



# RELEVANCE

of Doctoral Research in Architecture



Architecture and Planning  
School of Engineering  
and the Built Environment, (EBE)  
Faculty of Science and Engineering



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# RELEVANCE OF DOCTORAL RESEARCH IN ARCHITECTURE

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# THE RELATIONAL AND LINGUISTIC ORIGINS OF ARCHITECTURAL RESEARCH Relevance from a Design Teaching Approach

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*Lede: Does Architectural Research constitute a borderless domain, or are there untold rules defining what is architecture and what is something else? Can Architecture be a matter of relations and operative semiotic?*

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*The topic of research in architecture has been the subject of speculation for decades now, in the difficult attempt to frame a discipline whose strength is precisely its flexibility. Many researchers have wondered about a possible autonomy of architecture at the level of scientific research, and still others about the role of interdisciplinary research in dialogue with that of architecture.*

*With the increase in public funding from the Italian Ministry of University and Research, assigned to strengthening the public-private relationship, the Italian academic panorama is the protagonist of an increase in research themes and projects in the doctoral field. This operation generated a series of debates and reflections among doctoral students on what it means to do research in architecture. Two approaches emerged during the debate: on the one hand a definition given by the operational dimension and the tools specific to the architectural discipline, and on the other a methodological approach dedicated to establishing an order among the innumerable elements with which architecture enters in dialogue.*

*In trying to understand whether the language of architecture is a sufficient element for a research object to be recognized as architecture, the teaching experience of a degree course in which students are asked to operate according to the terms of the architecture. If we ask, “What is research in architecture?” to someone not related to the academic and scientific domains, they will respond that we deal with some sort of guidelines as the output of our work. In the same way, such doubt reflected on someone dealing with another scientific sector will amateurishly explain to us that research in our field only deals with a constructive or technological perspective. And again, an Architect or a Designer will point out that it’s about the physical object itself, arguing with the “IT Architect” who will claim the word for his sphere.*

*So, this chaotic mass of interpretations may lead us to ask ourselves, “What is truly Architecture? What are we studying?” – when the word itself is stolen and reclaimed even by other disciplines. Do we still have autonomy and defined boundaries in our domain, or are we some sort of interstitial gap that needs to be filled?*

## 1. Introduction

The Italian third-level education, commonly framed as Doctoral education, has been the protagonist of a widened spectrum of research possibilities when the Ministry of University and Research granted 300 million euros to invest in Innovative doctoral scholarships (MUR, 2022). With 7.500 grants covered – of which 5.000 scholarships for innovative doctorates that respond to the needs of companies and promote the hiring of researchers by the latter, the operation of involving external companies as co-funding bodies, inevitably constituted a wide variety of heterogeneous research projects ranging from more traditional to innovative research questions, broadening the spectrum of active research in the academic field.

Within an ongoing debate in our doctoral program, it was evident that the role of research in architecture still appears as a weird paradox, and among doctoral candidates it was not always evident the threshold between ‘doing research in architecture’ and falling into another disciplinary domain. Some may agree that “Research in Architecture is either everything or anything” simultaneously (Hillier & Leaman,

1976, p. 28), as a sort of interesting Schrödinger’s cat paradox. It is in the framework of a doctoral course, ‘Architecture in Transition’, that we were questioned on what research in our discipline means nowadays and the implications of the contemporary evolutions in the Italian academic panorama.

If we ask, “What is research in architecture?” to someone not related to the academic and scientific domains, they will respond that we deal with some sort of guidelines as the output of our work or that we are dedicated to constituting the framework of how things must be done. In the same way, such doubt reflected on someone dealing with another scientific sector will amateurishly explain to us that research in our field only deals with a constructive or technological perspective; and again, an Architect or a Designer will point us that it is about the physical object itself, arguing with the “IT Architect<sup>1</sup>” who will claim the word for his sphere. The implications of a non-clearly defined boundary are also the outcome of the scientific disciplines categorization that characterizes the Italian academic environment, where the research domain of each researcher is defined by a Scientific Disciplinary Sector (SSD)<sup>2</sup>, which in theory should define the strictly defined scope of each researcher horizon, but in

reality, does not find an easy translation due to the heterogeneity and flexibility of our discipline's goals.

There is indeed a spread undefinition of what can be considered research in architecture, due to the different perceptions according to the different sectors of research and professional expertise.

*Architecture reaches out to and incorporates knowledge of other disciplines. Architectural research therefore is fertile for trans- and inter-disciplinary endeavours. By embracing aspects of rationality and intuition, objectivity and inter-subjectivity, technique and emotion, logic and creativity, architectural research enriches the understanding of the world. (EAAE, 2022)*

The speculation on the effective role of the architectural discourse, and whether our type of research has autonomy, has been widely presented by Jeremy Till in his writings, in order to reconstruct the foundations and expressions of the architectural research roots (Till, 2005).

In the work "Three Myths and one Model", for example, Till reflects on the origins of research in architecture and whether its autonomy may exist, discussing the role of architecture as just architecture - whether instead research in architecture can only be carried out by relating different disciplinary fields and therefore referring to "architecture is not architecture" - or even whether the design of a building can be considered as a form of research.

So, this chaotic mass of interpretations may lead us to ask ourselves, "What is truly Architecture? What are we studying?" - when the word itself is even stolen and reclaimed by other disciplines. Do we still have autonomy and defined boundaries in our domain, or are we some sort of interstitial gap that needs to be filled?

## 2. Research through the Language of Architecture

One of the positions that we can argue, is related to the fact that we can perceive Architecture in its linguistic dimension. Everything can be architecture when the process is conceived through the architectural language, and for instance an object of design itself can be considered architecture when the expressions with which it has been "written" come from the architectural world. Of course, it does not mean that architecture is a matter of written landscapes or the outcome of a compositive operation but rather a compound of tools and devices to define an entity, which is architectural.

The problem with doing research in architecture is that we always risk having the tendency to embody different disciplines and lose the core of our specificity, while we should instead try to "border" the research. Another difficulty inevitably comes from the artistic component of our activities, for which we do not have a design protocol or guidelines to path our methodologies; we indeed have best practices and possibilities, but we unavoidably lack a rigid and specific tracing grid.

Bernard Tschumi presents different theories and reflections in his work "Architecture and Disjunction" (Tschumi, 1996), and among his reasonings, he also discusses the relation between the physical form of architecture and its language dimension. He provocatively presents how 'the architectural

object is pure language, and the architecture is an endless manipulation of the grammar and syntax of the architectural sign. Rational architecture, for example, becomes a selected vocabulary of architectural elements [...] with their oppositions, contrasts, and redistributions' (Tschumi, 1996, p. 36-37). Tschumi's work is one example of the attempt to explore the relationship between architectural theory and language and mainly how architectural concepts are expressed and transformed in the design process. In referring to "Architecture as a matter of language", we can find different declinations bordering such assumptions. On one side for sure, we have the historical and cultural tradition of identifying architecture as a technical and referential language, for which the language can influence the way we think about architecture itself; the use of specific terms, such as "modern" or "traditional" can carry cultural connotations that affect our perceptions of the architectural entity and design. Moreover, language can be found in the operational tools and devices that define architectural discourses. (Prak, 1968)

The design process is the true core of architectural research, and therefore, it is crucial to recognize the language elements of architecture in its expressive tools. Such language consists of drawings, diagrams, and models - which are not only a medium through which architects and researchers explore, question, and innovate in the field - but rather the constitutive and characteristic element of the discipline, for which these tools not only convey design intent but also serve as vehicles for the architectural discourse development. Rob Roggemma, for example, in his speculations on Design-driven research, presents how we may interpret design as a conversation usually held via a medium such as paper and pencil, with another as the conversational partner' (Roggemma, 2016). The peculiarity of a discipline relies upon the fact that we generate a research discourse that is shareable and implementable and consequently needs to rely on a comprehensible system of reference, and it is this reference grid that is the core essence of architectural, through which we can enable a conversation that is understandable by scholars and professionals dedicated in architecture.

Therefore, it still remains crucial to reflect on whether architectural research is generated from a discourse performed with architectural tools, and so we produce architectural entities "writing architecture with architecture" - or if, on the other hand, this interpretation may lead to a mere narrative role of the physical reflection of the architectural discourse.

An example that was discussed in the abovementioned doctoral training course is the design experiment of Junya Ishigami, the "Thin Table", in which the designer adopts the architectural language in an industrial product.

*I built this extremely large table as I would a small building. There it is in the room as if it were the most ordinary thing, a table on a normally impossible scale. On top, an assortment of every day still objects are arranged as if to form a landscape. You can touch and watch a slow undulation like a wave in a body of water. It is like liquid. (Fritz, 2010)*

In such operation, the author relies on the application of architectural expressions and reflections in a non-architectural discipline, and as Jeff Kaplon argues, 'the complexities of structural forces and creation of spatial relationships is achieved at the scale of household objects' (Lucarelli, 2016),



Figure 1: Thin Table. Junya Ishigami. Ph Credits: Junya Ishigami (2006).

which reveals architectural reasoning even behind a punctual design object.

### 3. Research through a Relational Approach

Another valuable and complementary position we may consider is defining the architectural research mechanism as a matter of building relations. In these terms, we may consider the research process as the operation of giving order to the mass to discover something new, where the action of research stands within the complexity of relationships as a sort of Platonic Demiurge<sup>3</sup>. In such terms, a researcher's contribution to architecture can be the one to provide a different reading of these interrelations between already-existing elements; the basin of research reflections is already present in its raw expression and merely needs to be put in a system with a referential grid.

This interoperation can explain why our non-bibliometric research may end up with different assessments from different readers. Italy has an objective dichotomy between these two types of scientific research. The first, which refers to the "hard sciences" and deals with disciplines like medicine and biology, can usually be evaluated in a rigid grid, which can nowadays be evaluated even with parametric software of assessments according to the quotations and results outcomes; the second, in which for example architecture relies, implies the presence of someone reading and evaluating its content,

which instead is subjective and introduces an arbitrary assessment that has the direct consequence of the impossibility in having a quantitative and absolute evaluation of the research.

One of the questions that most commonly arises in the architectural discourse is, "How can we assess a good or bad architectural project"? We can certainly attempt to border certain aspects and evaluate them as parts of the whole, such as the environmental impacts or the technological performance, but how can we evaluate the "perfection of design" on an absolute level?

It is therefore an agreeable theme that the preconceptions and typical tools of architecture are considered as data, which constitute the architectural language we were talking about before. The architectural operation therefore does not generate new tools or new concepts but operates as a process of relating already given elements. In fact, this explains how the discipline has different facets and declinations in theoretical, methodological, or architectural production approaches. In all three cases, the production of knowledge arises from the act of relating themes and conditions that had never been brought into contact until then. While on the one hand theoretical research in architecture tries to simplify the complex panorama of relationships to arrive at an exemplification of widespread models and constructs, architectural production instead tries to mess up these relationships to generate something new.



Figure 2-3: Reforming Future Exhibition. "Freedom is". Ph. credits: Ruy Teixeira (2023) / Reforming Future Exhibition. "Freedom is". Ph. credits: Marco De Santi (2023).

Research in architecture is, in the end, a matter of relations, and every interlocutor has a different sensitivity and captures divergent connections within this pandemonium of possible correspondences. Architecture is inherently multifaceted. It encompasses not only the design and construction of buildings but also a rich tapestry of elements, such as culture, history, sociology, technology, sustainability, and aesthetics. These topics are not isolated; they intertwine to form the fabric of architectural practice.

#### 4. Relevance from a Teaching Scenario. Design through Architecture

Therefore, the question is to understand if we can conceive the Architectural discourse has a methodology, a reference grid, or specifically as a framework of research itself, with its own autonomy and power given by its own expressive and reflective tools.

It is important to underline that the Italian university recognizes the fields of design as an autonomous discipline regarding architecture and urban planning, while in other geographical contexts the two disciplines are kept together. In the specific context of Milan, the faculty of design has been constituted only in 1993 as an autonomous school with the first bachelor's in industrial design, separated from the faculty of Architecture, Urban Planning and Construction engineering. Within the "Landscape and Interior Spatial Design" course held by Prof. Arch. Michele De Lucchi<sup>4</sup> at Politecnico di Milano, School of Design, we specifically tried to propose adopting the architectural language in the definition of the students' projects. The course is typically centered on the architecture of the interiors, usually providing students with a functional goal, and training their abilities in this specific field.

On the other hand, our teaching group aimed at developing a design reflection adopting the tools and thinking typical of the architectural domain, also given the architecture expertise of the teaching team.

The experiment proposed to the students, which started with the collaboration between Prof. Michele De Lucchi and Prof. Andrea Branzi, does not rely on a functional goal to satisfy, but rather on an anthropological concept. Students are given with an abstract concept to be interpreted and translated into the spatial form, adopting the architectural tools. Through-out the years heterogeneous concepts were delivered, from the idea of death, chaos, contamination, rebellion,

eros, up to the topic of the previous years of freedom and happiness. The challenging goal is to adopt the architectural language in design education in order to return a physical space that is evocative of such ideas, through the architectural and spatial design tools. Inevitably, the question is whether the outcome will be divergent from the disciplinary background of design, or if instead the design output can be considered as architecture – as it is written with the language and tools of architecture.

The exhibition "Reforming Future" within the palimpsest "Design Variations" of the Milan Design week, aimed at proposing the last ten years of this architectural-design production, presenting the final outcomes of the different topics that the students tried to address. One peculiar approach given in the production of such final entities, is the fact that the models presented were not conceived as models, but rather as the architectural object itself; the maquettes are not a representation of the architectural product, but they are the products themselves.

In the experience of the previous year, for which the topic was "Freedom", an additional challenge was given to the students, in order to gain a better involvement on the space design influence of their works. In particular, all the interpretations of the concept should have been suspended on the ceiling, in order to deepen the reflections also on the "fourth" dimension of the maquette, the space generated underneath.

With *Freedom is Cosmico* (Figure 4), for example, the intention was to read the unity of the elements but also the complexity of the different parts combined as a whole through the lens of the architectural project. In another experiment, *Freedom is Deviation* (Figure 5) translates the roof's functional attribute into a skeleton's definition. It no longer maintains its justification as a covering, but it is instead something else. The object deviates physically and metaphorically, where the central ridge becomes the canon, and some spans take a different turn, creating two different directions and infinite perspectives<sup>5</sup>.

In both scenarios, they are evidently no longer pure architectures or functional architectures. Still, at the same time, they preserve their character as such when the attributes used to define their entity come from the architecture extent. It is therefore interesting to note how on the one hand the use of architectural language has inevitably produced architectural elements, although this was not a constituent part of the premises, and on the other hand how the need to think of an element in its three-dimensionality and in its relationship



Figure 4-5: Freedom is Cosmico. Ph. Authors Panganiban K.A., Perotti A.N., Sena F., Urli F. / Freedom is Deviation. Ph. Authors Borney M., Galloni V., Messaggio T., Tomasi I., Volontè S.

with the surrounding space, has produced an element that generates and feeds on space.

## 5. Conclusions

Prescribed these two possible lenses for reading architecture, it can genuinely be “either everything or anything simultaneously,” and at the same time, it becomes crucial to juxtapose this divergence in direct connection with the research lines dealing with what pure architecture is. We read an element as architecture if we recognize the characters of architecture, in the same way, we can identify the language of a text from some commonly known words. Closing the circle back to the linguistic vision, in a relational approach, the same happens when composing a text: words already exist as given, and it is our putting them into a specific relation that creates the composition and the outcome of our intentions. So, what can be defined as Architecture if - not really the physical object innately - but the actual design process of an architect, translating ideas with his own language and system of relations, as a sharable and spreadable asset?

## Endnotes

1. IT Architect is a professional figure working in the domain of ICT and Information Technology.
2. The scientific-disciplinary sectors (s.s.d.) are a set of disciplinary distinctions aimed at organizing higher education adopted in Italian universities. There are 370 scientific-disciplinary sectors, grouped into 190 competitive sectors (s.c.), 88 competitive macro-sectors (m.c.) and 14 disciplinary areas. Each teacher at Italian universities belongs to a single sector.
3. In the Platonic schools of philosophy, the demiurge is an artisan-like entity responsible for generating, shaping, and bringing order to the physical domain.
4. Designer, architect and writer, Michele De Lucchi (1951) is one of the main representatives of Italian design in recent decades. He is full professor of Industrial Design at Politecnico di Milano, Italy.
5. The conceptual definition is paraphrased from the original text provided by the students, authors of the project.

## Author

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His main research topics are related to the role of Urban Design in the transformations of the contemporary European city and in the approach of Research-by-Design. Nicolò is currently pursuing research under National PNRR (within the European NEXTGeneration EU program) and FNM-Group fundings, dealing with the challenges of the Green transition for the Ring Roads system of the Metropolitan city of Milan, framing Sustainable Mobility as an opportunity for Urban and Landscape Regeneration.

Nicolò is also the Representative of PhD candidates in the Doctoral School Council and member of the Guarantee Committee Act at Politecnico di Milano.

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