Materiality in the Architectural Studio Process, Good Practices

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Vaso Trova
Iris Lykourioti

caleidoscópio

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Preface by
Nur Çağlar

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Preface

Richard Sennett says that the technical word 'dialogic' names attention and responsiveness to other people. Furthermore, he continues, *"Usually, when we speak about communication skills, we focus on how to make a clear presentation, to present what we think or feel. Skills are indeed required to do so, but these are declarative in character. Listening well requires a different set of skills, those of closely attending to and interpreting what others say before responding, making sense of their gestures and silences as well as declarations. Though we may have to hold ourselves back to observe well, the resulting conversation will become a richer exchange for it, more cooperative in character, more dialogic."* (see note). Sennett's words evoke the essence of sharing good practices, too.

Recording, documenting, and publishing the good practices materialized in architecture schools, especially in design studios, are the initiatives that are vital and efficient in many ways. They encourage thinking and writing about studio practices. The more we write, the more we see, the more visible our generation becomes. Increased quantity of good examples enhances visibility and, therefore, awareness. We possess up-to-date communication resources on intellectual and operational approaches to architectural design.

Good practices are inspirational to self-assessment and maintain the quality of other practices that have become standard ways of doing. Good practices are essential for correctly worked processes. They are simply a good way to do things, achieved through trial and error, and found to be the most effective way to proceed. Establishing good practices of a specific area of expertise, architectural design studio, for example, is an integral part of making everything work smoothly and efficiently in the studio and managing better and more efficiently with fewer problems and mistakes. It is a framework for success and the minimization of failure.

Good practices are especially significant because they are open and dynamic structures. They change over time, as technology and situations change. They keep strengthening into new and better solutions, evolve from better

awareness, new technology, or entirely different ways of looking at things. Sharing good practices improves skills to communicate, cooperate, exchange experience, and inspire other practices. Therefore, the good practices motivate the desired achievements.

From time to time, revealing our intellectual knowledge of architecture and studio practices allows us to rethink what we do and how we do it and review our practice in architectural design environments. Re-evaluating these opportunities encourages us to start over, maybe this time to start otherwise. We envisage architectural design education's content and context and how we do it, examining its pedagogy, educational principles, goals, approaches, and architectural design tools. It covers the design processes, strategies, actions, operations, and studio products from a broad perspective. In this context, while contributing to the strengthening of the dialogue between architectural design and research and deepening the studio experience, it is also the starting point of creating a communication network between architects in professional and academic practice.

Exploring good practices merely is taking the time to research. The studio is a research model and procedure and the source and object of design research. The proliferation of communication resources on good studio practices prepares the ground for the exploitation of research potential. I believe the book we have is one of the steps taken in this way.

The context and content, tools, and architectural design actions are continually changing, diversifying, transforming, and evolving. The expansions on the way these innovations are articulated and transferred to architectural education are diversifying. The proliferation of architecture schools is expanding the range of approaches to studio practices. In this case, the emergence of polyphony and diversity in architectural design education and practices becomes an inevitable result. Therefore, efforts to create resources on studios gain importance in making diversity, different and similar qualities, changes, and developments in education visible.

Diversity inevitably reflects on the quality of education and the skills and competencies of graduates. However, the architectural environment and the nature of our built environment do not change at the same pace. Besides, the changes do not produce very positive results. However, the shortest and most effective way to change our architecture is to change education. Therefore, it is beneficial to concentrate on research and studies on architectural design education.

For a long time, the research potential offered by the educational and methodological approaches, setup, and similar qualities of architectural design studios is very high. Most architecture school studios periodically turn the work done. Sometimes it creates potential in quantity and quality, although its purpose does not go beyond school promotion. However, we have yet to develop an exact model, method, or approach to managing this potential.

The general and comprehensive approach that I also care about and support is that these studies provide us with a map. A map is a tool for navigating, and it is a readable text. However, unlike conventional texts, maps are flexible and repeatedly readable texts that we can change the starting point, direction, and reading method as the purpose differs. Therefore, each reading offers a new opportunity to establish new relationships and produce a wide variety of information to guide understanding and transforming educational approaches to architectural design. Synchronous reading helps understand the diversity, similarities, and differences in architectural design studios' educational materials, contexts, and pedagogies. Empirical research on architectural design studios contributes to reconstructing architectural discourse with the studio's data and the theory and culture.

Therefore, this book and similar investigations are significant. We should all continue to do our part in creating and maintaining autonomous, open, and authentic learning environments. We should not forget that small touches

can make a big difference. On this occasion, I would like to thank one of our project partners, University of Thessaly, Department of Architecture, for hosting this valuable event, participated colleagues for making the event possible with their presence and precious contributions, and dear Vaso Trova and Iris Lykourioti to collect and edit the intellectual outcomes of the event in this book.

Nur Çağlar
Project Coordinator of MATERIART

Note

Richard Sennett, *Together: The Rituals, Pleasures and Politics of Cooperation* (New Haven and London: Yale University Press, 2012), 14.

Materiality in the Architectural Studio Process Good Practices

Materiality is a major component in architectural design education. Different methods are used depending on the level of students' education (introductory year, middle years, final year, post graduate studies), the curriculum and the identity of each architectural school.
Students are introduced into the use, aesthetics and mechanics of real materials; they learn how to use materials in symbolic ways in order to represent material reality; they learn how to experiment with non material imageries (VReality) in order to rethink spatial materiality; they learn the techniques, the social aspects and impacts of material production. Handwork, manufacturing as well as high tech, digitalized material production processes are considered as distinct sets of knowledge to be taken into account likewise. They are equally important for the overall training of students of architecture since they provide a diverse context in the shaping of our material cultures.

In September 2018 the Dept. of Architecture, University of Thessaly organized the *Volos Tutors' Workshop* within the framework of MATERIART project. The workshop functioned as a platform of exchange of good teaching practices of different schools of Architecture with regard to the methods used to integrate materiality in architectural studios. During the presentations and the discussions, a variety of methods and tactics have been presented and discussed, ranging from computational design to quick concept modeling.

Materiality as ***techniques*** can be understood in terms of the materiality of the final constructed product (a building, a structural detail, an object).
A number of participants have shown how the specific restrictions, the potential and the structural properties of materials which are going to be used in the implementation of the project, have to be incorporated into the design processes and therefore shape the final outcome. This doesn't necessarily mean the subordination of the creative process to a technical

reality. On the contrary, the challenge refers to the negotiation between imagination and technical frameworks and could lead to innovative results. Materials can function as a ***media*** isolating and transferring qualities of urban scale to abstract models. They enable us to focus on the specific which is normally interrelated – and therefore hidden- in the interweaved world of urban experience. Materiality could facilitate our way of thinking about certain spatial properties while at the same time it could create ambiguities which force us to reconsider the reality. The visual and the structural aspects of materiality interrelate in the process of understanding the existing and creating the new.

Modelling is a form of thinking, not just a presentation of an idea already completed. The process of design is a continuous negotiation between the abstract thinking and the materiality of the model. In this sense materiality plays a crucial role to the development of the design ***concept***. Models as artefacts are constructing abstract relations between elements (as the sketch in drawing) but instead of lines they are using materials which insert their own properties into the design thinking process. From hands-on explorations to computational design the thinking-making process is heavily based on materiality and the rules imposed by it.

Materials have texture, they create atmospheres, soundscapes, they convey feelings, they formulate physical sensorial experiences. In this sense the ***poetics*** of materiality remain an issue which contributes to the design process, either with reference to the materials of the final product or with regard to the materiality of the design process and the thinking-modelling practices.

Vaso Trova, Iris Lykourioti

Editors

CONCEPTS

Computational Design and Hands-On Exploration in the Architectural Design Curriculum

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Ankara, Turkey

With the advances in computational strategies in design, the act of design, the design process, the way of making, the professional practice and the role of the architect have changed. Such advancements require architects to be well-equipped with the computational design tools, which requires a room for the exploration and hands-on learning environment in the architectural design curriculum. The conventional architectural design curriculum has been adjusted in most of the architecture schools by providing platforms for the exploration of the computational design tools and the processes with elective courses and workshops. Also, there are architectural design programs that mainly focus on computational design exploration, and they structure their curriculum accordingly. Both approaches have a sort of validity on their own by highlighting different focuses. Also, both approaches require the effective use of non-formal and informal learning environments that leaves a room for the students' individual-exploration besides the architectural schools as the conventional and dominant learning platforms. However, the conventional architectural design curriculum requires more students' individual-exploration since such there is a limited course hour for the computational design. Within this scope, this paper aims at documenting and providing an example for the elective course 'Parametric-Algorithmic Design' that is given by the author at TOBB University of Economics and Technology, the Department of Architecture.

The course is given in 12 weeks and is open to the undergraduate students of the Architecture and Design Faculty, who are registered to the department as the second, third and fourth grades. Besides architecture students, interior architecture and industrial design students have taken the course in the previous years. The quote of the course is limited to 20 students to allocate adequate time for the individual projects of each student. No prior knowledge or skill of computational design is required. The course aims at the exploration of the file-to-factory (F2F) by implementing a design idea via using computational design and digital fabrication tools through the individual small-scale design projects.
The course has three inline focuses as (1) theoretical background, (2) hands-on in-class design exercises, and (3) individual design projects. The course starts with the exploration of the computational design terminology and introductory readings to give the fundamental understanding of the computational design. The discussion of the computational design understanding is the crucial part of the course prior to the implementation of its tools; since there is a risk of approaching such course as a 'new software learning environment' without any computational design understanding and awareness, which only makes students the operators of the software. In this regard, besides the hands-on exploration, the learning period is supported and enriched by the theoretical background. The rest of the period is split into two as the hands-on in-class design exercises, which continues until the end of the term, and individual design exploration which covers the last five weeks of the term. During the hands-on exploration period, students learn the basics of the visual scripting tools such as Grasshopper and Dynamo. The developing computational understanding is expected to be implemented via the individual design projects, which also leads students to explore the F2F and to develop skills on visual scripting tools.

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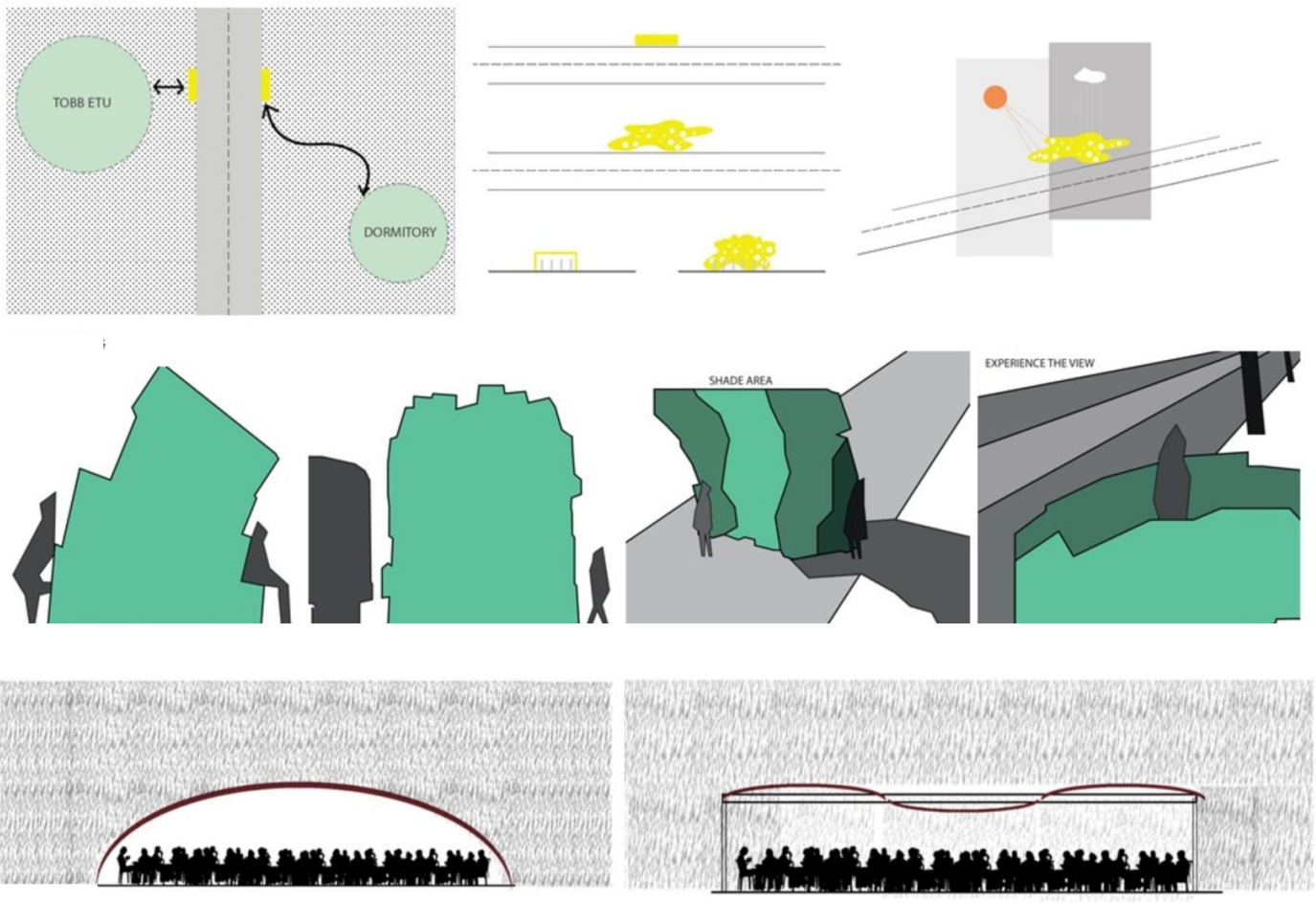

Image 1

From top to bottom: project by Şeyma Gümüş; project by Selim Ege İleri; project by Ilayda Ergin.

Image 1

Each design process is unique and requires different approach and design strategy, which requires distinct relations between the design components, design steps, parametric correlations and algorithms. In this regard, the comprehension of the design parameters and the input-algorithm-output relationship becomes essential with the algorithmic design understanding. Before visual coding, the designer is supposed to determine the design parameters and the boundary conditions that define the design search space, which requires extensive problem and context analysis. At this point, the designer is supposed to structure a system of relations, and sometimes trade-offs, between the design parameters. At this stage, the architectural designer becomes the systems' designer by formulating and re-formulating the design problem. Such a bottom-up approach requires a highlight for the changing design practice, the idea of parameters, algorithm, mathematical understanding and the shifting role of the architect within the computational design practice.

The fundamental knowledge of mathematics and geometry is as essential as the theoretical background and implementation skills for computational design. It is crucial to visualize and foresee the conditional relations of the geometric components to parameterize the design solution while mapping relations with a number of design parameters such as its context and climate. Accurate mapping of the geometric relations facilitates the design exploration, which supports the designer and the design process. At this stage with in-class exercises, it is aimed to provide a ground for structuring and mapping such parametric relations through geometric components.

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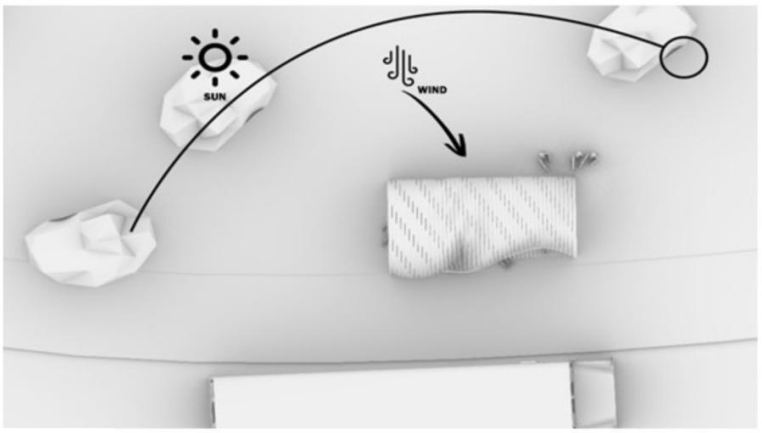

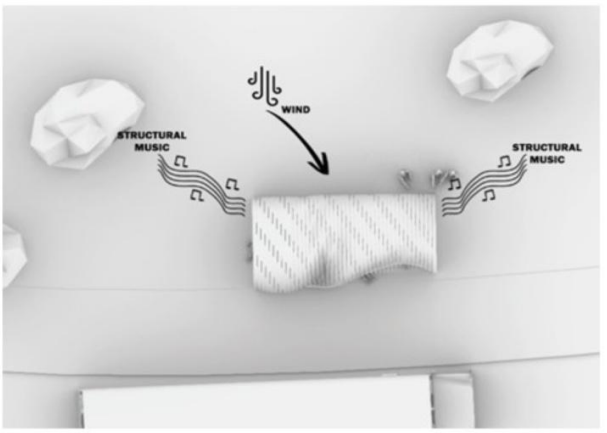

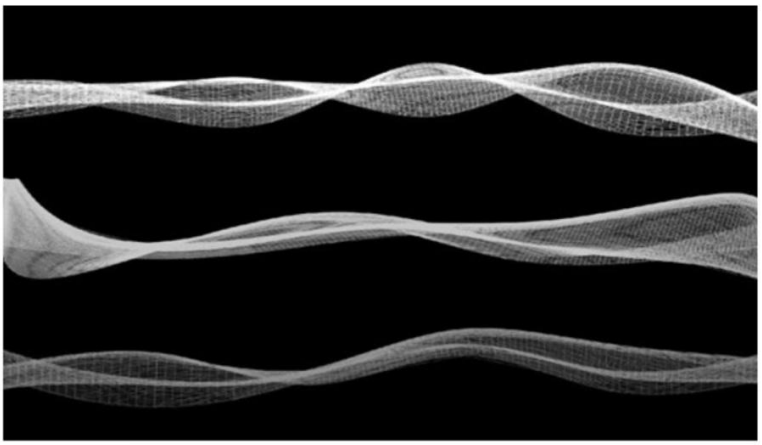

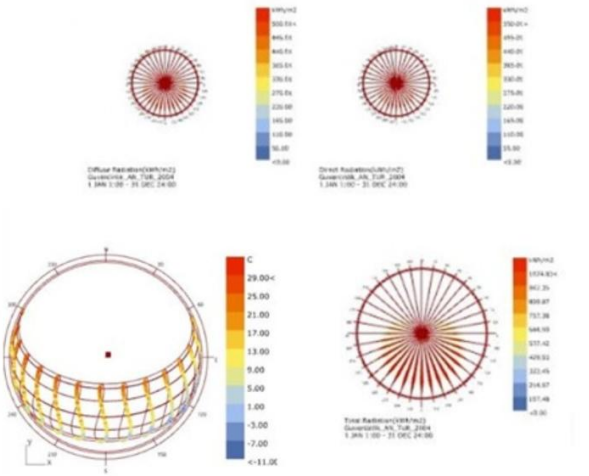

Image 2

From top to bottom: project by Furkan Balcı; project by Sümeyye Koca.

Image 2

After setting a common ground through the tools and the terminology with the in-class exercises and the theoretical discussions/readings, the individual design projects provide a ground for the implementation of the computational design understanding and the visual scripting skills that have been developing since the very beginning of the term. Also, individual design projects enable students to combine developing computational skills with the design process by spotting a design problem that they have been facing in their built environment. The process starts with the formulation of a small-scale design problem such as a playground, bus-stop, shelter, or a shading device. Before developing solutions for their design problems, the students are expected to provide a detailed analysis of the selected site and the design problems via the sketches and diagrams. Each student leads his/her design project individually, but the problem formulation and the potential ideas/solutions for the computational design process are discussed openly during the class. Discussing each project together encourages the interactive dialogue during the course, which also contributes to the informal and non-formal learning environments that strengthen the idea of *'each one teaches one.'* The students are encouraged to comment on the other projects and to suggest solutions. Also, the off-the-shelf sources such as design blogs, forums and workshops are promoted to increase the individual-exploration of the existing design examples, methods and tools. For instance, through the problem formulation, the students are encouraged to problematize and analyze the structural and environmental forces to explore the analysis/simulation (i.e. Ladybug Tools and Kangaroo), and the optimization tools (i.e. Octopus) that are coupled with the visual scripting environment. Such tools support the data-driven design processes, data-dependent design decisions and form-finding rather than form-making, which prevents premature design decisions and enable designers to explore multiple design solutions. In this regard, this open-ended, but time-limited exploration period provides a relatively new design understanding.

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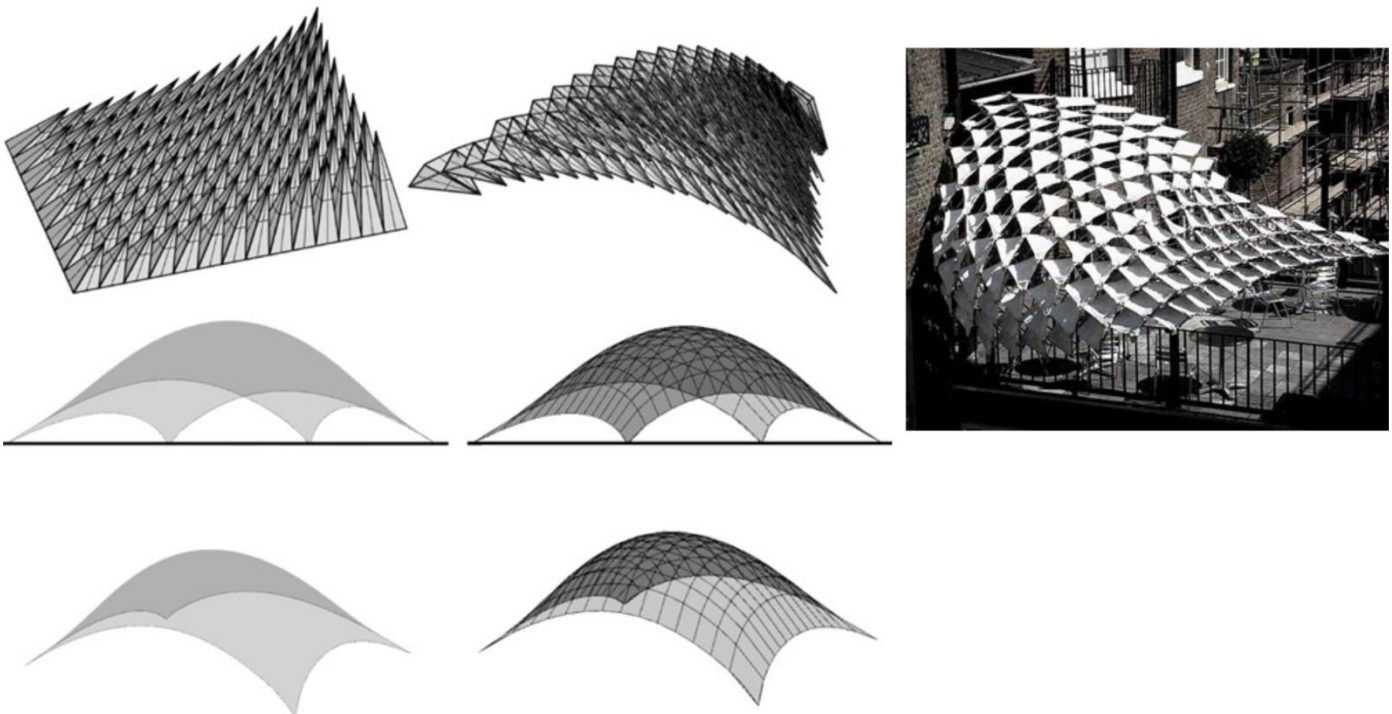

Image 3

Project by Ilayda Ergin
EmTech Canopy (AA, London)
Retrieved by https://images.app.goo.gl/NNoJ9p6JU5y1aM4y6 (6.15.2020)

Image 3

The entire period of the course is regarded as an exploration that aims at introducing computational approaches in architectural design, rather than ending up with the complete design solutions/projects. Notably, individual design projects are the trial-error periods that promotes individual-exploration and peer-learning. Within the design solution phase, students are expected to develop a computational design strategy and to formulate/test their potential design solutions. This phase consists of group and desk critiques that foster extensive research on the visual scripting tools and their implementation, which aid in extending new computational design skills. Besides, in this period, the students have an opportunity to explore the computational design by researching contemporary productions, discussions, and the developments existing examples in the field, since the existing researches provide examples to visualize the computational design processes and design generation logic in different aspects. Since the field is continuously expanding with the new developments, the students become accustomed to the terminology and further computational design practice. In this regard, while developing design skills, students become equipped with critical understanding to discover further problems, tools, and demanding skills in the field such as coding, material science, fabrication technologies and biomimicry.

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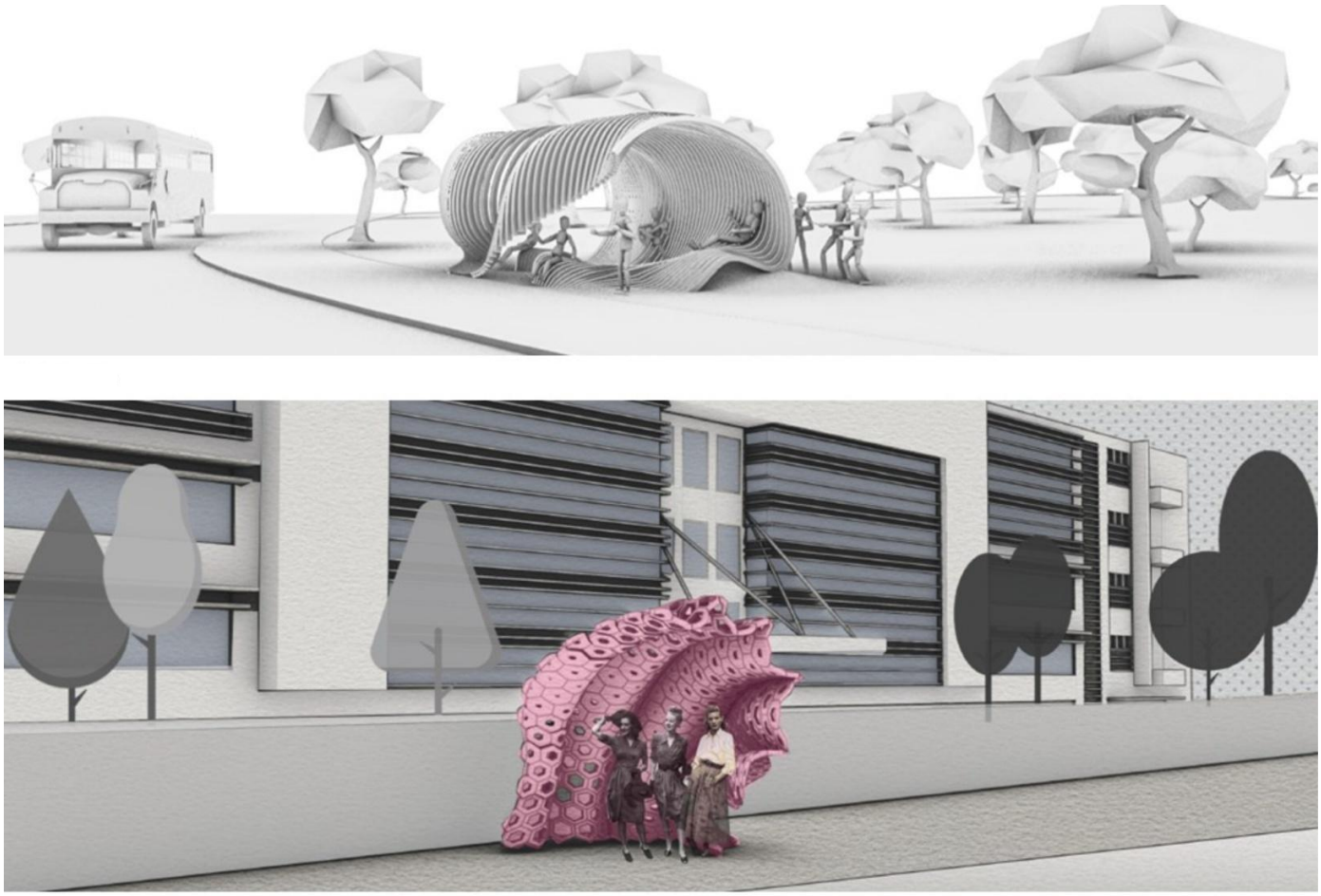

Image 4

From top to bottom: project by Furkan Balcı; project by Şeyma Gümüş.

Image 4

This course has been offered for four terms since 2017. The design problems are notably focusing on the self-standing, one-piece, canopy-like shelter design that protects the occupants from the direct excessive sun exposure and precipitation. For such an introductory course, shelter design is manageable by means of its scale and the detail density. Besides, focusing solely on the design tools, it is also valuable to raise awareness of environmental inputs/forces and the occupants' comfort as design inputs/references. In this regard, surface articulation and customized manipulation of the articulation is a widespread strategy between the individual design projects. Such a strategy enables the designer to control the geometry regarding the environmental parameters. Having control over the design geometry with the computational design tools facilitates the design process compared to the conventional design tools. It provides a flexible design environment for the designers to explore/evaluate/assess multiple dimensions during the design process.

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Image 5

From left to right: project by Şeyma Gümüş; project by Ildem Çınar; project by Halit Tutar.

Image 5

Towards the end of the term, a number of digital fabrication technologies are introduced to the students, such as additive manufacturing, CNC milling and laser-cutting. During the individual design process, the students are asked to elaborate on a model making strategy regarding their design by employing such technologies. Within the availability of digital fabrication technologies, the students fabricate their scaled models. Through the fabrication process, the students explore the potential pitfalls of the process, such as the precision conflicts between the design-fabrication, material properties, and scale. They try a number of strategies to overcome such problems by discussing during the class by asking forums and manufacturers. In this regard, with individual design projects, from the first design idea to the fabrication, a complete F2F process is experienced and individually conducted by the students.

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An Elective Course on Current Architectural Debates

Selda Bancı

TOBB University of Economics and Technology
Ankara, Turkey

This paper presents a departmental elective course of "Contemporary Architecture Discussions I and II" the author has conducted since September 2017 at the Department of Architecture of TOBB University of Economy and Technology. The Department of Architecture has offered a curriculum that comprises five modules: (1) Architectural Design Studio (2) Building Technologies (3) Architectural Culture, History and Theories (4) Architectural Presentation Techniques and (5) Electives. These modules run in parallel and continue throughout the undergraduate architectural curriculum where the design studio is centrally located. While the sections in each module are continuous and harmonious, some pedagogical tools in the delivery and assessment of a course (e.g. common lectures, coursework, joint submissions etc) help to establish a dialogue amongst the modules. Covering a broad range of topics from theoretical to applied knowledge, and technical to non-technical areas to connect between those parts, the electives module also plays a key role in supporting the curriculum. By this way, the curricular structure allows a coherent and deeply developed education.

In this architectural curriculum, the successive courses of "Contemporary Architecture Discussions" is designed mainly for 2nd and 3rd year architecture students. In the parameters of the course, contemporary architecture refers to those of the 20th and 21st century. Unlike a survey course of architectural theory or history, the course has been based on a teaching and learning approach that has a closer examination of buildings and architects. The course tries to do more than facilitate a superficial apprehension, and to enhance a deep understanding of architectures. Each week a concept, an architect and one of her/his buildings become the subject of the 3-hour class. These architects and buildings to be analysed are not the best representatives or the best buildings of the time, rather, I have selected them to illustrate a variety of design thinking in architectural practice. As such, a narrowly selected set of architects and buildings are regarded as a medium to discuss current issues in architecture.

Besides visiting buildings, we can understand architecture by looking at photographs, watching movies, seeing, reading, and writing architecture. Therefore, this course uses all current media to discuss contemporary architectural debates.
We begin each lesson with a lecture on the concept of the class (e.g. place, axis, context, landscape, rhythm, transparency etc), the brief biography of the architect and a selection of her/his architectural practice. Then, we watch a documentary film that will help us to meet the building of the week and the class concludes with a discussion session. At the end, we try to evaluate what we got from this lesson that will be presented as "a commentary" – the image-equivalent of a short commentary by each student for the next week (see note). As a result, we reflect upon the current developments and debates in contemporary architecture through a series of case studies dating from the last two centuries. The student recognizes several contemporary architects and their work at the end of the course and is also helped to enrich (design) vocabulary and explore (design) principles. Besides the course content, the courses of "Contemporary Architecture Discussions" offers students a model that is being followed in approaching architecture and architects in practices, in actual life.

Note

To see students' commentary about the architect(s) and / or the building(s), please visit our Instagram page:
https://www.instagram.com/remark_hitecture

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Image 1

Top row from left to right: Barcelona Pavilion (Mies van der Rohe, 1929) by Zeynep Göktoprak; Dominion Office Building (Zaha Hadid, 2015) by Ayça Şehnaz Demirel; Vitra Haus (Herzog & de Meuron, 2009) by Ali Buğrahan Kıyar. Bottom row from left to right: The Therme Vals (Peter Zumthor, 1996) by Yasemen Engin; Tama Art University Library (Toyo Iyo, 2007) by Nursima Zengin; Philharmonie Luxembourg (Christian de Portzamparc, 2005) by İrem Kekilli.

Image 1

Abstraction / Translation

The course aims to not only understand various architectural precedents but also equip students to think as designers. While generating their own works of architecture in the design studio, students analyse existing precedents. In this sense, the course advances each student's ability to translate knowledge or information between different dimensions and mediums by using current representation tools. Hence, students' commentary exists at the threshold between two and three-dimensions by close reading of buildings. That is, they investigate the potentialities of three-dimensional space in two-dimensional medium. How does a design idea find expression in different media? Besides reading assignments and in-class debates, this coursework gives the students a new conception of space.

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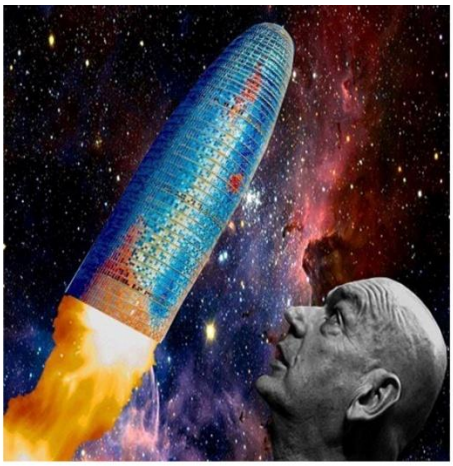

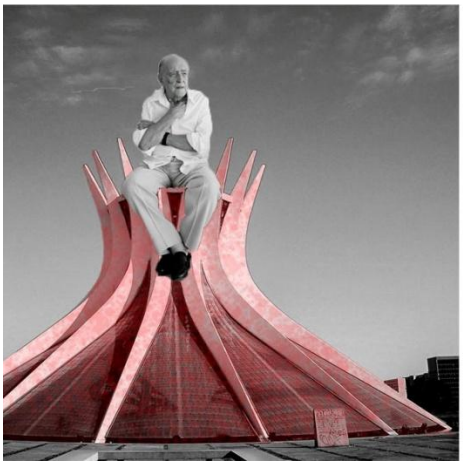
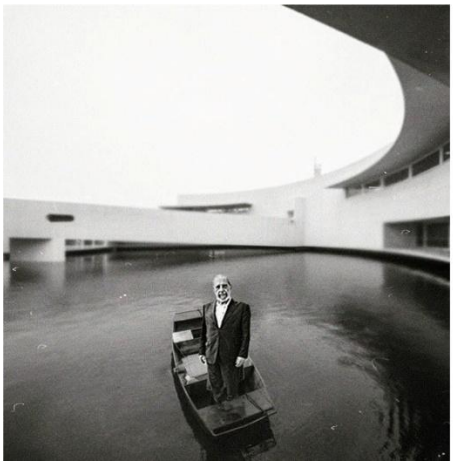
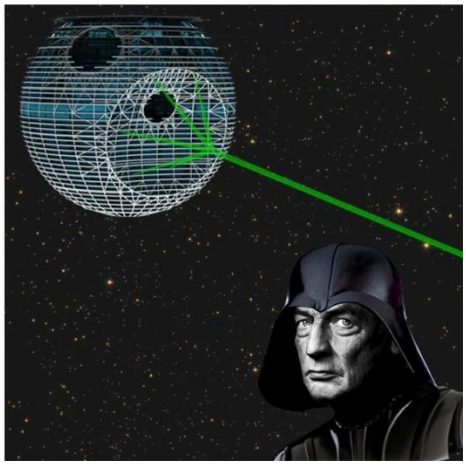

Image 2

Top row from left to right: Philharmonie Luxembourg (Christian de Portzamparc, 2005) by Alperen Pehlivan; Agbar Tower (Jean Nouvel, 2005) by Öykü Yılmaz; Salk Institute (Louis I. Kahn, 1965) by Gökçe Ünlü.
Bottom row from left to right: Cathedral of Brasilia (Oscar Niemeyer, 1960) by İmre Bilgin; The Building on the Water (Alvaro Siza, Carlos Castanheira, 2014) by Özge Ekici; RAK Convention and Exhibition Centre (Rem Koolhaas, 2006) by Püren Bahçivan.

Image 2

Persona

The course gives students the opportunity to become acquainted with the architect personas – silent, talkative, writer, artist, thinker, engineer and star architects, and to discover various approaches for architectural design process from city planning to door handle, from building to furniture. Therefore, by studying other architects, students could find their own way to create their architectural "voice".

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Image 3

From left to right: Centre Pompidou (Renzo Piano and Richard Rogers, 1977) by Püren Bahçivan; Rem Koolhaas and OMA by Seba Aylin Toprak.

Image 3

Collage

The genesis of an architectural collage as a coursework shows each student's ability to articulate contemporary ideas in architecture and to create one's own idea by building a narrative from the fragments. By using a two-dimensional medium as a tool of generating ideas for three-dimensional forms, students experiment with spatial and material juxtapositions. Thus, there appears one of the teaching aims of the course that has been providing students with tools to enable them to communicate the design idea. Here, the students are also trying to discover the joy of approaching architecture that would affect students' long-term thinking about the workings of architecture.

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The dialogy of architectural design studio and learning milieux

Işıl Ruhi Sipahioğlu
Zelal Öztoprak
Burçin Yılmaz
Özge Zabun
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Ankara, Turkey

Prologue

The proliferation of communications on studio practices prepares an environment apt to explore the research potency and make a variety of schools, their different and similar qualities, changes, and developments visible. Because the architectural design studio is a research medium, the experience generated in the studio continually reconstructs the architectural discourse while contributing to the thinking and making, theory, and culture of architecture. The thought/discourse, action/acting, image/object, landscape/texture, context/atmosphere, and materiality/materialization of architectural design are continually changing, increasing, transforming, and evolving. Insights offered about ways of adding and transferring these novelties into architectural learning environments are broadening. The increasing number of architecture schools is expanding the range of approaches to the learning practices in architecture. All these inevitably results in the emergence of polyphony and diversity in architectural design learning and practices. In this respect, disseminating the research and publications on architectural design learning studio practices are precious.

Studio instructors/teachers also prefer and admire writing on their practice. Because writing and mapping their studios facilitate zooming into particular learning instances and zooming out to reexamine evolution/progression of their practice over the years.

With this endeavor, this paper shares the habitus of the Diploma Studio, MİM 402 Architectural Design Studio VIII, at TOBB University of Economics and Technology (TOBB ETU), Department of Architecture as a best practice.
The Diploma Studio deserves to be the example of best practice for several reasons (note 1).

1. Diploma Studio is an **integrated/blended/fused** model of a combination of variable learning methods and environments such as studio learning and distance learning, physical and virtual learning environments. It supports a rearrangement of existing learning processes while encouraging new learning ways. It combines ICT (Information and Communication Technology) with the social aspects of face-to-face communication. It combines the methodologies used in traditional learning environments and Distance Learning platforms such as MOOC (Massive Open Online Courses). This results in a multiplicity of techniques that enrich and facilitate students' learning. The Diploma Studio stands on the academic research sphere. It sets out all the fundamentals and basic principles of the Speculative Design approach while continually adopting new/recent/emerging learning environments to the studio. In this way, the studio gains a dynamic and variable structure. Sharing and discussing studio editing on every occasion supports its evolution with the feedbacks. Thus, evolving to perfection by removing its flaws and deficiencies, it is entitled to be the best practice.

2. The studio's end-products and outputs are very speculative, exciting, progressive, and innovative in all means. Besides, in this studio, plenty of intellectual, physical, and visual materials are produced in both quality and quantity. Students usually work in groups of 2-4, as the studio promotes collaborative work and cooperative authorship. Studio peers enjoy working together. Thus exploring their ideas enhances creativity, proliferates the outputs, increases the quality of design, raises the intellectual level, and benefits opportunities beyond simple design issues. When different knowledge, skills, abilities, energies, perspectives come together, more influential architectural images, advanced, mature designs emerge and have powerful presentation techniques. Thus, it is often seen that they will be presented with pride and happiness as an example of best practice.

3. The studio pursues the footsteps of TOBB ETU's research projects (note 2). Furthermore, their continuity, the academic/research side of the Diploma

STUDIO MODEL MAP STUDIO NETWORK MAP PUBLICATIONS STUDIO WEBSITE

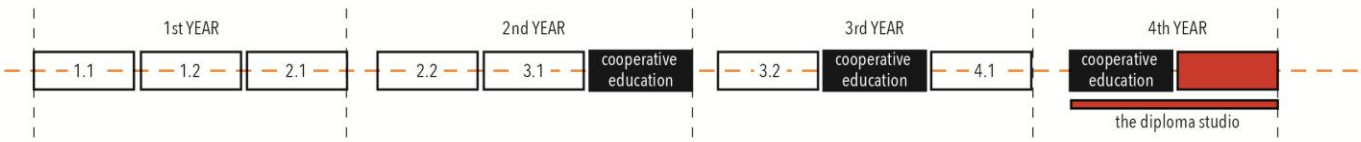

Image 1

The QR codes offered here above are for accessing digital platforms with studio outputs. The studio rebuilds and reassembles itself throughout the entire academic terms. For this reason, platforms are regularly under construction. Images aim to provide a dynamic connection with the ever-developing platforms instead of presenting a frozen moment in one image. The authors like to acknowledge Burak Nergizoğlu, who prepared the studio maps and Didem Savaş for her advices and guidance.

Image 2

TOBB ETU Education Program

Studio, has been very satisfying. One of these research projects shed light on the diversity of diploma studio learning environments across European Schools of Architecture by mapping studio practices in terms of the fundamentals such as supervision, student position, assessment methods, topic, duration, and outputs (note 3). While elaborating on the roots feeding this diversity, this project also deduced how and why the strategies, tactics, and operations at the TOBB ETU Diploma studio represented a unique case. These strategies anchor specific challenges/opportunities brought by the TOBB ETU programmatic structure: the significant courses that weave like ribbons around a maypole; the faculty confidence in research through design and its speculative potential; and its mission in coaching architectural intellectuals. The intellectual outputs of the studio are not limited to architectural design. Their achievements are more abundant than these outcomes. They develop skills on a critical look, problem inventing instead of solving, exploring hidden meanings instead of practicing, and understanding that architectural design should serve society instead of industry. Therefore they progress into designs that provoke ideas, create awareness on crucial issues, and encourage designerly position. All these reasons, sharing the discursive and formal achievements that will enrich the architectural environment obtained from the diploma studio research, should be opened on the occasion of best practice, especially for the benefit of our colleagues who continue their academic practice environments.

4. The studio is part of robust networking on variable spheres. The network is a notion that extends the Diploma Studio's learning environments to disperse climates and landscapes. Networking suggests that the studio is part, participant and beneficiary of networks from all levels at various scales, associated with architectural learning. It deals with networks in the level of (learning environments) inter-schools, inter-disciplinary, inter-design spaces, and inter-designers' networks. So even sharing will strengthen the networks and take the studio itself to the best practice level (note 4).

5. Last but not least, the authors wrote this paper during the first wave of the COVID-19 Pandemic (note 5), living conditions imposed by the pandemic ultimately brought distance learning via online/digital tools into our agenda and our practice with an unanticipated pace. Therefore, the 2018-2019 Spring term studio "A School of One's Own" notably appeared as the most context-compatible best practice. The renewed school processes imposed by the pandemic conditions have enabled the studio team to experience the studio's rhetoric in the warmth, as the assignment of the studio set up the speculations afore to the new normal, around a straightforward discussion. Though A School of One's Own was simply an architectural school design in particular, it exemplified a studio process that discussed the future of architectural education thoughtfully in general. Students' proposals not only revoked all the 'things' recognized about the architecture school and schooling of an architect but also unwittingly explored the potency of virtual/online learning environments (note 6).

Networking

The Diploma Studio is part of the quadruple networking organized by both the curricular structure of TOBB ETU and the Department of Architecture. The primary determinant of the studio's task and content is this structure.

1. Inter-design spaces and inter-designers' network.
This network is a process of integration between learning and professional practice. TOBB-ETU Undergraduate Program is a four-year academic program designed to complement the formal education with paid practical work experience directly related to students' academic major. The program combines eight terms of on-school study with three terms of full-time employment and provides academic credit for structured professional experience. Cooperative Education has particular importance in helping young people to make the school-to-work transition, service learning, and experiential learning initiatives. It also allows students to take on increasing

levels of responsibility and to use their professional knowledge and classroom learning to make meaningful contributions to the organizations in which they work. TOBB-ETU introduced this program in 2004, the year it is founded, it is the one and the only school in Turkey to offer that method of education so far.
In this sense, the Diploma Studio is far from a well-established and continually evolving pedagogic category simulating actual architectural practice within the process of architectural education. The students experience architectural practice via learning activities in the actual professional environment in the coop-education program. Hence, the Diploma Studio is an assemblage of ongoing and emerging design studio models to achieve the best blend, fuse the best features of each, and reach the more productive model. The Diploma Studio, in this way, encourages knowledge construction, which means that students create their knowledge not only in the studio but also from the unique experiences they have gained in formal, informal, and non-formal environments.

2. Interdisciplinary Network and the Maypole (note 7)
In the 10th term, months before the diploma studio term starts, the studio assigns the broader theme to the participants. They take the opportunity to develop an in-depth understanding of the theme and construct a coherent architectural thought from the planetary scale to the urban and architectural scale. Throughout the term, the studio keeps in close touch with the students to speculate on the theme. So, the research questions, hence their approach, mature well in their minds, which finally increases the studio's quality and quantity of actual and intellectual outputs.
Our students share not only the same studio hours but also dance altogether around the maypole of the 11th term, weaving the five principal ribbons each other: Architectural Design Studio; Architectural Culture, History and Theories; Architectural Design, Presentation, and Research Methods and Techniques; Building Technologies; Elective courses (note 8). In the diploma studio, we expect our students to melt everything they have learned in the same pot and to develop their own "architectural position."

While the studio is where the students elaborate the design task of their theme, *MİM 404 Architectural Culture, History and Theories* is the place for elaborating the physical and/or a virtual representation of their research. *MİM 406 Architectural Design, Presentation, and Research Methods and Techniques* are built upon consultations on the presentation techniques of students' design exercises. *MİM 408 Building Technologies* is *built upon* consultations on issues regarding building technologies and construction details and building physics such as energy and daylighting simulations.

3. Interschools network

Interschools network's role in learning is twofold. First, it enables spreading the knowledge produced by each school around the world to the interconnected schools. Second, it is a platform on which schools co-create knowledge through diverse activities, ranging from collaborative research projects, joint studios, international or national workshops, or even via virtual/actual/blended mobilities via Erasmus Learning, Teaching, and Training Programs for learners and teaching staff. The Diploma Studio is part and participant of such an interconnected worldwide network that continuously regenerates the energy sourced both from the outside and embodied within. Studio topics are assigned each year concerning the Department's research projects funded by various bodies: 2017-18 Spring Term "a music school in Etimesgut Sugar Factory" was run parallel to the project entitled "Sugar Factories in Turkey" (note 9); 2018-19 Spring Term was part of the joint diploma studio within the framework of the e-FIADE project (note 10), 2019-20 Spring Term topic was the Waterfronts of Ankara in line with the sosclimatewaterfront project (note 11). MATERIART (note 12) is an overarching research project interacting with all the architectural design studios at TOBB ETU. Jury sessions become open platforms involving guest panelists and part-time instructors from academic practice.

4. Megastructural Network

Every design is part of a planet-wide network. Speaking about a planetary-

scale network generates a renewed understanding of the site. Producing situated and designerly knowledge each time for a particular time/place/people hence reflects upon global crises/opportunities from the place. In this sense, a site is not a point on a map anymore, but a network of variable conditions. Therefore, issues such as ecological, natural, sustainability, materials, methods of making are no longer specific to the place where the design is materialized. It is a designing relationship that occurs across multiple sites and multiple temporalities, also multiple disciplines. Networking is a consideration to realize the conditions that deepen the urban experience in today's intricate city. Our 19-20 Spring Term best illustrates this reciprocity. The outcomes of the studio are not directly proposals for Ankara's 'waterfronts,' but they reveal the characteristics of Ankara, dealing with the impacts of a wide range of aspects regarding water and city relations such as climate change, urban esthetics, infrastructure, microclimate effects, playgrounds, water sports, flora, and fauna of the streams, and many more.

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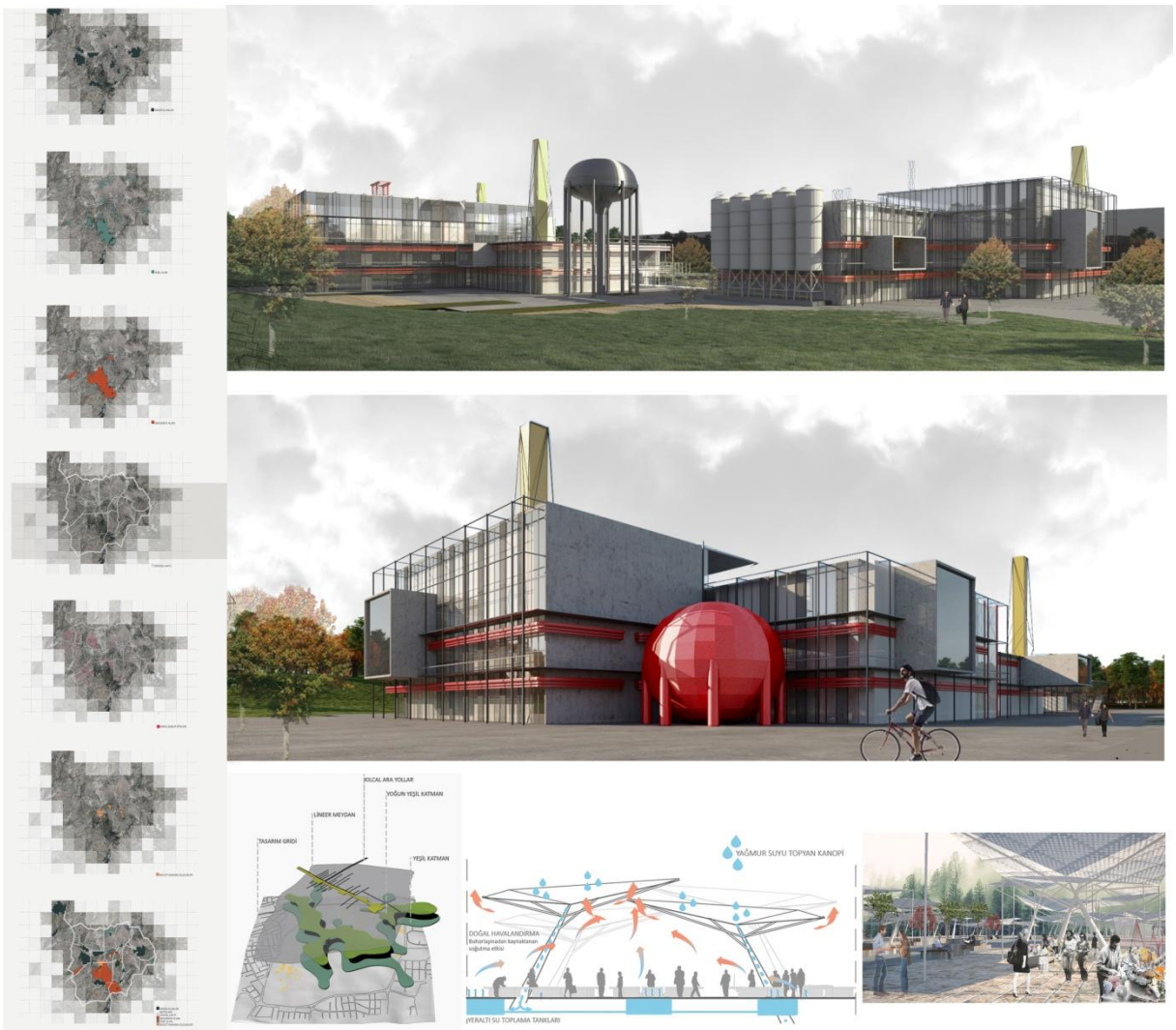

Image 3

T-ARGE Interactive Informal Campus by Kübra İşler, Büşra İnce, Ecem Erol, 2016-17. Spring Term, Military Zones of Ankara.

Four Cases from DIPLOMA STUDIO: Speculations on Ankara

1. Military Zones

The 2017-18 Spring Term speculations focused on the transformation of the military zones in Ankara. The concern caused by the July 15 experience led to the resolution of the military areas out of the city, leaving vast vacant areas behind. In Ankara, there are approximately 70 million square meters of the military area, 40 million square meters of green areas. This size constitutes 13 percent of the city. Most of these areas are in the city center. The resolution and redevelopment of these military areas and the radical change it brings to the urban experience are discussed in the studio. Students first reflected on the existing 'image' and the meaning of military zones in Ankara's urban scene. While these areas are disconnected from the city organism, they have their organism and network, which secured their vast green spaces. Speculations in the Studio provided that if these areas are not intertwined with the city, they could become patches or lost spaces.

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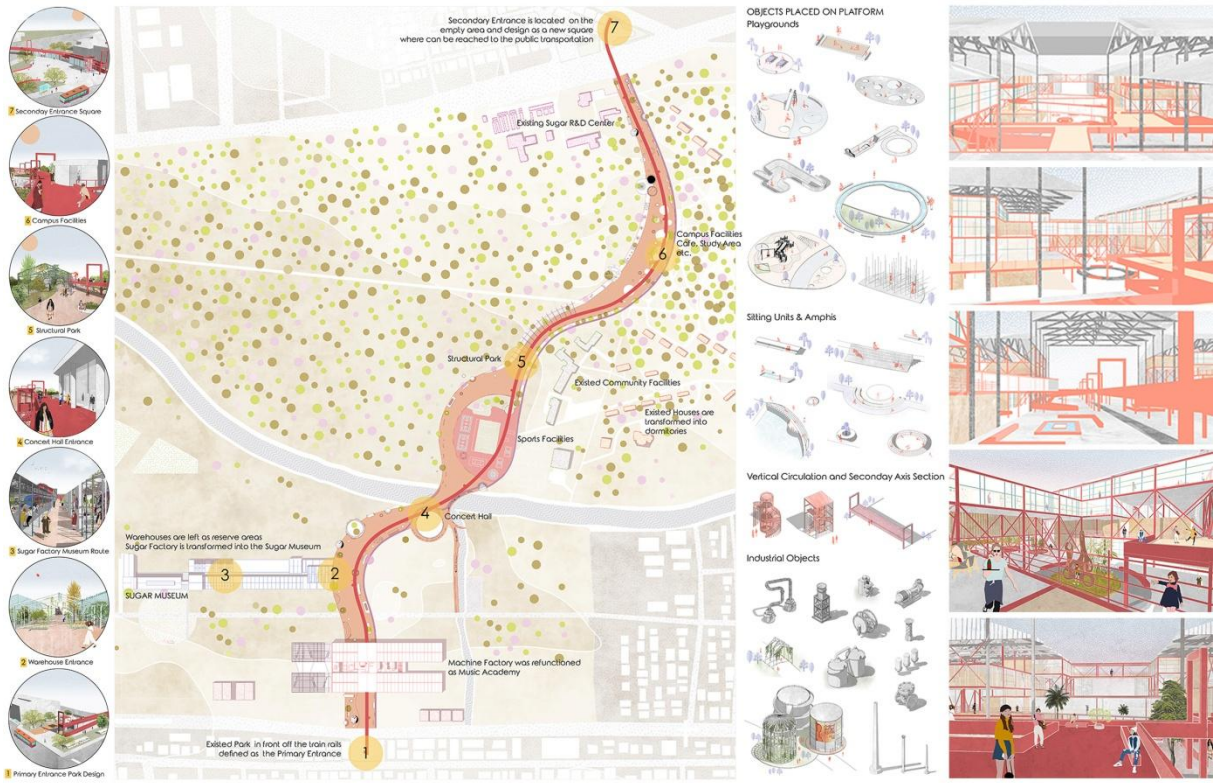

Image 4

"Ribbonize" by Ayşe Dağoğlu, Bengüsu Cebeci, 2017-18 Summer Term, The Music Academy, Ankara Etimesgut Sugar Factory, Ankara.

2. Etimesgut Sugar Factory, Ankara

The 2017-18 spring and summer terms speculations explored the potential transformations of Etimesgut Sugar Factory, in Ankara, one of the sugar factories built in the Early Turkish Republican Period as part of the economic, social, and cultural transformative program. Restoring, refurbishing, and renewing these areas that become the focus of urban development interest due to their size and location, the studio's participants suggest various arguments within the program's framework. Music Academy, "Ribbonize" exemplifies the term's spirit, process, and discussions. It proposed a binary ground, that collects all the facilities on it, as an open-air museum that contacts the existing buildings while organizing the music school elements. While connecting the campus to the city, the nodes, proposed between and around these two grounds, enable the organization of the area, review the relationship between campus surroundings. It is merely an extraverted campus design that joins both sides with a pedestrian-friendly bridge.

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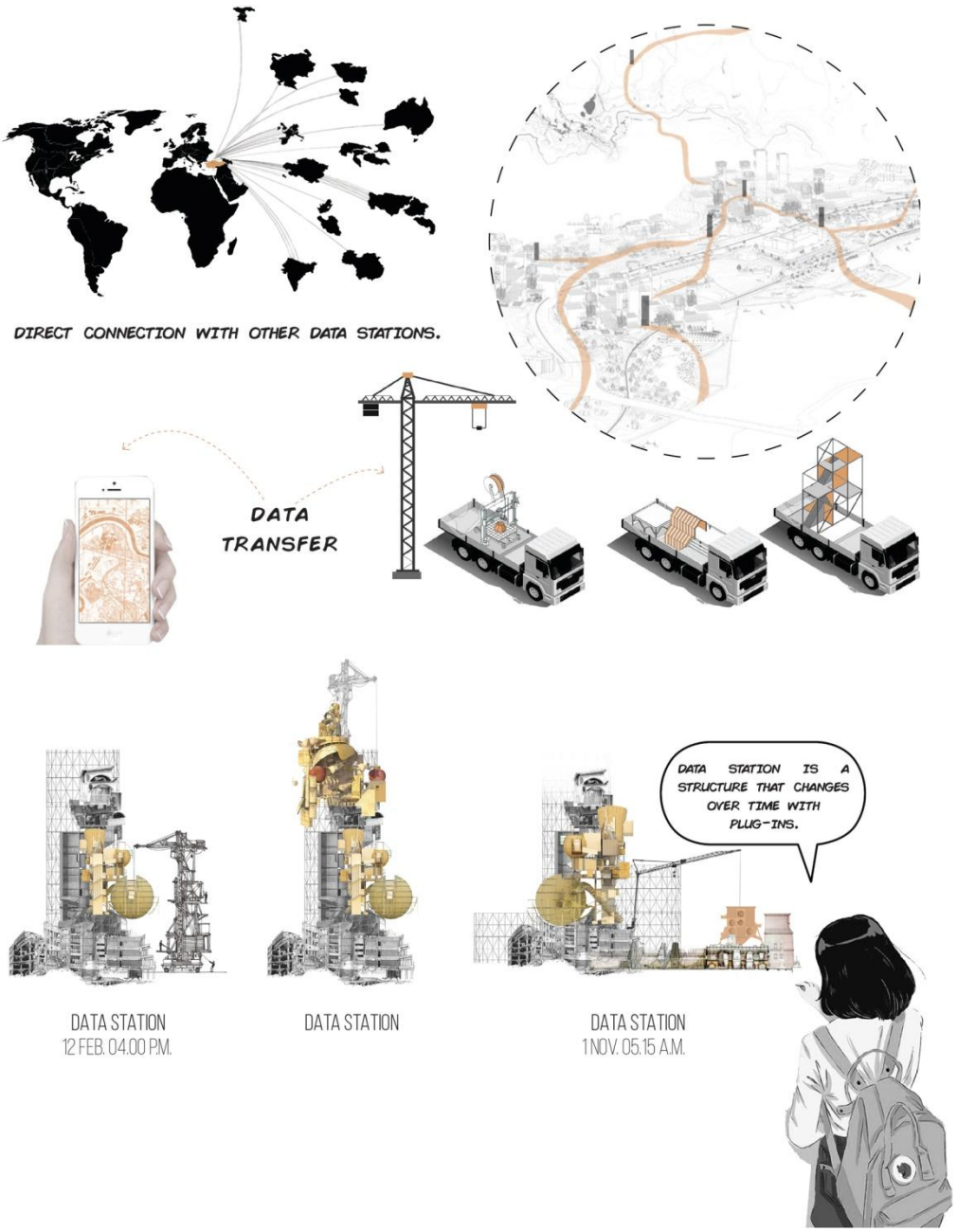

Image 5

"Data Station" by Pelin Gür, Şevval Çöloğlu, 2018-19 Spring Term, A School of One's Own, Ankara.

3. A School of One's Own: An Architectural School

The theme "A School of One's Own" (note 13) follows the footsteps of one of our research projects (note 14) that scrutinized the 'threshold'; the enormously broad and fertile fields of interaction between the discipline and the profession of architecture, including formal, non-formal, and informal learning components. Our speculative question was simple: "What would it be like if you were to build a brand new and independent school of architecture today." To get out of the continuum, to reconcile the usual thoughts, to shake the established beliefs, approaches and habits, to express our thoughts and criticism freely, to pursue the original instead of similar ones, to benefit from the possibility of being aware of the realities and necessities of today, we had first to develop a concept of school. This exercise allowed our students to negotiate the changing intellectual, spatial and programmatic constructs and conditions of architecture schools. Then and only through these intellectual insights, could we build our architectural designs?

The design groups scrutinized the philosophy, program, and content of the school of architecture and developed distinctive ways of constructing the design idea in accordance. The original approach of each group evolved into a manifesto and then into its spatial counterpart. All these schools, compiled in a comic book entitled 'The Book of Architecture School', were built not to teach the facts, but to train the mind to think and practice thinking (note 15).

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Image 6

High Water Tank of The City by Beyza Çapal, Tuğçe Gürsel, Sıddıka Candan, 2019-20 Spring Term, Waters of Ankara.

4. The 'Waters' of Ankara

The 2019-20 spring semester aimed to reclaim the 'Waters' of Ankara, thereby provided designerly insights to our research project on the Waterfronts in the face of climate change and urbanization. With global warming and climate change in the world, waters have started to disappear. The main area of discussion of the studio is the significance of the streams in the urban areas that are covered due to epidemic diseases, floods, intense migration, lack of urban planning. Although Ankara was established at the intersection of many streams, they are invisible today. Because mostly they flow in the underground canals under the streets named after the streams. Thus, the relationship of water with urban life is cut off.
In the studio debates, water is scrutinized as an indispensable, vital aspect of daily life as a source of life and well-being. The ways of regaining streams in the city are also considered. In Ankara, known as the waterless city, it was emphasized that by following the trail of the streams that exist in the lower layers, water resources could be revealed as one of the leading design elements of the city. It is speculated that it will be possible to restore the green belt, which was once proposed in Ankara's earlier plans, following the water trail by reintroducing the water to the city. Throughout the term, students examined the impact of water on the city and its potential for Ankara.

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Epilogue

In TOBB ETU, Department of Architecture, Diploma Studio is the leading studio following the speculative architecture thinking. Since the beginning studio investigates scenarios for the future of Ankara and how the political, technological, social signs of progress and the decisions influence the urban landscape. The Diploma Studio handles unusual places, bizarre conditions all over Ankara, to understand better how humanity changes the city and designs alternative futures for those places.

The Diploma Studio does not necessarily design buildings as endpoints or outputs. Instead of creating buildings, the multiplicity of outputs tells stories about cities. Technologies, systems, networks, displaced the dominant forces that shaped the cities, buildings, and public spaces in the past. Thus, architects need to change their method/way of practice to remain relevant.

Architecture has a long history of unbuilt projects. Nevertheless, sometimes these projects have a more significant word than any single building ever did. In this sense, the Diploma Studio aims to create narratives that support the cultural shift and innovative approaches that trigger the fundamentals of architectural thinking and move architecture radically from something massive, significant, and permanent, to something flexible, disposable, and temporary.

The Diploma Studio aims to enhance the participants' ability to explore, synthesize, and present the stories in visually evocative and powerful mediums. Combining the knowledge of urban studies with methods from literature, art, video/digital art, documentaries, cartoons, comic books, and cinema, the studio portrays the influence of science and technology on human practices in cities, particularly in Ankara. Inserting critical ideas about architecture and the city can be an effective way to disseminate these ideas to much wider audiences. As the rest of the world does not know how to work with such media, it is not much in spending years on developing fluency in reading and constructing sections and plans. So, the Diploma Studio aims to use the power of the visuals/images to say critical things. Therefore, a comic book sometimes better presents simple ideas so that people outside the discipline start to connect (note 16).

Notes

* TOBB ETU Diploma Studio is supervised by Nur Çağlar, Işıl Ruhi Sipahioğlu, Zelal Öztoprak, Özge Zabun, and Burçin Yılmaz.

1. Zelal Öztoprak, Işıl Ruhi Sipahioğlu, and Nur Çağlar, eds., *The Book of Architecture School* (Ankara: TOBB ETU Publications, 2020); Zelal Öztoprak, Işıl Ruhi Sipahioğlu, and Nur Çağlar, "Mimarlık Ortamında Eşikleri Yeniden Düşünmek: Bir Diploma Stüdyosu Örneği," *Mimar.Ist* Mimarist 69 (2020): 93-101.
2. Details about the interaction between research projects and the diploma studio are detailed in the section "Interschools network".
3. Işıl Ruhi-Sipahioğlu et al., "Mapping and Analysis of Final Architectural Design Studios (O1)," ERASMUS+ Project Report, Exploring the Field of Interaction in Architectural Design Education, 2019, http://www.efiade.org/wp-content/uploads/2019/10/e-FIADE-O1.pdf; Nur Çağlar et al., eds., *Thresholds in Architectural Education* (London: ISTE, 2020).
4. Please see the graphic and the network features presented in detail in the next section.
5. March 2020-May 2020, in Turkey.
6. Details about the School of One's Own is detailed in the section "Four Cases from the diploma studio".
7. We use the maypole metaphor to illustrate how our students create unique and individual patterns with diverse colors and dancing styles.
8. Students are free to take elective courses from other majors.
9. "Türkiye Şeker Fabrikaları: Endüstri Miras Alanı/Yapıları Olarak Araştırılması, Belgelenmesi, Değerlendirilmesi ve Korunması" (Turkey Sugar Factories: Documentation, Evaluation, and Conservation of Industrial Heritage Sites/Structure of Structures), a research project coordinated by TOBB ETU Department of Architecture.
10. "e-FIADE: Exploring the Field of Interaction in Architectural Design Education," Erasmus+ Strategic Partnership Project, 2016-2019, http://www.efiade.org
11. SOSCLIMATEWATERFRONT: Linking Research and Innovation on Waterfront through Technology for Excellence of Resilience to face Climate Change," H2020-MSCA-RISE-2018; http://sosclimatewaterfront.eu
12. MATERIART: Art and Science of Materiality in Architectural Design Education," Erasmus+ Strategic Partnership Project, 2017-2020, http://www.materiart.org.
13. The theme 'A School of One's Own' handled within the joint studio scope was inspired by the book 'A Room of Own Own' by Virginia Woolf. The theme of 'A School of Own' examines the place of creation, just like Woolf, and points to an important question that has not been addressed in architectural education so far: where should architectural education be held? Woolf, Virginia. A Room of One's Own. Trans. İlknur Özdemir. İstanbul: Kırmızı Kedi, 2012.
14. "e-FIADE: Exploring the Field of Interaction in Architectural Design Education," is a research project funded by the ERASMUS+ Strategic Partnership program in higher education. For details, please see www.efiade.org.
15. Öztoprak, Ruhi Sipahioğlu, and Çağlar, *The Book of Architecture School*.
16. Öztoprak, Ruhi Sipahioğlu, and Çağlar. To access the book, please check the studio publication (Figure 1, QR 3).

Art-Architecture and Materials. Workshop and studio experiences

Jorge da Cruz Pinto

Faculty of Architecture
University of Lisbon

The presentation covers different experiences of workshops and pedagogical methodology, experimental research and professional practice linked to the relation between art - architecture and materiality, in convergence to relation principles: "form - technique - materiality", combining “forms of plastic expression” with “forms of technological contents” (tectonic, bio-climatic, mechanical etc)
As founder and coordinator of FAUL's international seminars of architectural design, between 2002 and 2012, I organized several workshops, in Portugal and Italy, under various themes, but two of them, were particularly related to Art-Architecture and Materials: “Para-Architecture: Architecture in Between Arts" (Lisbon 2006), and "Stone Project" (Vila-Viçosa, 2011). These last two themes are related to my applied and experimental researches to art and architectural design. The first theme that I coined “Para-architecture” corresponds to "imaginary and almost inhabitable spaces, in between architecture, painting, sculpture, installation and metaphysics”, under the “Praise of Emptiness”, a theoretical research that supports the praxis (note 1).
In the *Para-Architecture* field I have carried out works of large formats, corresponding to architectural spaces and construction elements, where materiality and textures assume significant roles (note 2). The works are formed by the combination of panels creating Portals, Bridges, Rooms, Angles… where conformed voids as part of compositions acquired intentional meanings.
Still under the *para-architecture* concept, in the context of the Lisbon School of Architecture, I also realized some pedagogical experimental design works, developed by 1st year students, starting from found materials (*objets trouvés*) and understanding of respective potential plastic and tectonic expressions, applied to constructions of natural scale objects conforming interior spaces.

A second theme, titled "The Angular Stone", consists in the use of debris stone blocks, around the marble quarries in Alentejo, for the realization of structural masonry architecture, design, sculpture and land art works. According to Bible phrase: "the stone that the builders rejected will be the cornerstone", converting the residual stone into a valuable stone. It concerns a holistic solution of integral stone recovery in different scales, and it appeals to heuristic solutions, because it entails inventive solutions to change the present paradigm. Under *The Corner Stone* we designed several projects: the requalification of *Vasco da Gama Square*, in Vidigueira, with the levitating marble globe over the long water feature; *The Marble Foundation* in Vila Viçosa and *The Wine Cellar* of Vidigueira, to be built in marble cyclopean structural masonry; The kiosk-lantern in laminated stone; The project for CECHAP research center in a deactivated quarry; and the creation of laminated modular stone blocks.
A third theme, related to natural and zero cost materials - rammed earth, adobe and bamboo - were applied with passive bioclimatic design solutions developed in two different housing projects for Angola.
The participation in the 4th *LIDA - Laboratori Internazionali D'Architettura* in San Giovanni in Fiori (Italy), by invitation of Professors Architects Thermes and Purini, allowed me an unusual experience of workshop. The invited professors, from different countries, led the student groups as if they were in their own architectural studios. They idealized the architectural proposals for the historical centre of the city of San Giovanni in Fiori, while the students collaborated in the execution of models, following their methodologies, culminating in a final presentation and exhibition of the works in the Abbey of San Giovanni.

Notes

1. Cruz Pinto, Jorge: "Eloge du Vide", *Le Carré Bleu-Feuille d'Architecture,* Paris, 2010.
2. Cruz Pinto, Jorge: "Acqua: Presenza-Assenza", Exhibition, Art-Life Gallery, Venice, 2016; "Para-Architectural Spaces", Municipal Gallery, Alvito, 2016.

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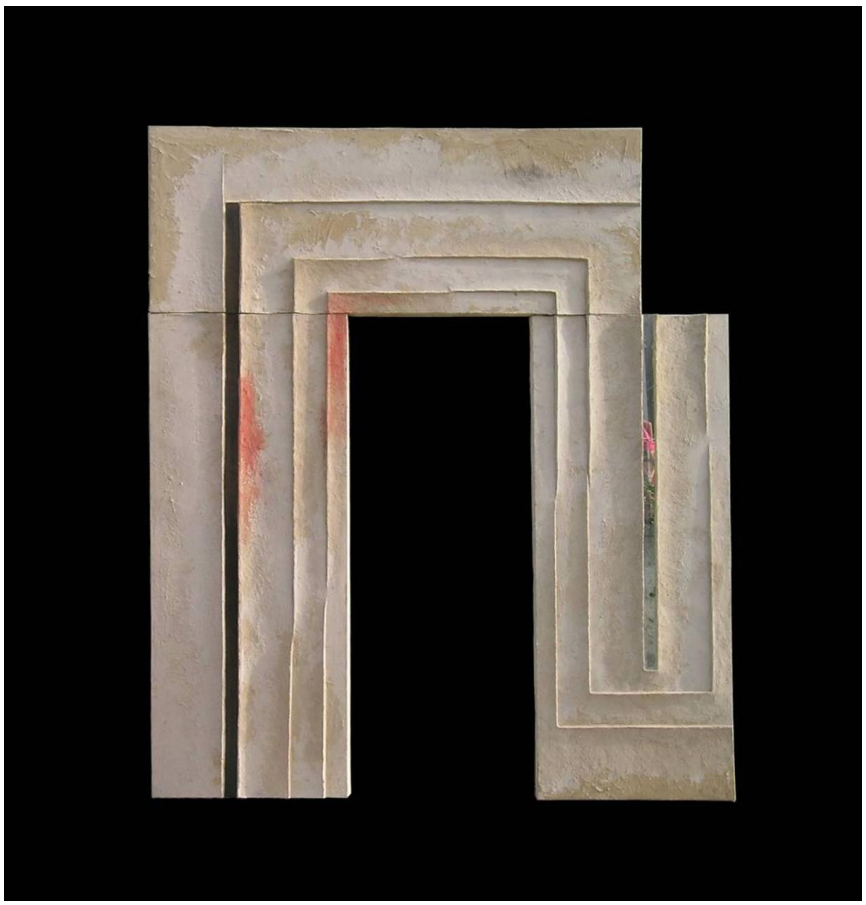

Image 1

Para-Architectures

Para-Architectures

This field concerns works that create imaginary and almost inhabitable spaces, in between architecture, painting, sculpture, installation and metaphysics, where materiality, textures, reflections and intentional voids play significant roles in the construction of architectural metaphors: "Threshold Portal", a triptych consisting of three panels of paper pulp and marble powder paste, forming a central metaphysical void; "The Room", a polyptych formed by four panels, representing in paper pulp an interior perspective, forming a real span in a central empty square.

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Image 2

Requalification of Vasco da Gama Square in Vidigueira.

Requalification of Vasco da Gama Square in Vidigueira

Complementary to the photographed mosaic, an interpretative model [1:1.000 scale] representing the public space of the walked path supported by the ancient walls of Lisbon was made. This model isolated two essential layers of reality through a process of "de-layering", "a process which allows us to "see" certain formal configurations that are not perceivable in reality and, therefore, affects the way in which we see the city" (Gandelsonas, 1991: 26).

White mate cardboard was used as the single material to build the model, but prior to cutting, students had to retrace the plan of this central area of Lisbon, recognizing the spaces that composed the path and revealing the imprints of the ancient walls of the city. A considerable challenge was imagining how to physically build a three-dimensional representation of the path that seems to be suspended in mid-air.

The abstraction of reality allowed reducing the complexity of the site, revealing relations established between walls and path, vertical and horizontal, and created a base for the development of the project. While the walls of the city imply a limit, the ground of the path implies continuity and their interference implies the existence of transition spaces.

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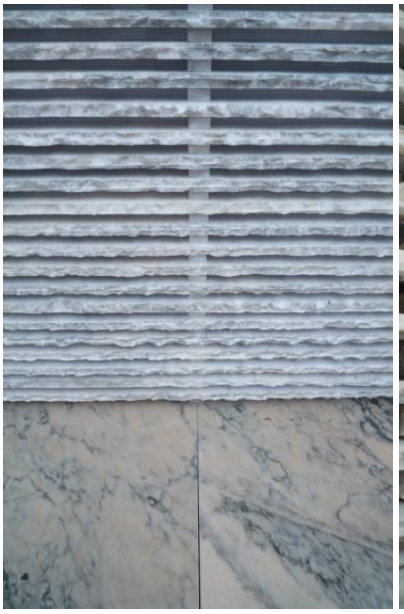

Image 3

The Cornerstone

The Cornerstone

According to the Bible phrase: "the stone that the builders rejected will be the cornerstone", we designed different projects, using debris stone blocks, from the marble quarries in Alentejo. Among these works, the prototype of an urban Kiosk- lantern, a parallelepiped built in stacked up split marble slabs, establishes the approach in between minimal sculpture and design. The valuation of the residual stone in the realization of structural masonry architecture, using cyclopean marble blocks was applied to the Project for the Marble Foundation in Vila Viçosa and for the project of the Wine Cellar in Vidigueira.

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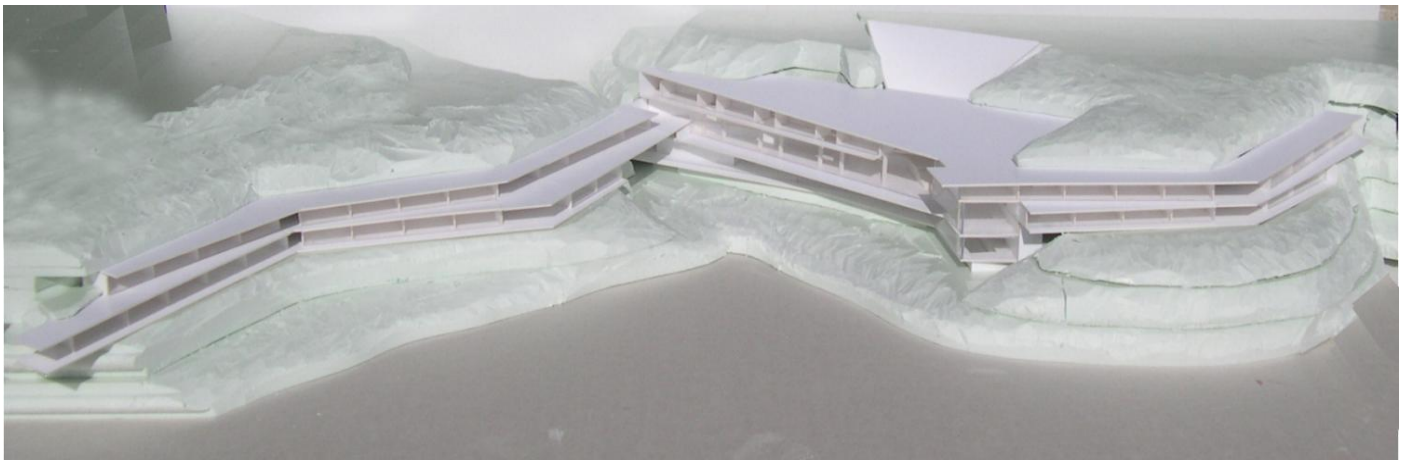

Image 4

Praxis International Seminar.

Praxis International Seminar

One of the architectural proposals for the urban border developed at the 4th *LIDA - Laboratori Internazionali D'Architettura* in San Giovanni in Fiori (Italy), an international seminar where professors designed, as if they were in their own studios, assisted by students.

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From diagrammatic abstractions to concrete positions. Translations across media as basis for innovative thinking

Vaso Trova

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The process of creativity lays in the core of architectural studies. Considering the rapid change of technologies, programs and people's needs which characterize the contemporary architectural production, architectural education should focus on innovative design thinking rather than on accepting spatial and social stereotypes. Thus future architects will be flexible to accommodate changes. Most importantly they should be able to produce new types of architectural artifacts and contribute in shaping the architectural world rather than efficiently responding in the architectural market's demands.
The design studio which will be presented thereafter attempted to explore and codify an educational process with a special emphasis on design innovation. The elective studio "Loci of games: The spatial construction of meaning in design" has been taught in the 4th year of studies at the Dept. of Architecture University of Thessaly (Tutors: V. Trova, I. Lykourioti, G. Papakonstantinou).

The educational process explored the potential of translation through media as a method of overcoming stereotypical constructions of meanings, programs and forms. The ability of eliminating a product (a painting, a film, an everyday object, etc) to a basic structure and then create a completely different structure through inserting new sets of restrictions (programmatic and material) has been considered the core of the teaching process.

The film “Drowning by numbers” by Peter Greenway has been the starting theme of the studio and a toy in 1:1 scale has been the outcome at the end of the semester. Therefore the studio has operated across media. The toy (an object to play with using rules) as a design outcome has been chosen because it offers a programmatic setup with no relation to social or economic conditions that a typical design scenario incorporates. Therefore, it provided the conditions for an in vitro investigation of the innovating thinking and design process.
This experimentation became possible by repetitive translations from the starting medium (the film) to the final one (the designed object) through a series of intermediate stages where other mediums are explored (diagrams, material models). These translations involve continuous shifts and transformations of meanings due to the logic of each medium.

Students have been working in consequent stages. First, they tried to decodify the film and transfer the relationships they noted down in diagrams. Then they started adding programmatic and material restrictions and exploring the changes each set of restrictions was imposing on the process. Finally, they ended up in designing the toy, an architectural object which had to be easily assembled and dismantled, stocked into a minimum size package, and proved through testing that it is interesting to be played.

This design process investigated the role of cross media translations as a crucial factor for innovative design and emphasized the interplay of structure, materials and ideas in the design process.
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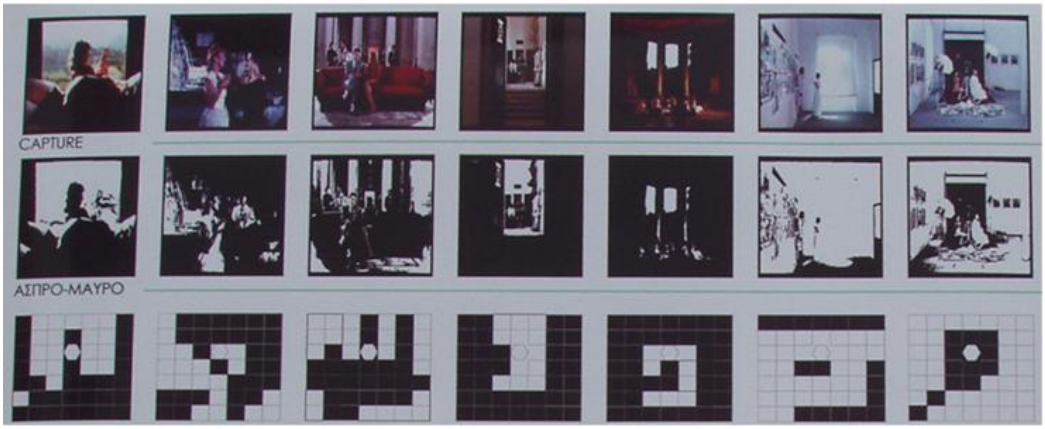

Image 1

Understanding the structure of the medium.

Image 1

Understanding the structure of the medium

All films have an ad hoc continuity while at the same time they are organized upon repetitions, sub themes, high and low points of action, sharp changes, upturns, symmetries, etc. Peter Greenaway's film "Drowning by Numbers" has been used as a starting material. Greenways' films in general are ideal for this kind of exploration as he is using formal symmetries, rhythmic repetitions and he has an almost obsessive interest in list-making and cataloguing which is explicitly shown in his films.
Students have been asked to identify structures in the specific work of art and to subtract and select and codify some of the complex information incorporated in the medium. Special emphasis was given to formal properties and geometries as these elements could be easily translated into different media. Students have organized their work in sketch books, notes and catalogues.

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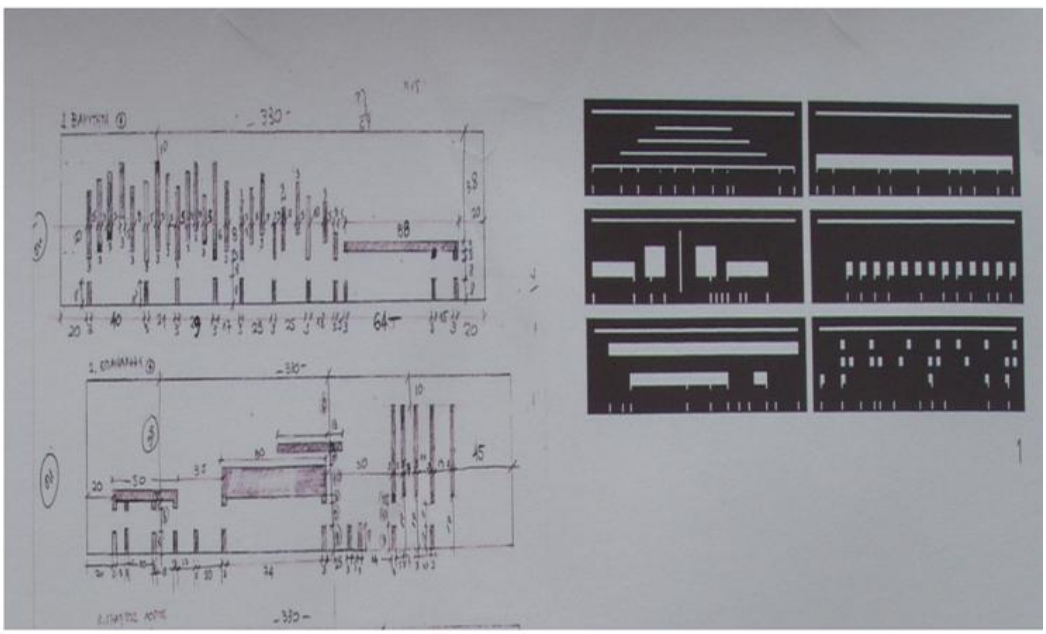

Image 2

Diagrammatic explorations

Image 2

Diagrammatic explorations

The second phase of studio work focused on diagrams. Students have been encouraged to use diagrams in order to represent the properties that they had observed. Diagrams are important as they enable us to move from the space of linguist description to topology and visuality. They convey complex relations noted within the film in a simplified way and they can reveal webs of relationships (between characters, places, acts, histories, views). They codify cross and focal points, nodes of interest, movements, loops, etc.

Creating diagrams involves abstract thinking and evaluation of relations within the starting medium (the film). Students could represent one or more categories of elements as well as their internal relations.

Diagrammatic exploration enables students to move beyond the medium of film and to start thinking in the context of an abstract model which has a logic of each own. Students have been encouraged to view the diagram as a machine of thinking -as it represents relational properties- rather than an object per se with formal properties.

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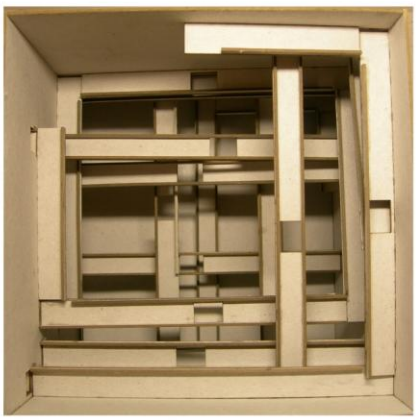

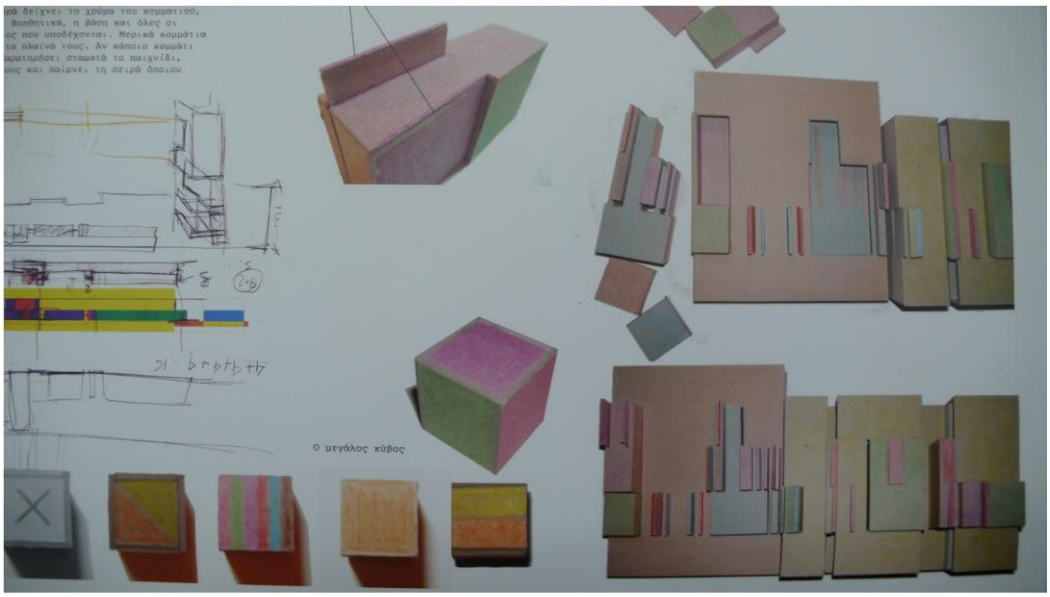

Image 3

Material experiments

Image 3

Material experiments

Two dimensional diagrams have been turned, step by step, into three dimensional diagrams. Students started creating structures which incorporated the relational properties identified before. Materiality was introduced in this phase. Special emphasis was given to the extent that the choice of certain materials enhances, opposes, or transforms the relations which had been already codified. Cardboard, acrylic, styrofoam, plywood, wire, thread, fabric, imposed material restrictions (ie transparency or opaqueness, softness or hardness) and have alternate provided possibilities of handling (bending, nailing, tearing, creasing). Additionally, some students have used readymade objects which seemed to provide a special material quality needed to serve the original idea. A medical fluid collection bag has been used as a waterproof material thus presenting an additional translation within the process, as the students were able to see beyond the social meaning and the stereotypical function and concentrate on the material quality they needed.

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Image 4

Programmatic set ups

Image 4

Programmatic set ups

Students have been asked to experiment with the program within the restrictions imposed by the material structure of the previous stage.
No matter how simple a toy seems to be it has programmatic requirements. Games and toys incorporate sets of rules and ways of playing, in other words they incorporate programs. Huizinga claims that playing creates a "magic circle". Games are detached from reality in the sense that their program (rules, restrictions etc) are not related to a social context (ie user's behaviour, cultural characteristics, etc). Therefore, it is a program easy to be used in experimental processes. A toy has to have playability. Playability means that there are rules which will make the toy interesting to be played. The set of rules should be simple, but they should enable the players to formulate strategies, to provide a large number of possible movements, or to have a time limit within which the game will be over. Students should decide if it is a one, or two persons game and organize the program accordingly.
In this stage students are setting up their programmatic restrictions which are informed by the need for playability on the one hand and by the diagrammatic structure on the other.
Film has been chosen as the starting point because continuity is a structural element of the medium.

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Image 5

Designing the artefact.

Image 5

Designing the artefact

The final step in this process was the design of a toy in scale 1:1 together with its packaging. Following the outcomes from the previous phases, the programmatic context (how the game is played) and the material character (the properties of the materials chosen for the construction) are continuously interplaying. Among these multiple choices students made decisions, step by step, until they have finalized the form and the program in a process where every step transformed the next one. The choice of materials has affected the setup of the program (the rules for playing) and every decision regarding the rules for playing required a choice of a material with relevant qualities. Therefore, materials have been chosen according to the program and the properties of materials transformed the original program.

Some of the outcomes were high quality prototypes almost ready to enter a production line. It is worth mentioning that one of the toys designed at the end of the process (student: E. Kostopoulou) has been selected to be included in the exhibition "Now_Play This" held in Somerset House, London in 2018.

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P0ETICS

Word Architecture and Materiality

Phoebe Giannisi

Department of Architecture, School of Engineering,
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How might we, based on the poetic process, bring into communication two different discursive genres and two different orders of materials? Namely, architecture and literature and their respective building blocks, which in the case of literature consist of words? In the present text I will undertake to discuss the creation of space and spatial conditions (or architecture) by means of words and writing, in the course of teaching the *Space and Poetics* seminar at the Department of Architecture of the University of Thessaly. What the class focuses on is the architecture of the text, its position in space and, also, the spatiality produced by the text itself, as content and as inscription. During the course, the students become aware of the multiple dimensions of the relation between text and space, and the material constructional aspect both of these possess; they also come to understand the spaces and the spatial atmospheres which a text creates (to use as the background for the plot or simply by the spatial significance of the enunciation) as well as the multiplicity of writing voices: all of the above can then be used as tools that enrich architectural design. In the first class sessions of this weekly, three-hour elective course, taking the form of a seminar workshop and lasting for one semester, certain primary matters are extensively discussed in the classroom, that have to do with reading spaces. Reading is considered an activity which, apart from the book, the computer screen and the mobile phone, exists at every point of the modern city (the ancient one too) as well as in many objects. The significance of the position of recitation is also analyzed and some historical reading practices through the centuries are presented, especially the early period of reading out loud. Next, in the course of the semester, selected theoretical texts on poetics and literary criticism are presented and analyzed, while in every class texts of poetry or literature are read and critically discussed, ending in a ten minute writing exercise for all participants. Each class concludes with reading out loud the texts produced, followed by group discussion. Subsequently, by semester's end, the students compose and create their own books or objects, which are designed as performative reading objects. Thus, to the construction of a text that refers to space, is added the design construction of a physical object (with the space that is appropriate to it) whose function/use is the performance of its reading according its content.

The assemblage and composition of words as building construction.

Already among the very early essays about writing, we encounter the simile of the text as a building: *"I consider that the science of composition has three functions. The first is to observe which combinations are naturally likely to produce a beautiful and attractive united effect. The second is to judge how each of the parts which are to be fitted together should be shaped so as to improve the harmonious appearance of the whole. The third is to judge whether any modification is required in the material used - I mean subtraction, addition or alteration- and to carry out such changes with a proper view to their future purpose. The effect of each of these processes I shall explain more clearly by means of analogies drawn from the productive arts which are familiar to all - house-building, ship-building and the like. When a builder has supplied himself with the materials from which he intends to construct the house - stones, timber, tiling and all the rest - he proceeds at once to put together the building from these, paying close attention to the following three questions: what stone, timber and brick is to be fitted together with what other stone, timber and brick; next how each of the materials that are being so joined should be fitted, and on which of its sides; thirdly, if anything fits badly, how that very piece can be pared down and trimmed and made to fit well... Now I say that those who are going to put the parts of speech together effectively should proceed in a similar way."* (Dionysius of Halicarnassus, (1985). *On literary Composition*, 6. Cambridge Massachusetts and London: The Loeb Classical Library. Translated by Stephen Usher).

This excerpt introduces the notion of a harmonious construction of a discursive work by analogy to the material construction in which the 'creative arts' engage, with house- and ship-building offered as exemplary cases. It comes from a work by Dionysius of Halicarnassus, a Greek teacher of rhetoric (c. 60BC- after7BC) titled *On The Composition of Names*. The aim of that work was to examine the ways, usages and combinations of words, expressions and names by means of which a beautiful speech is to be constructed, whether by an orator, a politician or a poet.

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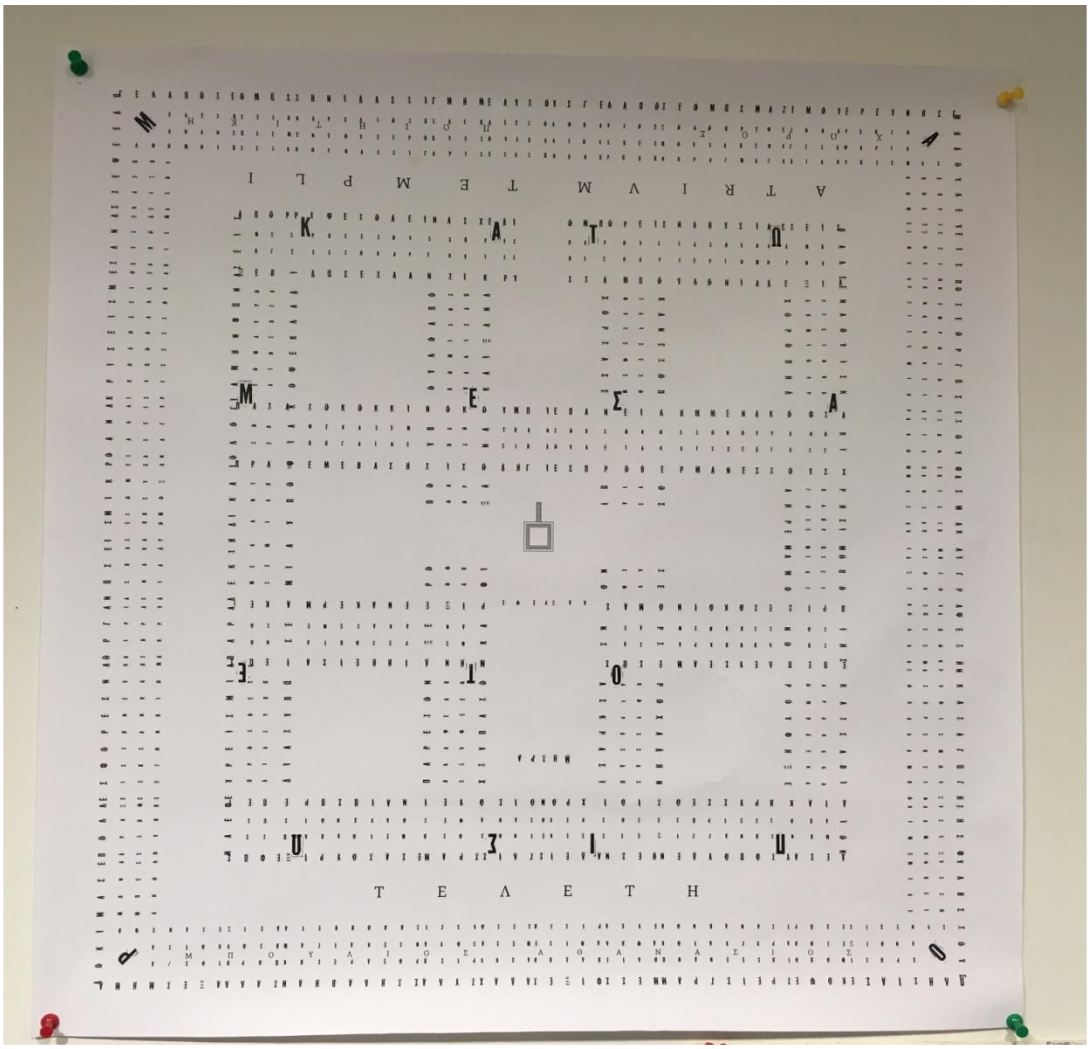

Image 1

Urbanistic poetry. The word cemetery. Student work by Thanos Boulios.

The English rendering of the title, *On literary Composition*, by the use of 'literary', misses out on the all-inclusive reference of 'onoma' which in ancient Greek means "name, phrase, expression, word, noun".
In the text, the constructability of the speech by analogy to a building and any other constructed object, is rendered as a conjunction of material units, a conjoining of constituent parts. It is defined in the word 'synthesis' of the title, about which the text's translator, Stephen Usher, remarks: "The word *σύνθεσις* means literally 'putting-together' and may hence be rendered in English by 'composition' only if a purely technical sense of that word is understood." (Dionysius Halicarnassus, Critical Essays, Loeb Classical Library, Cambridge Massachusetts and London, 1985, translated by Stephen Usher, p.5).
Synthesis, then, as a technical term, is the way to find the position, though not a single, unique one but, rather, 'positions-in-relation-to', in a whole which is the work as a construct.
In ancient rhetoric, as in poetry, as in the arts, the highest form of construction is guaranteed by the appropriate joining, the fitting together of words and materials alike. Properly choosing construction materials, paring them down and preparing their appropriate form so that they can be fitted together, results in a new being which behaves monolithically, whose articulations and joints are made invisible thanks to the constructor's craftsmanship. According to Dionysius of Halicarnassus, stones, plinths, timber are the words of the orator or poet, the composers of texts, whether prose or poetry, written or recited. The paring down of the joints and perfect fit of the segments appears here as the most important consideration in the construction. Possibly because in building, a perfect fit is the one constructional feature that may vouchsafe immortality of the material work, through its resistance to time and weather conditions, particularly wind and rain.

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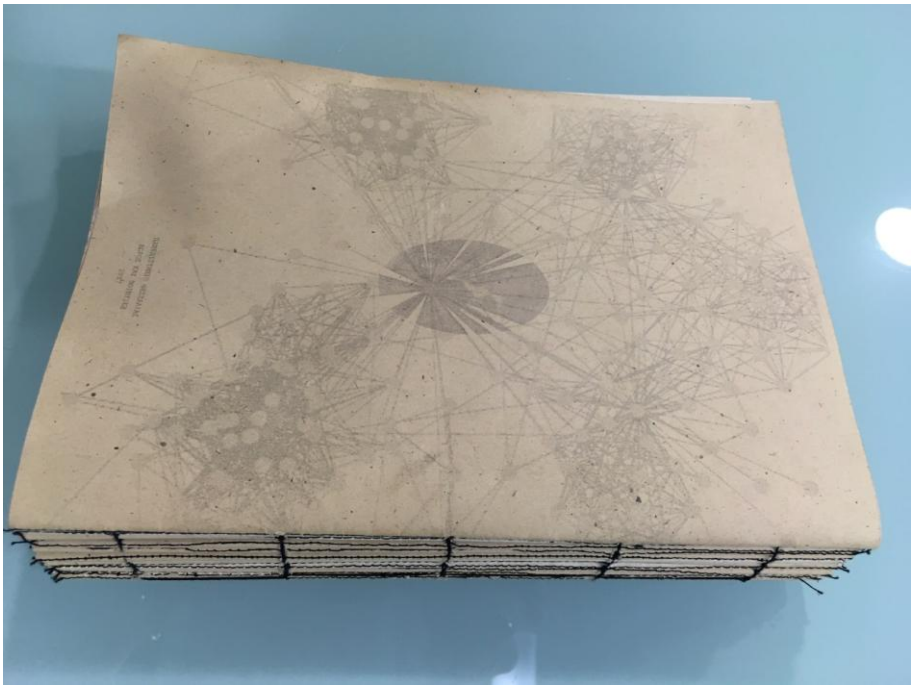


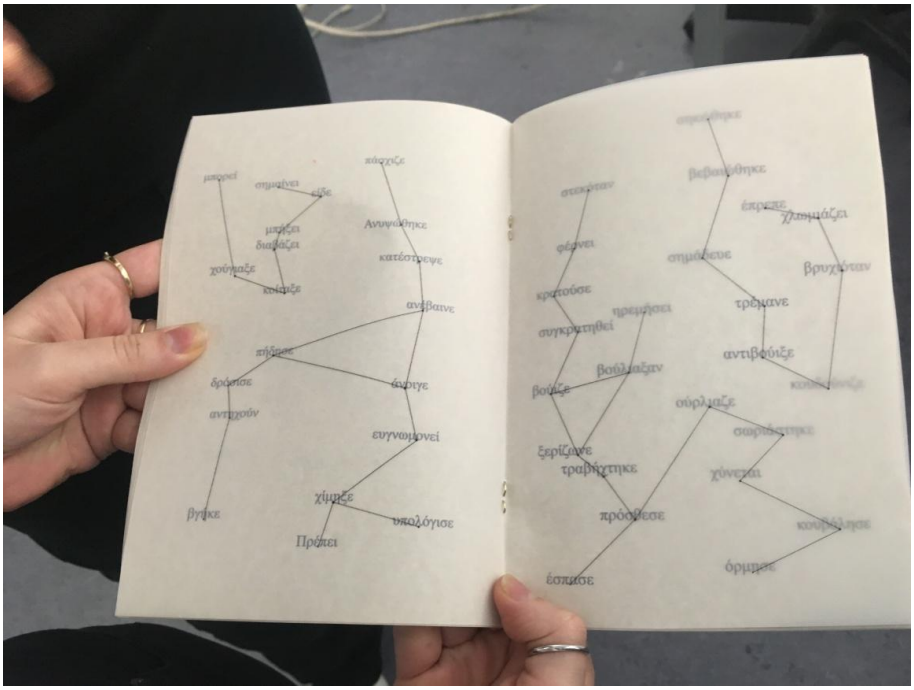


Image 2

A collective book made by all members of the class based on *The Brothers Karamazov* by Fyodor Dostoyevsky.
Texts in the book are written by the students during creative writing sessions.
Below, a book for performative reading.

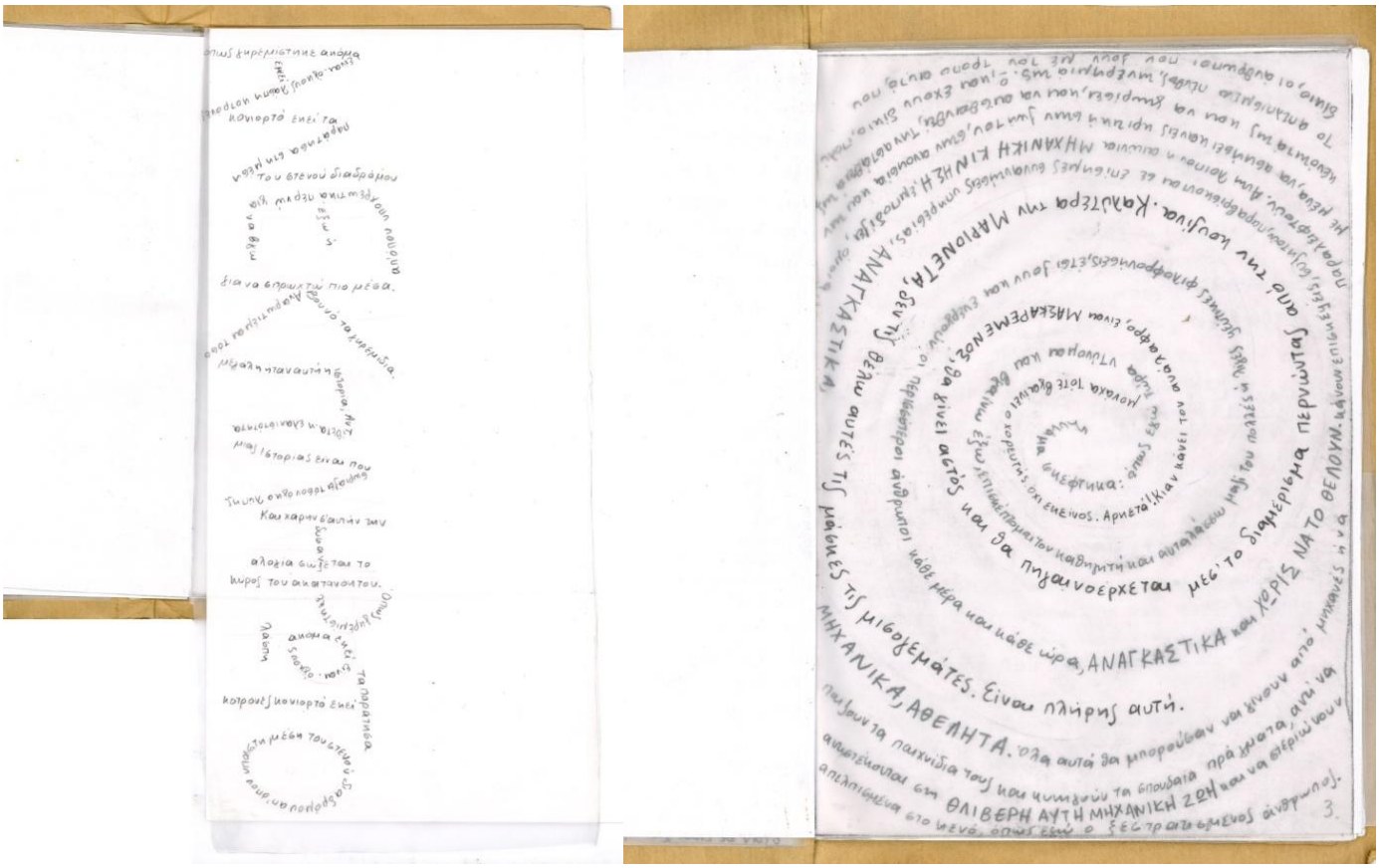


Image 3

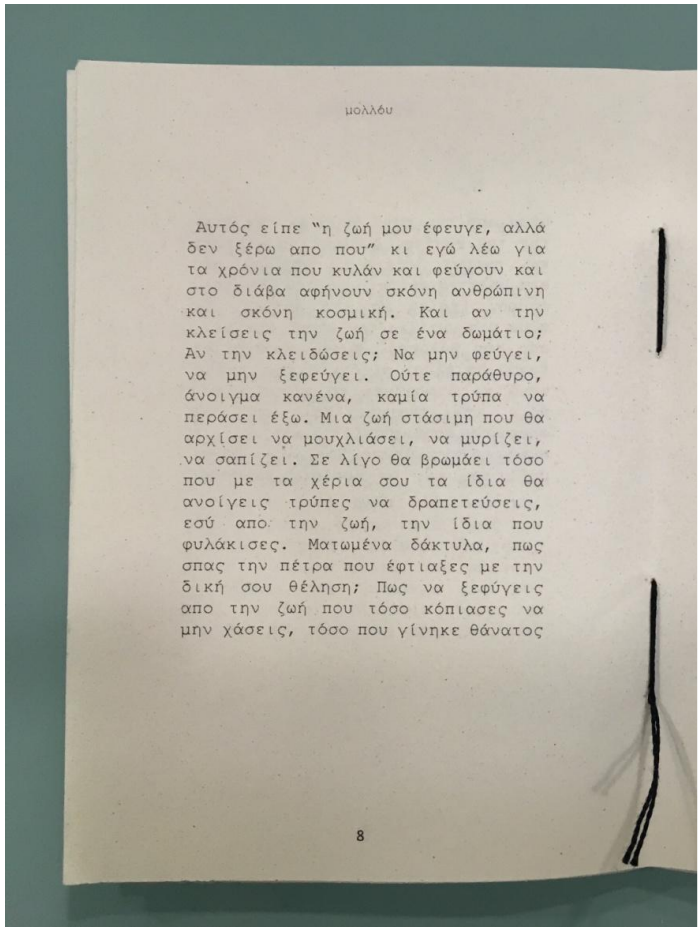
Visual Poetry and the space of writing. Student: Leda Kyriakou.

Image 4

Collective gatherings for polyphonic poetry performance.

Image 5

Poetry book performance



μολλόυ

Αυτός είπε "η ζωή μου έφευγε, αλλά
δεν ξέρω απο που" κι εγώ λέω για
τα χρόνια που κυλάν και φεύγουν και
στο διάβα αφήνουν σκόνη ανθρώπινη
και σκόνη κοσμική. Και αν την
κλείσεις την ζωή σε ένα δωμάτιο;
Αν την κλειδώσεις; Να μην φεύγει,
να μην ξεφεύγει. Ούτε παράθυρο,
άνοιγμα κανένα, καμία τρύπα να
περάσει έξω. Μια ζωή στάσιμη που θα
αρχίσει να μουχλιάσει, να μυρίζει,
να σαπίζει. Σε λίγο θα βρωμάει τόσο
που με τα χέρια σου τα ίδια θα
ανοίγεις τρύπες να δραπετεύσεις,
εσύ απο την ζωή, την ίδια που
φυλάκισες. Ματωμένα δάκτυλα, πως
σπας την πέτρα που έφτιαξες με την
δική σου θέληση; Πως να ξεφύγεις
απο την ζωή που τόσο κόπιασες να
μην χάσεις, τόσο που γίνηκε θάνατος

8

Image 6

Poetry books and performance notations made by the students.

In the ancient societies of Greece and Rome, a work's immortality was a paramount virtue and, so, the Latin word *ars* derives from the Greek root **ar-* of the verb 'αραρίσκω', meaning to 'join and fit together, connect and adjust' (Giannisi (2013). A prevalent concept, then, the joining together, out of which etymologically the word 'harmony' also derives, a term used especially in music, but also in a political and social context, as the way in which the crowd may coexist; A concept pointing to a monolithic construct, with a body that has discernible but fully realized articulations, a living creature, according to Aristotle.

A body, its constituent parts and its joints - there is a concept about the architecture of words, one that focuses more on matter and its features and where the one emerges as the conjunction of the many through fitting together.

This concept of Dionysius of Halicarnassus of the assemblage of members takes us directly into Word Architecture, insofar as it uses architecture the departure point for arriving at the word. The well-made material construct is the primary metaphor for the edifice of language, which we may have called immaterial in the past, but which I want us to understand as also material, simply of a different order of materiality.

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Walking, Interpreting, Shaping

Sérgio Barreiros Proença

Faculty of Architecture
University of Lisbon

The presentation focuses on the work developed in the second semester of the first year Architectural Design Studio, taught at the Lisbon School of Architecture of the University of Lisbon. The pedagogical approach of the exercise is based on three sequent phases: walking, interpreting and shaping. The design studio considers the experience of place through walking a path as the first act of project and art, mainly proto-architectural sculpture, as a catalyst of architectural composition.

Contemporary first year students in general have good photography skills but have poorer knowledge of geometry and drawing when compared to 10 years ago. Students needs when arrive at school include: stimulus to work (great amount of work must produce beautiful works); learn to build models and learn to draw; architectural and general culture; knowledge and awakening; understand if this is what they want to do in the future.

Therefore, the approach to the overall project exercise was subdivided in steps, each one an elementary exercise with simple rules that stimulate student's creativity and autonomy within a precise code of representation and model building in cardboard or styrofoam.

The coded representation of reality in white cardboard models allows reducing the complex nature of the city, extracting essential layers for its understanding and aiding students learn to interpret and to select the project composition themes by rational abstraction in connection with the induction of proto-architectural works of acknowledged artists.

The more detailed composition of the spaces is done in styrofoam models. Focus at this level of first year is placed on composition and lighting and the manipulation of styrofoam models allows to easily test different designs in comparison and to shape spaces through cuts, incisions and additions.

The exercises precise coding avoids students to get lost in fantasies and the domination and overcoming of rules promotes the generation of creative designs.

References

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Croset, P.-A.; Peghin, G.; Snozzi, L. (2016) *Dialogo sull'insegnamento dell'architettura.* Siracusa: Lettera Ventidue Edizioni.
Gandelsonas, M. (1991) *The Urban Text*. Cambridge, Massachussets and London England: MIT Press.

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Image 1

Selection of student photographs (Julianna Costa, 2018)

Walking

Walking is always the first human appropriation of a place as Francesco Careri writes in *Walkscapes*, when addressing the relation between walking and architecture: *"Walking, although it isn't the physical construction of a space, implies a transformation of the place and its meanings."* (Careri, 2016 [2002]: 51) Therefore, walking was the first act of project.
Walking a path from *Cais das Colunas*, by the river, to *Pátio de D. Fradique*, adjacent to the castle walls, consisted on the first appropriation of the site. 10 photographs registered the most significant framings for each student, creating individual, composed images of the context, from fragments. Students were asked to pay special attention to 5 concepts or binomials: focal points; positive / negative; interior / exterior; limits / transitions; mater / texture.

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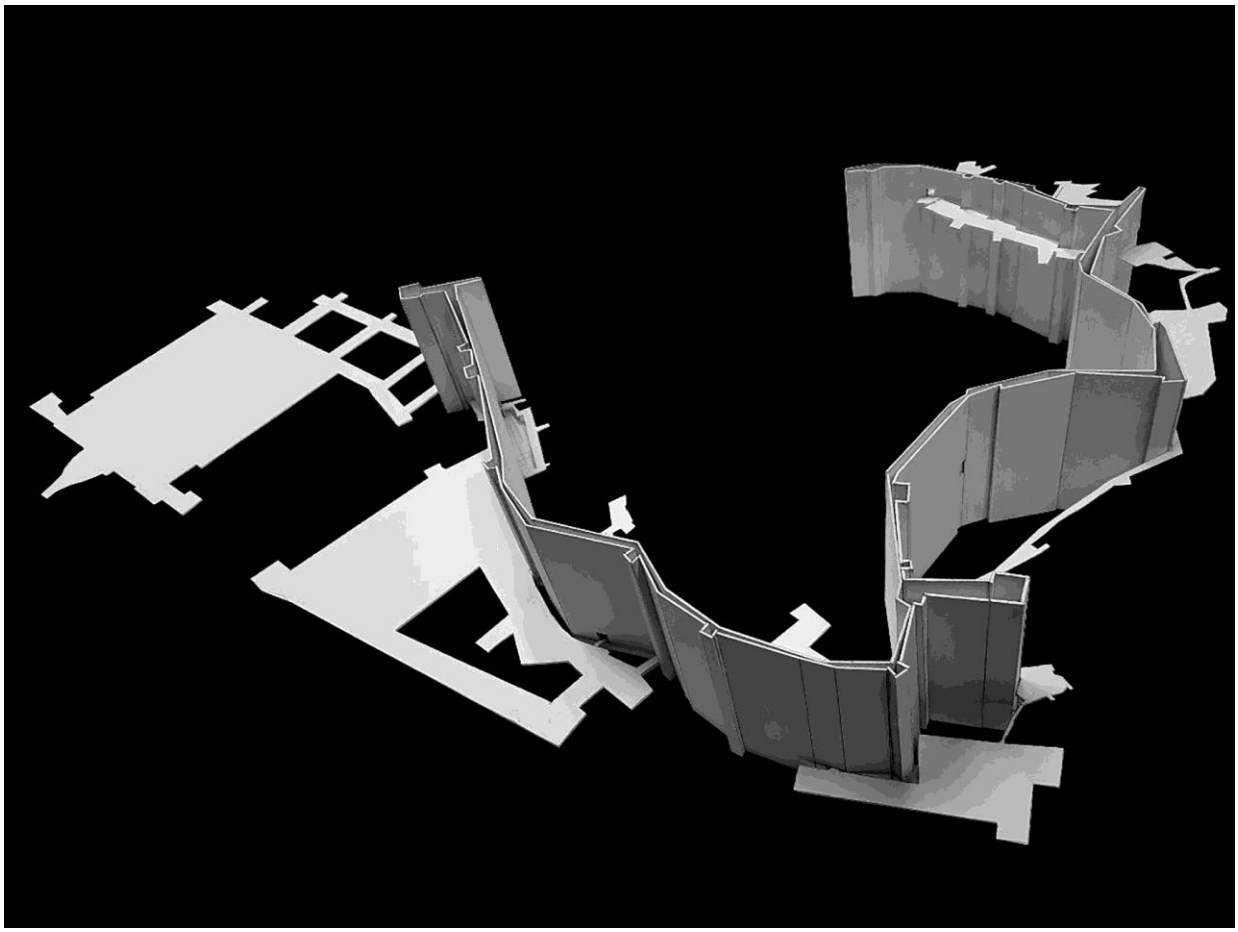

Image 2

Interpretation model [1:1000] (Alessandra Pace, Julianna Costa, Julia Ienne)

Interpreting

Complementary to the photographed mosaic, an interpretative model [1:1.000 scale] representing the public space of the walked path supported by the ancient walls of Lisbon was made. This model isolated two essential layers of reality through a process of "de-layering", *"a process which allows us to "see" certain formal configurations that are not perceivable in reality and, therefore, affects the way in which we see the city"* (Gandelsonas, 1991: 26).
White mate cardboard was used as the single material to build the model, but prior to cutting, students had to retrace the plan of this central area of Lisbon, recognizing the spaces that composed the path and revealing the imprints of the ancient walls of the city. A considerable challenge was imagining how to physically build a three-dimensional representation of the path that seems to be suspended in mid-air.
The abstraction of reality allowed reducing the complexity of the site, revealing relations established between walls and path, vertical and horizontal, and created a base for the development of the project. While the walls of the city imply a limit, the ground of the path implies continuity and their interference implies the existence of transition spaces.

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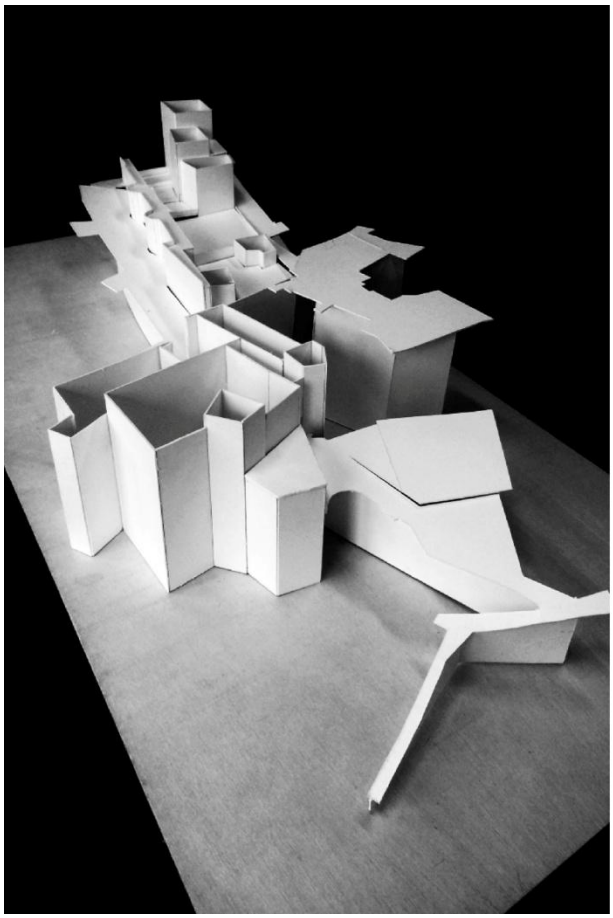

Image 3

Interpretation model [1:200] (Inês Santos, Mariana Casimiro, Tiago Verdasca)
Interpretation model detail (Beatriz Cabral)
Rift (Allan Wexler, 2012)

Interpreting and Art Induction

The work followed with the construction of a site model [1:200 scale]. A simplified and abstract representation of reality. The mono-material model allowed to reveal the juxtaposition and interlace of a set of elements deemed essential for the comprehension of the site and its transformation: the public ground (the public space of the city); the city walls (both as support and limit); the urban blocks limits and the Belmonte Palace (the appropriation of the wall); and finally, the doorways of the wall (the transition of the limit). Moreover, this model was particularly inspiring because it revealed possibilities of intervention and transformation of the site that were already present. Simple operations such as cutting, splitting, incising, aggregating and transitioning that may also be acknowledged in 20th century and contemporary works of art.
The connection between the site models and the proto-architectural sculptures and paintings of artists such as Alan Wexler, Gordon Matta-Clark, Eduardo Chillida or David Umemoto, among others, who deal with a strong relation with spatial composition through excavation and geometrical abstraction, was the focus of a lecture that allowed students to enlarge their cultural references lexicon and stimulate students interest in connecting arts. The coded interpretations of the place when crossed with the artistic references revealed possibilities for the project that would otherwise remain hidden in front of most students eyes.

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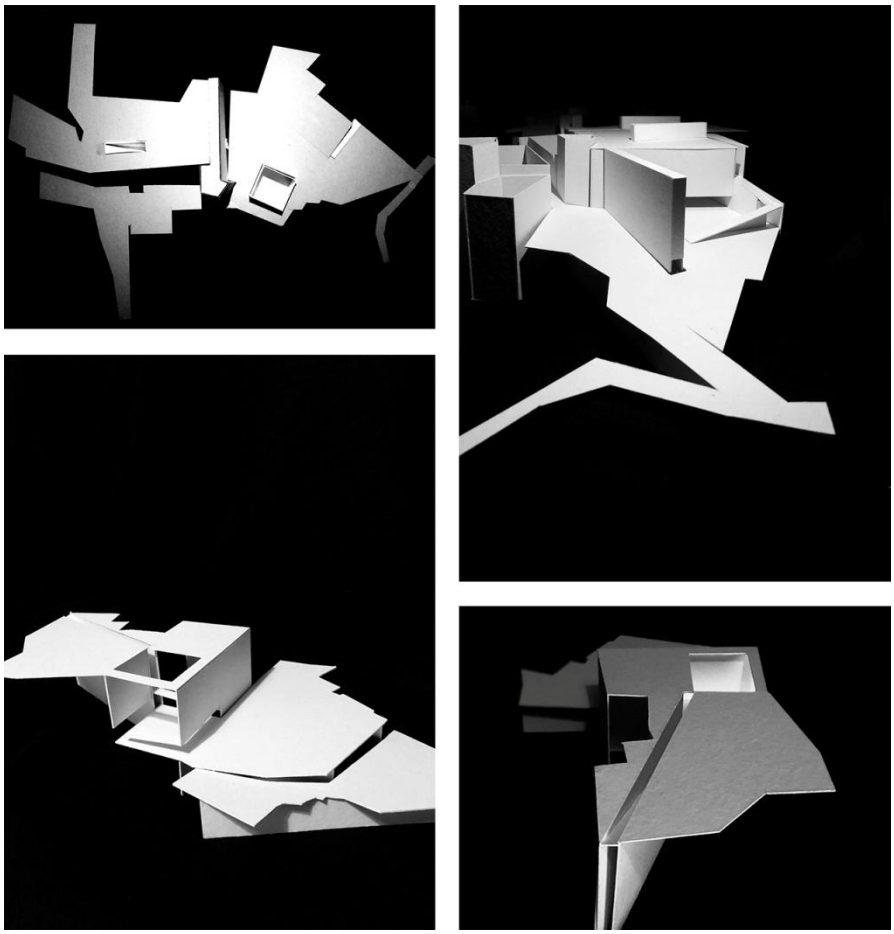

Image 4

Inscription of path and patio in the site [1:200] (Ana Beatriz Silva, Margarida Piedade, Ana Catarina Niza)

Shaping

Shaping started with the inscription of a path and a patio/cloister in the site. Students were asked that the path should connect the different levels of the topography in presence and the patio/cloister would open up possibilities of aggregating programmatic spaces. Two elements that defined a precise order for the site: a line for walking and a patio/cloister to rest and contemplate. Furthermore, these two elements revealed adjacent spaces along the faces of the path and the patio that could be appropriated. The aim at this point was for each student to acknowledge the vocation of each part of the designed site according to the programmatic functions defined in the semester syllabus. The program was then distributed along the path ideally designing a *continuum* between site, path, shape and use. The transformation into a place came with the spatial definition of each component of the project. Thus, for the composition of each individual space, the functions were translated into composition elements: the kitchen is a room with a chimney and a table for twelve commensals; each of the 12 cells is a room with a surface to rest and a surface to work, repeated and aggregated along the path or on the edges of the patio; the water is a simple tank housed in a significant space. The design work demanded each space for the elements to be found and composed not only internally but also in context with each other and the place.

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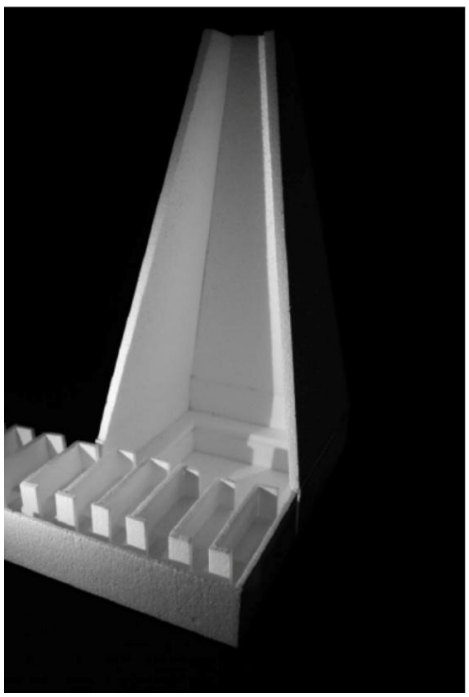

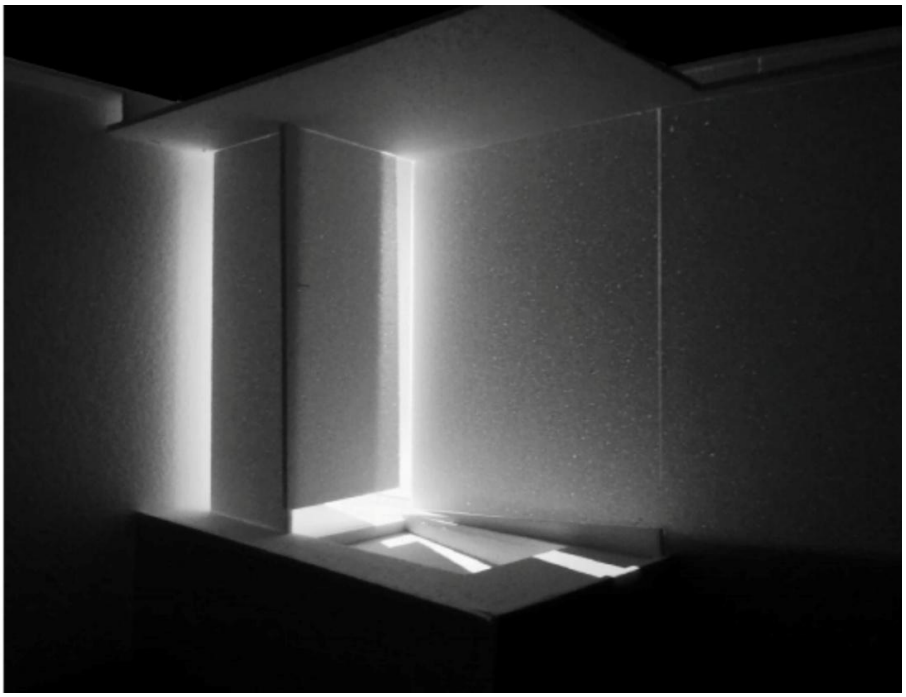

Image 5

Individual spaces composition models [1:50] (Beatriz Cabral, Tiago Verdasca).

Epilogue

The composition of the spaces was done in styrofoam models. Styrofoam allows building very simple and light models with clean cuts and relatively fast assembly, with intense work but almost no strength involved. Focus at this level of first year is placed in composition and lighting and the instrumental manipulation of models allowed to easily test different designs in comparison and to shape spaces through cuts, incisions and additions, following the work previously developed.
Reaching the end of the semester, the final presentation of the project includeds models, a general section of the project in context and an atmospheric section of a single space of the project. These final representation elements were photographed, photographs were selected and an individual book per student was composed.
In synthesis, along the semester students earn dexterity in rigorous model building and representation drawing of architectural spaces in different scales while incorporating architectural cultural references in a learning-by-design process. Furthermore, students enjoyed the city and incorporated an instrumental method to decode it, designing projects in continuity with the place itself.
As Pierre-Alain Croset defends, it was an *"elementary exercise, with very precise rules - as in all games, the more precise are the rules, the easier is to play them - because [students] must understand quickly that creativity doesn´t mean to be vague, and the best inventions are produced in the overcoming of the rules."* (Croset, P.-A.; Peghin, G.; Snozzi, L., 2016: 33).

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Sound Materiality

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Introduction

The sound dimension of architectural projects is very often neglected because our whole society and our culture have privileged vision over hearing. The architecture representation tools are all exclusively dedicated to the eye (plan, section, axonometric, model) and it is very rare that in the initial phases of conception, the sound is taken into account. The disciplines of applied physics such as environmental acoustics or building acoustics, quite recent disciplines in architectural engineering, are very helpful but their results "come very late" in the project because it has to be enough detailed in order to apply tools and run simulation programs. They are very efficient for music and theater, quite well predictable for insulation issues but actually not capable to express sound qualities of phenomena when they're not either noise or music. All the sound ambiances that make the place unique (soundscapes) and composed by all the "ordinary sources" produced by inhabitants should be improved in the first phases of the design. In other words, can we design spaces with the sound in mind? and actually, in consequence, what kind of materiality a sound design conception of space is revealing?
In the frame of an elective course, at the department of Architecture of the University of Thessaly in Greece, during the last 10 years, this perspective has been studied trough several student projects who were obliged to think and design with the sound in mind. This paper presents the main results of this pedagogical experience and shows how materiality is dealing with sounds and architecture.

The spatial richness of the everyday life sounds

In the first weeks of teaching, a set of theories on sound studies are presented to students. The objective is to show that sound phenomena are embodied in the built space and into the practices of the inhabitants. For this, many works of the laboratory CRESSON (note 1) are discussed within the studio. Since its foundation, the CRESSON laboratory has worked on the perception of sound phenomena in the urban space, proposing

different models of intelligibility of the sound world at the scale of domestic space, but also at the scale of a neighborhood or of a city (Sound effects, Augoyard J.- F., 1978, Sound comfort Chelkoff G. et al., 1987, or soundscape Amphoux P. et al., 1993).
A fundamental characteristic of these works is not to reduce the richness of the sound world to the only problem of noise and nuisance, but to consider that sound phenomena take shape in space and in relation to the other. This position involves taking into account not only the physical parameters of the signal, but also the qualitative aspects of perception and the cultural dimensions related to social interactions. For example, the study of the sound qualities of a public space does not only refer to the study of the physical parameters of sound phenomena in space, but also to the study of their interactions with the practices and social representations of space.
Several techniques of sound ethnography are used by students in order to describe sound qualities in the public spaces they study : soundwalks, sound recordings, noise measurements, video, photography, drawings, notes, interviews, etc. Whatever the theme chosen, it is about showing the links that exist between the built space, the human practices and the sounds that we produce and we listen to. It is, then, a question of deconstructing (philosophically) the notion of soundscape and to show how the physical elements of the atmospheres interact within architectural space and its users. The ordinary perception of architecture and the sounds that the built space welcomes and authorizes is, then, the students' gaze in this design exercise.
The students' works are, then, collected and presented in a blog (note 2) and shared with the whole group. They must describe the field of work and the method chosen, and of course all the elements of the corpus that they have collected. Methods of analysis are also discussed and the main results of their research work concludes the post. This post is necessarily organized around high quality sound recordings in order to express and represent the theme they have chosen to study. For example, the following example shows a part of a post from a group of students that was exploring the sound identity of the district around Tsalapatas museum in Volos, Greece.

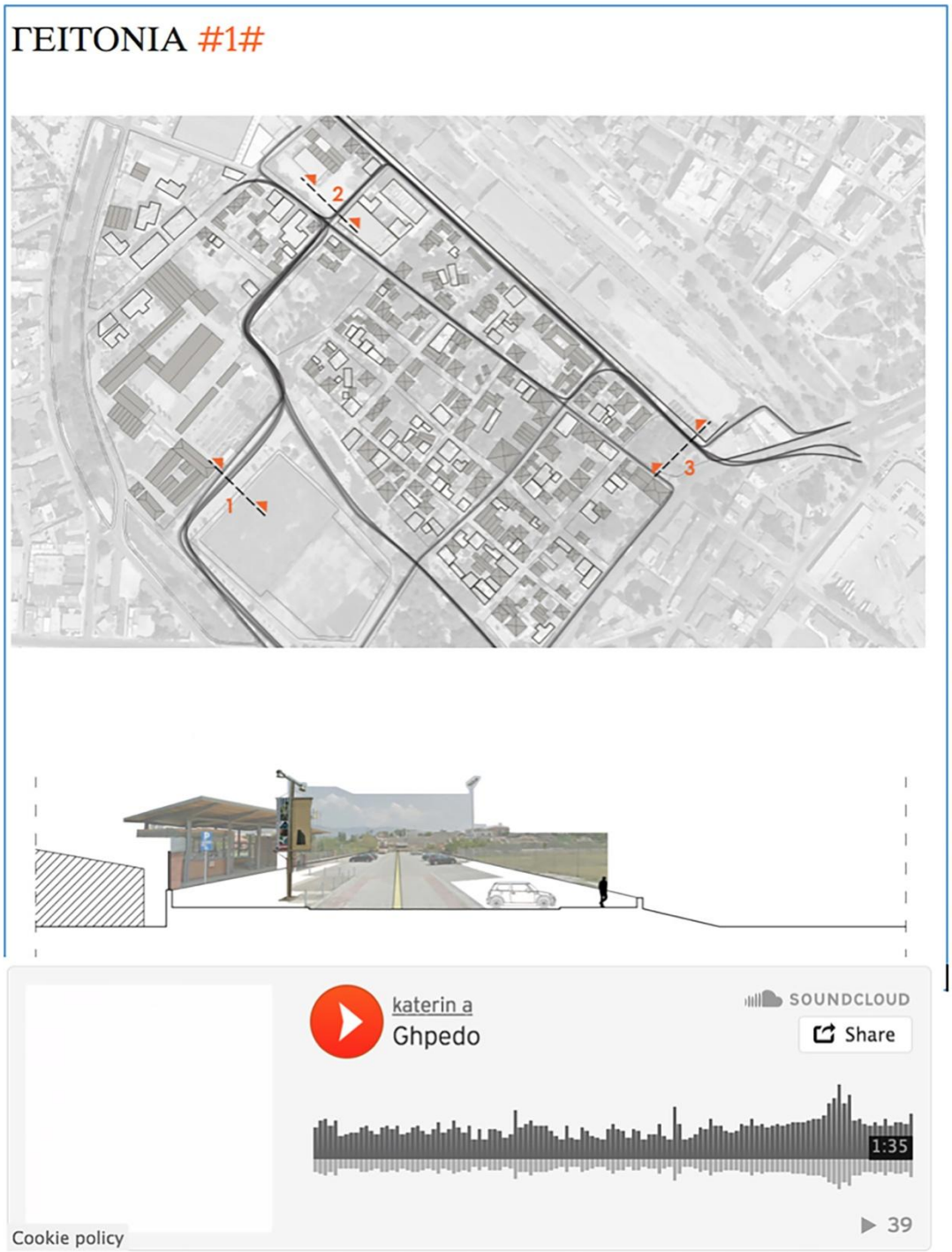


Image 1

Montage of the master plan, section 1 and sound track at Tsalapatas Cultural Center, Volos, Greece.
(source: SoundHood by Anastasiadou M. Anastasiou K., Katsigianni K and Kimouli L., 2017)

Design by sounds for sound materiality of space

Once this sound material is collected, students must design a "space" to exhibit the main results of their studies. The constraints are multiple and go in line with the following principles. Students must draw a space, such as a pavilion or installation, in public space, for the public. They know the city of Volos well so they have to decide where their projects could be installed. The projects must host an ephemeral exhibition in which the visitor has access to the contents of the first phase of their study. The visitor alone or accompanied, can enter the space, hear the sound contents of the study, read posters and texts. They can also interact with the content and the built space participates in the staging of these contents.
One of the challenges of this exercise is to expose the ordinary and thus address to architectural forms to help visitors to understand the extraordinary side of the ordinary everyday life sounds. The project must therefore make the exhibition time comfortable, clear, interesting and this requires that the visitors can stay long enough in the installation to understand the message (the sound always requires more time for its "own exhibition" in comparison with the visual). The program must be economically feasible, and students must also think that their pavilion or facility can host their exhibition but that it could also be hosted by another city in Greece or abroad.
Students must therefore design a place primarily for listening, with the difficulty of it being planned for a wide audience and in public space. There are therefore several levels of reflection to implement. The first is the writing of a summary program that defines what the pavilion or the installation should be able to do. The second is of course the relevance of the architectural response. In other words, is the production of space by students adapted to the content that must be diffused and is it related to the qualities of the public space that welcomes it? Finally, the materiality of the space is potentially meaningful for the project, the exhibition, its representation and its architectural materiality?

Main responses of students are organized around a simple typology:

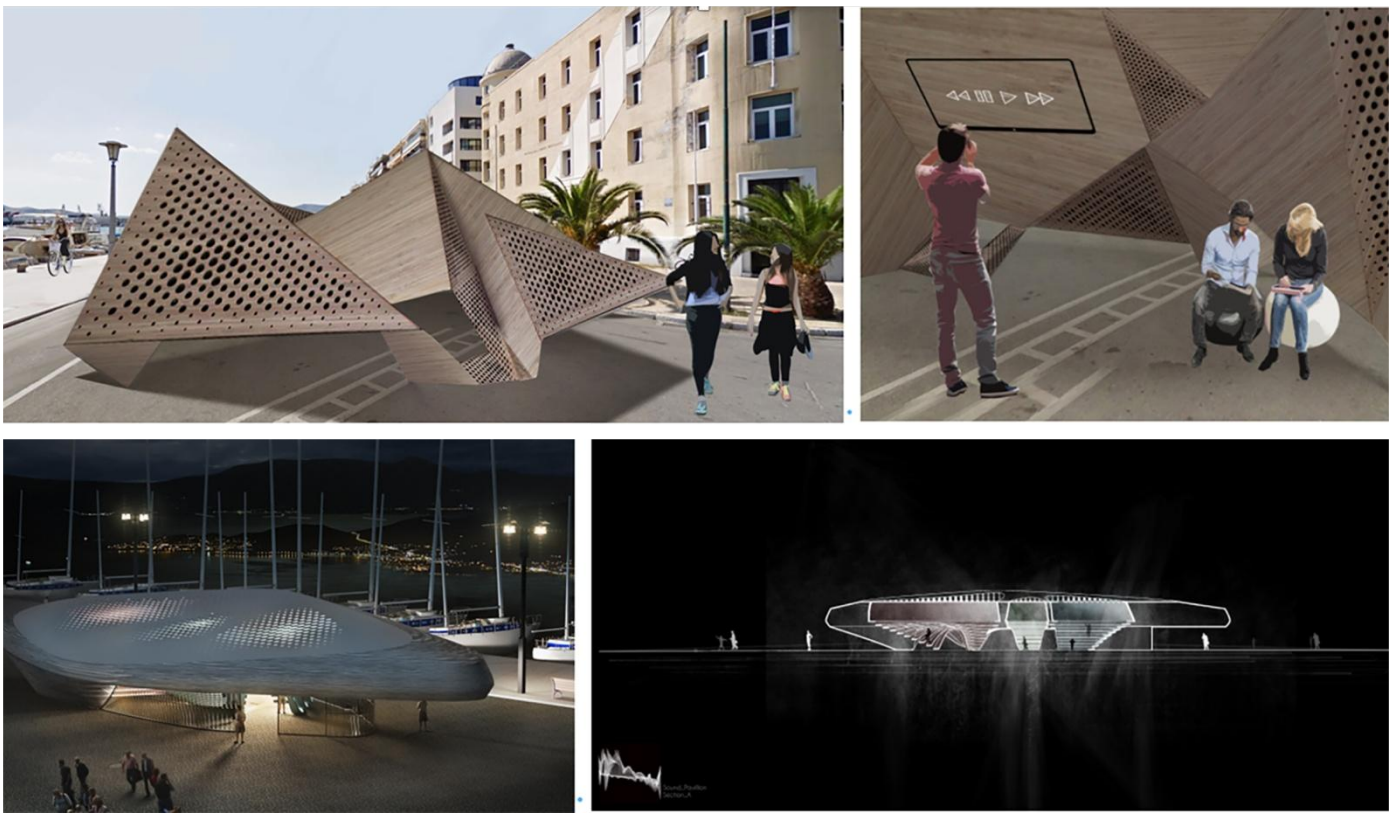
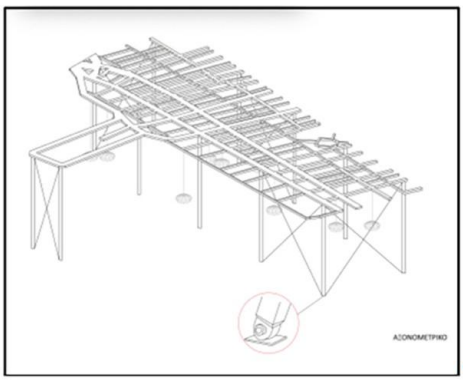
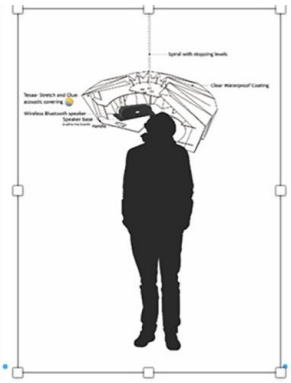


Image 2

3D realistic renders of pavilions designed by Polymerou M., Skriapa N. Also Filopoulou M (up) and Ioannidis E. Stathopoulos G. (down).





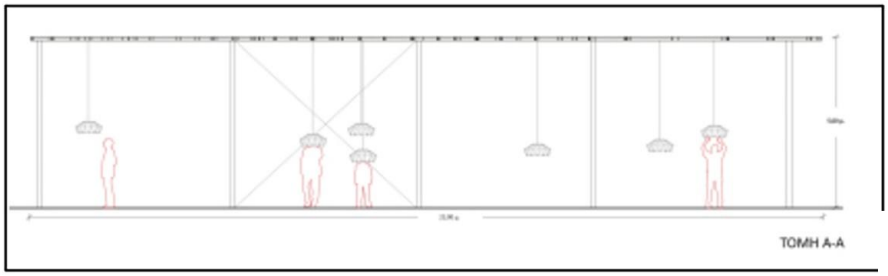


Image 3

Axonometry, section and realistic details by Argirou M.Z., Papoutsi D., Chatzipourganis N.

Images 2 and 3

Pavilion of sounds

The first category is the creation a some kind of pavilion, small exhibition rooms, shells where students use a light structural system. Because of the climate conditions in Greece, these pavilions are designed for summertime. Sounds are played trough an electronic diffusion system and many students design interactive systems between the buildings, the contents of the exhibition and the actions of the visitors.
In all the students' proposals, there is a double logic: there is the one of the "body in motion that listens" and many items are designed to offer a seat, a place to stay and enjoyment of listening. The second one is also how it's possible to share this experience with the other and how these individual experiences can co-exist together.
The scales can be quite different and sometimes the pavilion transforms itself into an urban sculpture as shown in images 2 and 3.

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Images 4 and 5
In situ readymade exhibition

The second category is more or less the creation of *in situ* "readymade" installations where no sounds are played back and architecture is just here to reveal the sonic existing qualities of the place: sound atmosphere can be experimented at any time and the student's project aims only to transform ordinary sound into"extraordinary". In another words, an architectural event is created in order to reveal the back plan of the existing sonic atmosphere. Sound Ambiances are the contents exposed and architecture is creating the minimal conditions to perceive it [Paxinou, 2017].
Often in this work, students choose to work on the quality of the ground in order to reveal by the changes on the general atmosphere of the site. Architectural and sound events, because they are different from our everyday life, make it possible for visitors to notice the sound qualities of their ambiance.

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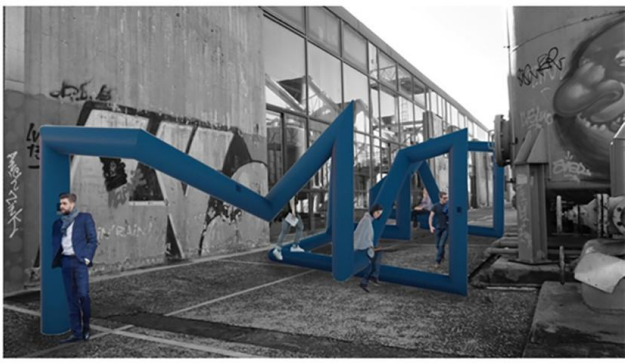

Image 4

Section and realistic details of the project XXX, by 'multi-dimension sound pavillon' by Mekka A., Stavrou I., Tigka A. and Chariti A.

Image 5

Photo montage, section and 3D realistic renders for in situ installations by Evangelia Kiosse, Francesca Furnari, Kostantina Koutraki, Panagiotis Papapanagiotou (up) and Tsamaridou M., Saflekos K. (down).

Conclusions

After many years of experimentation in this course, it seems that the contents are quite well balanced in between the difference phases of a classical exercise in architectural studio: site analysis, program description, design phases. In many cases, the materiality of the architecture is found in the qualities of the sounds produced by the visitors. The space closes itself and the structure welcomes warmer materials than those used usually in public space (wood, textiles, organic materials). Sometimes the materials of the ground are transformed by purpose and offer to the visitors' foot a tactile and a sound change. Certain projects manage to concentrate these levels of responses and propose constructed objects that become real musical organs destined to play the daily soundscape of our cities. Some projects are sometimes difficult to materialize because, like any architectural project, the program of the pavilion or the installation cannot be easily expressed in the ordinary materiality of the architecture. We must then think of other matters, other materials and still design space by sounds.

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and at
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[Available at https://halshs.archives-ouvertes.fr/tel-01527083/document]

Notes

1. CRESSON is for Centre de Recherche sur l'ESpace SONore et l'environnement construit is one of the 2 teams of the CNRS research unit "Ambiances, Architectures et Urbanités" (UMR 1563 CNRS). The team is supported by the National Higher Education School of Architecture at Grenoble, France (ENSAG).
2. https://akoustikodesignblog.wordpress.com

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TECHNIQUES

Cork new uses in Architecture. Cork workshop. Impact of Materials, Technologies and Applications

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Faculty of Architecture
University of Lisbon

The Faculty of Architecture / University of Lisbon (FAUL), Portugal and the Dalhousie University (DAL), Canada, organize an intensive design studio course, hosted by FAUL, focussed on the use of cork material in architecture, mainly considering visual applications.
It provides an environment for researchers, architects, designers as well as for those in the industry and other interested parties to meet and develop ideas and experiments using cork, constituting a platform for the internationalisation of the use of cork as a building material.
It runs in a three year cycle, organized by themes according to the type of materials and technologies, that are going to be tested or developed during each workshop (4 weeks long), namely:

Natural cork – aiming to gain an appreciation and understanding of cork as a building material and of the traditional methods used for preparation/application, becoming aware of their added values and potential; conducts explorations with natural cork or products using only natural cork, extending the research into the recycling of residuals of natural cork from it's primary use for the industry in cork stoppers, mainly looking for creative approaches of it's possible applications as building envelop (Image 1);

Composite materials – aiming to acknowledge the industrial cork processing chain and the composite cork products, reaching the understanding of the actual needs of the business of this industry; it includes selection and characterization of cork products and their changes through use, i.e. with aging and weathering, with a selection of performance related indicators and also conducts experiences involving the industry, overcoming potentialities of their materials, for future applications on building envelop (Image 2);

Future technologies – being aware of the architectural practice and foreseeing their future needs and through the selection of new materials and technologies that can, in the future, bring new possibilities of use in architecture and product design, it looks for the development of strategies that, based on the synergies research/industry can be the key to future applications of cork materials in architecture (Image 3).

Each workshop is divided into two phases:
1st – development of prototypes and understanding of the potentialities and applicability of natural cork as a building envelop;
2nd – design, produce and construction of an architectural element or shelter, based on the prototypes developed, in the first phase; guests will join each group and will make comments in order to help to develop the work.

As a didactic approach, three prototype groups are considered, namely membranes, claddings and self-supporting (Image 4).

On the whole, the workshop develops through sequential stages, including the establishment of conceptual options, experimentation labs, lessons, field trips and final exhibition (Image 5), then upgraded for national/international dissemination and so contributing to the knowledge about the universe of cork.

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Image 1

Rabanadas. Phase #01
International Cork Workshop. Lisbon, Portugal, 2015.

Image 2

'Cork Squared'
International Cork Workshop. Lisbon, Portugal, 2015.

Image 3

A-Corkdium. Phase #01
International Cork Workshop. Lisbon, Portugal, 2015.

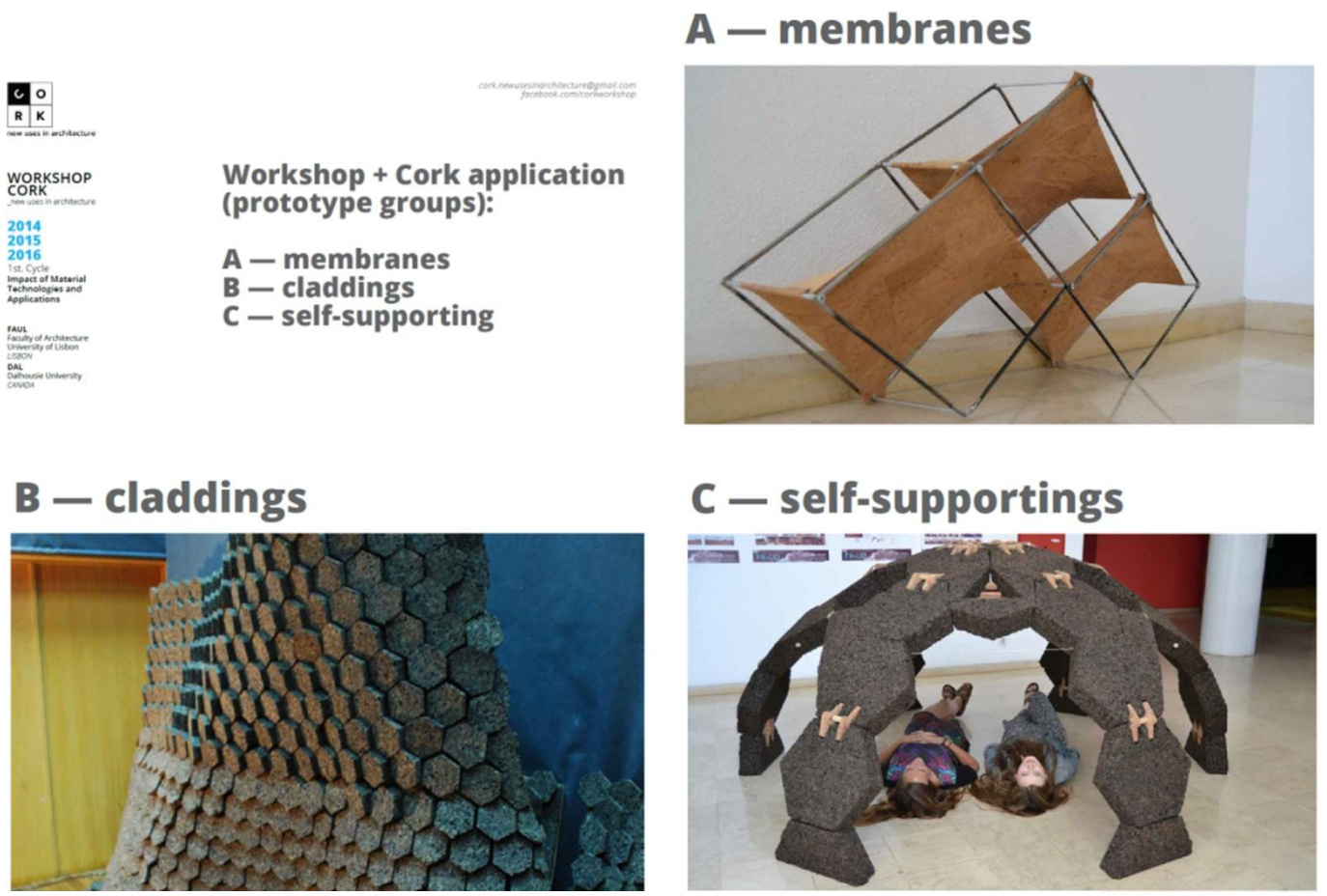

Image 4

Light Filter, Hexagon Wall and Cork Dome. Phase #02.
International Cork Workshop, Lisbon, Portugal, 2014.

Image 5

Experimentation Lab, field trip at Sofalca Factory and final exhibition.
International Cork Workshop, Lisbon, Portugal, 2014.

Entrez Lentement: Materials, Techniques, Geography

Iris Lykourioti

Department of Architecture, School of Engineering,
University of Thessaly, Greece

Enter, slowly

Introduction to Architecture I and II are the opening design courses of the two first semesters of undergraduate studies at the Department of Architecture of the University of Thessaly, Greece. Both are taught by the same team of tutors (Phoebe Giannisi, Iris Lykourioti, Yorgos Mitroulias, Yorgos Tzirtzilakis, Yorgos Papakonstantinou) for more than a decade. In this framework we have had the chance to experiment systematically in design teaching methods while a teaching culture derives from the above introductory courses, one that summarizes the interdisciplinary character of the curriculum of our Department, based on the dialectic relationship between architecture, arts, crafts, technology and environmental studies. The introductory design course exemplifies the above experimental experience. Both content and teaching methods are articulated in a complementary way in order to deal with spatial and material issues related both to *the City* and to *the Coutryside* (Thessaly being the main agricultural region of Greece). Our objective is to initiate students into a different mode of observation, interpretation and representation of the material world that surrounds them; the material world that they themselves are going to design and produce in the future. Our design stance derives from the idea that our material world is produced by the inventiveness of people, the development of specialized knowledge (technique) and, aesthetic and symbolic values (art) that will give shape (processing) to raw materials through the (social) organization of labor in a given historical, natural and cultural habitat (geography). No material process exists outside this social scheme. *Entrez Lentement* (enter slowly) is an emblematic phrase taken from Eilleen Gray's built manifesto E 1027. Denoting the meaning of the motto for our courses' purposes we conclude that spatial understanding is a complex cognitive process and needs time to be grasped and apprehended. Thus, students should be introduced to the medium of Architecture by encountering spatial complexity istead of simplified descriptions of spatial realities. Only they need to do it *slowly*.

Introduction to Architecture I: The City
The useful object and the workshop of the artisan

In the first semester we initiate the students into systematic modes of observation. Firstly, we bring into play the methods and tools of observation employed by social sciences such as Archaeology, Social Anthropology plus the playful practice of investigation, as it appears in a literature genre, the detective stories. Secondly, we encourage students to visit artisan workshops in the city of Volos in order 1) to build a relationship with the people -the carriers of technical knowledge, 2) to get familiar with the spatial, urban network of production (workshops) and thus, 3) to understand the necessity of the distribution of technical knowledge at local, urban scale. The collaboration between students and artisans is built around the study and transformation of a very useful object that every artisan uses in his daily professional activity.
The teaching method includes various exercises on sketching, drawing, mapping, collage and video-montage making that deal with a series of modes of cognitive and aesthetic understanding such as de-contextualization, transformation, re-appropriation, re-contextualization of an object.
Lectures enrich the design exercises of the students by helping them to establish relationships between design options and the history of art and architecture. Such discursive activity helps students to contextualize and historicize modes of representation and modes of making material objects. (design and production).
Finally, the students transform, re-appropriate and re-contextualize the object of their study in 1:1 scale. They, themselves, become the artisans and the users of the material object they have been transforming.

Image 1

Image 1

Introduction to Architecture I

Helmet with earplugs for reducing machine noise and a brush for cleaning surfaces from woodchips. It was designed by a student based on her systematic collaboration with a carpenter. It was the outcome of a study of observation on the uses, working and living habits, on spatial forms and tools of the carpenter's workshop.
Students are asked to explain or exemplify the performative aspect of their transformed and re-contextualized objects. In this case we were asked by the student to rehearse the helmet ourselves (from left to right Alexis Psychoulis, Phoebe Giannisi, Iris Lykourioti, Yorgos Tzirtzilakis) and to respond, respectively, to a set of sounds produced in the class.

Below, left: photo of the carpenter's workshop

Below right: Aerial view of the city of Volos where oversized models of the objects that students study and transform are placed. The collective outcome of the design exercise is a new map of the city that projects the new network of the spaces where the hypothetical re-contextualization (place, use) of the transformed objects takes place.

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Image 2

Image 2

Introduction to Architecture I

1:1 scale objects are the final outcome of a long study of an object and the steps of its production and transformation. In this image we can see three transformations of a bicycle. In the first two pictures (left, middle) a protection for the rainy days is added to the bicycle while a second bicycle is cut and re-assembled -with added spare parts- into a multiple stool for public use in public space. In the third picture the bicycle is cut and re-assembled again into a portable high stool. The handlebars are used either as a support for resting the back or as a handle for resting the arms. During the last weeks of design and assemblage the students work in close collaboration with our Department's hardware workshop or they seek specialized support within the network of workshops of the city of Volos where they can now 'navigate' thanks to the encouragement given to them via our introductory design course, an experience to be employed in the next coming years of their studies and professional work.

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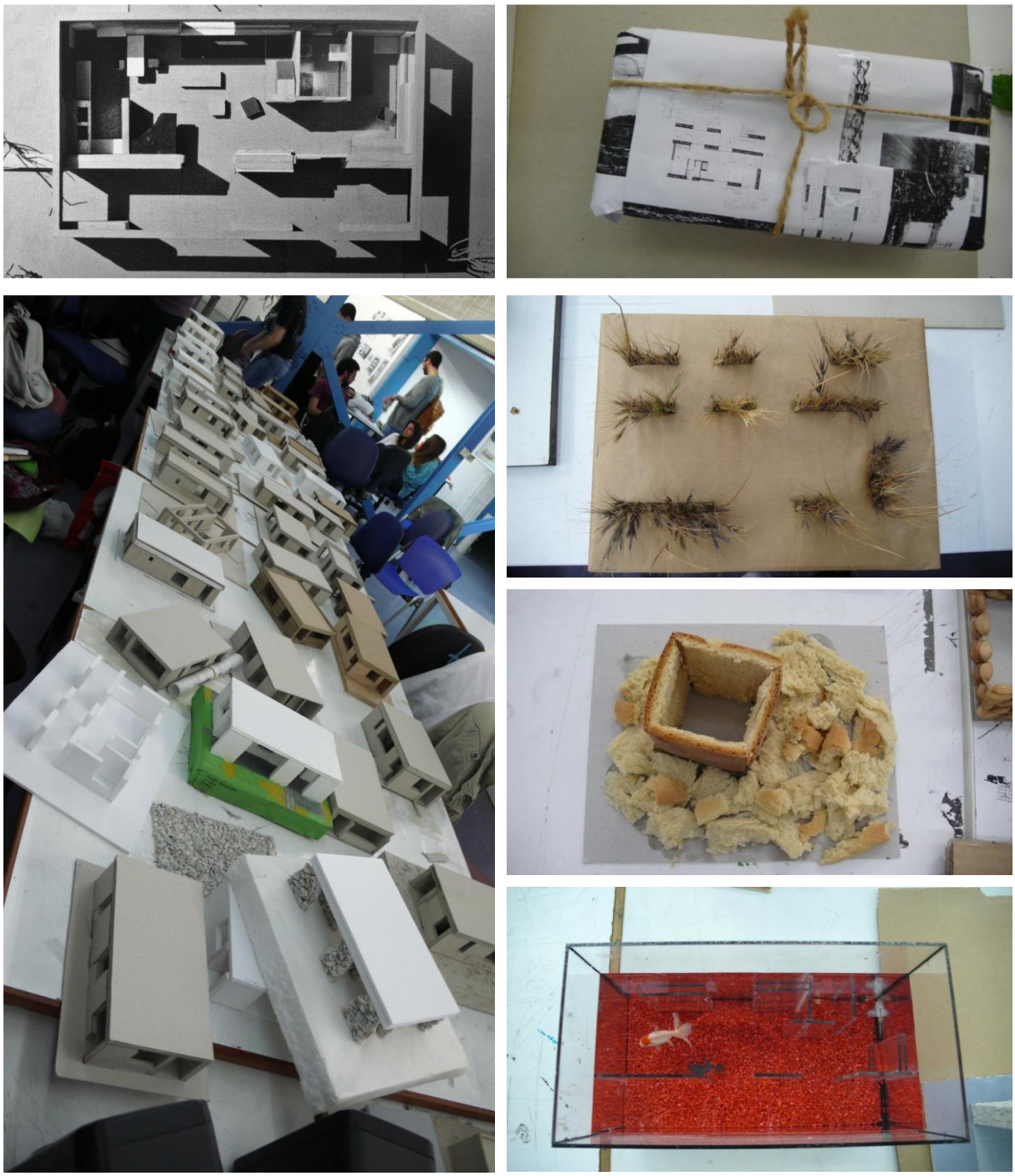

Image 3

Left column: Study model by modern Greek architect Aris Konstantinidis for a vacation house for his sister in Aegina Island. Copies of the conventional architectural model of the same house made by the students.
Right column: Interpretation models of the house in Aegina Island by the students. Interpretation models exemplify the dense sensual properties of the house usually omitted in conventional model making.

Introduction to Architecture II: The Countryside Section, Program, Intepretative model and the making of a vacation house by the seaside.

During the second semester, students are introduced into the notion of *habitat* in tandem with representational methods and tools that help them observe and apprehend *spatialities of inhabitation*. They get familiar with terms and materialities that derive from 1) what we call in architecture '*the program',* 2) notational exercises in orthographic representation, the section in particular and, 3) their intensive work on model making, a work that has to be symbolically open to diverse interpretations and potential spatial narratives.

We continue our teaching work on the dialectical relationship between built space, nature, culture, history. While, during the first semester, we explore *the city*, during the second semester, we study the realities and complexities of *the countryside*. As a case study we select a modern vacation house near the sea, built by an important modern architect. We consider such houses as built manifestos on seasonal living while at the same time we are very concerned with inscribing an individual architectural work into its specific cultural-historical context. In this light, architects are studied as historical subjects whose work deals with the possibilities and the limitations of the material and spatial production of their time.

While we begun our teaching program with studying international architectural works such as le Cabanon by Le Corbusier, E 1027 by Eileen Gray or the Weekend House by Alison and Peter Smithson, soon we begun shifting our interest towards the Greek insular area of the Aegean Sea in order to be able, 1) to organize educational visits to the actual buildings, 2) to study the geographical site through the diverse perspectives of history, social anthropology, architecture and the arts, 2) address issues of the dialogue between vernacular and modern architecture, 3) get familiar with the realities of the insular world (isolation and interconnectivity) that offers a very diverse, dense and unique example of sustainable life in both material production and exchange. The students are asked to design a weekend house by the sea, as their final project, by presenting varied architectural programs and formal patterns based on seasonal changes and their effects on indoor/outdoor living.

Some of the places selected as insular habitats of interest for our work are Aegina Island (house by Aris Konstantinidis), Amorgos Island (house by Iannis Xenakis), Kimolos Island (house by Dimitris Fatouros), Tinos Island (houses by Pantelis Nikolakopoulos and Christos Papoulias) etc.

Image 4

Field trip to Aegina Island: the house designed and built by Aris Konstantinidis (left column); parallel activities (right column).

Image 4

Introduction to Architecture II

Left column: Indoor and outdoor spaces of the house in Aegina Island by Aris Konstantonidis, during our visit.
Right column: Parallel activities of the travel teaching program in Aegina Island. From top to bottom, a) discussion and dinner with architects Dimitris Fatouros, Dimitris Antonakakis and Souzana Antonakaki organized in the restaurant of Apollo Hotel, Ag. Marina, designed and built by architect Nikos Valsamakis, b) Archaeologist Christina Mitsopoulou (University of Thessaly) explains the students the historical and cultural importance of pottery making during our visit to the traditional pottery workshop of Garis brothers in Mesagros, c) visiting 'Rodakis House', a traditional builder's vernacular house in Mesagros, often cited in the history of Modern Architecture by architects, artists and scholars such as Dimitris Pikionis, Klaus Vrieslander, Julio Caimi, Yorgos Candilis, Aldo van Eyck etc.

Geography: Travels (field trips) as fundamental teaching experience

Travelling, the embodied material and sensual experience of space and life plays a fundamental role to our teaching program. We have concluded more than a decade of travelling-teaching experiences. Students visit and do field work in specific geographical and cultural habitats where works of architecture stand. As already mentioned, by focusing on the dialectical relationship between built space, nature, culture, history but also by exemplifying those relationships *in situ,* we help the students recognize that there is a fundamental social relationship between the material recourses, the techniques of processing materials and the geographical features of a place (isolation and interconnectivity in the case of insular areas) thus they can profoundly understand the social dynamics behind the interdependence between materials, techniques and geography.
Architects, in this light, become intermediaries of social relations while design (in all its historical forms) becomes a fundamental social activity.

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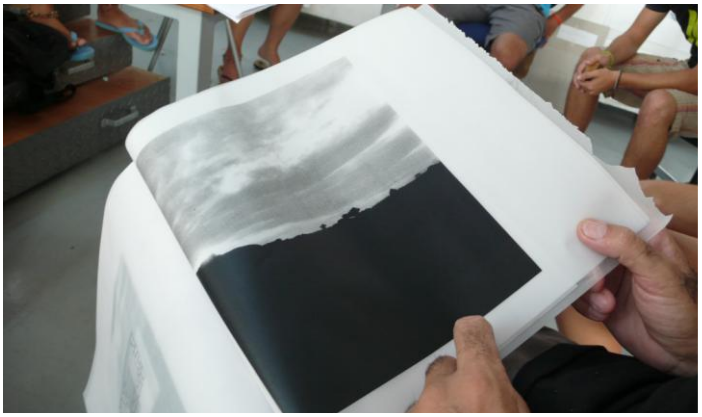

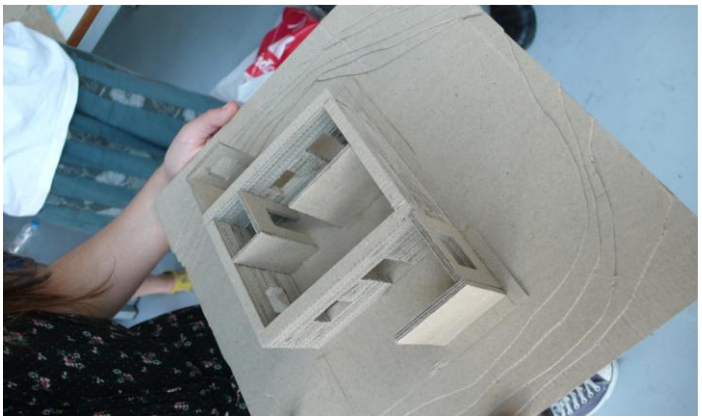

Image 5

Small housing complexes designed by students in Perdika, Aegina Island. Final project second semester.
Collages with plans and elevations. Model.

Image 5

Introduction to Architecture II

Studio work is organized in groups of three or four students.
Each student designs a single small house while the group decides for the organizing principles that will turn four single houses into a convivial housing complex. The convivial complex includes common spaces for working, eating, resting; they are, in principle, outdoor spaces.
The final project is presented through models and orthographic projections like plans, elevations and sections, the latter especially charged with designing the relationship between the designed spaces and the mountain slopes that characterize the Greek insular landscape. Orthographic projections become parts of collage images where designed spaces are juxtaposed to the landscape while their materialities can be exemplified. Such representational media create the visual milieu where dialectical relations between the newly designed houses and their context become apparent and dynamic.
In order to activate the cognitive importance of the abstract use of materials in media of representation we limit the use of color and the material options for model making. For making the drawings students can only use black and white colors. For making models they have a limited number of material options so that they can be inventive, use the same material in various formal ways and test the limits of specific material properties. At the same time, limiting material options encourages experimentation with different techniques of assemblage that can deliver diverse formal characteristics to the models i.e. as shown in the model (see image 5, right column, below), we can represent stonewalls by using piled ondulé paper surfaces.

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The Material Culture of the In-And-Out Door Subject's Daily Life

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A Twist to the Countryside

The international interest in architectural research is directed from the "Metropolis" to the unlimited landscapes of the countryside. Through criticism of metropolitan life, the rhythms of the post-industrial subject and its technological households, we are investigating who might be the expanded and hybrid ways of living in the countryside. Considering that in the modern era contrasts between "city / countryside", "culture / nature", "center / periphery", "inside / outside", held a dominant pole, a driving force that constituted an essential component of the architectural planning. This condition of in-between, life and activity (outward), the de-layering of work, perhaps, of habitation, of temporal proximity, is now being sought. In Greece, this " amphibious" situation between the cities of labor and the countryside of leisure will be intensified and will cause these "secondary phenomena", the transfer of urban habits and structures to the countryside, rural tourism, the touristification of the countryside, resulting in the relative lifting of the city-country bipolar and the creation of a semi-or semi-outdoor life.

Materials as objects

Is a stone or a brick material or object? How can our practice take materials into account without transforming them into tools? How can we turn materials into objects by themselves?

The world of things versus the world of matter

Initially the world could be conceived as a plane of matter available for constructing human technical world. Then this eternal process of constructing and metabolizing the physical world provided an already used, material world, full of things, ruined or not yet. In the anthropocene culture transforms the material world into a world of things.
The world of things -and not the world of materials- forms the ground for future construction. Every future construction already belongs to the world of things.
Under the geological and historical process, the world of things is transforming and deconstructing things into particles or even matter again. De Landa points out that a serious part of our inorganic world is a product of the organic process. That is the geology of bones and shells, a serious part of the geological stratification.
The studio investigates how everyday living is being formed by the use of utilitarian objects, supporting the idea that objects influence the ritual (performativity) of everyday life. The projects aim to analyze, conceive, and introduce both objects and performative modes of everyday living. In the workshop, students are called to design and construct objects for everyday living, by activating a list of materials from our common built culture, using simple mechanical tools, low technology processes and certain design formulas.
Studio's purpose is the development of research on various potentials of design and production of artifacts, programs and actions for everyday life, in the contemporary age, within Greece. Recent technological progress in software development and fabrication techniques allows designers, architects and artists to conceive and manufacture projects and products, without the need for lengthy and expensive industrial production lines. Studio focuses on the development of ingenuity and competence in the design and construction of small-scale objects, as well as the operational activation of students to communicate and promote a designed product in public space.
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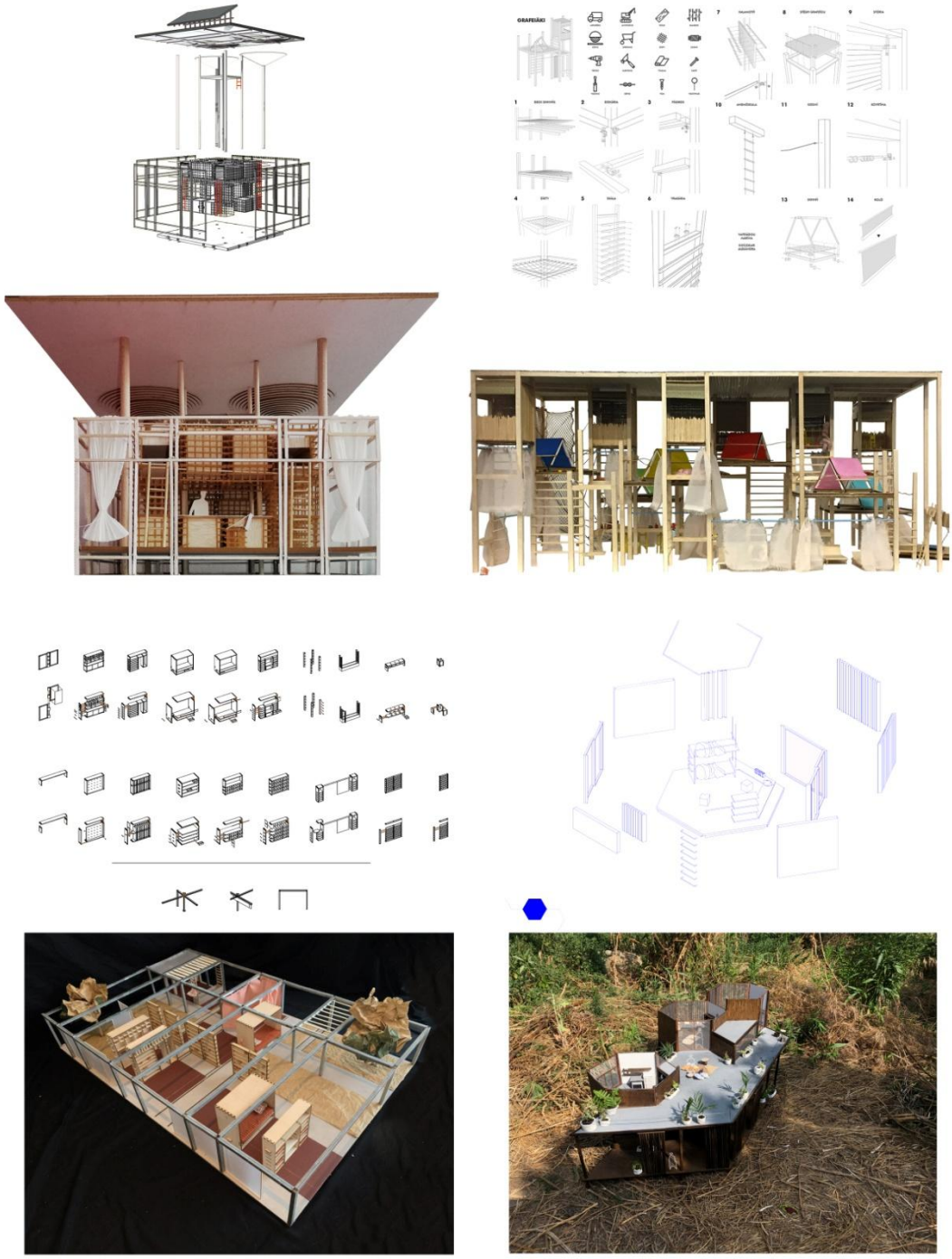

Image 1

Design research focused on developing 3d models and construction manuals.
Student work by Maria Kotsi, Marina Vafeiadou, Alexandra Siougari, Emily Eduards, Anastasia Stioptsia, Filippos Kotsikos, Ismini Kaloupi.

The contemporary condition of small workshops dispersed throughout the city, at the same time that they are networked through internet and social media -conceived as a field of both research and commerce- allows for the small-scale but pluralist production and comprehensive dissemination of ideas, prototypes and products. Today's design practices may combine cutting edge digital representation technologies with handicraft, small-scale production with artistic practices, traditional material techniques with contemporary expressive vocabularies and ethnographic heritage with multiple anthropological identities.
Creativity might still be possible if it relates to the "production of the everyday", with the introduction of original objects, the conception of new habits and multiple lifestyles, or the invention of an infinite variety of dwelling conditions, as rich, varied, strange, flexible, fluid and controversial as the reality of today's metropolitan subjects.

Assembling the Assemblage

Material culture is a hybrid theoretical field of research. It helps to build the links between the material forms of everyday life and the ideological, social or historical motivations behind them. The forms of things are not only the forms of technique but are also formed by invisible forces that construct the visible forms of civilization.
An additional dynamic of the proposal is the choice of everyday practices as a methodological tool of approach. These practices are defined in the theories of social action as regulatory acts or ways of *doing*. Since practices are intertwined with the social system, we could characterize them, by their nature, as resistant to change. That notion raises the question of how the residence of the modern subject could be reinterpreted and how can we define the degree of transformation of these practices, through their integration into a new environment. To achieve this standardization, the *assemblage method* is selected as the basic tool. The method is based on collecting and recording the fragments of the domestic world of the

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Image 2

Creation and construction of an object for outdoor life in situ.
Student work by Gabriela Aylogiari.

household, indoors and outdoors, focusing on the materials of the new household culture, as it is presented both in the urban experience and in the households of Greek countryside, where the work of the household, outdoor activities and agricultural crops, give a vital character to rural habitation.

Recipes: From Cooking to Building

After recording and collecting, the findings are regrouped in uses of the materials of the domestic world that were not predictable from their original program. The design methodology is similar to the logic of cooking recipes: the ingredients to be used and their quantities are determined and with their combination the new hybrid structures / household assemblies are obtained. The proposed sustainable design methodology is open to interpretation and the creation of new *recipes* for the production of indoor and outdoor structures / household assemblies.

In addition, the need for the rebirth of the built and natural environment is a matter of both modern architectural practice and the concern of society as a whole. The purpose of this research is to explore the science of architecture and design practice, through the prism of sustainable design and to analyze those factors that are considered important for the creation of sustainable structures, spaces and landscapes. The research is specified in the transitional, changing and abused urban and suburban landscape, giving directions to contemporary concerns related to the constantly changing space and the changing human being.

Modern technological advances, that help turn architectural design into a sustainable design, come to collaborate with the analysis of everyday living practices, so that their combination leads us to the proposal of a new way of life. Sustainability methods are not applied in terms of 'ecology for ecology', but *Landscape Ecology* as a human science, according to Naveh & Leiberman (1984), which connects the geographical, historical, ecological, cultural characteristics of landscapes by studying land use and relating human society to the place where it creates (Turner et al., 2001).

Image 3

Furniture that uses ready-made materials in repetition
Student work by Konstantina Antoneli, Nefeli Fotiadou, Eleni Bokari, Soumela Makanika.

'The Thing' versus 'the Object'. 'To Perform' rather than 'to Form'

The course "The Everyday Performative Thing (Object)" promotes theoretical and practical / laboratory research for the production of small-scale reproducible objects. The notion of 'thing', as opposed to 'object', introduces the notion of action and performance into the material form. Research, extends to describing the overall cycle of conceiving, designing, producing and promoting an object / thing in public domain. In principle, it is required to find a treaty, in the private or public space, which makes interesting or appropriate, the use or the introduction of a new thing or the replacement of an old one. The studio focuses on the observation of daily lives of countless performances and the material world of fragments and objects, that precede and accompany the process of design and construction. Everyday items are designed based on the properties of certain materials in our home equipment that are reused in a heterodox way. Design serves the properties and dimensions of materials and not the other way around. What will be designed, is not the objects, but the way they are made. The plan is a kind of recipe to be executed: The plan is to program the assembly of different materials in specific dimensions to serve the ergonomics and anthropometric suitability of the new furniture.

Construction Methodology

Manufacturing of furniture is simple, low-tech and requires only basic mechanical tools. Drillings, cuts, and screws bring the parts together. The materials that make up the constructions can be simply disassembled to transport, store and modify them. The materials are building materials and utensils from the apparatus that constitutes the domestic, everyday culture (domestic culture). The ability to find materials easily and cheaply and the low demands on technical know-how and engineering make the manufacturing methodology accessible to anyone who wants to use and develop it as a kind of open source software.

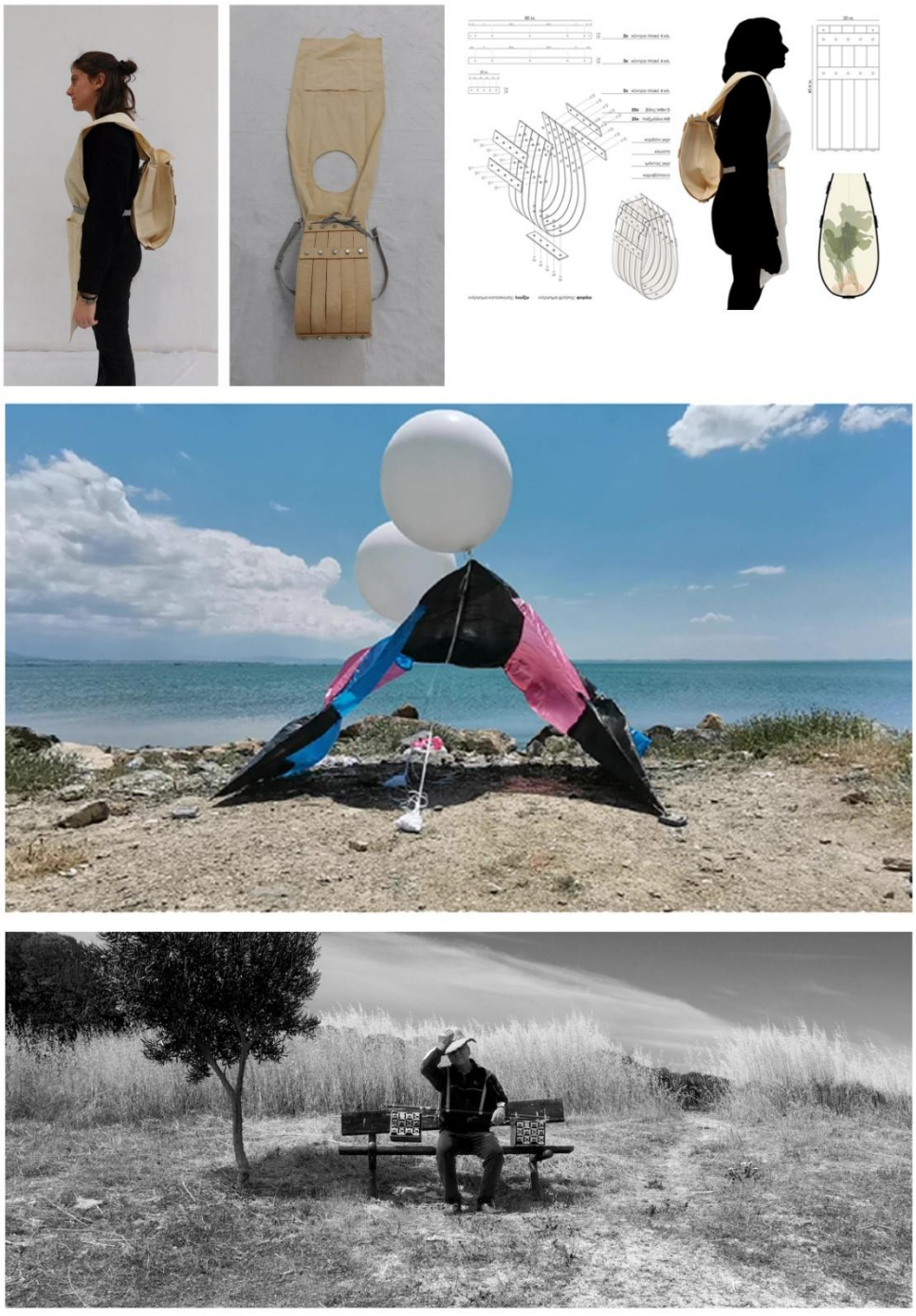

Image 4

Objects of daily use in the countryside.
Student work by Katerina-Eirini Koliamitra, Georgia Sagmatopoulou, Maria Kotsi.

Materials

These are items made from inexpensive materials available in retail: bricks, wood, galvanized cords, elastic PVC colored surfaces, watering hoses, plastic items. The materials are used in standard cross sections selected for proper fit together.
The studio aims to expand as much as possible the limits of its academic purview: from the design of outdoor space, to the design and production of domestic furnishings and even new daily life practices. From the ephemeral protocols and symbiotic relations of informal communities, to the communication and diffusion of alternative concepts of everyday culture. From the active understanding of traditional craft to the contemporary performance of the shared cyber-body. As an ultimate goal, students will contribute their collective experience and knowledge to the manifold production of the Everyday.

Materials Domestic Assemblage (Do_As)

A workshop practice between craft and design, a workshop practice of assemblages led not so much to the construction of assembled objects as to the working out of construction and assembly programs. A programmatic logic of assemblages both in the sense of software and in the sense of manual (i.e. a program of use) opens up possibilities for widely different products of assemblage. Hence, design is not so much the working out of an appropriately assembled form as of potentialities of forms, like it happens with recipes in cooking. The furniture formulas of Domestic Assemblage (Do_As) offer possibilities for giving form to domestic object and domestic space. A direct correspondence is thus provided with the way we conceive of the anyone-resident, not as a body of compact particularities but as a subjective manifestation of multiple potentialities in the way one exists and acts. We contend that, as in cooking, so in the material production of domesticity in general, Domestic Assemblage (Do_As) is a proposal for creating recipes. The multiple versions of putting

Image 5

Installation of a food preparation unit made of reusable materials.
Student work by Lenia Klossa-Sotiriou, Athina Koumparouli, Katerina Selini, Mariza Vlaxava.

the formula in effect, highlight the cook's poetic skills and the diners' gustatory performativity.

The past decade of the crisis has not given us the opportunity to test the results of our research on the subject and the community within the social field. Certainly, the institutions of the promotion of architecture, cultural institutions and communication networks have all benefited by what we might call 'imaginary adoption' of the artistic and the political within the production of spectacle. A kind of exhibit was produced for the sake of the promotion of large functions and institutions, yet the social dimension of architecture was covered over, rather than being put to the test. At the same time, issues critical for the future of Europe and particularly for its borders, such as migration, are becoming pressingly urgent. The community-that-is-not-coming is already here -if only because we are thinking about it. The care for a social architecture has a long-term horizon of action and constantly novel data. What has been succinctly termed by D. Haraway 'naturoculture' sets the outer bounds for the unfolding of every future action.

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Climatic heterotopias or reinvent the ontological aesthetics of thermodynamics through volumetric architectural design in the framework of 'climate change': a tangible pedagogic praxis

Lazaros Mavromatidis

Insa Strasbourg
Department of Architecture

Prelude in guise of an ontological question

The direct result of the "climate change" regime (Katsafados, 2010) and the appearance of the so called phenomenon of "green capitalism" (Caprotti, 2014) was to transform the status of architecture losing its notion of being able to "*design an environment*" obtaining from now on a secondary role as part of an "*environment by design*" (Dean, 2011). Investors and stakeholders promoted the "*green technologies*" market (from materials to smart building operation systems) and architecture has been instrumented to promote the use of such technologies to enhance the "*climate change*" mitigation of the building sector. These economic processes gradually guided to a de-disciplining approach regarding the scientific and artistic status of architecture while influencing architectural production but also architectural education. Thence contemporary architectural education promotes and defines "*sustainable innovation*" through the simple application of applied building technologies transforming this discipline to a kind of "*techno-science*" named, among other terms, "*green*" or "*sustainable*" architecture. Losing its aesthetic, social and scientific dimension, architecture is gradually guided within an ontological crisis in epistemological terms. A novel tangible innovative pedagogic method is presented here as the vehicle to introduce simplified applied thermal engineering and thermodynamic practices at the early design stages to the pedagogy of architecture in the framework of the "*climate change*" hypothesis (Mavromatidis, 2020). Intrinsically, I employed an artwork of Wassili Kandinsky who was one of the first artists that produced what is commonly called non-objective art. Thereupon, the present painting illustrated in an unconscious manner the symbolic nature of creativity and consists an art product that has been created on the basis

of a non-evident motif-pattern following logical processes that are in a permanent dialogue with what is called the "radical imaginary" (Castoriadis, 1984; Kaika, 2011). This unconscious and evocative way of pattern creation throughout my pedagogical praxis has the ability to rediscover symbolism throughout thermodynamic analysis in a pure subjective manner (for an explicit presentation of the methodology see also Mavromatidis, 2018). I wanted to define a method that is constructed on the basis of precise design principles that give the possibility to the student to produce a symbolic architectural and thermodynamic space preserving her/his subjective architectural intention being based on scientific observations. Ergo, I based the exercise on a Kandinsky drawing since the paintings of Kandinsky hardly ever seem to depict objects of the world. Furthermore, Kandinsky's art has a pure metasymbolical dimension while bolsters and intensifies viewer's perception regarding space and synthesis exasperating at the same time creativity and the students' radical imaginary (Castoriadis, 1984; Kaika, 2011; Mavromatidis 2012a, 2012b, 2014). Then the volumetric architectural elements have been discussed, classified and analyzed on the basis of their thermodynamic potential. Beyond shadow of doubt the proposed method doesn't present specific "*Design Principles*" and doctrines. Through this pedagogic praxis I simply accommodate an outline of the role that applied thermal engineering know-how and the science of thermodynamics can play vis-à-vis architecture and nature. Beginning with a number of drawings that are produced on the basis of an unconscious process we then explicitly study our initial production with the use of applied thermal engineering practices. Then, slowly we sculpture our initial creation driven by scientific equations and we evaluate the performance parameters of the whole volume starting from the materiality of the external walls, the interactivity of the materials employed, the existence of shading devices, balconies, terraces, the vertical landscaping aspects of the volume, the in situ energy production devices and their material expression etc. Definitively, what I aim to propose is a pedagogical system that makes the student of architecture to understand that there is just a process to get innovative sustainable architecture without being forced to follow scientific doctrines and /or guidelines.

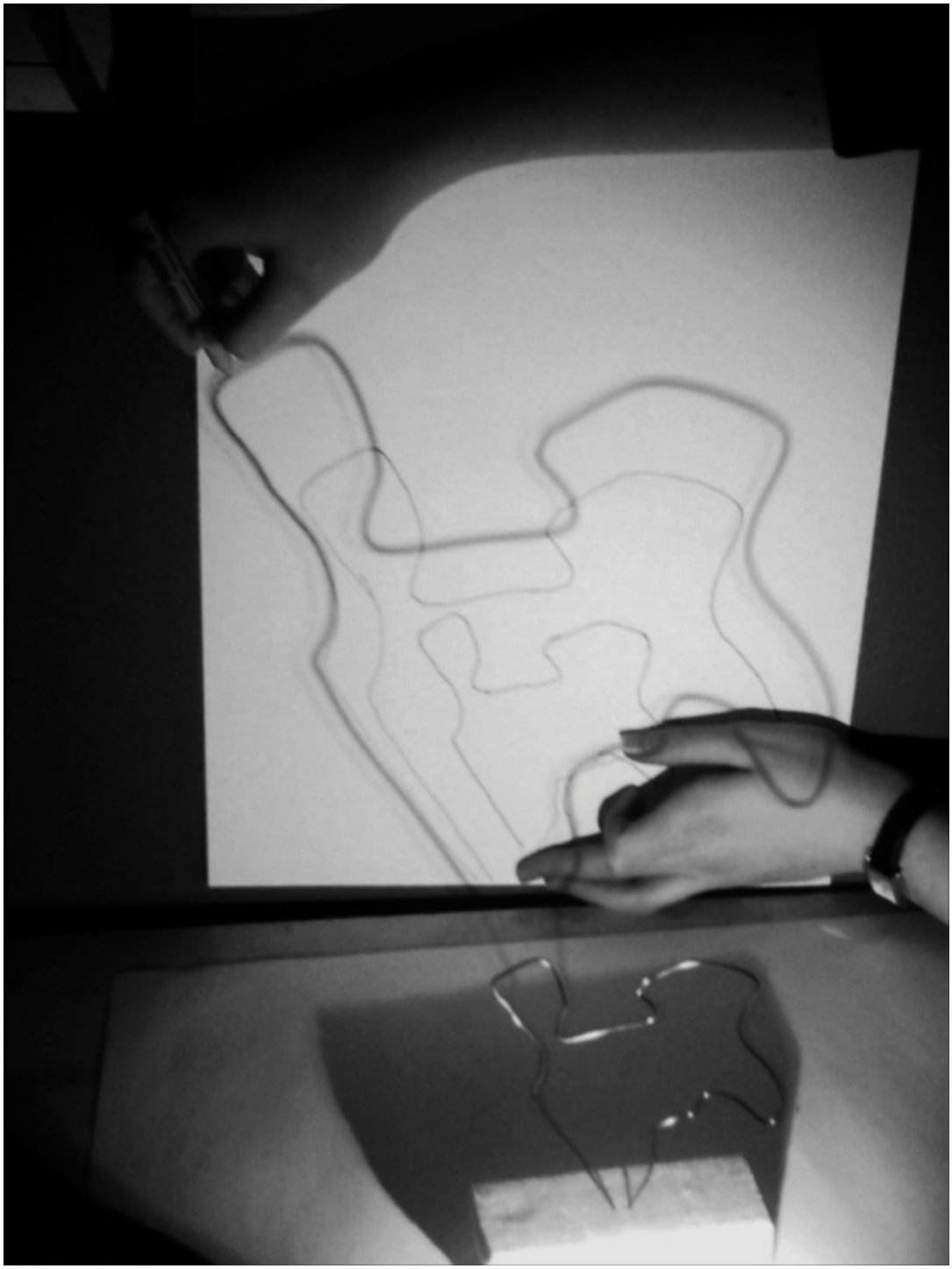

Image 1

Creating and optimizing a complex volume starting from a Kandisky's painting tracing materiality on the basis of shadows according to choreography.

Image 1

Creating and optimizing a complex volume starting from a Kandisky's painting tracing materiality on the basis of shadows according to choreography

Ergo, for pedagogical purposes, I tried to develop a new method of teaching architecture introducing applied thermal engineering practices during the action of architectural synthesis. To do so I started departing from a theoretical concept in order to exasperate the "*radical imaginary*" of my students. Thus, to do so I based the whole pedagogic process in the epistemological and philosophical notion of "*heterotopia*" (or "*heterotopy*"). In evolutionary sciences, heterotopy is an evolutionary change in the spatial arrangement of a subject's development, complementary to heterochrony that consists, a change to the rate or timing of a development process (Hall, 1999). Claiming that there is an urgent need to make evolve pedagogy of architecture integrating climatic parameters, I considered that the architectural design studio should develop a "*heterotopic*" dimension accelerating a potential transition towards the integration of applied thermal engineering practices at early design stages but preserving at the same time the character of architecture. This oxymoron scheme guided me to equally borrow the philosophical dimension of "*heterotopia*" and more precisely the concept that was introduced by the French philosopher Michel Foucault (Foucault, 1967) to describe certain cultural, institutional and discursive spaces that are somehow "*other*". So, I developed a "*disturbing*", "*intense*", "*incompatible*", "*contradictory*" and "*transforming*" design studio-workshop that aims to change the way of conceiving/designing the space and/or interpreting the spatial dimension of this contemporary social and political phenomenon of climate change being based on the natural laws of thermodynamics. Let's quickly review now the main points of the conceptual exercise that is developed in the framework of the architectural design studio-workshop. The painting Auf Weiss II, by Wassilly Kandinsky (https://www.centrepompidou.fr/cpv/resource/cKaan6A/rRREo7e), has been employed to stimulate the radical imaginary of the students. The chosen Kandinsky drawing consisted for me the more adequate stimulus regarding the production of a "*heterotopical space*" for a number of reasons. Accordingly, on the basis of this painting students were invited to trace a form employing a transparent sheet by following the different parts of the painting and adopting a certain type of unconscious conceptual alignment but following a rational rule. This form has been afterwards shaped wth the use of a steel wire. Since the aim of the design studio was to produce architectural space, the main challenge consisted on giving to the produced forms a precise meaning through the use of clearly recognizable standardized shapes. Otherwise the whole experiment could have no sense becoming just a meaningless and doubtful process whereas only formalistic choices are illustrated.

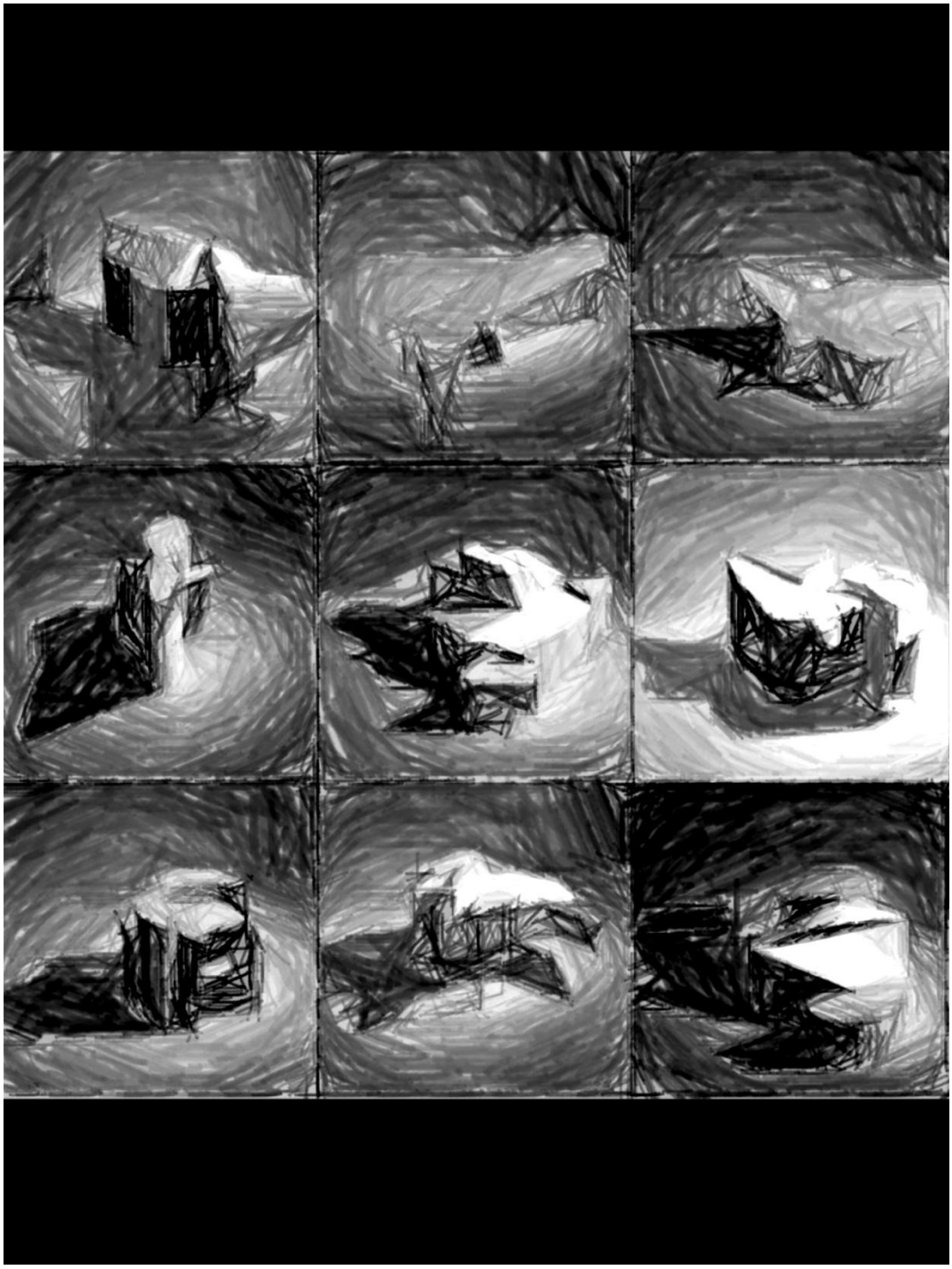

Image 2

Materiality and volume formulation

Image 2

Materiality and volume formulation

Another critical point regarding this original methodology was to marry three different visions for the same subject: artistic composition, technical innovation and architecture. The main pedagogic element was to establish architecture as a visual language that carries a precise meaning through the use of a novel formal vocabulary, composed by single distinctive forms. Furthermore, these forms that are subjectively selected are the bearers of easily recognizable senses that are linked to specific climatic parameters through materiality (transparent walls, opaque walls, etc). Thereupon, at the beginning of the exercise the Kandinsky painting has been used as an initial incentive in order to start from the very early design stage an environmental investigation by producing a complex 2D and 3D space fruit of a simple - but not simplistic- precise visual vocabulary. We tried to anon convert this initial 2D design into 3D volume and architecture according to a method explicitly described elsewhere (Mavromatidis, 2018). This form has been reproduced in 2D employing a wire, and the output of this phase has been illuminated towards a wall with a lamp, in order to enable the students to obtain three projected shadows of different sizes according to choreography, following specific rules that have been given to them (as we see also in Image 1). Thus, creating three distinct thicknesses of shadows, they have been invited to deduce a plan, where different materiality corresponded to each thickness: the thicker the line was, the more thermally inert and less transparent the illustrated from this line material was. From the plane and on the basis of repetitive gestures (rotation, folds, extrusions...), the participants constructed a complex volume, which has been three-dimensionally represented by a physical model (Image 2). At this stage applied thermal engineering practices have been introduced to this method. The volume was successively carved according to energy consumption calculation output to obtain a variety of formal solutions from the same family, testing among others a variety of possible volume orientations, towards the goal of reducing the volume's environmental impact without affecting the initial architectural intention. Thus, an evaluation engine was created on the basis of simplified calculation models, in order to evaluate the formal solutions and choose the best to flow solutions preserving the initial architectural volume, intention and morphology (Mavromatidis, 2018). The detailed method as well as the variety of the outputs are explicitly presented elsewhere (Mavromatidis, 2018).

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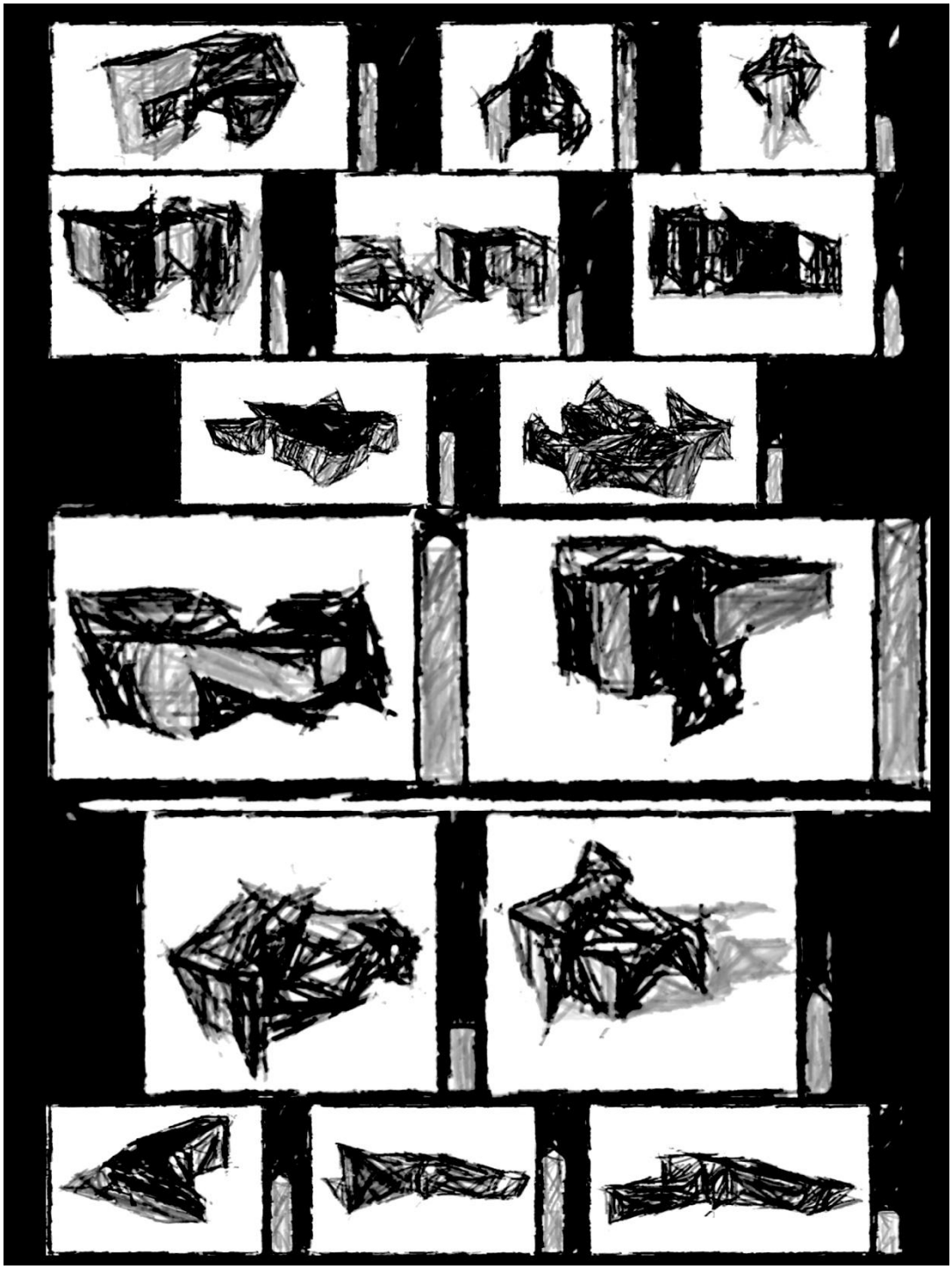

Image 3

There are not design principles; there is just a process to get your own sustainable architecture.

Image 3

There are not design principles; there is just a process to get your own sustainable architecture

The new pedagogic method that is briefly illustrated here tries to heal the problematic segregation between architecture and technology vis-à-vis a building's environmental performance. In order to relocate the importance and the know how of applied thermal engineering practices and other environmental technologies to the center of the discipline the starting point was a painting to exasperate the radical imaginary of the student. Thus, this exercise aimed to avoid subsuming architecture that is directly linked to the fact of underrating the disciplinary efficacy of architectural design in relation to environmental protection. Suffice it to underline that by continuously underestimating the potential of architecture we transformed the problem of sustainable building design to an overzealous building-science problem, putting engineering in the core of the architectural education. As a consequence, traditional architectural practices have been neglected and space creation finished to be a simple application of experimental technologies in the building envelopes and the building components. Thence the purpose of the present pedagogical method was to generate clearest and most consistent articulations of the relationship between technology, architecture and the environment. My main thesis consists on believing that the design of energy efficient volumes has the potential to reinvent sustainable morphologies and transform architectural design from being an uncertain, seemingly "*whimsical*" process, into a confident scientifically artistic discipline (Image 3). In every case the fact that we are currently entering the energy impact into the equation of architectural design at early design stages is only the beginning of a much more greater outline in environmental design. Anyhow, the way of composing complex volumes helped as to define a program where we can combine in an optimum manner within the buildings integrated vegetation, deep air zones and wind-leeward facades in correspondence to each climatic zone's characteristics. Finally this method succeeded to repair the problematic separation between architecture and "*another culture*" (Žižek, 2006) offering an innovative pedagogic version that closes the architecture-technology gap in an implicit manner and redefines the artistic dimension of materiality. Applied thermal engineering design reaches the core of architecture without alternating its nature as an independent discipline.

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Acknowledgements

The pedagogic research work present in this paper briefly presents the intellectual outputs of the seminar-workshop titled "*Materiality, envelope and metastable volumes: informed architectural design in the prism of sustainable development*" that has been conceived, organized and animated from 19 to 22 January 2016 by Lazaros Mavromatidis, in partial fulfillment of the Architecture undergraduate inter-semester program belonging to Department of Architecture of the National School of Applied Sciences of Strasbourg. The images is Lazaros Mavromatidis' impression of the outputs of the following students that participated in the seminar: Léonard Gouy, Adeline Duval, Alex Renard, Cedric Vedlin, Hugo Maurice, Matthieu Bolzer, Anjanaa Devi Sintalapaddi, Camille Lefoul, Brieux Namokel, Steve Meyer, Edwin Lagarde, Camille Rickenbach, Cécile Fritsch, Julien Massotte, Nicolas Gautier, Eméline Guillen, Justine Bernard, Louis Menia, Laurent Boehmer, Marion Moreaux (the students' works have been explicitly analyzed in Mavromatidis, 2018). This seminar finally evolved to a full architectural and applied thermal engineering design studio that since the academic year 2019-2020 is inserted in the curriculum of the 1st year Architect-Engineer program of INSA Strasbourg under the name of "*Applied Thermodynamics and Eco-conception*".

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MEDIA/THE CITY

Photographic Interpretations of Land/scape

Sibel Acar
Nur Çağlar

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The contemporary city is a dynamic system having fluid conditions. It no longer confirms such distinctions of "center and periphery, core and edge." (note 1). Formal qualities and spatial conglomerates stem from dynamic processes of sometimes contradictory forces, open to new interpretations. It is in a state of entropy that it exists in unsettled, dynamic conditions in between chaos and order which present hybridity, fusion, and complexity. In this new system, architecture and landscape are no more spatial productions of binary oppositions such as "inside and outside" or they don't define each other's borders any longer. Their margins have become porous and permeable that is blurred. Architecture, infrastructure, and landscape have interconnected. They have merged with each other and created hybrid morphologies (note 2).

Photography is a versatile tool for discovery, visual thinking, analysis, criticism, and design. It is a technique including pre and post processes such as framing, collage, montage, and alterations which can be used as tools for architectural investigation, imagination, representation, and production. The camera extends our sight by providing different ways of seeing. Wide angles, zooms, frames from extreme vantage points, long exposures, instant views are visual accounts that reveal visions unseen to the naked eye. It has the capacity to capture fleeting moments in time such as spontaneous changes of light, people, and nature that we can contemplate on them. Each frame deconstructs existing relationships of a site with its surroundings and then constructs new relations to its sight, users, environment, and audiences on the discursive surface of a photograph. As Anne Whiston Spirn, a landscape architect and photographer poses photography is a way of thinking. It becomes a door to pass through to discover the scene rather than a window to look through it (note 3). By means of photography and photographs, we can discern details, distinguish patterns and glitches, understand that place's past and present, translate the feelings triggered by being there, and generate and communicate ideas.

In 2019 Summer, authors of this paper Nur Çağlar and Sibel Acar opened a joint studio combining their interests and experiences in two separate courses to practice the best. Reflecting her research interests which are

architectural design issues in the context of urban landscape, city in the fine arts and literature, concepts of urban landscape and architecture, Çağlar has conducted "Landscape Themes in Architectural Design," an elective course offered to fourth-grade students for several years. In this course, given themes/concepts provide a starting point for developing criticism and discussion on a wide range of bizarre urban conditions (note 4). Students respond to issues by expressing their ideas through a variety of artistic media such as collage, photographs, and models. The collage below exemplifies the end-products of these courses. (Image 1). Here, the student interprets the given theme "crack" as an "urban malfunction" which is a kind of threshold and as in the dictionary definition, "a transitional interval beyond which some new action or different state of affairs is likely to begin or occur."

"Architecture and Photography II" by Acar is the second one of a series of two elective courses offered to second and third-grade students (note 5). The first of them includes slide lectures and discussions on the mutual relationship between photography and architecture as well as practical and technical knowledge for taking photographs by mobile phone or SLR cameras. In the second course, a photography project is conducted. Students are expected to produce a series of photographs stating their criticisms, discoveries, or analysis on the subject given through photographs. Students are free to choose their way of expression. They can use a language of visual metaphors and/or analogies, juxtapositions, fragments, connections, etc. They are also allowed to make manipulations or experimentations by using multimedia techniques. The following photographs are the fragments of the exhibition entitled "mimarca / architectly" held at the end of one of these courses. (Image 2) Students were asked to take photographs within our department's buildings. They studied them through their material and immaterial qualities such as light, space, size, tactility, borders, permeability, separateness, connectivity, etc.

The common aim of these two courses is to encourage students to develop a critical perspective on design issues through media management and art

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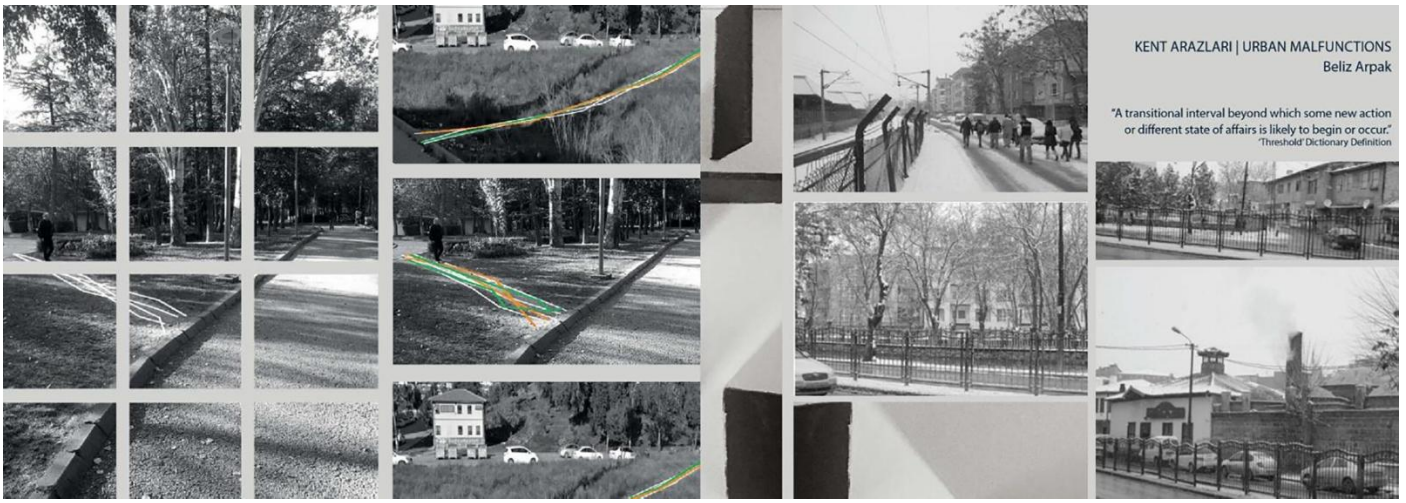

Image 1

Urban malfunctions by Beliz Arpak.

media. So, the main reason to run a joint studio is that we realized that the courses have two distinct but complementary approaches. "Landscape Themes in Architectural Design" provided a perfect subject for the project and the exhibition of the "Architecture and Photography"; by developing students' technical skills on photography and increasing their knowledge about how photography has been used in the field of architectural design and critique, the latter supported the former's artistic production. In this joint studio, students made a photography project on a theme of architecture and landscape which ended with an exhibition and then it would be a part of a book. (Images 3, 4) Putting them in association offers the opportunity to improve the deficiencies, incompleteness and imperfection of both courses. Therefore, getting rid of the domination of one approach, blurring the borders of the courses, merging them into one environment, thus allowing them to exchange matter and energy to be more creative, lively and productive, are benefitted.

Since the borders of two disciplines, architecture and landscape, are diminishing, the existing terminology of concepts and techniques that were defined within previously distinct margins of these two disciplines have become insufficient for new spatial productions and circumstances in the city (note 6). In this course, it is aimed to make students observe issues and think about new spatial productions in the ambivalent territory of these two merging disciplines. As our theoretical framework, we contemplated on "new urbanism" and the term coined by Rem Koolhas, "SCAPE©." Koolhaas argues in 1995 that in the contemporary city, distinctions between opposites such as inside and outside, center and periphery has already diminished. These dichotomies has become together, expanded on each other and collapsed by creating new conditions:

If there is to be a "new urbanism" it will not be based on the twin fantasies of order and omnipotence; it will be the staging of uncertainty; it will no longer be concerned with the arrangement of more or less permanent objects but with the irrigation of territories with potential; it will no longer aim for stable configurations but for the creation of enabling fields that accommodate processes that refuse to be crystallized into definitive form; it will no longer be about meticulous definition, the imposition of limits, but about expanding

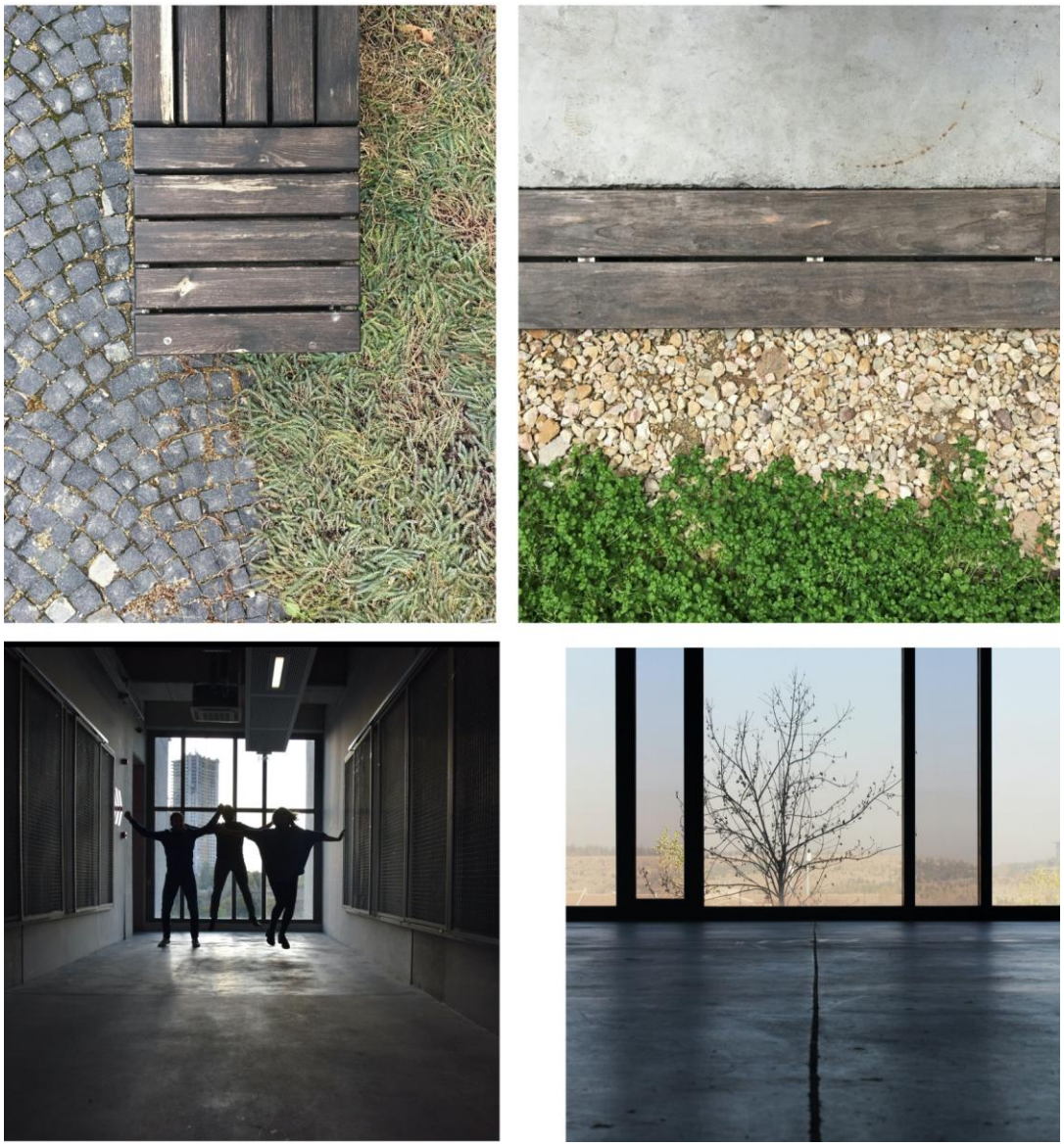

Image 2

Exhibited photographs by Setenay Özsoy, Beyza Gizem Öztürk, Ayşegül Aktaş.

Image 3

A part of the exhibition 'Continuity'

notions, denying boundaries, not about separating and identifying entities, but about discovering unnameable hybrids […]. (note 7)

Accordingly, one of the hybrid terms connecting parted phenomena, SCAPE© embraces townscape and landscape.

SCAPE© An (exploded) mountain, a highrise, and a rice field in every direction - nothing between excessive height and the lowness of a continuous agricultural/light-industrial crust, between the skyscraper and the scraped. SCAPE©, neither city nor landscape, is the new posturban condition, the arena terminal juxtaposition between architecture and landscape, the apotheosis of the PICTURESQUE©. (note 8)

By using photography as a tool of visual explorations, thinking, and artistic expression, the course aimed to make interpretations of urban phenomena that include our social and personal responses to spatial and communicative forms in the city. Focusing on Ankara, the project included urban landscape criticisms by delving into such questions: what are the essentials and components that form the urban landscape? What kind of interventions do create it? How do elements and conditions which are either natural, intended, or accidentally occurred such as lighting elements, garbage containers, bus stops, signs, buildings, urban furniture, sculptures, walkways, open spaces, people, stray animals, sound generate the urban landscape? How do these diverse elements collaborate, conflict, and affect each other and influence us socially and psychologically? Students were also encouraged to think about physical, social, and expressive relations revealing cultural interactions between current urban conditions and landscape. Five keywords, "border", "order", "trace", "continuity", and "nod" were our terms of contemplation. These words were not chosen as the terms of some established theories yet they were picked somehow randomly to play this intellectual game that is to perceive connotations of these words in the city. Students looked at the city with discerning eyes to seek direct or subtle appearances of these words. They inspected the city in which we live and experience every day; they developed their interpretations of these words

and then, they produced a pair of photographs for each word expressing their encounters with the SCAPE©. Each couple of photographs came together by diminishing their distinctions/dualities to suggest something formally and/or meaningfully new.

One of the aims of the course was to develop students' skills of thinking verbally and visually simultaneously. For this purpose, students were given words and then they were asked to open up these words, by producing a pair of photographs. (Image 5) We asked students to think/play with complementary pairs because to think architecture through pairs provides producing different meanings. An individual concept is static, it is unrivaled and definite yet either city or architecture is too complex to define with definite terms. On the other hand, thinking with pairs is a dynamic process that provides an interaction, a constant conversation between pairs; they challenge each other by introducing new concepts generating new ideas (note 9).

During the course, photography was used both as a tool of visual investigation and as an artistic medium to the creation of graphical qualities. Since a photograph is also a discursive medium that has the capacity to depict, question, appraise, discredit, claim, suggest, etc., they did not merely capture appearances but practiced to construct pictures narrating something. Here, the cognitive process was manifold. First, students contemplated the meaning of the words in the context of the city; to open up these words, they needed to observe and to think visually; they produced their own concepts, and then, they made a pair of photographs to communicate these concepts which they have produced. Since the character of the medium also generates meaning, we demanded students to display their photographs in different forms as a page layout and a printed photograph.

While fostering their intellectual abilities to consider issues connectively, the course provided students visions for new interpretations of a variety of situations in the city. We are of the opinion that the course has a great pedagogical potential that would inspire students for new spatial and material solutions in their designs.

Image 4

Book page. 'Trace: Différance, according to Derrida; less than in relation to the past, not in relation to the future. While each existing element carries the traces of the past element itself, the traces of the relationship to the future element now intersect.' Işınsu Ağca.

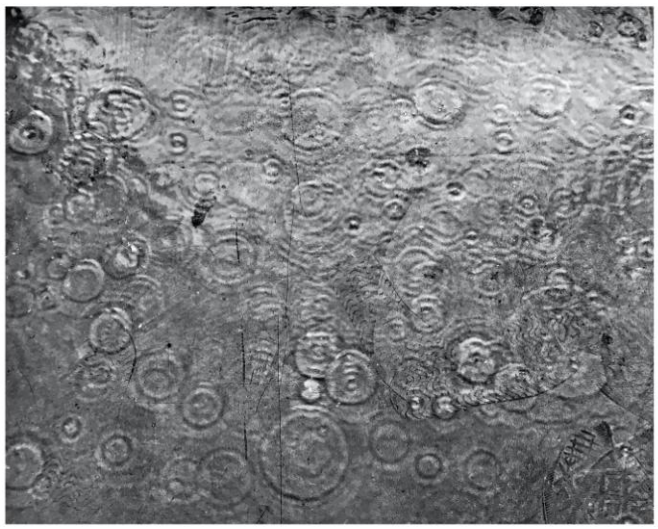

Image 5

Border 'We have limits psychological or physical. I consider border a boundary to overcome and overflow.' Irem Kekilli.

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Notes

1. Marc Angeli and Anna Klingman, "Hybrid Morphologies," *Daidalos 73* (1999):15-25, p. 24.
2. Angeli and Klingman, "Hybrid Morphologies," p. 22.
3. Anne Whiston Spirn, *The Eye Is a Door: Landscape, Photography, and the Art of Discovery* (Cambridge, MA: Wolf Tree Press, 2014, xii-xiii) [Kindle edition]
4. Çağlar's research interests also include linguistics and architectural space theories and architectural pedagogy. She has published quite intensively in these areas, see https://www.nurcaglar.net.
5. By being witnessed the transformation of the technique from darkroom to Photoshop, Acar has been practicing photography for many years. She is a member of the Association of Photography Artists of Ankara. She has joined/opened many exhibitions; made video shows and talks; involved in documentary projects. Her writings and photographs have been published in several publications. Acar's academic interest focuses on the interplay between architecture and photography. She writes about how photography and photographs operated in the field of architectural design, practices, history, and critique. See, Sibel Acar, "Intersecting Routes of Architectural, Photography, and Survey Books in the Nineteenth Century" in ed. Michelin Nilsen, Nineteenth Century Photographs and Architecture (Surrey: Ashgate, 2013), 75-92; "Photography as a means of architectural (re)presentation and (re)production" *New Trends and Issues Proceedings on Humanities and Social Sciences* 5, 6 (2018): 24-33.
6. For a conceptual opening of disciplinary issues of this contemporary situation, see master thesis written by Burçin Yılmaz, supervised by Nur Çağlar, "An Experimental Study on Blurred Margins between Architecture and Landscape" (TOBB ETU, 2017).
7. Rem Koolhas and Bruce Mau, "What ever Happened to Urbanism" in Lairice, Michael and Macdonald, Elizabeth, The Urban Reader (New York, Oxon: Routledge, 2007), p.371.
8. Chuihua, Judy Chung,. [et al.] Great Leap Forward (Cambridge, Mass: Taschen, 2001), p.707.
9. In this regard, "An Experimental Approach to the Understanding of Architecture through Concept-Pairs" (21017), a master thesis made by Aslı Ekiztepe, supervised by Nur Çağlar, which proposes a new way of thinking architecture through concept-pairs is quite inspirational.

What do I teach?

Theoklis Kanarelis

Department of Architecture, School of Engineering,
University of Thessaly, Greece

Life and its spaces are neither a philosophical truth nor a result of scientific research and analysis of data, archives and charts. It is a condition, an axiom and an oracle .....
Eric Kandel, a Nobel laureate psychoanalyst, is led by his research to the finding that there is no memory without space. What is memory?
A landscape of memory is the precipice of events, both material and spiritual, of the past. When the space is not a scenery, the space is open to the deterioration of time. The material memory, which is the relics of a space, signifies the unseen part of reality.
The architect puts another piece of paper over the old one, choosing whatever is worthy of previous selves. So it does not create a final image and makes timely everything that is worth saving.
For this reason, using a computer does not help at least in the beginning, because it is precisely based on commands and requires certainties.
That is, it is a new worship for icons that lacks contemporary theology.
Home is not a scientific or philosophical finding. We do not discover it, but it is revealed to us when we come into the world, into life. Life and human habitation is a cumulative rather than eclectic event. So we could say that the house is based in the past, it exists in the present and dreams of the future.
The soul itself is presented in the dream as a house..... oikos, as the house is the archetype of the soul, the architectural art is based on it asphalted. Otherwise she would lack that immeasurable charm that drives the soul, and one wonders from what depths she begins.

The Studio

Studio begins with three-dimensional notes.
These crafts of mental thinking are the first subject of the lesson, which we call, formal or informal, mock-ups of mental-abstract thinking on human life, in their home, on the imprint left on the earth.
These mock-ups are made not to explain, that is, to translate into shapes or verbal shapes the phenomenon of home, but to understand and to feel.
That is a half-word thought, since there is no complete theory of home.
Mental thinking is not only intellect but a universal feeling. It is no coincidence that in Greek language there is the word "niotho", which means at the same time "mean" and "feel".
"I feel" refers to that part of ourselves that cannot easily systematize and express its no-logic rest. What we all have as a wild self.
In these mock-ups the theory of legality is of little importance. Their characteristic is the participation and the involvement. Functioning against theology-philosophy. These are notes about what everyone thinks is happening in or around the home without being a definition of a home.
Thus, students come into contact with meanings such as public-private, individual-collective, internal-external, entry-exit, function-form, hidden-obvious, encouragement-discouragement, entanglement, storage, escape.
I ask students to create an open-ended process with these mock-ups (models), generating steps, and usually three steps. In each of them, the benefits of the original schematic formulation are not retained critically as new properties are added.
The coexistence of the original models, which results through their overlaps, leads to an effortless engagement and somatization.

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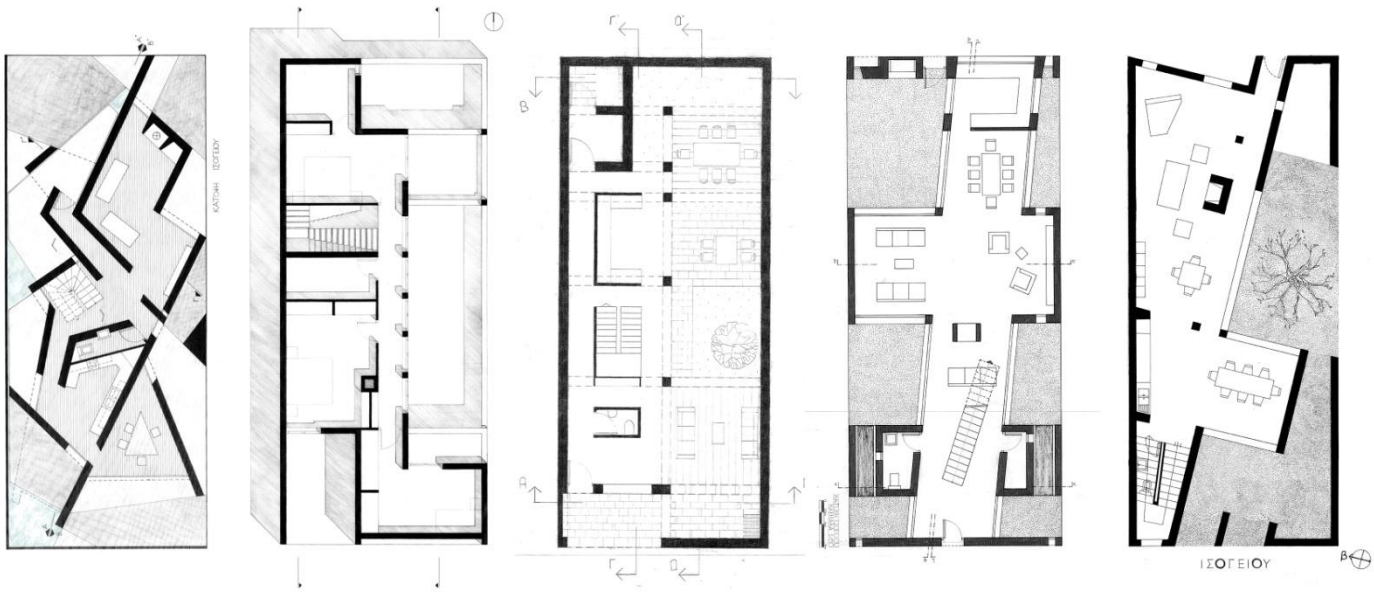

Image 1

Plans

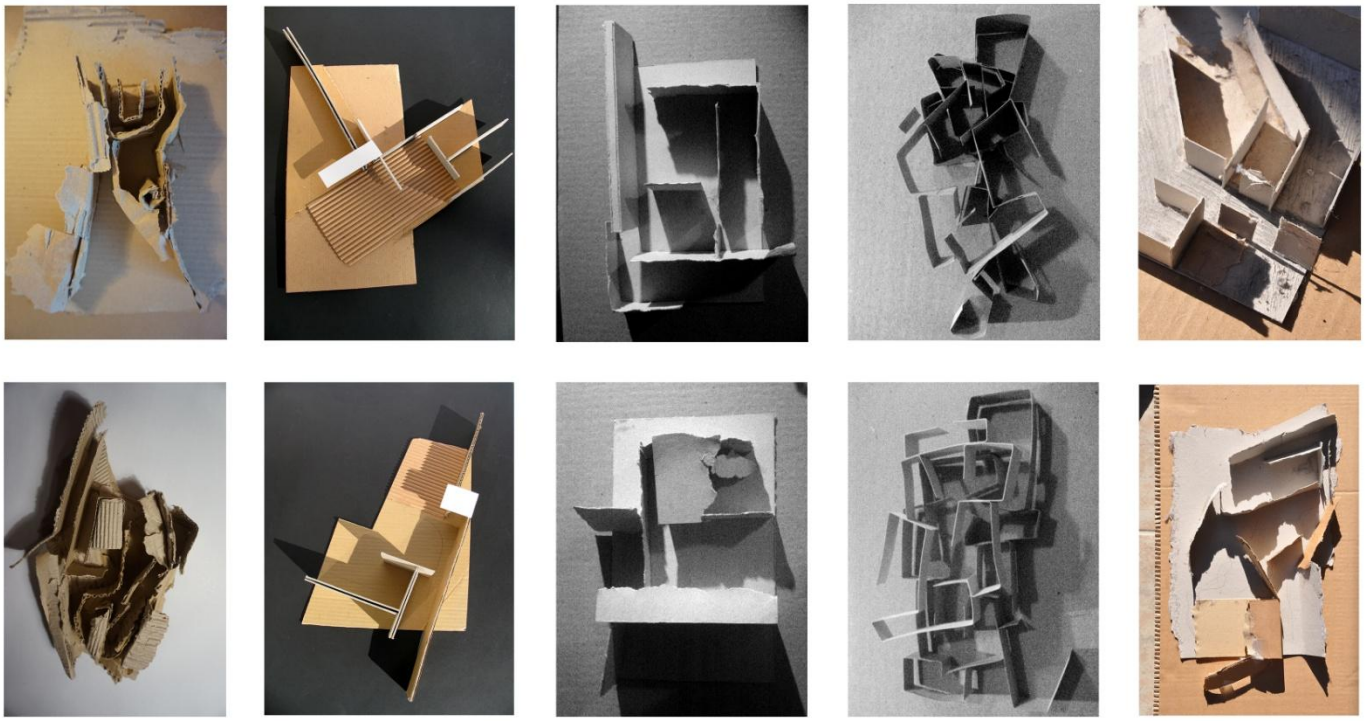

Image 2

Shear and tear abstract concept models

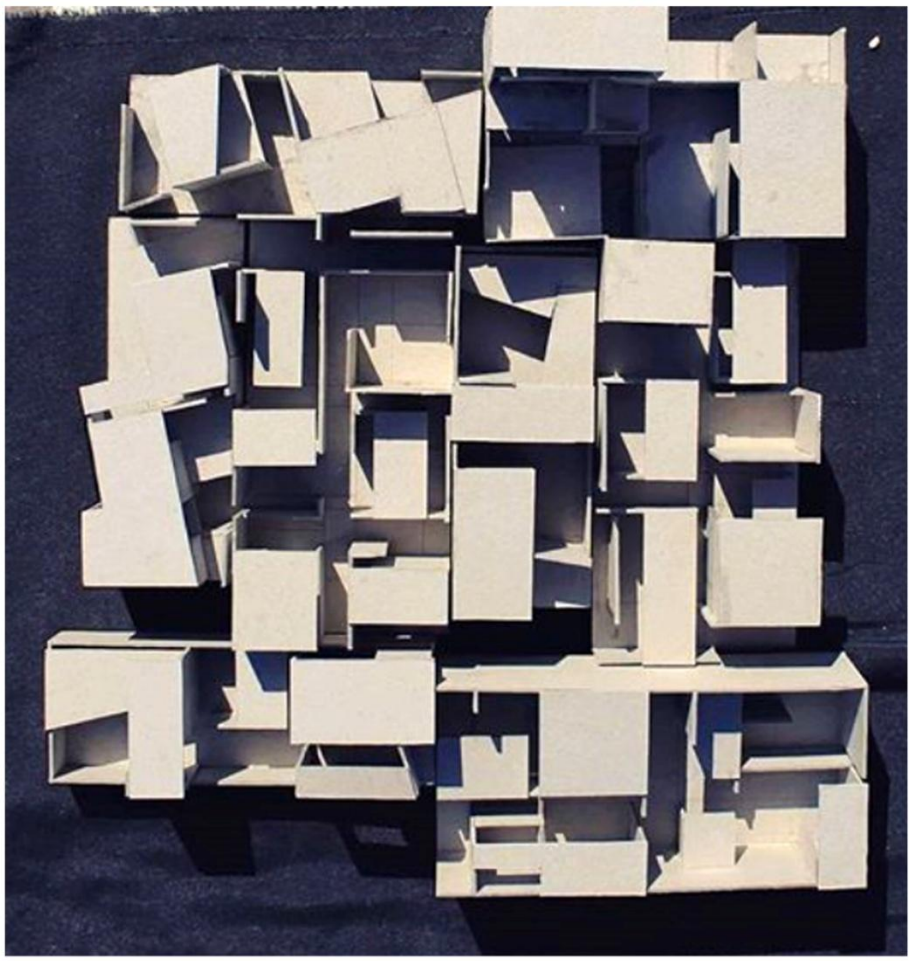

Image 3

Geometric abstract concept models

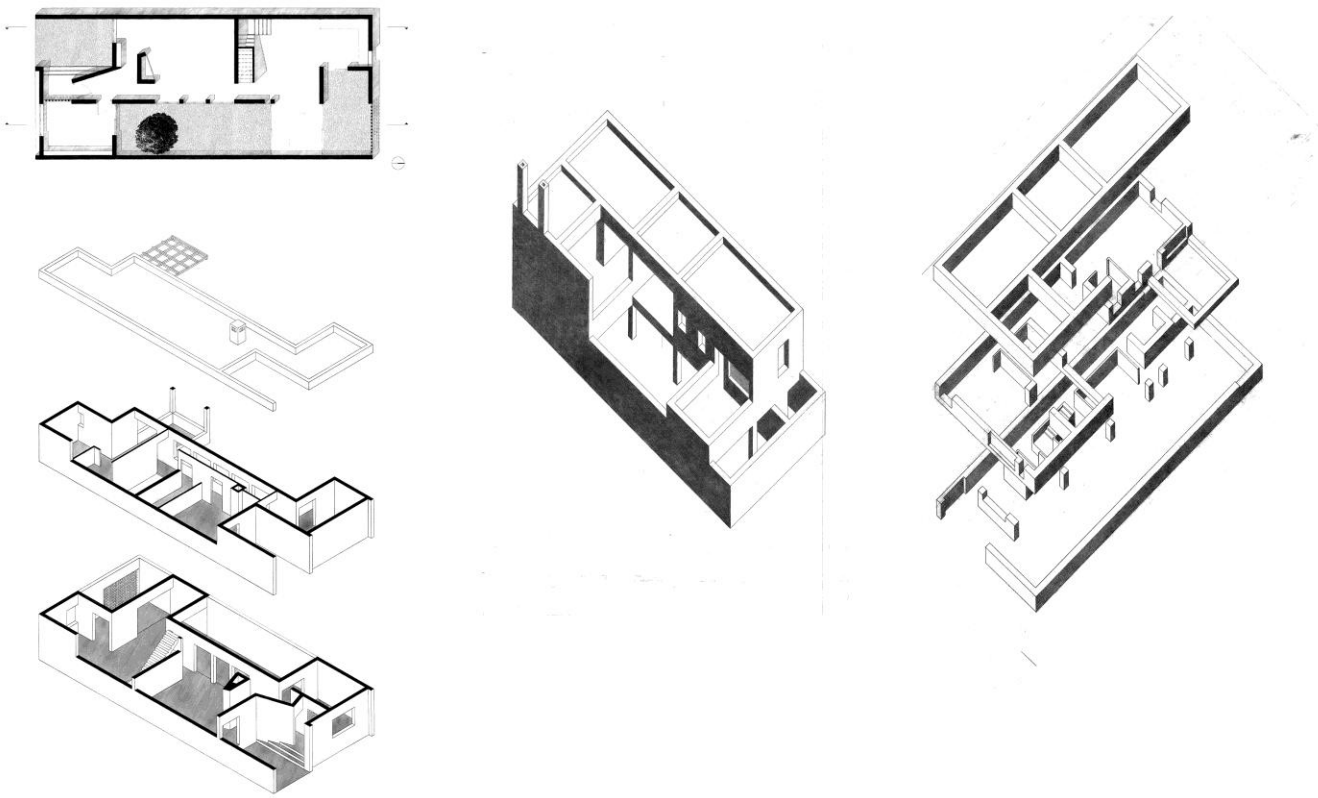

Image 4

Axonometric

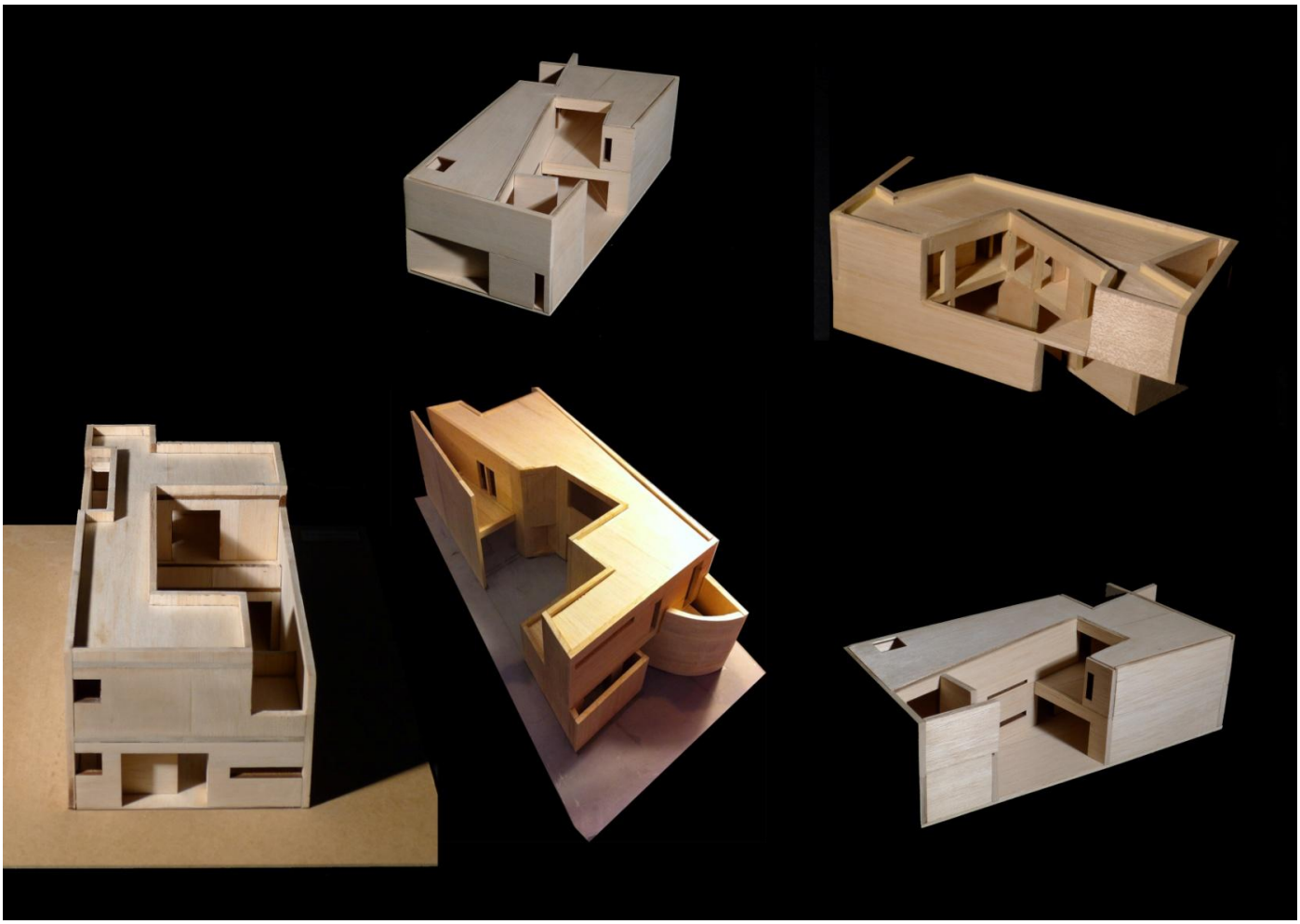

Image 1

Final Models

This is a method where the work tries to surprise the creator. Well-designed is something that the creator himself is surprised by the result ... This is achieved when the result acquires its autonomy from our prime intentions and prejudices. The familiarity with the uncertainty gives to the student the courage to say that frustration is part of the production process, as creativity in architecture is linked to critical ability - one of its main features and the painful nightmare of the creator.
A site of 9 by 21 meters with large sides being blind is the only given of the exercise-studio.
Generally, I encourage an architectural behavior, which is opposed to the cult of the picture, something that liberates the student from imposing heights and prevents them from being excited about the appearance of the building.
Reaching the end of these thoughts anyone can answer the problem of designing a house the way they feel is appropriate. Solution is the path of knowledge and process like as going back to a place that we somehow already know but at the same time the proposal of a place is a bright new one.
Because as it is said by Young: Knowledge does not enrich us; it removes us more and more from the mythic world in which we were once at home by right of birth.

The rediscovering of that mythic space of home is the hidden aim of the course and the proposal of a house that shelters our life.

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Public City / Private City. The city conceived from the experience of public space

Nuno Mateus

Faculty of Architecture
University of Lisbon

This Exercise was delivered within the context of the 3rd International Seminar of the Academy of Schools of Architecture and Urbanism of Portuguese Language, which took place in October 13-17 at the Lisbon School of Architecture (FAUL) in Lisbon.
The challenge launched in these four days was to question the grounds of formulation of the city form, proposing an approach from the primacy of the definition of public space.

Cultural Context

Cities are generally looked at as massive phenomena of concentration of people and activities, often maximizing the building capacity of the land. Public Space comes normally afterwards, as a second thought. It is conceptually residual of its early pragmatic economic generating factor. From the point of view of their configuration, cities are normally organized based on the arrangements of their built volumes and private spaces, not so much from the public realm.

Conceptual Context

More than a holistic arrangement in plan, visually conceived and perceived from a birds-eye-view, we pretend here to investigate the possibilities emerging from a sensitive and intuitive desire of public space, experienced with the feet on the ground.

Exercise Physical Context

As a reference for a work site, we use a generic midtown Manhattan (NYC) urban block, a roughly homogeneous residential brownstone block of 5 floors.

Solid / Void

Admitting the principle that a city manifests a will of human concentration on a continuous building mass, this exercise attempts to investigate possibilities for the primacy of public space (and its voids) in the city generating process. The site is a starting theoretical solid of an average building height. Public space is the active force, a desire for the void and light, an excavating experience.

Four Programmatic Space Types-Operative Tools.
Admitting the fact that words do not necessarily enclose fixed concepts, we trigger a group discussion process of finding shared consensus on the content and value of four operative concepts, which will be the exclusive tools for this project.
Crossing Path: Pragmatic, Rush, Visible destiny, Homogeneous
Internal Path: Wondering, Slow, Discovering, Mysterious, Variable
Square: Universal, Clear Geometry, Symbolic, Tectonic, Open, Community
Cluster: Organic, Multiple, Natural, Silent, Intimate

Methodology
The working method consists on a direct physical sensorial experience, applied directly into the model, which will be progressively transformed throughout the step-by-step process of slowly introducing and organizing different public space qualities.
Private space is the grey original volume. Public space introduces color and void. A transparent layer of grey unifies both into a consistent whole.
The city as an artifact.

Revised Manhattan
At the end of the exercise the city is reorganized on the ground, with all students blocks, arranged along Manhattan traffic streets and avenues. The city has been revised.

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Image 1

Image 2

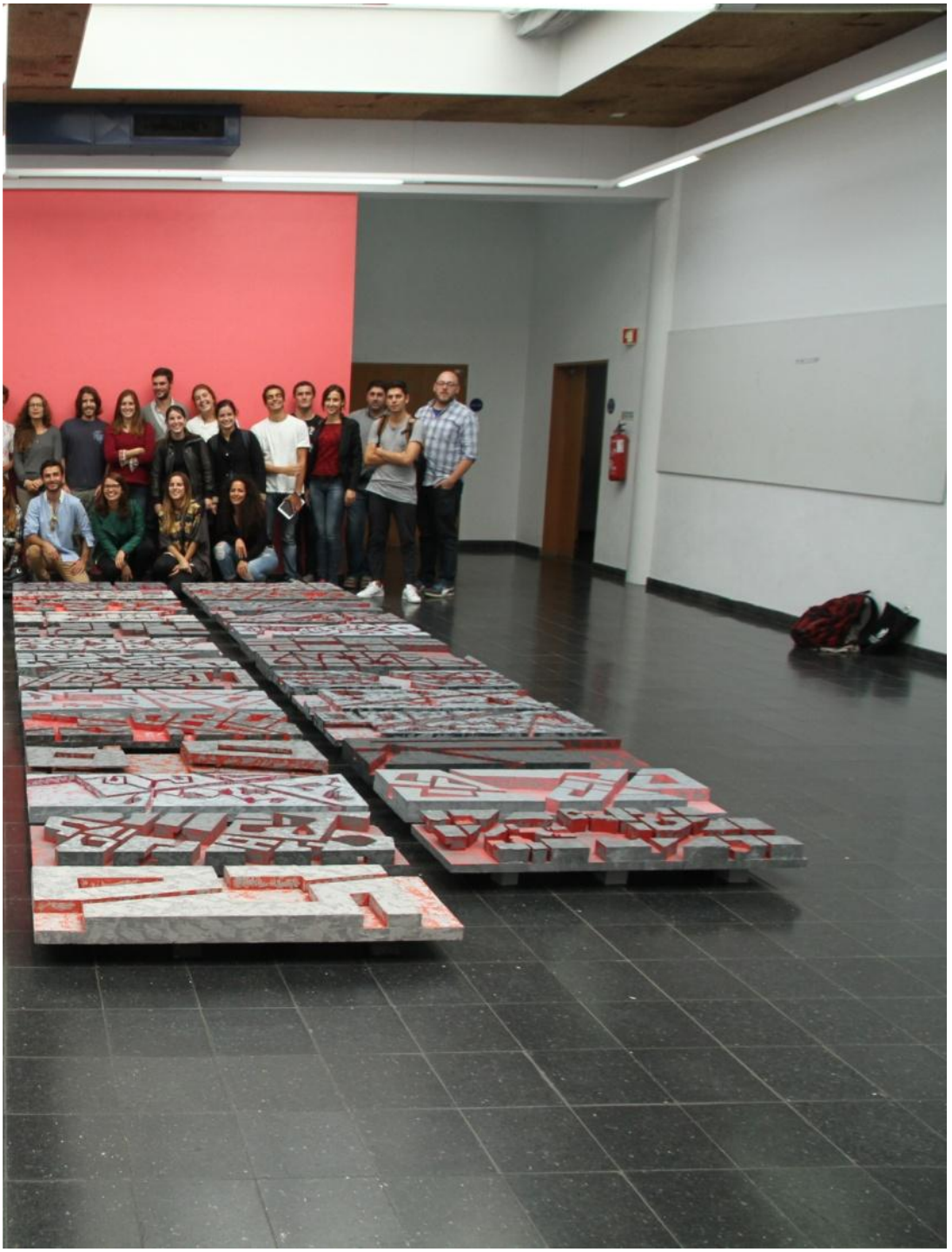
Image 3

Image 4

Image 5

Image 6

Image 7



Biographies of contributors

Biographies of contributors

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SIBEL ACAR is Assistant Professor of Department of Architecture, TOBB University of Economics and Technology, Ankara, Turkey. Holding a BS in civil engineering from Middle East Technical University, Ankara, she received her MA and PhD in Architectural History from the same university. She teaches undergraduate architectural history, survey courses on 19th and 20th century architecture and Mediaeval and Early modern architecture in Turkey. She also conducts elective courses on architectural photography, structural systems and materials, and a graduate course on visuality studies in architecture. Broadly speaking, her interests are historiography, nineteenth and twentieth century architecture, and visuality studies.

SELDA BANCI is a faculty member, PhD at TOBB University of Economics and Technology, Department of Architecture, and currently a member of the board of directors of Architects' Association 1927. She holds an architecture degree from Gazi University and a doctorate in the history of architecture from Middle East Technical University. She is the author of *Matbu Mimarlıklar: Türkiye'de 1950'lerden 1980'lere Mimar Oto-Monografileri* (Printed Architectures: Architects' Auto-Monographs in Turkey, 1950s-1980s) by METU Press and co-editor of *Ernst A. Egli: Türkiye'ye Katkılar - Yerel Yorumlar, Eğitimde Program, Pratiğin Muhasebesi* (Ernst A. Egli: Contributions to Turkey - Local Comments, Program in Education, Reviewing Practice) by Chamber of Architects of Turkey. Her research specialization is 20th century architecture in Turkey, architecture books, architecture and media, and architectural historiography.

NUR ÇAĞLAR Prof. Dr. Nur Çağlar is currently teaching architectural design and design concepts and approaches in urban landscapes at the Department of Architecture at TOBB University of Economics and Technology. She is a graduate of Ankara State Academy of Engineering and Architecture. She has got her MSc (1986) and Ph.D. (1992) degrees from the Landscape Architecture Department at Ankara University. Before TOBB ETU, she taught Architectural Design and Design Concepts in Architectural and Urban Landscapes at Gazi University, Department of Architecture between 1992 and 2011. Besides her academic career fields, she has focused on architecture and architectural design education. She carries out studies that take care to develop the studios as a research environment on design practice. She brings together the thinking and making of architecture in learning environments. She emphasizes cross-curricular learning, co-curricular, and extracurricular experiences in the studio. She has considerable experience in creating these activities and intertwining them with curricular structures. To make her communication strong and continuous in this field, she takes various roles in national and international level non-governmental organizations working on architectural education. She has several prizes and mentions in architectural design competitions. Author and editor of several publications on architectural design and education.

MANUEL COUCEIRO DA COSTA Manuel Couceiro da Costa (b. 1952), architect (1977, Lisbon Fine Arts School - ESBAL), PhD in Architecture / Visual Communication (1993, Faculty of Architecture of the University of Lisbon – FAUL), associate professor at FAUL, started his architectural practise as a student in 1971, in collaboration with several renowned portuguese ateliers and created his own, namely Arquétipo Atelier, since 1981 (reference buildings: Headquarters of the State Housing Management Institute (IGHAPE) / Almada, Employment

Centre / Estremoz, Dispatch Centre + Headquarters of the National Gas Company (Trangás / REN) / Loures, Cork and Cork Oak Observatory / Coruche, Municipal Library / Vagos, etc all in Portugal. Since 1978 started his academic and research careers in ESBAL/FAUL and in parallel at Lusíada University / Lisbon (1986-2001), pointing out having been Dean of FAUL (2010-2012). The pedagogical and scientific components of the academic activity have their core in architecture and in drawing and geometry applied to architecture, design and urbanism, also addressing research projects such as "Extended Perspective System (EPS)", "i-Cork / Cork, Architecture, Design and Innovation" or "Architectural Design as Research", having presented lectures in several conferences and universities (Argentina, Australia, Austria, Brazil, Czech Republic, France, Greece, Italy, North Cyprus, Portugal and Spain). At present, he is a European Association for Architectural Education (EAAE) Council Member, President of the General Assembly of the Portuguese Association of Drawing and Geometry Professors (APROGED), a representative of FAUL at the Building Portuguese Technological Platform (PTPC), investigator at the Research Centre for Architecture, Urbanism and Design (CIAUD) / FAUL and chairman of the EAAE/ARCC International Conference – Lisbon 2016.

JORGE CRUZ PINTO Born in Vidigueira, Portugal (1960). Architect and Visual Artist, graduated by the FA-University of Lisbon. Ph.D. by the Polytecnic University of Madrid. Full Professor of Architectural Design at FAUTL (since 2009). President of the Scientific Committee. Former Head of the Architectural Design Department at FA-UL. Founder (2002-09) and former Director of the CIAUD - Research Centre in Architecture, Urban Design and Design (2006-09). Invited Professor at La Sapienza University of Rome (2006-2012) and Faculty of Matera, University of Basilicata (2014-15). Invited for lectures and conferences by several Universities and other cultural Institutions over the world. Author of several published books and scientific articles about Architecture, Art and Aesthetic. In 1985 found his own Architecture and Urban Design Studio «Jorge Cruz Pinto & Cristina Mantas Arquitectos, Lda», realizing several projects and works in Architecture, Design and Urban Design areas.

EFTHYMIA DIMITRAKOPOULOU graduated with honors from Department of Architecture, School of Engineering, at the University of Thessaly (2013), where she continued in the postgraduate program "Architectural Design Instead-Parapoesis" (2015). After her excellent performance, she continues to prepare a doctoral thesis on "Hospitality Mechanisms. Ephemeral residence protocols in Magnesia". Her PhD was supported by The Hellenic Foundation for Research and Innovation (HFRI). She gained professional experience in architectural offices participating in architectural competitions and building rehabilitation studies. She participates in exhibitions, workshops and conferences and her research field focuses on produced typologies for ephemeral habitation. During her studies, she carried out research on tourism. Master's thesis: "Host House_Genealogical update of hosting", Diploma Thesis: "Creating a floating hostel". In 2016 she received the 1st commendation in the Pan-European Architectural Competition "Room 18". At the same time, she offers teaching assistance in undergraduate courses of the Department of Architecture of the University of Thessaly.

PHOEBE GIANNISI Professor at the Department of Architecture, University of Thessaly. Born in Athens. Studies: Architecture, National Technical University of Athens (1988); PhD. in Languages, History and Civilisations of Ancient Worlds (Langues, Histoire et Civilisations des Mondes Anciens), University of Lyon II-Lumière (1994). Monographs: *Classical Greek Architecture: The Construction of the Modern* (with A.Tzonis, Flammarion, Paris, 2004), also edited in french and in german and *Récits des Voies* (Editions Jérôme Millon, Grenoble, 2006. She has also published 7 poetry books. Her book *Ομηρικά* (Κέδρος: Athens, 2009) has been published in German (translated by Dirk Uwe Hansen, Reinecke und Voss: Leipzig, 2016) and in English (translated by Brian Sneeden, World Poetry Books: Storrs, Ct: 2017).

THEOKLIS KANARELIS was born in Athens in 1960. He studied architecture at the University of Minessota, USA. He has been working as an architect since 1986. He participates in architectural competitions and has been awarded first prizes and notable distinctions. He has given lectures and taught in greek and foreign institutions and universities. He took part in the Triennale of Milan in 1996, representing Greece and in the 3rd and 4th Bienalle of young architects in Athens in 2001 and 2004. He was awarded the first prize of the architectural international journal DOMES, in 2012, 2013 and in 2018. In 2012 he was awarded the prize Faith & Form (AIA interfaith forum). His Works have been exhibited and published in Greece and abroad. He is currently teaching at the faculty of architecture at the University of Thessaly.

ZISSIS KOTIONIS (PhD) is an architect, writer and artist. He is a Professor in the Department of Architecture, University of Thessaly, Greece. He has published twelve books and monographs on architectural theory, urban culture and narrative poetry. His architectural and art projects have been internationally published, awarded and exhibited in Universities, Galleries and Museums. His work include built and performative architecture, design and art projects, performances, installations and public art practices. In 2010 he has co curated and designed the Greek National Pavilion in the 12th Biennale of Architecture, Venice (The Ark).

ELINA LETSIOU (Larissa, 1984) is an Architect. She graduated with honors from the School of Architecture, Faculty of Engineering, Aristotle University of Thessaloniki (2012), and she holds an MSc degree in Architectural Design, University of Thessaly. She is currently a Ph.D. candidate in the Department of Architecture, University of Thessaly, where she offers teaching assistance. Her research focuses on exploring the modern hybrid transitional structure of the household, negotiating current environmental issues of the Anthropocene era, having as a conceptual framework, theories of social action, and material culture. She has participated in conferences, international workshops, and architectural competitions, receiving distinctions. Her work has been published and exhibited in European and International exhibitions. Doctoral thesis: *Household in transition. The cultural layers of household practices, from prehistoric habitation to the contemporary residency condition of the moving subject in the Thessaly region.*

IRIS LYKOURIOTI (b.1970, Athens) is an architect (NTUA 1996, 2001) and Assistant Professor at the Department of Architecture, University of Thessaly, Greece. She has participated in more than 100 architectural/ design projects. Her theoretical, academic and built work has been awarded, presented in various exhibitions, invited lectures, workshops, conferences and journals (Greek and international), while she has co-edited two books on the contemporary perception of Le Corbusier's work in Greece. She has been a member of the collective of the Greek Architects Association that curated the Greek participation in the 15th Venice Architecture Biennale (#ThisIsACo-Op, 2016). She is co-founder of *A Whale's architects*, an office based in Athens and Brussels doing research, objects and edifices. Their work focuses on the social and cultural practices behind the making and the habitual use of objects and space and on the standpoint that design is a manufacturing process that transforms raw materials and creates employment. In 2014 A Whale's architects has been selected by Blueprint Magazine among the eight most innovative architectural practices in Greece.

NUNO MATEUS Castelo Branco, Portugal, 1961 PhD in Theory and Practice in Architecture, Lisbon School of Architecture, UL, 2013; Master of Science in Architecture and Building Design, Columbia University, New York, 1989; Graduated in Architecture at Architecture School, Lisbon Technical University, 1984; Has worked among others with Peter Eisenman in New York from 1987 until 1991 and with Daniel Libeskind in Berlin in 1991; Director of Architecture Department, Universidade Autónoma de Lisboa, 2004 - 2007; Currently professor at Lisbon Shool of Architecture / UL and Universidade Autónoma de Lisboa. He has been teaching in several different architectural schools in Portugal and abroad; Lecturer in different countries about ARX´s work and juri member in several national and international architectural competitions and

professional prizes; In 1991, together with José Paulo Mateus, he founded ARX Portugal Arquitectos. The office work is wide spread in nature and scale from private to public commissions in Portugal and abroad. Some of its major projects have been built and a few are currently under construction. ARX´s work has obtained several prizes, selections, nominations and honorable mentions such as the International Architecture Awards The Chicago Athenaeum, USA, International Association of the Art Critics, Prize in Architecture, Mies Van der Rohe Prize, Premis FAD, Secil, among others. ARX projects have been widely published in articles and references in specialized newspapers and magazines around the world. A few monographic books have also been published such as: Dez Obras, ARX Portugal Arquitectos, Casa Editrice Libria, Italy, 2020, ARX Portugal 1991-2015, Verbo, 2015, Brick is Red, Author Edition, 2013, Ílhavo Maritime Museum, Caleidoscópio, 2004, Realidade-Real, CCB,1993, and A Second Nature, Editorial Blau, 1993.

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