, Isabel M.A. / Ludwig, Ferdinand Prof. Dr.
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Vertical Open Spaces

VERTICAL OPEN SPACES

The following is the first attempt to collect and structure our knowledge of these basic principles of „vertical open spaces“. Accordingly, this overview of „specifics of vertical open spaces“ should be understood as a first set of design - as an approach. This knowledge developed over a period of five years, was gained through 01 own designs, 110 02 project analyses and the evaluation and interpretation of these via cluster analyses according to Heinz Bude (Die Kunst der Interpretation. In: Uwe Flick, u.a. (Hg.): Qualitative Forschung. Ein Handbuch. Reinbek bei Hamburg: Rowohlt, 2000; S. 569-578), selected 03 „Best Practice“ analyses of built projects, own planned 04 constructional implementations and general literature and Internet research.

SPECIFICS OF VERTICAL OPEN SPACES

Thinking open spaces vertically
- new perspectives

Thinking about verticality - A change of perspective expands space and opens up new points of view. This change also enables a new way of thinking about the future of urban open spaces, because if we expand horizontal open spaces into verticality, we find new and inspiring perspectives. Considering urgent social problems and climatic challenges worldwide, these new approaches are now more necessary than ever: How do we want to live together in the cities of the future? We need to find new answers - especially spatial ones.

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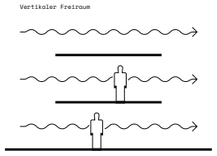
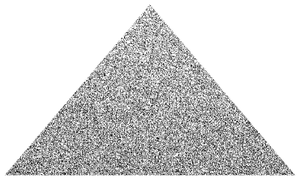
To date, no systematic reappraisal of this type of open space had been carried out. For a wider and conscious use of “vertical open space” in design practice, through the professions of Landscape Architecture and Architecture, a specialist knowledge is essential. This design-based doctoral project aims to close this gap and to provide an overview of specific features of “vertical open spaces” in addition to basic principles such as categorisation and definition.



STRUCTURE + ACCESS

STRUCTURE: Without an architectural and constructive solution, a vertical open space is not possible. An “open space architecture” is a combination of interior + exterior, landscape architecture and architecture. A vertical open space makes previously unusable vertical space potentially accessible and usable - thus creating „more“ available space. There is a rise in spatial complexity compared to horizontal open spaces: Construction and approval work are significantly higher (04 constructional implementation Stuttgart). In order to render walking on vertical surfaces possible, a structure like a scaffold is necessary. Compared to a horizontal open space, significantly higher costs are to be expected (03 „Best Practice“ MFO-Park). In some cases, if the vertical open space assumes a function that is necessary for a building project, such as accessibility e.g. an access balcony (02 project analysis), the cost increase is moderate. It should also be noted that architectural structures are spatially determined and difficult to change once built. The advantage of a horizontal open space is its adaptive properties. Any changes that occur can be more easily integrated and consolidated, e.g. „trails“ in public green spaces.
ACCESS: The vertical structure is accessed by stairs, ramps or an elevator. (01 Own designs) Without this access, no accessible usable space can be created. Thus entering a vertical open space is usually a conscious decision, since reaching these heights is often associated with physical exertion (02 project analyses). In contrast, horizontal open spaces are usually entered without thresholds. This specific characteristic is a challenge in planning an inclusive barrier-free open space. (01 Own designs)



PROGRAMME + USE

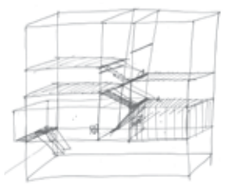
The use of verticality in relation to open space provides a new spectrum of possible uses. Programmes such as climbing for example, playfully exploit the potential of height (02 project analyses). Due to spatial limitations, the possibilities are also limited (01 Own designs). Some classic open space uses such as ball games that require a lot of floor space are often difficult to realize vertically. Moreover, the consideration of gravity is also an issue - objects used can fall. Gravity can also be seen and consciously staged as a design potential, such as water games over several storeys.

LAYERING OPEN SPACE

The layering of open space creates a „top“ and a „bottom“. The natural supply of horizontal open spaces with light and rain is only marginal in a vertical open space. The initial spatial situation is different and must be designed and developed accordingly. (02 Project analyses) Spatial layering also often contains a separation that can have consequences on a social level. Sometimes, the upper layers acquire an exclusive character, creating a dark, less attractive „bottom“. The lower floors also have their advantages in terms of weather protection. Through the layering in the vertical direction, a vertical open space also automatically receives increased visibility as a horizontal open space. The open space thus also becomes three-dimensionally visible in the urban structure. This special feature also partly explains why vertical open spaces, such as High Line Park in New York, can contribute to the gentrification of urban districts (03 „Best Practice“ High Line Park).

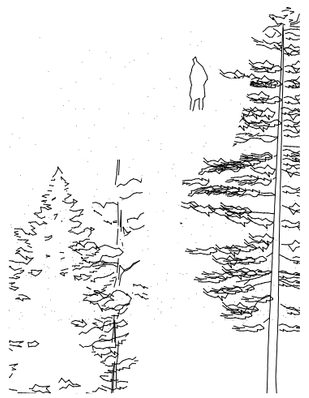
SAFETY

An accessible height-orientated outdoor space also always carries the risk that the users of this open space may fall and thus suffer injury. Particular care must be taken with children. Moreover, there is always the danger, especially with the use of grates, that objects can fall to the lower levels. Accordingly, in contrast to horizontal open spaces, a vertical space needs special attention for fall protection systems and safety. (04 Implementation Munich). Particularly in areas with increased building density, vertical open spaces also offer potential for conflict with adjacent residential uses in the case of frequent use. The resulting noise is not primarily on the ground floor – as it is the case with horizontal open spaces - it is also throughout the height of the structure and on other floors. (03 „Best Practice“ MFO Park)



EXPERIENCE OF SPACE

Verticality, leaving the horizontal and looking „up“ provides great fascination.
That this change of view is quite unusual becomes clear when we realize that humans have always moved and oriented themselves horizontally. „For this reason, optical power was mainly oriented in the horizontal plane, because the danger zone was mainly on the side.“ (Frutiger, Adrian, „Der Mensch und seine Zeichen“, Matrix Verlag, Wiesbaden, 2004, pp. 25-26). Due to this prehistoric characteristic, buildings that offer a view and are points of orientation, such as observation towers, are of particular importance (02 project analyses). Through the staging of the vertical, a vertical open space offers an attractive, playful and exciting experience.



VEGETATION

Different vegetation and maintenance concepts are more necessary for a vertical open space than for horizontal open spaces, not only because of the often missing ground relation. (02 Project analyses) Dealing with the time factor is a major challenge here. (01 Own designs) Trees have to grow and often only develop their full splendour in old age. The architecture is often contrary to this - it begins to age and is either renovated or demolished. It is therefore important to consciously design a hybrid building with a view to the time factor and to make the plant selection accordingly. (03 „Best Practice“ Platanenkubus).

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DR. PETRA PFERDMENGES

LIVED SPACE

Architecture, like landscape architecture and urbanism, is a discipline that develops spaces that can last for a long period of time. Similar to landscape architects, I appreciate the way space changes over time. Whereas in landscape architecture it is nature that grows and changes, I am interested in the transformation of the public realm, generating spaces of encounter among people from multiple cultural backgrounds through the building process. This is what I consider as Lived Space. What roles do I play in order to trigger such Lived Space that expands from the ephemeral to generate a durational impact?

In 2012 I produced Lived Space in Brussels red light district. Based upon the observation of the needs of prostitutes that were asking for better clients, I intended to launch a pop-up flower shop in the rue d'Aerschot. As no flower shop in Brussels was interested to do so, I offered flowers to the bypassing sex-workers to improve the relationship between them and the sex workers. Unfortunately the project generated only impact for the duration of one afternoon.

In 2014 I initiated Lived Space as a co-curator of the biennale Parckdesign 2014: Parckfarm. I enabled the local to co-produce and to co-maintain the space which lead to an appropriation of the public realm. Since then the community is welcoming the guest in the urban transformation process on the Tour & Taxis site. Because of its success the biennale was expanded from an ephemeral event to a durational urban project that became officially permanent in 2018.

In 2017 we won the competition for a Master plan on a site of 13 ha on Brussels West station. While Taktyk is designing the public space and 51n4e the buildings on the site of 13 ha, my practice Alive Architecture has the lead to design the socio-spatial transformation up to 2040. As such, we are involving the local community to co-design, co-produce & co-maintain the park over the next 20 years, expanding Lived Space from ephemeral to durational.

To generate such durational Lived Space I am playing four different roles that I wish to share with my peers: the Observer of the social & spatial situation, the Engager with the local community and the Mediator between bottom-up & top-down actors that allows to play the role of the Enabler of the citizens. Similar to my work, the artist Jeanne van Heeswijk and the office MUF Art & Architecture play the role of the Observer of the existing social and spatial situation, of the Engager with multiple actors and finally the role of the Enabler of the local to co-produce the city. The added role that I play in my practice is the one of the Mediator between top-down & bottom-up actors. Having started my practice from a bottom-up approach of city making and now being involved in large scale top-down urban projects, I claim that we need to take responsibility within public tender in order to generate socio-spatial transformation with a long-lasting impact. It allows us to be present in the meetings where decisions are taken, to use our presence to play the role of the Mediator between bottom-up and top-down in order to enable the local to co-produce the city.

Keywords: Public Realm, Appropriation, User

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SOPHIE HOLZ

AESTHETIC OF CLIMATE
THE POTENTIAL OF MICROCLIMATE AS IMMATERIAL ELEMENT FOR THE DESIGN OF DISTINCTIVE PLACES IN LANDSCAPE ARCHITECTURE

If we think about research regarding microclimate in landscape architecture, terms like urban heat islands or climate change might come to our mind. In research papers about this topic,open space is often been described as green infrastructure which offer ecosystem-services. But such functional aims are just one perspective of microclimate-design.
This paper argues for an additional potential of microclimate-design in landscape architecture: its potential for a design of distinctive and inspiring places through an aesthetic empowerment of microclimate. Such affective microclimate-design aims to build projects which offer rich and delightful experiences.
Microclimate is directly perceived by intimate close-up senses: hot and cold, dry and wet, windy and wind-still are mainly perceived by the sense of touch, including the sense of temperature. It is through the intensity and the intimacy of this perception, that it arouses embodied association and imagination.

How can landscape architects design with microclimate, an immaterial, dynamic, always unfolding phenomenon?

To answer this question the paper presents a theoretical framework of the term microclimate. It argues that the scientifically coined term “microclimate” needs to be supplemented by the perspective of the perceiving human being: Firstly, microclimate can be explained objectively on a scientific basis, by dividing it into weather elements such as air temperature, humidity and wind speed. These can be measured and quantified. Secondly, microclimate is a phenomenon, which is perceived by the entire body [Leib] with all it’s senses and embodied experiences and therefore affects human wellbeing. This perspective acknowledges microclimate as a phenomenon, which strongly influences our perception of a place and our relation with the place.

The theoretical framework is the base for a field study of microclimate in landscape works in Scandinavia and the Iberian Peninsula. Overlaying sequence graphics (preliminary results see pdf) bring together both perspectives on microclimate: it measurable factors and the qualitative phenomenon. These graphics are a knowledge and experience collage which provide a fused base of qualitative and quantitative information. Based on the collages design principles for an affective microclimate design are derived.

Keywords: landscape architecture, affective microclimate-design, immaterial, particular places, multi-sensory perception

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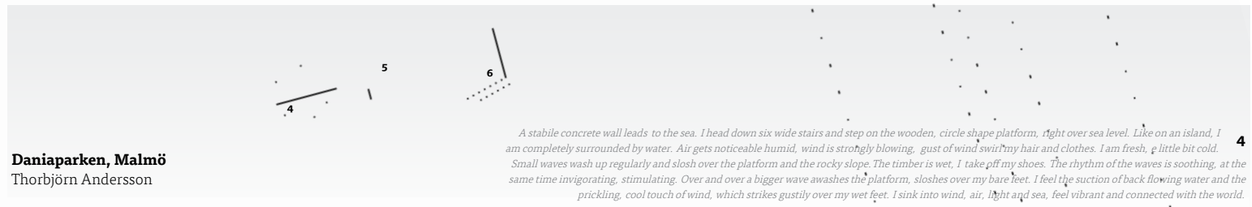
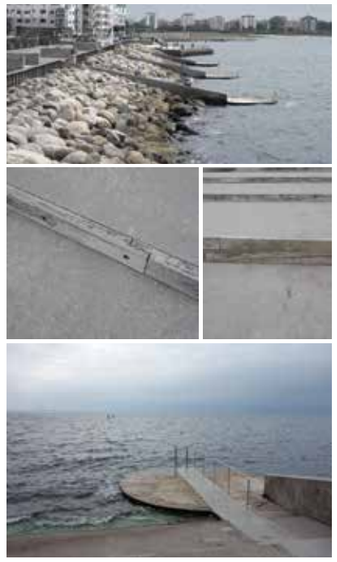
Sophie Holz
TU Berlin

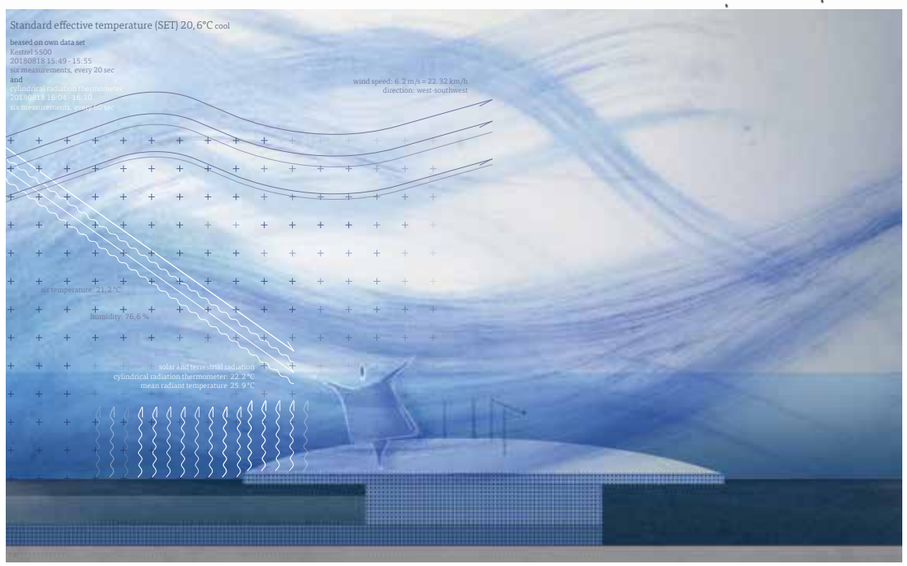
Aesthetic of Climate The Potential of Microclimate as Immaterial Element for the Design of Distinctive Places

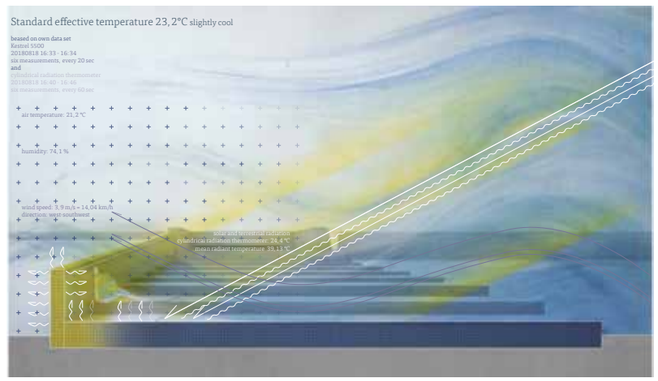


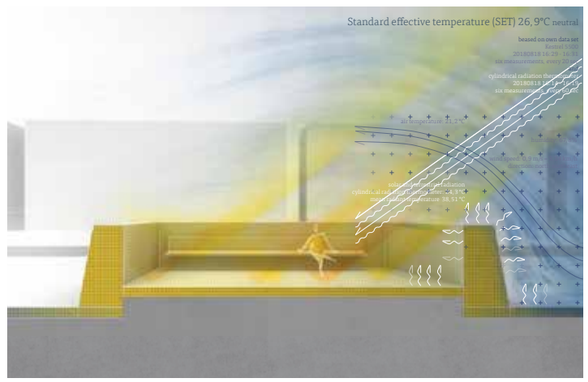
Daniaparken, Malmö
Thorbjörn Andersson

A stabile concrete wall leads to the sea. I head down six wide stairs and step on the wooden, circle shape platform, right over sea level. Like on an island, I am completely surrounded by water. Air gets noticeable humid, wind is strongly blowing, gust of wind swirl my hair and clothes. I am fresh, a little bit cold. Small waves wash up regularly and slosh over the platform and the rocky slope. The timber is wet, I take off my shoes. The rhythm of the waves is soothing, at the same time invigorating, stimulating. Over and over a bigger wave awashes the platform, sloshes over my bare feet. I feel the suction of back flowing water and the prickling, cool touch of wind, which strikes gustily over my wet feet. I sink into wind, air, light and sea, feel vibrant and connected with the world. **4**









5 *I sit down on one of the wide concrete steps and lend against the wall. Even if the wind still blows, it is possible, to get some rest, if I cling very close to the wall. Sun shines directly on my face. On my cheeks I sense soft warmth, like a gentle, careful touch. I am exhilarated by light, warmth and wind.*

I continue to walk up the stairs, while the wind still blows with same strength. I sit down on a wooden bench and find myself enclosed by solid natural stone walls, vis a vis with the sea shore. From the moment I sit down, the wind appears to stop. Its calm. Sun is present, shines from the side on my face and body. Slowly, warmth diffuses inside my body. I close my eyes, turn my face toward the sun, enjoy for a couple of minutes. I spread my arms on the armrest, my mind wonder off. **6**

Preliminary Design Principles

1. exposure – protection: stark contrasts within small distance
The water access provides a sequence of three completely different microclimates, which can be both experienced by senses and measured by devices. These microclimates are created through spatial composition and result in situations which range between exposure to protection. Both the strong contrast and the relatively small distance between these microclimates make the experience impressive.

2. measured and experienced microclimate
Differences between measured and experienced microclimate occur. For example, while the concrete wall has been considered as a warm, welcome niche, it is still slightly cool according to SET measurements. This phenomenon can be explained physiologically: The sense of temperature is a relational sense. Heat and cold receptors in the skin do not react to absolute temperature, but to changing temperature. Therefore, humans experience a thermal situation always in comparison to the previous situation.

3. trigger close up experiences of climate and its carriers
The water access is designed in a way that draws people to the exposed circle platform: it continuously slopes down to the water, the geometry of the stairs widen up towards the sea, linear elements guide downwards. Here you are exposed to the harsh climate: you feel wind at your whole body, at your skin, in your hair. The perception psychologist Rainer Schönhammer calls such experience of wind “atmospheric sensing”. It describes the conscious perception of the medium, for example air, which encases the own body and therefore provides pleasure. Through the specific spacial composition intense experience of wind and water are triggered which can provide pleasure and delight.

4. Dimensions: private places
The wooden platform and also the single stairs of the stairways are relatively small, private places. On a day with an average number of people in the park, a single person occupies the platform. It rarely happens that somebody enters the platform, while somebody is already there. This „being on your own“ surrounded by water, by wind, the view, sets a spacial situation which can stimulate a feeling of sublimity, it might make you wonder, or trigger imagination or reflection.

5. reduction of material and color
Dominant materials within the examined spacial sequence are natural stone, steel, timber, concrete, all in a grey and brown-grey color range. The reduction of material and color is also a reduction of visual stimulation, which gives space for other perception e.g. thermal sense and sense of touch.
Building on the concept of synesthesia (perception psychology) it can be assumed, that well-toned, reduced visual stimulation not only stimulates the eye for a more precise perception but also other senses.

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CHIARA SCANAGATTA

GUIDELINES FOR THE CO-DESIGN: HOW TO SOLVE URBAN ISSUES

My research aims to test how co-design can help to solve different urban issues and wants to produce a vademecum with guidelines on how to set a urban living lab to involve stakeholders for a co-design process. To do so I needed to study the state of the art, but I also needed to search for case studies with which to check the good and the bad practices.
The study of the state of the art gave me a more complete comprehension of the situation in which my research is framed, and it included:

Scandinavian “cooperative design” in the 60s;
De Carlo participatory design of the Terni project;
“Participatory design” in the USA during the 70s;
Siza and SAAL process in the 70s;
“User-centered design” by Donald Dorman in the 80s;
“Participatory budgeting” in Portugal from the 2000 on.

The methodology is that of the research by practice which, in my research, uses case studies to: check which practices can be considered good or bad; cross data collected from the state of the art and the case studies and compare the case studies.
The case studies I’m working with are two: one is the planning for the City of Sport in San Donà di Piave (Italy) and the other is a European Research Project, funded under the JPI Urban Europe, called LOOPER (Learning Loops in the Public Realm) which will apply the learning loop to the co-design process. To better explain, in the City of Sport of San Donà di Piave I am analyzing a basic participatory design process. On the other hand the case study of the LOOPER project has the ambition of creating a new way of decision-making which brings together all stakeholders, including policymakers, that iteratively learn how to address urban challenges. This is an implemented co-design process as stakeholders in the end are called to evaluate what they have done.
The expected result of my research is that of creating a set of guidelines which can be used to solve different urban issues, such as planning problems or air quality, using the co-design process applied to urban living labs.
There is an intrinsic part of innovation in my research, which is linked to the novelty of the LOOPER project that inserts co-monitoring in the participatory design process and applies the learning loop to it (research by practice). Also another novelty stands into the possibility to implement the guidelines, written with the case studies experiences, with other cases.

Keywords: co-design, learning loop, air quality, urban issues

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Chiara Scanagatta
University Iuav of Venice

Guidelines for the Co-Design: how to solve Urban Issues

RESEARCH FRAMING AND METHODOLOGY

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CASE STUDIES, RESULTS AND NOVELTY

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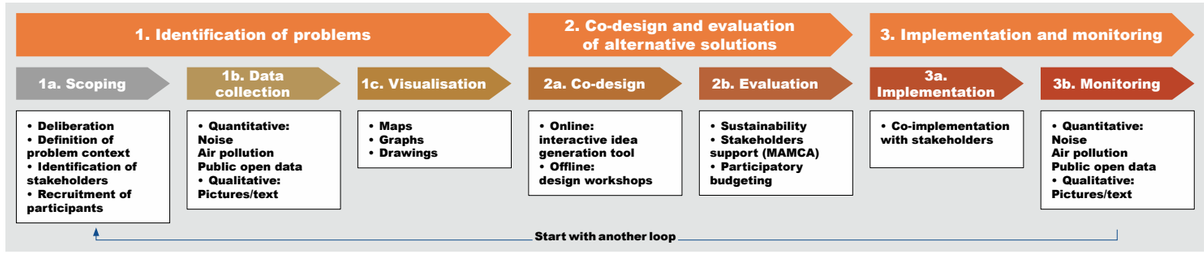
LEARNING LOOP PROCESS APPLIED TO CO-DESIGN



1a. SCOPING

The first stage of the work was the scoping of issues.
It helped researchers and policymakers to better understand the perception of citizens, and helped citizens to focus on what are their priorities when talking about urban issues.

SCOPING

Participants are able to create a point of contact with policymakers as they feel that someone is listening to them on what is important.

1. Lectures about basic info of pollution.
2. Participants working on maps to express which urban issues linked to pollution are the most important.
3. Workshop.

1b. DATA COLLECTION

The co-monitoring stage turned out to be very important as it has been an essential step to reach the co-design and it helped participants to feel they are part of the process. In LOOPER the co-monitoring was more practical as participants could decide where to monitor pollutants with both official and participatory sensing tools (qualitative and quantitative data).

DATA COLLECTION

Participants learn how data are collected and feel more in touch with what is happening and which issues are more relevant.

1. Noise box: crowdsensing
2. Geotaggig tool: crowdsensing
3. AirBeam: crowdsensing
4. Passive sensor: official
5. Mobile station: official data

1c. VISUALISATION

The visualisation stage helps participants to understand if their thoughts about urban issues, and amount of pollutants present in their neighbourhood, were right or wrong. This is essential to open up their mind about the possible mitigation solutions.

VISUALISATION

Stakeholders can see the result of the work they have done with the data collection. They can have a complete idea of the situation.

1. Visualisation of data collected with official tools.
Here PM10 collected with mobile stations.
2. Data collected with participatory sensing.
Here PM2.5 collected with AirBeam.

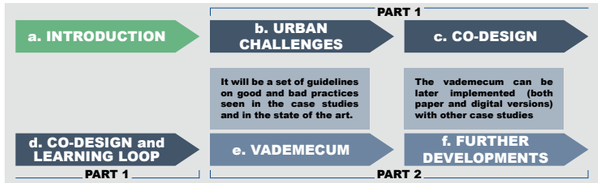
2a. CO-DESIGN and future stages

The visualisation stage helps participants to understand if their thoughts about urban issues of their neighbourhood were correct or incorrect. This means that when the co-design stage will start they will be able to have a complete overview of the situation. To make the most out of the co-design stage it will be possible to use a combination of online and offline tools which can help participants to express what they would like to do to solve issues.

CO-DESIGN

Stakeholders actively participated to previous stages, this means they have all the tools needed for the co-design. They will be helped in the process to develop ideas.

NEXT STEPS AND THE VADEMECUM



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TERESA PALMIERI

‘PROTOTYPING RESIDENTIAL SUBDIVISIONS’
EXPERIMENTING WITH MAKING AND PROTOTYPING FOR COLLECTIVE LEARNING OVER SPATIAL ISSUES.

In Flanders (Be), suburban neighbourhoods and particularly residential subdivisions made of single-family detached houses still represent the most common way of living. Supported by anti- urban policies, economic possibilities and the stimulation of homeownership (De Decker, 2011), the persistent Flemish housing sprawl saw its acceleration after the Second World War with the establishment of the Flemish ‘housing dream’: a private house with a garden in a quiet suburban setting (Bervoets and Heynen, 2013; De Vos and Heynen, 2015). The focus on a plot-by-plot development and private initiative and life has resulted in the prioritisation of individual dwelling spaces and practices over the collective dimension and context of inhabiting (De Meulder et al. 1999). Today these environments are confronted with considerable economic, ecological and social challenges. Whereas on an institutional macro-level these challenges are evident and urgent with the development of visions that aim at a more sustainable urbanisation (e.g. Spatial Policy Plan for Flanders released in June 2018), on the micro-scale of the neighbourhood, these visions have so far failed in having a wide spread impact on the everyday modes of living of the inhabitants.

Starting from the hypothesis that change in residential subdivisions can only be durable if supported by processes of collective learning over spatial issues (Elbakidze et al., 2015), the research aims at developing design related tools and techniques for facilitating residents, local authorities and other local organisations and actors to collectively discuss envision and sustain the transformation of suburban residential areas into more sustainable urban environments. To do this, the research advances participatory design methods and in particular making and collective prototyping (e.i. the making of things in participatory design as an open-ended process between material making and participative decision making, Binder et al. 2013). Through making and collective prototyping the actors of residential subdivisions are facilitated to develop their capabilities (Baser and Morgan, 2008) to formulate and reach collective objectives (e.g. urban sustainability) starting by unveiling, evaluating and reworking everyday modes of dwelling and dwelling spaces.

This presentation particularly considers and analyses two case-studies in Flanders, in which making and collective prototyping (e.g. a paper sketch model of an average local house and plot with different paper components, furniture, trees, cars…) have been employed for collective learning over spatial issues to facilitate opportunities and challenges for retrofitting the residential subdivisions to contextually emerge and be discussed and evaluated.

Keywords: Residential Subdivisions; Retrofitting; Collective Learning; Participatory Design; Prototyping; Sustainability.

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Teresa Palmieri
Hasselt University - Faculty of Architecture and Arts

‘Prototyping Residential Subdivisions.
Experimenting with making and prototyping for collective learning over spatial issues.’

KEYWORDS:
Residential Subdivisions; Retrofitting; Collective Learning; Participatory Design; Prototyping; Sustainability.

CONTEXT: Flemish suburban neighbourhoods.
In Flanders (Belgium), **suburban neighbourhoods and particularly residential subdivisions made of single–family detached houses** still represent the most common way of living. Supported by anti–urban policies, economic possibilities and the stimulation of homeownership (De Decker, 2011) the Flemish housing sprawl saw its acceleration after the Second World War when the increased housing demand was confronted with massive suburbanisation processes (Bervoets and Heynen 2013) with the consequent establishment of **the ‘Flemish housing dream’: a private house with a garden in a quiet suburban setting** (De Vos and Heynen, 2015) *“sheltering a urban lifestyle in a semi–rural environment”* (Van de Weijer, 2014: 11). The focus on a plot–by plot development and private initiative and life has resulted in the prioritisation of individual dwelling spaces and practices over the collective dimensions and context of inhabiting (De Meulder et al. 1999).

CHALLENGES: Residential Subdivisions in need of transitions.
Today the future feasibility of residential subdivisions and their connected lifestyles to continue exist as they are are being questioned in light of **demographical and socio–economic developments** and of major **economic** (e.g lack of local economy, high cost of infrastructures, space underuse…), **ecological** (e.g. lack of green, high energy demand…) and **social challenges** (e.g. ageing of the population, increasing diversity…).
The resistance to change of the single–family detached house on its own plot of land as most common mode of living has been identified as being the entanglement of different reasons, not only the home culture but also the materiality of the house which is perceived to be very difficult to modify and adjust over time. Furthermore, the lack of wide spread and well known examples for alternative housing typologies and practices also contribute to the problem (Bervoets and Heynen, 2013).

Residential subdivision composed of single–family detached houses, Lanaken, Belgium.

“Before moving here, we were living and working in Brussels, but we did not want to buy a house in the city because it was a too urban environment for us, we wanted more nature around us.”
(Inhabitant of Lanaken)

“A house should be more flexible. You start as a young couple, then the children come, and then the house, at one moment, is even too small. But this period is very short because children fly away. All of a sudden the house is too big, but you cannot make it shrink again.”
(Inhabitant of Vosselaar)

New suburban housing development, Lanaken, Belgium

AIMS: Building spatial capacities for more sustainable retrofitting alternatives.
Today, whereas on a macro–level the challenges to achieve a more sustainable urbanisation are becoming more evident and urgent with plans that aim at a more resilient, compact and dense urbanisation, the so far implemented urban visions and plans have failed in having a wide spread impact on the everyday mode of living of the Flemish inhabitants. Experimenting with processes that **facilitate residents, local authorities and other local organisations to learn from each other and to develop their capacities to define and achieve collective objectives over spatial issues** (Elbakidze et al., 2015; Baser and Morgan, 2008) can support the development of more effective, sustainable and situated retrofitting alternatives for residential suburbs. This is especially relevant in light of the newly released Spatial Policy Plan for Flanders, which, with its core principle “doing more with less”, proposes the improvement of existing strategic built–up areas while preserving the open space with a definitive stop of building on new land by 2040 (Beleidsplan Ruimte Vlaanderen, 2018). The project aims at investigating and developing **design related processes, tools and techniques for collective learning over spatial issues able to facilitate the participatory discussion, envisioning and sustainment of retrofitting alternatives and new meanings for residential subdivisions** starting from the everyday of these environments, and, namely, by collectively understanding and reflecting upon how the actors of residential subdivisions live and wish and project to live in the future in these environments. The project particularly aims at developing processes and methods for retrofitting residential subdivisions able to improve these environments together with their actors (e.g. inhabitants, local organisations…) and capable to accommodate people needs while improving urban sustainability.

METHOD: Collective making and prototyping of residential subdivisions.
In order to enable experiential learning processes between the actors of residential subdivisions and the collective formations of and discussion about possibilities for retrofitting residential subdivisions, the research employs **Participatory Design Methods with particular focuses on making techniques such as collaborative prototyping** (Binder at al., 2015; Brandt et al., 2013; Hillgren et al., 2011). The making of things is here advanced not only as a shared tangible language facilitating communication between a heterogeneous group of actors with different backgrounds, but also as open–ended design processes between material making and democratic decision making, which facilitates the emergence of issues while rendering them public and experientially available for the direct engagement of the stakeholders (i.e. in what has been called within Participatory Design a ‘Democratic Design Experiment’, Binder at al. 2015). Making, as in collective prototyping, diverges from the making of prototypes in the modernist context, in which prototypes are artefacts resembling as close as possible the final output of design for later mass production, prototyping, as in Participatory Design, is here advanced to facilitate the direct engagement of citizens with matters of concerns as socio–material assemblies (Binder et al, 2011). Collaborative prototyping is developed as an open–ended collaborative material exploration of possible futures in the making in the face of a yet uncertain future development of residential subdivisions (Binder at al., 2015).

Examlpe of developed model and components to lead interviews in the case studies.

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To facilitate prototyping with multiple actors in different contexts and scales, the research collaborates with the designer Thomas Lommée and develops the tools emlpyed in the research through the open source system OpenStrucutres that enables people to design modular artefacts according to a shared grid. In the immages two projects by Thomas Lommée.

CASE STUDY: Experimenting with making and prototyping in suburban neighbourhoods in Flanders
The research develops through two long–term and on–going case studies, the ‘Kleine Wingerd’ in Lanaken and the ‘Witte Wijk’ in Vosselaar.

Kleine Wingerd (Lanaken)

Witte Wijk (Vosselaar)

The ‘Klein Wingerd’ is a residential subdivision developed in the nineties to invert the trend that was seeing a large number of young people leaving the town due to the high cost of housing and the lack of local economy. Plots were offered at affordable prices for young local first homeowners to buy. The process resulted in a rather homogenous area composed almost entirely of single–family detached houses with little collective spaces an life and with the almost complete absence of connection with the bordering green area of the national park. The residential subdivision is today slowly ageing with an increasing underuse of private and public space.

The ‘Witte Wijk’ is a neighbourhood originally developed in the sixties as a social housing project for large workers families. They were provided with affordable housing and a large plot for growing vegetables and breed animals for family sustenance. Today, the area is no longer a social housing project and is hosting an increasingly heterogeneous population. The ageing of the original homeowners have resulted in the increment of newcomers with the gradual differentiation of dwelling practices and of housing typologies. A spontaneous process of retrofitting is developing together with ‘infill’ processes that lead to the slow densification of the area.

A number of inhabitants were so far interviewed to have a better understanding of how people live in residential subdivisions and how they wish and project to live in the future in this environments and to enable challenges and opportunities to improve the sustainability of dwelling practices and spaces to contextually emerge and be discussed. The individual sessions have been mediated by a sketch model of an average house and plot of the area and by several paper components (e.g. trees, furniture, urban furniture, means of transportation etc.) and by an areal picture of the neighbourhoods, focusing on enabling a variety of contextual dwelling patterns (e.i. intertwinement of dwelling spaces and dwelling practices) to emerge, with particular attention to dwelling patterns that hybridise public and private, individual and collective spaces and practices as fertile triggers to collectively question and envision retrofitting alternatives.

“A big issue is how to create shared facilities between close neighbours. I always think about what we can do together. We have a swimming pool and our neighbours can use it. When we have an overabundance of vegetables and eggs the neighbours can consume them as well.”

“Everyone has a fenced plot, but perhaps we could open up fences and do things together….We could have a shared garden with different functions….it could create disadvantages, and everyone would need to be tolerant, but it could also create many possibilities.”

“Co–housing is possible also here if we develop the area together. We could build different units between existing houses for more people to live here and in the backyards have shared facilities.”

“The neighbourhood should be better connected to the centre. The municipality should officialise the shortcut we made together the neighbours to cycle to the centre.”

“Children can come and play in the backyard when they want, this is why we decided not to install a gate. The garden is a bit shared is true. We have a shared garden, never thought about it in this way.”

“I designed the garden to be self sufficient. Having a large space needs to have a meaning. The garden needs to be productive, otherwise it is not necessary to own such a big space.”

“There was a separation between the plots. We removed it and instead, together with the neighbours, we planted bushes that support the local biodiversity . For us it is important that the nature in our garden is also good for the local birds and bees.”

“Under the house I have a lot of underused space. This space is now a storage for other people, for my brother but also for other neighbours who need it.”

“Regulations in Belgium are not ready for new forms of living. I want to share my space, but laws don’t allow me to do it. If other people live in this house they can not have their domicile here.”

DISCUSSION:
The collective making through the models supported trust and reduced the distance between the participants and the researcher. Their use enabled the sessions to take place in a space where participants felt comfortable. Using the material provided, participants were able to tangibly explain how they live and wish to live. At times, the visualisation helped them to evaluate and reconsider their dwelling patterns leading sometimes to the prototyping of proposals for alternatives. Making alternatives tangible enabled both opportunities and dilemmas about future ways of living to emerge and be discussed. Furthermore, the sessions highlight existing spaces where micro– (inhabitants) and meso– and macro– (municipality, region) visions don’t coincide. Finally, the sessions showed that although residential subdivisions are characterised by individualistic modes of living, sharing practices exist with sometimes the hybridisation of individual and collective, private and public spaces and practices and that fragmentary, new meanings for residential subdivisions are contextually emerging over time. The first experiments with models will inform the further development of making and prototyping tools and techniques for collective learning in residential subdivisions that will be developed using the open source system OpenStructures.

AGATA KYCIA

HYBRID TEXTILE STRUCTURES AS MEANS OF MATERIAL-INFORMED DESIGN STRATEGY

This research focuses on potential applications of lightweight textile structures in the building industry. The need of more eco-friendly and lighter materials, more flexible designs and substantial cost reduction create new possibilities for textiles as construction material. Development of highly engineered, programmable fibers as well as new 3D printing technologies allow for re-introducing textiles into the build environment as efficient, smart and sustainable solution. [1]

The project investigates the technique of 3D printing on pre-stressed fabrics in order to create textile composites and explores their potential applications as building envelopes. Design methodology takes advantage of the elasticity and self-shaping properties of such structures while looking into performance, modularity and scalability. The position, geometry and height of the 3D printed form can locally affect the deformation of the textile, once the tension is released. Such method enables precise control over the transformation process and design aiming at minimizing the material needed for fabricating the desired three-dimensional textile modules. The case study for this investigation is a textile sun-shading module developed into a 1:1 scale prototype as part of the "Self-Shaping Textiles" seminar at the Weissensee Kunsthochschule Berlin. The course was done in collaboration with the „Textile Prototyping Lab" as well as the „Sächsische Textilforschungsinstitut STFI" in Chemnitz, where the large-scale prototype was manufactured.

Keywords: material form-finding, 3D printing on textiles, lightweight textile structures, performative building envelopes, self-shaping textiles

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Agata Kycia
TU Berlin

HYBRID TEXTILE STRUCTURES AS MEANS OF MATERIAL-INFORMED DESIGN STRATEGY

KEYWORDS
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1. ABSTRACT
This research focuses on potential applications of lightweight textile structures in the building industry. The need of more eco-friendly and lighter materials, more flexible designs and substantial cost reduction create new possibilities for textiles as construction material. Development of highly engineered, programmable fibers as well as new 3D printing technologies allow for re-introducing textiles into the build environment as efficient, smart and sustainable solution. [1]

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2. MATERIAL FORM-FINDING
The study uses one of the methods for transforming textiles into desired three-dimensional shapes developed by the MIT Self Assembly Lab and explores its potential to create functional building envelopes. This methodology relies on 3D printing a less elastic material such as plastic on top of an elastic, pre-stressed fabric. Once the textile is released from the pre-stressed state, it folds into a specific shape, influenced by the 3D printed form. [2]

3. MODULE DEVELOPMENT
The first part of the research focuses on the development of one textile module in several iterations that would provide various degrees of porosity. Numerous studies were carried out in order to test and understand the variables that affect the transformation of the textile composites. For the comparability of the results, all the samples have 10 cm diameter and were printed with the PLA filament on a pre-stressed fabric (85% Polyamid and 15 % Elastan) using the FDM printer. In order to ensure the uniform tension of 150%, the fabric was cut into proportionally smaller parts and each piece was sewed around the printing plate to avoid inaccuracies.
A circular module was chosen as a base for testing the transformation principles. The design consists of two 3D printed, concentric rings and a cut in-between them. By varying the length of the cut and the proportions of the rings, different degrees of opening are possible within one module. This strategy was then further tested in order to develop a series of circular modules with different openings.

The transformation was influenced not only by the proportions of the outer and the inner rings and the length of the cut, but also by the direction of the warp threads in relation to printed boundary and position of the cut. The same printed geometry would fold differently once rotated 90 degrees. In order to create symmetrical openings, the direction of the warp threads needed to be perpendicular to the symmetry axis of the cut.
As a result, three various modules were developed with different openings, allowing production of a customized textile sun-shading structure, optimized for the personal needs or environmental conditions. The traditional textile technique of lacing was used to connect the components together and assemble them into a functional scaled prototype.

4. UP-SCALING
Galileo in "Dialogue on Two New Sciences" elaborates on scaling laws and observes that bones of large animals are proportionally much thicker than those of smaller ones. [3] Similar principles apply to the structural elements that need to take certain loads in construction, where the scalability depends on many factors and becomes a very complex, challenging task.
The second part of the research focuses on scaling up the textile module into an architectural building component. It is not a linear transformation, since the fabric doesn't change and the only element that can be enlarged is the 3D printed geometry. This non-uniform scaling process relies on a series of trial and error experiments until the desired setup is found. Besides increasing the overall size of the rings, the focus is also put on scaling the manufacturing process such as the thickness of the printing path or layer height.
The following series of experiments aimed at scaling the circular module from the 10 cm diameter into the 30 cm diameter. The 1:1 scale prints were produced at the „Sächsische Textilforschungsinstitut STFI"in Chemnitz using a larger FDM 3D printer with built-in mechanism for tensioning the fabric. The PLA filament was replaced by polyolefin and the thickness of the printing path was significantly increased from 0,4 mm to 1mm in order to speed up the printing process.

Optimizing the printing time turned out to be the first challenge. After a series of experiments with the printing speed and printing path we managed to print the module of a 30cm diameter in 1h 20 min, just as long as the 9 times smaller initial module. The customized circular printing path with more height distance ended up not only speeding up the manufacturing process, but also affecting the aesthetic appearance of the printed form, where the printed layers followed the geometry.
The second challenge was adjusting the proportions of the 3D print in order to replicate the desired geometry, but after plenty of iterations we managed to reconstruct the initial form. The height of the print had to be varied depending on the length of the cut and the inner circle had to be stiffened along the opening boundary.

Specifications of the final prototype:
- Manufacturing technology: FDM 3D printing on pre-stressed textile
- Fabric: 85% Polyamid and 15 % Elastan, Filament: Polyolefin
- Tension 120 %
- Outer ring: W 10mm, H 30mm, inner ring: W 5mm, height 30mm
- Path gap: 1,3 mm, Layer height: 0,6 mm, first layer height: 1 mm

4. CONCLUSIONS
3D printing on pre-stressed fabrics is a robust methodology for creating three-dimensional, lightweight, transformable materials with potential applications as architectural structures or smart textile facades.
One of the remaining challenges is the process of scaling up the design solutions and manufacturing processes, however the carried out project demonstrates that the geometric and the self-shaping principles can be translated to the architectural scale. Increasing the size of such element has also advantages when it comes to the production process. Small printers with fine printing resolution require more precision and accuracy in adjusting the height of the printing bed and the nozzle, so that the filament can get in-between the threads and attach to the fabric. Printing in lower resolution with thicker lines and more material allows compensating the differences and as a result the filament attaches very well to the fabric.

Demonstrated project shows a passive design strategy for a customized performative facade solution. Currently the material transformations are irreversible and remain in the deformed state after the tension is released. Could such process be reversed and these structures become dynamic? The next step of the research will focus on implementing movement into the textile structures in order to create active building envelopes adapting dynamically to the ever-changing environment.

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SELF-SHAPING TEXTILES /// EXPERIMENTS IN A SMALLER SCALE

A catalogue of experiments

2 different modules demonstrating various transformation

A couple of 3D printed modules

Textile module: Diameter 10cm, Fabric: 85% Polyamid and 15 % Elastan, filament: PLA)

Assembly of 9 circuar modules, 10cm diameter each

UP-SCALING /// MANUFACTURING PROCESS OF A 1:1 SCALE PROTOTYPE

Assembly process of the 1:1 scale prototype

Textile self-forming while releasing the tension

Self-shaping textiles experiments

1:1 scale prototype

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CHIARA PRADEL

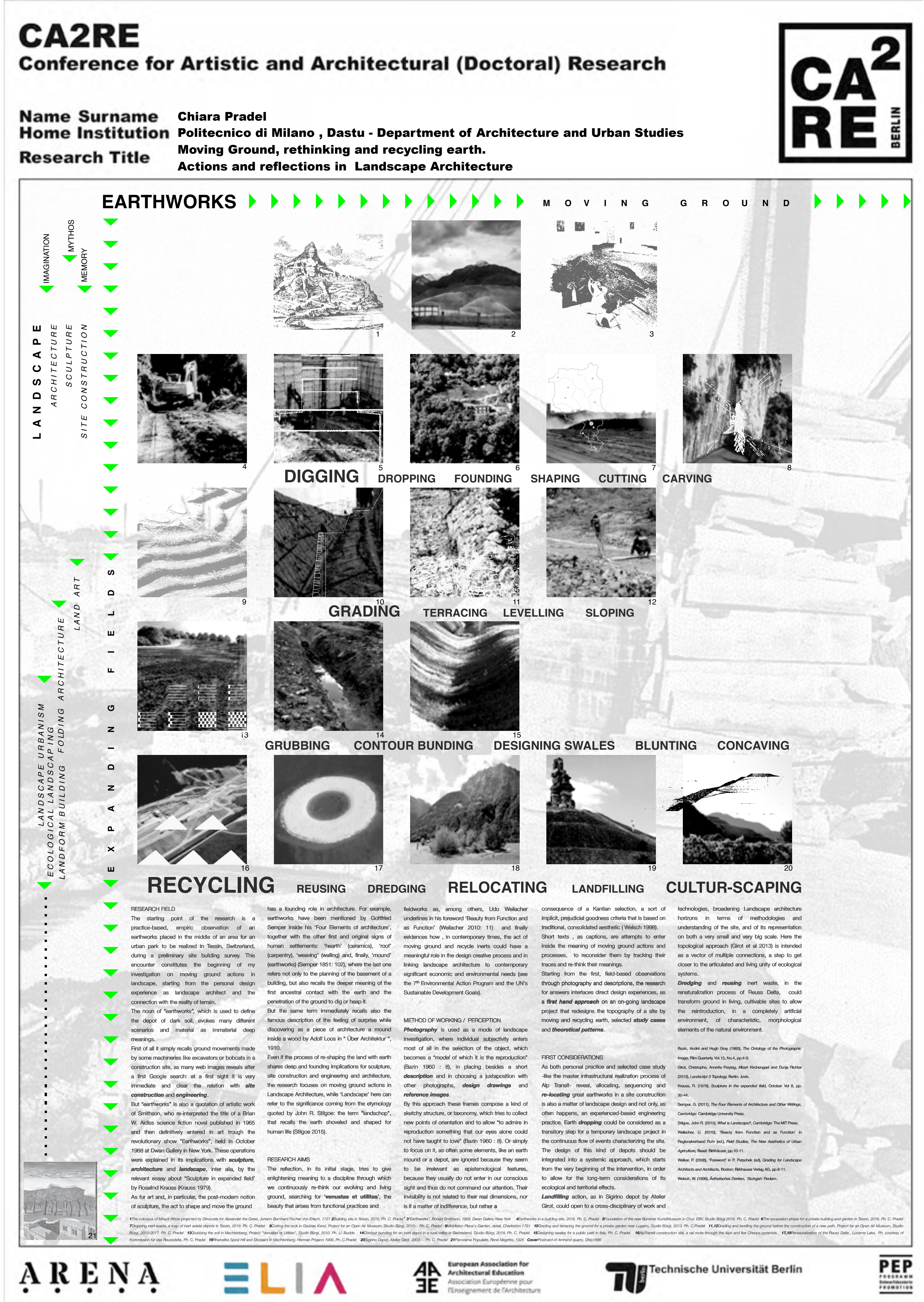
MOVING GROUND
RETHINKING AND RECYCLING EARTH, ACTIONS AND REFLECTIONS IN LANDSCAPE ARCHITECTURE

Presentation side A _ photos and drawings with short descriptive texts projected in simultaneous independent loop, black background

The initial point of the research, which is at an early stage, is a practice-based, empiric observation of an earth-mound placed in the middle of an area for an urban park to be realized in Tessin, Switzerland, during a preliminary site building survey. This encounter constitutes the beginning of my investigation on moving ground actions in landscape, starting from the personal design experience as landscape architect by considering dropping, digging, excavating, filling, carving, mass grading, sloping, contour-bunding, founding actions and recycling earth practices.
Photographs, drawings and short descriptions in narrative-poetic prose are used as tools to underline initial statements and spatial considerations between wonder and consciousness, memory and imagination, that would shine a light in the spatial process of moving earth and in its potential inside landscape.

Presentation side B _ primary argumentation and open questions on research topics, photos and text in white background-

Earthworks recently re-enter in our esthetic, ecological, material perception, for example as "Sculptures in the Expanded Field", thanks to Land-art or to Drosscapes, but since ancient human history the process of re-shaping the land with earth has had deep symbolic and founding implications for architecture and wide sacred, social, artistic, political, economic effects for metropolitan, urban, rur-urban, agricultural life. Starting with a firsthand observation from the inside of an on-going landscape project, that redesign the topography of the sites by moving and recycling earth, the research successively interlaces contextual realized study cases as evidences of innovative and creative thinking with theoretical patterns. Crossing the borders between a perspective on ecology, proceeding trough the exploration on methodologies in designing and representing moving ground in landscape, the research investigates on how moving ground actions could be part of landscape architecture design practice and of a renewed sublime (collective) imagination.



JAVIERA GONZÁLEZ ZARZAR

THE ARCHITECTURE AND LABOR OF THE ATYPICAL PLAN. CHILE 1980-2010

The primary objective of this doctoral project is to develop the concept of the atypical plan, an idea that has been overlooked by the discipline, both as an independent concept and as a counterpart to the typical plan, a concept mentioned by Koolhaas in 1995.

The typical plan has been the concept mostly developed and has been taking as a design paradigm and as a synonym of the free plan. At the same time, the free and typical plan have been studied associated with workspaces, like the office (Ábalos & Herreros, 1992) and the factory (Vittorio; Marullo, 2014), as spaces where a capitalistic economy can be developed.

If the typical plan is associated with the development of the capital, this thesis addresses the question: How are the architecture and the labor economy developed by the atypical plan? The thesis will take as case studies examples of Chile, where have been alternative developments to the design strategy of the typical plan.

Associated with a more extensive genealogy of buildings, within each series the case studies confront the concept of the typical plant, either with the definition of the floor plan, the construction systems, and the detail design, developing an alternative design strategy.

The case studies chosen are the “Snail” (Caracol) buildings focusing on Bandera building (1980); the fruit packing building, focusing on Packing Santa Inés (2003); and the distribution center, focusing on FASA building (2005). Taking these examples, the thesis will demonstrate how architecture has defined labor aspects with its design features.

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Javiera González Zarzar
Technische Universität Berlin

The architecture and labor of the Atypical Plan. Chile 1980-2010

Abstract

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The typical plan has been the concept mostly developed and has been taking as a design paradigm and as a synonym of the free plan. At the same time, the free and typical plan have been studied associated with workspaces, like the office (Ábalos & Herreros, 1992) and the factory (Vittorio; Marullo, 2014), as spaces where a capitalistic economy can be developed.

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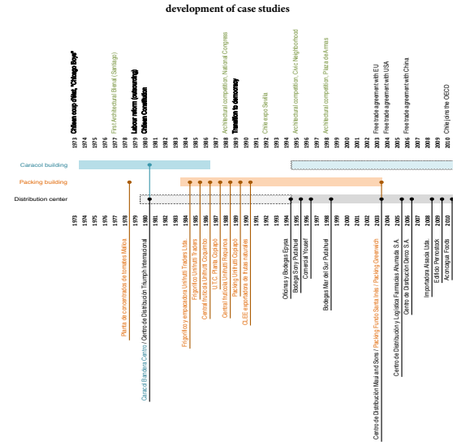
Time line
development of case studies



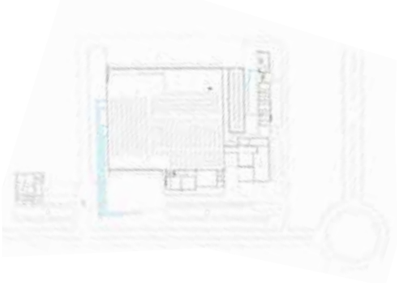
(1)

(2)

seasonal work

business shops **outsource work**

(3)



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(5)

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ARENA ELIA European Association for Architectural Education Association Européenne pour l'Enseignement de l'Architecture Technische Universität Berlin PEP PROGRAMM Nachwuchsförderung PROMOTION

KRISTOF GAVRIELIDES

SPATIAL CODE LAB

The **Spatial Code Lab (SCL)** is dedicated to research and development in the fields of architecture, computer science, media arts and design. It consists in one part of a dedicated VR/AR design environment wich allows for collaborative design development in 3D VR space and secondly of a small robotic fabrication unit which allows for the materialization of the digital design approaches into a variety of materials through the use of custom made end-effectors for additive and subtractive fabrication processes.

Spatial Code

Spatial Code is a definition that has been proposed by the author to describe the matter of research. Spatial Code is hereby a system of rules being developed, that allow for the translation between virtual and physical conditions and vice-versa. It therefor allows for the description and creation of digital-physical hybrid materials, objects and spaces.

Open Laboratory

The minimized and mobile setup allows for a flexible, fast and straight forward approach to the thematics of Virtual Reality, Collaborative Design, Spatial Coding, Robotic Fabrication, Digital Materials and Computational Design. The laboratory is conceived as an open lab, that can be easily experienced by the visitor in „exhibition mode“ as well as being used professionally by experts. The SCL opens up the disciplinary and technological boundaries of computer science, media art, design, architecture and robotic fabrication to a wider audience and instantly creates a place of production, experimentation and exchange. It therefore helps to translate the inherent questions of todays technologic design approaches into cultural terms for a broader audience.

Digital - Physical Design Feedback Cycle

Through the simultaneous development of physical and digital design strategies with the interaction and participation of a broader public and computational design methods the lab allows for a more comprehensive design feedback cycle. This cycle consists of two interconnected areas, computer simulation in an sensoric VR environment and materialization and fabrication in a robotic environment, to allow for the research and development of what is called spatial code.

The **Spatial Code Lab** was first presented as part of the participatory exhibition **Open Codes** at the **ZKM** in Karlsruhe in 2017-18. Conceived during a residence at the **Cité International des Arts**, Paris in 2017, it received funding by the **Ministery for Science, Research and Art,** Baden-Wuerttemberg, the **ZKM**, **Center for Art and Media** and the **Academy Schloss Solitude**. It currently resides at the **State Academy of Art and Design - ABK** in Stuttgart, Germany.

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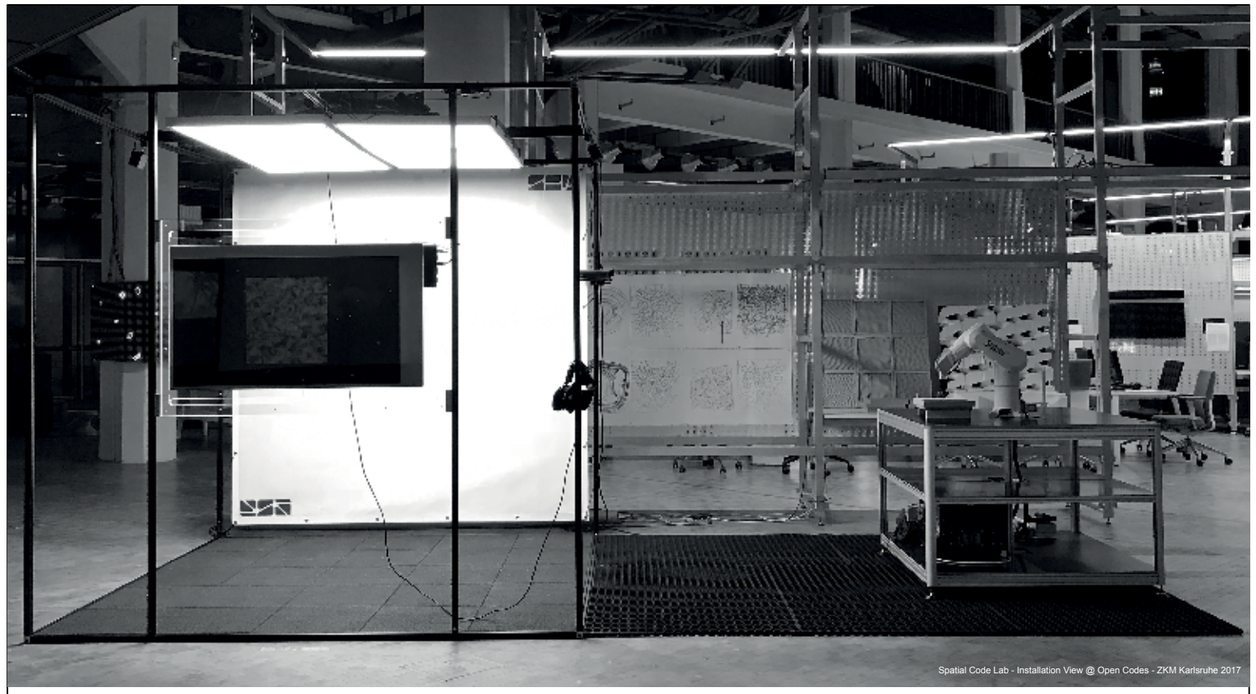
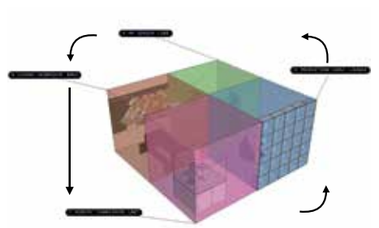
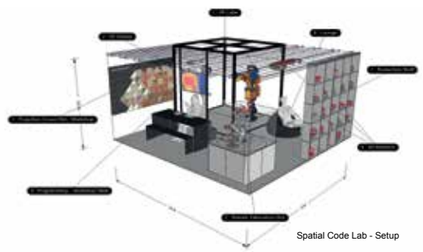
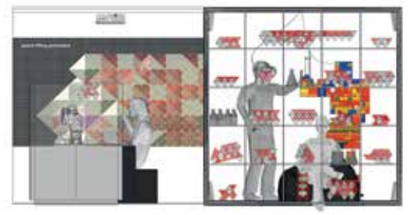
Name Kristof Gavrielides
Institution State Academy of Art and Design, Stuttgart

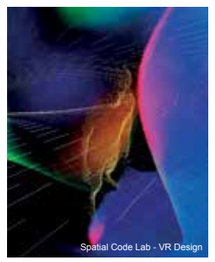
Title Spatial Code Lab


Spatial Code Lab - Installation View @ Open Codes - ZKM Karlsruhe 2017


Spatial Code Lab - Design Feedback Cycle


Spatial Code Lab - Setup


Spatial Code Lab


Spatial Code Lab - VR Design


Spatial Code Lab - Drawing

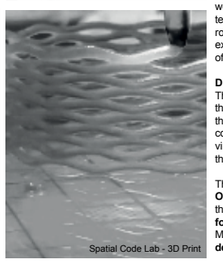

Spatial Code Lab - Drawing Process


Spatial Code Lab - 3D Print


Spatial Code Lab - Robotic Fabrication


Spatial Code Lab - Milling


Spatial Code Lab - Hotwire Cut


Spatial Code Lab - 3D Print

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ARENA ELIA European Association for Architectural Education Technische Universität Berlin PEP

MAJA ZANDER

AGENCIES IN ARCHITECTURAL BECOMING –

INTERMEDIAL AND CROSS-AESTHETICAL TRANSPOSITIONS

How can different aesthetic practices inform and challenge each other? This project addresses the architectural drawing as a process articulating spatial thinking. It inquires agencies in architectural becoming through operational drawing. Through iterative series the project investigates how intermedial and cross-aesthetical transpositions work as an operational resource in the architectural process. This investigation operates a transition between medial forms of articulation to incept new forms of spatial construction.

Aesthetic practices, and the media they deploy, produce relations and events. The project examines how the specific media of text, drawing and photography articulate relations and events, and how the act of translation contributes to reformat time-space configurations.

The investigation is premised on the identification of a set of specific medial parameters. For the text: enunciation and scene; for the analogue drawing: layers and transparency; and for the photograph: framing and light. The textual inquiries situate the work, based on a literary text, and on a reflection upon its relations to other media. Focus is on the relationships between structuring parameters, and on how the text establishes a contextual situation.

The subject of the drawing is derived from the text as the contextual framework of the drawing, not defined as a geographical place, but as a space of material and immaterial structures. The purpose is to investigate how the drawing as a relational diagram in interaction with the photograph enables a juxtaposition of heterogeneous topologies: social, spatial and temporal relations.

The photographic series has the drawing as its object and investigates how montage of photographs enact relations and events. Based on the process of the analogue drawing and its successive layering, a series of photographic fragments of the drawn plan is presented. The series explores the initial textual act: the variance of what is experienced and what is experienced through.

The project develops this material to inquire how medial affordances configure events based on different sets of relations. The generative logic of the differences propels the process by exploring the different modes and powers of significance imbuing each medium, questions of both temporality and spatiality, matters of time, space and place are at work.

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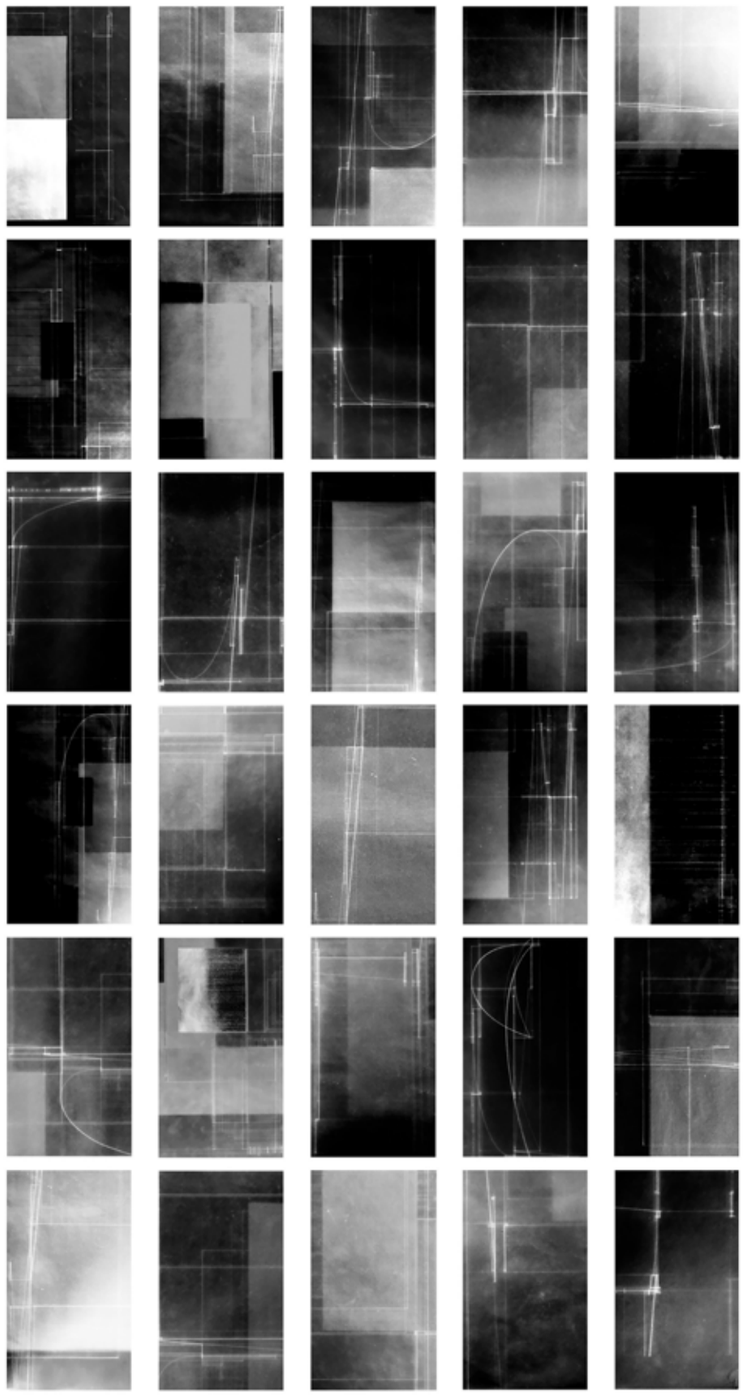
Maja Zander Fisker
The Royal Danish Academy of Fine Arts, Schools of Architecture, Design and Conservation

Agencies in Architectural Becoming – Intermedial and Cross-aesthetical Transpositions



Montage of photographic fragments, You Wouldn't Have Known Her, MZ

Agencies in Architectural Becoming – Intermedial and Cross-aesthetical Transpositions

The presented work is part of an ongoing practice-based research. It consists of two related elements: 1. a recent investigation of intermedial and cross-aesthetical transpositions, and 2. the preparation of a PhD-project based on this material.

1

The artistic investigation has the working title *You Wouldn't Have Known Her.*

" You wouldn't have known her, you'd have seen her everywhere at once, in a hotel, in a street, in a train, in a bar, in a book, in a film, in yourself, your inmost self...". So they go, the opening lines in Marguerite Duras' 1982 book of prose, *The Malady of Death*. Opening a possible time and space within a specific textual situation, they evince the possibility of every imaginable time-space.

The investigation is premised on the identification of a set of specific medial parameters. For the text: enunciation and scene; for the analogue drawing: layers and transparency; and for the photograph: framing and light.

The textual inquiries situate the work. They are based on Duras' text, and on a reflection upon the text's relations to other media. Hence, the relationships between structuring parameters, e.g. exchanges between personal, auctorial and meta-commenting levels, and textual and para-textual syntaxes are investigated. These investigations focus on how the text thereby establishes a contextual situation. The text constitutes a field of time-space through the relations of the pronouns that work as agents causing a movement, and through the events driven by the relations.

The subject of the drawing (the plan) is then derived from the text; the text is the contextual framework of the drawing. This context is not defined as a geographical place, but as a complex situation - a space constituted by a manifold of material and immaterial structures - which instigates the focus of the drawing as a relational diagram, a map of relations between forces. Every photograph emerges from a relational encounter. The purpose is here to investigate how the drawing in interaction with the photograph enables a juxtaposition of heterogeneous topologies: social, spatial and temporal relations. Working with transparent layers, the time-space of the drawing is developed through the horizontal order of the plan, informed by the events and relations of the context, and the movement within the vertical layering. That entails a re-establishment of the horizontal order, a correlation of the plan and the contextual set of relations.

The photographic series has the drawing as its object. The photograph as incision in the world functions as a singular event. The project investigates how assemblages of photographs distributed in montages enact relations and events. Based on the process of the analogue drawing and its successive layering, the project presents a series of photographic fragments of the drawn plan. The series works as another act of translation, bringing new meaning to what is no longer represented as a whole. The series thus explores the initial textual act: the variance of what is experienced and what is experienced through. The photograph here works as an incision in the layered drawing, and together these incisions form the montage: a continuity with an intrinsic discontinuity – a new gathering or reenactment of sets of relations – another time-space modulation.

In each medium a new place is revealed, and here 'place' is not a matter of metric sizes, as much as a set of relations. A new situation. It is, however, in the transitions between them the medial affordances become generative as time-space modulations.

All the phases of this process, within the different media, can be considered consistent in themselves, but there is also a desire to consider them as *related.* The awareness of the medial differences and their interference permits a return to each stage of the process, not as a distant trail, but as situations, as a fall through them, and as new constellations of appearance. New spatial constructions.

2

The PhD project investigates the potential of reflexive processes in the creative practice of architecture. It addresses the architectural drawing as a transformative drawing practice and examines the processes of time-space modulation it entails. The project inquires agencies in architectural becoming through operational drawing derived from the artistic work presented above. The purpose is to operationalize these inquiries in a didactic practice. Thereby the questions are posed: how can different aesthetic practices inform and challenge each other? And, how can a reflexive learning be ensued from the creative practice?

Aesthetic practices have distinct modes of expression, generated through their particular material articulations. This means, according to Deleuze, that any articulation is always already engaged in and inseparable from its specific mode of expression. Aesthetic practices differ in agency – in media, techniques and technologies; therefore, a concern - *a problem* - can be shared, but it materializes in different ways when it is treated within different disciplines. By identifying specific medial affordances and modes of expression, this project explores the importance of the discontinuities that arise in the process due to medial shift.

The project is based on four theoretical assumptions that are relevant to the inquiries, pertaining to 1st drawing, 2nd mediality, 3rd translation and 4th topology.

Architectural drawing as reflexive, producing medium. The project is based on theories of the architectural drawing as cartography, notation system, and as a diagram relating to its object through operational equality. This is aimed at investigations of the transformative drawing practice, i.e. how the drawing works as a trans-medial translational form and how the translation works back in the drawing.

Mediality as affordance. Any photograph refers back to a photographic situation, which is reflected in the relations of the photograph, says Azoulay. The photographic situation is constituted by the relationship between the event initiated by the photographer and the object of the photograph, and the event encompassing the object of the photograph and the spectator. The hypothesis is that this insight applies generally to the way in which medial affordances generate significant relations. Thus, it is necessary to investigate how medial affordances configure events based on different sets of relations.

Translation as a dynamic chain passing through different formats. Architectural becoming in the transformative drawing practice is a process of translation encompassing differences as vehicle for transformation. The translation transforms medial properties and influences the organization of relations and events. In this project, focus is the function of translation between text, drawing and photography.

Becoming as topological movement. The topological process is defined by operating through a transformation of experiences, relations and events that create possible new situations through a material without reducing it to representation. This also forms a methodological framework for the project, as the transformative drawing practice is addressed as a topological process that articulates spatial thinking. The topology thus refers both to the inquiry process and to the imagination of actual time-space that can contribute to meet the societal challenges facing the architecture, and create innovative architectural proposals.

On this backdrop, the hypothesis is that there is a reciprocity between agencies in architectural becoming and the learning ensued from the creative process: that aesthetic practices are imbued with a didactic potential to strengthen the reflexive process of creation. The project aims to contribute to create knowledge of this potential to articulate an aesthetic didactic and develop reflexive methods.

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MANIA LOHRENGEL

ECO WITHOUT „JUTE“

The preoccupation in PEP1 made it clear to me that my designs have a strong relation to my personal background to a large extent out of my origin. The focus is on two aspects: 1. the aesthetics and the Lebensgefühl of the pre-Alpine baroque opulence.
I am fascinated by the interplay between seriousness and cheerfulness, gravity and lightness, densification, staggering, exaggeration, bright colours, brilliance, beauty and the aspect of artificiality.
2. as a child of the ecological movement, sustainable action in relation to the environment is important to me. I incorporate a high degree of eco aspects into my work as a landscape architect. Along with this I criticize why eco must always look like eco. With this I mean an aesthetic that is perceived as ecological without being forced to be so. It manifested itself in traditional images of naturalness, natural purity, without technology, untreated, raw, pure, earthy, etc. and was created in the 70/80s under the impression of acid rain, environmental destruction, etc. by the eco movement. In short, I name this Jute as a reference of the slogan, Jute statt Plastik of this time (use a bag made of jute instead of a plastic bag).

In addition, I deal with three other topics that accompany me in my work:
- Impossible plants, to put easy-care plants of the 70s into new contexs.
- Visual arts as a source of inspiration
- The ecological principle of safe sites, which describes places where living conditions are better than in other places.

In the analysis of my designs, these references can be found as lines in the work. I try to develop landscape arch. designs that have a high degree of ecological relevance. There are ones that focus on ecological storm watermanagement, evaporation as an influence on microclimate, stability through biodiversity, measures to attract birds or insects and places as outlets for humans as part of ecology. I implement small-scale, compact places as a refuge in the overall design system. These are usually very different from their mostly urban surroundings, playing with design principles of baroque, graduation, abundance and opulence. Designs are created that combine ecological aspects with a wide range of uses and a high plant density.

The manifestations of my designs are not accidental but arise from an attitude to design lush, multi-layered aesthetic places that have an ecological relevance. In my opinion, in the increasing density of cities, the challenges of climate change and the burdens that confront urban people, it is important to build well-designed open spaces with ecological relevance, which, without the traditional expression of ecodesign but with abundance and richness that go beyond an ecological fulfilment of purpose or see ecological projects as a purely engineering achievement separate from a landscape architectural design.

Keywords
• findings for new landscape architectual designs with a high degree of ecological relevance.
• playing with design principles of baroque, graduation, abundance and opulence.
• Impossible plants, to put plants into a new context that have fallen into oblivion and are typical of easy-care gardens of the 1970s.
• to design with the ecological principle of safe sites

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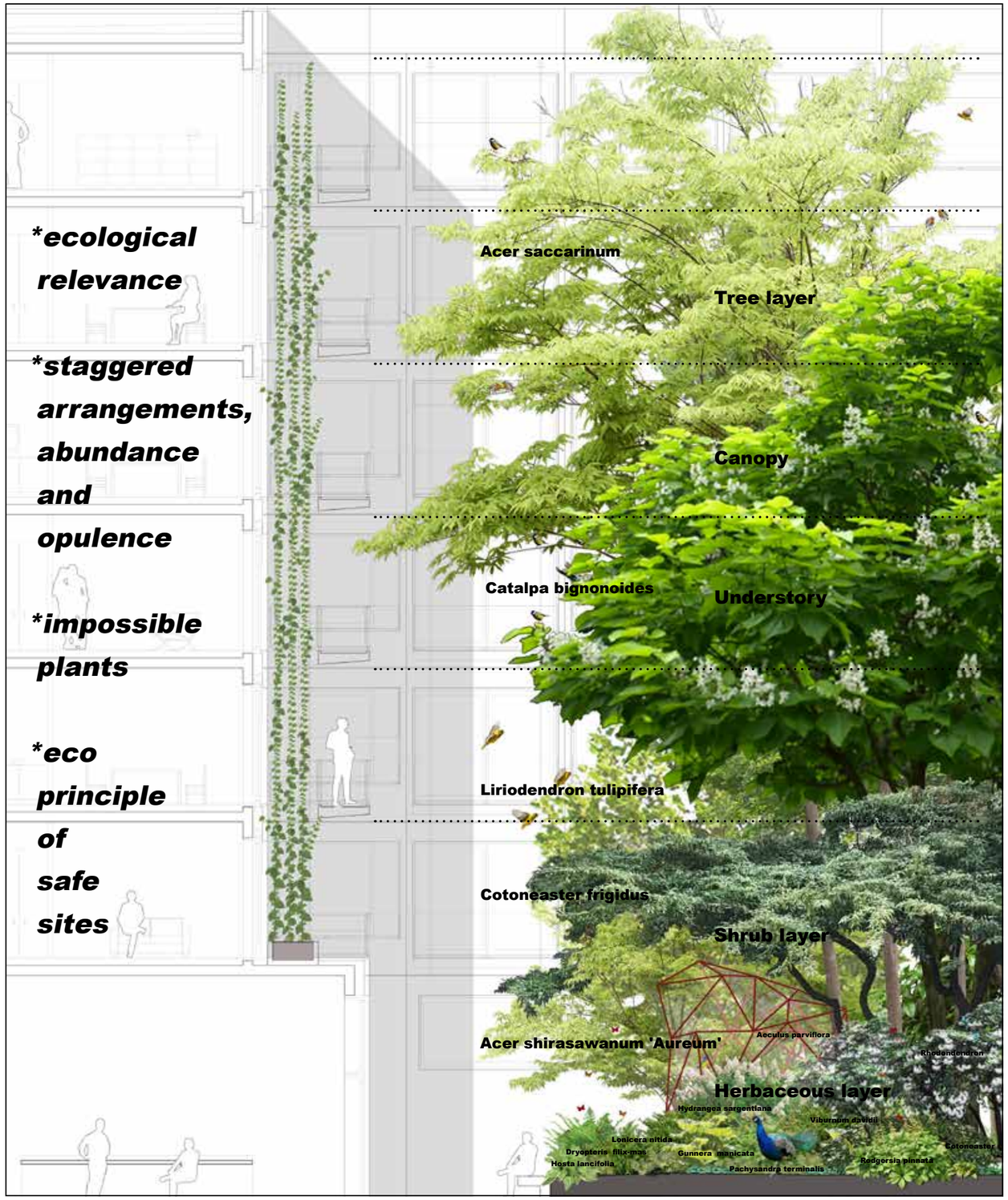
Mania Lohrengel
LOHRENGEL LANDSCHAFT

Öko ohne Jute



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JOHN MC LAUGHLIN

CONSTRUCTING A POSITION

At the CA2RE Conference in Ghent in 2017 I presented a paper titled *PhD by Prior Published Work – A Case for Appropriation*, outlining a PhD that would develop a position between the conservative attitude to research that values explicit knowledge, and the liberal one where researchers reflect on the tacit knowledge embodied in their work. In the paper I referenced an essay by Julia Williams Robinson titled *The Discipline of Architecture* where she distinguishes between tacit and explicit knowledge and teases out the tensions between these two different conceptions of knowing, positing an *"Integrated Paradigm"* where the two approaches would be synthesised to their mutual benefit. She argued for an approach that was more grounded in the social and technical realities in which it operates citing the infamous destruction of the Pruitt-Igoe social housing project is St Louis, Missouri in 1972 –

"The critical questions that Pruitt-Igoe raised about the discipline of architecture could have served to expand its boundaries to include the social, economic, and political issue of understanding the needs of the poor. Instead, the discipline's boundaries remain the same, with such problems defined as outside its primary domain."

While more recent theorists have moved towards a social theory of architecture, this movement has generally been at the expense of the technical expertise through which the profession of architecture gains its legitimacy. This paper will draw on the work of Bruno Latour to construct an alternative approach where the social agency of architecture is developed through technology and construction.

Prototype and Manifesto

In the course of researching a history of modernity in Ireland I studied the technical details of projects over a century of modernisation. One of the conclusions reached was that the construction detail was an essential component of different statements of modernity at different points in history. Many projects have details as prototypes – bespoke responses to performative aspects of the project that explicitly manifest the intentions of the architects. This is consistent with the practice in philosophy of appropriating the language of construction to express abstract ideas and points to a different way of conceiving of the architectural detail – not as a linguistic construct – but as the manifestation of a social intention. This reading of technology links construction to wider social projects and practices and offers a principle to follow in the expression of architectural design.

Keywords – Architectural detail ; Tacit knowledge; Theoretical Position; Explicit Knowledge; Integrated Paradigm.

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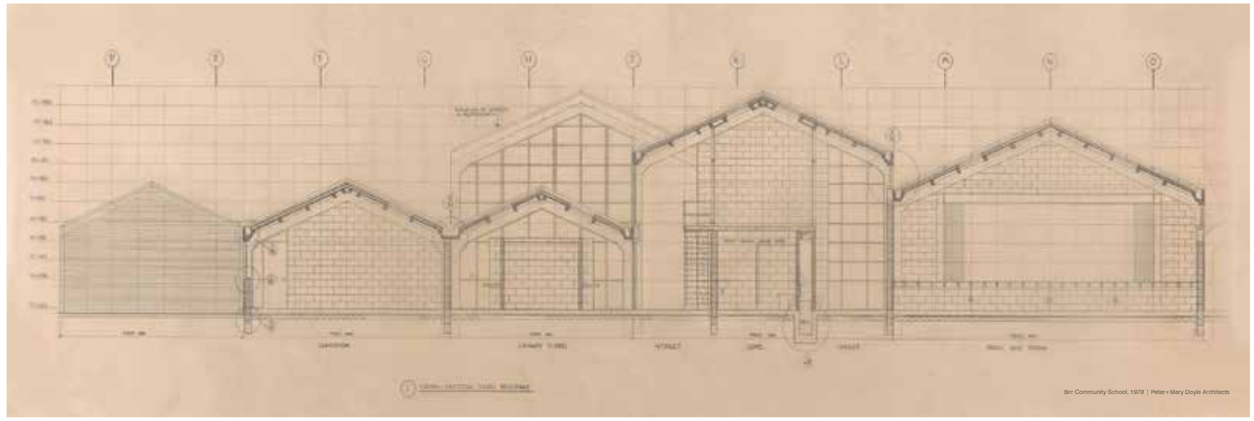
John McLaughlin
University College Cork

Constructing a Position - Prototype and Manifesto



Birr Community School, 1979 | Peter+Mary Doyle Architects

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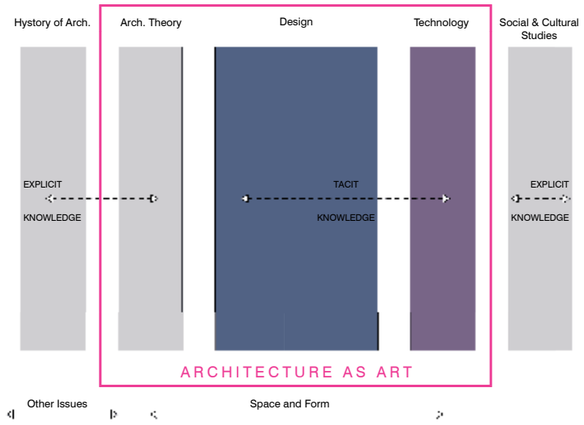

Revised Disciplinary Diagram
After Julia Robinson + Bruno Latour

PROTOTYPE AND MANIFESTO

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One of the conclusions reached was that the construction detail was an essential component of different statements of modernity at different points in history. Many projects made details as prototypes – bespoke responses to performative aspects of the project that explicitly manifest the social and artistic intentions. This is consistent with the practice in philosophy of appropriating the language of construction to express abstract ideas, and it points to a different way of conceiving the architectural detail – not as a linguistic trope – but as the manifestation of a social intention. This reading of technology links construction to wider projects and practices and offers a principle to follow in the expression of architectural design.

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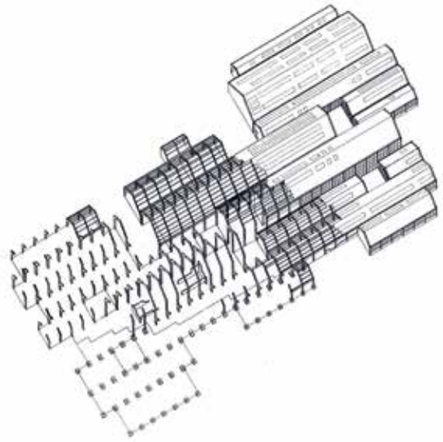

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TIAGO MOLARINHO ANTUNES

PROPOSRTION AND METRIC SYSTEM IN THE PORTUGUESE BUILDING TRADITION

I live at Lisbon in Portugal, my name is Tiago Molarinho Antunes and I have a deep interest in the diversity of materials that create the quality of function in the building's spatiality, particularity in the interior on heritage-built architecture. My academic curriculum show's same of my eclectic understanding's in the different aspects of design, building styles or methods that architecture profits, from the is initial concept to the lines of is on life.

The actual PhD research on Proportion and Metric Systems in the Portuguese building Tradition on Manor Houses in Lisbon (1640-1755) began in my Degree in Interior Design, but in some way, all my academic interests and projects where I've worked as a scholar, enriched the present research. The principal objective of the PhD is to create knowledge on the study of the metric systems used in the design and construction of heritage buildings between the17th and 18th centuries. To analyze the principles of geometry, in the regularity, order and proportion, contained in the building's morphometric composition, we expect to answer the question: What is the function of proportion in the function on architecture? [1]

By analyzing this evolution in the architectural structure, we'll have a reflected model of the architectural primitive design, and therefore, useful for the comprehension on the history of construction in architecture. It is our intention that this knowledge may provide a balance in the design and construction for new interventions, as well as is safeguard and conservation, integrated into the architectural built heritage. The principal goal of this research is to understand the relations of proportions between different scales in the interior architecture and create a new harmonic structure for future architecture spatiality.

The methodology chosen for this analysis, takes the buildings surveying are the main source of knowledge. The secondary sources of this analysis are four manuscripts transcribed in this research. Documents of architecture probably copies done in the 18th century, but very important to understand what kind of architectural knowledge would have an architect or a master mason to build a Manor house in Lisbon at that time. The documents whose dates are between 1579 and 1661 are a legacy of Portuguese architects.

Keywords: Function, Proportion, Manor Houses, Building Tradition.

1 A special thanks to Professor Eduard Fürh, Professor Margitta Buchert, Professor Arnaud Hendrickx, and Professor Donatella Fioretti.

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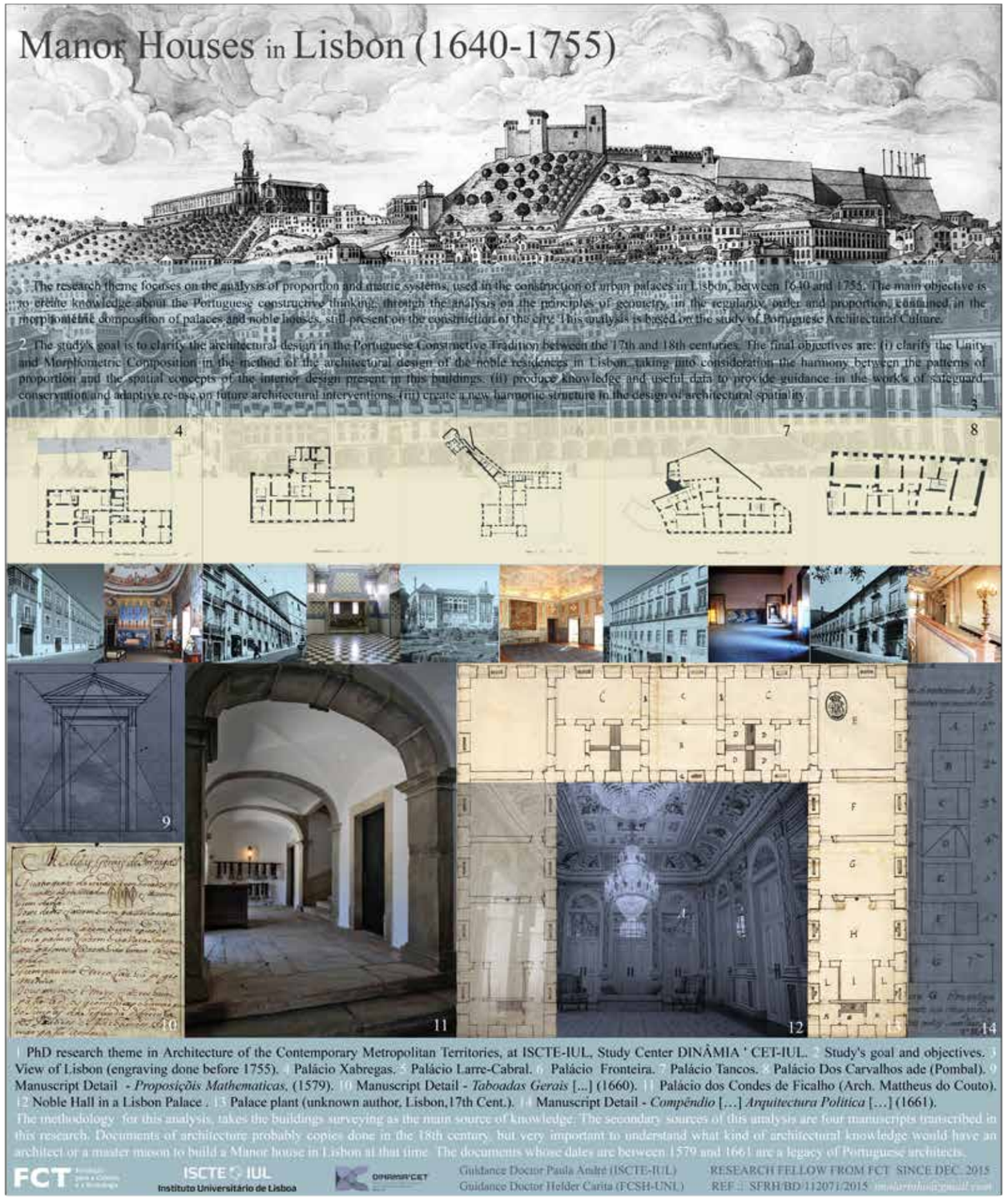
Tiago Molarinho Antunes
ISCTE – University Institute of Lisbon . DINÂMIA'CET . PORTUGAL

Proportion and Metric Systems in the Portuguese building Tradition



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UWE RIEGER (ARC/SEC LAB)

REAL TIME REACTIVE ARCHITECTURE - A FUSION OF PHYSICAL MATERIALITY AND DIGITAL INFORMATION

Rapid advancements in the sector of real-time computing, digital spatial technologies and mixed reality display devices enable designers not only to make data spatially visible, but also to connect digital information with physical properties. Research institutions, such as the MIT Media Lab, have been laying the ground for concepts to merge data with matter. Our desire and fascination to re-connect the digital world to the multimodal human senses finds its reflection in latest gaming technology. The entertainment center, 'The Void` for example, combines VR technology with passive and active physical components to offer a new Hyper Reality experience.

With a focus on architectural applications, the research on responsive environments at the arc/sec Lab for Digital Spatial Operations at the University of Auckland explores concepts for a new condition of buildings, which use data as a dynamic construction material. Specific to the Lab`s approach is the development of large-scale interactive installations as the driving vehicle for both, the exploration of tactile data and the demonstration of real time responsive environments. The aim is to develop real time Reactive Architecture as a fusion of digital information, physical materiality and construction. The underlying research question investigates functional, programmatic and aesthetic design parameters for haptic-digital architecture and its user interfaces.

Keywords: Reactive Architecture; tactile data; real-time architecture; haptic-digital environments; immersive environments

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Uwe Rieger
arc/sec Lab, the University of Auckland
Real Time Reactive Architecture - A Fusion of Physical Materiality and Digital Information

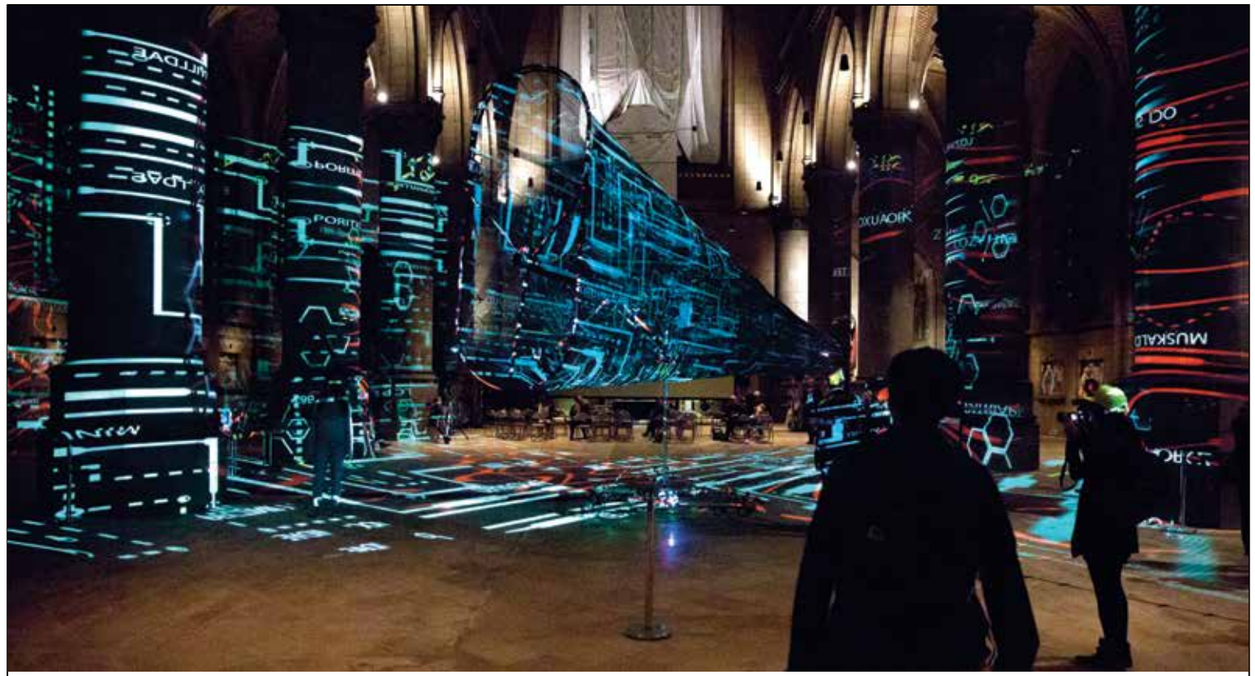

Fig. 1

Fig. 2

Fig. 3

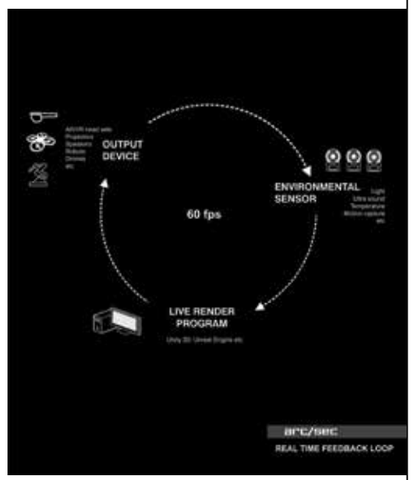

Fig. 4

Rapid advancements in the sector of real-time computing, digital spatial technologies and mixed reality display devices enable designers not only to make data spatially visible, but also to connect digital information with physical properties. Research institutions such as the Tangible Media Group at MIT Media Lab have been laying the ground for concepts to merge data with matter in order to re-connect the digital world to the multimodal human senses[1]. From commercial side the desire to go beyond audio-visual presentation of data finds its reflection in latest gaming technology. The entertainment center, 'The Void` for example, combines VR technology with passive and active physical components to offer a new hyper reality experience[2].

The research on Real Time Reactive Architecture explores architectural applications of these strategies and technologies. The aim is to develop new conditions of buildings, which integrate data as a dynamic construction material. Core principle is the 1:1 calibration of physical and digital design. Both components are interlinked through a feedback loop consisting of three elements: a sensor system to monitor the physical environment, a real time processing system and digital output devices (Fig.4).

The topic is investigated through creative practice. Large-scale prototypes and interactive installations (Fig.1-3) are the driving vehicle for both, the exploration of tactile data and the demonstration of real time responsive environments. The underlying research question investigates functional and aesthetic design parameters for haptic-digital architecture and user interfaces.

Fig. 1 LightScale II generates a tactile data experience through projections on multi-layered mesh surfaces. (It combines a virtual environment with a 20-meter long carbon fiber construction, which freely oscillates in space (Photo by T. Mesic)
Rieger, U. *LightScale II*. 2017. Mixed media, 28 x 28 x 6 m, Cathedral Linz, Austria

Fig. 2 LightTank is an interactive cross reality installation that augments a space frame structure with holographic line drawings using an anaglyph projection technology on transparent screens. (Photo by author)
Rieger, U. & Liu, Y. *LightTank*. 2018. 8 x 8 x 6m, Ars Electronica Festival, Austria

Fig. 3 SINGULARITY blends data, dance, music and architecture in an interdisciplinary mixed reality performance. Marked with tracking devices, 3 dancers transform physical movement into mutable architectural volumes of illuminated haze particles. (Photo by K. Simon)
Rieger, U., Brown, C., Liu, Y., Soudan, J., Scoones, R., & Miao, Y. *SINGULARITY*. 2016. Mixed media, 14 x 14 x 5 m, Q-Theatre, Auckland, New Zealand

Fig. 4 Technical principle of Real Time Reactive Architecture (Drawing by author)

1. MIT Media Lab. "Group Overview ‹ Tangible Media – MIT Media Lab." https://www.media.mit.edu/groups/tangible-media/overview/.

2. THE VOID. "Step Beyond Reality." www.thevoid.com/.

ANNE METTE BOYE

YOUNGER INDUSTRIAL ZONES AS NEW EXPERIMENTAL AREAS FOR URBAN INNOVATION

Walks, mappings, and interviews show that the activities in younger industrial zones in Denmark are much more complex than the mono-functional enclaves planned. The areas represent a legacy of the functionalistic paradigm, which creates the morphology of the urban landscape built from the 1950's onwards but is not considered a part of the cultural aesthetic understanding of the city. The current transformation is rooted in social, political and economic dynamics, difficult to predict, often shaped on a global level, yet with a strong local impact.

The mappings are inspired by the five objectives developed by Tom Nielsen, Thomas Clemmensen, and Morten Daugaard in the article: Qualifying urban Landscapes (2010): Appropriation, cohabitation, diversity, connectivity, and porosity. They are conducted in three different urban situations and reveal the areas different qualities and a diversity of people, activities, biodiversity and local entrepreneurship that may not be seen at first glance and would be difficult to find space for elsewhere.

The idea is that portraying the actual situation of the areas and qualities are a crucial asset in this transformation process. It also focuses on dynamics between the actors (human and non-human) and the possibility of creating collaborations between the actors with a focus on future urban common qualities. This can be a way to address uncertainty and open the opportunity of the areas to become an important asset in the future biodiversity, experiences of nature and economies of towns, the labor market, innovation, and civilian diversity.

The poster develops a deeper understanding of one of the preliminary findings. The one that these areas seem to give spaces for new kinds of urban entrepreneurship and experiments. Awareness of this capacity addresses the question of how to plan for these areas in the future.

The finding is learned through three case studies in different urban situations. They are discoveded through site-walks, mappings, and interviews. These data show that the area's activities are much more complex than just traditional production. The registered activities are diverse and include e.g. dance projects, karate clubs, senior communities, yoga and massage, a used good marked, a fitness center and a local brewery. This kind of change of industrial areas from being areas of production to new kinds of neighborhoods is seen before. Often the changes are initiated by artists, and later the area goes through gentrification establishing it as a new stable area in the city. But unlike these former examples, the younger industrial areas have something else is at stake. It is not attracting artists or the creative class, but rather a wide range of local entrepreneurs with broad background and profile. Also, instead of being appreciated, these initiatives are often regarded by the planning authorities as mistakes and need dispensations from the regulations as the areas are designated for more traditional production. However, taking this position might miss that these areas have already changed and that they could be seen as a free zone for experiments for local citizens and entrepreneurs with everyday dreams.

It is therefore not just relevant to create a portrait of the current actual situation, but also to discuss the conflicts between the qualities of the existent and the possibilities of the new. The arguments take the point of departure in Michel Foucault's notion of heterotopia and the notion of porosity developed by Paola Vigano and is supported with tests of different design strategies.

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Anne Mette Boye
Aarhus School of Architecture

Younger industrial zones as new experimental areas for urban innovation

What is at stake? Everyday dreamers create new activities in young industrial zones. This calls for new design strategies

The industrial zones in western cities represent a legacy of the functionalistic paradigm, which creates a large part of the morphology of the postmodern urban landscape built from the 1960's onwards. The industrial zones have been considered important for the local and national economy, but is not commonly considered a part of the cultural aesthetic understanding of the city. The zones have different characters depending on the time of planning and geographical placement. The ones we are looking into here have the following in common:

- The municipality planning documents them as 'Industrial zones'
- They are usually constructed between 1960 and 2000
- Geographically they are placed in the first or second ring from the historical inner core, at a distance of typically 1-3 km, depending on the size of the city.
- Unlike previous industries, the industrial areas are not connected to topography or natural resources, but linked to infrastructure
- They often embrace many smaller industries with local owners, sometimes with one or two dominating industries
- The typology is typically light constructions warehouses and workshops, often with a smaller administrative office.

Walks, mappings, and interviews conducted in three different urban situations show that the activities in younger industrial zones in Denmark are much more complex than the mono-functional production and warehouses planned. The registered activities are diverse and include e.g. dance projects, karate clubs, senior communities, yoga and massage, a used good marked, a fitness center and a local brewery.

This kind of change of industrial areas from being areas of production to new kinds of neighborhoods is seen before. Often the changes are initiated by artists, and later the area goes through gentrification establishing it as a new stable area in the city.

But unlike these former examples, these younger industrial zones have something else is at stake. It is not attracting artists or the creative class, but rather a wide range of local entrepreneurs with broad background and profile.

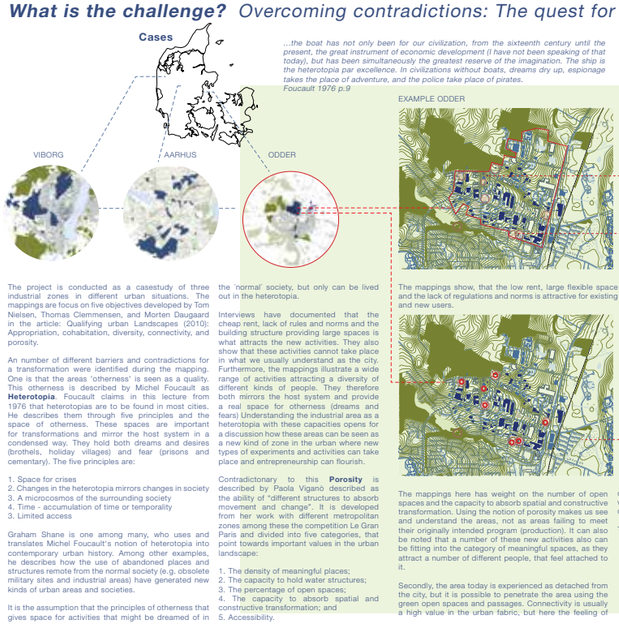
However, instead of being appreciated, these initiatives are often regarded by the planning authorities as mistakes and need dispensations from the regulations. However, taking this position might miss that these areas have already changed. The zones qualities and a diversity of people, new type of activities, biodiversity and local entrepreneurship that may not be seen at first glance and would be difficult to find space for elsewhere.

The current transformation is rooted in social, political and economic dynamics, difficult to predict, often shaped on a global level, yet with a strong local impact.

Unlike former industrial areas in transformation are not primerally attracting the creative class and artist. The new activities are more related to business, NGO, sports and and local social entrepreneurship

These new unplanned activities calls for a portraying of the actual situation and of the areas qualities. The portrait also focuses on dynamics between the actors (human and non-human) and the possibility of render collaborations between the actors with a focus on future urban common qualities. This can be a way to address contradictions, uncertainty and open the opportunity of the areas to become an important asset in the future biodiversity, experiences of nature and economies of towns, the labor market, innovation, and civilian diversity.

What is the challenge? Overcoming contradictions: The quest for porosity (the new) vs. the quality of a heterotopia (the existing)



...the boat has not only been for our civilization, from the sixteenth century until the present, the great instrument of economic development (I have not been speaking of that today), but has been simultaneously the greatest reserve of the imagination. The ship is the heterotopia par excellence. In civilizations without boats, dreams dry up, espionage takes the place of adventure, and the police take place of pirates.
Foucault 1976 p.9

The project is conducted as a casestudy of three industrial zones in different urban situations. The mappings are focus on five objectives developed by Tom Nielsen, Thomas Clemmensen, and Morten Daugaard in the article: Qualifying urban Landscapes (2010): Appropriation, cohabitation, diversity, connectivity, and porosity.

An number of different barriers and contradictions for a transformation were identified during the mapping. One is that the areas 'otherness' is seen as a quality. This otherness is described by Michel Foucault as **Heterotopia**. Foucault claims in this lecture from 1976 that heterotopias are to be found in most cities. He describes them through five principles and the space of otherness. These spaces are important for transformations and mirror the host system in a condensed way. They hold both dreams and desires (brothels, holiday villages) and fear (prisons and cementary). The five principles are:

1. Space for crises
2. Changes in the heterotopia mirrors changes in society
3. A microcosmos of the surrounding society
4. Time - accumulation of time or temporality
5. Limited access

Graham Shane is one among many, who uses and translates Michel Foucault's notion of heterotopia into contemporary urban history. Among other examples, he describes how the use of abandoned places and structures remote from the normal society (e.g. obsolete military sites and industrial areas) have generated new kinds of urban areas and societies.

It is the assumption that the principles of otherness that gives space for activities that might be dreamed of in the 'normal' society, but only can be lived out in the heterotopia.

Interviews have documented that the cheap rent, lack of rules and norms and the building structure providing large spaces is what attracts the new activities. They also show that these activities cannot take place in what we usually understand as the city. Furthermore, the mappings illustrate a wide range of activities attracting a diversity of different kinds of people. They therefore both mirrors the host system and provide a real space for otherness (dreams and fears) Understanding the industrial area as a heterotopia with these capacities opens for a discussion how these areas can be seen as a new kind of zone in the urban where new types of experiments and activities can take place and entrepreneurship can flourish.

Contradictory to this **Porosity** is described by Paola Viganò described as the ability of "different structures to absorb movement and change". It is developed from her work with different metropolitan zones among these the competition Le Gran Paris and divided into five categories, that point towards important values in the urban landscape:

1. The density of meaningful places;
2. The capacity to hold water structures;
3. The percentage of open spaces;
4. The capacity to absorb spatial and constructive transformation; and
5. Accessibility.

The mappings show, that the low rent, large flexible space and the lack of regulations and norms is attractive for existing and new users.

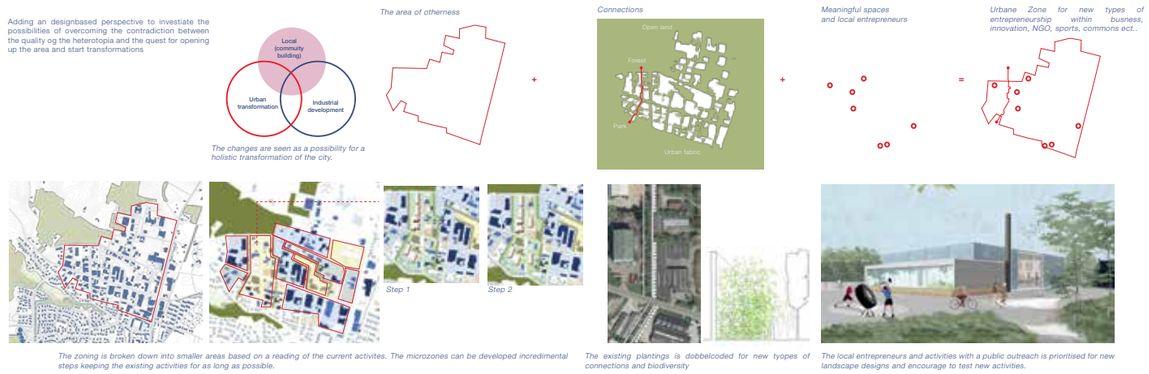
The mappings here has weight on the number of open spaces and the capacity to absorb spatial and constructive transformation. Using the notion of porosity makes us see and understand the areas, not as areas failing to meet their originally intended program (production). It can also be noted that a number of these new activities also can be fitting into the category of meaningful spaces, as they attract a number of different people, that feel attached to it.

Secondly, the area today is experienced as detached from the city, but it is possible to penetrate the area using the green open spaces and passages. Connectivity is usually a high value in the urban fabric, but here the feeling of otherness and exclusivity might be exactly what makes the area a 'boat' and a place for dreams and imagination.

The question is how?

Possible designbased answers? Microzoning, new connections and new commons

Adding an designbased perspective to investiate the possibilities of overcoming the contradiction between the quality og the heterotopia and the quest for opening up the area and start transformations



The changes are seen as a possibility for a holistic transformation of the city.

The zoning is broken down into smaller areas based on a reading of the current activites. The microzones can be developed incredimental steps keeping the existing activities for as long as possible.

The existing plantings is dobbelcoded for new types of connections and biodiversity

The local entrepreneurs and activities with a public outreach is prioritised for new landscape designs and encourage to test new activities.

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BERNARDO AMARAL

FROM THE DRAWING BOARD TO THE BUILDING SITE: HOW TO INHABIT COLLECTIVELY THE ARCHITECTURE PROJECT

The current research is centered on the study of architectural practice as a collective process, specifically as a social and labor practice. The selected focus is on architectural practices that embrace a critical revision of its production relations, by adopting diverse participatory and collaborative instruments in the design and building processes, aiming at a social and political agency of architectural practice.
The primary objective of this research is to question the possibility of renewing architectural practice through the reconfiguration of its production relations and to characterize its consequences in the disciplinary knowledge. What do architects learn from the collective process of decision? What's the impact of this process on the definition of constructive systems and spatial configurations?
Understanding architecture as a social and labor practice, requires the appropriation of research tools from the field of design and labor ethnography. The work of Bruno Latour and Albena Yaneva considers the ethnography of a social phenomenon as a network of human and non-human actors with equal relevance, a perspective which I propose to adopt in the analysis of the architecture project by considering a network of human and non-human agents (such as models, drawings, images).
The main body of this research is based on the participant observation of ongoing projects of selected practices, with the purpose of characterizing the planning tools and protocols used in the collective design processes.
One of the case studies is the collective USINA, an NGO that give technical assistance to housing grassroots movements in the area of São Paulo. In France, the work of Patrick Bouchain and his office Construire is also a proposed case study, due to the experimental work regarding the building site organization. And in Portugal, the work of the collective from Lisbon Ateliermob will be of relevance to understand the reconfiguration of production relations with public institutions.Through the description of the diverse case studies, based on a ethnographic analysis of the working methods, it is my intention to take conclusions regarding its design and building process and its contribution to the opening of the discipline to a broader public and by consequence to the enrichment of disciplinary knowledge, aiming to prove the relevance of the critical revision of production relations to architectural production.

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Name Surname Bernardo Amaral
Home Institution University of Coimbra
Research Title **From the Draftboard to the Building Site: how to inhabit collectivelly the architecture project**

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1. Architecture as a practice

Architecture as a practice has been studied by authors such as Robert Gutman (1997), Judith Blau (1984), Dana Cuff (1995) in the USA, and by Albena Yaneva (2009) in Europe, addressing mainly architecture firms of different dimensions, working within the market economy. There are, though, other practices working for non-profit organizations or grassroots movements (in Latin American countries, but also in Europe and in the USA), that experiment collaborative and participatory methodologies, aiming at a more horizontal and inclusive design and building process (Awan, Schneider, Till 2011). Some of these practices have gained a relative media exposure in the last 10 years in architecture publications and exhibitions, linked to the resurgence of the debate on the social and political role of the discipline.

2. Architecture as social and collective practice

The quest for a social architectural practice has been triggered in the 1960´s by committed architects such as Giancarlo de Carlo (1969), Lucien Kroll or John F.C. Turner, among others, who developed participatory design processes with the future dwellers of collective housing projects in Europe and Latin America (Jones 2005). In Portugal, following the Carnage Revolution in 1974, the architect and secretary of state Nuno Portas launched an innovative public housing program called SAAL, that promoted the construction of circa 170 housing projects trough participated design processes between architects and local dwellers associations(Banderinha 20007). Similar programs were also launched in Uruguay (FUCVAM) and in Brazil (FUNAPS comunitário e MCMV Entidades), linked to grassroots movements and housing cooperatives, in which architects played a structural role in the participative design processes(Vilaça, Constante 2016). With the objective of bringing architecture closer to the biggest part of the population, architects working in these contexts questioned the discipline, namely its design and communication tools and its production relations. In this realm, the contribution of the Brazilian architect and critic Sergio Ferro (Khoury 2003) and his essay "The Building Site and the Drawing" (Ferro 1976) is of major relevance, shedding a light on the gap between the design and building processes in common architectural practices. Ferro, who analyses architecture from a political economy perspective, will draw a critique of the role that architects play in the precarious labor conditions to which construction workers are submitted. Ferro's position does not end at the revision of production relations in the design process but continues into the building site. In further essays, Sergio Ferro will propose the complete revision of production relations in the design and building processes, where architects, engineers, construction workers and dwellers should work together as a team, as a collective worker.

3. Objectives and research methodology

The primary objective of this research is to question the possibility of renewing architectural practice through the reconfiguration of its production relations and to characterize its consequences in the disciplinary knowledge. What do architects learn from the collective process of decision? What's the impact of this process on the definition of constructive systems and spatial configurations?
Understanding architecture as a social and labor practice, requires the appropriation of research tools from the field of design and labor ethnography. The work of Bruno Latour(2005) and Albena Yaneva(2008) considers the ethnography of a social phenomenon as a network of human and non-human actors with equal relevance, a perspective which I propose to adopt in the analysis of the architecture project by considering a network of human and non-human agents, such as models, drawings, images (Latour, Yaneva 2008).

4. Proposed case studies

The main body of this research is based on the participant observation of ongoing projects of selected practices, with the purpose of characterizing the planning tools and protocols used in the collective design processes. One of the case studies is the collective USINA, based in São Paulo, a group of architects that give technical assistance to housing grassroots movements in the area of São Paulo, and are strongly influenced by the vision of Sergio Ferro. USINA has over 25 years of experience in this field, having planned and built thousands of houses using participatory methods with self-governed workgroups, also called as mutirões. In France, the work of Patrick Bouchain and his office Construire (Bouchain2006) is also a proposed case study, due to the experimental work regarding the building site planning and more recently in rehabilitation projects. And in Portugal, the work of the Portuguese collective from Lisbon Ateliermob will be of relevance to understand the reconfiguration of production relations with public institutions.
Through the description of the diverse case studies, based on an ethnographic analysis of the working methods, it is my intention to take conclusions regarding its design and building process and its contribution to the opening of the discipline to a broader public, and by consequence to the enrichment of disciplinary knowledge, aiming to prove the relevance of the critical revision of production relations to architectural production.


1. Villagio Matteoti, Terni, Italy, 1969 Giancarlo de Carlo © Pinterest http://architectuul.com


2. Plenary with Inhabitants from Porto during the SAAL Housing Operations, 1975. Image © Sérgio Fernandez


3. The violent labor conditions of Brasilia's building site were part of Sergio Ferro's critique on architectural practice. Image © Marcel Gautherot


4. Construction of Mutirão Juta Nova Esperança, Usina, Sao Paulo, 1994-1999 , Image © Usina CTAH

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HANNA MALIK - TROCHA

URBAN INCLUSION – CITY DEVELOPMENT ACHIEVING SYSTEMIC ACCESSIBILITY - THE COMPARISON OF THREE CITIES: GDYNIA, ŁÓDŹ, WARSAW IN POLAND.

Europe is now essentially an urban community, four out of five EU citizens live in cities
Our cities are becoming more and more congested but at the same time, we strive for more inclusive cities. How to achieve systematic accessible urban intervention that leads to a high quality of environment, public realm and public buildings? How to both drive the vision to transform a city, promote equality & inclusion and embrace the opportunity to influence and shape the communities around in the long term growth? What is a proactive approach that leads to safe and accessible environments for all members of the community: older people, people with temporary or permanent impairments, large families, parents with young children and babies, people from diverse faith groups, different cultures, people that speak different languages?

Inclusion is one the general objectives for urban policies and it has its beginning in the development of “Design for all” principles. But what are the known established design management and monitoring processes that help the municipality or any public institution to deliver the highest standards of design across all construction stages from brief to completion?

The aim of this research is to examine the concept of inclusive urban design management and formulate a set of conditions towards systemic, strategic and effective accessibility policies and management processes of urban transformation in Poland.
Hospitality, inclusiveness, accessibility, “open to all”, can contribute to urban interventions and indeed play a crucial role in urban public realm. But “Design for All” cannot be achieved overnight, it is a continuous process, and the different stakeholders must work together. The contribution can be made through combination of the harmonization and enforcement of existing laws, policies, and standards, improvements of synergies between the national and local level policies, but most importantly of commitment of inclusive design experts, panel users and decision-makers.
For a better understanding of the success behind the delivery of inclusive design I analyzed the procedures, guidance and standards set out by three Polish cities: Gdynia, Warsaw, Łódź and provided a benchmark against them by inspiring good practice case studies in London and Dublin. I searched for the question: how to guide a municipality or a project team on the principles of inclusive design, what design standards are expected to be adopted and what procedures are expected to be followed in delivering those standards? Currently in Poland the inconsistent and insufficient amount of national guidance and standards led to implementation of various design accessibility standards. The situation gets even more complicated as other municipalities continue to do the same. My initial research suggests that although these cities set up a new challenge to address and satisfy needs of clients regardless of their ability, age, the further improvements can be made in order to secure their vision and objectives and lead to more holistic and systemic approach.
While carrying the research I used the following research methods:
- correlation research including interactive qualitative research as an observer of the space;
- field research and photographs;
- case studies;
- qualities research by carrying out interviews with authors of accessibility standards, relevant municipality’s decision - makers.
The interviews are structured within the Humble method, authors Francesco Aragall and Jordi Montany based on seven interdependent success factors: 1. Decision-maker commitment, 2. Coordinating and continuity, 3. Networking and participation, 4. Strategic planning, 5. Knowledge management 6. Resources, 7. Communication and marketing.

The development based on “Design for All” should be a common goal, but to promote equalities and inclusion requires bridging the gap between the vision and delivery. The European administrative structures are already aware that significant improvements are requested at all levels of society to guarantee the quality of life. In my further stage of the research I will look for the answer what are the examples of a coherent vision to inclusion and accessibility and how to improve the existing design management processes in Polish municipalities in order to deliver the inclusive design principles in public projects?

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Conference for Artistic and Architectural (Doctoral) Research

Name Surname Hanna Malik - Trocha
Home Institution Warsaw University of Technology, Faculty of Architecture & City of Warsaw
Research Title Urban inclusion - city development achieving systemic accessibility in Poland.

1. INTRODUCTION

Creating a city that is friendly to residents should be a task for all municipal authorities.
Why only few cities can really demonstrate a coherent and ambitious vision to accessibility?

The London 2012 bid made a commitment to deliver the most accessible games ever, promote equality and inclusion and deliver new opportunities for some of the poorest neighbourhoods in London.

Opinion formers overwhelmingly see positive impactact of Olympic Games in the UK, they believe the Games were delivered well: 98% think the London 2012 Olympic and Paralympic Games have been run successfully.

CRITERIA FOR CHOICE OF LONDON OLYMPIC PARK

"The Games in London will set new standards of inclusive and sustainable design in sporting facilities, residential developments, transport procurement and service delivery. This term 'inclusive design' goes well beyond the narrow definition of ramps for wheelchair users. It encompasses the whole life experience of disabled people. Part of this process will be to change and enhance current policies and procedures and by doing so provide improved benchmarks for use by future Games organisers."
(ODA Inclusive Design Standards)

2. CHOICE OF MODEL CASE STUDY - LONDON OLYMPIC PARK

WHY OLYMPIC PARK IN LONDON?
1. High level of commitment by the decision - maker
Olympic Delivery Authority ODA was established setting up the huge challenge to transform a deprived and derelict area of East London into excellent, innovative and accessibly designed Olympic Park.
2. Strategic planning
ODA developed two revised Olympic Park Masterplans - Games & Time and a legacy transformation. In addition Procurement and Supply Chain Managment Standards, Inclusive Design Standards were developed.
3. Coordinating and continuity
ODA Access and Inclusion Advisors were appointed within the ODA Design Team.
4. Networking and participation
ODA Access and Inclusion Forum was set up to provide ongoing user and experiental feedback.
5. Knowledge managment
ODA Procurement Policy was introduced to provide effective and clear procurement process procedures.
6. Resources
ODA Built Environment Access Panel was set up to provide expert strategic and technical advice.
7. Communication and marketing
ODA Technical Forum enhances the support & organise the ongoing stakeholder consultation process.

THE HUMBLE METHOD
1. Decision - maker commitment
2. Strategic planning
3. Coordinating and continuity
4. Networking and participation
5. Knowledge managment
6. Resources
7.Communication and marketing

CITY MASTER PLAN
is a main tool of the STRATEGIC PLANNING and includes:
strategies
resources
time - schedule
coordination
concrete actions
well-defined milestones

4. METHODS

here I am

scope
- A. TRANSPORT
- B. INFORMATION AND COMMUNICATION
- C. PUBLIC SERVICES
- D. BUILT ENVIRONMENT

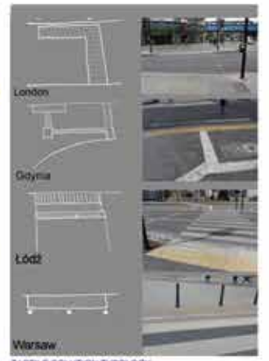
1. LEVEL OF COMMITMENT — high level of responsibility; set up strategic aims; plan financial resources
2. STRATEGIC PLANNING / MASTER PLAN — operational aims; concrete actions; cost via benefits; strategies & policies; time - scheduling (short, medium, long term); define standards
3. COORDINATING AND CONTINUITY / QUALITY & SUSTAINABLE RESULTS — appoint a commited person; setup & maintain communication; follow up strategies; ongoing evaluation & monitoring; sound structure & unit financially independent
4. RESOURCES — financial; human; technical
5. NETWORKING AND PARTICIPATION / IMPACT — promote diversity & inclusion; participation process; diversity of possible actors; measure qualitative & quantative data; clear rules of participation; involve all stakeholders
6.KNOWLEDGE MANAGMENT — sharing experience; transfer know - how; open ways; participation in local / national networking
7. COMMUNICATION AND MARKETING — strategic marketing activites; good public relations; national recognition; publish goal and communicate intentions

3. INCLUSIVE & ACCESSIBLE CITY

ONE OF CRITERIAS FOR SUCCESSFUL INCLUSIVE & ACCESSIBLE PUBLIC REALM

ACCESSIBLE ROUTE
any route that is used to access and use a place or space, which is **easy to use** (no kerbs) and **easy to navigate** through (tactile surface solutions or other alternatives ways for the users).

key areas of accessibility
A. transport
B. communication
C. public services
D. built environment



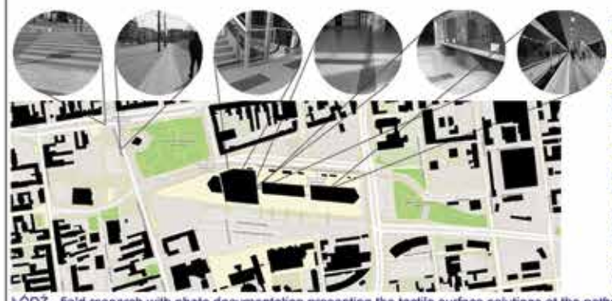
TACTILE SOLUTION TYPOLOGY

ACCESSIBILITY
buildings or parts of buildings provision of buildings or parts of buildings for people, regardless of disability, age or gender, to be able to gain access to them, into them, to use them and exit from them. Accessibility includes ease of independent approach, entry, evacuation and/or use of a building and its services and facilities, by all of the building's potential users with an assurance of individual health, safety and welfare during the course of those activities.
(ISO 21542:2011)

INCLUSION
An inclusive environment recognizes and accommodates differences in the way people use the built environment. It facilitates dignified, equal and intuitive use by everyone. It does not physically or socially separate, discriminate or isolate. It readily accommodates and welcomes diverse user requirements – from childhood to adulthood through to old age, across all abilities and embracing every background, gender, sexual orientation, ethnicity, religion or belief, and culture (i.e. protected characteristics). It helps people to live independently and participate fully in all aspects of life.
(BS 8300-1:2018)

DIAGRAM STRATEGY HOW TO ACHIEVE ACCESSIBLE AND INCLUSIVE ENVIRONMENT

carry out a situation - analysis	set up aims	create strategies	define actions & resources	ongoing evaluation
analysis	aims	strategies	actions	evaluation



COMPARISON WITH CASE STUDY ŁÓDŹ
1. Level of commitment
Dedicated unit is appointed to help the implementation of Access Standards. The Standards are inspired by the British Standards BS 8300
2. Strategic planning
No particular Inclusive Strategy applied, however Accessibility Standard are introduced in the city.
3. Coordinating and conitnuity
There are no Access Champions nominated, but projects are being monitored and verified by the municipality.
4. Networking and participation
No particular actions are introduced
5. Knowledge managment
The serious of lectures & conference were introduced
6. Resources
One unit responsible for approving the construction projects, one unit responsible for evaluation of the proposed design solutions.
7. Communiction and marketing
No particular actions are introduced

ŁÓDŹ - field research with photo documentation presenting the tactile surface solutions at the paths towards the railway station.

5. DISCUSSION

A successful inclusive urban transformation is closely related to ambitious design and innovative approach.
For a better understanding of what actually lies behind the delivery of inclusive design, I analyzed the procedures, guidance and standards set out by three Polish cities:
Gdynia, Warsaw, Łódź
and provided a benchmark against them by inspiring good practice case studies in London and Dublin.

I searched for the question:
- how to guide a municipality or a project team on the principles of inclusive design?
- what design standards are expected to be adopted?
- what procedures are expected to be followed in delivering these standards?

Currently in Poland the inconsistent and insufficient amount of national guidance and standards led to implementation of various design accessibility standards.

The expected outcome of this research is to examine the concept of inclusive urban design management and formulate a set of conditions towards systemic, strategic and effective accessibility policies and management processes of urban transformation in Poland.

Reference:
http://www.queenelizabetholympicpark.co.uk/our-story/transforming-east-london/accessibility
http://yougov.co.uk/news/2012/10/13/olympics-legacy
ISO 21542:2100 Building construction — Accessibility and usability of the built environment
BS 8300-1:2018 Design of an accessible and inclusive built environment
ODA Inclusive Design Standards

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MARTA FERNANDEZ GUARDADO

HOME: THINGS AND BODIES

Due to several social tendencies –urban densification, late emancipation, flat sharing, housing price increase, family size decrease, homeworking or job mobility among others– the personal domestic space of many young Europeans is being reduced and weakened. Different functions squeeze and overlap, sometimes even in the same room, pushing design to serve the space basically thickening and equipping its surfaces. Our belongings, furniture and equipment –sometimes very far from being present elements– program our rooms, but not so much our lives. I believe that, in this scenario, the specific design of a certain programmatic co-inhabitant specially created for each of us, could not only bring functional but also emotional missing qualities to a space. I propose to use estrangement as a design tool to translate domestic elements into characters that, once they become familiar to us, change the way we use and perceive space, and facilitate our particular way of living. I imagine these new designs as active bodies that live at home with us, do things with us and are with us in the space: specific pieces of life in dialogue with us through ceremonies that ultimately can intensify our inhabitation.

Keywords: Domesticity, Home, Bodies, Furniture, Equipment, Ceremonies, Standards

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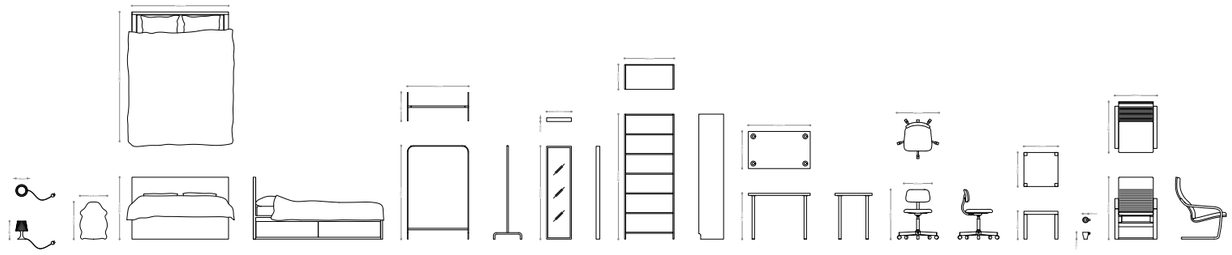
Marta Fernández Guardado
TUBerlin

Home: Things and bodies



The standard life of things
389,03

This selection of the most sold IKEA pieces is the beginning of a list of elements within the domestic landscape of many young Europeans that could have the potential of being redesigned as programmatic co-inhabitants. The combination of technical data and short stories that project my psyche into them, reflects my thoughts on the relations between design and use, between monetary value and sentimental value, and between servant element and present body, in order to be applied in particular scenarios during my practice.

Your night lamp
2,49

You only appreciatte light when it is dark. Then you look for me like crazy because I'm the one that can save you from a strumble. And as if this were not enough, I always find your glasses and your sleeping pills, I offer you water in the middle of the night, and I help you read until falling asleep. The secret is the right measure –not too much light neither too little–, an accesible switch and being able to spend the whole night awake. And at the end of the day –or better at the beggining– it all pays off, cause there is always someone willing to do that for me too.

Your carpet
24,99

Here I am, thrown and completely naked against the floor, offering you my back as a podium for your numb cold feet... And you dont even touch me with your hands! Why dont you stay with me for a little while? For you I'm just a step to jump in or out of bed –a second between taking your shoes off and cover them with the blanket–, simply a warm piece of floor to move around. But listen to this: I assure you that the day I get sick and get up, you will see my face and you will change your mind.

Your bed
149,00

I am The Queen of the Room: the biggest, the most comfortable and the center. I change clothes very often, you fill me with accessories and the rest of the furniture is around me just to serve. Here you spend most of your life, and with me you try almost everything. I am the place you never want to leave and that you always come back to. To me you bring your fauvorite girls and I am the single piece you refer to as *yours*. And even not being so different from every other bed, I am –I know– your only one.

Your clothes rack
8,99

Should I hold this for you so you can see it better? It is fine, don't worry, I can also hold you that. Let me see... Give me those... Please don't stress, I promise you can have it back when it gets colder. And if you also like that, just buy it! I can hold it for you.

Your mirror
29,99

I know all your secrets. I have seen up close what you never allow anyone a glimpse, and I pay your trust back with the most sincere honesty –which none of your friends would dare to do– because underneath it all we are so much alike. You can not avoid looking at me each time you pass by! And this thing between us it is not a superficial thing: the closer you get to me, the more you see what is going on around you.

Your bookshelf
39,00

Between my forehead and my neck are your novels, down to the chest, your history books, and in my stomach –and even a little bit lower–, all art and architecture. My thighs are manuals, and my feet, full of magazines. I am what you have learned, and I grow with every new interest. This is why –no matter what they tell you– you keep buying books: because only I can remind you of what you already know.

Your desk
19,00

I am your battlefield. I am your gameboard. I am the only square meter of the room which you do not have to worry about. And –believe me on this– if I get dirty, I cut myself or I wear out, it is because you are using me correctly. Dude, I am a furniture of action!

Your working chair
49,99

Look, I know you are not done to be sitting all day, but I swear I do everything I can. It is not easy to properly hold your legs, your hip, your back..., all at the same time! I also don't know how to sit anymore. Please, hold on a bit until we are finally done with this. And then I promise we will give each other a break, at least until Monday at 9:00.

Your coffee table
5,99

There is people coming over today and I am so excited! I am so much looking foward to enjoying a good coffee and a nice conversation without interruptions and distractions. I hope it goes well and last long –it has been a while since the last time. I can not offer so much space, but I will do my best to bring everyone together. And, although this is not a date just for us two, I hope you understand how important it is: also hosting others will help us to feel at home.

Your coffee cup
0,49

Coffee, wine and cigarette butts have inevitably caused a serious damage to me. It has been less than a year and I look terrible –full of stains and with a broken handle. I am either haggard and hangovered, or on the verge of a nervous breakdown. There is no way that someone would take me..., but luckily you seem to still like me. Anyways one of these days you will take me with wet hands, I will slip and split in two, as it happened to the cup before. So please pour me some coffee, today I have a terrible headache!

Your arm chair
59,00

Some would say that I am not the most necessary piece –that I'm fine for a nap but you already have the bed, that you can read comfy not really concentrate, and that the usual pile of things on top of me at the end of the day does not justify my presence. But listen: while the bed gives you the empty ceiling, and the desk the plain wall, I offer you the full view of the entire room under the light coming from the back window! Neither to rest, to work or to accumulate, I am your throne to think and take decisions. Isn´t this the reason for you to come home?

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NAFISEH MOUSAVIAN

POROSITY AND PLAYFULNESS

My thesis titled: «The tiered city: reflections on urban intensity based on analysis of mountainous villages of Kurdistan, Iran» seeks to find spatial configuration ideas that allow integrating natural and social phenomenon (coexistence with nature and human interactions) into multi-level dense human settlements. Coexistence goes with proximity. And proximity, although often appreciated, is sometimes promiscuous. So the desire to integrate urban (and nature) in an intense and steep environment requires innovative architectural proposals to incorporate both public and the intimate, nature and artefact.
Thesis hypothesis suggests : To reach this congenial multi-level intensity, more POROSITY is needed in the built space. Through this porosity, new spatial arrangements, new functions, stronger social relations, and the symbiosis of man and nature can emerge.
In this regard, « In-between Spaces » - which share, connect, separate, or supperpose simultaneously public and private realms - are studied in two ancient villages of Kurdistan.

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After a week of living in these villages, I began to analyze them in two parallel but yet distinct directions which provided me with a vocabulary of the tiered city which is evolving consistently.
First I started with a phenomenological analysis to reach, discover, understand, and excavate the particular spatial arrangement and the underlying ideas concerning human- nature coexistence in these villages.
Besides, a typological analysis is taking place to de-complexify the spatial arrangements which seem more complicated. So the repartition of functions in different levels and the transition between public and private, interior and extériorise could be studied more efficiently.
This led me to prepare a 3 dimension catalogue of architectural elements that contribute to the idea of porosity. They could be either spaces of PAUSE or spaces of PASSAGE.

- Terraces - balconies - roofs - courtyards - squares - a tree - thresholds - Places to come to, places to stay, to make connections between people, to make relationships.

- Ramps - urban stairs - stepped streets - inclined lanes - bridges - pavements - ladders - Covered walkway - impasses - places to comme and go, to stroll, to pass air, rain, wind, clouds and birds, places of movement, of mutation, to make connections between places, to make the links.

The proposal for CA2RE Berlin conscerns part of research that let playing with a series of magnetic 3d prints of these In-between spaces (of PAUSE and PASSAGE) to examine the limits and possibilities for creating Porosity. And I would like to discuss this playful méthode and how playfulness can contribute to my research.

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Nafiseh MOUSAVIAN
GERPHAU | ENSAPLV | université Paris viii

POROSITY AND PLAYFULNESS

POROSITY

My thesis titled:
«THE TIERED CITY:
reflections on the urban intensity of the inhabited milieux based on analysis of mountainous villages of Kurdistan, Iran»
seeks to find spatial configuration ideas that allow integrating natural and social phenomenon (coexistence with nature, and human interactions) into multi-level dense human settlements.

Coexistence goes with proximity. And proximity, although often appreciated, is sometimes promiscuous. So, the desire to integrate urban and nature in an intense and steep environment requires innovative architectural proposals to incorporate both public and the intimate; nature and artifact.
In actual modern-inherited multi-level buildings, we live in separate individual worlds which are merely superposed one upon another and are linked by just escalators, elevators, and corridors.
While in this research, the thesis-hypothesis suggests:

To reach this congenial multi-level intensity, **more POROSITY is needed** in the built space. Through this porosity, new spatial arrangements, new functions, stronger social relations, and the symbiosis of man and nature can emerge.

In this regard, **« In-between Spaces »** - which share, connect, separate, or superpose simultaneously public and private realms - are studied in two ancient villages of Kurdistan: villages of Palangan and Awihang.

Because of their mountainous sites, the villages are built in multi-level forms following geographical curves and steeps. In general, each roof serves as the courtyard of the upper house. But if we look closely, we'll discover numbers of not-so-known micro-arrangements of the usually-known architectural elements -like steps, ladders, balconies etc.

After a week of living in these villages, I began to analyze them in two parallel but yet distinct directions which provided me with a vocabulary of the tiered city which is evolving consisteantly.

First, I started with a phenomenological analysis to reach, discover, understand, and excavate the particular spatial arrangement. This primary analysis resulted in a series of photo-narrations which revealed some underlying ideas concerning human-nature coexistence in these villages. (This part can be consulted online: https://cargocollective.com/thetieredcity)

Besides, a typological analysis is taking place (work is in progress) to de-complexify the spatial arrangements which are more complicated. This, to achieve a better understanding of spatial incarnation of the human-nature and social relations in the villages of study. So, the repartition of functions in different levels and the transition between public and private, interior and exterior could be studied more efficiently.

In this regard, I prepare a 3-dimension catalog of architectural elements that contribute to the idea of **porosity**.
A catalog of all « In-between Spaces » that I've found.
They could be either spaces of **PAUSE** or spaces of **PASSAGE**.

- **PAUSE**s are
places to come to,
places to stay,
to gather and chatter,
to make connections between people,
to create relationships.

They consist of different types of :
TERRACES - BALCONIES - ROOFS - COURTYARDS - SQUARES - UNDER A TREE – THRESHOLDS – BENCHES AND SO ON.

- **PASSAGE**s are
places to come and go,
to stroll,
to pass the air, the rain, the wind, the clouds
and birds,
places of movement, of mutation,
they are to make connections between places,
to create the links.

They could be:
RAMPS - URBAN STAIRS - STEPPED STREETS - INCLINED LANES - BRIDGES - PAVEMENTS - LADDERS - COVERED WALKWAY - IMPASSES, ETC.

THIS COLLECTION IS COMPARABLE TO A SPECIALIZED DICTIONARY PROVIDING THE VOCABULARY TO SPEAK ABOUT THE TOPIC OF THE TIERED CITY.
But a question emerges:
How do we make sentences with these words?
How do we put them together?
How do we articulate these words so they could make sense?

What do we do when we reach something new, attractive and unknown?
As a mother of a young child, I may answer:

WE PLAY!

The proposal for CA2RE Berlin concerns part of research that let playing with a series of magnetic 3d prints of these In-between spaces (of PAUSE and PASSAGE) to examine the limits and possibilities for creating Porosity.
Here I would like to discuss this playful méthode and how playfulness can contribute to creativity in my research.
This is an experimental part and is in progress.

YOU ARE SO WELCOME TO PLAY!

PLAYFULNESS

WHY DO WE SUGGEST TO PLAY?
This part is based on researches of developmental psychologist Peter Gray on the theory of play.His research shows that :
THE INHERENT PLAYFULNESS, CURIOSITY, AND WILLFULNESS OF CHILDREN HAS BEEN HONED BY NATURAL SELECTION TO PERMIT EACH INDIVIDUAL TO EDUCATE THEMSELVES.

He argues that not only children but all humans (architects and Ph.D. students included) are biologically designed to educate themselves through play and exploration.

Below is mostly extracted from his book:
Free to Learn: Why Unleashing the Instinct to Play Will Make Our Children Happier, More Self-Reliant, and Better Students for Life

Peter Gray introduces three human educative instincts, which are:
CURIOSITY
the drive to explore & understand
PLAYFULNESS
the drive to practice & create
SOCIABILITY
the natural drive to share Information and ideas

Long before Gray, German philosopher and naturalist Karl Groos presented evidence for the educative power of play from a biological, evolutionary perspective in two books:
The Play of Animals (1898), and The play of Man (1901).
He suggests that:

- **Young animals play more because they have more to learn.**
- **Those animals whose way of life depends mostly on learning (and least on rigid instincts) are the most playful**
- **And, human beings, having much more to learn than do other animals, play much more than do other animals.**

I may add here, that nowadays, we as adults (and architects) need much more to learn each and every day. So, it is necessary to preserve our powerful instinct of playfulness.
THE HABIT OF PLAY MUST BE CARRIED INTO ADULTHOOD. The more serious we are about learning, innovating or creating something, the more playful should be our state of mind.

Peter Gray expands upon Groos's theory and proposes a list of universal types of children's play and the relation of each type to basic human survival skills:

PHYSICAL PLAY (to develop strong bodies)
LANGUAGE PLAY (to learn to talk): When language play is carried into adulthood, we call it poetry
EXPLORATORY PLAY (which combines exploration and play, to promote understanding, and to make sense of the world): Whenever children or adults bring imagination and creativity into their efforts toward discovery, they are combining play and exploration. In adults, we call that science.
CONSTRUCTIVE PLAY (which teaches us to build): It can be with words and sounds as well as with substances. Construction can be intellectual as well as manual.
FANTASY PLAY (to build our capacity for imagination and to provide a foundation for the development of logical thought): That allow us to consider things that are not immediately present, which is what we all do when we plan for the future and what scientists do when they develop theories to explain or predict events in the real world.
SOCIAL PLAY (to cooperate and to restrain our impulses in ways that make us socially acceptable.)

These types of play are not mutually exclusive categories. Amongst these,
I suppose POROSITY would be an exploratory, constructive and fantasy play, all at once.

THE EDUCATIVE POWER OF PLAY IS THAT IT AWAKENS OUR PLAYFUL STATE OF MIND, ALSO KNOWN AS ENTERING A STATE OF FLOW IN CREATIVE FIELDS.

Later in the book, by discussing four general conclusions from psychological research, Peter Gray shows that:
NEW LEARNING, CREATIVITY, AND PROBLEM-SOLVING ARE IMPROVED BY INTERVENTIONS THAT PROMOTE PLAYFULNESS, AND ARE INHIBITED BY EVALUATION, EXPECTATION OF REWARDS, OR ANYTHING THAT INTERFERES WITH A PLAYFUL STATE OF MIND :
1- Pressure to perform well interferes with new learning
2- Pressure to be creative interferes with creativity
3- Inducing a playful mood improves creativity and insightful reasoning.
4- A playful state of mind enables young children to solve logic problems.

We finish by trying to clarify **"WHAT IS PLAY?"**
It is a contradictory concept;
It is serious, yet not serious;
trivial, yet profound;
imaginative and spontaneous,
yet bound by rules and anchored in the real world.
It is childish,
yet underlies many of the most significant accomplishments of the adults.

To define Play, we should keep in mind these general points:

- Two people might do the same thing, and one might be playing while the other is not. So, the characteristics of Play all have to do with motivation and mental attitude, not with the apparent form of the behavior itself.
- Play can blend with other motives and attitudes, in proportions ranging from zero up to 100 percent. Hence, the adjective Playful is often more useful than the noun play.
- We can define play as a confluence of characteristics. The more fully an activity entails all of them, the more we can refer to that activity as play:
  1- Play is self-chosen and self-directed
  2- Means are more valued than ends.
  3- Has structures and rules that emanate from the minds of players.
  4- Is imaginative, non-literal, mentally removed from "real" or "serious" life.
  5- Is conducted in an alert, active, but non-stressed form of mind.

I suggest that We don't go further in defining how the POROSITY play should enroll and let the play be free. As here is the most delicious of play's paradoxes:
THE ENORMOUS EDUCATIVE POWER OF PLAY LIES IN ITS TRIVIALITY.

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ROLAND POPPENSIEKER

SIGNS AND REMEMBRANCE

With the beginning of postmodernism in the 1960s, the sign was re-thematized and rehabilitated in architecture, which - at least in the form of classical ornament - had largely lost its significance as a means of communication in the context of building at the beginning of the 20th century. Since then, both the examination of and the inclusion of signs, images and effigies in architecture have taken place in very different forms. Often, however, a questioning and “revision of modernity” was practiced by means of historical references, in which - up to and including reconstruction - was related to “images of memory” in a very superficial manner.

Nevertheless, images and signs are extremely important components of the emotional and partly unconscious human perceptual practice, and moreover they enable and facilitate the mental reception and processing of various, ultimately not only cultural works and values. Their subtle or even surprising use can set very effective cognitive as well as emotional processes in motion.

Even in the area of living and working, signs and images can be a productive component of the building. This is all the more true for buildings in which a cultural meaning is to be communicated or in which the building task itself has as its goal a remembrance or commemoration.

On the basis of my own buildings and projects - some of which are in the context of the culture of remembrance - the meaning as well as a possible and contemporary method of incorporating signs and images into architecture will be examined in the context of the theme of remembrance.

My approach is to develop a valid strategy for applying sign- and image-based levels of communication to the architectural. These levels may be of intuitive nature and based on immediate perception as well as of discursive fashion, referring primarily to the intellect.

Even though I don’t exclude historic references (just as little as considerations of modern signs and images), my idea is not supposed to constitute a retrieval of simplistic historical images. My intention is more about determining the architectural in levels of association, which are originating, among others, from the field of type and topos relevant at the time, so that they finally constitute an integral part of the architecture.

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Roland Poppensieker
Architekt BDA

Zeichen und Erinnerung

Research interest is an examination and reconsideration of the significance and potential of sign and image in architecture.
My approach is to develop a contemporary and valid strategy of applying sign- and image-based levels of communication to *the architectural*.
These levels may be of intuitive nature and based on immediate perception as well as of discursive fashion, referring primarily to the intellect.

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Grabmal F.C. Gundlach, Hamburg - Roland Poppensieker Architekt BDA, © Silke Helmerdig (above)
Gedenkstätte Gestapolager Neue Bremm, Saarbrücken - Poppensieker & Schulze Icking Ges. v. Architekten mbH, Ideas Competition: Roland Poppensieker and Nils Ballhausen, © Silke Helmerdig (below)
contre-jour, Projection Room, House of Photography, Deichtorhallen Hamburg - Roland Poppensieker Architekt BDA, © Henning Rogge (top right)
Bavarian NMR Centre of the TUM, Research Campus Garching, Art in Construction, Competition - Roland Poppensieker, © Roland Poppensieker (centre right)
Chai - Leben, Extension of the Memorial Site Jamlitz - Lieberose, Jamlitz, Competition - Roland Poppensieker Architekt BDA, © Roland Poppensieker (bottom right)

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SARA MOLARINHO MARQUES

JUHA LEIVISKÄ: ARCHITECTURE AS A DIALOGUE BETWEEN BODY – BRAIN – SPACE

The link between the man and architecture take us to research about how we perceive the space, how we embody the space focus on Juha Leiviskä's works. Here we present Männistö Church, in Kuopio, Finland as a case study to understand how we experience this building, not only as a church with a religious and historical meaning but as a social center. We are analyzing this projects based on Maurice Merleau-Ponty theories about phenomenology of perception, neural and corporal reactions and responses based in neuroscience developed by Antonio Damásio and Juhani Pallasmaa argues about a phenomenological conception architecture. For this we are using several methodologies, from observation In situ, historical analysis of the architect and context. We establish several important architectonical concepts for the perception of the space, from the body to the brain. Our body is a biological and cultural organism that is constantly changing, based on the environment that is developing in, when we talk about our body perception in architecture we talk about human scale, movement (promenade architectural). Another concept is time, we measure the time trough architecture and our own bodies. "We are incapable of living in chaos, but we can't live outside of the passage of time and duration. Both dimensions needs to articulate and give specific meanings. Time must be reduced in scale to human dimensions and concretized as a continues duration." (J. Pallasmaa, Habitar, 2016, p. 9) Our brain and body are mutually correlated, they represent two aspects of the same thing, as Merleau-Ponty defend. We started from visual and auditory perception to understand how we experience the space, but architecture is a bodily experience, more than a visual sense or other of 5 Aristotle's senses which are not enough to capt all architectural experience. From this aspects and based on Juhani Pallasmaa writings we are developing this analysis of Männistö Church and other Leiviskä's works. Architecture is a stimulus generator for certain uses but also is an receptor of this uses by the inhabitants, as Juha Leiviskä argues "The aim of [architecture] is to create from human dimensions space to be experienced by people." (Leiviskä, 1999, p. 9).

Keywords: Nordic architecture; phenomenology; neuroarchitecture; space syntax; Juhani Pallasmaa

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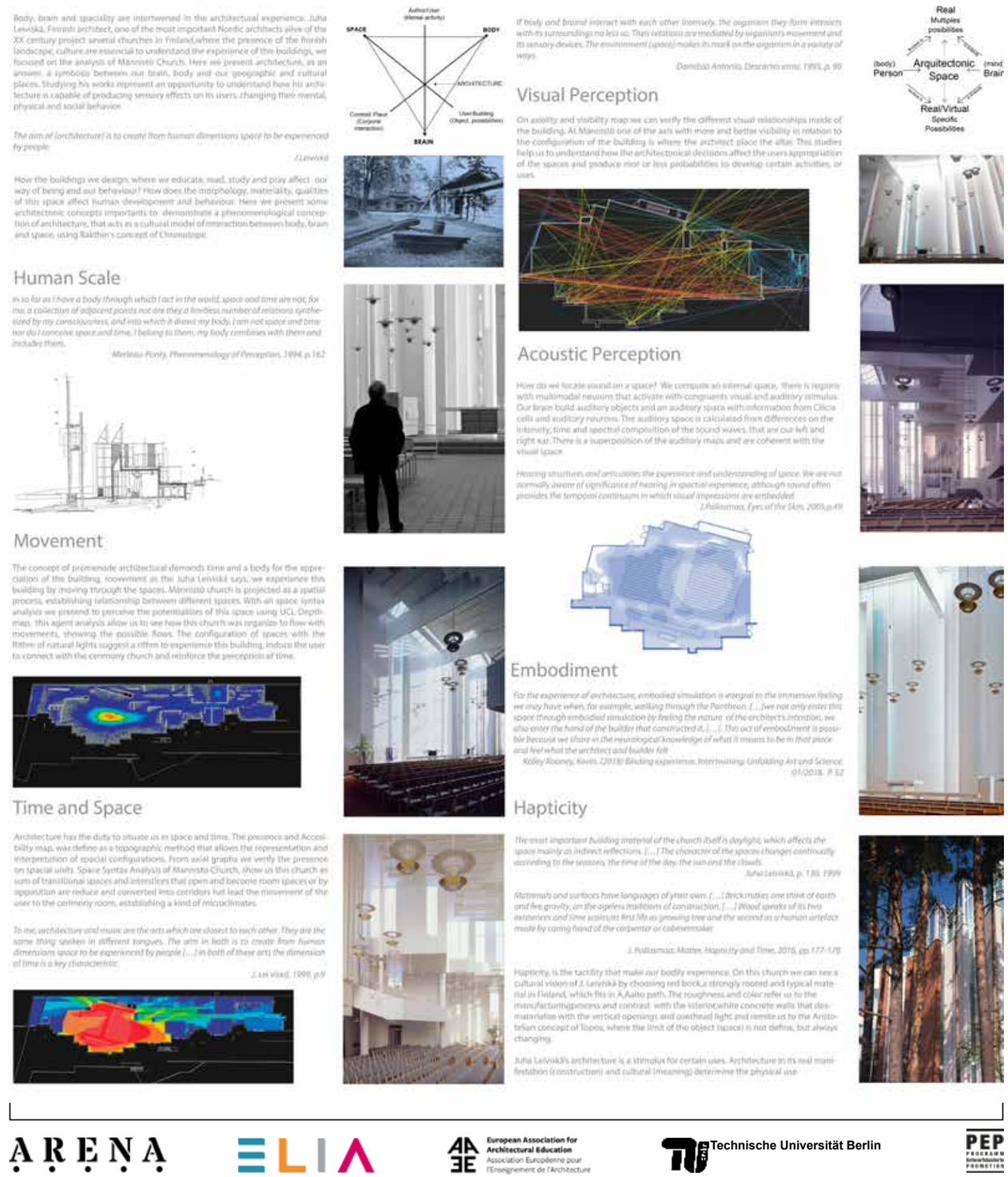
Sara Molarinho Marques
Universitat Politècnica de Catalunya (UPC), Barcelona. Architectural Design Program

JUHA LEIVISKÄ. Architecture as a dialogue between body - brain - space



SEBNEM CAKALOGULLARI

ACCIDENT: TRANSFORMATIVE EFFECTS OF ORGANIC AND MECHANICAL SYSTEM UNITY IN ARCHITECTURAL SPACE AND TIME EXPERIENCES

Space can be defined as representation of complex mutual relation. Indefinable types of relation is somehow placed our assumptions as a automated reactions. Therefore the developed spatial consciousness, criticized as the static relations in space and time, is transformed into instable unification through dynamic relation. The ambiguity and state of unknowable is built a realm of existence via momentary presences in accident in which is inquirable.

“Accident” becomes an agency not only defining the complicated and unconsciously developed happenings but also proof of conscious of creative action. The definition of accidentality is transformed and translated into constructible concept incomprehensible and intangible structure of manmade cosmos throughout the complex stimulus. Both macro scale external relations and micro scale interrelations come to alive in transformation among different complexity level which is experienced throughout the hidden kinetic apperceptions in system. Thus accident transforms meaning of chance in event.

The macro and micro scale relation and their togetherness in contemporary perception of space is seen as modern experiment of architecture which strengthens its importance via exploration of natural science and social science. In this research, unintentionally occurred destructive events or unpredictable problematical emergences are findings for examining chance relation in architectural space and time concepts in contemporary practice of space.

In this perspective research clashes the absolute and relativistic viewpoint in order to explore the contemporary impressions of space. Architecture is behaved as an agency for documentation of indefinite linkages of form of externalities. Method of research is to compile, identify, describe, preserve, make accessible and distribute information about the space and time activities of the architectural context of accident. The objective of archiving of any research outcomes is to document, contextualize and reflect the way in which phenomenal recordings such as sketching, note taking and designing acts have been produced in the institution that leads to the end of thesis timing. Realization of cataloging over in different data sets are enriched the function of thesis as a producer of knowledge through directed research objection in which is inevitably provided entities for accidental becoming. On the other side, in the context of accidental becoming their recordings through specific documentation apparatuses are strengthening the thesis methodology as a center of investigation of contemporary representation agency.

As a result this research brings together accident and chance appreciation of happenings in space and time again over contemporary states of rapidly changing architectural face of living environment by documenting altered properties and structures, and contradictory topology. Besides cataloguing, folding the different set of data in contradictorily is evaluated by storing and diffusing them for exhilarating external links of investigation. It thus allows to subjective creation as causes of the shift in spatial experience from based in space to the based in time.

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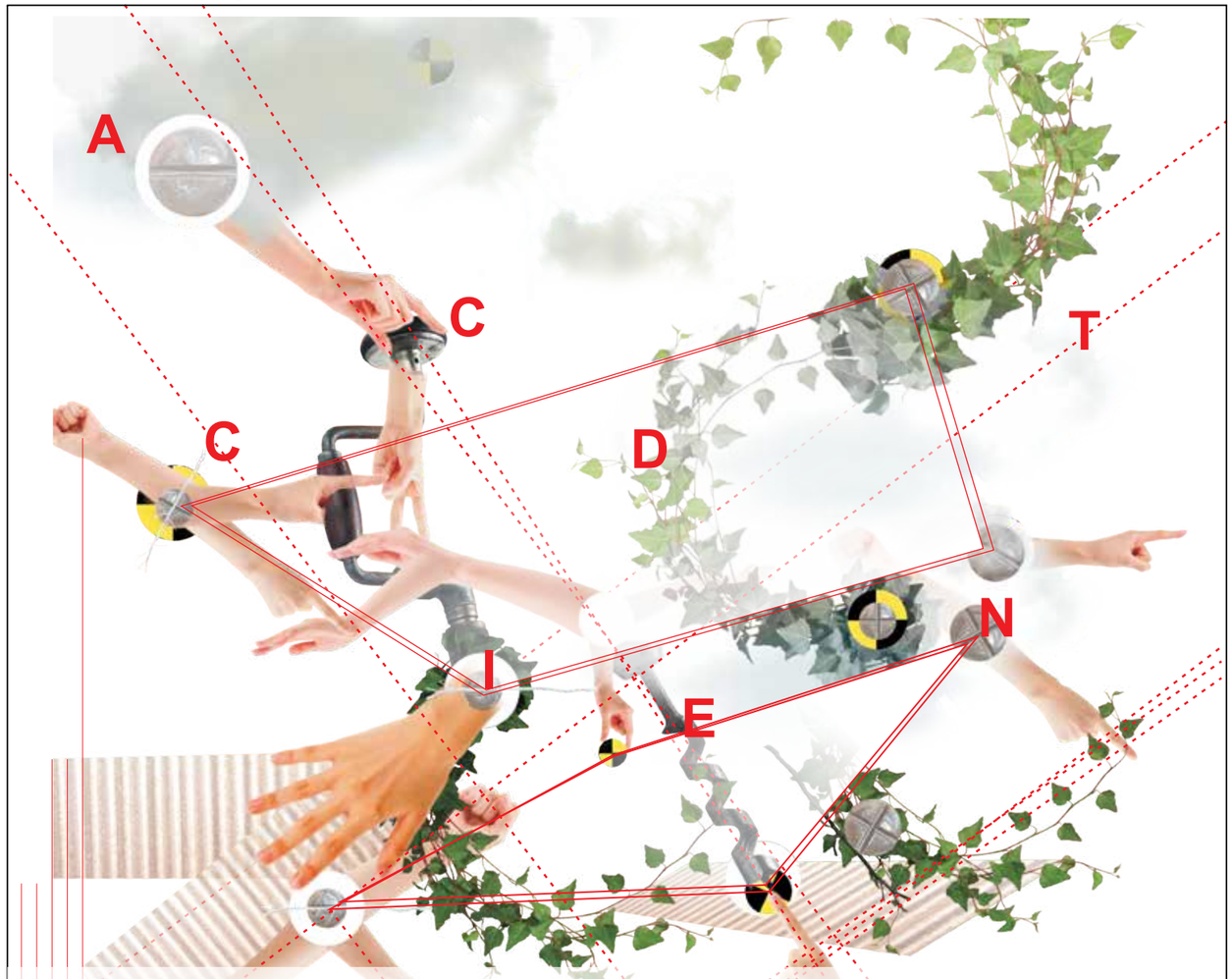
Şebnem Çakaloğulları
İstanbul Technical University

ACCIDENT:Transformative Effects of Organic and Mechanical System Unity in Architectural Space and Time Experiences



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TIM SIMON-MEYER

THE POTENTIAL OF A HAPTIC APPROACH FOR THE PERCEPTIBLE QUALITY OF ARCHITECTURE

The PhD results from my practical work as a partner of an architectural studio. Since 2012 we have developed several design.build projects that are defined by a creative process which is based on the characteristics of specific materials. The considered projects are characterized by a reduced materiality, basic forms and constructive logic. Nevertheless those „basic“ buildings are offering a strong atmospheric and physical experience.

“Alongside the preveiling architecture of the eye, there is a haptic architecture of the muscle and the skin.”

Relating to this expression by the Finish Architect Juhani Pallassma I would like to describe the working method as haptic approach. The haptic approach starts with the choice of the proper material that can function as structural system as well as spatial structure already contemplating creative and atmospheric intentions. Further descisions are made in relation to the physical and sensual characteristics of the material. In order to that the way of working is always dealing with the structural and creative limits of it – always under the requirement of the design.build project which implies that the architect will also be the one who builds.
What are the specific aspects of that “haptic approach” and how can we characterize it?
The analysis of the working method will be the content of the research. It seems likely that the working method is leading to a specific atmospheric and architectural quality that can be observed in the considered projects. It will be part of the research to define the architectural qualities that are emerging from a designprocess that originates in the material.
To clarify the context of my research it is necessary to study the theoretical work of theorists and researchers in the given field like the german philosopher Theoder Lips, who created the term “Einfühlungstheorie”, or Heinrich Wölfflins “Prolegomena zu einer Psychologie der Architektur” that deals with the relation between the human body and the expression of architecture. To be able to describe the perceptible qualities of the architecture the term of the atmosphere in the theoretical work of Peter Zumthor or Gernot Böhme is used. But also taking a closer look at the practical work of contemporary architects and artists like the dutch architect Anne Holtrop and his approach of the “material gesture” is playing an important role.

The PhD will be based on research by design that will include the analysis of built projects but there will also be new projects produced and reflected during the process.

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Tim Simon Meyer
HCU Hamburg

The potential of a haptic approach for the perceptible quality of architecture

The PhD results from my practical work as a partner of Atelier JQTS. Since 2012 we have developed several design.build projects that are defined by a creative process which is based on the characteristics of specific materials. The considered projects are characterized by a reduced materiality, basic forms and constructive logic. Nevertheless those „basic“ buildings are offering a strong atmospheric and physical experience.

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SVEN PFEIFFER

MATERIAL vs MACHINE TRAJECTORIES

Format: exhibition of models/prototypes, lecture

MATERIAL vs MACHINE TRAJECTORIES examines the potential to imagine design and building in a more sustainable cycle, no longer ranging from raw material to waste material, but instead from matter to materials and back. The rapid expansion of urban areas is accompanied by a great amount of building activity and materials to be brought to cities and to be relocated within the city area. This activity is increasingly problematic, due to large amounts of grey energy used and other negative environmental impacts. The project's aim is to develop techniques for building with local earthen materials such as clay and innovative fabrication processes. The abundance of clay in the Berlin area and its specific material properties make it very relevant for sustainable and local production, however the handling of earthen materials is known to be a time-consuming and above all manual process. With advanced fabrication methods such as additive manufacturing, the deposition of the material can be automated and complex structures are made possible. In the project a flexible experimental design and fabrication environment for working with the properties and capacities of clay is created. Whereas the common materials in 3d printing such as PLA or ABS are stable during the printing process, earthen materials will behave differently depending on the proportion of material to water, the geometry, the printing speed and the discharge volume. Therefore, the production data set has to be adjusted accordingly and the properties of the material have to be continuously negotiated with the degrees of freedom of the robotic printing process. In several workshops with collaborating partners, various tool-based conditions and parameters (extrusion direction, extrusion speed, extrusion thickness) and the resulting material behaviour are evaluated to provide useful feedback for further iterations. Coincidences, repairs and defects are explicitly part of the process. By exploring the real-time interaction between code, matter and machine parameters, a direct feedback between making and thinking becomes an integral part of the design process.Throughout the process, the recombination of algorithms led to material depositions which are not possible to achieve with traditional production methods. The resultant objects can be considered "pre-architectural", testing the constructive limits of the process and negotiating information, form and structural properties. The project conducted in collaboration with researchers and students form the TU Braunschweig and UdK Berlin will continue examining other fabrication processes and material systems with a focus on the geologic and geographic conditions of the greater Berlin area. Further tests will focus on scalability of the production process and on the integration of structural and material properties with various architectural parameters, which are essential for the generation of different spatial qualities.

Keywords: man-machine-interaction, additive fabrication, local construction

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Sven Pfeiffer
UdK Berlin

Material Machine Trajectories

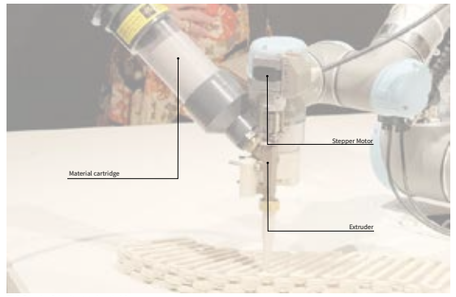

Fig 2. Extrusion Setup for ceramic materials

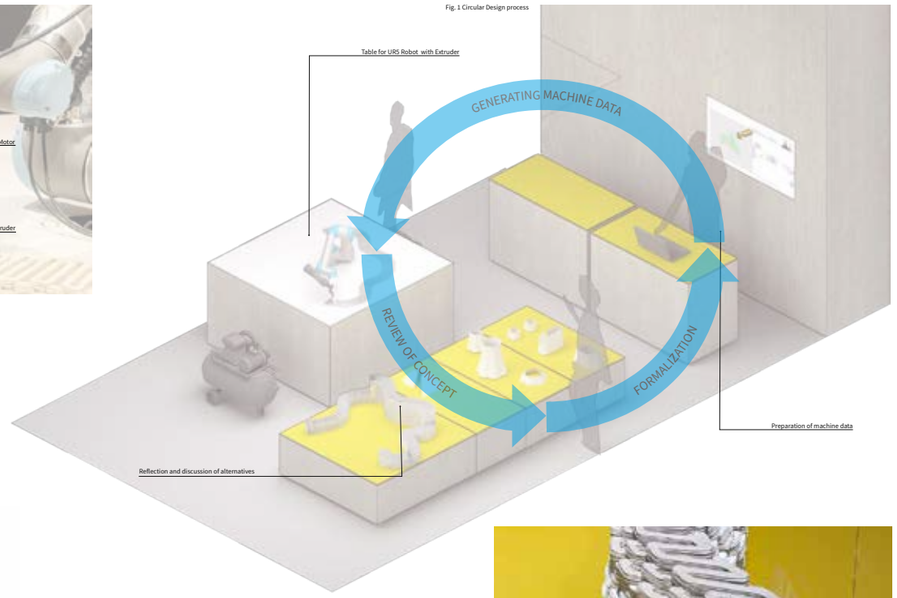

Fig. 1 Circular Design process

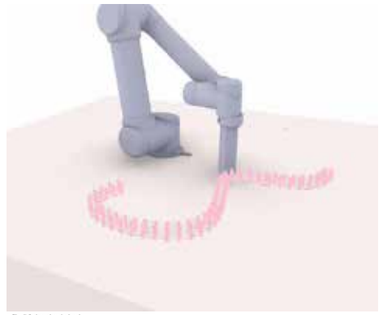
Fig. 7 Robot simulation i


Fig. 6 Different nozzle sizes


Fig 10. Shifted layer setup with varying thicknesses

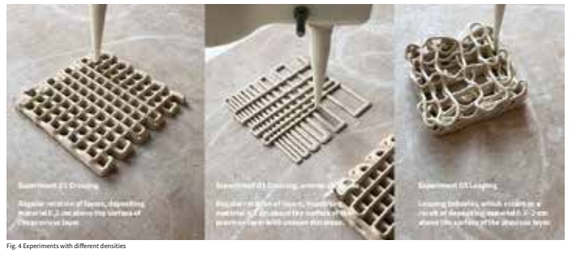
Fig. 4 Experiments with different densities

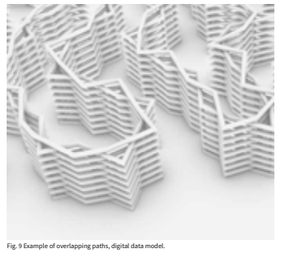
Fig. 9 Example of overlapping paths, digital data model.


Fig. 11 Locally available earthen Materials, Ziegelmanufaktur Glindow


Fig. 12 Pre-Processed Clay, Ziegelmanufaktur Glindow

Specifications of the Experimental Setup:

Robot: 6-axis Robot Arm Universal Robot 5
Weight: 18,4 kg, Payload: 5 kg, Reach: 850 mm
Freedom of movement: +/- 360° an allen Gelenken
Speed: Joint: Max 180°/Sek.
Exactitude: +/- 0,1 mm
Extruder: https://lutum.vormvrij.nl/

Research Partners:

IMD _Institute of Media and Design, TU Braunschweig
WM Caroline Høgsbro, WM Lara Wischnewski
Team: Iman Zangooeinia, Ava Sadeghipour, Daniela Krause, Esra Oruc, Rolf Starke, Luisa Buchholz
David Weigend, Futurium
David Karl, Keramische Werkstoffe, TU Berlin

PETRA MARGUC

DISPLACED.
THE CHALLENGE OF DISRUPTIVE GAPS AS SPACE OF INVESTIGATION AND PROJECTION IN ARCHITECTURE AND URBAN DESIGN.

Despite a tremendous amount of knowledge on urban disruptions, divides are proliferating. In situations involving complexity and uncertainty, where an urgency for intervention is felt and yet a clear response is not apparent, we know that “we cannot solve the problems with the same kind of thinking that created them” (Einstein). Some other levels of perception and understanding need to be mobilized for formulating sensible responses.

The present contribution is investigating possible postures to situate oneself as an architect at the interstice of physical, imagined and lived space (Lefevre), where tactics of displacement introducing play into the design process generate gaps which in turn could become productive. The triadic spatiality can reveal both, a distance and a continuity between what is physically there, what is enunciated and what is being done. In the research project, what might appear as incoherence experienced in a territory, in organizations as well as in each one individually, is taken as a productive gap. From that productive gap containing action tendencies (N.Frijda) a situation can be put into motion. In this sense, just as any living organism, a city has emotions appearing in interaction with a milieu.

Two experiences from professional practice are investigated, wherein aspects related to displacement in its active form “to displace” and its passive form, „to be displaced“, are tested. The processes of production of space are redrawn after the realization of spatial prototypes in order to grasp the pattern how ideas, actions, material transformations and decisions emerge. In both research actions, the relevance of situatedness and of first-person experience can be observed. It became evident, how taking place physically amongst stakeholders in the place itself, with material anchors, is important to drive the process. These material anchors provoke the opening of productive gaps on individual, interrelation and territorial scale, they stimulate moments of creativity and simultaneously, they hold the process together, contain the dynamics in an object, explicating and driving the shifts.

Keywords: triadic space, displacement, play and game, open integrative design, productive gap, bodydrawing

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Name Surname Petra Marguc
Home Institution PhD candidate KU Leuven BE / CRENAU Nantes F
Research Title Displaced. The challenge of disruptive gaps as space of investigation and projection in transversal design

1 ABSTRACT

DISPLACED. THE CHALLENGE OF DISRUPTIVE GAPS AS SPACE OF INVESTIGATION AND PROJECTION IN TRANSVERSAL DESIGN PROCESSES[1]

Despite a tremendous amount of knowledge on urban disruptions, divides are proliferating. In situations involving complexity and uncertainty, where an urgency for intervention is felt and yet a clear response is not apparent, we know that “we cannot solve the problems with the same kind of thinking that created them” (Einstein). Some other levels of perception and understanding need to be mobilized for formulating sensible responses.

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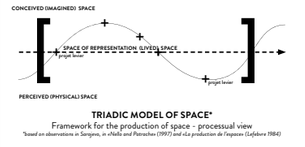
Two experiences from professional practice are investigated, wherein aspects related to displacement in its active form “to displace” and its passive form, „to be displaced“, are being tested.

Can the gaps being opened up by displacing some thing, or some one, or some action, be turned into a creative driver for the production of space? If so, how to get a grip on such instrument of change?



TRIADIC MODEL OF SPACE*
Framework for the production of space - processual view
*based on observations in Sarajevo, in «Nella and Pistoche» (1997) and «La production de l'espace» (Lefebvre 1984)

PREVIOUS FINDINGS

As previous case studies revealed, play and game are relevant in open collective design processes for gathering knowledge, stimulating imagination and raising awareness. In two present case studies, these foundings about play and game are introduced as tactics of displacement for making a gap productive. Such displacements can happen in form of transgression, immersion, situationists' moves or Oulipian methods of constraint. All operate as catalysts for serendipitous encounter and imagination, making essence vacillate and accelerating a change in perspective, prerequisite for breaking habits and learning anew.

PLAY FOR BREAKING HABITS AND LEARNING A-NEW: playful interaction settings allow to experience displacement as a joy, which in turn reinforces a pattern of breaking habits. In player mode we tend to do things differently than usual and accept uncertainty of the outcome.

SHARED FIRST PERSON EXPERIENCE : Creating shared experiences, doing something together first, facilities exchange between people who are not used to meet, who neither speak the same language nor share the same interests.

INSTRUMENTS OF CHANGE are driving the creative process

NAVIGATING BETWEEN MULTIPLE IDENTITIES: When liberating participants from predefined roles, be it selfimposed or societally imposed, people keep changing the place from where they choose to speak. Nurturing an environment where a person can selfregulate on which part of their identity they thrive, which part of their competences they mobilize is a creative driver for it enhances confidence and trust building, engagement becomes easier.

In the two present cases these findings are further challenged:
- the project brief becomes spatio-temporal scaffold, a playful interaction setting with rules of the game, but with no definition of purpose or of what to do
- the creation of shared experience is used as a process driver, action protocols and relational objects are redesigned more methodologically in order to get a better grip on them as instruments of change
- roles of participants are not defined in beforehand but can evolve from within

In both cases are observed, if and how proposals emerge, take shape and are being realized.

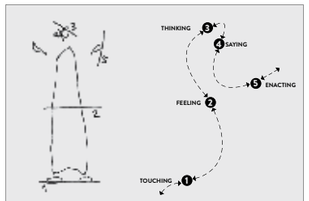
2 METHOD

TACTICS OF DISPLACEMENT - STEPPING BACK AND FORTH, STEPPING IN AND OUT, STEPPING SIDEWAYS

As a reflexive practice research, this investigation examines two productions (La belle Excentrique, Le Germinator, 2018), using practice-based, practice-led and action-research methods. Multidirectional tactics of displacement - stepping back and forth, stepping in and out, stepping sideways - are used for myself, in teaching, with commissioners, project partners and participants for changing distance and angle of perspective and as a knowledge generator. Previous research evidenced positive effects of displacement, such as enhancing creativity, opening new horizons which were unthought before. It also revealed negative effects, where displacement can increase vulnerability and lead to stand still or breakdown of the creative process. When displacement happens a gap occurs, it might feel instable, and make us loose ground. Nevertheless, we can all deal with instable situations, we litterally embody them.

LIMINAL CONDITION (example footstep)**:**

When we lift one foot, doing a step forward, there is a moment of instability: our weight is not anymore on one leg only and not yet really stable on the other. We find ourselves in a “liminal condition” (Victor Turner, Chora). At yet, when we walk, most of us know how to move through this gap, where we are neither here nor there, literally instable.



GROPING - PRODUCTIVE GAP 1
(on cognitive & perceptional scale)

For most of us, to move between sensing, thinking, telling and enacting the embodied knowledge with others, there is a path, and this path is not immediate. We stutter and look for the right words, for the right gesture, we go back and forth, we retry, because we feel the way we said something is actually not how we wanted to say it (Von Schoeller, 2017). Bridging the gap and articulating a continuity between the different sensory parts of our body which feels coherent, takes time. Design processes are similar, it is an elaboration of back and forth between experience and knowledge, try and error, in and out. It takes time to stabilize the right position.

HYPOTHESIS: What if the gap which appears in moments of transition is not necessarily a problem to avoid, but might have latent transformative power, and could be designed for enhancing moments of playful serendipity for individual and collective creativity.

How to recognize or even stimulate such liminal moments in the formation of space, and how to turn such gaps into instruments for creativity and positive urban and individual transformation ?

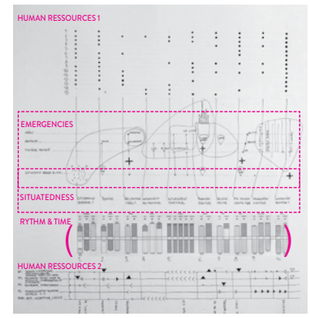
RAW MATERIAL OF TWO CASES[2]

„La belle Excentrique“, A research-action commissioned by a citizen collective in Arcueil (France): The task was to develop within an open design process, with the citizen and other stakeholders, an idea for how to transform a public square into a vivid place for the community. A first development stage resulted in the proposal of an artefact in form of a an art molding of a real size figure combined with a support structure, a kiosk, io inform, host and accompagny community events, called “La Belle Excentrique”. The proposal developed with the citizen will be put up for public vote in the frame of the budget participative in November 2018.

“Le Germinator”, a studio project with 15 architecture students at the ENSA Nantes: the studio worked with a community organization, le movement grand place, in a neighbourhood called la Bottière-Pin Sec, currently undergoing urban regeneration. The proposal became a mobile atelier for the community, called “Le Germinator”.

Both cases were set up as an open collaborative design process, with the test, if and how proposals emerge, take shape and are being realized within a spatio-temporal scaffold. Both ended with prototypes at 1:1 scale, one became a built prototype, and the other one became a prototype of alternative practice of space, where ideas for transforming the square where tested in situ by testing uses, collaborations and positioning.

top view: building prototype of Le Germinator
left: the Arcueil prototype culminated at the first stage in a public event to produce and share with the citizen a new organization of the square in form of a spatial practice. Publicly were tested the embedding of the square within a future creative paths (1), the pedestrianisation of a side street (2), the positioning of a stage of a cultural center (3), the collaboration together with several local partners and residents (4), the project idea and the name of “La belle Excentrique”, a kiosk to welcome, inform and accompany residents in making this square more alive (5), the implementation of real size figures by the local arts craftsmanship (6).



RE-DRAWING THE PROCESS OF PRODUCTION OF SPACE - case „Germinator“

The three types of resources, situatedness in a real territory, the human resources of all participants combined, and the resource time gave as a spatio-temporal framework to perform. For both case-studies re-drawings of the process of the production of space were produced afterwards as a means to grasp the dynamics at play, how did things happen ?

- **Rythm & Time resource :** given temporal framework of a total duration of 27 days, in a rhythm of 10 sessions over a period of a little less than 4 months.
- **Human resources 1 & 2** (different players in music analogy)*: There are 15 students and 5 teachers. The 5 teachers had partially similar and partially complementary roles. All shared an attitude that everybody is a latent resource person to each other, and that everything and every situation can be considered as a latent resource and potential project driver. The art would be how to activate and fertilize those resources (François Jullien, 2016).
- **Situatedness in a real territory:** The contact with a real situation, with a real on-going project, with real actors, real urgencies, where we keep reconnecting to, is a third resource.
- **Emergencies:** Mapping of emergencies during the process of production of space in terms of ideas (representations), in terms of emergent practices (actions, behaviors), and the emergence of physical form**. The extended spatiality going beyond material manifestations allows us to grasp spatiality in terms of spatial dynamics where its material aspects are understood in relation to the practice of space and in relation to the ideas we have of a spatial situation. Observations on these three levels are mirrored in relation to the contact we had with the real site: At what moment there was direct contact? How did this direct contact impact on the evolution of the project?

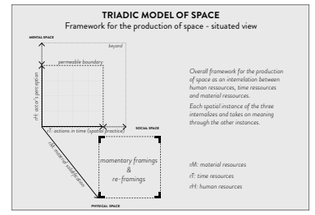
3 OBSERVATIONS

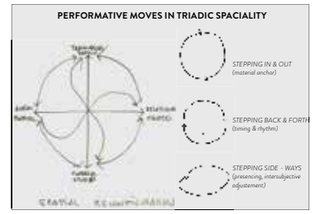
- **Dilemma accelerator:** First person experience, for instance direct contact with a real situation and real people, intensifies the desire for commitment which in turn reinforces expression of motivation (why). Direct contact with a situation of alterity, (the site, the people, the different practices and attitudes) causes displacements, which accelerate a process of learning, the elaboration a just posture, a right gesture.
- **Why - How - What:** Occurance of project definition stages in the order of (1) why, (2) how, (3) what
- **Triple reality check of motivation, ressources, situatedness:** Personal motivation, confronted to limited resources in terms of time, capacities, material resources and situatedness structure and specify the open design process.
- **Uncertainity as a creative driver can be nurtured and trained, but it requires a minimum of a safe environment.**
- **Strong group cohesion:** students recall a „life experience“ (video-cued recall)
- **How were ideas, decisions, validations formed?** Ideas, decisions and validations emerged through the process of production. Situatedness was operational, as well as regular expressions of the state of things in readable, sharable, interpretable representations (scetches, namings, mind maps, meetings with actors). A continuous formalization was summing up and re-actualizing a state of affairs. It generated an implicit decision-making and validation process. We called these regular expressions of the state of things relational or transitional objects, they operated as material anchors. They structured the open design process. In fact, it would not be possible to tell who had what idea, for example. It emerged.

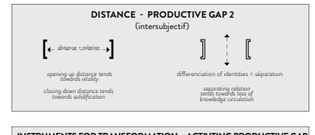
In both research actions, the relevance of situatedness and of first person experience can be observed as well as the pattern how ideas and decisions emerge. Particularly in the case of Arcueil, which was not done with students, it became evident, how taking place physically amongst stakeholders in the place itself, with material anchors, is important to drive the process. These material anchors provoke the opening of productive gaps on individual, interrelational and territorial scale. They stimulate moments of creativity and simultaneously hold the process together, explicating the shifts.

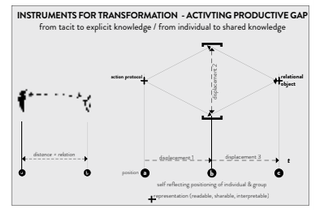
4 FINDINGS

SPACING, AN EXTENDED NOTION FOR THE PRODUCTION OF SPACE: Triadic spatiality is not only useful as a model to observe, describe and grasp patterns of existing spatial phenomena in terms of their formation. It can also serve as an overall framework for spatial formation for the future reconciling three relevant vectors in one single system: actions in time, human perceptions, and situatedness. For its latent performative qualities, the three spatialities for the production of space by Lefebvre evolve into an interrelation between human resources, time resources and material ressources. Each spatial instance of the three internalizes and takes on meaning through the other instances.



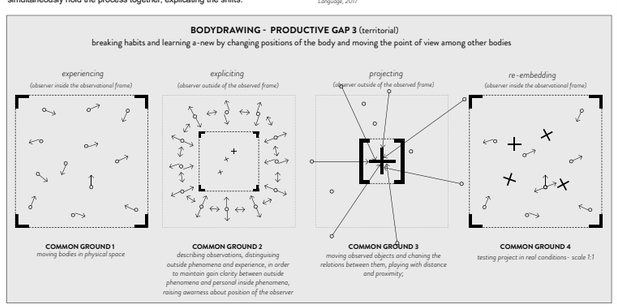






MATERIAL ANCHORS AS INSTRUMENTS FOR TRANSFORMATION ACTIVATING PRODUCTIVE GAP ON INTERPERSONAL SCALE AND TERRITORIAL SCALE : To propel open creative design processes instruments of change work on generating productive gaps. A first displacement from position a to position b opens up a new view, a self-reflecting repositioning of individuals and groups. In a second displacement from position b to position c this new view is articulated in readable, sharable and interpretable forms. Hence opening and activating a productive gap between tacit and explicit knowledge, refreshing a position between different individuals draws upon representational methods. In order to make those instruments of change operate, they are conceived as material anchors, which can refresh positions through explicating and re-embedding. Just as any material anchors, human bodies can be used to create representations of space.

References: *Cage, J.; installation 33'3'', 1969 / Chora, Urban Flaneurs, 2000 / Dunne, J., Strawberry experience, ESBI 2017 / Gendlin, E., Focusing and Thinking at the edge / Guattari, F., Les trois écologies, 1989 / Jullien, F., L'écart et l'entre, 2012, Il n'y a pas d'identité culturelle, 2016 / Karkoschka, E., Das Schriftbild der Neuen Musik, 1966 / Lefebvre, H. La production de l'espace, 1974 / Turner, V., Betwixt and Between, 1967 / Von Schoeller D., Close Language, 2017*



[1] *It is part of the practice based PhD project „Middle Margins Matter, dynamic balance in transversal design“, grounded in my architecture practice called Palimorph and in my teaching.*
[2] *“Le Germinator was produced within the studio «Dans les interstices de la grande echelle et du paysage», the students FPC promotion 2017/2021, and teachers Bruno Plisson, Petra Marguc, François Chesnot, Pauline Ouvrard, Susanne Kühl, Anne Hyc; La belle Excentrique was produced with the collectif citoyen Laplace, the city of Arcueil and palimorph*

ARENA · ELIA · AEE European Association for Architectural Education · Technische Universität Berlin · PEP Programm Entwicklungsorientierte Promotion

TOMAS OOMS

ARROWS OF OPERATIONALITY: (UN)FOLDING THE MANIFOLD WORK(S): TAXONOMIC LANDSCAPE (TL) OF ARTEFACTS.

THESE TL'S ARE DEVELOPED AS A METHOD OF REFLECTION AND GIVING THE ACCOUNT OF: BETWEEN YARD AND WORLD: TO DRAW A DISTINCTION: ON THE FORM OF RE-ENTRY: A MANIFOLD PRACTICE:...'.

The Lab(s):
The research takes place within the manifold that constitutes the authors practices.
This manifold practice is composed out of four ‚studios': The Faculty Studio, the Office Studio, the Research and the Composing Studio. The manifold practice is investigated by examining its multiple output and by exploring how the results of this investigating feed back into the manifold. This form of re-entry performs operations and contributes to the production of new work(s). The research explores the mechanism of this ‚operationality' of the form of re-entry.

The Subject(s)
In this manifold practice explores forms of creating distinctions, overlap and interval (space).
It is a continuously exploring interventions that showcase and reflect on this concept of distinction, overlap and interval. The works of the manifold practice are investigating a continuous shifting and renegotiating of the enclosure, the distinction between wall and space, between wall and gate. Between this sphere and that realm, between yard and world. Between U and I. Space as Relationships.

The protocol(s)
To draw distinctions becomes the central activity in the manifold practice. Drawing a distinction is both an operation in space (you create something while naming it) and an operation in time (there is a before and after).

The Arrow(s)
The contribution explored and marked the arrows of operatorations that are the base of artefacts that are outcomes of the manifold.

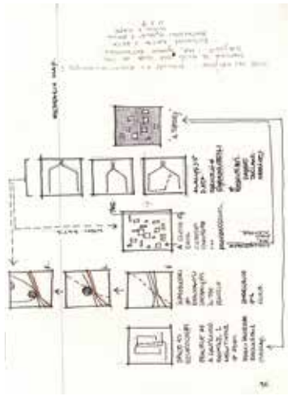
The abstract-poster and the poster-abstract
The deins A1 abstract-poster is treated as a working document, a section in transition, a project in action, that contains the information of its own creation. In this sense, the current document is self-intersecting.

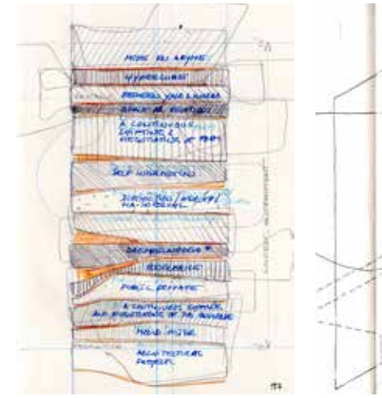
The original abstract as a miniature inset is incorporated as a miniature version of itself. If you zoom in you can read the original abstract. The newly added text, photos and studies, hold notes, assumptions, errors, questions and observations that need further development within the manifold practice. They work on a sub-level as a research itinerary. Exactly like working drawing in architecture production.
The relationship of part to whole, and part to part within a whole is the fundamental mechanism of the manifold. As a Yard, it finds itself embedded in the current abstract that is a World. A World in relation and as such becomes a new Yard. Continuous shifting and negotiating of part to whole relations, and part to part relations within the whole is the fundament of the manifold practice.

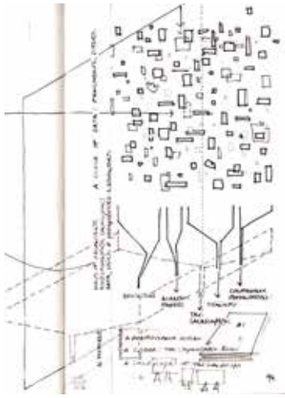
CA2RE
Conference for Artistic and Architectural (Doctoral) Research

Tomas Ooms
Studio Tuin en Wereld, a&t architects and Faculty of Architecture KU Leuven

Arrows of Operationality: (Un)Folding the Manifold Work(s)







THIS A1 IS THE SECOND VERSION OF THE CA2RE BERLIN ABSTRACT. THE DEVELOPMENT OF THE CONTENT OF THIS A1 IS BASED ON THE EVOLUTION OF THE DOCTORAL RESEARCH IN THE MANIFOLD PRACTICE IN THE PERIOD BETWEEN THE ACCEPTANCE OF THE ABSTRACT & THE PERFORMANCE AND ON THE PANEL DISCUSSION FOLLOWING THE PERFORMANCE. IT ADDRESSES THE FOLLOWING THEMES:

This dens A1 abstract is treated as a working document in the process of the doctoral research. In line with the ambitions, goal and inductive working method of the Yard & World doctoral research, this document is an artistic artefact of inquiry. It is a working document, a section in transition, a project in action, that contains the information of its own creation. In this sense the current document is self-intersecting.
The original abstract as a miniature inset is incorporated. If you zoom in you are able to read the original abstract.
The newly added text, photo ' s and studies, hold notes, assumptions, errors, questions and observations that need further development within the manifold practice. These annotations are left in RED. They work on a sub-level as a research itinerary. Exactly like working drawing in architecture production.

ON TAXONOMICAL LANDSCAPES (TL ' s): FOUR NEW DEVELOPMENTS:
A TAXONOMIC LANDSCAPE OF TAXONOMIC LANDSCAPES: A TAXONOMY

To give an account of the doctoral research in the manifold practice, and to study, organise and curate the body of work that forms the manifold practice, different forms of representation are tested and experimented with. One of those forms is Taxonomic Landscapes. How to draw, and what their position is within the manifold practice has been described in the CA2RE conferences in Gent (April 2017) and Aarhus (April 2018). ‚Taxonomic Landscapes are composed out of fragments taken from the manifold practice and organised in patterns in the ' enclosed ' space of a table top. Brought together, they aim to create a further understanding of the manifold practice. Taxonomic Landscapes are, site-specific, bounded samples of the current manifold practice. The goal of the Taxonomic Landscapes is to generate a focus on the possible interrelationships between the outcomes of the different practices. This key forms of entanglement, forms of operationality and forms of influence can be recognised, named and contextualised (framed). Each presentation moment in the track of the present Ph.D. is accompanied by a Taxonomic Landscape which is documented. The collection of these Taxonomic Landscape forms a series and hence one of the backbones of the Ph.D. '

Taxonomic Landscapes have the intention to say something meaningful about the different relationships between the different fragments of practice that are the composing elements of the TL. Part of a project space or ‚fragments ' are brought together in new relationships. As such they form a new whole. The TL ' s mirror the operationality of the manifold in the way that they deal with part to whole relationships and part to part within the whole.Later in this text the concept of part to whole relationships and part to part within the whole (see mereology) will be briefly addressed.

NOTE: DEFINE PROJECT SPACE: THE WHOLE OF THE ACTIONS, REFLECTIONS, DOCUMENTS, ARTEFACTS, INFLUENCES &C RELATED TO A PROJECT. THE HISTORY OF ITS DEVELOPMENT?

These mereological negotiations are a pivotal operationality of the manifold practice and are explored, discovered, introduced &c through a continuous shifting and negotiating of these relationships. This is central to the manifold practice.
The TL ' s are a way to: (1) make these mereological negotiations momentarily/temporarily explicit (reflection) and (2) create new relationships and impact (operationality, action).
Taxonomic Landscapes are some sort of dynamic section of the manifold practice. The operationality of the manifold practice is the some mechanism as the operationality in the TL ' s. In a way this is obvious because the TL ' s are a product of the manifold.
The performance at the CA2RE Berlin marks a pivoting point in the development and experimenting with the TL and brought some changes about in the development and experimenting with the TL.
These developments are :

> > Breaking Out (1)
> > Dilution and Dispersion (2)
> > Unsuccesful Digital Projections (3)
> > A Triptych (4)

(1) breaking out of the presentation room and into a liminal space;
(2) the ‚deconstructing ' of the one-table set-up of the TL ' s into a multi table set-up;
(3) the (unsuccesful) introduction of a digital pre-presentation;
(4) preparatory sketches and try-outs in the period between the acceptance of the abstract and the actual performance.

Each of these developments will be addressed in what follows.

(1) Breaking Out
Throughout the experiments with the TL (see also the CA2RE paper Gent/Aarhus for a brief history of the development of TL) the goals has been to set up the TL ' s in spaces that somehow are the type of space: threshold spaces, in-between, liminal, edge conditions &c. that somehow form the subject of the manifold practice. With the exception of the Aarhus presentation, the previous TL ' s have all been installed in the kind of spaces where there is a possible interaction with a public ' .
The presentation room that was assigned to the performance was a closed lecture room some steps down from the main ground floor level. The space was, you could say, completely ‚dissociated ' from the main collective areas (as you would expect for a lecture room that needs the concentration...). However one the intentions of the TL ' s is to experiment with forms of engagement and interaction. Engagements between spaces, between the works and the space, between the theme and the space, between the works and the audience (a public...). The surrounding space is as much part of the TL ' s as the fragments from the manifold ‚on display ' '. The positioning of the tables, fragments, items, references, sources &c, searchers to build relationships and engagements with the space. Since the allocated lecture room did not allow for this, the performance was moved outside of the proposed lecture room and into the collective space. A space between the lecture rooms, between outside spaces, along the main entrance, with a stair to below grounds and a view on the split-level... A space rich in relations like the one the manifold practice creates and explores. The performance space in which the performance was organised embodies a continuous shifting and negotiating of the enclosure and edges.
The way the ‚items ' of the TL ' s are placed in this performance space, plays with the idea to highlight, explore and play with the diff erent distinctions and overlapping spaces and relations that is so characteristic of this in-between realm. In doing so it is reflecting the central line of inquiry of the doctoral research of space as relationships.
In eff ect entangling the TL with the manifold, the TL with the performance space and the performance space with the manifold.

(2) Dilution and Dispersion
the ‚deconstructing ' of the one-table set-up of the TL ' s into a multi table set-up

NOTE: DILUTING AND DISPERSION: IS THIS THE BEST POSSIBLE TERM?

Predominantly, so far the TL ' s of the manifold that have been created in the course of the doctoral research, revolved around one large table placed central in the performance space. It needs mentioning here that the TL ' s are not only created in the context of reflecting on and giving the account of the doctoral research, but that they are a crucial method of project design in the office studio and the faculty studio, two of the four dimensions of the manifold practice.
NOTE: SKETCHING OUT THE DIFFERENT SETTING OF THE PREVIOUS TL ' S: IN AN ATLAS OF TAXONOMIC LANDSCAPES

More concretely, the TL evolved from a single table in a closed room to a table placed in a performance space (see previous point) where the space became an integral and important part of the TL. Through the accurate and deliberate placing of the table in the space, and through the detailed placing of some items and fragments of the manifold practice, placed in interaction with the performance space, a form of entanglement is created. Walls, floors, electrical appliances, fire extinguisher... are seen as opportunities for interaction and anchor moments in the performance space.

At the CA2RE Berlin a new step in the development of the TL ' s was taken. In an act of a cell-division-like movement, the single table characteristic of previous TL ' s diluted / dispersed into the performance space at the CA2RE Berlin performance. From one single large table, the TL became a collection of diff erent tables in diff erent areas of the performance space. The TL landscape became a TL of TL ' S.

In an echo to the title of the project: Yard and World, this TL of TL ' s is like a collection of Yards in the World. Again, as in a mereological relation and negotiation: part to whole, part to part within the whole. Yard to World, and Yard to Yard within the World. This refers to the idea of the miniature and the fractal.

NOTE: THE MINIATURE: TO EXPLORE THE MEREOLOGICAL COHERENCE OF YARD TO YARD, WORLD TO WORLD, YARD TOT WORLD, YARD TO YARD WITHIN THE WORLD AND WORLD TO WORLD WITHIN THE YARD.

The relationships between the diff erent elements of the TL ' s are only useful (meaning generators of knowledge) insofar as they can be recognised, identified and described. This is where the idea of Taxonomy is relevant to the naming of Taxonomic Landscapes. It is in fact a taxonomy of relationships based on mereological principles.

NOTE: REFERENCE TO DUCTUS SEE CA2RE GENT PAPER

In a taxonomic gesture we can identify diff erent types of relationships that are present in TL ' s. The detailed description of these types is not the subject of this A1 it suffices to mention them. The identification of relations is an act of close reading:

NOTE: CLOSE READING IN THE CONTEXT OF INDUCTIVE RESEARCH

The first level of close reading (1) deals with the relationships between the diff erent fragments on one specific table. Not to forget there is also the relationship between the fragments on the table and the fragments not on the table. The second level of close reading of relationships in TL ' s (2) involves the relationships between the tables in relation to the other tables simultaneously present in the TL. This describes the relationships between the Taxonomic Landscapes within the performance space. A third kind of close reading focus (3) is formed through the relationships across the diff erent tables: it highlights the relations between fragments part of other tables. A fourth way of close reading (4) is a reading of the TL ' s across time, describing relationships previous TL ' s.

NOTE: CLOSE READING IS AN ACT OF PERFORMANCE, IT HAPPENS... BUT IS REFLECTED ON IN THE WAY LATER TL ARE CREATED AND IN THE WRINGS ABOUT THEM

In the case of the CA2RE Berlin TL it asks specific mentioning that for the first time in the creation of TL ' s a thematic clustering was realised per table. Remind that ‚table ' here is a TL in itself.
The following elements were the basis of the CA2RE Berlin Taxonomic Landscape:
> Diff erent fragments form the manifold practice (prints on paper, models, photo ' s, references, sketches, studies &c);
> The performance-space itself;
> One large central table centred around a current project, represented by the little maquette in the middel of the table, the fragments of the manifold on this table are indicators or markers of the arrows of operationality that impacted on the project.
> A small table on one of the edges of the performance-space: contains fragments of the manifold that are more meta-textual in the sense that they are reflections on the manifold practice as research environment and method, showing the methodology and protocols of the manifold as theme.
> A small serving table: contains fragments of the manifold that are preparatory to the performance at hand.
> Small items placed around the performance space: undisclosed.
> The screen and projector set-up. See point (3).

(3) Unsuccesful Digital Projections
During previous performances of TL, there was no digital presentation to support, amend &c the TL. Since the presentation in CA2RE Aarhus was deemed to abstract and closed, the introduction of a projected presentation at the start of the performance was explored in the CA2RE Berlin performance. The conclusion is mixed: in one way it did help to introduce the framework in which to read the TL. It did take up too much time of the performance leading to a limited interaction with the rest of the performance-space. What can be taken from this is that
> (1) it can be useful to project life-size pictures of the architectural projects to engage with in the form of a presentation loop, and
> (2), introducing the audience into the framework can be done on a separate table as a TL (see above point 2 a Taxonomic Landscape of Taxonomic Landscapes.

NOTE: SET UP OF THE PROJECTION AREA: USE A WALL IN THE PERFORMANCE SPACE, PROJECTION 30CM FROM THE GROUND, LIFE SIZE: TO STEP IN THE IMAGES (REF: LUCAS DEVRIENDT)

(4) A Triptych: preparatory sketches and try-outs in the period between the acceptance of the abstract and the actual performance
In the period between the writing of the abstract and the performance: a triptych of study-sketches representing and reflecting on the operationality of the manifold was produced. This triptych of studies, is composed out of: On the left, A Research Map, in the middel a Transect Spectrum Core Drilling and The Discovery of Dark Matter on the right. This triptych shines a light on the research methodology that is the mechanism of knowledge production of the manifold practice. This mechanisme coincides with the operationality of the manifold practice as a continuous shifting and negotiating of the form or put diff erent, as a complex of mereological negotiations. The description in more detail of at least the left and right panels of the triptych merits some space on this A1.

YARD AND WORLD RESEARCH MAP (left panel above)
The study sketch on the left panel depicts the Research Map: It shows a series of steps or levels in the research space of the manifold. The first step describes how the manifold practice explores ‚Space as Relationships ' ' in a four dimensional practice (office studio, faculty studio, research studio, composing studio).

NOTE: REFERENCE TO HYPERCUBE, THE FOUR PRACTICES ARE EACH A DIMENSION, EXOTIC)

This manifold is concerned with a continuous shifting and negotiating of form as distinction, overlap and the interval in the artistic (architectural) reflections on space as relationships as the main line of inquiry.
Within a precsisting practice a series of reactants and catalysts are introduced (some generative metaphors) to create a more deliberate development of the manifold.
Through production and experimentation, harvesting of fragments out of the diff erent project-spaces there emerged a cloud of data. This cloud or data landscape is ever changing as the manifold evolves (moves along the axis of time). The cloud of data is progressional. As a form of inductive research, the cloud of data is studied under the form of reflective representations. These reflection is done through diff erent forms of representation of the data landscape (fragments of the manifold practice). In their turn, these forms of representations are realised with diff erent resolutions. The investigation, testing and experimenting with diff erent representations and diff erent resolutions in an inductive way form the basis of the doctoral research within the manifold practice.
This method of inquiring into the manifold is reflected in the panel on the right (see below) from a diff erent perspective and with a diff erent resolution. Some diff erent forms of representation and their resolution will be touched on later. The progressional collection of forms of representation results in a growing series of vantage points. This could be considered as ‚a theory ' ' (following the original idea of theory related to vantage point and perspective in the performance theatre).

NOTE: THE REPRESENTATIONS ARE REFLEXIVE AND EXPLORE THE SELF-INTERSECTION OF THE MANIFOLD. THEY AIM TO HIGHLIGHT AND MARK MOMENTS OF SELF-INTERSECTION OF THE MANIFOLD AS REPRESENTATIONS OF THE OPERATIONALITY.

The collection of vantage points produces some kind of feedback into the manifold

NOTE: IS IT USEFUL AND CORRECT TO CALL THIS A THEORY?
NOTE: IDENTIFY SOME KIND OF:

> (1) there is the production of and harvesting of new fragments feeding into and adding to the progressional data landscape (progressional just because of this feeding back into);
> (2) the representations can lead to input and firing of of new reactants in the manifold, refuelling the process;
> (3) the collection of vantage points leads to more clarity in the research map and the four dimensional space of the manifold;
> (4) the vantage points give the information, language, selection mechanism, filter, to curate and organise the data landscape (again a refuelling process of feedback).

NOTE: THIS DESCRIBES MORE OR LESS A MECHANISM OF POSITIVE FEEDBACK, WHAT ABOUT NEGATIVE FEEDBACK?

TRANSECT SPECTRUM CORE DRILLING (central panel)
The central panel of the triptych: Transect Spectrum Core Drilling, depicts the progressional spectrum of reactants and catalysts of the manifold practice. It is beyond the scope of this text to dive into the detail of this drawing. Suffice to say that it is an attempt to represent the increasing resolution from the most abstract (fundamental) concepts and themes to the resolution (settlement) into concrete architectural projects in the built reality.

THE DISCOVERY OF DARK MATTER (right panel)
The Discovery of Dark Matter, the panel on the right, in fact is an echo of and another kind of representation of the Yard and World Research Map, the panel on the left. The perspective and vantage point is diff erent and the resolution is diff erent. You could say that it generates a higher resolution. It zooms in on the progressional data landscape and cloud and the analysing (knowledge generating) and data structuring) level or state in the manifold.
The production of this panel led to the observation (discovery) that the mechanism of producing and experimenting with diff erent representations and vantage points, ‚Dark Matter ' ' of the manifold can be identified, explored.
Interwoven with the manifold practice there exists a progressional cloud of data built up out of fragments from the manifold practice. Through diff erent ways of organising, representing, layering, combining, analysing, close reading and what not, the relation or space between the fragments can be marked and identified. To paraphrase André Gide: this interval, this ‚M A ' ', this in-between, this un-space, between image and idea, between the world and the thing, is just where there is room for the knowledge (poetic emotion with André Gide) to come and dwell.
The proces again, mimics the overal mechanism and theme of an interdependent entanglement between the Yard and something else World that is at outset of the manifold practice...
This is a form of self-intersection where there exists an analogy between the ‚relationality ' ' of the fragments of the progressional data landscape and the architectural theme of Space as relationships. The ‚Dark Matter ' ' in this case is the knowledge that is implicit in the relation and ‚space ' ' between the fragments of the manifold. Part to Whole, Part to Part within the whole.
It is this Dark Matter that is the actual subject of research since it is what is keeping the progressional data landscape from collapsing onto itself. In this way the parallell with dark matter is eff ective.
It needs mentioning here that the observation and reflection on Dark Matter is a direct consequence from the drawing out of this zone of the manifold practice.

NOTE: USE ZONE INSTEAD OF LAYER AND LEVEL

This may also be the right place and time to mention some forms of representation that have been explored within the manifold. Some are more obvious like: academic papers and conference participations. Other relate more to practice and are exhibitions, reflexive drawings, models and Taxonomic Landscapes, performance outlines, performances &c.

On this third panel of the triptych a sort of section plane almost perpendicular to the viewer can be noticed. This section plane represents the harvesting of knowledge ' and feeding it back into the manifold, where it can become a new driver of the manifold practice, possibly leading to new fragments, new representations. In doing so it is keeping the data landscape / cloud progressional. This leads to the observation that the progressional data landscape entangled with the manifold practice, is both zooming in (focussing) and continuously expanding (diverging).

NOTE: THIS TRIPTYCH IS A MOMENT OF SELF-INTERSECTION REPRESENTING IN A WAY THAT REPRESENTS THE WAY OF REPRESENTING. REFLECTION <> NOTICELFER

MOMENTS OF REFLECTION: ON METHOD
AN (NEW) INTRODUCTION TO THE YARD AND WORLD PhD:
Moments of reflection such as the current updating of the CA2RE Berlin abstract, are used to re-write the summary of the doctoral research Yard and World. What follows is such an attempt. This short insert is like an embedded miniature of the whole Yard and World doctoral research in the current A1.
Yard and World: To Draw a Distinction: On the Form of Re-entry: A Practice: Between: Yard and World
The doctoral research Yard and World: To Draw a Distinction: On the Form of Re-entry: A Practice: Between: Yard and World: is practice based. Within this practice, that is a manifold composed out of four practices or dimensions, the idea of ‚space as relationships ' ' is explored. Space as relationships also considers space as interdependence and space as entanglement. These relationships, interdependences and entanglements are explores through and as a continuous shifting and (re-)negotiating of the form (of the enclosure). Distinction, Overlap and Interval are pivotal concepts within this framework.
Form this main line of inquiry: space as relationships, two lines of inquiry branch of: ‚Urban Condition ' ' on the one hand and ‚Architecture as a Cognitive Craft ' ' on the other.

NOTE: THERE IS SOME REASONABLE DOUBT THAT WETHER THE URBAN CONDITION IS A LINE OF INQUIRY.

The public debate, the public interior and circularity are at the core and apex of the manifold practice. The agency of the projects is to be found in the notion and ambition to explore how the private sphere contributes to the public realm (interdependence and entanglement) (discourse of project and context entanglement). At the same time the projects are designed as a continuous shifting and negotiating of the enclosure (expressed in form). Within the diff erent studio ' ' s of the manifold practice the question of space as relationships is explored.

NOTE: ENTANGLEMENT WITHIN THE 4 DIMENSIONS OF THE MANIFOLD. CAN YOU MAKE THIS DESCRIPTION FOR THE WHOLE OF THE MANIFOLD?

The second line: Architecture as a Cognitive Craft, finds it origin and relevance in a continuous exploring of models of production (of architecture, research, composition, discourse...) based on ‚critical making ' ' (ref. Tim Ingold). The manifold practice is driven through the production and curation of (architectural, musical, diagrammatical &c) artistic artefacts of inquiry. This embedded miniature line of research is based on the concept of ‚Contradictability '

NOTE: ON CONTRADICTABILITY: SEE TEXT PUBLISHED SEPTEMBER 2018.

The research method is inductive. The manifold practice produces a progressional cloud or landscape of fragments (data). The manifold practice is a chain of inductive events, where the production of an artistic artefact of inquiry induces others.

NOTE: PRODUCTION, TYPE OF PRODUCTION: IDENTIFY

Through experiments with representations with diff erent resolutions (analysis), vantage points (theory) are created. These vantage points are:
> (1) used to contextualise, reflect, organise and curate the progressional landscape of fragments
> (2) together with new ‚projects ' ' from the manifold, form the raw material from which new fragments are input (feedback) into the manifold.
The vantage points are there to shed a light on diff erent mereological negotiations and principles that are at the core of the operatonality of the manifold.

The goal and ambition of this doctoral research is:
> (1) to further the manifold practice;
> (2) to contribute to the discourse on the Urban Condition;
> (3) to contribute to the discourse on practice based research.

CURATING THE OUTPUT
THE PROGRESSIONAL LANDSCAPE OF FRAGMENTS AS AN ARCHIVE

NOTE: DEFINITION OF PROGRESSIONAL

As mentioned above the operationality of the manifold practice is driven as an inductive chain of events. An important aspect of the doctoral research is keeping track of those events and seeing how induction has agency within the manifold practice and hence the doctoral research.

NOTE: WHAT ARE WAYS OF KEEPING TRACK OF THE INDUCTIVE CHAIN OF EVENTS?

Artistic artefacts of inquiry are produced within the manifold practice. Mostly these are fragments of the design process. The collection of these fragments is assembled during the time of the doctoral research. Some of the items (fragments) in the collection date from before the official start of the doctoral research, you could call them in a way a back catalogue. Most of the fragments however are produced or harvested and collected during the doctoral periode. There exist may types of fragments and they are collected as prints on paper, models, books, reflections, observations, discoveries &c. It is already mentioned that the diff erent kind of representations with diff erent resolutions are a way of organising and curating these fragments.

NOTE: TAXONOMY OF TYPES OF FRAGMENTS

A particular way of curating and keeping track is the collation of fragments, representations &c in A5 folders. The items are printed on A5 paper and chronologically classified in black A5 folder (ring binders). At the time of writing there are 4 tomes in this collection. These folders are a kind of ‚Carnets de Bord ' ' or ‚Livres de Bord ' ' (Captain ' ' s Log) of the manifold practice chain of inductive events. The ‚Le livre de bord ' ' is the collection and registration, in a chronological way, of all the events, manoeuvres, observations &c on a ship. In exact the same way, the A5 rind binders, register the artistic artefacts of inquiry, the observations, manoeuvres, reflections, doubts, discoveries, projects, performances, taxonomic landscapes, representations in and of the manifold practice. The collection since it is a reflection of the data landscape of the manifold practice, is progressional and expanding. It is a contemporary hard copy archive.

ON MEREOLOGICAL NEGOTIATIONS
OVERVIEW ‚ ORTHOGONAL PERSPECTIVE:
In the text above, the concept of ‚mereological negotiations ' ' is used a couple of times. The concept of mereology found its way into the manifold very recently. At the moment it seams a powerful concept to describe the mechanism of the operationality in and of the manifold practice. But on top of that, it seems a promising concept to talk about the main line of inquiry: space as relationship and the continuous shifting and negotiating of the form (of the enclosure) that is the thematic framework of the manifold practice.
In a close reading of two drawings by Flemish Architect Julien Lampens, Jo Van Den Berghe writes: ‚The first drawing describes ' ' in detail ' ' a fragment of the house. The architect has to organise a mereological negotiation between the whole and the detail, and this negotiation passes through the fragment. Hence, the role of the architectural fragment is crucial, and the meaning and information that oscillates between the whole and the detail passes through the fragment. '
In the same way that the architectural detail is entangled with the project for which it is designed, the mereological principles of part to whole and part to part within the whole resonate with the operationality of the manifold practice.
On diff erent levels (and in diff erent ways) the part to whole relationships are central to the manifold practice:
> (1) On the idea of distinction, overlap and the interval (a concept of space, space as relationships, the urban condition);
> (2) obviously in architecture as such: detail to project, spatial reflexivity;
> (3) on the way the knowledge is made apparent and actualised;
> (4) The parts of the manifold to each other (part to part, fragment to fragment) and part to the manifold;
> (5) Architecture as a cognitive craft (contradictability of the artefacts of inquiry): how the economy of production could be influenced and steered from the idea of Mereology: because the information is located and situated in the relationship and not only in the documents;
> (6) Fragment to manifold practice and;
> (7) Yard to World etcetera.

The doctoral research is in (1) recognising this as fundamental in the operationality of the manifold; (2) explicating this in the curation of the artistic artefacts of inquiry; and (3) experimenting with this in a recusive way, embedding yards, in worlds.

The relationship of part to whole, and part to part within a whole is the fundamental mechanism of the manifold. The original abstract is inserted in this new abstract as a miniature version of its previous self. As a Yard, it finds itself embedded in the current abstract that is a World. A World in relation and as such becomes a new Yard. Continuous shifting and negotiating of part to whole relations, and part to part relations within the whole is the fundament of the manifold practice.

NOTE: HOW DID THE EXPERIMENTING EXISTS WHITIN THE MANIFOLD..?

YARD AND WORLD: SPACE AS RELATIONSHIPS IN A MEREOLOGICAL NEGOTIATION: YARD AND WORLD IS A FRAMEWORK. IT REPRESENTS THIS DOUBLE AMBIGUOUS SITUATION OF BEING DISTINCT BUT WITH OVERLAP. OF BEING A ' YARD ' DISTINCT FROM THE ' WORLD ' BUT OVERLOOKING THE ' WORLD ' AND BEING PART OF THE ' WORLD ' , A ' WORLD ' COMPOSED OUT OF ' YARDS ' . THIS DESCRIBES A SPECIFIC KIND OF RELATION. IT IS THE ARCHITECTURAL EXPRESSION OF THAT TYPE OF MEREOLOGICAL RELATION THAT IS EXPLORED IN A MANIFOLD PRACTICE. TO DRAW DISTINCTIONS BECOMES THE CENTRAL ACTIVITY IN THE MANIFOLD PRACTICE. DRAWING A DISTINCTION IS BOTH AN OPERATION IN SPACE (YOU CREATE SOMETHING WHILE NAMING IT) AND AN OPERATION IN TIME (THERE IS A BEFORE AND AFTER). DRAWING DISTINCTIONS IS A RECURSIVE EXPRESSION THAT BECOMES THE CORE OF THE ~~BROKEN MECHANISM~~ MANIFOLD PRACTICE.

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