

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

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

EAAE Annual Conference—Turin 2023

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Editors

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EAAE Annual Conference—Turin 2023

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## 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

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

Caterina Quaglio<sup>(✉)</sup> and Edoardo Bruno

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**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 (Fedrighi & 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 & Durbiano, 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.

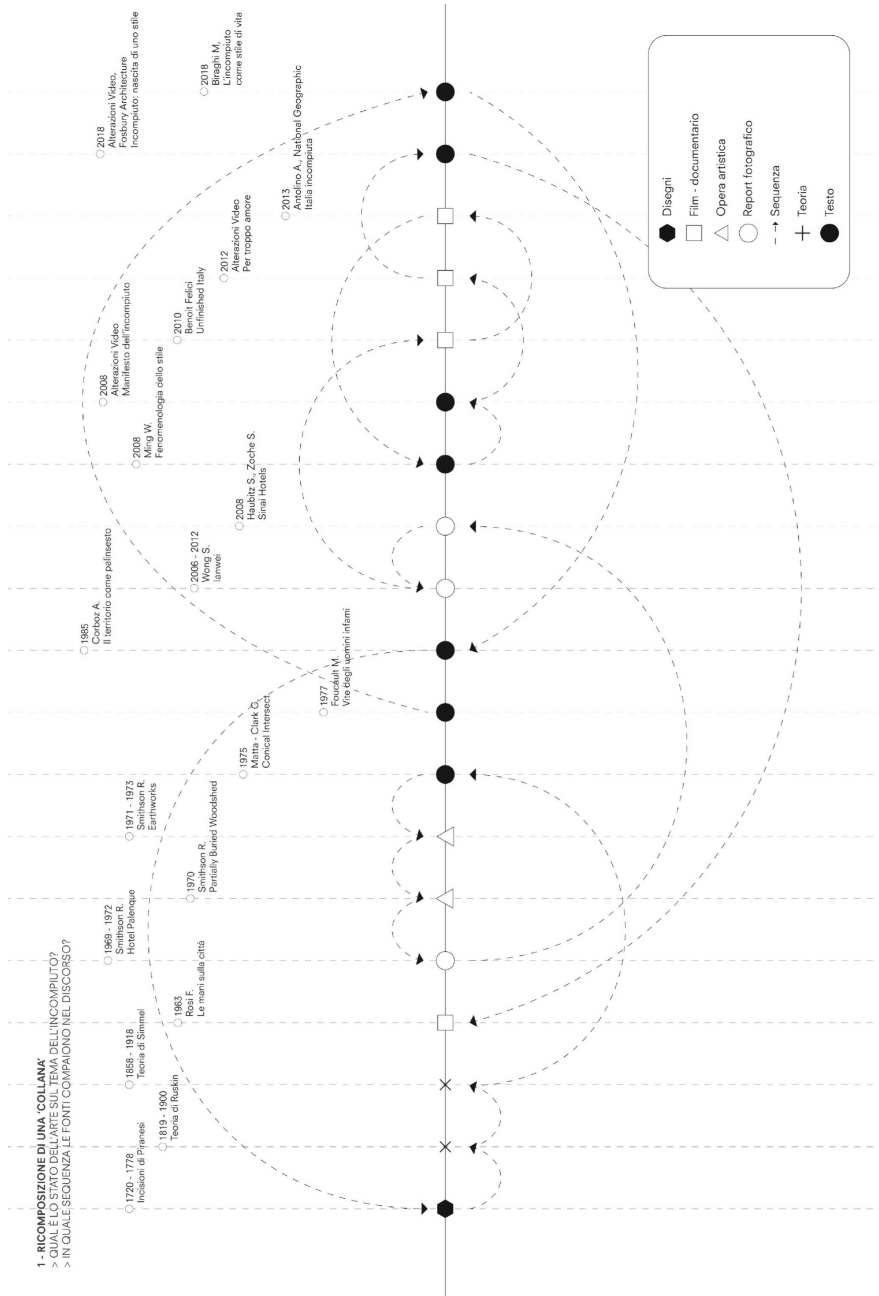
Thematic and operational lectures provided the theoretical underpinning of the Seminar. They were delivered by invited experts from a range of disciplines, including anthropology, philosophy, sociology, and history. Ideally, the list of disciplines and contributions involved – while limited in the Seminar 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).

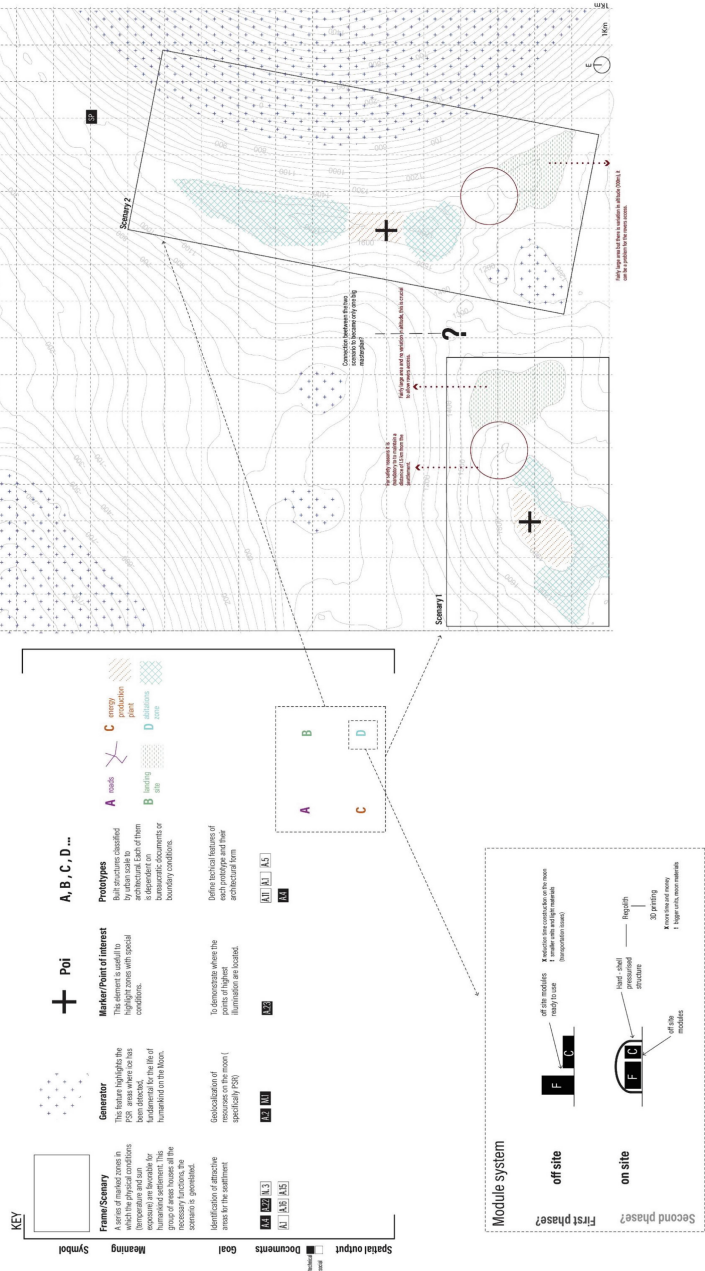
All the students worked on real controversies or processes, with the aim to consider the effects of their design choices, if not measurable, at least plausibly predictable. Furthermore, design projects, conceived as technical objects, become negotiation tools within the process rather than photographs 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.

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