# A DEBATE about RESEARCH in ARCHITECTURAL DESIGN

auid 2024 yearbook

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A Debate about Research in Architectural Design


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# A DEBATE about RESEARCH in ARCHITECTURAL DESIGN

# DE-SIGN-DRIVEN RESEARCH



“Architectural research meets the general criteria of originality, significance, and rigour. It produces forms of output and discourse that are proper for disciplinary practice, making it discussable, communicable, and useful to relevant audiences. It is validated through panels of experts who collectively cover the range of disciplinary competencies addressed by the work.”

# REFLECTING ON RESEARCH IN ARCHITECTURAL DESIGN

# PREMISES AND CHALLENGES IN A TWELVE YEARS DOCTORAL STORY

Alessandro Rocca


AUID yearly Milestone in the atrium of the School of Architecture, Politecnico di Milano, October 2022.

The Architectural Urban Interior Design (AUID) Ph.D. Program promotes research on architectural design, with studies and projects aiming at different scales, contexts, and finalities. Research activities are based on the critical analysis and development of design processes and techniques in dynamic relationships with the urgent questions related to the urban and rural environment, questions related to energy and comfort, cultural and social factors, processes of change in technology, social habits, and domestic lifestyle.



**The Immediate Future**

In the wake of the economic opportunities offered from 2021, by the Italian National Recovery and Resilience Plan (PNRR), the doctorate expanded and diversified its offer through the activation of numerous partnerships with private companies and public bodies. Twenty doctoral students are admitted to the 37th cycle, supported by scholarships from different sources: PNRR, CSC, Italian and foreign governments, and foreign universities; in the 38th cycle, the presence of PNRR grants doubles to six units, and overall, the number of doctoral students, those admitted and those currently being accepted, is again around twenty.

The doctorate, therefore, has been changing profoundly in recent years. After a long time, the program was essentially supported thanks to grants financed by the Italian government and provided by the Politecnico di Milano; today, the proportions among the grants available have entirely changed, with a very high presence (about 75% of the total) of PhD students financed by third parties, Italian and foreign, academic, public, and industrial. It is difficult to predict the lines of development in the long term; however, it is evident that in the short and medium term, the doctorate assumes a much greater dimension, in numerical words, and a more composite nature where the non-academic presence acquires a new role and where the international network, both for resources and candidates, becomes a crucial component even if not the majority.

The changes in the political framework, both internal and foreign, have had immediate, very significant, and positive repercussions on the composition, resources, and scientific physiognomy of the doctorate. From now on, in an overall framework dominated by uncertainty, the qualities, experiences, and skills we have acquired will support us in facing the challenges posed by the subsequent scenarios. If, indeed, the variables are too many to have a specific look at the future, however, we can count on the great assets of the ongoing partnerships, alliances, and cooperation with a diversity of subjects belonging to the most diverse parts of the social body located in many different places, mainly in Italy, Europe, Asia and South America. The last cycles saw an impressive growth of the candidates' number. They were 8 in the 33rd and 34th cycles; 20 in the 35th; 16 in the 36th, 17 in the 37th; 32 in the 38th, 28 in the 39th. In future, the AUID doctoral program seems oriented to continue its international, multidisciplinary track, pursuing multiple directions and aims. The first one is strengthening the reflection in the specific field of architectural design,

# Relevance
# Originality
# Rigour

contained between the two scalar borders, the interiors and the urban, and questioning the mutual relationship between theory and practice. In this sense, the scenario of design-driven research helps open multiple horizons that are all strictly related to architectural design.

**Architectural Design**

Architectural design today finds itself in a transition phase in which very different cultures, objectives and methods coexist. On the one hand, a culture linked to the techniques of composition resists, which is the educational and identity basis of the generation that practices professorship today. A culture that appears essential, linked to the essential knowledge and skills for practising architectural design, but which at the same time finds it difficult to compete in the open field of scientifically ambitious research. One of the most effective ways of updating this culture is the ethnographic way, that is, approaching the themes of architecture through the analytical study of what architects have done and do. The study of the exercise of the project remains a substantial factor of penetration into the architectural material, perhaps unparalleled, and today appears not to be sufficiently valorised. The recent past probably played an unfavourable role in the publishing market, which was populated by monographs of a traditional nature, concentrated on the figure of the author and the results of his work. Today, this attention to the author becomes of great importance when the analysis of the results, which remains necessary and central, is accompanied by the investigation of the processes, methods, modalities, and frictions accompanying the architect's work. Through this gaze, open to ethnography and the cultural and social impact of material conditions, from techniques to policies, the analysis of architecture develops a further degree of complexity and relevance that enriches the interest of the formal fact. The recent research by Atelier Bow-Wow, Christ & Gantenbein, Pier Vittorio Aureli, Pier Paolo Tamburelli, and others, makes clear the vitality and importance of an approach capable of carefully reading the project within an ample critical discourse.

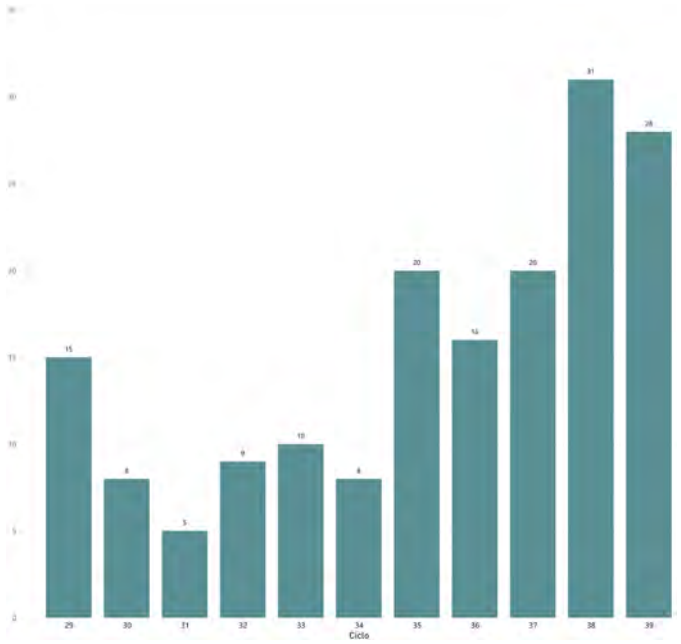
In the contemporary scenario, topics related to interior design appear to be of great relevance and can offer less obvious interpretations compared to major contemporary themes. Investigating domestic space, urban and rural living, and the characteristics of workplaces and social gatherings can lead to important results by moving on terrain less conditioned, compared to larger scales, by pre-established schemes. Whether and how to use these greater freedoms is not a simple task, and sometimes, the academic approach seems too rigid to deal with highly topical themes and issues. There is a need for a constant effort to renew and personalize research methods. Pre-established formulas appear less and less effective, while new techniques, such as AI, require us to move fundamental factors, such as originality, onto another terrain. If the Internet era has completely revolutionized access to information, dissemination and sharing tools, and the use of sources, artificial intelligence has already profoundly affected the ways of writing and drawing, introducing a further technological level that must be incorporated and calibrated within the research, without trying to obscure tools which, due to their effectiveness, have already become indispensable.

**Landscape Architecture**

Despite the increase in interest aroused in Italy by this field in recent decades, the scientific field linked to landscape continues to oscillate ambiguously between different scales and codes, struggling to find its own precise and recognizable position. The inevitable overlaps with other disciplines, often more rooted and structured in the academic field, such as architecture and urban planning, make this path fraught with contaminations that are not always beneficial. Sometimes, multidisciplinarity enriches the research tools but frequently produces an epistemological and instrumental weakness that does not favour research based on this cultural platform.

A further, inevitable point is facing the contemporary ecological end energetic challenges that directly impact architecture, looking for a new balance between the sustainable mantra and the most profound nature of architectural history, theory, and practice. The ecological question, which covers a broad spectrum ranging from climate change to sustainability, tends to dominate the architectural discourse and pushes research towards quantitative approaches. It happens above all when subjects who tend to lack architectural culture enter the field of research and who, through the measurability of phenomena, think that the figure of the generalist architect is an outdated figure, destined to be replaced by scientists and specialist technicians capable of detecting winds, solar radiation and

Number of enrolled candidates from 29th to 39th cycle (2013-2023).






# Design-Driven Research
# Architectural Theories
# Architecture & Society

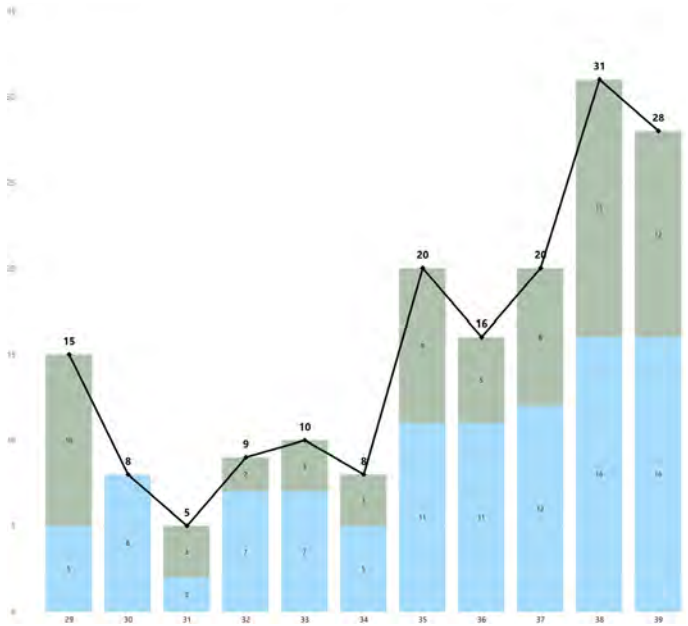
temperatures and to bring pre-established technical schemes into the project. This design is destined to be defeated but, in the meantime, it fuels in some researchers the illusion of mastering and solving complex phenomena without deeply penetrating the knowledge necessary to imagine and design the form of architecture.

**Courses, Seminars, and Workshops**

In the twelve years of the program, there were many courses, mostly kept from Polimi professors, and it is difficult to report all of them here. In the first six years of the programs, 2013-18, the educational project was based on some stable pillars: a course on museography given by the program's head, Luca Basso Peressut, and a course on Contemporary Tendencies in Urban Studies, by Carlos Gabriel Garcia Vazquez (Sevilla University). Various professors led a series of design workshops: Guya Bertelli, Antonella Contin, Andrea Di Franco, Pierfranco Galliani, Michele Ugolini, and Fabrizio Zanni. Other courses were held by professors Pier Federico Caliari, Simona Chiodo, Andrea Gritti, Imma Forino, Lorenzo Giacomini, Luca Molinari, Gianni Ottolini, Simona Pierini, Gennaro Postiglione, Raffaele Pugliese, Pierluigi Salvadeo, Gianni Scudo, and Ilaria Valente. The theory workshop "Critiche e pratiche del progetto architettonico contemporaneo" (2018), held by Alessandro Rocca with Marco Bovati and Andrea Gritti, was developed in cooperation with the doctoral program of Politecnico di Torino and based on an interdisciplinary cooperation with the ethnographer Albena Yaneva.

In the second phase of the program, 2019-2024, the courses were initially based on this plan: one course on research methods, one course on funded research, one research workshop preparing a research application, and one design workshop. In 2023, the plan changed, introducing a course on basic research methods by Alessandro Rocca, a course on publishing by Simona Pierini, and a course on architectural criticism by Pierre Alain Croset. Around these pivotal courses, there were other educational initiatives more oriented towards specific areas, like Architectural Theory (by Stamatina Kousidi), Representation of Architecture (by Luigi Cocchiarella), Writing on Architecture (by Luigi Spinelli), and Environmental Design (by

Gender balance from 29th to 39th cycle (2013-2023):
in light blue the female percent.



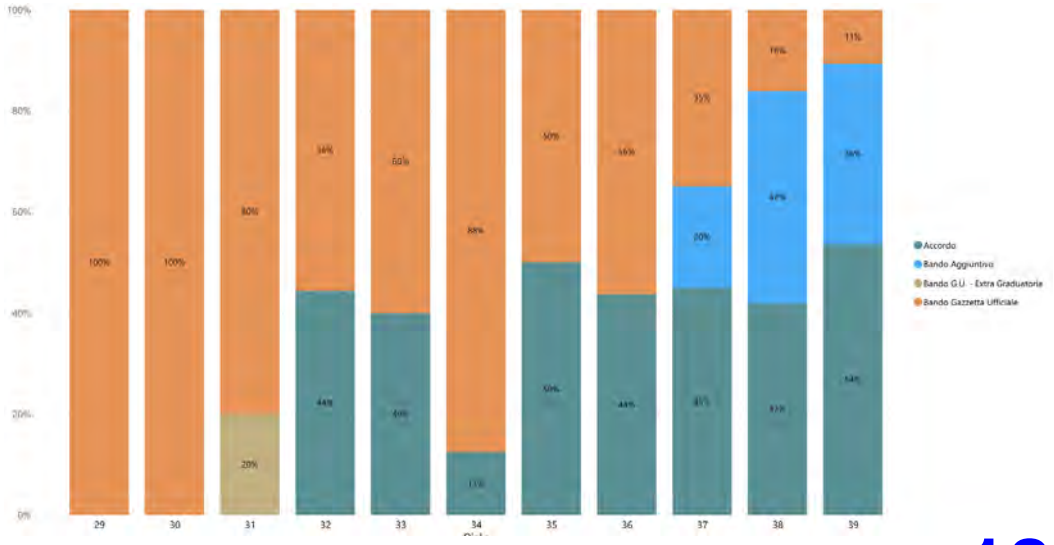



# Internationalism
# Cooperation
# Networking

Luca Fabris). Other optional courses and workshops were activated to introduce specific areas of study. The design was largely present, being at the centre of some workshops. In 2020, Emilia Corradi guided a design workshop in the town of Sulmona; in 2021, a studio on recovering fragile urban areas. In the same year, Fabrizia Berlingieri and Giulia Setti held a workshop on "Design Processes for Transition", focusing on the adaptive urban spaces. To the ordinary plan, the program added other international courses led by European professors like Jo Van den Berghe and Thierry Lagrange from KU Leuven and Andreas Lechner from TU Graz.
In the following years, we count some initiatives that created a discontinuity, offering innovative methods, topics, venues, and outcomes. For example, we cite the workshops managed by Fabrizia Berlingieri in Prato (2023), José Garcia Fuentes in Tivoli (2023), Alessandro Rocca and Giulia Setti in Cres (2021), Gennaro Postiglione (2021) and Alessandro Rocca at the Venice Biennale (2023), Jacopo Leveratto and Marco Navarra in Sicily (2023). This large number of activities *extra moenia* was another occasion to activate new relations with other Italian and foreign institutions and offered our candidates remarkable possibilities of experiencing new kinds of research and design approaches and networking.

**The International Network**
The AUID program started and developed in a decade when the development of an international attitude was the first strategic point for Politecnico di Milano. Polimi was expanding the educational offer in English, attracting thousands of international students, creating new positions for foreign professors, implementing the quantity and the quality of the international network, and signing hundreds of agreements for students' exchange, double diplomas, and joint doctorates. This climate had a direct and robust effect on AUID in multiple ways. For example, the agreement between Polimi and the Chinese Scholarship Council pushed many Chinese students to apply for the AUID program; some are Polimi alums and others directly come from the best Chinese universities. Individual initiatives were taken to cooperate with foreign universities, professors and

Scholarship source from 29th to 39th cycle (2013-2023): in orange the governmental that, gradually, decrease their percent in favor of other funds.



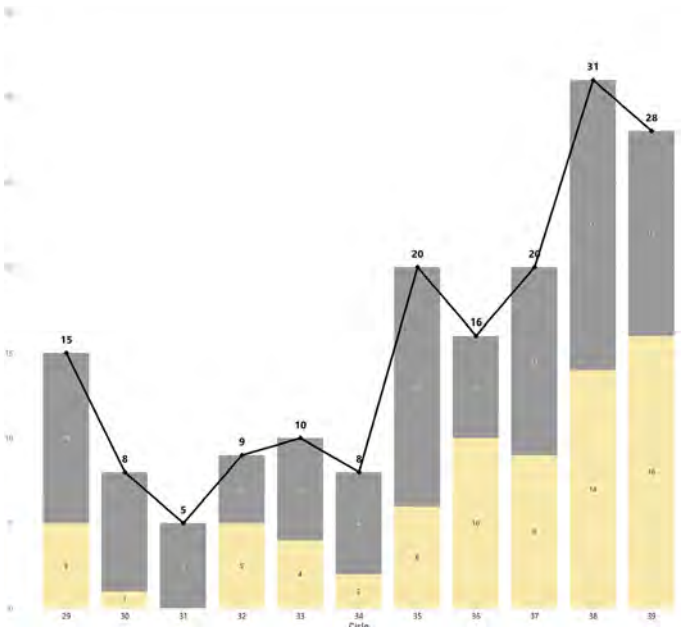



# Doctoral Histories
# EAAE Charter
# Italian PhD Cylces

candidates from other countries and continents, such as the Middle East and South America. Other effects originate from general agreements Polimi signed with other institutions, such as Tianjin, Ada (Uzbekistan), and Qatar Universities.
A particular impulse in international networking comes from the AUID's participation in the Ca2re consortium, which links many top-level European universities in a calendar of semestral milestones focused on the students' research. Since 2017, this cooperation has been a powerful trigger for activating double-degree tracks, joint supervisions, external reviews, and international juries. Thanks to Ca2re, AUID stands permanently in an open debate on the contents, methods, and aims of the research in architectural design. The ca2re discussion took form from the methodology of the design-driven research, an approach that AUID supported as the main guideline for all research; a methodology open to various interpretations but very clear in considering the relationship with design an indispensable and fundamental component of our research. This cooperation was led by AUID professors Alessandro Rocca, Gennaro Postiglione, Fabrizia Berlingieri, and Jacopo Leveratto. They made it possible to have, from 2018 to 2022, seventy-seven presentations of AUID Candidates, who collected valuable comments and suggestions from the Ca2re panellists and met hundreds of doctoral candidates from other European universities.

**The Program's Historical Background**
The AUID doctoral program takes as an essential reference the declaration reported in the EAAE Research Charter (2012): "Architectural research is an original investigation undertaken to generate knowledge, insights, and understanding based on competencies, methods, and tools proper to the discipline of architecture. It has its own knowledge base, mode, scope, tactics, and strategies." Research by design is defined as "any kind of inquiry in which (...) the architectural design process forms the pathway through which new insights, knowledge, practices, or products come into being. It generates critical inquiry through design work." The relationship with the design activity is a crucial point for the program.
In particular, the program aims to

Candidates' citizenships from 29th to 39th cycle (2013-2023): in yellow the Italians, in grey the non-Italians.





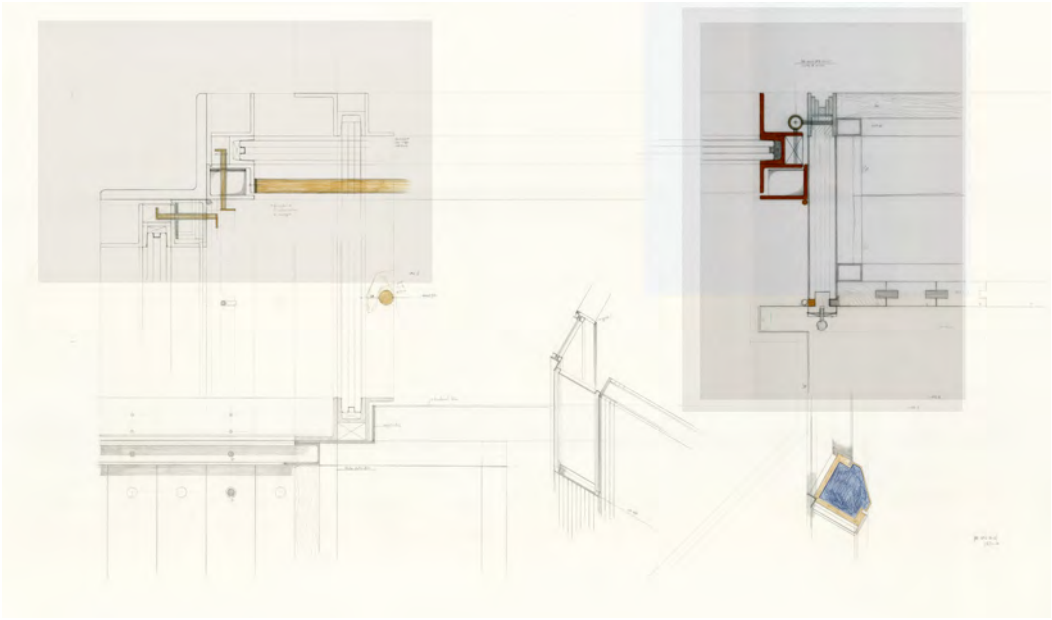

# Prehistory

investigate the potentiality of research by design and/or design-driven research (DDR).
Research by design is a broader concept that includes "practice-based research" and "practice-led research." This concept is our starting point, which can lead mostly to applying two kinds of research methodologies: "research through practice" and "research about practice."
The design-driven Research approach has been intensely investigated together with the Ca2re Community for Artistic and Architectural Research (ca2re.eu/), which considers design the primary and leading environment for doctoral research in architecture.
The AUID program sprang up in 2013 due to a reorganization of some previous programs in resource optimization. Looking back at the beginning of the doctoral studies at Politecnico di Milano, we see that the first programs were activated with the VIII national cycle in 1992-93.
The first, in architectural studies, was "Progettazione Architettonica e Urbana" (Architectural and Urban Design), from 8th to 28th cycle, initially headed by Ernesto D'Alfonso, then by Ilaria Valente (2007-12) and Pierfranco Galliani (2013-15). The "Arredamento e Architettura degli Interni" (Furnishing and Architecture of Interiors) program, from the XIV to the XV cycles, was headed by Cesare Stevan and was later renamed "Architettura degli Interni e Allestimento" (Interiors and Exhibit Design). The program 'Composizione Architettonica,' head Daniele Vitale, is active from 2000 to 2012; the program 'Architettura, Urbanistica, Conservazione dei Luoghi dell'Abitare e del Paesaggio' (Architecture, Urban Planning, Preservation of Housing and Landscape) goes ahead from the 18th to the 28th cycle (2012-2013).
Except for "Conservazione dei Beni Architettonici" (Preservation of Architectural Heritage) head Luigia Binda, which started in XIV cycle and is still alive, under the guidance of Maria Cristina Giambruno, all the others terminated with the XXVIII cycle in 2012. Other related programs were "Innovazione tecnica e Progetto dell'Architettura", headed by Guido Nardi, and "'Tecnologia e progetto per l'Ambiente Costruito", by Valerio Di Battista; both were actives in cycles XIV and XV.
The Polimi frame of the programs

is revised in 2013-14, 29th cycle, when spring up “Progettazione architettonica, urbana e degli interni” (PAUI), in English: “Architectural Urban Interior Design” (AUID), and “Architettura Ingegneria delle Costruzioni e Ambiente Costruito / Architecture, Built Environment and Construction Engineering” (ABC). These programs and the Preservation program represent the Polimi Doctoral School’s architectural branch, which gathers twenty programs, including Urban Planning, Design, and all the main Engineering fields.
The PAUI/AUID program started under the guidance of Luca Basso Peressut, who was head for two three-year mandates until 2018. From 2019, Alessandro Rocca assumed the headship and is currently in charge with a second mandate until the end of 2024.
In its first cycle, the 29th, according to the calendar of the national system, the research topics indicated in the call were divided into four primary lines: housing, buildings and public spaces, museography, and landscape and infrastructure. A comprehensive spectrum was based on the combination of theory and design. The program admits fifteen doctoral students, five foreign citizenships: Iranian (two), Lebanese, Saudi, and Algerian, supported by scholarships from the Italian government. An important presence that, as a first consequence, leads to the extensive adoption of the English language for seminars, meetings, and exams. This first foreign contingent was well qualified, and all five candidates obtained the title. It should be noted that, unfortunately, among these, only one doctoral graduate has maintained a relationship with the Department of Architecture and Urban Studies (DASTU) and the Polimi School of Architecture.
In the second cycle, the 30th, among the eight doctoral students we found only one foreigner, a candidate of Iranian nationality who had undertaken a double doctoral program with TU Munich and obtained the title in 2021. The dropouts were from two units. In the 31st cycle, there are five candidates, all with Italian citizenship, of which two have dropped out, one was excluded from the doctorate, and two obtained their degree in 2020. The first double doctorate, organised and supervised by Ilaria Valente, is registered in this cycle and is



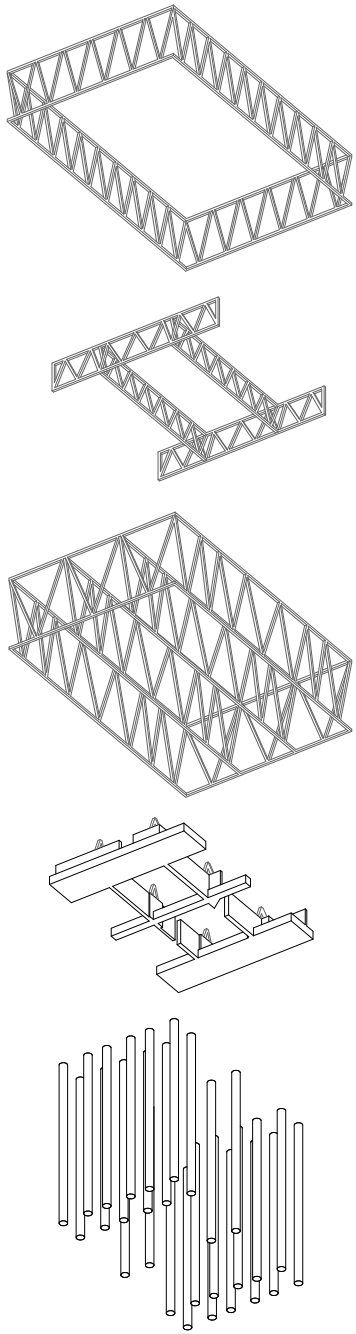
Enrico Miglietta. 2024. *Re-reading Form through the Agency of the Joint. The Archaeological Attitude of Design Driven Research.* Supervisors Gennaro Postiglione, Politecnico di Milano, Johan Van Den Berghe, KU Leuven; co-supervisors Annalisa de Curtis, Politecnico di Milano, Thierry Lagrange, KU Leuven.



# Cycles and Candidates

carried out with the Shanghai Jiao Tong University.
The 32nd cycle sees a larger class, with nine candidates, including five of non-Italian nationality. Among these, four fellows from the China Scholarship Council (CSC), one of which was subsequently excluded, and a Romanian candidate who obtained the title, with honours, in 2020. The 33rd cycle sees nine admitted candidates: three with CSC scholarships, an Iranian student, and an Italian student enrolled in a double doctorate in agreement with the University of Rennes2. The 34th cycle counts six doctoral students: five Italians and one Iranian national, supported by an interdisciplinary scholarship.
A double doctorate is activated with the University of Paris-Saclay, the departmental program “Territorial fragility” founds a scholarship, and there is a co-tutored candidate enrolled in the Ecole National d’Architecture et Urbanisme de Tunisie (Enaut).
The 35th cycle, the first under the headship of Alessandro Rocca, sees the enrollment of twenty doctoral students, to which, for a few months, a visiting researcher affiliated with Dokuz Eylul University in Izmir is added. Among the doctoral students, there are three scholarships funded by the DAStU Department of Excellence “Territorial Fragility,” two CSC scholarships, a double doctorate in agreement with Université de Paris (promoted by Imma Forino), and three Executive contracts with Latin American universities managed by Andrea Gritti, in partnership with the Universidad Técnica Particular de Loja (Ecuador) and the Universidad Nacional de Colombia. There is also an industrial partnership with the company Branding Srl. Three PhD students are supported by ITN Marie Curie European projects: two by the Soloclim, led by Valentina Dessì, and one by Tack, led by Gennaro Postiglione.
The 36th cycle has sixteen PhD students, including ten non-Italians: seven CSC fellows, one Colombian, one Ghanaian, and one Pakistani. As the program becomes more and more international, the supervisors and the board are called upon to deal with distant thematic and geographical areas. The CSC partners prefer research synchronized with the strategic objectives of the Chinese government. This determination produces a selection among the candidates, favouring attention to rural





Gino Baldi, 2024. *Invisible form. Narratives of form and structure through foundations*. Supervisor: Carles Muro.

# Candidates and Supervisors

areas, vernacular architecture, and the recovery and regeneration processes of related buildings and settlements to rural culture and economy. Among the university scholarships, there are also two interdisciplinary proposals: "Urban regeneration through nature-based solutions for an environmental resiliency to the climate change," proposed by Ilaria Valente and Monica Lavagna, and "Smart city: new tools for the sustainable development of the future city. Advanced technologies, environmental sustainability, and participatory processes", by Pierluigi Salvadeo and Dario Zaninelli, in cooperation with the Doctoral Program of Electrical Engineering.

The 37th cycle, which begins the activities in November 2022, welcomes seven candidates in the first phase and four other doctoral students selected through two additional calls generated by the National Resilience and Rebirth Plan funding. In the summer of 2021, the Italian government offered the universities substantial funding for research projects related to the "Green" and "Innovation" themes. AUID obtains three additional calls dedicated to "Green" themes: "Engines of sustainable development: architectures for highway service areas," proposed by Andrea Gritti; "Metropolitan farms: design-oriented research for sustainable agri-food systems," by Filippo Orsini; "Formal/informal. green communitarian developments in the global south" by Camillo Magni; the third call, also of a governmental nature, refers to "Territorial Cohesion" and the research project proposed by Emilia Corradi is awarded the amount for an additional doctoral scholarship.

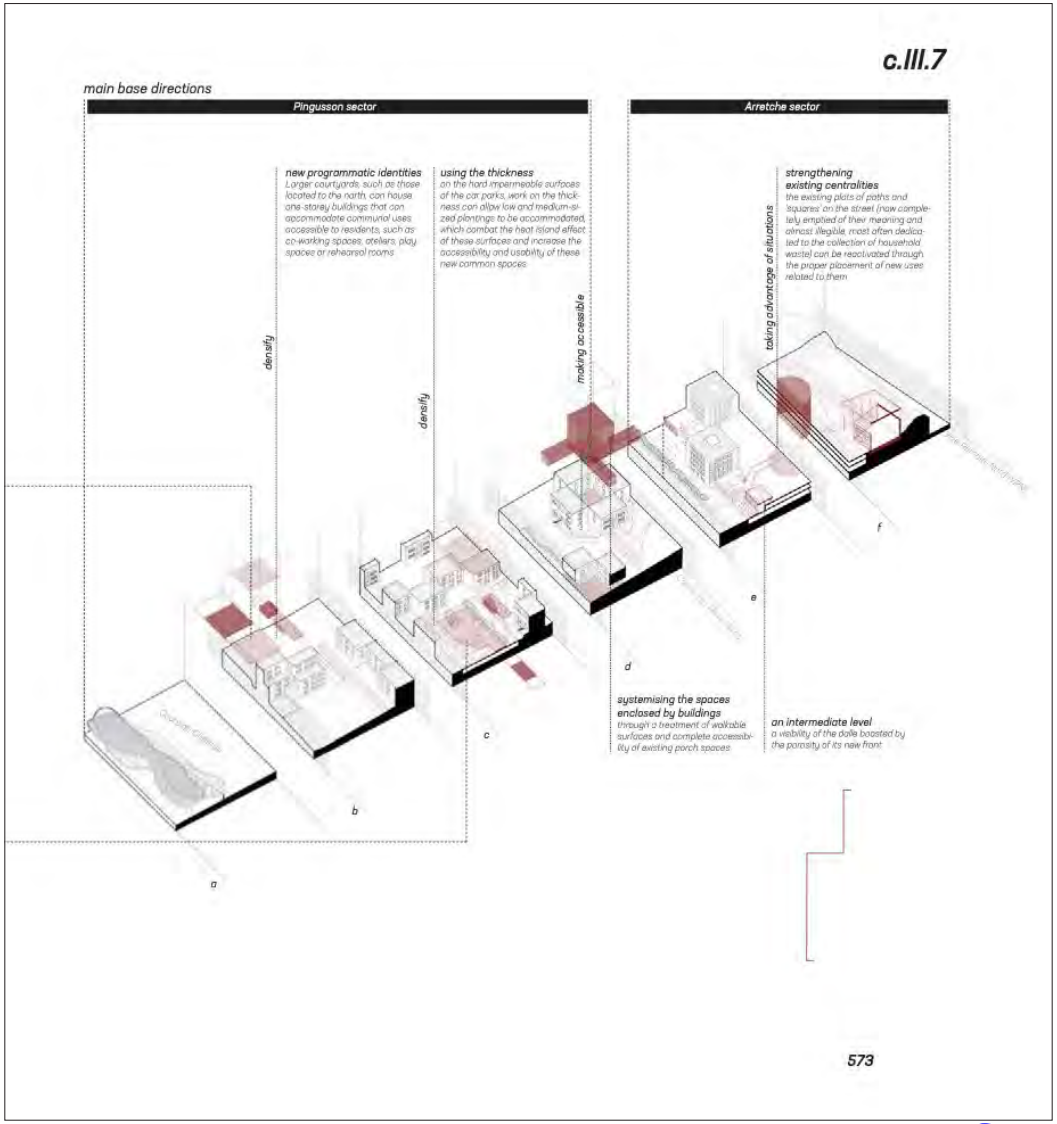
The 38th cycle sees a large composition of different resources again, considering the National Resilience and Rebirth Plan, with six scholarships, three co-founded; the Chinese Council Scholarship, with nine potential candidates; an interdisciplinary scholarship, promoted by Sara Protasoni, in partnership with the Polimi doctoral program of Electrical Engineering.

**The Research Fields: Architecture, Urban Design, Interior Design, Museography, and Landscape**

The research framework is broad and composite; it mirrors the historical changes of recent years and the coexistence of very diversified cultures



Valerio Sorgini, 2024. *Stéréotomie urbaine. Methodological exploration of mass housing base.* Supervisor Ilaria Valente.



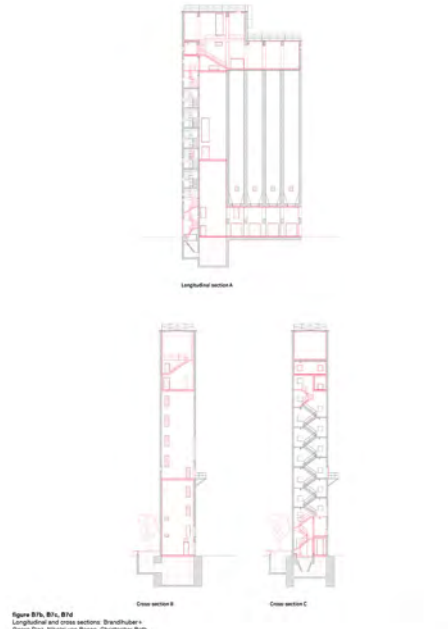
# Research Fields
# Research Topics

and origins.
The first works concluded in 2017 are “Museum is / and territory. The widespread museum as a device for the cultural infrastructure of places. The case of the Libyan coast road” by Alessandro Raffa, supervisor Gian Luca Basso Peressut; “Undergrowth urbanism. Spontaneous practices in the contemporary city. Towards a methodology of analysis and intervention in the informal city” by Valentina Mion, supervisors Laura Montedoro and Jose María Ezquiaga (ETSAM); “Metaphors of performative-oriented architectures. Exhibitions, installations, interventions” by Ayman Kassem, supervisor Pierluigi Salvadeo; “Intra-structures. Urban densification scenarios for mobility in transition. The case of the A20 ring road of the city of Rotterdam” by Gianluca Ferriero, supervisors Luca Molinari and Dirk van den Heuvel (TU Delft); “From the Medina to the Metropol. New integrative approach for the sustainable revitalization of the historical center in the metropolitan cities” by Hamza Benacer, rapporteur Antonella Contin; “The evolution of museum exhibition in Arabia. A qualitative study of the exhibition design and identity in Saudi Arabia” by Abeer Alsobahi, supervisors Gian Luca Basso Peressut and Oli Ali Hassem. In this first round, there is a strong interest in non-Italian situations, such as Rotterdam, Brazil, and Arabia, and the museographic line led by the coordinator, Basso Peressut, is denoted. In 2018 the thesis “Advancing toward water-sensitive cities in Iran. Public spaces as sustainable water management measures in Lahijan, Caspian climate zone, Iran ” by Masoumehsadat Mirsafay Moqadda, supervisor Alessandro Rogora, inaugurated a line of research on a technological basis and aimed at environmental sustainability issues; “Sprawlification: a new method to analyze periurban space” by Arian Heidari Afshari, supervisors Ilaria Valente and Richard Ingersoll, explores informal urbanism in developing countries; “Ruins of contemporaneity: concepts, strategies and design methodologies for the transformation of abandoned places” by Dario Giordanelli, supervisors Guya Bertelli and Carlos Garcia Vazquez, analyzes “new paradigms, linked to new materials and conditions, are the centre of the architecture project in the current transition phase”; Re-inhabit



Claudia Mainardi, 2024. *Attitudes Beyond Style: Investigating the 21st Century Post-Exuberance Architecture across Biennials/Triennials and Everyday Practice.* Supervisors Gaia Caramellino, Gennaro Postiglione, Christoph Grafe.



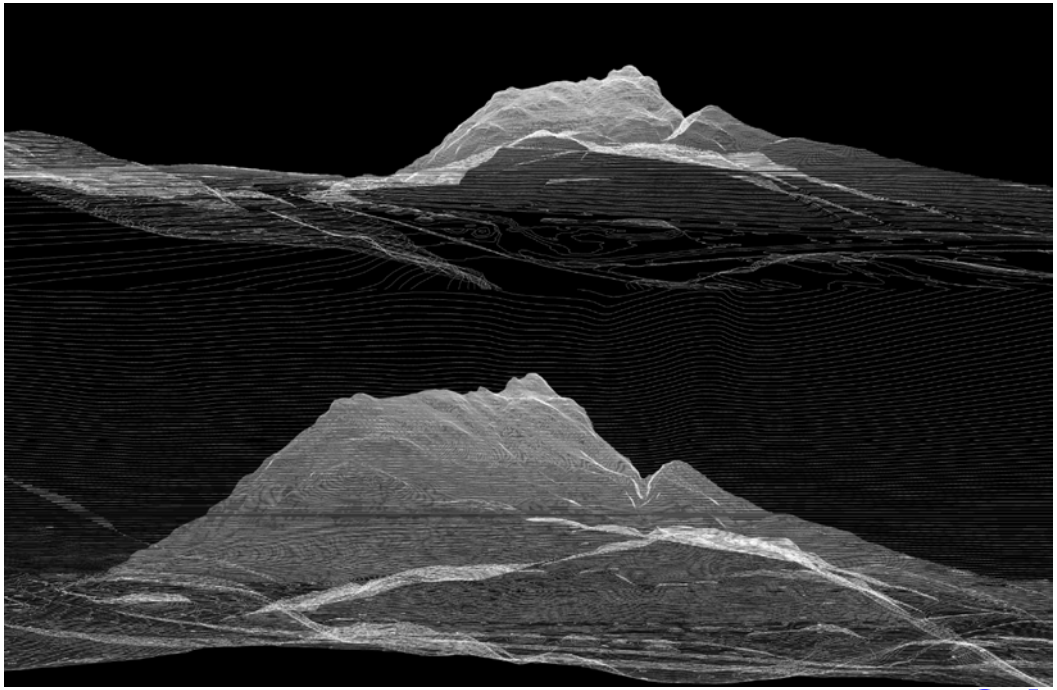


# Architecture
# Interiors
# Environment
# Landscape

modern utopias. History and design for the renovation of post-war large public housing estates “ by Michele Gerli, supervisor Pierfranco Galliani, investigates post-World War II European housing. Public space is the topic of “La Terza Città. The Right to the City: urban regeneration strategies through autonomous and creative practices of space production” by Simona Galateo, supervisor Luca Molinari.
“Museums of narration, between words and projects. Communicative models for today’s exhibiting spaces” by Marcella Camponogara, supervisors Gian Luca Basso Peressut and Federico Bucci, continues the museographic research line.
A specific focus on metropolitan Mozambique informs a series of works: “Metropolitan frameworks of civic robustness. Mapping and designing for East African urbanism” by Alessandro Frigerio, supervisor Antonella Contin; “Spaces for primary education in cooperation projects. Schools in developing countries: the case of Mozambique” by Luca Faverio, supervisor Michele Ugolini, Dwellings and Settlements in Pemba. A Typo-Morphological Field Study in a Changing Urban Environment” by Corinna Del Bianco, supervisors Michele Ugolini and Michael Turner.
The thesis “Devoid of Any Style. Problems and Perspectives of Architecture in the Age of Post-Consumption “ by Francesca Zanotto, supervisor Alessandro Rocca, addresses the paths of the architectural debate around sustainability issues.
“The Architecture of Motorway: Infrastructures Between Maintenance and Preservation. The A22 and the Territory of Mantova “ by Claudia Zanda, supervisor Andrea Gritti, deals with the design of the motorway infrastructure, its impact on territories and the landscape; “Landscapes and Forms of Modification: The Contamination as a New Paradigm of the Contemporaneity” by Martina Sogni investigates the relationship between architectural design and the landscape dimension following the contamination processes and contradictions; “Architecture and Creative Transformation. Creative Urban Practices in London” by Giuliana Bonifati, supervisor Carlos Maria Vazquez (Universidad de Sevilla), explores the changes in public space in a creative district of London.



Chiara Pradel, 2022. *Monumental Ground. Infrastructures, Construction Sites, Landscape*. Supervisor Alessandro Rocca.

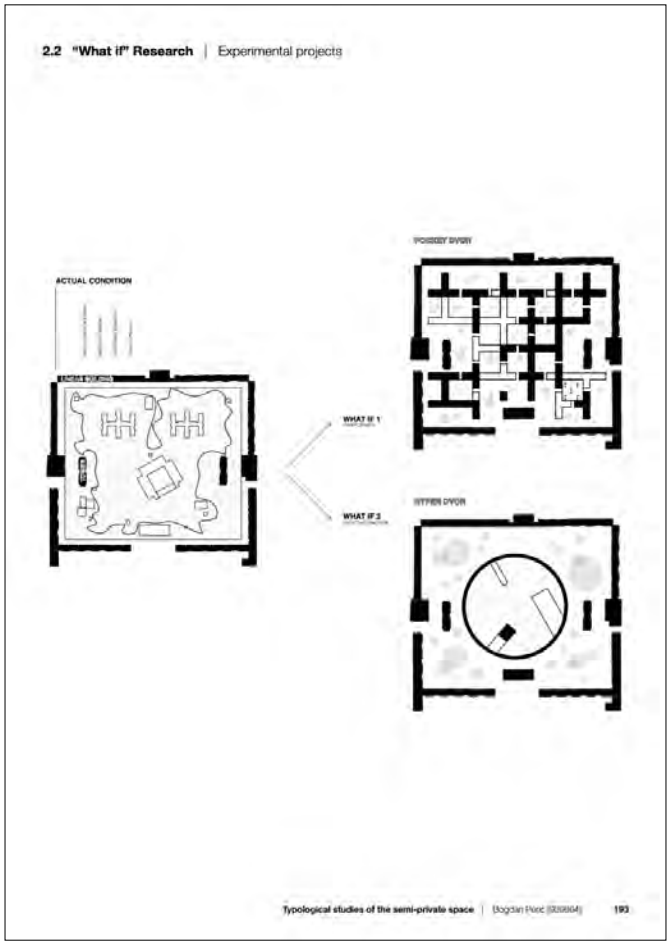


# History Criticism Drawing

In 2019 no thesis was presented; in 2020, two Chinese theses were presented, which were out in cooperation with the professors at Shanghai Jiao Tong University: “Rural Revitalization in Chinese New Era. Design Challenges in a Village of Fujian Province “ by Gerardo Semperbon, a double Polimi-SJTU doctorate, supervised by Ilaria Valente, Luca M. F. Fabris, Ma Wenjun, and Huang Jianyun; “The Shapes of Water: A Discourse around Heritage and Design for a Landscape Reactivation in the Fujian Province” by Francesca Berni, supervisors Ilaria Valente, Marco Bovati,and Ma Wenjun. Museological studies were focussed on in  Maria Mikaelyan’s thesis: “Dissonant Memories in the Post-Soviet Space: Comparative Analysis of Newly Established Museums of Political Histories in the Post-Soviet Countries (1991-2016), supervised by Gian Luca Basso Peressut and Francesca Lanz. “Compositional Studies on Luigi Caccia Dominioni” by Veronica Ferrari, supervisor Luigi Spinelli, is one of the few theses directly related to Milanese architectural culture; the theses “Opening a Lexicon of the New Social Spaces” by Madalina Roxana Ghibusi, supervisor Pierluigi Salvadeo, and “Publicness in Transition” by Jingwen Shan, supervisors Laura Montedoro and Marco Bovati, return to focus on public space.
In April 2021, Vazira Parisi obtained the title, a joint degree with the Technical University of Munich, with a thesis titled “Rethinking the Architecture of the Renewable-energy Power Plants: Potential Stations to Transform the Social Flows” supervisors Guya Bertelli and Sören Schöbel (TU München). Other theses include “The Lean City. Design, Experience, New Media for Millennials and Generation Z” by Federica Marchetti, supervisor Pierluigi Salvadeo; “Design the Possible. Experiencing Devices for the Modification of Marginal Contexts” by Gianfranco Orsenigo, supervisor Andrea Di Franco; “Virtual Experience in Augmented Exhibition” by Tan Shilong, supervisor Luigi Cocchiarella.
In 2022, Maryam Khatibi, with the thesis titled “Adequate Urban Housing: Case Studies of Novel Settlements of Housing Cooperatives in Zurich, Switzerland. Intermediate Spaces: Enablers of Social Connection”, supervisor Alessandro Rogora, obtained honours. In the same session, two candidates supported by



Bogdan Peric, 2023. *Typological studies of the semi-private space. Design challenges of the Soviet Moscow dvor experiment.* Supervisors Alessandro Rocca, Camillo Magni, Yuri Grigoryan.



# Double PhD Programs

the Chinese Scholarship Council also obtained the title: Luyi Liu's thesis focused on the comparison between Chinese and European cultures in the field of representation of space and landscape: "The Accessible Frame. Research on ancient Chinese Landscape architecture", supervisor Luigi Cocchiarella; Xin Xu's thesis "The architecture of contemporary art museum in Shanghai: from the inside to the outside", supervisor Pierluigi Salvadeo, explored the architecture of the new exhibition spaces with a focus on the rapid recent mutations of the Chinese scenario.

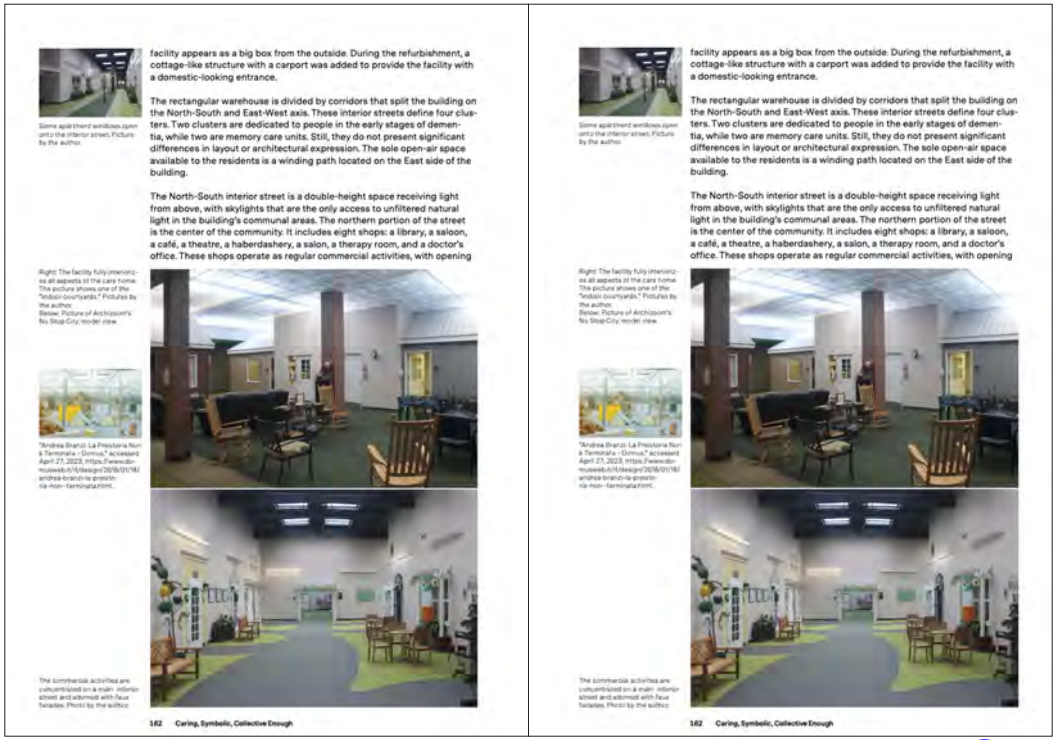
In the second session of 2022, Greta Allegretti graduated with the thesis "Architecture and UNESCO buffer zones. The architectural project as a tool for the archaeological sites in fragile territories. From safeguard planning to the development of design models for the enhancement of heritage ", supervisor Pier Federico Caliari (Politecnico di Torino); Chiara Pradel graduated with the thesis "Monumental Ground. Infrastructures, Construction Sites, Landscape", supervisor Alessandro Rocca.

In 2023, there were eight graduates, two with double doctorates: Carola D'Ambros with the Ecole Nationale Superieure de Paris Versailles studied the Milanese architecture of interiors between 1948 and 1972, supervisors Imma Forino and Annalisa Viati Navone; Alessandro Benetti researched, with the Ecole d'Architecture de Rennes2, on the coastal post-war developments in France and Italy, supervisors Marco Biraghi and Hélène Jannière. Bogdan Peric studied the Moscow soviet courtyards, under the guidance of Alessandro Rocca, Camillo Magni, and Yuri Grigorian; Alberto Petracchin produced research on the Ark archetype, supervised by Sara Marini (IUAV) and Alessandro Rocca; Wenying Song, supervised by Ilaria Valente, studied the urban form of the city of Quanzhou; Qian Zhang researched on urban microclimate, driven by Alessandro Rogora; Beatrice Balducci studied the safe spaces for extraordinary events, under the supervision of Alessandro Rocca.

In 2024, Enrico Miglietta, a double doctor from Polimi and Ku Leuven supervised by Gennaro Postiglione, Annalisa de Curtis, Johan Van Den Berghe, and Thierry Lagrange, presented his research in an unusual venue at the



Alberto Geuna, 2024. *Caring, Symbolic, Collective Enough. Reading the Dementia Village as a Non-healing Utopia.* Supervisor Pierre Alain Croset.



# Research Tracks and Shifts

University of Valencia, Spain, on April 11th. A good number of other candidates are now ready to defend before the end of the year 2024: Gino Baldi, Pietro Brunazzi, Amath Diatta, Alberto Geuna, Sara Ghirardini, Chiara Lionello, Claudia Mainardi, Adrian Moredia, Valerio Sorgini, and Greta Taronna.

**The Topics' Shifts**

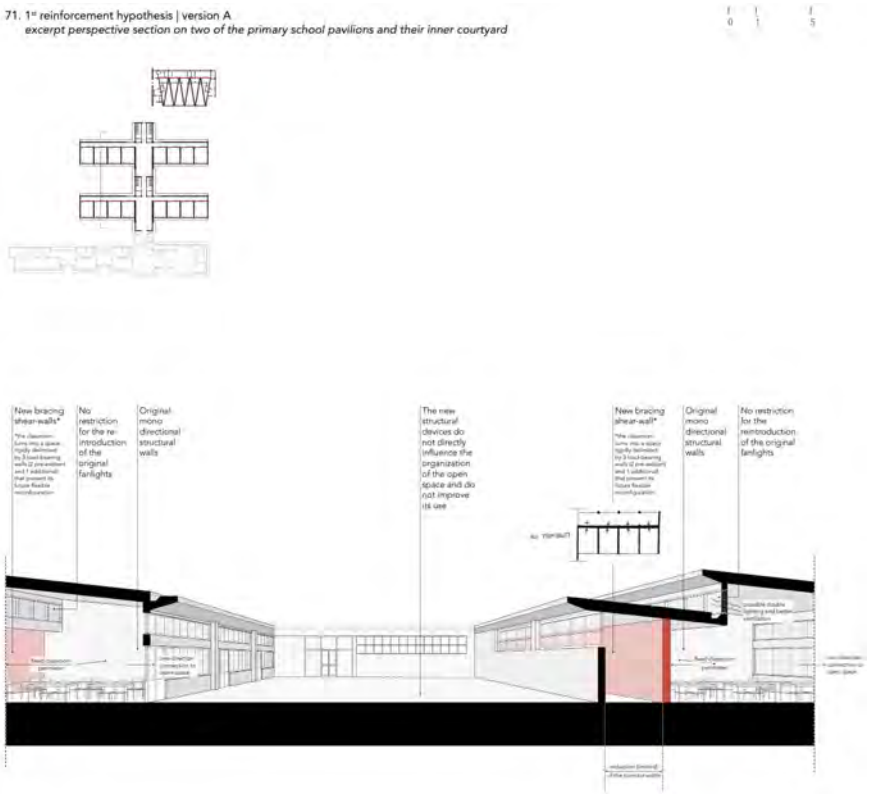
Considering the chronology of the AUID program, it is evident that many points of interest varied and intruded into different fields. The oldest theses are primarily directed towards the scalar extremes of the discipline, the interiors (Raffa 2017, Kassem 2017, Alsobahi 2017, Camponogara 2018) and the urban and territorial studies (Mion 2017, Ferriero 2017, Benacer 2017, Moqaddam 2018, Afshari 2018, Giordanelli 2018, Galateo 2018, Frigerio 2018, Zanda 2018, Bonifati 2018). The urban studies stand as a constant reference for the works of Federica Marchetti on the "Lean City" (2021), Greta Allegretti's study on the "Unesco Buffer Zones" (2022), a topic studied even by Sara Ghirardini's "UNESCO tools to tackle heritage-related territorial fragility" (2024). Alessandro Benetti and Wenying Song developed historical studies respectively on the coastal urbanization in France and Italy (2023) and the "Quanzhou Urban Morphology" (2023); Chiara Lionello explores the urban condition through "The Interior Attitude of Contemporary Space" (2024). Urban interiority is also the topic of Amath Diatta's "Underground Hubs" (2024).

The studies on interior design are the focus of Xu Xin's "Art Museums in Shanghai" (2022), and the Carola D'Ambros historical investigation on the "Interiors and Synthèse des Arts" (2023). Chiara Pradel's "Monumental Ground" (2022) introduced, for the first time, a point of view that is based explicitly on landscape architecture, also adopted by Silvia Mundula in her ongoing research on "Contemporary Planting Design" (2024).

In 2018, the graduates' research focused on architectural topics: Michele Gerli studied the "Design for the renovation of post-war large public housing estates"; Luca Faverio investigated the design for the new schools in Mozambique; Francesca Zanotto studied "Architecture in the age of the post-consumption"; Martina Sogni reflected on "The contamination as a new paradigm of



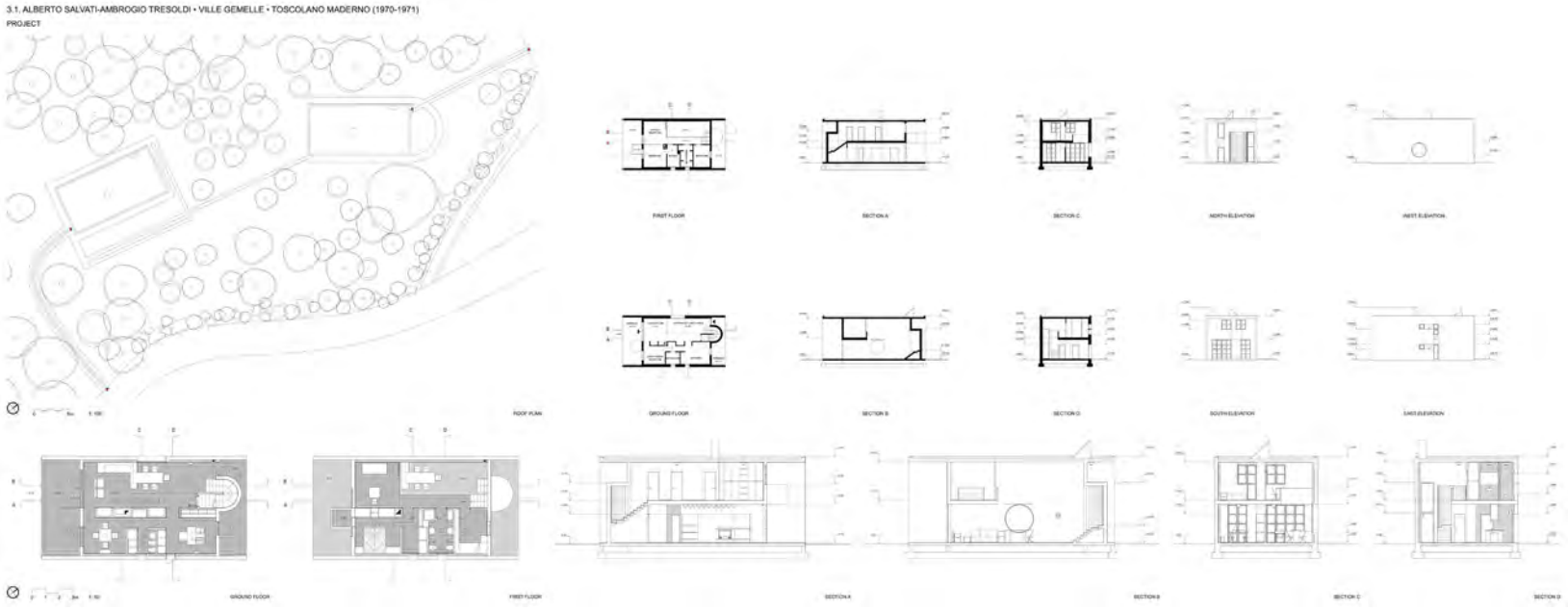
Greta Maria Taronna, 2024. *Re-active schools. Methods and design actions for the school heritage within seismic Italy.* Supervisor Ilaria Valente.



Carola D'Ambros, 2023. *Interiors and "synthèse des arts": a Critical Investigation Methodology. Architects of Milanese culture, between French and Italian artistic and architectural Influences (1948-1972).* Supervisors Immacolata Concezione Forino, Annalisa Viati Navone.

the contemporaneity". Philological is the approach of Veronica Ferrari's work on the architecture of the Milanese architect Luigi Caccia Dominioni (2020). Some theses overlap design and representational questions, like Shilong Tan's study on "Virtual experience in augmented exhibition" (2021), and Luyi Liu's research on "Ancient Chinese Landscape Architecture" (2022). Gianfranco Orsenigo follows the "research by design" method, studying some "devices for the modification of marginal contexts" (2021). Later, Maryam Kathibi graduated with a study on the "Housing Cooperatives in Zurich" (2022). Architecture remains at the focus in Alberto Petracchin's "Ark Architecture" (2023), and Bogdan Peric's "Semi-private Spaces in Moscow" (2023).

A deep investigation of archival materials was conducted by Enrico Miglietta, who led extensive research "by drawing" on some projects by Carlo Scarpa, Sigurd Lewerentz, and Juliaan Lampens (2024). Architectural design is at the centre of



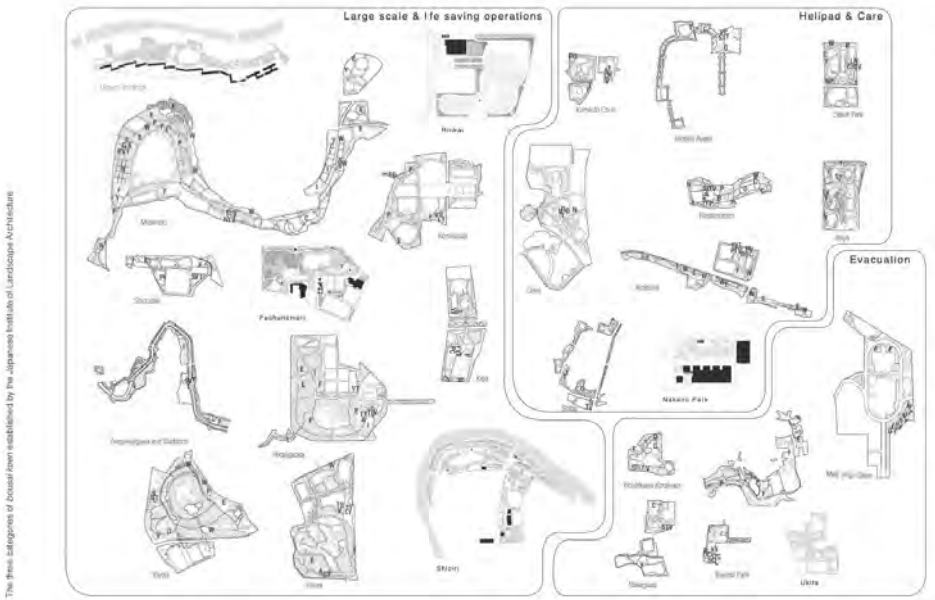
# Housing
# Climates
# Nature-inspired Design

research by Valerio Sorgini on “Social Housing Districts” (2024) and Greta Taronna on the recovery of “The School Heritage within Seismic Italy” (2024). Alberto Geuna develops a study on the “Dementia Villages” (2024). Moreover, architectural issues are researched by Gino Baldi on the “Reasons of form in structural components” (2024) and Pietro Brunazzi’s “Projects of Reconstruction” (2024).
In 2020, some interdisciplinary-oriented theses appeared, widely open towards other cultural, historical, and geographical horizons. Maria Mikaelyan studied “Newly Established Museums of Political Histories in the Post-Soviet Countries”; Gerardo Semprebon studied “Design Challenges in a Village of Fujian Province”; Jingwen San studied “Public Spaces in Private Developments”; Roxana Madalina Ghibusi crossed urban analysis with social studies investigating the “New Social Spaces”; Francesca Berni developed a “Discourse around Heritage and Design for a Landscape Reactivation in the Fujian Province”.

In 2021, there is an opening towards more technological aspects, a route that will be implemented further in the following years, with the Parisa Vaziri thesis on “the Renewable-energy Power Plants: Potential Stations to Transform the Social Flows”, a double doctorate in partnership with TU Munich. This reflection on the overlapping of technical, social, and infrastructural paradigms is the frame of Beatrice Balducci’s research on the “Safe Spaces” (2023) and Kevin Santus’ research on “Nature-Based Solutions” (2024). Clearly embedded into a technological culture are the research by Qian Zhang on “Microclimate Oriented Architectural Design” (2022) and Adrian Moredia on “Innovative Water-Based Cooling Systems” (2024). They pioneer a line that puts a difficult question, the set-up of a fertile common ground between physics, engineering, and architectural design.



Beatrice Balducci, 2023. *The Safe Space. Ordinary Architecture for Extraordinary Conditions.* Supervisor Alessandro Rocca.



# THIS IS ARCHITECTURE

## Gennaro Postiglione


Per Olaf Fjeld, *Architecture as an intermediate space and interplay with nature* (private notebook 1992) © Courtesy of the author.

This short reflection stems from the need to become aware of a phenomenon that has been stressing architecture in recent years: becoming a corollary accessory to the functional and performative issues that exclusively characterise the discussion and implementation of architecture in our contemporary world, subverting the very identity of the discipline.



Two recent culturally and geographically distant works deal with this dangerous drift. *The Power of Circumstance. Architecture and Creative Independence*[1] (2020), by Per Olaf Fjeld, Professor Emeritus of the School of Architecture in Oslo, and *Questa è architettura*[2] (2022), by Marco Biraghi, Professor of History of Architecture at the Politecnico di Milano.

The first author, Per Olaf Fjeld, referring to the work of three masters of the Modern, Louis Kahn, Giancarlo De Carlo and Sverre Fehn, writes: "[...] they share the same professional engineering possibilities, materials and publications, but the qualities we appreciate in their work today do not rest upon these elements [...]; it is their ability to connect this knowledge to their inner knowing that makes the difference. It is not the available design elements, new materials, etc., of their specific period that primarily make these works so appreciated.

These examples tell us that individual "knowing" is not static but transforms [...]".[3]

The second one, Marco Biraghi, taking up reflections by famous architects and theorists of architecture - from Schinkel to Loos, from Boullée to Rossi, starting from Vitruvius - reminds us that, as Luigi Snozzi used to say, architecture is born from real needs but goes beyond them […], if you want to discover it, look at its ruins". Biraghi recognises in the current architectural production a lack that he identifies, in the first place, in the Loosian rigour of recognising architecture as architecture, when it is fully itself, and when it includes in itself that Stimmung that is proper to it.

As he writes in his book, "the labour (intellectual and physical) profused into the making of Architecture manifests the Philia (Love) of its author for it"[4]. It is well represented in the 1755 etching 'Allegory of Architecture' by C. Eisen, later used by Marc-Antoine Laugier as the cover for the second edition of his *Essays sur l'Architecture*. In the etching, the Mater (mother) admires with love (interpreted by the presence of Cupido) the Primitive Hut, presented as the archetype of any architecture. While probably stating, "This is Architecture!" A few years later, another architect would have made the same statement. In the last lines of his *Arkitektur*, Adolf Loos said, "[...] If we find a mound in the forest six feet long and three feet wide… something tells us: someone is buried here. That is architecture." "[...] If we find a mound in the forest six feet long and three feet wide… something tells us: someone is buried here. That is architecture."[5]

Laugier and Loos, like many others before and after, affirm that architecture always goes beyond its function,

from which it always stems. Also, Valerio Olgiati, together with Markus Breitschmid, refer to it in their *Non-Referential Architecture*[6], where they theorise the only scope of Architecture is Architecture in itself, overcoming at the same time both function and usages. In my understanding, the *Meaning of Artefacts in Reflexive Design*[7] relies on the capacity of their authors to activate design productivity and able to tackle architecture foundations and/or elements and/or principles from within the discipline and via architecture. At the same time, they are answering to the specific program from which they stem out and have to – initially – respond to. It is a kind of double reflexivity: one by the authors and the other by architecture in itself, transforming the author into a sort of 'minister of a profane cult'. I – as probably all architects – admire this in the so-called masterpieces. It is not their functional program, performances, or technology capacity but their ability to connect the available knowledge to their authors' 'individual knowing'.

This is exactly what, for instance, Sigurd Lewerentz does in his church building in Klippan, in the South of Sweden (1962-66). There, he engages in an investigation of the relationship between construction and decoration (traditionally, the latter is understood as a representation of the former), which he had already started a few years earlier in the design of Bjorkhagen parish in Stockholm (1956-60). In Klippan, Lewerentz entrusts decoration with a completely new and different role: it carries, for the first time in the history of architecture, its own independent (from construction) values. He does it recurring in an extraordinarily crafted way. Lewerentz disrupts the traditional decoration role from inside the architecture discipline, paradoxically using construction as a paradigm for manifesting its autonomy, recurring to an orthodox and skillful managed building knowledge in a completely non-orthodox way[8], transforming building knowledge into building 'individual knowing'.



Notes

1. Per Olaf Fjeld, *The Power of Circumstance*. Copenaghen: Architectural Publisher B 2020.
2. Marco Biraghi, *Questa è architettura*. Torino: Einaudi 2021.
3. Per Olaf Fjeld, *op.cit.*, 85.
4. Marco Biraghi, *op. cit.*, 99.
5. Adolf Loos, *Arkitektur* (1910); trad. It. *Architettura,* in *Parole nel vuoto*, Adelphi: Milano 1972, 255.
6. Valerio Olgiati, Markus Breitschmid, *Non-Referential Architecture*. Zurich: Park-books 2019.
7. Gennaro Postiglione, *Artefacts in Reflexive Design*. In Margitta Buchert (ed.), *Products in Reflexive Design*. Berlin Jovis 2023, 52-67.
8. Enrico Miglietta, Gennaro Postiglione, *Sigurd Lewerentz. The Paradox of Construction*. In Jonathan Foote. Hansjörg Göritz, Matthew Hall, Nathan Matteson (eds.), *Lewerentz Fragmentz*, Barcelona: Actar Publishers 2021,189-201.

# ARCHITECTONICS – SO WHAT?

Luigi Cocchiarella

Skizoid, by Joris Putteneers. Source: [1], p. 173.

That is a permanent question that keeps architecture alive through permanent changes. The Oxford Dictionary proposes a double option: architectonics as the science of architecture and architectonics as the systematic ordering of knowledge. It looks reasonable, given the extensive meaning of the word ‘architecture’ (i.e. in literature, music, and so on). Nevertheless, it requires revisiting in the age of what Ludger Hovestadt calls “Digitality”. Hence, the question also pertains to higher university education in architecture, including PhD programmes.



For this purpose, we will try to dive a bit more into the concept of digitality, as it is presented in the book *Atlas of Digital Architecture*, to which we will refer here, and of which Hovestadt is the leader editor, also offering hints that are likely to be useful for either teaching boards or communities of candidates.
First and foremost, digitality has become a kind of worldwide status, widely pervasive, often intrusive, of which it is hard, if not impossible, to get rid. In line with this assumption, a paragraph titled *Computers are not machines* is dedicated to it. Differently for machines, computers, indeed, are basically not designed for accomplishing a specific task, but in various forms, they can be found almost everywhere and can be used to do almost anything.
Another relevant point is that the power offered is immeasurably higher than that offered by any analogue device. Consequently, power calls into question corresponding responsibilities. Not surprisingly, some counsel, far from the most banal common sense – sometimes against it, instead – is included here that may be useful to report. The list is ideally split into two parts: warnings and encouragements.
The first group belongs to:
_Don’t trust simple explanations
_Don’t trust quick fixes
_Don’t trust prophesies and promises
They speak for themselves. However, let us point out that they run in the opposite direction from the most popular opinions, that widely consider them – especially simplification and rapidity – some of the strongest points of everyday digitality, including in the field of education.
The second group belongs to:
_Do trust your intellect
_Do embrace complexity
_Do get into mathematics
_Do love the world in its abundance
Again, clearly, they encourage us not to get lazy just because we believe we can count on the power of digitality. Less than the others, the first one requires comments. The second and the fourth are linked since there are no chances to avoid facing complexity, on which the abundance of the world itself is based, and digitality may help to deal with it.
The third statement deserves a separate comment, to clarify misunderstandings or prejudices. Apart from the elegance, precision, and poetry of Math remarked in the text, let us add that Mathematics itself is a language and that the great scientific revolution that occurred between the 18th and the 20th centuries required no less creativity and imagination, necessary to figure out a totally new structure of space and logic than that usually recognised in Art. From this big theoretical novelty, even architecture has inherited a lot in

terms of spatial renovation, as well as architectural design, including the latest benefits of the computational approach we see nowadays. This connection with Math is not a new item anyway. Similarly, Renaissance painting could never have developed without the rigorous mathematical foundations of perspective, strongly supported by architecture as an even geometric reference system.

We are now approaching architecture since it integrates science and art, as well as the humanities and technology. All of them, again, nowadays fertilised and manageable through digitality.

Hence, there is a need for appropriate advanced digital literacy in higher university education programmes, which still needs to be designed in detail, as far as possible, and hopefully in connection with classic education.

The hybridisations among the physical, analogue, and digital spheres have changed the form of knowledge over time, turning it into a more fluid system so that traditional categories are no longer reliable and efficient to work alone on.

Here, the authors of the book are lapidary: “Let’s learn to bathe in the digital ocean”. It seems we have no chance since digitality surrounds us and interferes with us anywhere at any time, rapidly developing and changing. They recommend overcoming fear and diving into the process with patience and, most of all, with practice and perseverance, being aware that despite any effort for systematic learning, “ultimately, you have to let go”.

Entering this learning process with our own former background and individuality, without denying them or giving them up, is probably the only wise strategy against the widening of the digital divide, as well as, the digital illiteracy that will mean, in the end, illiteracy. It may need extreme experimental trials, daring to try to tame the means, before reaching potential shared visions. Again, we are faced with a phenomenon that is not new at all. With reference to our research field, new languages, tools, and approaches have consistently appeared at the turning points of the renovation of Architecture over time, and the corresponding paradigm shifts have been promoted by those who have been keen on and engaged in taking the risk of facing novelties, and finally managing them.



Higher University education can take a leading participative role in this process, especially in international contexts, such as our Doctoral School. Concerning architectonics in the era of digitality, according to Hovestadt and the other authors, nowadays, it has to deal with digital humans and digital architecture to keep and reconsider the fundamental link between humans and architecture. Architectonics itself is then to be considered in the new light of the interaction of physical and digital aspects in the present architectural environment, considered at a multiscalar level. It seems consistent with both the current science of architecture, and the current systematic ordering of knowledge. However, this does not destabilise the profound identity of architecture, which remains strongly in line with the Ancient Greek origin of the word, deriving from the composition of αρχή (principle) and τέχνη (techniques, at that time also referring to art), as well as, in this wide semantic perspective, with the fascinating interpretation of the architect as the prince of techniques.

Essential References

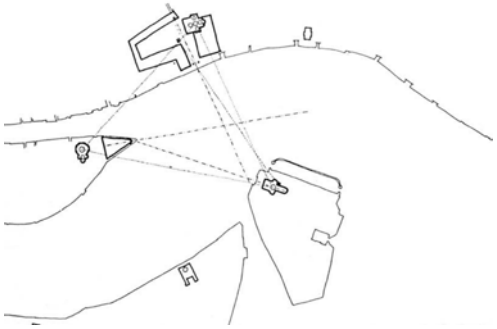
L. Hovestadt, U. Hirschberg, O. Fritz (eds.). *Atlas of Digital Architecture*. Birkhäuser. Basel 2020

M. Hemmerling, L. Cocchiarella (eds.). *IInformed Architecture: Computational Strategies in Architectural Design*. Springer, Berlin 2018.

J. Stevens Curl & S. Wilson (eds.). *The Oxford Dictionary of Architecture* (Third Edition). Oxford University Press, 2015.

# SITTING ON THE SHRINK COUCH

## Giovanni Corbellini



San Marco basin, Venice. Graphic interpretation by Giovanni Corbellini, 1989.

After being introduced in Italy lately, doctoral studies are slowly coming of age (schools are now selecting the candidates for the 40th PhD yearly cycle). For a discipline marked by a blurred identity like architectural design – between science, arts, and humanities and, especially, private and public interest – they provided a protected environment for self-reflection. As a candidate for the third cycle, I partook in this sort of ongoing and collective psychoanalytic session almost from the beginning, eventually getting on the other side of the desk.

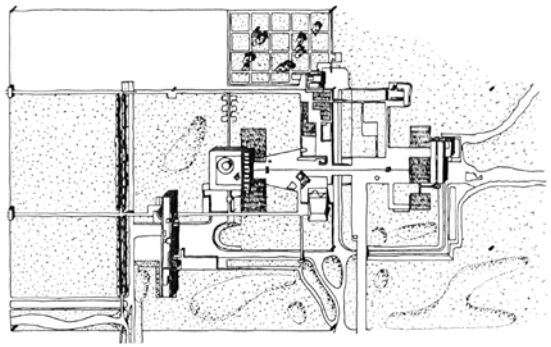


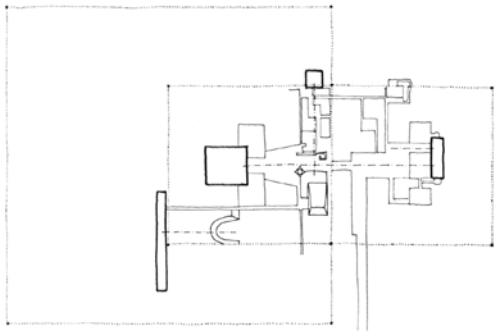
It is a long and wide experience of hundreds of theses and research proposals I came across in various schools and different roles (candidate, faculty, adviser, invited critic, referee, juror in selection and final assessment committees), which offers me a sufficiently reliable overview on the evolution of our discipline's theoretical elaboration and how PhD studies interacted and interact with it.
A thorough analysis able to grasp the many facets, causes, and effects such a complex endeavour entails would ask, of course, many pages. I will, therefore, try to focus here on just one major trend that emerged over time. My impression is that by sitting, as it were, on the shrink couch, architectural design turned this self-consciousness investigation into the recognition of its basic helplessness. In other words, the cure contributed to shifting our personality disorder from narcissism (or disciplinary autonomy) to dissociation. Shreds of evidence of this trend are increasingly emerging among doctoral production: more and more 'architectural design' labelled papers barely report the terms 'architecture' or 'design', let alone their own objects, tools, scope and meaning, to the point that cases and bibliographies mostly list unknown references (at least to me). This unfortunate widespread phenomenon takes different forms, according to the candidates and their advisors' level of architectural disenchantment: either because of a critical judgment about the way the discipline is being practised nowadays – still implying the possibility to improve it –or a hopeless distrust about design's positive potential. The former attitude has been recently bolstered by the pressure of urgent political, social, ecological, and economic issues and further accelerated by targeted scholarships and research grants. The stakes set by these issues are so high and contradictory that the architectures so far produced (which could not help to compromise with reality) inevitably fail to give viable answers. According to this attitude, if and when state-of-the-art projects are investigated, they are eventually disapproved, making any focus on disciplinary results pointless. Its logical aim would be, therefore, to claim space for unprecedented design solutions: a quite ambitious goal if carried out according to an engineering problem-solving gaze that becomes practically unattainable for architects, especially within the school and the suspension of reality it provides (which makes designing within doctoral programs highly questionable). What these candidates usually get to are manifestos collecting poetic-ethical intentions that hardly translate into

consistent PhD dissertations.
When even this feeble confidence in the discipline's potential fades away, architectural design is considered dangerous, even vicious. The most politically engaged interpretations (currently very fashionable) consider it a socially exploitative and physically extractive activity. Any architectural contribution should, therefore, dissolve into collective, participatory, bottom-up practices, shifting our role from authors to editors, from 'writers', let's say, to 'readers'. A similar passage from the materiality of architecture to the reproducibility of processes is also claimed by an opposite, basically technocratic approach, according to which environmental transformation must be kept under strict vertical control, reducing the design's elbow room in order to obtain 'correct' results. Collections of best practices and elaborations of guidelines that extend the urban-planning normative gaze on architectural design are the blander, often unintended, manifestations of such an attitude, further probed by investigations specifically focussed on methodological issues. These latter, paradoxically rooted in the Enlightenment revival that nurtured the disciplinary autonomy debate, pretend to apply a 'scientific' – namely deterministic – gaze to design by outsourcing, for instance, typo-morphological surveys to software applications or modelling the socio-technic negotiations of design procedures. Overtly, the focus here is on building rather than architecture, on other actors rather than designers, and the same goes for the many kinds of research driven by problem-solving approaches. Whether these terms or fields precisely overlap or not is a matter any doctoral researcher in architectural design should be interested in. By recognising a gap, a parallax, or a deviation, and looking at it, the possibility of meaningful research opens up for us as architects. Needless to say, a step aside from the prevailing ontological narratives and a closer proximity with experimental projects would provide both a critical distance and a specific, disciplinary vantage point: if so many years on the PhD shrink couch have taught me anything, is that self-analysis is not meant to heal; at best, it helps scholars to live with their own disciplinary disorder, making it productive and rewarding, not only for them.



Le Corbusier and Pierre Jeanneret, Capitol, Chandigarh, 1950. Graphic interpretation by Giovanni Corbellini, 1989.





# WHAT TERRITORY FOR AR-CHITECTURE?

Andrea Di Franco

Reverse-Lab Project (2023, ongoing), New space for contemporary art in the basement of the first ray of the prison of San Vittore, Milano.

The field I have been trying to explore in my university research over the last few years concerns architectural design in critical areas. By 'critical areas', I mean those in which the conditions of environmental, economic and social degradation are evident and at the same time are lacking the economic, political and cultural conditions that could activate and support a thought project; it is also challenging  to maintain the effects of any transformation over time.



The meaning of the term 'project' is taken in a comprehensive sense and concerns any drive for change towards 'better' conditions in the anthropogeographical environment.
This premise is necessary to express the meaning of the title of this intervention: it borrows from that fundamental text of Italian architectural culture that Vittorio Gregotti, in the 1960s, placed as a frame of reference within which the role, the scope and the tools of the modern architectural project are located. Its position in the trajectory of twentieth-century modern culture, guided in the field of architecture and urbanism by phenomenological and structuralist thought,[1] determines a fundamentally positive critical project thinking within a rational process that leads from analysing needs to determining appropriate responses. The project is considered a logical tool capable of composing, as the last piece in a complex process, a spatial form that is coherent with the territorial conditions (in the technical, geographical, social and economic sense).
This text is accompanied by other fundamental contributions from that decade (A. Rossi, G. Grassi, C. Aymonino),[2] which share the same assumptions and are rooted in the trust in the project inherited from the previous generation of protagonists of the modern movement, updated by a more sensitive reflection on local, historical and geographical specificities.
Still, within the context of Italian architectural culture, a slightly elliptical voice in relation to the specific scope and methods of the project was that of Giancarlo De Carlo, who extended it towards the theme of structural and multidisciplinary co-authorship, including the practice of 'participation' in political, economic and social life.[3]
Representing a US-based school of thought linked to the Northern European one, twenty years later, in some of his more mature writings, Yona Friedman takes a further step,[4] after the period of postmodernist nihilism, towards a revision of the scope of reference of the architectural project from within the discipline: he notes the need to incorporate into the territory of architecture the themes of poverty, informality and disorder, which had hitherto been considered critical phenomena rather than resources on which new specific design logics and practices could be found.
This further extension of the semantic scope and practical application of the project leads me to turn my gaze to those contemporary territories populated by de-territorialized inhabitants, linguistically and culturally fragmented, left on the margins of government policies and

market dynamics, generators of cultural, environmental and civil degradation phenomena, theatres of incessant conflicts over questions of survival, marginalized in the geographies of the vast majority of contemporary urban phenomena; territories that require the attention of design thinking as a current, urgent territory of architecture.
The research, which reveals new codes of architectural projects capable of addressing these critical territories, is rooted in the path synthetically traced through these references, taken as emblematic cases of a vast and articulated theoretical-practical reflection.
The main keywords of this research are experimentation, belonging, relationship, anti-fragilization (or empowerment), narrative (intended as the construction of a shared structure of language), and mediation. Within this system of codes, the architectural form, whether exchanged as a shared word or expressed as a built fact, takes on a potent role as a territory on which to experiment with the possibilities of the project, to compare options, to mediate differences and conflicts, to activate latent planning at all the different levels of the process.[5]
The experiments of the research group to which I belong were carried out concretely in the marginal areas of the city, which have directly explored some suburbs and all the detention facilities in Milan. These are just two examples of territories where architecture (and its project) is currently searching for its own new codes to decipher the enigma: the endless informal conurbations of the world's megacities,[6] the refugee camps of populations in transit or on the run,[7] the cities devastated in the ever-present world theatres of war[8], but also those widespread cities made up of fragments nestled in the distant and hidden places of our bright European cities[9].
I believe that this is the territory of contemporary architecture that truly challenges the project to reformulate itself.



1. V. Gregotti, 1966, *Il territorio dell'architettura*, Feltrinelli, Milano, Ed. 1987, pag. 7.
2. A. Rossi, 1966, *L'architettura della città*, Marsilio, Padova; G. Grassi, 1967, *La costruzione logica dell'architettura,* Marsilio, Padova; C. Aymonino, 1977, *Lo studio dei fenomeni urbani*, Officina Edizioni, Roma.
3. See, on the topic: Casabella 421, 1977, S. Bracco, D. De Masi, G. De Carlo, G. Osti, E. Ripanti, A. Tarquini, G. Porrazzini, S. Giulianelli, G. Muratore (ed.): "Il nuovo villaggio Matteotti a Terni: un'esperienza di partecipazione"; Casabella 422, 1977, G. Grandi, "Partecipazione e potere".
4. For example, see: Yona Friedman, 2003 (first ed.), "L'architettura di sopravvivenza", "La città povera"; in: *L'architettura di sopravvivenza, una filosofia della povertà*, Bollati Boringhieri, 2009. The writing also describes some of the author's experiments as an architect, as a technical support and facilitator of self-planning and self-design experiences.
5. Not being able to delve into these key points individually, I refer you to these previous contributions of mine, in which we try to articulate their meaning in specific contexts: "Di Franco, A. (2021), Il progetto del progetto", in: A. Di Franco, M. Frangipane, G. Orsenigo, *Le domande del progetto, sperimentazioni negli ambiti urbani*, Maggioli. Di Franco, A. (2021). "Un progetto per luoghi orfani del progetto." In E. Fontanella (Ed.), *Rigenerare Periferie Fragili. Posizioni sul progetto per le periferie urbane*, pp. 46-50. Siracusa: Lettera Ventidue. "Progetto e carcere: un problema aperto." In P. Bozzuto (Ed.), *Sport, spazio e società. Una riflessione progettuale a partire dal carcere*. In Territorio n.102, pp. 26-34. Di Franco, A. (2022). "Alienation and Belonging; Identity of People, Care of Space, Project Research." In G. Allegretti, C. D'Ambros, C. Lionello, E. Miglietta, V. Sorgini, G. Taronna (Eds.), *Architecture Form(s); Identity Spaces for the Absence of Memory*, pp. 135-151. Siracusa: Lettera Ventidue.
6. In Brazil alone, there are estimated to be more than 11 million people living in favelas according to data from Brazilian Institute of Geography and Statistics.
7. 110 million people, source UNHCR, December 2023.
8. According to the most recent estimates from the Peace Research Institute in Oslo based on data from the Conflict Data Program in Uppsala, 2022 saw a quarter of the world population living in countries at war: it means that there are two billion people involved in conflicts that have caused forced displacement.
9. According to data from the European Federation of sector associations, the homeless people who populate the cities of the European Union are approaching one million 'inhabitants'.

# THE ARCHITECT RE-SEARCHER

## Pierluigi Salvadeo

Pierluigi Salvadeo and Remo Dorigati, Joint School of Design and Innovation Centre, Xi'an Jiaotong University & Politecnico di Milano; plan of the ground floor.

I think that in any attempt to define the role of research in the field of architectural design, it is necessary first of all to ask what is the meaning of the project in relation to the current conditions of urban space, and, more generally, of inhabited space.



These are constantly changing conditions that are connected with some important factors like information and communication technologies, as well as with new strategies for the governance of services and spaces and the current genuine and responsible involvement of people in processes of use and choices relating to the qualitative aspects of the spaces assigned to host their actions. Consequently, it is not only the usual forms of space that have changed today. What has been modified above all is the idea of space itself, the physical and mental form that we attribute to it in relation to our actions, even the most everyday ones. Indeed, I would say that this is especially true about the latter. We are dealing with the consequences of no longer seeing ourselves as part of a circumscribed and identifiable community, from which derives the fact that the ideal form to give space can no longer be described in terms of universally agreed schemes or definitions. Space today has a less and less stable and clearly defined physical identity, and its characteristics are expressed instead by the dynamics of the material and immaterial flows that pass through it. Melvin M. Webber, thinking about the future of the city toward the end of the 1960s, already imagined that the age of telecommunications and mass mobility, which at the time meant chiefly the automobile, would radically alter the idea of the gathering place. The concentric clusters of the cities of the past were transformed for Webber into new kinds of "areas of association", introducing the new (for the time) idea of "community without proximity" (Webber 1964 and 1974). Nothing could be more relevant to the present day than this intriguing definition, which describes with surprising accuracy the composite and multidirectional condition, lacking predominant hierarchies, that now hold sway. Increasingly, we are forgetting the idea of space as a place to put relations of proximity into effect. In short, we have almost lost the sense of physical space. What remains intact, however, is the ideal contiguity between different localities, which can be represented by a spatiality of another kind: services, information, images, scenes, brands, advertising and so on. The result is that the city can be considered to be everywhere and in everything (Amin and Thrift 2001), outdoors as well as indoors, in actions and things, in the urban as well as the non-urban, in the real and in the virtual. What seems particularly interesting about contemporary space is the fact that since it is no longer possible to come up with a precise definition of its characteristics, we are increasingly obliged today to picture it in our imagination. The practice of design

has always imagined space prior to its realization, but what characterizes the present moment is the fact that space is now subjected to a constitutive process undergoing continual evolution due to the endless possibilities of inventing a use for it irrespective of its location or its physical form.
Hence, there is a need for research into the architecture project that would be able to describe ever more composite situations rich in reciprocal relations. A research that would be able to treat the architectural project as a synthesis of different forms of knowledge. A research into architectural design that would become increasingly entwined with the design itself. The logical sequence with which different inhabited spaces are positioned concerning one another has now changed. Everything has got mixed up, and each action shades into the previous or subsequent one. It could be argued that living in the spaces of our cities today, whether indoors or out, private or public, amounts to taking part in a continuous creative process of regeneration of the spaces themselves and that new connections of meaning are profoundly changing the way we look at and classify each setting. Obviously, none of this takes anything away from the classical definitions we are accustomed to give to spaces (public or private space, square, street, house, public building, etc.), but we ought to be aware of the fact that the working condition of the architect and the research connected with it have grown highly complex today. So, we are talking about a plural and diversified approach to the design of architecture that is able to view problems from a lateral perspective in order to meet the multiple goals and requests of different users operating on different scales of intervention.
The many facets of architectural thinking and the varied possibilities of application that derive from them allow architects to respond in various ways to the needs and demands of contemporary life, drawing on other levels of competence and, if necessary, crossing the narrow boundaries of the profession. It is here that the importance of research lies. Climate change, depletion of resources, migration, sustainability, web-based relationships, virtual space, artificial intelligence, etc.: our time is characterised by a whole range of different questions that are often interconnected but not infrequently treated separately or even viewed as distinct from one another. Feeling his or her way around this complexity, the architect researcher is faced with the task of acting as a sort of creative mediator and bridge between different forms of expertise, someone who is able to shed light on complex and diverse processes. It is in this way that the role of the architect researcher is made clear, not only with respect to the finished architectural product but more generally in relation to a far more multifaceted set of questions that leads to the assumption of the unprecedented role of cultural mediator and curator, able to propose negotiations between existing conditions and future possibilities.



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# THE DOCTORAL RESEARCH AS AN EDUCATIVE JOURNEY, THROUGH THE THESIS

Ilaria Valente

Tony Garnier, La Cité Industrielle, 1899-1917.

Since the project is the primary way through which thought and knowledge are produced in our discipline, the construction of the thesis can become, if well conducted, a fundamental educative journey in the life of each doctoral student, accompanied by a set of experiences, research and project and openness to the world. What does it mean to construct research using the design tools? Can a project, in itself, become the focus of a doctoral dissertation? What forms are possible? Will doctoral students be more capable architects?



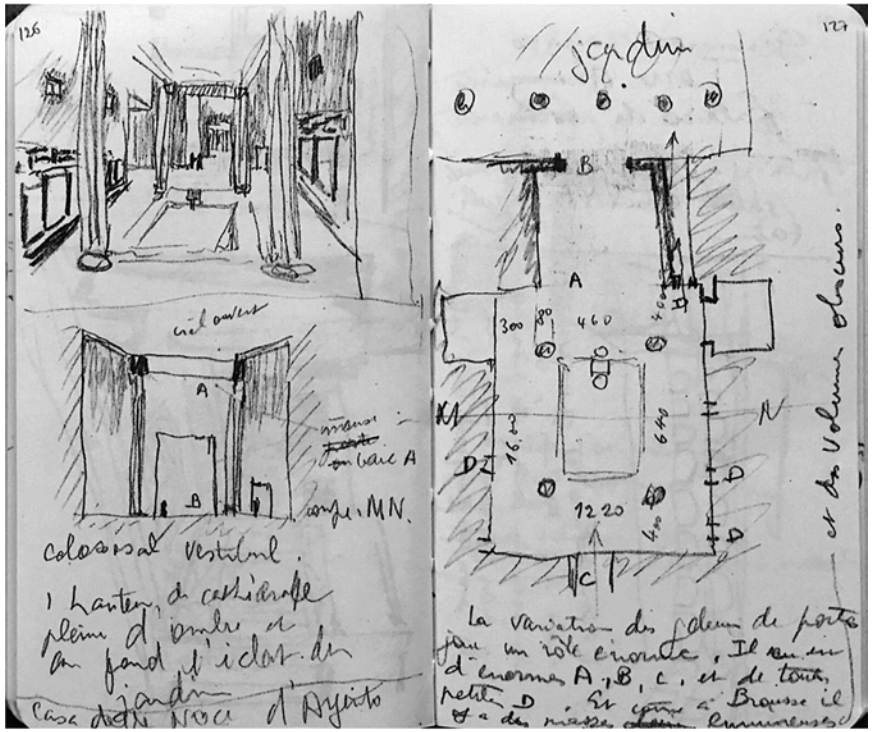
Over the years, not only in Italy, the PhD program has changed in its modes and structure. The candidates, in Architecture, are substantially "young" compared to other humanistic and scientific disciplines in which the doctorate has a long and established tradition.
In all actuality, the doctorate today is configured as the degree that closes the third cycle of university education, welcomes very young candidates who have just obtained a master's degree, and provides, in addition to the thesis, a didactic structure preparatory to research. It is no longer, therefore, as it might have been up to fifty years ago, the title that sealed the production of a personal and exceptionally original research, often begun even at a more mature age and with variable and entirely individual processing times.[1] From that period remains the relationship with the supervisor, a guiding figure and potential pivot of the educative journey, and the thesis, a thread of Ariadne in the labyrinth of the discipline, the setting up and formalisation of which represents an impervious mountain to climb for our young candidates.
So, doctoral students, a few steps after graduation, meet the vast and multifaceted terrain of research in the field of architecture, which aligns different themes and even different "styles" and must deal in more depth with specific disciplinary foundations in terms of knowledge, methodologies, and tools. For the most part, doctoral students are at a peculiar moment in their training as young architects: at the turning point where the deepening of their own (daily) design experience is crucial, at the beginning of a journey in which to refine their idea about the purpose of design, about the ethical and aesthetic aim of architecture, and in which to deepen their tools and orient their language, starting from their still inevitably fragile foundations and experiences.
Since the project is the primary way through which thought and knowledge are produced in our discipline, the construction of the thesis can become, if well conducted, a fundamental educative journey in the life of each doctoral student, accompanied by a set of experiences, research and project and openness to the world. The doctoral experience must become the framework to nurture one's critical consciousness with courage and scientific humility, and one must be aware that one goes through a period of life that is particularly fertile in terms of creativity and capacity for study and research.
Architecture research is embodied in projects, works, and writings, with a peculiarity: the production of knowledge through projects, artefacts, and processes, as well as research on and for

the project on the terrain of history and criticism. The project is also the tool to address the issue of interdisciplinarity since architecture has always faced the synthesis of knowledge that is its foundation and works "on the edge" of other disciplines.
Young PhD candidates face this peculiar interweaving; concerning this, they must build their path. Therefore, the thesis form is an essential choice because it represents the first systematic attempt at theoretical construction in architecture, the first scaffolding of personal research that will generate others.
What does it mean to construct research using the design tools? What forms are possible? The first stumbling block to be addressed is the correlation between writing the text and creating the demonstrative design work. Our discipline's "scientific background" construction is hybrid, encompassing texts, projects, and realized works. The strength of architectural design as a scientific and artistic research tool is applied to specific experiments "in the field" to solve concrete problems of the built environment. The production and comparison of such experimentations allow the development of criteria, methodologies and results that can be shared and transmitted. The "field" can be either a physical context, a theoretical, an experimental, or an oriented set of exempla.
But can a project, in itself, become the focus of a doctoral dissertation?
To be so, it must have a powerfully demonstrative character, but that is a goal that takes effort to attain. Returning to the theme of the educative journey, an ideal sample in this direction is that of Tony Garnier: thirty years old, he won the Grand Prix de Rome and designed the Cité Industrielle (1899-1904),[2] more than a hundred plates that would become a milestone in his research, and in his subsequent Lyon production, as well as in the history of modernity. However, research by design also means going down other paths, e.g. the one taken many years later by Peter Eisenman, who began, at the age of twentynine in Cambridge, under the guidance of Colin Rowe, his doctoral path that would lead him to set his research on Giuseppe Terragni (1963). The analytical and critical redesign of the Casa del Fascio and the Giuliani Frigerio house became the manifesto of his research on the form and language of architecture, fueled initially by the studies of Rowe himself and Rudolf Wittkower.[3]
Another form is research centred on the urban (or settlement, in broader terms) context between description and design. Through its specific tools, the design contributes significantly to the knowledge of the places, directed toward their modification and understanding of the design potential inherent in those places. The papers that are developed are, in fact, project-oriented studies of form that set the stage for the operationalisation of a concept, methodology or tool. Wanting, even here, to refer to exemplary research in the history of disciplinary research, one cannot fail to mention the *Studi per un'operante storia urbana di Venezia*, carried out by Saverio Muratori together with the students of the IUAV at the end of the 1950s. The surveys of Venetian Sestieri constituted the inaugural research of Italian studies on urban morphology and building typology. In a different vein, thirty years later, Bruno Fortier, with the IFA group, drew an *Atlas of Paris* (1989), proposing a stimulating comparison between the realised city and the imagined city, relocating unrealised projects, such as the one for the Bibliothèque Royale by Boullée, in the plan of Paris and declaring that "knowing how to read a city, how to appreciate its assets to draw up projects capable of offering it new points of escape, should be the most commonplace and the first of all exercises".[4] These samples are just a possible stimulus for thinking about the research meaning in our discipline, through design. The doctoral program today aims not only to train researchers to devote their lives to the academy but is actively experimenting with collaboration with the labour sector. Will doctoral students be more capable architects? Indeed, the PhD program trains stronger critical and cultural skills and thus gives tools to deal with a profession undergoing a significant transformation. Only vital research can offer the project the interpretive keys and operational tools for approaching contemporary issues: climate crisis, globalisation, urbanisation and social transformation.[5]

1. This is the case, e.g., of Michel Foucault, who presented in 1961, at age 35, already a free lecturer, the thesis "History of Madness in the Classical Age," directed by Georges Canguilhem, the inaugural research of his later studies.
2. *La Cité Industrielle* will be published in 1917.
3. Peter Eisenman's research has continued over the years, involving several collaborators. In 2003, he published *Giuseppe Terragni. Transformations Decompositions Critiques*, The Monacelli Press, New York, with a text by Manfredo Tafuri and a paper by Giuseppe Terragni.
4. Bruno Fortier, Institut Français d'Architecture, *La metropole immaginaire - Un Atlas de Paris. XIX -XX Siàcles*, Pierre Mardaga, Liège Bruxelles 1989.
5. EAAE Charter on Architectural Research, https://www.eaae.be/about/statutes-and-policypapers/eaae-charter-architectural-research/.

# WHAT ABOUT ARCHITECTURAL (DESIGN DRIVEN) RESEARCH TODAY?

Fabrizia Berlingieri




Le Corbusier, sketch of Nozze d'Argento house in Pompei (Le Corbusier, *Voyage d'Orient*, Electa, Milano 1987, carnet 4, pp. 126–127).

«This is the strength of weakness; that strength which art and architecture are capable of producing precisely when they adopt a posture that is not aggressive and dominating, but tangential and weak» (Ignasi de Solà Morales, 1996).

As practitioners and researchers in the field of architectural design, we rely on visual culture and non-verbal knowledge production, as they are deeply embedded aspects of our disciplinary training.



Experiencing architecture itself is a non-mediate action since it is based on the entire sensorial perception of the building construction with its spatial features, materials and light, and its later abstraction by translating that perception onto measurements, drawings and evoking imageries. The sketches Le Corbusier realised during his visit to the archaeological site of Pompei on the way back from Greece in 1911 exemplify a more than consolidated architectural way of knowing.The on-site drawings he elaborated on are not made for merely aesthetic purposes; on the contrary, they are working papers of measures, depictions of spatial proportions, annotated descriptions, and constructive details. Moreover, the Pompeii sketches are not just a memory of his *Voyage d'Orient*, but a basket of architectural references from which to draw for his subsequent architectural production (Roma 2020). Precisely, the intrinsic interplay – between observing, reporting, copying and inventing – represents the specificity of the architectural field, an attitude to visual acuity and projection, significantly differing from more conventional research activities. Quoting Olgiati, «Architecture stands on its own» (2018). Even so, the use of unconventional approaches, such as visual-centric or not text-based ones, can present real challenges in terms of recognition and transmission of research results within broader scientific and academic environments.

The question of what scientific design research is remains, indeed, an ongoing topic of discussion. This debate mainly encompasses how scientific standards apply to research methods that depart from more traditional paths. In that sense, the dichotomy that views (architectural) design research either as aligned with the logic-based approaches of applied sciences or as an outsider artistic poiesis is becoming outdated.

Beyond the recognition of a third culture grounding on abductive knowledge and generative design thinking techniques (Cross 1982), the recent debates also open up other perspectives, arranging a constellation of correlated terms, such as research on design (Zimmerman 2009), research through design (Rosemann 2000), reflective practice (Schoen 1983), research for design (Frayling 1993), and so on. These can be understood as slightly different facets of the ever-growing design-driven research concept that, although essentially starting from research areas similar to those of architecture, expands into other fields – including those of the hard sciences – as a new attitude to research. In front of the crescent wicked-problem reality (Buchanan 1992), the problem-solving approach is not enough;

it requires counter-intuitive thinking and its potential for new knowledge development (Roggema 2016). Profoundly divergent from the methodology axioms of the last century, this attitude introduces some emergent characters that sound central to rethinking contemporary architectural (design-driven) research paths.

**(1) A Curatorial Authorship**

What seems a kind of turn to research subjectivity today is, instead, the urgency of a strict positioning vis-à-vis the infinite flow of web-based knowledge challenging the contemporary generations of researchers and practitioners. If, in fact, previously, the 'state of art' or knowledge perimeter was limited to a defined cultural or geographical area, today, this limit is no longer conceivable nor desirable. For this reason, the ability to discern between the infinite panorama of sources becomes the only possible premise for a research that is, if not original, at least useful for knowledge advancement. Subjectivity comes into play in searching for delimiting a field, tracing intersecting histories, or unexpectedly stratifying cultural identities that are distant from each other or scarcely known. From this perspective, subjectivity is not a limitation; instead, it becomes a new form of curatorial authorship.

**(2) The Process as a Hybrid Methodology**

A quite interesting emerging aspect concerns the experimentation of new hybrid methodologies, which relates to the previous one. Very often in the pedagogical field, we talk about mixed methodologies, but what exactly are they? Rather than deploying a varied set – sometimes generically – we should refer to designing the methodology as a case-by-case process, that is, the ability to construct the research starting from its intrinsic features and not from general theorems, even if updated ones. This way of working, increasingly growing today in leading research institutions, addresses the value of precision and, perhaps, on the contrary, the weakening of the dream of 'research generalisation'. Alternatively, at least we can make a move on that. The research is generalisable not so much in the results but in the replicability of the approach, in trying to 'design' the research process itself and its results adequately and originally. These unconventional models are still underrepresented in research evaluation procedures and doctoral research experimentation.

**(3) The Revenge of Tools**

Whether originating from theory or phenomena, the design research processes are frequently marked by trial and error practices, similar to what characterises the investigative methods (Harrowitz, 1983) as heuristic procedures. The specific media and techniques implied in those procedures thus serve not only as necessary means for representing the results but mainly as moments of discovery itself, blurring the lines between analytic and generative items. In that sense, the research relevance – and maybe also its originality – relies not on the correctness of the methodological clarity nor the completeness of the process but on the tools and how they lead to unexpected discoveries. The tools hide knowledge acquisition processes that are often overlooked, particularly in architecture. The described aspects are just a few examples of the ongoing challenges that reformulating contemporary architectural research, starting from a design-driven perspective, can lead into the next future, staging the specificity of our discipline in the broader arenas of knowledge production and its transferability.



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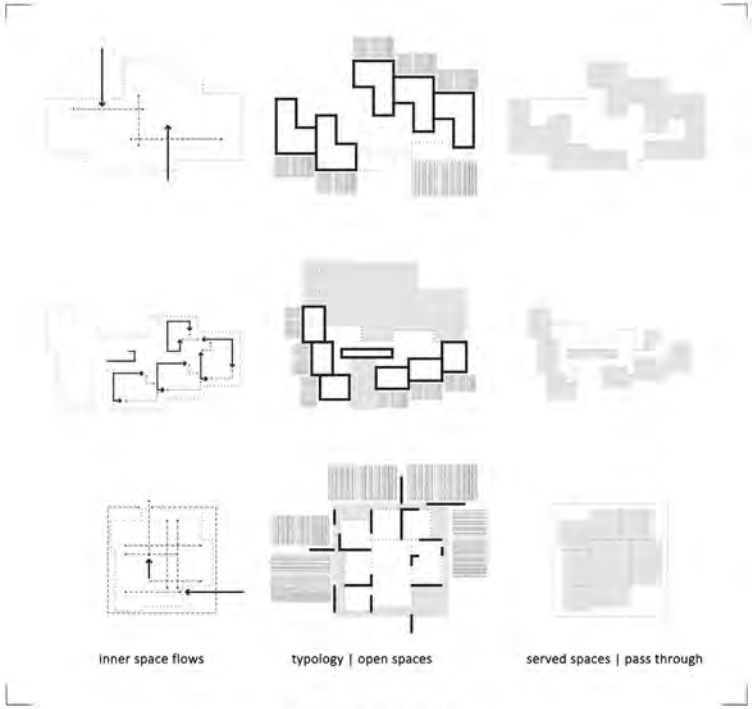
# LAYERS OF ARCHITECTURE IN THE EDUCATIONAL SPAC-ES

Barbara Coppetti




SCHOOLS SPACES DIAGRAMS
Delft - Herman Hertzberger, 1960-1981 | Nagele - Aldo van Eyck, 1954-1956 | Ivrea - Ludovico Quaroni, 1955-1964

Barbara Coppetti, Schools Diagrams, 2024.

The central role of school and lifelong learning in civil society has led to decades of radical changes to renew the educational sphere. School spaces represent emblematic places for contemporary scientific research because they involve the experience of each of us, and their regeneration touches on technical, regulatory, and cultural issues as well as branches of knowledge such as architecture, pedagogical teaching methods, anthropological and sociological issues.



The close connection between physical and virtual spaces, transnational mobility strategies, life experiences, and updated teaching methodologies characterise innovative learning environments and new growth opportunities for students and teaching staff. The innovative educational environments embody the awareness of the alteration of ecological-environmental systems produced by incorrect development models of the past and push towards the search for new balances in line with community policy: with the UN Agenda, the Green Deal, and NEB-New European Bauhaus, and with the PTE-Italian Ecological Transition Plan.

In giving shape to innovative educational contexts, the new ways of living space cannot avoid including the sense of belonging to nature and the environment in every transformation action. In this perspective, the UN 2030 Agenda places quality education for all at the centre of the 4th Sustainable Development Goal and emphasises how adequate school facilities and suitable learning environments are the preconditions for any hypothesis of sustainable development. Consistently, the NEB motions respond to needs beyond functionality, regulations and standards with an open attitude towards humanistic and social components.

In the era of transitions - energetic, democratic and demographic - it is necessary to codify that “subtle progress”, as defined by the philosopher Pascal Chabot (2021), made up of a strategic plan to change the future through scientific research that proposes renewed relationships between human actions and controls their effects on the environment. The planet, no longer an infinite reservoir of resources, becomes the place of a renewed confrontation with the essence of human existence; scientific research needs to absorb an attentive gaze capable of activating improvement processes, stimulating new scenarios, and welcoming humanistic components. In this broad context of scientific-cultural transition, of change not of the individual but of the community, it emerges how the renewal of learning environments influence people’s well-being, the degree of concentration, and the overall outcomes. With an open and projective gaze, architectural design cannot help but grasp the potential of the changes, shifting design culture towards a critical attitude and an elastic and adaptable perspective. Architectural design could guide the renovation of school structures, care for the quality and the recognisability of the open spaces and public areas over the school’s borders, and think of articulated urban systems. The project process needs to give a

specific shapes of the phenomena of to the renewal of the educational sphere following the cultural and technological changes aiming to configure mixed and dynamic learning environments with scientific methodological resources.
The strong cultural and political push has induced huge investments to deal with the regeneration of a part of an immense, worn-out, and inadequate school building heritage. It is a complex project considering that the existing school structures constitute a fragmented heritage, spread in the territory and, inevitably, in continuous transformation. Without a general vision and a strategic approach, the risk is to lose resources and have a minimum impact on society and people.
The key to understanding proposed in this brief text on the topicality of the topic and on the importance of addressing it seriously at the highest levels of doctoral scientific research intends to underline the extraordinary potential expressed precisely by the unavoidable movement of human action on built. Schools, at all levels and degrees, are emblematic places of continuous adjustments, movements, and variations over a long period. Therefore, the architectural project acts through overlapping layers and superpositions through progressive adaptations. These actions, in time, these periodic necessary updates, bypass entirely the question of the authorship of the project to replace it with an anonymous planning condition (Vesper, No.2, 2020).
Public schools in Italy constitute a heavy body made of huge inert matters but simultaneously dynamic, changeable, and adaptable over the decades to many needs, discontinuous changes, and flexible to updated paradigms.
Every time, the project must act carefully in negotiating what is there and what exists. Updating schools is part of a process because it is bound to the national school system, the rules and regulations for school buildings, safety, materials, components and energy consumption. At the same time, the project should update the cultural components and the path values. These aspects periodically induced changes and efforts to adapt, which, in the 80s and 90s, interrupted and broke the dialogue between architecture, the quality of spaces, and the science of education.
The scientific research aims to build strategic scenarios for recomposing the existing school environments so that they can again become a point of reference for local communities and civic unities capable of activating broader relationships and preparing themselves for space-time openings.
The research by design implies rethinking and empowering the role of the school institution, especially in marginal social contexts and peripherical zones where school dropout is still too high. The project of innovative educational spaces that involve the weakest groups must give physical form to fluid learning environments, to an open and widespread school that becomes a democratic place of growth, a theatre of meetings, exchange and enrichment where meaningful relationships can experiment. The research can respond to the contemporary world's need for change, strengthening the school's educational mandate.
The comparison between school administrations and the educational community becomes fundamental in the idea that the architectural project can respond to a principle of absolute necessity.
Learning and school spaces often result from a process of that repeats itself by inertia, reiterating outdated mechanisms. Scientific research should tend towards an articulated and stratified thought in which collective claim and aspiration could replace the individual dimension. Therefore, research by design could take advantage of the opportunity to trace new strategic narratives and conceive the innovative schools as places of an updated collective mythology within which everyone can identify.
Thinking of architectural research as a critical tool able to rebuild new balances and regain the value of duration - with tension, sometimes contradiction - the layers in the learning spaces become the outcome of that «possible necessary», which Vittorio Gregotti wrote in 2014. The architecture of learning spaces is proposed as a contemporary paradigm: knowing how to build the necessary new, starting from a critical judgment on the existing. Research by design on school spaces becomes significant because it starts from a critical interpretation of the state of things and then - only afterwards – can elaborate a proposal for a possible and necessary future new layers of architecture. The «possible necessary» thus effectively becomes the «structural substance of every architectural project».

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# WHAT DOES A PHD STUDENT IN ARCHITECTURE NEED TO LEARN?

Emilia Corradi

In his essay *Studenti*, Giorgio Agamben considers the difference between “researcher” and “scholar”, supposing that “study is a cognitive paradigm superior to research in every aspect”, and comparing the fields of human and natural sciences (Agamben 2017).
Architecture, by nature, combines humanist and technical-scientific aspects and, through design, stands as an inter-scalar and interdisciplinary fusion of learning, interpretation, and modification of the physical and social environment (MUR 2024).

The interdisciplinary nature of architecture, in turn, poses the idea of delimiting the field within the sciences in which it is placed to define whether the person engaged in it is a scholar or a researcher.
In the context of higher education, such as the PhD course in Architectural, Urban and Interior Design, it becomes essential to understand what figure is being formed: a researcher, or a scholar, and what instruction contributes to their education concerning the human and natural sciences components.
The boldness of this learning path can be seen in the oscillation of training balanced between the two sciences. Transferring the concepts of research and study from one science to another, mixing the different methodologies of investigation and figures, may appear "careless" (Agamben 2017). However, in the case of the learning path of an Architecture PhD student, this actually represents a necessary condition for keeping united the multidisciplinary and inter-scalar aspects required to indicate the fields and perimeters in which to move. Architecture is balanced between earth science and human science; it needs to be nourished by Humanist studies, but at the same time, it applies itself to the earth and to space. It finds its field of existence in cities, landscapes, and buildings, and it applies its research to that field. Architecture physically acts on the modifications of the earth but needs to deal with those who inhabit it and express different cultures each time.
"In the human sciences, research is only a temporary phase of study, which ceases once its object has been identified. Study is, however, a permanent condition. Indeed, study can be defined as the point at which a desire for knowledge reaches its maximum intensity and becomes a form of life: the life of the student – or rather, of the scholar. For this reason – contrary to what is implicit in academic terminology, in which the student is at a lower level than the researcher – study is a cognitive paradigm hierarchically superior to research, in the sense that the latter cannot achieve its goal if a desire does not animate it and once it has achieved the goal, it cannot help but coexist intensely with it, transforming itself into study." (Agamben 2017, author's translation).
A PhD Architecture student must learn to move in the finite time of a project but also in the indefinite time of the transformation of places. Learning to read and study a material or immaterial context is an endless operation; it is a matter for scholars. Identifying a problem, analysing it, breaking it down, and detecting the elements useful for providing a solution is the task of a researcher. If the former works in infinite time, the latter works in a finite but not definitive time, because the structures of places, of the space in which Architecture moves, change in times and ways that are difficult to predict.
As part of the Architecture PhD, we work so that a student can, first of all, become "a scholar" so that they have the theoretical instruments for building a toolbox they can use when, as a "researcher" in the field of architectural, landscape and interior design, they will have to use them to transform a theory into a physical space, perhaps equally abstract. This duality of roles presents a common factor: the need for both to build knowledge through questions whose answers will lead to other questions.
In essence, in their training, both the "scholar" and the "researcher" must learn to ask themselves the right questions. Small questions do not necessarily have to solve large and complex problems. However, they can trigger a process of advancement of knowledge both in a strictly disciplinary sense and in relation to all those questions that revolve around unpredictable trajectories of design and architecture.
Without this ability, the answers of one or the other will not be able to formulate useful answers that hold together the requests of the scholar and of the researcher both of knowledge understood as "human sciences" and of mindfully inhabiting places at any scale and in any place understood as "earth sciences", which is the ultimate goal of those who wish to embark on a PhD in Architecture.

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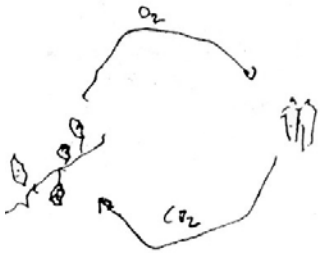
# NOTES ON ARCHITECTURE, TECHNOLOGY, AND ENVIRONMENT (AND DOING RESEARCH)

Luca Maria Francesco Fabris



Stefan Behnisch, Concept Sketch for Alterra Building in Wageningen, The Netherlands, 1996.



There is a phrase by the philosopher Carlo Michelstaedter with which I like to begin these notes on doing research: ‘Man puts himself in a cognitive position and makes knowledge’ (from “Persuasion and Rhetoric”, 1910). Even though it was written more than a hundred years ago, it seems to be an excellent description of what should happen every time we research something. Ultimately, all languages are expressions of culture and correspond to the mental forms with which societies are used to dealing and, in their etymologies, hide the logical truths from which they derive.

When we ‘do research’ we are at the same time hunting for the new, but also for what we know we have lost, what we need to find and read according to a different point of view that can change over the years or centuries or, in a ‘fast and fluid’ civilization like ours, even from day to day. And then do we research ‘on’ something or for something? Certainly, as Michelstaedter says, we must put ourselves in the mood to understand. Otherwise, without this fundamental attitude, it is almost certain that we will miss the clues that could lead us to a discovery. Because it is always a question of ‘finding’ something that is somehow evident but over which a ‘blanket’ has been spread, we must learn to remove it to obtain the knowledge that allows us to see, reveal, and progress. Which is another wonderful, entirely human action that contains, in its etymological description, the meaning of ‘to proceed towards a better level’.
But I think we all know now that to achieve real progress, we must also be aware of the past, of the mistakes already made and of the solutions that, although tried, were not adopted. Ultimately, we do not need to resort to dystopian futures or ‘what if’ theories to understand that humanity has often abandoned the ‘cognitive position’ blinded by false idols. How all this reverberates in doing Research in Architecture through the understanding of design seems evident to me, but I will go point by point. Since architecture teachers in Italy are divided into subject categories,
I find myself playing the technologist role. Which, in itself, with that beautiful ancient Greek term that is ‘logia’ as an ending, is gorgeous, but maybe it’s because the first time I encountered it, I was reading a text from the late 70s of the last century on the dangers of Technocracy that would have been perpetrated thanks to the contribution of Technologists (does it remind you of anything current?), I registered it as a negative ‘voice’. So, I rebel against being defined under this name because it does nothing but underline a dichotomy between the project and its material components, which nowadays also include the immaterial ones, as if there were an irreconcilable opposition between them when this is impossible. Gottfried Semper already knew this.
I was lucky in my life as an architecture student first and then as a young researcher to meet two scholars from the



Politecnico di Milano, Tomás Maldonado and Maria Bottero, the first to have introduced Environmental Design into the training curriculum of architects starting from the 80s of the last century. Having studied with the first, who had a vision of the environment linked to the responsibility of human actions and their relationship with the built environment, and having worked with the second, who interpreted the environment as an intermediate and responsible relationship between the built and Nature, allowed me to grow in the conviction that Environmental Design is a set of actions, notions, studies and research that demonstrate how there is no reason to exist for a dichotomy that opposes design and technology in Architecture but instead makes it clear how the holistic approach is the only valuable and admissible one.
On the other hand, it is enough to observe, read, and, if possible, listen to some of the leading exponents of contemporary world architecture to understand how those who carry out Research through design by adopting the most diverse solutions identify, as Maldonado had already done, a prerequisite of hope in the very act of designing (after all, when you design, you describe and structure the reality that will come through drawing, placing an optimistic option on the future) and that producing research imposes contemporary challenges such as the adoption of responsibly ethical choices using appropriate technologies to achieve the desired result.
When Kazuyo Sejima held her first lectio magistralis at the Politecnico di Milano (‘Architecture and Environment’, 21 April 2016), she defined her architecture as design research from collaboration with other knowledge. She was unparalleled when she thanked all the collaborators of the various scientific and professional disciplines who had contributed to the realization of her projects.
Rem Koolhaas, who is a great architectural theorist – we have all read his *Delirious New York* (1978), to quote one of his writings – had created perhaps the best catalogues of Architectural Technology when he was curator of the Venice Biennale in 2014, now reworked and reprinted with the title “Elements of Architecture” (2022).
Whang Shu has publicly described (Hangzhou, 2023) his ineffable architecture (an adjective that I add) as a clear example of sustainable and circular architecture (another theme claimed by Environmental Design), just as Renzo Piano is an architect who has always linked technology to the project and environmental performance, with the results that we all know.

The Italian Mario Cuccinella, the German Stefan Behnisch, and, indeed, the Milanese Stefano Boeri, about all the design research linked to his 'Vertical Forests', work similarly. Even an experimenter of forms and materials like Stefano Pujatti (Elastico SPA) ultimately declines his architecture, merging construction and technical material for a unique interpretation that is always in a careful relationship with the environment. As Bjarke Ingels (BIG) reminded me at the time I was writing the volume *Tecnonatura* (2009), we must always keep in mind that 'we do design research within a regulatory framework that, at least in Europe, forces us to reach or exceed solutions that take into account a whole series of parameters linked to environmental sustainability, […] talking about Sustainable Architecture doesn't even make sense anymore. It is now taken for granted that Architecture must be so. Period'. And after fifteen years, all this should still be the norm and not the exception.

Concluding this very personal excursus, I believe that there is no other way to approach architectural Research if not through the design – as an action, also political, and option for the future – always remembering Research itself is a project, it is a thesis that must be tested and discussed. And that the success of this operation is not a tautology but a process that can only happen if we are willing to enter a 'cognitive position'. And this means intuiting, collaborating, sharing, integrating, accepting, and being willing to change the research, the result, and ourselves. Only in this way can we innovate and not tell an old story.

# THE ENVIRONMENT AS AN ARCHITECTURAL PROJECT: ON THE AGENCY OF DESIGN RESEARCH

Stamatina Kousidi

Erika Kanagawa, Joy in Architecture, Toto Gallery, Tokyo, 2021. Installation view, scale models. Photo © Yuji Harada.

Sibyl Moholy-Nagy's research on vernacular architecture in North America cast a novel gaze on the relationship between buildings and natural context. Its findings were initially published in her article "Environment and Anonymous Architecture" on *Perspecta* (1955), which explored, from a historical perspective, the relation of man to his immediate environment by means of the tools, materials, and technologies deployed in creating a dwelling for himself.



The photographs that accompanied the article and, subsequently, the 1957 book "Native Genius in Anonymous Architecture" were shot by the author during "some 15,000 miles of travel [by] every conceivable means of transportation" (Moholy-Nagy 1957, n.p.) in the period between 1948–1952. Moholy-Nagy's perspective resonates with the challenges design must face today. On the one hand, it calls for a rethinking of buildings from the standpoint of landscape, climate, topography, and the natural environment. Her "focus on climatic, formal, and material responses to varying spatial and temporal environments is closer to an architectural habit of mind – a pedagogy – for energy, heat, and human comfort than parallel technocratic agendas for the same subject" (Moe 2014, 198). On the other hand, it highlights the need for architectural research to coin new tools and processes to explore the multifaceted connections between the environment and the built artefact. In so doing, it stressed the importance of non-mediated impressions of the built environment and of wandering, travel, fieldwork, observation, and empirical knowledge. The research by Sibyl Moholy-Nagy in the mid-1950s draws attention to the need to associate socio-ecological concerns with concerns about architectural form, structure, materiality, and performance, which emerges all the more cogent in connection to design practices today. Arguably, it forms part of visionary late-modern historiographies that "underlay relational approaches to architecture" and are exceptions to its naturalization as a field "focused on the formal to the exclusion of environmental, behavioural, or social" demands (Barber 2020, 14-15). In light of climate change, the relationship of architecture to the environment has become ever more complex and elusive, requiring new approaches to design research after interrogating the role of concepts, words, and metaphors and their impact on design.

The term 'environment' entered architectural discussions more vividly in the latter half of the twentieth century as preoccupations about the relationship between building and the natural context began to increase. Initially, it appeared in Reyner Banham's 1969 book *The Architecture of the Well-Tempered Environment*, which argued that function and form, visual and physical perception, comfort and structure ought to be indivisible and part of the same discourse. The book expressed an understanding of environmental design as a technological issue connected mainly to controlling and modifying the climate. On the other side of this discourse, the term environment was

used to theorize a given building's relation to its physical environment in its manifold manifestations. To emphasize, that is, a design stance that intersects with the specificities of the context, history, and tradition, as in the seminal theory on the "pre-existent environments" articulated by Ernesto N. Rogers, which interpreted "architecture as a living process of perceiving, understanding, using, and modifying the environment" (Sabini 2021, 87). Therefore, the environment of architecture is "much more than a matter of pragmatic prescription and technical realisation, however useful that might be" (Hawkes 2007, xvi). Contemporary theoretical constructs such as the environmental imagination (Ibid.) have aimed to address such a tendency prevalent in contemporary architecture, drawing attention to the complex interplay between technics and poetics. Today, design research is called to reinterpret the intermediary relationship of architecture to the natural world in terms of efficiency, sustainability, and resilience, shaping new narratives on this relationship. Interpreting the environment as an architectural project means moving away from a merely technical interpretation of environmental performance in order to embrace the manifold connections between building and place, experience and movement, intention and time. It relates to establishing a holistic approach to the functional, perceptual, material, spatial as well as quantifiable dimensions of building performance. It refers to examining the "questions of world, environment and nature" again and anew (Frichot 2018, 36).

More recently, the term environment has been interpreted as a field in which design research needs to take action – a field charged with creative potential. Drawing upon the concept of Umwelt, introduced by biologist Jakob von Uexküll in the first half of the twentieth century to refer to a given animal's perceptual environment, Hélène Frichot put forward the conceptual construct "environment-worlds," intending to highlight that both represent "domains in which creative approaches to practice can be explored" – she argues that "this is where practice takes place, often as a matter of necessity in response to the problems that directly confront the researcher in their immediate milieu" (Frichot 2018, 41).



Such a construct resonates with the fact that the consequences of the Anthropocene reverberate on a broader level. Such consequences cast an impact on the tools that architects adopt to document, interpret, and shape the built environment around them. The design project today is called to operate across a broad range of scales, from the building to the planetary one, and this entails considering both human and non-human stakeholders, the material and immaterial traits of space, built form and energy flows.

Connecting the design project to the planetary scale emerges as a crucial notion of design research, as it entails that architecture needs to "think about the Earth not only as a host to cultural diversity but as a host to life itself," questioning whether we can "continue to think about planetary commoning, if not commonality, within the multiple registers (aesthetic, technical, social) that architecture has at its disposal" (Graham and Blanchfield 2016, 12).

Design research in the Anthropocene needs to embrace a shift in the understanding of architecture as a discursive practice that is primarily connected to the production of meanings and abstract images. It instead needs to revisit the interpretation of architecture as a material practice (Allen 1995), associated with both criticism and design production, language and the visual: a practice which is "engaged in time and process" and devoted "not to the production of autonomous objects, but rather to the production of directed fields in which program, event, and activity can play themselves out" (Ivi, 52). Exploring possible hybrids between design production and criticism, between theory and design project, emerges as an essential action of research in architecture today.

Design research today is called to give a concrete expression – formal, material, physical, practical, tangible – to concepts and practices connected to the architectural environment, i.e., to reducing energy consumption, articulating natural ventilation, controlling sunlight, sustaining energy flows, contributing energy to broader grids, creating microclimates, providing alternative paradigms to carbon form. Exploring the agency of design research in this context entails interrogating the agency of drawing. To grapple with the current socio-ecological issues, research in architecture needs to address environmental sustainability as equally a representation and a design issue. It entails highlighting what is at stake – urgent, critical, crucial – regarding design research and how this reflects in the tools and means of representation the latter deploys. It entails not working "primarily

with images or meaning, or even with objects, but with performance" and being "less concerned with what things look like and more concerned with what they can do" (Allen 1995, 53).
This shift entails defining new associations between design and discourse, project and theory. Design research today demands a renewed approach to architectural theory. Bruno Latour and Albena Yaneva situate the relevance of architectural theory "for architects, for end users, for promoters, and for builders" in its capacity to produce "earthly accounts of buildings and design processes, tracing pluralities of concrete entities in the specific spaces and times of their co-existence, instead of referring to abstract theoretical frameworks outside architecture" (Latour and Yaneva 2013, 88). They draw attention to the need to delve into "a building's extensive list of controversies and performances over time […] to what it does, to the way it resists attempts at transformation, allows certain visitors' actions and impedes others, bugs observers, challenges city authorities and mobilizes different communities of actors" (Ivi, 86).Therefore, design research in the Anthropocene needs to address the relational dimension of architecture rather than its autonomous character and think of the design project in terms of dialogues, pairs, and a broader network of connections. Interpreting the environment as an architectural project, in the framework of design research, entails focusing on aspects that go further to the instrumental, the performative, or the quantitative quality. It entails coining a renewed understanding of phenomenological experience. It involves addressing the relationship between physical artefacts, users, and their immediate environments as well as between these artefacts and the behaviours they may enable.
Research for design in architecture, therefore, increasingly moves away from the making of new objects or buildings and towards the definition of "new affordances that have the possibility to alter patterns of human activity, and might even change entire sociocultural practices" (Rietveld and Rietveld 2018, n.p.). This design aspect nurtures the conclusion that architectural research oscillates between pragmatic and creative approaches. Addressing the design of the built environment today requires working with uncertainty, a condition that emerges as a crucial design factor. Design research may embrace this challenge not as an obstacle but as an opportunity to speculate on the actions, changes, and performances it may generate and allow for. The design research project, in this regard, "requires movement away from its own techniques toward conditions that are not of its own making, an eccentric procedure dedicated to the unseen potential of the world it seeks to remake" (Leatherbarrow 2012, 12). It requires drafting a systematic method of inquiry that operates between synthesis and analysis, between methodical action and, most importantly, wonder.



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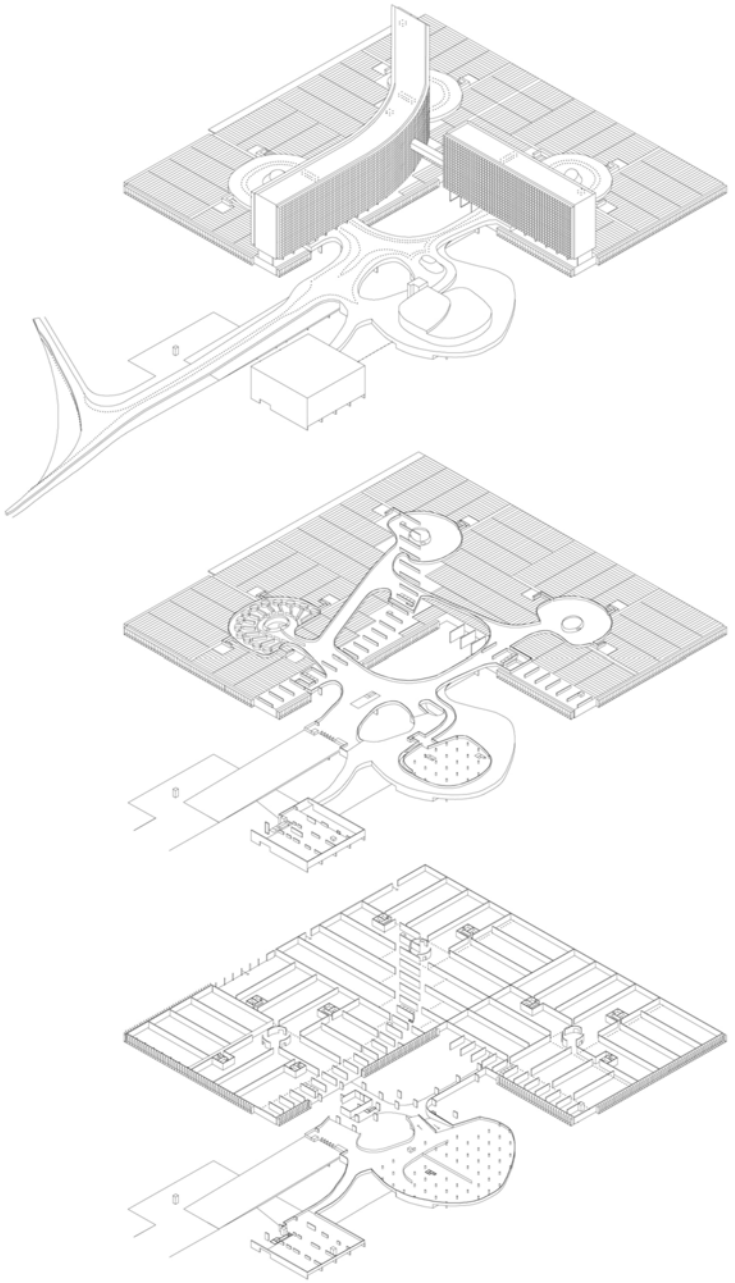
# BETWEEN CRITIQUE AND DESIGN

Silvia Bodei



Project for the Electronic Calculation Centre by Le Corbusier, axonometric study drawings (Silvia Bodei, *Le Corbusier e Olivetti. La Usine Verte per il Centro di Calcolo Elettronico*, Quodlibet, Macerata 2014).

“The critic, whom we might call a cryptologist, is fundamentally more refined: for him, the language expressed in a film, like the inscriptions of extinct civilizations, is a language that is familiar from the outset. [...] Every image, every sound of a film is a signifier of a meaning; every image speaks, connecting to a system of meanings with others. And the critic’s task is to help make the meaning readable.”
Paulino Viota, 1986[1]



“The filmmaker in the audience, watching a film that is not their own, is more like a vampire, who appropriates it, sucking the blood from the film they are watching. But the blood of the film is not its meaning. The vampire filmmaker is not interested in the sense, the deciphering of what is before them, but in appropriating its forms, its immediate materiality, organized into forms.”
Paulino Viota, 1986[1]

During my doctoral studies at the Universitat Politècnica de Catalunya (2005-10), I had the privilege of attending lectures by Josep Quetglas, who later became my thesis supervisor. One day, he invited Paulino Viota, a Spanish critic and filmmaker, to the classroom. Viota urged us to reflect on a very important topic for cinema, which is also useful for those of us engaged in architectural research and design: understanding the perspective of a filmmaker when watching another author’s feature film as opposed to the critic’s stance. This concept can be translated for us architects into an attempt to identify how to position ourselves when observing and studying a city, a building, or a window, from the perspective of those who “design architecture” (whether in the classroom or in real life). Without necessarily expressing a judgment, Viota’s discourse, as he also explains in his writings, demonstrated the importance of distinguishing between the position of the “critic” and that of the “vampire,” who uses observation and research to learn how to operate better as a filmmaker and, I would add, as an architect.
The first, the “critic,” writes like a cryptologist deciphering hidden and occult languages, or a translator transforming a text (be it a film or architecture) into something comprehensible for others through a predefined language. In this process, images, sounds, forms, and materiality are assigned meanings, sometimes forcefully, to transform them into an interpretative text based on a constructed language. The second, the “vampire” filmmaker, notices the same elements as the critic (“camera movements, gestures, shifts in perspective”,[2] etc.) but contemplates how to appropriate and reuse them in his own films or compare them to his own style and working method. This process does not always happen consciously.
Architectural design research, in my opinion, falls within and intersects these two visions. Once the study topic is chosen, often defined by an intuition, a detail, or an inconsistency within the subject (whether strictly design-related or linked to fields like history, technology,

landscape, environmental sciences, etc.), the architect-researcher observes and analyses how the "issue" develops, occurs, and is constructed in relation to the object itself and other objects. New solutions are explored, as well as different viewpoints, and a language to communicate them. But it is crucial to maintain the almost passionate attitude of a "vampire."

Anyone who reads a doctoral research, or the book resulting from the research (because the aim of the work is to transmit knowledge to others), must be able to understand the subject through the eyes of the architect and to "vampirise" its practices, details, solutions, and processes, so as to reuse and transform them in their profession or research. It is difficult, indeed, to study a city or a building without the experience of design, also keeping in mind that each project is an unicum, independent even of its author once it has been realised. Viota adds another important concept to deepen his discourse. Regarding the analysis of the study object, in his case a film, he says: "[...] the tools of analysis should be like a map or a plan, giving us an exact and synthetic image of its object - because, above all, one should not only talk about analysis but also, and mostly, about synthesis-[...]."[3]

Every research must find its own and unique interpretative field during the process in order to demonstrate a method. The thesis itself can be likened to an architectural project, where the limits, themes, and issues are always different and tackled case by case, starting from one's education and previous experience, essential to building one's way of working and line of research.

In this regard, it is interesting to observe how, for example, Bruno Reichlin - who has dedicated an important part of his research to Le Corbusier's work and has always sought to draw important elements from history for the project - speaks of his research as a continuous work of "conjectures and refutations".[4] Starting from this attitude, initially influenced by structuralism and drawings from literary criticism and texts by authors like Julia Kristeva and art historian Michael Baxandall, Reichlin applies the "intertextual" critique process to his studies on Le Corbusier. This approach views the work as a "mosaic" of other works and references. Thus, an architectural work, like a literary one, is studied and deconstructed, compelling the critic to cross-reference with other architectures, themes, and issues for a better understanding.[5] This stratigraphic attitude, which Reichlin develops over time, uses a critical methodology that adapts to the study material, demystifying the author's potential importance to focus on the architecture itself, its processes, including construction and site issues.

It is therefore important to approach the study object, deconstruct it, redesign it, and in some way "vampirize" it for the use of our discipline and profession because architecture is dynamic and an answer to a series of tangible issues that are interwoven in those very works whose critical model cannot be a pre-text, but must arise from the object itself.

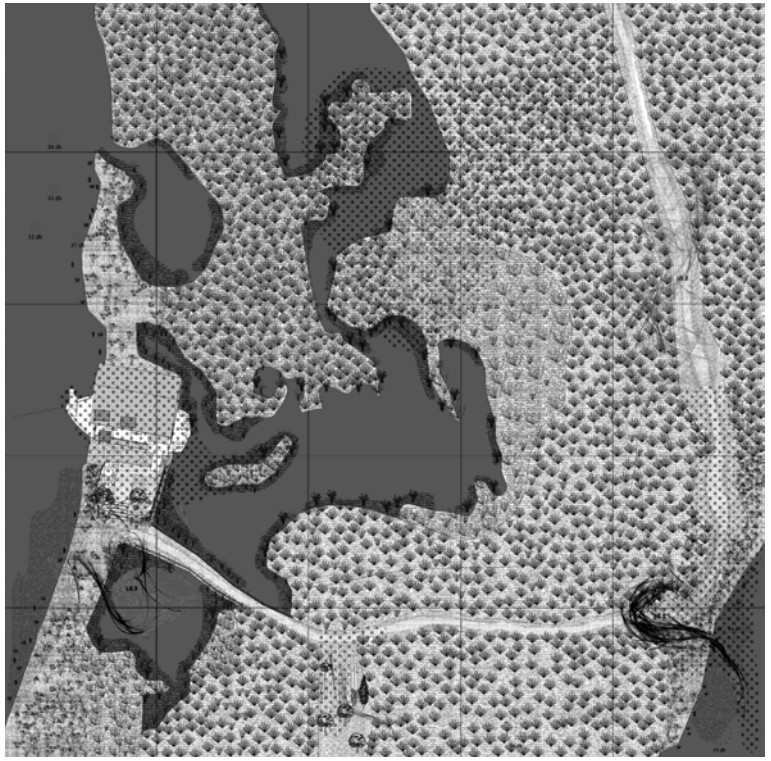


Notes

1. Translated into English from: Paulino Viota, "El vampiro y el criptologo", in *Entorno a Peirce, Estudios semióticos*, Associación de estudios semióticos de Barcelona, 1986, p.173,
2. *Ibidem.*
3. Paulino Viota, "Como limpiarse las gafas", *Comunicar: Revista Científica de Comunicaiòn e Educaciòn*, 11, 1998, p. 50.
4. Annalisa Viati Navone, "Per 'congetture e confutazioni'. Modi di una critica demistificante", in Bruno Reichlin, *Dalla 'soluzione elegante', all"edificio aperto'. Scritti attorno ad alcune opere di Le Corbusier*, Mendrisio Academy Press, Silvana Editoriale, Mendirsio, Zurich, 2013, pp.9-19.
5. Bruno Reichlin, "L'intertestualità nell'opera di Le Corbusier. Jeanneret-Le Corbsuier, pittore-architetto", in Reichlin, *Op. Cit.*, pp.309-345.

# LANDSCAPE RESEARCH BETWEEN ART AND SCIENCE

Andrea Oldani



Atmospheric maps of the Po Delta landscape (from the master thesis of Federica Mambrini, supervised by Andrea Oldani).

Doctoral studies at the AUID PhD program include landscape research. Working on the landscape theme and discussing doctoral research methods, tools, and objectives means confronting a variable perspective that allows an intense debate on the meaning and purpose of professors' and students' works.



The starting point is the deepening of the profound reluctance towards any expression of knowledge that is not at least partially quantifiable or verifiable in terms of a reliable correspondence between objectives and results, which is characteristic of the contemporary academic environment. In this respect, if we consider architecture as an artistic practice whose identity lies between art and science, and if we turn to landscape, we can find even more difficulties accepting this limitation due to the nature of a phenomenon that is strictly dependent on a form of subjective perception, as well as on the meaningful expression of a variety of materials, processes and transformations that involve a plurality of actors and subjects. For this reason, thinking in terms of objectivity is a paradox that can seriously compromise the result of a cognitive process, including observation, understanding, and appropriation, which is closely linked to the individual and collective spheres and is undoubtedly more subjective than objective. It does not seem repetitive, therefore, to accompany an overview of ongoing doctoral research with a reflection that tends to highlight the value of a qualitative dimension of landscape design, which exists and can be traced in the pages of this yearbook and represents a real need for our doctoral course and a prerogative to be defended.

Landscape design cannot be reduced to the implementation of a series of ready-made technical and functional solutions that offer specific answers to concrete needs but must be understood first and foremost as a theoretical tool capable of raising questions, opening the mind to new truths, shedding new light that can disturb the distracted stakeholders or the conventional, passive political actors. Therefore, the inextricable link between ecology and environmental protection and the implications of climate change that today's discourse on landscape implies must avoid confusion about the meaning of design and research. Indeed, architects run the risk of reproducing, even inappropriately, the work of other specialists, adopting a technical and pragmatic point of view that barely touches on the prerogatives of engineering, hydraulics, agronomy, geology and all the disciplines that contribute to the study and modification of the environment.

Landscape design is thus easily transformed into a functional synthesis, introducing and disposing of a series of standardised technical solutions, often linked to improbable acronyms. This pragmaticism is not a bad thing in itself. However, it cannot exist without profoundly questioning the statute of the landscape through its history, form,

processes, dynamics, and actors and subjects that allow the perception of these phenomena.
This limitation is already recognised by the scientific community, which has sometimes pointed out the cultural danger of specific attempts to commodify landscape, such as the discourse on ecosystem services, in which ‘nature’ becomes the bearer of a quantifiable value that can be monetised and reduced to a series of predetermined, measurable and standardised benefits.
The real risk is applying a form of naive functionalism to landscape that diminishes the value of history, the sensitive contribution and the importance of the perceptual sphere at the heart of landscape value recognition.
The definition of potential objectives for doctoral research in the field of landscape, therefore, requires the establishment of foundations that guard against the risks of quantitative drift. Such an objective also involves reflecting on the problems posed by the design’s direction in terms of using artificial intelligence to define a functional programme and the optimised displacement of networks, figures and cores of ecosystem services or technocratic standardised or prototypical solutions in the territory.
These foundations, which are even more remarkable for the survival of the discipline of design, should be an attempt to promote a critical debate on the meaning of our landscapes, anticipating processes that tend towards evolution rather than adaptation, conservation or mitigation. Thinking about landscape invention makes it possible to produce this rupture and formulate original and unpredictable hypotheses for the future.
Cultivating this ambition also means returning to thinking about issues now inexplicably relegated to the margins of disciplinary debate. The first is to think about form as the result of a process of modification and design. The reasons for form are inseparable and cannot be derived from mere functional argumentation. Thus, its syntax becomes a substantive issue, and it is vital to encourage research that promotes an understanding of the formal genesis, meaning and narrative power underlying landscape architecture.
Reasoning about the accumulation of tangible and intangible facts that define the landscape, their description, and critical treatment becomes essential in substantiating the project. Context, thus, turns into the reason for the design, leaving room for free interpretation through rewriting and invention based on existing reality. In this respect, contact with the sites, through survey and description, proves essential in bridging theory and practice.
In this way, the doctoral experience can continue cultivating a fruitful path based on the parallel between theoretical research and experimental design, where the latter provides the assumptions on which the former is based. The famous metaphor of the relationship between the provisional supporting structure and the finished, self-standing arch well explains the concept. This objective corresponds to the use of case studies as a way of going back to methods and tools, proposing a reframing of them concerning the needs of the present.
In these circumstances, research is no longer just a pragmatic response to a problem or an emergency. On the contrary, it involves developing conditions capable of providing flexible tools to respond in different ways and simultaneously to the present urgencies. This objective corresponds to providing innovative theoretical tools capable of responding stably and reliably to needs that are constantly subject to change. To do this, we need to ensure that the notion of modification does not lose sense if deprived of the primary conditions that make a transformative process necessary. On the contrary, modification depends both on the awareness of the primary effects for which it is undertaken - more practical - and on the consideration of the secondary consequences of its implementation - more cultural - which include the aspect of time, as well as meaning, perception, emotion, empathy, narrative, all constitutive characteristics of the phenomenon of the landscape.

# BRIDGING THEORY AND PRACTICE: THE IMPACT OF DOCTORAL RESEARCH IN ARCHITECTURE ON GLOBAL SUSTAINABILITY AND RESILIENCE

Alessio Battistella

Pursuing a doctorate in architecture transcends traditional academic boundaries, necessitating a profound engagement with real-world problems. The essence of this advanced research lies in its capacity to produce actionable knowledge that significantly influences the built environment and society at large. This shift from theoretical to applied research emphasises the relevance of our work beyond academic discourse, aiming to foster tangible benefits in addressing pressing global challenges.

At the heart of contemporary architectural research is the imperative of environmental sustainability. This focus is not merely a trend but a crucial response to the climate crisis, demanding that architects pioneer solutions for mitigation and adaptation. Research must interrogate and innovate across various dimensions, from reducing carbon footprints to enhancing the resilience of communities against climate impacts. This framework entails exploring sustainable materials, energy-efficient designs, and resilient infrastructures collectively supporting ecological balance and human well-being.
Environmental sustainability in architecture must be connected to social and economic dimensions. Research must delve into how sustainable practices contribute to equitable and prosperous societies. By adopting complex approaches, architects can ensure that their solutions address environmental concerns and enhance social cohesion and economic viability. For instance, green building technologies and practices can reduce energy costs, improve living conditions, and create jobs, fostering more inclusive and sustainable urban development.
Adopting circularity models in building production processes represents a paradigm shift in architectural practice. Circularity emphasises materials reuse, recycling, and regeneration, significantly reducing waste and environmental degradation. The integration of circular principles into architectural practice influences the language of architecture by promoting adaptable, modular, and changeable designs.
Buildings designed with circularity are often characterised by their ability to be easily modified and reconfigured to meet changing needs. This adaptability ensures that buildings remain functional and relevant over time, extending their useful life and reducing the need for new construction. Circularity in architecture inspires a new aesthetic that values simplicity, flexibility, and longevity. The emphasis on durable, high-quality materials and thoughtful designs frequently results in buildings that age slowly and retain their functionality and beauty over time. The integration of circular principles challenges architects to think creatively about material life cycles and to develop buildings that can evolve over time rather than become obsolete.

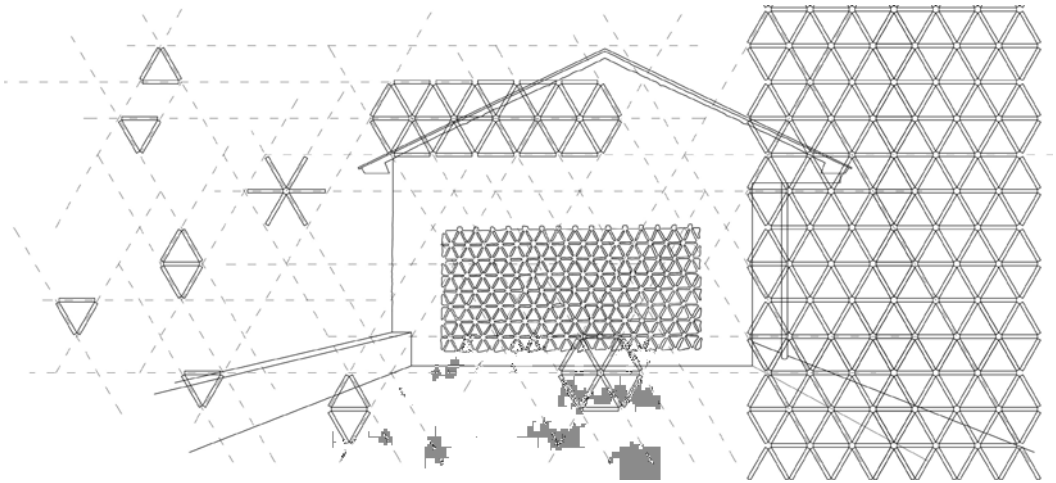


The effectiveness of architectural solutions is heavily contingent on the appropriate application of technologies tailored to specific contexts. In diverse environments, from urban centres to rural areas, technologies must be selected based on local climate, resources, and cultural practices. Bioclimatic architecture, which integrates passive design principles to create buildings that blend with their natural environment, significantly influences the language of architecture.
This approach leverages climatic conditions to optimise building performance, enhancing thermal comfort, energy efficiency, and sustainability. By prioritising using natural resources and environmental conditions, bioclimatic design reshapes architectural aesthetics and functionality in profound ways.
A critical aspect of contemporary architectural research is the responsibility to guide the Global South in avoiding the developmental missteps of the Global North. It involves advocating for sustainable urbanisation models prioritising environmental and social well-being over rapid, unregulated growth. Research should focus on sustainable urban planning, inclusive housing policies, and resilient infrastructure development tailored to the unique needs and challenges of the Global South. Knowledge transfer and capacity building are vital for empowering local architects and planners to adopt best practices and innovate within their contexts. It concerns sharing expertise, technologies, and methodologies developed through research in the Global North while recognising and valuing local innovations. Collaborative efforts, such as international partnerships, workshops, and training programs, can facilitate this exchange of knowledge and skills.
Doctoral research can, furthermore, significantly contribute to addressing the challenges posed by natural disasters and humanitarian crises. Researchers can develop comprehensive solutions that enhance the resilience and well-being of affected communities by focusing on rapid response shelters, resilient housing, sustainable resource management, community-centred design, technological innovation, and policy frameworks. This research addresses immediate needs and contributes to long-term recovery and sustainable development, helping to build a more resilient and equitable future in the face of increasing global challenges.
The urgency of the climate crisis necessitates that architectural research provides answers in the short term. It requires a proactive stance in developing and disseminating solutions that can be quickly implemented. Collaboration with

policymakers, industry stakeholders, and communities is essential to ensure that research outcomes are theoretically sound, practically viable, and widely adopted. Architecture doctorate is a profound journey combining academic rigour with practical relevance. Architectural research can drive significant positive change by focusing on environmental, social, and economic sustainability, adopting circularity in building production, selecting appropriate technologies, and guiding the Global South towards sustainable practices. The challenge and opportunity lie in ensuring that our scholarly endeavours translate into impactful actions, addressing the urgent needs of our planet and its inhabitants.

# ARCHITECTURAL DESIGN AND RESEARCH IN ARCHI-TECTURAL DESIGN RE-SEARCH

Gerardo Semprebon



Manipulating tectonics. Images freely elaborated from the west façade of the restaurant of the Xihe Cereals and Oils Museum and Village Activity Center, designed by 3andwich Design/He Wei Studio.

The question of where architectural design and research in architectural design research stand is a divisive issue among insiders and experts, whether they advocate for a professional-oriented approach or a theoretical, self-reflective one. The vast and diverse range of viewpoints makes it challenging to create complete and consistent taxonomies, akin to what Kurt Gödel demonstrated a century ago with his incompleteness theorems, applied initially to logical systems, which were later extended to other fields.



Nonetheless, it is possible to identify dialectical tenets that characterize the panorama of architectural design research.

For instance, the role of design within architectural research is a primary and crucial point of contention, leading to the formation of groups that see it as an essential component and others that believe architectural research encompasses everything but design. Interestingly, this division does not apply to research in professional practice. A professional might argue that the quality of their architecture stems solely from subjective sensitivity, resolved through intuitive decisions and the ability to master the construction process. Alternatively, one might rely on preliminary investigations to inform design choices; in any case, an activity of research – on previous experience, colleagues' works, contemporary trends, recent technologies, materials' features, to mention some basic items, remains embedded in the design process itself. This integration can manifest in various ways, rarely codified by scientific dogma, and often reflects the architect's unique position within a market system governed by specific rules and constraints.

Another point of contention involves the autonomy and heteronomy of architectural research, specifically the extent to which it is permeable to other disciplines. This permeability leads to the hybridisation of interests, methods, benchmarks, and performativity. The debate centres on whether architecture serves merely as a tool for other forces or stands as a self-sufficient field of application and speculation, revealing a wide spectrum of positioning. This issue should not be confused with the authoriality of architecture, which is commonly present in both cases. Also, in this case, the boundaries of architectural domains are continually renegotiated throughout the different phases of research—from the point of entry to the investigation method to the formulation of original results. This variability affects the assessment of the quality of architectural design research, an area where differing viewpoints and criteria are influenced by the academic systems and funding mechanisms of individual countries. Once again, designing can be viewed as an essential or complementary activity, opening a space for debate on the impacts of architectural design research. The discussion extends to whether research should address issues strictly within the discipline or broader societal issues, including those related to the discipline.

I found this condition epitomised in a question posed by John Lin in an article titled "The Paradox of Architecture",

published in “Domus”. He questioned, “What can an architect do in a place with no need for architects?” referring to design practice in Chinese rural areas (2013, 56). As a founder of the collective Rural Urban Framework (RUF), Lin initiated an empirical process of rediscovering the ontology of architectural practice by working in places and with communities without defined commissions. This approach paved the way for a design and research strategy centred on incrementality, which basically entails a constant preparedness to deliver design solutions in ever-changing societal conditions, from clients to users, from budgets to programs, and from materials to labour. Instead of delivering abaci of design solutions, this means thinking of architecture as an act so rooted and essential that it is impossible to renounce it and, at the same time, to let it adapt to circumstantial changes. RUF’s actions addressed localized challenges but eventually provided new insights into the discipline. Joshua Bolchover, the other founding partner of RUF, conducted research ten years later on the urbanization of nomadic people in Mongolia. The transition from transient to permanent habitation offered an ideal opportunity to explore new forms of settlement from a typological perspective. This method embraced empiricism and accepted “productive failures” to test new living schemes realizable also by non-skilled people who possessed little more than their dismountable ger (2023, 83). Similarly to the evolutionary metaphor, the act of prototyping received direct validation or falsification through people’s reactions, which in turn informed the design process and the related research project. The parallel with Elemental’s approach to social housing design (Aravena and Iacobelli, 2016) is apparent and highlights a transversal characteristic. Although these architectural design research works began in contexts of social vulnerability—with architecture playing a key role in site transformation processes—they had all fruitfully explored the tenets of architectural design and contributed innovative elements to disciplinary debate and broader decision-making. Architecture’s heteronomy became an element that nurtured disciplinary self-reflection, relying on a research path that leverages design tools.



This condition aligns with the EAAE (2022) Charter on Architectural Research, which encourages trans- and interdisciplinary endeavours and suggests that research in architecture includes knowledge production through design projects. Among the many supporting contributions, I want to mention two. John Verbeke, a council member of EAAE, argued that similar to how the artist-researcher must create art to develop new understandings, the architect-researcher must operate “in the medium of architecture (...) [which] means to investigate architecture through architecture and not through history, theory, social science or environmental science” (2013, 150). Alberto Campo Baeza, who has profoundly intertwined professional practice and theoretical reflection, compared the act of translating architecture to translating poetry. He stated that the construction of architecture, with its form, possesses a universality that requires no translation. For Campo Baeza, the constraints of architecture, contrasted with the freedom of poetic language, are compensated by the universality of its constructed language and forms, which need no translation beyond their presence (Campo Baeza 2012, 9).

These two viewpoints, stemming from complementary perspectives of theory and practice, converge on the idea of using architectural design as an investigation tool. However, they diverge in their reliance on architecture as either a drawing, which is conditionally verifiable only in a virtual sense, or as a physical fact requiring execution. Whether represented architecture serves as a valid or illusory investigation tool remains—unsurprisingly—a divisive theme.

On this trajectory, ProArch, the National Scientific Society of Professors of Architectural Design, also seems to be moving. Since last year, ProArch has been launching calls for projects open to researchers working in architecture departments of Italian universities. These calls for projects, akin to calls for ideas competitions, address pragmatic urban problems through architectural design. They provide snapshots of the architectural design culture upheld by university architects, offering speculative panoramas of projects that epitomize ideas, positions, and frictions, thereby igniting disciplinary debate and mutual exchange. However, a controversial aspect also emerges: the tendency of manifesto-like projects to lose touch with the realism of the problems they aim to solve, often showing no intention of being executed. The feasibility of the architectural proposal is sometimes sacrificed on the altar of clarity and the power of ideas—expressed through

drawings—resulting in projects seemingly conceived to remain on paper or screens. To some extent, what emerges is an inversion of the goals and tools in the architectural design discipline, where the drawing, a virtual domain, replaces the execution, a real domain, in the final objective of the project.
This text raises a critical question: is this still within the domain of architectural design or architectural design research?

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