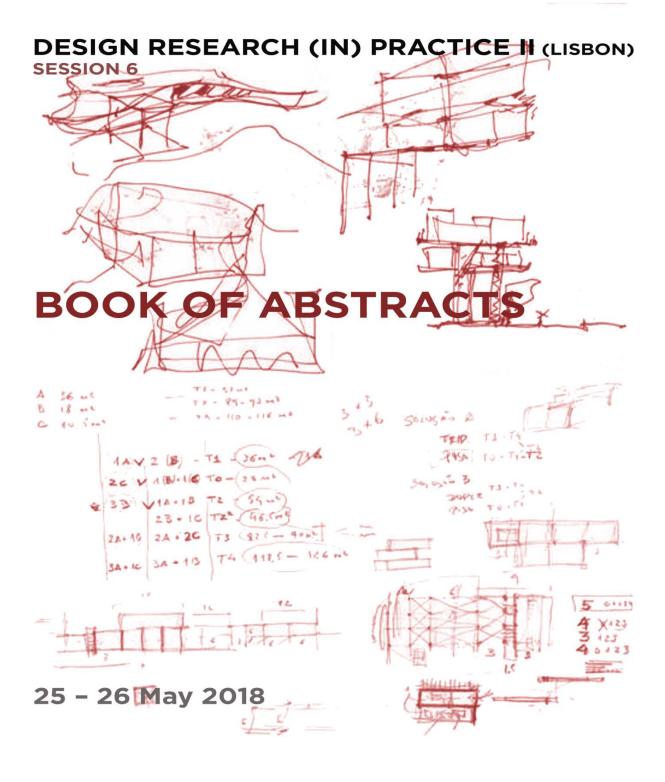
DR_SOM Design Research Series on Method







A R E N A DR_SoM

Design Research, Series on Method

Lisbon, Portugal Travessa do Carvalho, 23

Sede da Ordem dos Arquitectos

25 - 26 May 2018

series 6

Design Research (in) Practice II

BOOK OF ABSTRACTS

The sixth session of DR_SoM (Design Research Series on Method) take place at the Chamber of Architects (Ordem dos Arquitectos) in Lisbon. For a second time, after the session in Reading, UK, April 2016, we focus on research methods used by practitioners, architectural and other, for the study of practice. We are looking for presentations of projects and practices that frame design in a rigorous way, in terms of aims, methodologies, and forms of critical reflection that might even acknowledge and celebrate the importance of innovative spirit, meandering and failure. Presentations are invited from architectural practitioners who are undertaking research in practice and from those who are studying the processes and methodologies of practice research. We want to hear how practitioners proceed with their design-related research, how they think about the ways in which their design approach contributes to or increases knowledge about design and building.





Despite the efforts that have been made throughout Europe to foster and develop design research, which we see as a subset of a broader scope of architectural research practice, there are still difficulties for practitioners to incorporate (design)research into their professional design practice. Nevertheless, professional practice provides privileged conditions for research that are out of reach of formal academic research conduct. We argue that, although project-bound practice is not immediately constituted as research, it contains in itself a variety of possible methodologies that can be approached as research. From the basic ordering, inquiry and collection of information that is needed to support design, passing through the multidisciplinary connections and contributions of different agents of the industry, until the more reflective and artistic aspects of design as creative practice, architectural practice offers a diverse world of activities of inquiry.

Although nearly all architectural practices offer spatial and tectonic solutions to complex problems, they differ widely in ways in which they do this. Each practitioner has different methods, priorities, region contexts and concerns, which influence their methodology, practice and results. Their explorations lead to new knowledge and insights that transcend the particular project that is developed. Too often however, this knowledge and these insights remain inside the walls of the office. There is a need for sharing these insights and their underlaying methodologies.

The aim of this DR-SoM session is to explore each of those activities and their fuzzy limits, with a special interest in elucidating the notion of research by design, and its potentials in and for professional practice, Moreover, if we are to bring design research in practice to the level of recognition that it deserves, we must find ways to assess research excellence in full respect of the diversity in which it operates. Therefore, the DR_SoM session will explore this diversity of practice methodologies and value them in the broad range of practice-based research.

Johan De Walsche (UAntwerpen) João Barbosa M. Sequeira (UBI-DECA / UL-CIAUD)

Urs Hirschberg (Chair of ARENA)
Paula Torgal (President of OASRS)





programme

Day 1 | 25 May

13:00 Check in

13:30 Welcome Speach

14:00 Keynote Speaker | Paulo Martins Barata , PROMONTÓRIO Harvard Square Theatre: A Case dor Design Process in the United States

14:30 Maria João Pita | Atelier da Rua

15:00 Pedro Pinto e Bernardo Miranda | From the Site to the logic of a Place

15:30 Coffee break + Poster informal presentations

16:00 João Quintela | Kernform vs Kunstform

16:30 Cláudia Gaspar | Walking as reading instrument

17:00 Roundup | Discussion

17:30 Cocktail drink

Day 2 | 26 May

09:15 Check- in

09:30 Keynote speaker | Joana Pestana Lages
Practicing as a verb. Practicing a an adjective

10:00 José Cadilhe | Emergent forms throught material behaviour

10:30 FORA Architects | Architecture as a device

11:00 Atelier dos Remédios | Atelier dos Remédios

11:30 Coffee break + Poster informal presentations

12:00 Bruno Duarte Dias | Biophilic Design

12:30 João Soares, Sofia Salema, Pedro Guilherme | Territory and instrument as

process and apparatus, the Évora experience

13:00 Roundup | Discussion

13.30 Acknowledgements Paula Torgal, President of OASRS





25 May

(14:00h - 14:30h)

Harvard Square Theatre: A Case for Design Process in the United States

Paulo Martins Barata PROMONTORIO

(Keynote speaker)

The case presented is an ongoing project for the design a a small office building (with a theatre on the basement), located in the heart of Harvard Square, Cambridge, Massachusetts, adjacent to the university's famous historical buildings in a unique and highly delicate context. The presentation highlights the initial concept and its evolution, the search for local associate architects, the media and the heated discussions, the community and town hall presentations, the client's vision and even more technical issues such as the BIM management process and coordination with the different specialists and engineers.







(14:30h - 15:00h)

Atelier da Rua P04

Maria João Pita

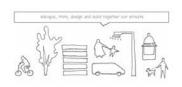
Atelier da Rua is i) a project to talk, think, design and build together our streets; ii) an urban design methodology towards a more participated city, linking local, global, traditional and innovative resources; iii) a tool for projects imagined, designed and built with the community throughout the different stages of the process to improve the public space and create more human and valued places.

Atelier da Rua defends a permeable and positive dialogue of skills between public and private sector, where the main goal is to help to build up common ideas about common places that can emerge from local authorities and/or from local citizens.

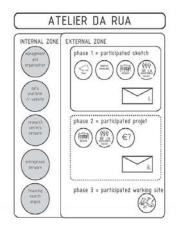
Between urban design, architecture, sociology, governance, participated processes, social entrepreneurship, civic design... Atelier Da Rua concept was developed by a group of architects and urban designers of different generations spread worldwide. The project was finalist of IOP'2014 - a social entrepreneurship competition; of the NUFF'2015 - New Urbanism Film Festival; and the CreaRÎF'2016. Since 2016 Atelier da Rua is part of CivicWise - a distributed, glocal and open community with the mission to empower citizens by fostering collaborative urbanism, promoting civic innovation and inspiring better civic engagement.

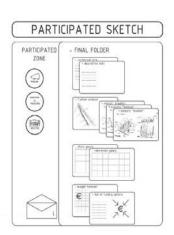
As mentioned in Architectural Design Research Symposium at Venice Architectural Biennale 2014, Atelier Da Rua addresses different issues through the design production process of public spaces as activity productively engaged. Thus contributing to the shift from the individual and the monumental to the collective respecting common place activity of everyday life and the crucial role of globalization in 21st century research (FRASER, 2014)















(15:00h - 15:30h)

FROM THE SITE TO THE LOGIC OF A PLACE: rehabilitation of three residential buildings in Porto (competition, 1st prize) P14

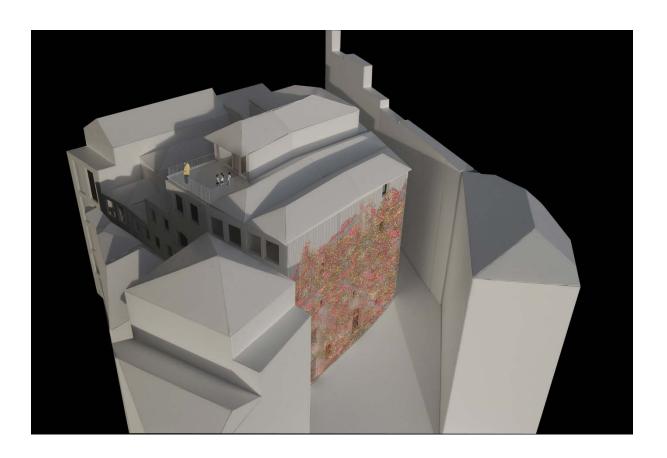
Pedro Luz Pinto

Bernardo Pizarro Miranda

This presentation will show how in the design submitted to a contest the work method would be decisive for the condition of the overall final solution. In this methodology drawing remains as a research instrument, but it is either associated and putted at the service of a more complex mechanism: a critical thinking about the circumstances and cultural significance of the design problem.

The team brings together two architectural design teachers and, in a way, reflects in its operating methodology a process where formal values are framed and evaluated in the context of a collaborative process: as a team work, hence constituting a synthesis that represents multiple circumstances, on which architecture "depends" and which does not necessarily transcend. The design of decisions was built upon a process, which includes validation tools such as diagrams and analytical schemes, in addition to the traditional argumentation in work meetings.

In these design case the circumstances were varied and included urbanistic, architectural, historical, economic, technological, cultural and artistic aspects. Some of the aspects will be markedly social and collective, others seemingly more individual. Overall, the solution is a synthesis that runs several risks, both positive and negative, including, in this case, a proposed "programmatic and functional shock", that will provide a new intensity and identity to the competition place.







(16:00h - 16:30h)

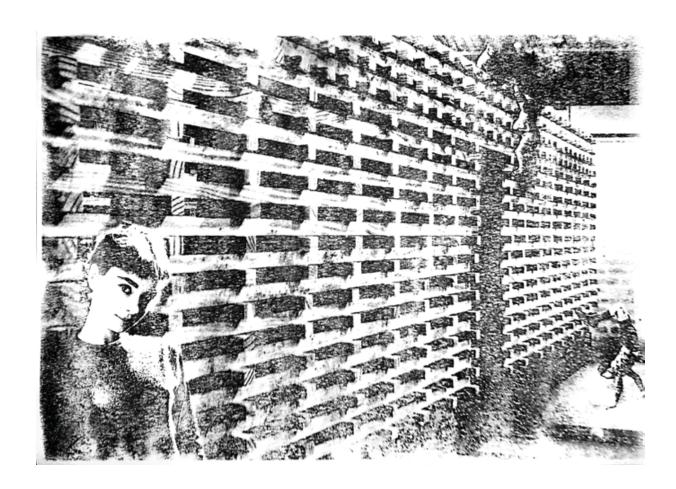
KERNFORM VS KUNSTFORM P24

João Quintela (JQTS)

We know Architecture is a very complex system where easily one can be lost on the process while facing specific challenges. So, it has been always our decision to go back to a common ground where any universal approach is the starting point to a specific answer.

Our proposal for the presentation is to make a short travel through the projects that we have been developing over the past few years focusing on the symbiotic relation between the resistant structure (kernform) and the spatial structure (kunstform) through a certain material. This is not only the point that we are exploring along with the studio practice but also the main issues that we are researching on our PhD thesis as well as teaching activity.

In our times any construction is possible to realize and any materials are possible to use either in a good or fake way. Our main concern is to respect the idea of structure as the only way to stand any construction, doesn't matter the scale, place, cost or function. So, we assume that it should be consequent with the material, it should be used in a logical way (with is different to say 'rational'), it should be rather symbolic, it should give the character to the project, it should be true, and mostly, it should be the starting point to generate the architectural space in itself.







(16.30h - 17:00h)

Walking as a reading instrument P29

Cláudia Gaspar

The work presented concerns a – by design research that uses processes and methodologies common to the architecture practise. Walking as a reading instrument is the strategy used on the field work upon the Alentejo southern coast Montes – vernacular buildings that embody the intrinsic values of ancient tecnics and building culture.

The conceptual approach of the data collection was made according the motto – collect by foot – where the walking act arises accurate spatial perceptions (Francesco Carreri).

On the field work are implied 693km walking and 688 Montes identification. 112 Montes where described and cartographed. 68 detailed drawings produced. A meticolous data crossing of different cartographies was done spanning from 1883 Perry first charts to Google and Bing maps, and direct survey. Such work resulted on accurate mapping update and in a detailed data base. The survey work interlocked a propositive dimension since served for the production of architectonical hypothesis: 6 scenarios and 3 projects. The interpretative reading of the collected data and the prospective dimension of the PhD research used are likewise methodologies common to the architecture practise.







26 May

(09:30h - 10:00h)

Practicing as a verb. Practicing as an adjective.

Joana Pestana Lages

(Keynote speaker)

The presentation explores the blurry frontiers of research made by architects, bridging methodologies that are usually not perceived, or even accepted, as part of the scientific method. The discussion inquiries what constitutes 'valid' research, when it comes to using design as the main constituent of a participatory process addressed to disenfranchised communities, in the project Este Largo Podia Ser Assim (This Square Could Be Like This). It also questions research by design as a methodological tool for designing futures, illustrated by the project Excesso de Futuro (Too Much Future), where people were asked to imagine their city be like in 100 years' time. Those explorations, overcrossing different knowledge fields (architecture, urban studies, cinema, pedagogy) and different characters (activist, practitioner, researcher) expand the limits of the profession, calling for a deeper comprehension of the role of architects, today.







(10:00h - 10:30h)

Emergent forms through material behaviour

José Cadilhe

In 2013, Lars von Trier presented the film "The Five Obstructions", defying Jorgen Leth to reinvent his short film "The Perfect Man" proposing five different constraints for each attempt. The interesting factor is that the strong prescription of such "obstructions" were important creative triggers. Therefore, and as a tribute to this exercise, the proposed presentation will focus on some experimental projects that we have done during the last years. Five different projects will be presented: each uses a different material, method (analogue or digital) and fabrication technique.

However, all of them respond to the same goal: emergent forms through material behaviour.

More than experimental architectural projects, these exercises question conventional methods of design and highlight alternative and innovative opportunities to engage within the creative process. A series of analogue and digital models, taking advantage of emergent results and their inherent qualities will reveal new boundaries and potentials for experimentation. These are mainly taken as opportunities to question the limits and limitations of the discipline.

Failure is accepted as a critical ingredient to enhance the creative process. Also, it questions the conventional role of the designer: here taken as orchestrator of a process of becoming instead of prescribing a final form.







(10:30h - 11:00h)

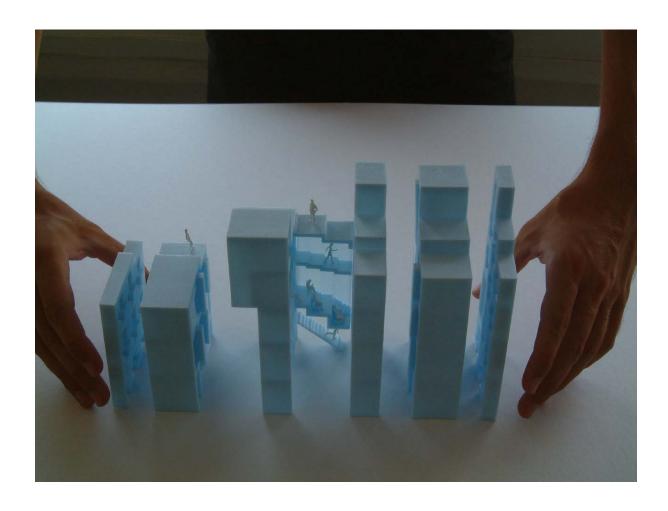
Architecture as a Device

FORA Architects - Raquel Oliveira I João Fagulha

When FORA was created in 2011, we ambitioned that the work produced by the office would "continuously explore the relation between public and private realm, and the role of architecture as the ultimate social tool." This operative character of architecture has been the subject of a continuous research since the beginning of the office through different formats and scales of work: competitions, private commissions, publications, conferences, workshops, art installations.

We understand architecture as a device that acts upon an existing condition generating an opportunity to reinvent the traditional oppositions – public/private, family/social, work/leisure, sacred/profane – that define and shape the space and its users. This research becomes even more relevant, when acting on the existing – rehabilitation – is the present day reality for architecture.

We propose a presentation about our conceptual research on architecture as a device illustrated by the projects we have developed through the years. More than presenting the design process in itself, we would like to present a non-linear timeline of our work showing how the juxtaposition and simultaneity of different work formats have allowed us to develop a continuous research and consequently have a more conceptual and critical approach to design.







(11:00h - 11:30h)

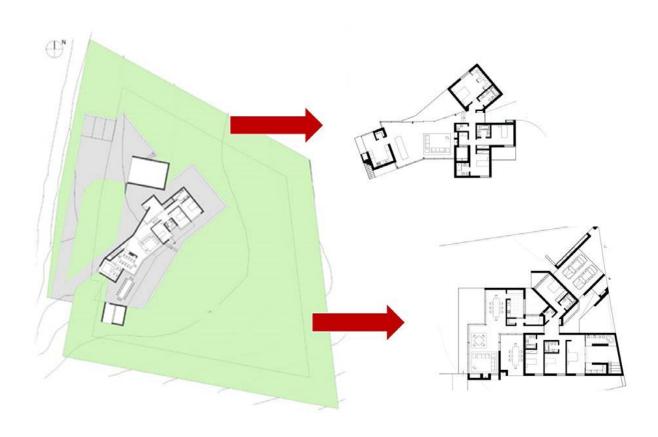
Atelier dos Remédios

Atelier dos Remédios

We follow a multiple approach on inventing architecture. By questioning the essence of problem that origins the project we address not the problem itself but all issues involved in its poetic, cultural, functional and physical resolution. Simultaneously, geometry and form investigations, awareness of real geographical and contextual conditions, interior/exterior relations or progression from social to private are always interconnected themes that are conceptually worked all over the process of developing the house project.

Three-dimensional exploration of spaces and its interrelation are worked, were the plan plays a major role as tool for testing threshold spatiality. Sections and physical or digital model experimentations help the laborious exercise to find the right place of all inventions and assumptions that went released in the design.

Following a method of discovery and exploration of their potential, all architectural research within he project do not tend to pursuit or force an architecture into an image. It's a quest of the poetics of space were cultural references are naturally integrated in the process. By doing this, we create our own vocabulary of houses types that are freely adopted and transformed by us from one project to the following, inducing continuity and diversity in our architecture.







(12:00h - 12:30h)

Biophilic design P20

Bruno Duarte Dias

The project I'm currently developing is a small condominium of four houses. The aim was to develop a high energy efficient building with a lower environmental impact than conventional ones (ETICS, double wall). It's a wood structure self–supporting exterior wall system that can use several renewal insolation materials (straw, cork, rice ash, etc.) or even recycled (recycled textiles, etc.). Circular economy principles direct the design to allow the building to be moved or disassembled totally in a way almost all the materials can be reused. This solution was tested in a civil engineered lab through a research project and now is in the patent phase.

The houses were designed under the principles of Biophilic design, where the connection to natural elements is crucial. Integrates several solar passive design features. The project aims to integrate a small food forest and apply regenerative agriculture practices that can increase the health of the soil and water of the site. Using the lens of Regenerative development, the aim is to go beyond design solutions to see how it could contribute to the wealth of the natural and social systems that is nested in (something that is not defined).







(12:30h - 13:00h)

Territory and instrument as process and apparatus, the Évora experience

João Soares; Sofia Salema; Pedro Guilherme

In a methodological approach where the design trial is structuring, two different instrumental branches are considered: at conceptual level, related to thought; and at the level of action.

By acting on these two scopes it becomes evident that the handling potential and applicability that an instrument contains induces possibilities that, in the process of materialization, will require further corrections in a feed-back movement. The instrumental and conceptual versatility and the hierarchy and sequence of the binomial "action/thought" are simultaneously tested.*

"Given a certain effect, what machine is capable of producing it?"**

The instrument, equipment or "gerinçonça", is configured by the needs that the effective goals to reach a certain effect raise. Inherent to the instrumental condition is the sense of tuning, adjusting, deep down the ability to adapt or tailor something generic to specific. This is done by introducing applied knowledge.

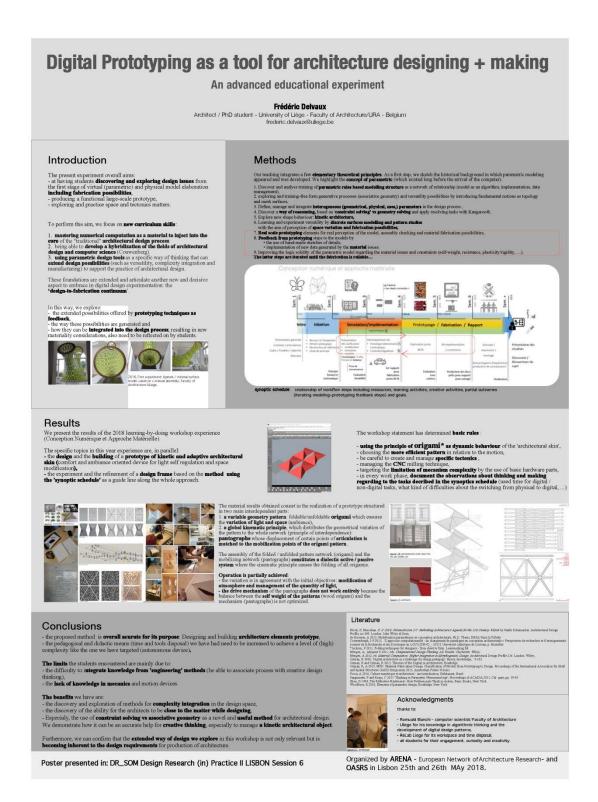
Drawing on the work developed in DAUÉ exposing methodological proposals (such as systematic readings on the territory, walking strategies and non-conventional photographic survey are considered) and instrumental responses of invention and construction of artifacts capable of producing elements of representation) we intend to discuss the evoked action/thought relations







POSTERS



As teachers in a Belgian Faculty of Architecture, we present a learning-by-doing workshop experience. It aims to achieve on one hand the design and the building of a prototype of kinetic and adaptive architectural skin and on the other hand to develop a design frame. Frédéric Delvaux - Faculté d'Architecture de l' Université de Liège





Design Research (in) Practice II

Series on Methods (DR_SoM) 2018

THE EXPANSION OF THE FDUL LIBRARY

Ana Paula Pinheiro, Architect PhD Rui Barreiros Duarte, Architect, Full Professor Retired



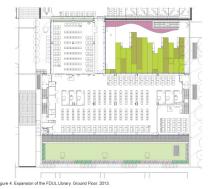
igure 1. Expansion of Faculty of Law (FDUL) by Ana Paula Pinheiro and Rui Barreiros Duarte, 2001. Southeast view.



Figure 2. Expansion of the FDUL Library by Ana Paula Pinheiro and Rui Barreiros Duarte. Southeast view. 20



The whole project was thought according to sustainable construction principles, using zero-emission materials. (Kibert, 2008)



The goal of the project was to make a synthesis between Architecture and Sustainability, exploring the simplicity of the design, minimizing the environmental impact considering all phases of the building life cycle - design / construction / deconstruction.

deconstruction.

By making Architectural Rehabilitation in a passive and active sustainable manner, we considered environmental issues whose development has envisaged energy efficiency by maximizing available resources in order to reduce energy needs.

The option for green roofs was derived from the visual insertion in the surroundings and took into consideration rainwater filtering as part of a natural rainwater management system, reducing heating and cooling costs and improving air quality.

management system, reducing neuting and cooling costs and improving air quality. The maximum possible natural light was used, fulfilling the parameters of the sustainable construction, being able to expand the Library to be considered a green building and "NZEB".

building and "NZEB". High-efficiency photovoltaic solar modules were included in the southern facade. These modules extend through the coverage in a metric of green stripes, combining technology and design.

The photovoltaic panels act as a loose skin of the building and can be disassembled when it is necessary to enlarge the Library in height having, for that purpose, been foreseen the structure reinforcement.



Figure 5. Expansion of the Library of FDUL. East view. 2013.

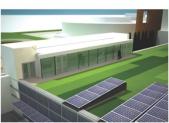


Figure 6. Expansion of the Library of FDUL. Green roof. 2013



Figure 7. Expansion of the Library of FDUL. Reading room. 20



Figure 8. Expansion of the Library of FDUL. Eastern courtyard. 201

The goal of the project was to make a synthesis between Architecture and Sustainability, exploring the simplicity of the design, minimizing the environmental impact considering all phases of the building life cycle – design / construction / deconstruction. Ana Paula Pinheiro and Rui Barreiros Duarte. RBD. APP – Arquitectos, Lisbon.





JUHA LEIVISKÄ: PHENOMENOLOGICAL APPROACH TO ARCHITECTURE

Arch. Sara Molarinho (Phd Cantidate)

Director of Thesis: Phd Arch Lluis Angel Dominguez GIRAS - Grup Internacional de Reserca en Arquitectura i Societat UPC - Escola Tècnica Superior d'Arquitectura de Barcelona





How architecture affect our body, our brain, our movements and social behabiour?

As architects are we conscious of the impact of our buildings

How does the morphology of the spaces affect human development and behavior, not only on an individual experience but also in a collective level?

"I believe that neurosciece can reveal and reinforce the fundamental embodied, and biological essence of profund architecture against current tendencies toward increasing materialism intellectuallization and commodification"

> (PALLASMA, Juhani (2015), Body, Mind, and Imagination: The mental essence of architecture, In S. R. Pallasmaa (Ed.), Mind in Architecture: Neuroscience, embodiment and the future of design (pp. 51-74), Combridge: The MIT Press.

"Leiviskä buildings have something about them that surrounds or embraces a visitor physically and emotionally. This feeling of relaxation and security is precisely the quality most lacking in contemporary architecture."

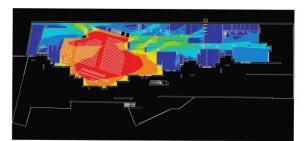
OSHIO NAKAMURA'S inroduction to a special issue dedicated to the



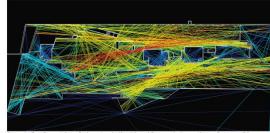


Juha Leiviskä is one of the most important Finnish architects alive from the XX century. His nordic influences and sensibility to phenomenological dimensions of architecture as duality of light, his approach to the materials, his musical influences as pianist, the way he represent times throught the light on this spaces represents an apportunity to quantify how modern architecture is capable of producing sensory effects on it's users.

At this moment we are developping several studies to verify the impact of Mannisto Church on the users, through open interviews and questionnaires to the users. Among other techniques used to measure architectural experience like the measurement of eye movements to verify wich points of this space qualify by light capt our attention and also Space Syntax present on this poster.



Graph 1. Co-presence map of Mannisto Church from Space Syntax program (Own elaboration, Grupo Giras UPC, 2017)



Graph 2. Graphic of visual relatioships (Own elaboration, Grupo Giras UPC, 2017)

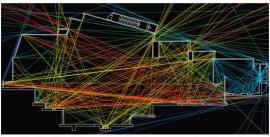
Morphological Analysis of space:

Graph 1. Presence and Accesibility map, was define as a topographic method that allows the representation and interpretation of spacial configurations. From axial graphs we verify the presence on spacial units.

Graph 2 and 3. Visibility map, this methodology represent different types of visual relationship between several points within a built environment. Establish visibility relations between successive axes arranged within constructed environment, analyzing the relation of these points in the visual space from primary to secondary.



Areas or spaces conducive to more presence and highter visibility axes Areas or spaces conducive to less presence and less visibility axes



Graph 3 . Graphic of visual relatioships (Own elaboration, Grupo Giras UPC, 2017)

Design Research (in) Practice II (Lisbon)

This poster has been made in the scope of a doctoral research at UPC_ETSAB for presentation on Design Research (in) Practice II in Lisbon. – Sara Molarinho / GIRAS Group – Universitat Politècnica de Catalunya





A COMPETITION ON ARCHITECTURE AND LANDSCAPE DESIGN:

THE CONSTRUCTION OF A COMMON RESEARCH











METHODOLOGY AND RESEARCH

Following an opportunity for a design competition including both Architecture and Landscape design, in a site that had been already studied by teachers and, students in an international summer workshop, a new original joint proporal for the competition was drafted.

intulginus the wrote besign project the inercocliphary experiences were all culated—insoy addressed in the pedagogical field with the international workshop and then in the professional context.

The disciplinary integration included a real project work, the adaptation of concepts and terminologies, the adjustment of types of discourses and arguments and methodological and instrumental cooperation.

Constitution for the state of t

Integrative design (integrating architecture, engineer and landscape, connectivity, network, indoor outdoor, borderiess).

Dynamic and evolutionary design (workshop and competition, importance of time and, space, space) for time and space, in time and space, with time and space).
 Severally and recommendate design (conservation, month) ecology, transition, providing.

Strategic design (system approach, ecological infrastructure, open design, sense and identity
of place, embodied experience).
 The possibilities of a vivid research dialog, negotiation and joint enrichment induced the pro-

jet as a mesench event "on", "about" and "in" architecture and landscape design. The competition provided the need for innovation, indusing a mutual solution to a problem by the transisticiplinary artistic research, born arrists different researchers and teachers that contribute with their visions and abilities to a common idea for a perjicit.

The competition, the project, the method is of service to each individual researcher and collectively to the project, and gives visible proof of the need of collaborative or cooperative learning and of competition as faction for competition as faction for competition.

DRAWING THE SPACE

in Alausea, Mira Lagos is a unique prace, distinguished by the exceptional position in the tent tony, great visual domain on the great Lake, the dam, the Caudaina and the surrounding land scape. The uniqueness of the site also laters from the almost dramatic artificialization it presents between the landscape and the scale of the infrastructure associated with the dam.

During the construction of the dam and the supporting infeaturations: It was necessary to concervable and tear the super in Init (en descripting this place, of this algory with new polarions, deprendions and great unatural vertical planes. This transformation process alress this loops, rapin, derivelyed the segistation cover creating and only a significant resignior instant on that interesting, but all only all places of the structures resulting from the veries interesinstantiance, in particular all stage paved shaft with a long budnar lane and the set of signtrocks in self-terms content.

Recogniting the interiors; privileged and strategic value of this place, for the location of the Adjusted Barm-Coversion and Communic Center and interprivate Centre (PCC), the project enterty produces to risk build be first the place. The project is thus an opportunity most only to indithe PCCC(b) and so tree build an electrope and originated enterty (or equal the first limit and promote the protection and voluntation of amen. The flavor a triply incological sensitivity from project extends to the territory of Minis Lapas (with access by the PLSS road) and its conceived as an integral part of the PCCC. In this environment is byparened to producing the fill it.

caived as an integral part of the POCC. In this environment it is planned to redespo cover with the vegetable cover identity of this flandscape and, also, to create plant too, of stay and viewpoint. The paths (effect or wandering) and vegetation brisble of the ecology of the place) become, therefore, structuring elements of the projec-









A Competition on Architecture and Landscape Design: the construction of a common research. Pedro Guilherme, Sofia Salema and Conceição Freire – Faculdade de Arquitectura da Universidade de Évora~





Scientific committee (DR_SoM – ARENA)

João Sequeira, UBI-DECA / UL-CIAUD (coordinator)
Johan De Walsche, UAntwerpen (project leader)
Oya A. Franck, ZHAW Winterthur (project leader)
Roberto Cavallo, TUDelft (project leader)
Murray Fraser, UCL Bartlett
Flora Samuel, SoA Reading
Pieter Versteegh, ESA-PSYCHE
Torsten Schröder, TU Eindhoven

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