

Stumbling as a Praxis of Design Practice. A Pedagogical Experiment in “Theory and Criticism of Architectural Action”

Original

Stumbling as a Praxis of Design Practice. A Pedagogical Experiment in “Theory and Criticism of Architectural Action” / Bruno, Edoardo; Quaglio, Caterina (SPRINGER SERIES IN DESIGN AND INNOVATION). - In: School of Architecture(s) - New Frontiers of Architectural Education EAAE Annual Conference - Turin 2023 / Barosio, M., Vigliocco, E., Gomes, S.. - STAMPA. - Cham : Springer, 2024. - ISBN 9783031719585. - pp. 142-151

Availability:

This version is available at: 11583/2993801 since: 2024-10-28T21:09:59Z

Publisher:

Springer

Published

DOI:

Terms of use:

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

Publisher copyright

(Article begins on next page)

Springer Series in Design and Innovation 47

Michela Barosio
Elena Vigliocco
Santiago Gomes *Editors*

School of Architecture(s) – New Frontiers of Architectural Education

EAAE Annual Conference—Turin 2023

OPEN ACCESS


 Springer

Editor-in-Chief

Francesca Tosi, *University of Florence, Florence, Italy*

Series Editors

Claudio Germak, *Politecnico di Torino, Turin, Italy*

Francesco Zurlo , *Politecnico di Milano, Milan, Italy*

Zhi Jinyi, *Southwest Jiaotong University, Chengdu, China*

Marilaine Pozzatti Amadori, *Universidade Federal de Santa Maria, Santa Maria, Rio Grande do Sul, Brazil*

Maurizio Caon , *University of Applied Sciences and Arts, Fribourg, Switzerland*

Springer Series in Design and Innovation (SSDI) publishes books on innovation and the latest developments in the fields of Product Design, Interior Design and Communication Design, with particular emphasis on technological and formal innovation, and on the application of digital technologies and new materials. The series explores all aspects of design, e.g. Human-Centered Design/User Experience, Service Design, and Design Thinking, which provide transversal and innovative approaches oriented on the involvement of people throughout the design development process. In addition, it covers emerging areas of research that may represent essential opportunities for economic and social development.

In fields ranging from the humanities to engineering and architecture, design is increasingly being recognized as a key means of bringing ideas to the market by transforming them into user-friendly and appealing products or services. Moreover, it provides a variety of methodologies, tools and techniques that can be used at different stages of the innovation process to enhance the value of new products and services.

The series' scope includes monographs, professional books, advanced textbooks, selected contributions from specialized conferences and workshops, and outstanding Ph.D. theses.

The volumes of the series are single-blind peer-reviewed.

Keywords: Product and System Innovation; Product design; Interior design; Communication Design; Human-Centered Design/User Experience; Service Design; Design Thinking; Digital Innovation; Innovation of Materials.

How to submit proposals

Proposals must include: title, keywords, presentation (max 10,000 characters), table of contents, chapter abstracts, editors'/authors' CV.

In case of proceedings, chairmen/editors are requested to submit the link to conference website (incl. relevant information such as committee members, topics, key dates, keynote speakers, information about the reviewing process, etc.), and approx. number of papers.

Proposals must be sent to: series editor Prof. Francesca Tosi (francesca.tosi@unifi.it) and/or publishing editor Mr. Pierpaolo Riva (pierpaolo.riva@springer.com).

Michela Barosio · Elena Vigliocco ·
Santiago Gomes
Editors

School of Architecture(s) - New Frontiers of Architectural Education

EAAE Annual Conference—Turin 2023

Editors

Michela Barosio
DAD
Politecnico di Torino
Turin, Italy

Elena Vigliocco
DAD
Politecnico di Torino
Turin, Italy

Santiago Gomes
DAD
Politecnico di Torino
Turin, Italy



ISSN 2661-8184

ISSN 2661-8192 (electronic)

Springer Series in Design and Innovation

ISBN 978-3-031-71958-5

ISBN 978-3-031-71959-2 (eBook)

<https://doi.org/10.1007/978-3-031-71959-2>

© The Editor(s) (if applicable) and The Author(s) 2025. This book is an open access publication.

Open Access This book is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this book are included in the book's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the book's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, expressed or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

If disposing of this product, please recycle the paper.

School of Architecture(s)

The Torino EAAE Annual Conference 2023 investigates the plurality of architecture as a discipline and the role of architectural education in training, questioning, and practising this plurality. This plurality is intended in terms of approaches, methods, topics, and values. The conference has been an occasion to think differently, reflecting upon the context of the discipline to understand the knowledge of the future, focusing on the question: what is Architecture in the age often described as post-architecture? This new perspective allows us to call into question some historical grounding principles of architectural education: the schools of architecture as a place where a style, a language is transmitted through the technique of the imitation of the masters, the everlasting character of the architectural artefacts built to last and the role of the architect as individual solely talented interpreter and author of architectural and urban artefacts.

A reflection on the ways of transmitting architectural knowledge, specifically design skills, in the age of post-architecture is needed. Several models of architectural education still coexist in the European context. Some of them still refer to the educational model of the Beaux-Arts. Settled in France at the end of the seventeenth century, this model was the first example of architectural schooling, further developed in the eighteenth century by François Blondel. It is still a pedagogical reference for many architectural schools. The central learning experience was structured around small independent ateliers where students learned directly under a “master”, following his direction and imitating his language and practice under a strict hierarchy. Two other activities completed the Beaux-Arts way of teaching: The annual Paris Salon, where the best students’ works were selected and displayed to the public, and the Parisian life of cafés, an informal extension of the ateliers, where design tendencies were discussed. Opposite to this model is the Polytechnic approach. Dating back to the Ecole Polytechnique, a military educational institution established in France at the end of the eighteenth century, this way of teaching aims to transmit technical-oriented knowledge, focusing on developing skills and competencies more than styles or tendencies. Contemporary schools of architecture tend to combine these two approaches with different balances. Some schools are still grounded on recognized masters leading the design approach of the school, while others decide to aim for the implementation of strategic topics to be developed through different learning experiences or to focus on specific design methodologies in order to build a school of thought more than a style of the school [1].

Thinking the Acropolis in Athens or the San Vitale di Ravenna in Italy as architectures built to last, together with Moneo we can say that buildings are always alone [2]. The architectures that have come down to us from the past have stood the test of time because societies have absorbed and inhabited them without distorting them. In the contemporary debate, however, we talk about the fragility of architecture and its temporary character. The contemporary question, however, is not the architecture itself but rather the modification of the reasons that determine its production. If Architecture was

celebratory in the past and built to restore authority and power, today, Architecture has seen this role reduced. In the past, only those with a role of power asked for Architecture.

On the contrary, today, the demand for Architecture manifests itself through countless possibilities and different objectives. The expansion of users with a demand for Architecture has increased the variety of designed themes. Furthermore, starting from the nineteenth century, the collapse of most travel restrictions has further increased the possibility of contamination, and what once belonged to a specific place is today worldwide spread—just think of the role that International Exhibitions have had in history. We can observe extreme situations in which the Eiffel Tower and the Egyptian Pyramids are rebuilt on a scale in Las Vegas, and in cities worldwide, we can see the same architecture resulting from a globalised culture. If contemporary architectures are often not designed for a specific context, they are more and more designed for a specific lapse, waiving the everlasting ambition of classical architecture.

At the same time, in parallel with the process of globalised homologation that seems to characterise a large part of the material outcomes of architecture in the contemporary condition, the complexification of production processes, the articulation of an ever-increasing number of subjects and demands, and the intensification in the possibilities of exchange, communication, and knowledge are radically transforming the profile of the architect [3]. The mandate that societies assign to architecture is constantly evolving and mutating and, as a consequence, the figure of the architect is also being actualised, leading to the redefinition of the central target of practice in a shift in which the construction and the building, the objects, lose centrality in favour of an ever greater focus on the individual, the community, and the subjects [4].

Furthermore, while it is true that the discipline's interest in community practices, in the participation and inclusion of citizenship in the city's production processes, and the social role of the architect-designer is not new, and that these themes have characterised the debate for a good part of the last century, the scope and the reasons for the rebirth of this interest today have radically changed and transversally reach all professionals, regardless of their civic and political engagement and positioning. It is a transformation of practice that is reflected in the image that architects have of themselves, both inside and outside the discipline, which explains the radical transformation of working methods, the articulated and diversified cultural production of architects' offices and collectives, and the urgent need to rethink and redefine the aims and purposes of the pedagogical proposals offered by schools of architecture, or rather, of architecture(s).

In this context, the conference endeavours to elucidate a contemporary, more expansive, and inclusive definition of architecture by examining six pairs of antinomian concepts. These pairs include architecture as a method and/or as a discipline; architecture of the Masters and/or of the topics; architecture for architects and/or for the community; architecture as avant-garde and/or market-oriented; architecture inside and/or outside the wall; and architecture disciplinary and/or extra-disciplinary.

Michela Barosio
Santiago Gomes
Elena Vigliocco

References

1. Kaps V, Staub, P (eds) (2018) *New schools of thought: Augmenting the field of architectural education*. Zurich, Triest Verlag Fur Architektur.
2. Moneo, R (1999). *La solitudine degli edifici e altri scritti*. Torino, Allemandi
3. Gutman, R (1997) *Architectural Practice: A Critical View*. New York, Princeton Architectural Press.
4. UNESCO-UIA. Charter for Architectural Education (updated July 2023) https://www.uia-architectes.org/wp-content/uploads/2023/08/FINAL_UNESCO-UIA_CHARTER2023.pdf, last accessed 2024/06/04.

Organization

Local Organizing Committee

Barosio, Michela	Politecnico di Torino
Crapolicchio, Martina	Politecnico di Torino
Gomes, Santiago	Politecnico di Torino
Gugliotta, Rossella	Politecnico di Torino
Vigliocco, Elena	Politecnico di Torino

Scientific Committee

Atalay Franck, Oya	Zurich University of Applied Sciences
Barosio, Michela	Politecnico di Torino
Bologna, Alberto	Sapienza Università di Roma
Boutsen, Dag	KU Leuven
Cabrera, Ivan	Universitat Politècnica de València
Cavallo, Roberto	TU Delft
Corradi, Emilia	Politecnico di Milano
Flynn, Patrick	TU Dublin
Roth-Čerina, Mia	University of Zagreb
Santanichchia, Massimo	Iceland University of the Arts
Scala, Paola	Università Federico II di Napoli
Stewart, Sally	Glasgow School of Art
Valente, Ilaria	Politecnico di Milano
Xavier, João Pedro	FAUP Universidade do Porto
Zupančič, Tadeja	University of Ljubljana

Organized by



**European Association for
Architectural Education**

Association Européenne pour
l'Enseignement de l'Architecture



**Politecnico
di Torino**

Department
of Architecture and Design



Sponsored by



Reviewers

Ali, Ahmed K.	Texas A&M University
Blanco, Manuel	Universidad Politécnica de Madrid
Boano, Camillo	Politecnico di Torino
Bologna, Alberto	Sapienza Università di Roma
Boutsen, Dag	KU Leuven
Cabrera, Ivan	Universitat Politècnica de València
Caliskan, Olgu	Middle East Technical University
Cavallo, Roberto	TU Delft
Corradi, Emilia	Politecnico di Milano
Dessi, Adriano	Università degli Studi di Cagliari
Dhlavacek, Dalibor	Czech Technical University in Prague
Ferrando, Davide Tommaso	Free University of Bolzano
Flynn, Patrick	TU Dublin
Geddes, Ilaria	University of Cyprus
Gullberg, Johanna Sofia	Norwegian University of Science and Technology
Ieva, Matteo	Politecnico di Bari
Lo Turco, Massimiliano	Politecnico di Torino
Macaluso, Luciana	Università degli Studi di Palermo
Maretto, Marco	Università degli studi di Parma
Mariné, Nicolás	Universidad Politécnica de Madrid
Mariolle, Beatrice	ENSAP Lille
Marzot, Nicola	Politecnico di Torino
Massarente, Alessandro	Università di Ferrara
Mattone, Manuela	Politecnico di Torino
Minucciani, Valeria	Politecnico di Torino
Mueller, Felix	FH Münster
Pedersen, Claus	Aarhus School of Architecture
Ricchiardi, Ana	University of Cyprus

Rolando, Diana	Politecnico di Torino
Roth-Čerina, Mia	University of Zagreb
Scala, Paola	Università Federico II di Napoli
Segapeli, Silvana	ENSA Saint-Étienne
Sentieri, Carla	Universitat Politècnica de València
Stewart, Sally	Glasgow School of Art
Trisciuglio, Marco	Politecnico di Torino
Valente, Ilaria	Politecnico di Milano
Weischer, Martin	FH Münster
Zupančič, Tadeja	University of Ljubljana

Contents

Impact of Architecture(s)

Impact of Architecture(s)	3
<i>Andrea Čeko, Martina Crapolicchio, and Rossella Gugliotta</i>	

Speculating Beyond Academia. A Critical Reflection in the Light of the Experience of the PhD Workshop Held During the EAAE 23 Annual Conference	7
<i>Sotiria Inetzi, Carlo Vannini, and Diana Salahieh</i>	

Seeds of Architecture: Ways of Teaching

Seeds of Architecture: Ways of Teaching	15
<i>Michela Barosio</i>	

“Self-efficacy” as a Value in Architectural Pedagogy	17
<i>Naima Esra Akin</i>	

Means Oriented or Goals-Oriented Architectural Education	29
<i>Ahmed K. Ali</i>	

Architectural Thresholds: Critical Theory as <i>soglia</i> in Teaching Architecture and Urban Design	37
<i>Camillo Boano</i>	

How to Tackle Crisis in Architectural Education? Truth or Dare	47
<i>Hazal Çağlar Tüniür and Göksenin İnalhan</i>	

Demolition(s) in Question: A Pedagogical Approach Case Study: Toulouse Le Mirail	56
<i>Isabel Concheiro Guisan</i>	

Studio Life: Mechanisms of Competition and Collaboration in Architectural Labour Processes	64
<i>Camilo Vladimir de Lima Amaral</i>	

Socially Situated Pedagogies as a Strategy to Innovate Architectural Curricula: The Case Study of SARPe and Its Design Studio Experimentation at the University of Pavia	77
<i>Ioanni Delsante, Tabassum Ahmed, Maddalena Giovanna Anita Duse, and Linda Migliavacca</i>	
Architectural Pedagogy in the Age of AI: The Transformation of a Domain	87
<i>Mustapha El Moussaoui and Kris Krois</i>	
Teaching Architecture in the Age of Fragility	94
<i>Camillo Frattari</i>	
Risk, Trust and Big Beautiful Mistakes*: Keys to Innovation in Architectural Education	102
<i>Johanna S. Gullberg and Gro Rødne</i>	
Transformations of Public Spaces - Sustainable and Ethical Approach to Architectural and Urban Design Using Mixed Cultural Background	112
<i>Patrycja Haupt, Mariusz Twardowski, Luca Maria Francesco Fabris, Riccardo M. Banzarotti, Andres Ros Campos, J. L. Gisbert, and Pedro Verdejo Gimeno</i>	
Building a Community Through a Design Build Studio Program	122
<i>Arda Inceoglu</i>	
Affirmation of a Discipline: Ephemeral Tectonics of Architecture Lesson	132
<i>Sinsa Justic</i>	
Stumbling as a Praxis of Design Practice. A Pedagogical Experiment in “Theory and Criticism of Architectural Action”	142
<i>Caterina Quaglio and Edoardo Bruno</i>	
A Cosmopolitan Architectural Education	152
<i>Massimo Santanicchia</i>	
Bridging Methods and Disciplines: An Architectural Pedagogy for Rural Areas Community	161
<i>Stefano Sartorio</i>	
The Merits of Teaching Architecture as General Education	171
<i>Arno Suzuki</i>	

Roots of Architecture: Ways of Research

Roots of Architecture: Ways of Research	185
<i>Elena Vigliocco</i>	
Practicing Care Through Architecture: Participatory Research as a Tool to Subvert Power Structures	187
<i>Nadia Bertolino</i>	
Who is in?: Non-Living and Hybrid Constituents in More-Than-Living Ecosystem of the Studio	197
<i>Erenalp Büyüktopcu and Ayşe Şentürer</i>	
Action Based Research for Capacity Building of Neighborhood Communities	208
<i>Daniela Calciu, Vera Marin, and Oana Pavăl</i>	
Research by Design at the Crossroads of Architecture and Visual Arts: Exploring the Epistemological Reconfigurations	219
<i>Marianna Charitonidou</i>	
Topological Deformability in Architecture, or How to Learn About Differences	232
<i>Maja Dragišić</i>	
The Complexity Conflict in Research and Practice: The Case of Public-Private Interface Configuration	242
<i>Šárka Jahodová</i>	
Regenerating Public Housing in Italy with the Support of the Next Generation EU Fund. Lessons Learned from a Research by Design Experience	251
<i>Fabio Lepratto and Giuliana Miglierina</i>	
Interscalar and Interdisciplinary Approaches for a Valley Community. The Case of Sappada	263
<i>Alessandro Massarente, Alessandro Tessari, and Elena Guidetti</i>	
Architectural Design Studio: Embracing a Transdisciplinary Approach	273
<i>Christina Panayi, Effrosyni Roussou, and Nadia Charalambous</i>	
Mountains in Motion, Visions in Nutshells. The Alpine Way for Common Living	283
<i>Alisia Tognon</i>	

Research on Environmental Perception and Preferences of Traditional Villages from the Perspective of Local Gaze: A Chinese Case Study 294
Wei Xintong and Zhou Haoming

Rethinking Architecture in the Digital Age: From Parametric Design Thinking to Philosophical Perspectives 306
Hongye Wu

Branches of Architecture: Ways of Practice

Branches of Architecture: Ways of Practice 317
Santiago Gomes

Level II Training and Development of Scientific and Didactic Content. The Case of Executive Master: Mountain-Able. Planning and Design for the Sustainable Development of Mountain 319
Emilia Corradi

The Glass House Revisited 329
Stamatina Kousidi

Participation of Stakeholders in Open Architectural and Urban Planning Competitions. Procedure Model and Application in Croatian Context 339
Rene Lisac and Kristina Careva

Architectural practice in the Digital Age: Balancing Adoption and Adaptation 349
Damir Mance

Aligning the Pedagogy of Postgraduate Professional Practice Courses to Develop the Meta-competencies Required of Architects Today 362
Claire Mullally and Catherine Brown-Molloy

Design Institutes and Design Studios: Cases of Permeability Between Teaching and Practice (Including Research) 375
Marco Trisciuglio and Bao Li

Ways of Architecture(s)

A New Form of Practice: *La Rivoluzione delle Seppie* 389
Rita Elvira Adamo

Everyone Belongs to Everyone Else 394
*Giacomo Ardesio, Alessandro Bonizzoni, Nicola Campri,
Veronica Caprino, and Claudia Mainardi*

Assemblage and Rituals 400
Giovanni Glorialanza

New Territorial Narratives 405
Viviana Rubbo and Alessandro Guida

Author Index 411



Stumbling as a Praxis of Design Practice. A Pedagogical Experiment in “Theory and Criticism of Architectural Action”

Caterina Quaglio^(✉) and Edoardo Bruno

Politecnico di Torino, Turin, Italy
caterina.quaglio@polito.it

Abstract. The Thesis Seminar “Theory and Critique of Architectural Action” is a multidisciplinary educational experience designed to explore the methodological aspects associated with the development of a research project in architectural design, with a focus on Master’s Degree Graduation. The Seminar identifies six key methodological issues in research related to project practices and approaches them from a multidisciplinary perspective, subjecting each component to critical examination. Through lectures and Seminar meetings, each discipline challenges these issues based on its scientific status, providing specialized disciplinary insights. In doing so, the Seminar equips students with the necessary theoretical and practical tools to test the application of a robust methodological structure to address various challenges arising from the real world in their research activities. The structure of the Seminar is not intended to establish a specific sequence among the research activities object of inquiry, nor does it seek to offer exhaustive solutions to every issue raised. Instead, the Seminar’s aim is to provide students with critical and methodological instruments within a collegial space for open discussion and debate. The pedagogical objective is to enable students to critically evaluate and systematize interdisciplinary knowledge and skills acquired during their previous academic journey, allowing them to position original research programs within the broader framework of design practice.

Keywords: architectural design · design processes · design pedagogy · tactical design · learning by doing

1 Introduction: Question and Positioning

1.1 The Thesis Seminar as a Platform for Reflecting on Architectural Research

After approximately five years of education characterized by an alternation of disciplinary courses and design laboratories, students are confronted with the challenge of exploring architectural design as the subject of their thesis research. Often, this challenge is resolved, by producing an architectural project as a means of addressing a selected issue – as made evident by the majority of design thesis outputs. This approach, which leans towards practical application, bears little resemblance to scientific research.

The latter demands the establishment of how a working hypothesis can lead to original, methodologically rigorous results capable of making an impact within the relevant scientific community.

In light of these considerations, this contribution draws from the experience and outcomes of the inaugural edition of the interdisciplinary thesis Seminar, “Theory and Criticism of Architectural Action”, to explore and test, within the pedagogical realm, the intricacies and tools of scientific research in architecture. This Seminar, held at the Politecnico di Torino for the first time in 2023, assembled a group of approximately twenty-two students dedicated to developing research projects within the domain of architectural design with the aim (i) to foster a dialogue between individual experiences and expert contributions and, by doing that, (ii) to emphasize shared methodological and theoretical issues.

The Seminar was conceived with a clear premise: the elaboration of an architectural thesis does not merely entail the development of an architectural design. This is not to suggest that architectural design is excluded from this process; rather, it is contextualized as both an object of study and an investigative tool, rather than as the main expected outcome.

1.2 The Thesis Seminar as a Platform for Reflecting on Architectural Research

The adoption of this standpoint is underpinned by the intention to grasp the “salient character of reality” (Ferraris, 2015: p.55, translated by the authors) which defines architectural design, investigating its mechanisms and effects in order to “distinguish dreams from reality and science from magic” (Ferraris, 2015: p. 30, translated by the authors). In this sense, architectural design is placed in its intrinsic capacity – a technique intended more as a *poiesis* in the sense of fabricating, than a *praxis*, pictured in the middle of a direct and synchronic action – to be understood as a research laboratory, opening up a series of issues that are inherent, though not entirely overlapping, with proper scientific research.

The laboratory, in fact, implies the sequencing of a series of actions that, when tested in a “controlled” environment, allow the designers-researchers to gain experience, thereby enhancing their skills and/or knowledge. Input hypotheses are validated and/or falsified, necessitating a series of subsequent cycles (Latour & Woolgar, 1979). The outputs obtained from the laboratory experience may or may not include an architectural design, but it is essential in any case to define a criterion of generalizability that transcends a specific context; otherwise, the scientific research status of the work performed is at risk of being compromised.

Starting from the premise of considering the work of thesis students as a research laboratory, the Seminar addressed a series of methodological issues. These issues were specifically addressed within the scope of the course’s educational project, but they have general scientific significance for architectural studies. (i) What are the physical and temporal boundaries that research/design activities compel us to navigate through a meticulous process of selection and interpretation, which results in continuous compressions and dilations throughout the work? (ii) What sources are called into play, defining heterogeneous archives whose taxonomy and degrees of priority are tied to operations that have little to do with the project as the invention of a *tabula rasa*? (iii) What are the

operations that the laboratory carries out in the field, where the emergence of disputes and deviations question the initial hypotheses and the role of architectural design itself as an activity that needs to reinvent itself in each situation? (iv) Under what conditions is the transfer of practices possible between distinct contexts, and within what limits?

In addressing these issues consciously and rigorously, the practice of design resembles a profession in which experience is accumulated (Schön, 1983), through a process of progressive professionalization that, while retaining certain defining elements, allows for adaptation to a socio-technical context in constant flux (Hughes, 1963).

1.3 The Project as an Object of Study? from Architecture as Individual Expression to Architecture as Technique

The laboratory, therefore, encourages us to move beyond the conception that architectural design must be entirely confined to the dichotomy constituted, on one side, by the interpretative capacity of the subject (expression) and, on the other, by the operability of the object (measures). The relationship established between the designer and its design, a subject dear to the construction of narratives and historiographies (Olmo, 2023, p: 164), assumes a different role within the research laboratory. Here, it is investigated beyond individual experience, constructing general definitions based on the effects it carries.

According to this interpretation, the designer-researcher – who, in the Seminar, is a student working on a research thesis – goes beyond the role of the “initiate” into design. Rather than an individual who hones its art of designing through emulation, training and repetition (Barioglio et al, 2023), research is characterized by the transmission and overlap of those remnants and adjustments inherent in the process of knowledge innovation. This represents a fundamental point for the sciences of design, in a perspective aimed at moving beyond the notion that university classrooms should be transformed into places of indoctrination and the “transmission of initiatory knowledge” (Armando & Durbiano, 2023: p. 139, translated by the authors).

The position we intend to raise is that it is more appropriate to consider the theory of architectural design as a scientific discipline that can be described and transmitted as a sequence of traceable actions, a know-how in which dexterity – where cunning, or “*metis*”, is not a morally reprehensible act (Jullien, 2015) – and the ability to interpret and predict data based on experience are an integral part of the research and action process.

2 “Stumbling” as a Praxis of Architectural Design Practice

2.1 Changing Perspective: Conducting Research (on Design) Through Design

Research on design necessitates a shift from “free enunciations” to cycles of methodologically conscious laboratory activities – involving return, repetition, and alteration – which develop in direct relation to a real process/context, thereby producing traceable effects within a controversy. The ability to “measure” the capacity to overcome certain obstacles or changes in trajectory resulting from external conditions – once again, invoking actions typical of scientific laboratory activities – allows us to question the extent of the project’s power of action concerning a given contingency.

Hence, there is a need for experimentation with pedagogical approaches that place methods and tools at the center for measuring the adjustments in design action (Fed-erighi & Bruno, 2022). In the pedagogical experience of the thesis Seminar, it is precisely the recurrent “practice of stumbling” that becomes the focal point of research activities on design action, bringing this aspect to the forefront and making the project simultaneously the object and method of scientific investigation.

2.2 A Laboratory of Tactics

Moving away from the short-circuit between ideation and realization (Armando & Dur-biano, 2023: p. 119) as a linear expression of architectural design – a “misplaced trigger from the outset” (De Carlo, 1968: p. 138, translated by the author) – opens up the possibility of circumscribing design practice to a technique, which by no means implies an exit from the realm of knowledge and, therefore, from its possibility of transmission in the field of design pedagogy. In fact, by adapting to a know-how model, architectural design becomes, in the realm of research, both an object of investigation and an operational tool through which generalizable concepts can be deduced from empirical experiences of engaging with reality.

Architects’ education is thus intertwined with the ongoing interaction between an operational direction – namely, acquiring the competencies and functional tools for legitimizing design in social exchanges – and a critical direction – giving tactical value to one’s own laboratory. For both of these domains, direct engagement with the current context as an arena for experimentation is not only inevitable but also desirable. This outlines a specific mode of conducting research in the field of architectural design: the malleability of projects, the discrepancies between initial promises and final results, take on speculative significance as traces of a process aimed at measuring the effects of design action in its interrelation with the socio-technical context in which it operates (Armando & Durbiano, 2023: p. 169).

3 The Seminar “Theory and Criticism of Architectural Action”

3.1 The Structure: 6 Key Methodological Issues

To delve deeper, both theoretically and practically, into the specificities that characterize a research path in architecture, we have identified six key methodological issues as the backbone of the Seminar program: “Hypothesis”, “Scale and time”, “Maps and events”, “The empirical research”, “The fieldwork” and “The staging”.

The identification of these specific nodes is based on a series of criteria aligned with the research objectives:

- they are central to current scientific debate, encompassing a multitude of conflicting positions and interpretations;
- they transcend specific objects of study, being therefore suitable for interdisciplinary investigation;
- they have highly operational implications, lending themselves to “in-action” experimentation.

Within the Seminar, these six methodological nodes were not addressed as a linear sequence, but rather as a network of interconnected issues. With the aim of outlining each area of investigation in a shared yet open-to-interdisciplinary-contributions manner, we have first identified the operational horizon of each node and made explicit some key questions and challenges.

“The hypothesis”: it frames the primary research question arising from contextual conflicts, disputes, and issues. This operation puts the basis for forward steps, defining or anticipating a tentative sequence of future actions.

“Scale and time”: it highlights the specific point of observation in the research. This includes addressing blurred spatial and geometrical boundaries, historical periodization, and future scenarios that constitute the scientific laboratory for research operations.

“Maps and events”: it involves detecting, narrating, and tracking the selected dispute, connecting stakeholders, documents, and places. The mapping operation aims to identify the sphere of influence of each “actant” involved in the process (Latour, 2005) and enhance predictive capabilities of design action.

“The empirical research”: it includes determining research sources, operations, and their sequence. The heterogeneous nature of sources can be tackled by developing archives and taxonomies to support research activities.

“The fieldwork”: it comprises all operations carried out directly on-site, involving techniques to test sources and archives, collect multiple points of observation, and interpret the data gathered for recalibrating the primary research question.

“The staging”: it pertains to developing a selected narrative, a plot, or design operations capable of staging the elaboration of the thesis.

Each of these methodological operations, as described, was explored at the same time through various types of disciplinary contributions and direct research experiences conducted by thesis students on their respective case studies. Moreover, a common ground for the examination of each “node” was progressively built up via the construction of collective reflection on research practice in architecture, particularly a working approach characterized by a partial and contingent understanding of the process/context in which it operates.

3.2 The Pedagogical Approach: Interdisciplinary Learning-By-Doing

The educational objectives and pedagogical approach of the thesis Seminar aim to reflect an interdisciplinary learning-by-doing methodology. More specifically, each methodological issue was addressed in the Seminar through two parallel approaches. On one hand, students were required to engage in guided practical exercises related to their own work, stimulating reflection in practice (Schön, 1983). On the other hand, specialized didactic contributions further developed the theoretical and methodological conceptualization of the six nodes. Three main types of contributions were in particular provided throughout the Seminar:

- 1) “Thematic lectures”: these lectures are intended to build a broader theoretical framework on specific topics.
- 2) “Operational lectures”: these lectures focus on specific analytical tools and research methods.

- 3) “Interdisciplinary seminars”: these sessions encourage cross dialogues on each topic, fostering broader discussions and insights.

Thematic and operational lectures provided the theoretical underpinning of the Seminar. They were delivered by invited experts from a range of disciplines, including anthropology, philosophy, sociology, and history. Ideally, the list of disciplines and contributions involved – while limited in the Seminar by the constraints of a semester-long teaching experience – can be extended to encompass all perspectives that facilitate dialogue on a common ground of interest. In parallel, the interdisciplinary seminars progressively addressed the specificity of design practice and architectural action compared to other practices.

The chronological organization of the seminar was designed to enable a continuous intertwining of different types of contributions and learning exercises. Each methodological issue was developed over a two-week module, commencing with the launch of a practical exercise. This approach allows students to start working and thinking by doing on a topic while progressively expanding their knowledge and interpretative tools. The outputs produced were collectively discussed at the end of each module but remained subject to continuous updates and modifications throughout the whole Seminar, integrating and complementing contributions from other nodes.

For example, in the first module, dedicated to the research hypothesis, students were asked to frame their main research question and develop an action plan to address it. Nevertheless, the request to explicitly articulate the research hypothesis and the actions aimed at investigating it, accompanied the entire development of the work, devoting specific attention on any deviations and modifications in progress. The second and third modules challenged students to delimitate and map the object of study in all its dimensions – chronological, spatial, social, etc. The fourth and fifth exercises paid specific attention to the technicalities of research work, including the selection, production, and interpretation of direct and indirect sources (Fig. 1). Finally, the last module, pertaining to the “staging” of the work done, implied to identify the narrative strategy most aligned with the research work’s objectives.

The Seminar’s outputs reflect a shift not only in perspectives but also in the objects observed within the research work. The focus moves towards the design process rather than its outcome (the built architecture), emphasizing the mobilization of multidisciplinary competencies in action and how they intersect with and modify the ongoing process. Spatial, technical, or conceptual architectural drawings are often developed alongside or in relation to diagrams that aim to incorporate time and actions in both analytical and design operations (Fig. 2).

All the students worked on real controversies or processes, with the aim to consider the effects of their design choices, if not measurable, at least plausibly predictable. Furthermore, design projects, conceived as technical objects, become negotiation tools within the process rather than photographs of a pre-determined product. In doing so, the Seminar aspires to reproduce, within the limits of an educational experience, the actual implications of a multi-actor design process, making it a specific object of research and experimentation for future professionals.

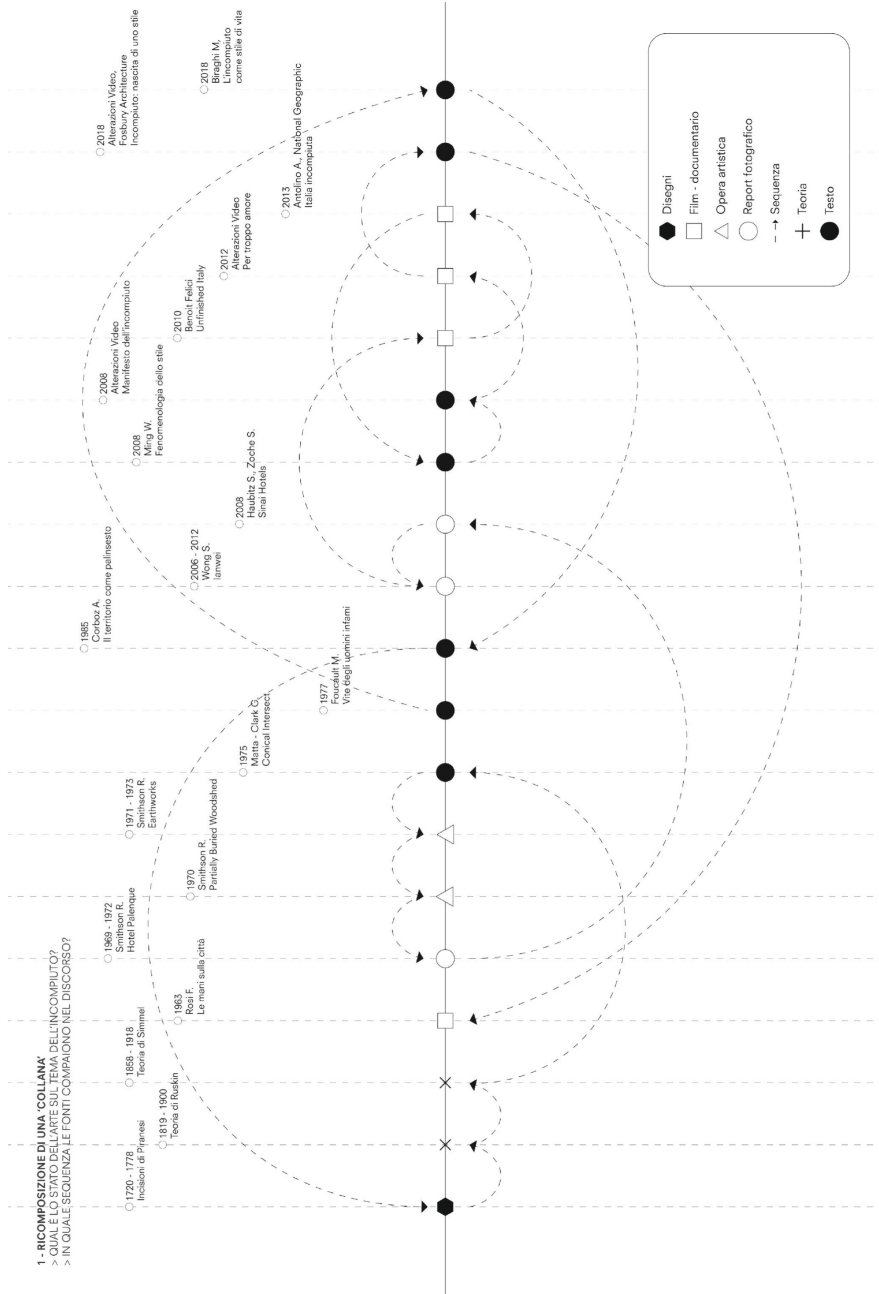


Fig. 1. A preliminary taxonomy of the sources considered in the development of exercise number 5. It is necessary to underline both the different types of materials considered as well as their looping relationships along the research, where they are activated according to a precise tactic (diagram by Antonio Nicoletti).

STRATEGY FOR DOCUMENTS ANALYSIS

The documents were the basis for the elaboration of this spatialization inherent in the two possible scenarios. Instances affecting prototypes, markers and generators were generated from these documents. The archive is gradually spatialized starting from their objectives or from instances discovered by studying other documents.

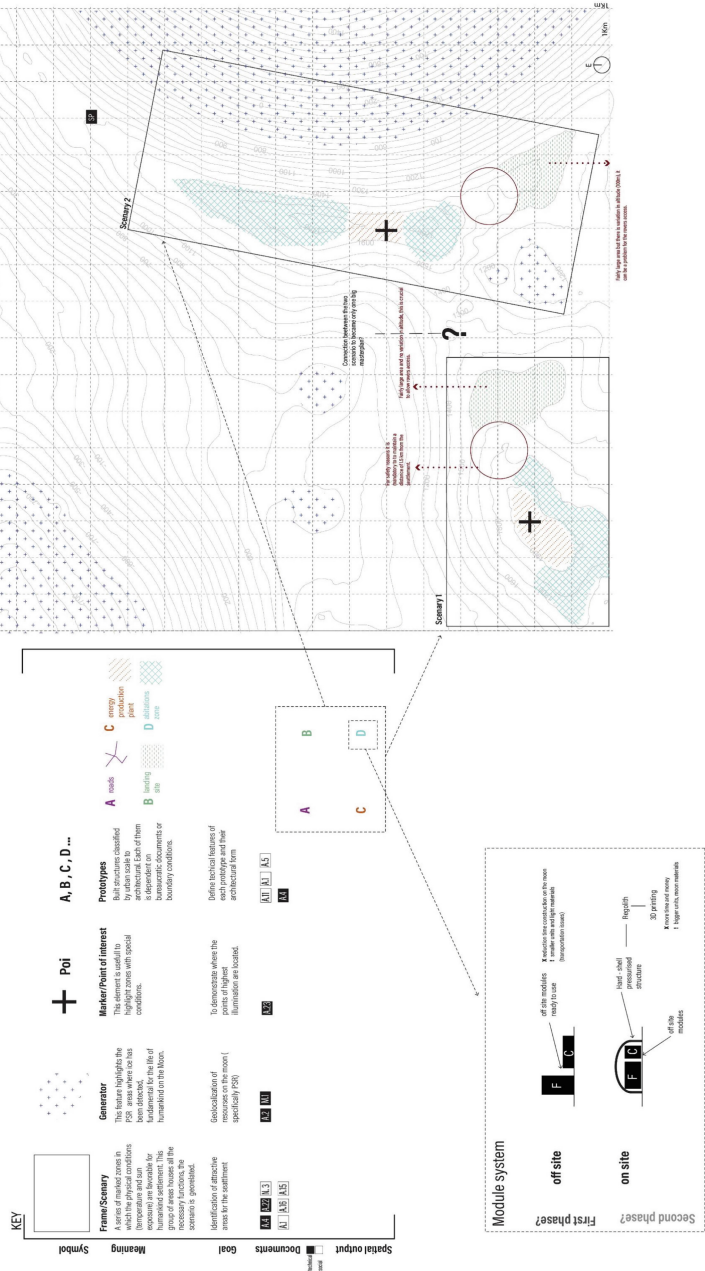


Fig. 2. Spatialization of different design scenarios based on documents collected along the research activity for exercise number 6. Their recombination is affecting preliminary traces which needs to confront subsequent contingencies (diagram by Mammino Mariapia).

4 Final Remarks

The experience of the Seminar allowed us to highlight some final remarks and questions from that can be of interest for a common discussion. The first question relates to the relationship between theory and practice: How to transmit and an operative knowledge through a set of didactic tools which are un-coded and infinitely expandable? In this sense, the Seminar framed a possible answer in erasing boundaries between thoughts and actions, while looping procedures have been promoted as pedagogical experiments. As a matter of fact, un-coded tools were turned into working hypothesis within the laboratory – instead of ontological horizon. In doing so, the progressive expansion of each student’s research toolkit allowed for a deep understanding of an iterative technique, which surpass – or at least re-configure – the conception of architectural design as a weak scientific approach.

The second question addresses transdisciplinarity, questioning the potentials for effective integration among disciplines. The students had several inputs from experts and researchers from different fields, helping them to configure architectural design as an open-source field where different ontologies can cooperate in moving towards an-action oriented laboratory. Testing through practical research operations their observations significantly blurred the boundaries between structured scientific fields.

Finally, the main pedagogical question underlying the Seminar is if research project can be developed – and thought – as an exercise in tactics. The atypical outputs produced by the students as outcomes of the Seminar – alternative design solutions, maps of controversies that can boost or refuse specific actions, taxonomies of datasets and sources, etc. –, suggest an interest in further developing an experimental pedagogy on architectural design focused on the juxtaposition of iterative sequences of micro-decisions as a way to unveil spaces for innovation and, more generally, further dissemination among the scientific community of an alternative approach to design practice.

References

- Armando, A., Durbiano, D.: *Critica Della Ragione Progettuale*. Saggi 935. Il Mulino, Bologna (2023)
- Barioglio, C., Campobenedetto, D., Quaglio, C.: Transformative design teaching. Challenging the didactic assumptions of polytechnic schools through the lens of the professional role of architects. In: Flynn, P., O’Connor, M., Price, Dunn, M. (eds.) *Rethinking the Crit*, pp. 121–134. Routledge, London (2023)
- De Carlo, G.: *La piramide Rovesciata*. Architettura Oltre il’68. Quodlibet, Macerata (1968)
- Federighi, V., Bruno, E.: *The Detroit Great Game: Explorations Around Architectural Design and Its Agency*. AADR – Art Architecture Design Research, Berlin (2022)
- Ferraris, M.: *Manifesto del Nuovo Realismo*. Laterza, Bari (2015)
- Hughes, E.C.: *Professions*. *Daedalus* **92**(4), 655–668 (1963)
- Jullien, F.: *De l’être au Vivre: Lexique Euro-Chinois de la Pensée*. Gallimard, Paris (2015)
- Latour, B.: *Reassembling the Social: an Introduction to Actor-Network-Theory*. Oxford University Press, Oxford, New York (2005)
- Latour, B., Woolgar, S.: *Laboratory Life: The Social Construction of Scientific Facts*. Sage Publications, Beverly Hills (1979)

Olmo, C.: *Storia Contro Storie: Elogio del Fatto Architettonico*. Donzelli Editore, Rome (2023)
Schön, D.A.: *The Reflective Practitioner: How Professionals Think in Action*. Basic Books, New York (1983)

Open Access This chapter is licensed under the terms of the Creative Commons Attribution 4.0 International License (<http://creativecommons.org/licenses/by/4.0/>), which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

