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milano international design studio  
politecnico di milano  
school of architecture urban planning construction engineering  
m.sc architecture - built environment - interiors  
Milan, 9 - 21 January 2023



**POLITECNICO**  
MILANO 1863

SCUOLA DI ARCHITETTURA URBANISTICA  
INGEGNERIA DELLE COSTRUZIONI

# Duration

MInDS 2023  
Milan, 9 - 21 January 2023

**Andrea Campioli** Dean of the School of Architecture Urban Planning Construction Engineering  
**Pierluigi Salvadeo** M.Sc Architecture - Built Environment - Interiors (ACI-BEI) Coordinator  
**Matteo Umberto Poli** M.Sc Architecture - Built Environment - Interiors (ACI-BEI) Deputy for Visiting Professors  
**Jacopo Leveratto** M.Sc Architecture - Built Environment - Interiors (ACI-BEI) Deputy for Visiting Professors  
**Gennaro Postiglione** M.Sc Architecture - Built Environment - Interiors (ACI-BEI) MInDS Founder

MInDS Direction and Coordination  
**Jacopo Leveratto**  
**Pierluigi Salvadeo**  
**Matteo Umberto Poli**

MInDS Technical Management  
**Cristina Agazzi**  
**Efsia Cipolloni**

MInDS Tutors' Coordination and Organization  
**Serena Comi**

Visiting professors  
**Fernanda Canales**  
**Francisco Javier Gallego Roca**  
**Jeremy Till**  
**Johannes Norlander**  
**Kevin Lamyuktseung**  
**Konstantinos Pantazis + Marianna Rentzou**  
**Luigi Ferrara**  
**Marta Peris + Josè Toral**  
**Mascha Fehse**  
**Philippa Tumubweinee**

Tutors  
(with the participation of AUID PhD students)  
**Arianna Luisa Nicoletta Scaioli**  
**Bogdan Peric**  
**Filippo Oppimitti**  
**Giada Zuan**  
**Gino Baldi**  
**Kevin Santus**  
**Marianna Frangipane**

MInDS / Milano International Design Studio is an intensive design workshop conceived as an international exchange and education platform, activated between the third and fourth semester of the Master's degree program ACI-BEI.

The workshop, which develops over two weeks, is articulated in ten distinct classes held by ten different visiting professors, committed to questioning ten different topics. The scope is represented by architectural design, which is also the object of study and experimentation. But it is a form of design that can no longer be recognized in a single scale, or in a predetermined typological catalogue. Rather, it concerns an architectural know-how that tries to be open to contaminations coming from other practices, to better respond to the demands of an heterogeneous and constantly changing reality.



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# Marta Peris+ José Torral

## Form follows Material

**José Torral** (Madrid, 1978) is an architect by the (ETSAB-UPC 2003), he obtained the ARQUIA Scholarship in Rafael Moneo's office in (2002). Associate professor (ETSAB-UPC) since 2016. In 2005 he founded **PERIS+TORAL ARQUITECTES** in Barcelona together with **Marta Peris**, developing public social housing projects won in architectural competitions. The office is interested in looking for new ways of living and building.

The creative activity of PERIS+TORAL.ARQUITECTES has been consolidated winning distinctions such as: the Matilde Baffa Ugo Rivolta European Architecture Award 2021, they have been finalists of the Mies Van der Rohe Award 2022 among others.

Participants

Amiri Sarina

Belotti Alessia

Finetti Alice

Gottardi Francesca

Haond Giulia Henria Romane

Jamali Mohammadamin

Kasviki Vasiliki

Perin Alessandro

Sajadifar Amir Mohammad

Sorichetti Flavia

Tidoni Lorenzo

Viale Mario Edoardo

Villella Francesco

Voynov Nasko Stefanov

Zanini Vallin Emanuele Davide Mari

Tutor

Arianna Luisa Nicoletta Scaioli

# Material (in) Conversation. Re-Designing the Design Process

by Arianna Luisa Nicoletta Scaioli

This initial slogan proposed during the atelier led by José Toral at the MInDS design workshop in January 2023 triggered a profound reflection and design experimentation that transcended the production of an architectural object, tackling the very process of project ideation and realisation. Embracing the notion of architecture as a creative practice deeply rooted within a solid theoretical and technical background, the participants were initially immersed in a game, entirely unaware of the forthcoming activities, objectives or design challenges awaiting them throughout the workshop.

Inspired by the constructive games of Anne Tyng and the Eames, the task set before them was to construct the tallest tower using the least amount of A4 paper. This exercise aimed to uncover and ignite the boundless creative possibilities encompassed in design, where the abstraction of ideas converges with the realisation of architectural objects. Through this game, participants

were encouraged to experiment with materials, gaining a profound understanding of their intrinsic characteristics, strengths, and limitations by actively constructing the tower. Consequently, this pedagogical vision enables the exploration of diverse facets within architectural practice, initiating an open dialogue and conversation with materials and their inherent qualities. Drawing inspiration from the concept of “truth to materials,” this notion becomes a recurring theme throughout all the activities, underscoring its significance. Dwelling at the intersection between theory and practice, between the technical and the poetics of space, this first moment of reflection aimed at rediscovering the triad of *firmitas*, *utilitas*, and *venustas*, in light of the material used, exploring its constructive aspects: connections/supports, foundation/body/crowning, and lightness/strength.

Drawing from the findings of the construction game,

the design challenge conceived within the atelier was to reverse the traditional design process based on sequential steps of “Find a Site – Define a Program – Shape a Form – Choose a Material,” starting instead from the last step: Choose a Material. The underlying question that permeated the work was: By reversing the architectural construction process, what are the outcomes? Is it simply a backward journey through a series of conceptual steps, or are there deviations, returns, or changes? The participants were engaged in a journey of continuous discovery and exploration through hands-on activities and creative challenges without knowing the contents, tools, or objectives of the next phase. This approach created a sense of estrangement and dislocation from the spatial and theoretical constructs they were used to apply, fostering experimentation of the uncanny with a design reflection that lay between the familiar and the foreign. As in the short film “The Power of Ten” by the Eames, the adopted

framework progressively approaches or distances itself, where one scale flows into the next. Embracing this perspective that operates between things and across different scales, the design process was conceived to evolve through modifications, adaptations, reconsiderations, and reconfigurations, starting from a certain given: the material and its characteristics.

“The Power of Ten” was also the title given to the initial phase of work, where each participant conducted an in-depth investigation of the physical, visual, economic, and energetic traits of the chosen material, analysing them from the individual particle level (10<sup>-2</sup>) to the system of connections (10<sup>2</sup>). The range of materials was diverse, going from clay, steel wire, cardboard and glass to brick, PVC, rammed earth, cotton, and limestone, until wood, lime plaster, steel and bamboo. Through dialogue, a conversation with the materials, and looking into a set of precedents, each material “communicated” a specific

construction system, a particular joint, or a particular form that best responded to and represented its intrinsic characteristics, enhancing its formal and spatial aspects. Moreover, to fully understand how to utilise it, they delved deep into the modes of sourcing, processing, and storage of construction materials, comprehending the environmental, social, and economic impacts that such processes would entail.

Continuing the exploration of “The Power of Ten,” the next step was to tackle the construction of a module measuring approximately 360x360x360 cm, utilising the chosen material in its various constructive and spatial manifestations. Conceptualised as an open space capable of accommodating any program, the focus was not directed towards adapting the material to a particular use but rather towards expressing the material’s potential in terms of form, technique, and poetic qualities. At the foundation of constructing

the module was the concept of designing with fewer materials, designing for scarcity.

After analysing the environmental, social, and economic impacts of material production and usage, this influenced the module's construction, which fully expressed the Miesian logic of "less is more." By optimising the use of resources and materials, the constructive aspects of the module were addressed in relation to the ground, the sky, and a potential surrounding context. Drawing upon the categories of tectonics and stereotomy, the constructed objects explored the compositional actions of cutting, adding, carving, rotating, translating, juxtaposing, intertwining, tensioning, and stacking, understanding how each material could interpret them according to its intrinsic character. Although the module was not located in a specific place, the design reflection touched upon aspects of intimacy, privacy, seeing and being seen, openness or enclosure, direct interaction with the exterior mediated by filters, or

even hindered. These relationships, albeit temporary, contributed to complexifying the spatial character of the module, attributing a transient and evolving nature to the architectural object, and opening up possibilities for future adaptations. The fundamental concept of the exercise was not to provide a definitive and unchangeable answer but rather to reflect on the construction process, its potential use over time, and its openness to the unexpected.

After designing the module, the next phase focused on the aggregation of different rooms to form a complex system capable of accommodating a cohousing community. The challenge was to understand the relationship between program and dwelling module, which possessed specific material, technical, and spatial characteristics, and how this relationship could create an open spatial infrastructure. The theme of cohousing allowed for the exploration of various aggregative

possibilities of the dwelling units, forming variations within a unified complex. Specifically, by working on modules and sub-modules the system was complexified and acquired a spatial value. By considering the accommodation of diverse social groups, such as single parents with children, students, couples, artists, and extended nuclear families with grandparents, the forms of co-living were reconsidered. The design of spaces, starting from the aggregation of the module, could accommodate diverse uses over time, going beyond the traditional division of public and private. Flexibility, intermediate spaces, elements of connection and transition between enclosed and open areas, and between individual and communal elements were at the centre of the reflection on the spatial organization of the housing system. In this continuous process of approaching and distancing, of examining closely and then viewing from afar the architectural object, the next step involved working on the spatial organization in

plan, delving into the detailed relationships between parts and levels. Simultaneously, a set of climatic and environmental characteristics were provided to situate the project within a specific context. This way, the design process, characterized by continuous iterations, modifications, and adaptations, was enriched with a greater awareness of certain design choices and their formal, aesthetic, technical, and environmental value, contributing to the development of a program over time.

The final stage of the design experimentation involved remodelling space in relation to the people who inhabit it. The focus was directed towards the human scale, considering how both the individual module and the overall composition could create a harmonious space for people. By working on the section, the participants revisited the dwelling unit and the system, this time from the inside out, reflecting on the forms of use and the overall form, as well as how the use of materials

could alter the perception of space itself. By exploring different degrees of permeability, material transparency, or enclosure, they further enhanced the diversity of spatial experiences within the system.

A fundamental lesson at this stage of the design process, and as a culmination of the entire journey, was the understanding of how bodies, matter, and space have a strongly interconnected relationship, and how there can and should be interactions among these different aspects both during the design process and within the architectural object itself.

The final exhibition itself served as a moment of reflection and an opportunity to capture key points that emerged during the workshop. The organization of materials, in the form of a matrix, offered a dual interpretation, making explicit the “conversation” between different materials, techniques, forms, and uses. The goal was to narrate the individual materials through the process

of gradual approach and distancing, as exemplified in “The Power of Ten” analogy.

What emerges from this atelier and the conducted design experience is a reflection and experimentation that tackles both the method of designing and the way in which it could inform the architectural practice nowadays. Specifically, the focus on materials, their environmental impacts, and the utilization of fewer resources starting from an understanding of their characteristics points towards a different perspective on sustainability in architecture. It suggests that sustainable building design is not achieved solely through high-tech systems, but rather by comprehending the properties of materials, optimizing their use, and considering their sourcing and production. By reinstating the material as a primary design consideration, it becomes possible to integrate various project phases, from contextual relationships to the inhabitants’ perception of space.

This perspective allows for a holistic approach to design, encompassing the entire lifecycle of a building and promoting sustainable practices in architecture.

Parallely, by delving into the value of the architectural process in constituting the very product of architectural practice, where the value does not solely reside in the finished architectural object, it considers the process as the product, or architecture as a process, entailing a shift in perspective and a methodological reflection. Positioning design as a “methodology” rather than solely focusing on the end result of a building is a radical proposition. This approach considers the process itself as the primary outcome, allowing for a design of possibilities that remains open to modifications and embraces different temporalities. This perspective recognizes that the future is characterized by an openness to transformation, enabling divergences from existing conditions. Considering design as a process

becomes a critical aspect of the design practice, as it allows for bridging the gap between critical and theoretical reflections and pragmatic considerations. Emphasizing the idea of the process enables a reframing of the social, spatial, and temporal dimensions as interconnected elements. It acknowledges that different moments of the project coexist and mutually inform one another, fostering a holistic approach to design.

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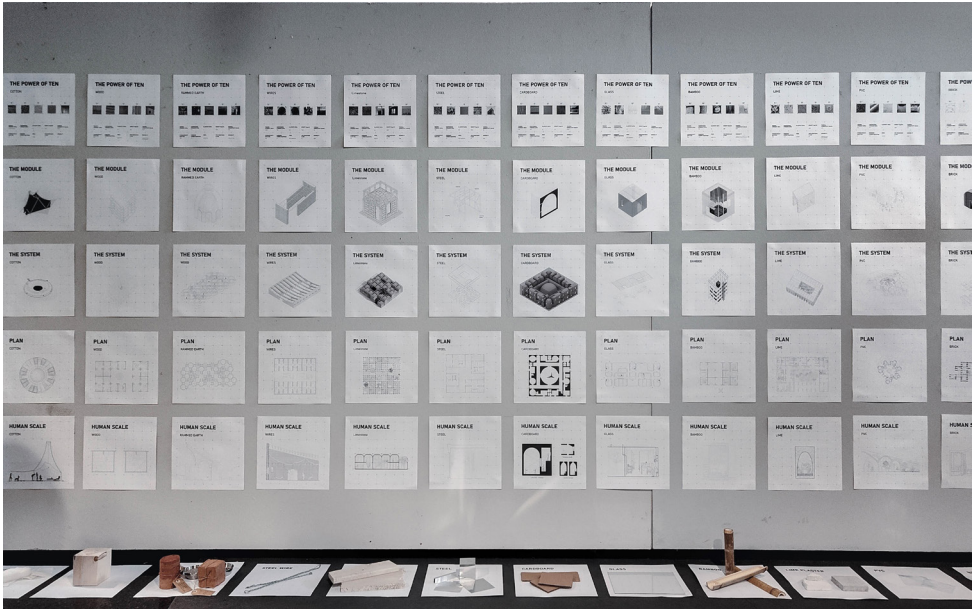


Figure: Final exhibition  
Picture by the author.