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Editorial

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Unlike introductions to other issues of our journal, and because this issue includes the first seven of our participants' contributions to the conference on the relevance of doctoral studies in architecture, this introduction first discusses each paper's key issues, methodologies deployed and contribution to knowledge. We are then looking at common themes, to finally conclude as to how the themes discussed and the research on architecture at doctoral level undertaken currently are of relevance to the contemporary world.

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In **"Gesture" as a Subject of Doctoral Research in Architecture: Evidence-based Intuitions on a Complex Relationship** by Angelos Psilopoulos, the key themes discussed were in relation to Gesture in architecture as both narrative and embodied action, the autonomous nature of gesture, the dialectic relationship between gesture and architecture, and the synthetic nature of reality in architectural research. A critical overview of diverse evidence and a functionalistic scope to understand architectural gesture contributes to establishing architecture as a prime field

for studying gesture, and positions gesture as a generator of architectural value. Psilopoulos emphasizes the importance of gesture within architecture, proposing that it operates independently yet contributes significantly to architectural value. This perspective underscores the synthetic and interdependent nature of architectural research, suggesting a dynamic interplay between conceptual and practical realms.

In **"Unveiling Geographies Through Infrastructure: The Mantua-Peschiera Branch Line as a Palimpsest"** by Federico Marcolini the key themes are around a historical analysis of railway infrastructure, the concept of landscapes as historical palimpsests, towards regenerating abandoned railways. The research methodology undertakes archival research, data-driven historical analysis, and the case study approach. The contribution of this research focuses on highlighting the potential of historical branch lines for regional transformation, and on advocating for sustainable reintegration of abandoned infrastructures.

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- a After her graduation as an architect-engineer, Maria pursued her PhD at the University of Bath, School of Architecture (1996) investigating the design process of non-standard architecture entitled "An Insight into the Design Process of Unconventional Structures" that was supervised by Dr Chris Williams and Professor Sir Edmund Happold. Beyond working as a freelance architect since 1988 in Greece and Europe, she worked for Buro Happold (1993-1996).

Whilst practising and conducting research, Maria worked as an adjunct lecturer at the School of Architecture of the University of Bath. She decided to engage further in academia. Prior to becoming a Professor of Architecture at ARU (September 2018) Maria taught for over 11 years at Bath and Plymouth universities as Senior Lecturer, as a Visiting Professor for a semester in Denmark (Aarhus School of Architecture) and as Professor of Design and Technology until 2018, at the School of Architecture of Aristotle University of Thessaloniki.

Maria is a confirmed researcher and educator, a proof of which is her recent book *Architectural Materialisms: nonhuman creativity* (Edinburgh University Press, October 2018) and 9 prizes her students were recently awarded on their final design theses by participating in international student competitions.

- b Valerio Perna (Rome, 1988) is an architect and holds a PhD in "Architecture - Theories and Design" from Sapienza - University of Rome. During his studies, he has been a Visiting Scholar at AUAS Amsterdam and has lectured and taught in several International venues such as Iran, Sweden, and Albania. He is currently employed at POLIS University (Tirana, AL), where he is part of the INNOVATION_Factory (IF) Management Staff and Head of the Research Center in Information and Resources. His research agenda explores the role of playfulness and ludic processes in contemporary architectural practice to address complexity and behavioural phenomena in the urban fabric. Valerio has been published in several international magazines and has been invited as a speaker European and Asian venues. He is a member of the Editorial Boards of architectural journals and series such as FORUM A+P - Interdisciplinary Journal of Architecture and Scientific Environment, the OMB Series, and Gli Strumenti series. In 2020 he published his first monograph *L'attività ludica come project strategy. Rules of libertà per una grammatica del gioco in architettura* (Quodlibet).

Marcolini's research integrates historical and geographical analysis with practical regeneration projects. This approach demonstrates how understanding the historical and social layers of infrastructure can inform contemporary architectural practices aimed at sustainable development.

"Henri Bergson's Philosophy and Architecture" by Mark Rego focuses on three themes, namely the ontological status and agency of memory in architecture, and the transience and permanence in architectural works, all intertwined with Bergsonian philosophy (duration, perception, memory). These are rigorously investigated through philosophical analysis, and the application of Bergson's theories to architecture. The research provides a new perspective on the role of memory and time in architecture and offers a Bergsonian approach to both the understanding and practice of architecture. Rego introduces Bergson's philosophical concepts to architectural theory, highlighting the importance of memory and time. This approach enriches the understanding of the architectural experience and suggests new methodologies for both analysis and design, emphasizing the fluid and temporal nature of architectural practice.

In **"Rhythm Analysis Framework for Urban Design Interventions"** by Pinar Seftakli, the focus is on urban rhythms and social dynamics, spatio-temporal analysis of urban life, and design interventions aligned with social contexts. The research has been undertaken in a rhythm analysis framework and documentation and analysis of urban rhythms. The contribution of this research is to provide a replicable framework for understanding and designing urban spaces and to bridge academic research with practical urban design. Seftakli's work on rhythm analysis offers a structured approach to understanding urban dynamics. By identifying and analysing various urban rhythms, this framework enables more contextually appropriate and dynamic design interventions, enhancing the responsiveness of urban planning to social dynamics.

Rafael Sousa Santos, in **"The Role of Freehand Drawing in Architectural Design Teaching"** discusses the importance of empirical evidence in architectural research, the role of freehand drawing in design education, and the methodological rigour in architectural research. The research deploys embedded multi-case study design, qualitative and quantitative data collection, and thematic analysis using software tools. This research contributes to new knowledge by demonstrating the value of methodological rigour in architectural research, and by highlighting the pedagogical importance of freehand drawing. Santos' emphasis on methodological rigour and empirical evidence underlines the importance of systematic research in architectural education. His study supports the integration of traditional techniques like freehand drawing with contemporary educational practices, ensuring a comprehensive design education.

In **"Transformative Influence of Text-to-Image Generative AI on Architectural Visualizations"** by Styliani (Stella) Salta and Miltiadis Katsaros the focus lies on the integration of AI in architectural workflows, the synergy between human creativity and AI, and the ethical considerations in AI-driven design. The methodology deploys his-

torical tracing of TTI model evolution and exploratory analysis of AI's role in design. The research advocates for AI as a catalyst for creativity rather than a mere tool and highlights the need for ethical frameworks in AI integration. Salta and Katsaros explore the transformative potential of AI in architecture, emphasizing its role in augmenting human creativity. Their work calls for ethical considerations in AI use, advocating for its role in pushing the boundaries of architectural imagination while recognizing the collaborative nature of AI-human interactions.

"Ai Bacon: Autonomous Form in Architecture Inspired by Francis Bacon's Paintings" by Nefeli Chatzimina works on the intersection of art and architecture, the autonomous form and Object-Oriented Ontology, and the reinvention of realism through allusion. Methodologically, the research uses conceptual analysis of Francis Bacon's paintings and the development of a diagrammatic abstract machine. The researcher proposes a novel approach to realism in architecture and integrates artistic insights with architectural theory. Chatzimina's study bridges art and architecture, using the works of Francis Bacon to explore new forms of realism. By conceptualizing architectural forms through artistic allusion, her research proposes innovative methodologies for both theoretical and practical exploration in architecture.

The aforementioned analysis of the essays included in this issue allowed us to integrate these insights into a coherent theoretical framework that addresses the intersection of architecture, methodology, and innovation. Based on these analyses, we can propose a position that integrates the key insights from the abstracts:

1. Transdisciplinary Synthesis and Dynamic Methodologies in Architectural Research

Architectural research benefits significantly from transdisciplinary approaches that synthesize insights from art, philosophy, historical analysis, and technological innovation. Key elements of this position include:

1. **Transdisciplinary Integration:** Combining diverse fields such as philosophy (Rego), art (Chatzimina), and technology (Salta and Katsaros) enriches architectural theory and practice.
2. **Dynamic Methodologies:** Emphasizing empirical evidence (Santos) and dynamic frameworks (Seftakli) ensures that architectural research remains contextually relevant and methodologically rigorous.
3. **Temporal and Social Contextualization:** Understanding the temporal aspects of architecture (Rego) and the social dynamics of urban spaces (Seftakli) allows for more responsive and sustainable design interventions.
4. **Innovative Use of Technology:** Leveraging AI (Salta and Katsaros) and data-driven historical analysis (Marcolini) can transform traditional practices, introducing new possibilities for creativity and sustainability.
5. **Artistic and Philosophical Perspectives:** Integrating artistic concepts (Chatzimina) and philosophical

theories (Rego) provides deeper insights into the experiential and conceptual dimensions of architecture.

This position underscores the importance of a holistic and adaptive approach to architectural research, one that embraces complexity and fosters innovation through trans-disciplinary collaboration.

To identify common threads among the essays in relation to the relevance of doctoral research in architecture, we analysed how each study contributes to the broader field of architectural research, what methodologies they employed, and what thematic elements they shared. The common themes were:

1. Transdisciplinary Approaches:

- **Angelos Psilopoulos:** Integrates concepts of gesture from both narrative and embodied action perspectives within architecture.
- **Federico Marcolini:** Combines historical analysis with geographical and infrastructural studies.
- **Mark Rego:** Applies philosophical theories of memory and time to architectural understanding.
- **Styliani (Stella) Salta and Miltiadis Katsaros:** Merges AI technology with architectural visualization practices.
- **Nefeli Chatzimina:** Connects art, particularly Francis Bacon's paintings, with architectural form and theory.

2. Methodological Rigor and Innovation:

- **Rafael Sousa Santos:** Emphasizes the need for empirical evidence and a structured methodological approach in architectural research.
- **Pinar Seftakli:** Proposes a rhythm analysis framework that is replicable and adaptable to urban design.
- **Angelos Psilopoulos:** Utilizes a broad and diverse body of evidence to challenge and redefine traditional concepts in architecture.

3. Historical and Temporal Contextualization:

- **Federico Marcolini:** Examines the historical significance of railway lines and their role in regional transformation.
- **Mark Rego:** Explores the impact of memory and the passage of time on architectural works.
- **Pinar Seftakli:** Analyzes urban rhythms over time to understand social dynamics.

4. Technological Integration and Innovation:

- **Styliani (Stella) Salta and Miltiadis Katsaros:** Investigates the transformative potential of AI in architectural design.
- **Nefeli Chatzimina:** Utilizes AI techniques to analyze and reinterpret artistic concepts within architectural contexts.

5. Practical and Theoretical Contributions:

- **Angelos Psilopoulos:** Contributes to both theoretical understanding and practical applications of gesture in architecture.

- **Federico Marcolini:** Provides a framework for heritage preservation and infrastructure regeneration.
- **Rafael Sousa Santos:** Enhances the pedagogical practices in architectural education through methodical research on freehand drawing.
- **Pinar Seftakli:** Bridges academic research with practical urban design interventions.

2. Relevance of Doctoral Research in Architecture

The common threads highlighted several key aspects of the relevance of doctoral research in architecture:

1. Expanding Theoretical Foundations:

- Doctoral research pushes the boundaries of traditional architectural theory by incorporating interdisciplinary perspectives and new philosophical insights. For example, Mark Rego's application of Bergsonian philosophy to architecture introduces novel ways of thinking about memory and time in the built environment.

2. Innovative Methodologies:

- The development and application of new methodologies, such as Pinar Seftakli's rhythm analysis framework and Rafael Sousa Santos' structured approach to empirical research, showcase the importance of methodological innovation in generating robust and replicable results.

3. Addressing Contemporary Challenges:

- Doctoral research addresses pressing contemporary issues such as sustainability, regional transformation, and technological integration. Federico Marcolini's focus on railway regeneration and Styliani Salta and Miltiadis Katsaros' exploration of AI in design are prime examples of how doctoral research can contribute to solving real-world problems.

4. Integrating Technology and Creativity:

- The integration of advanced technologies like AI into architectural research and practice, as seen in the work of Salta Katsaros and Chatzimina, demonstrates how technology can enhance creative processes and open up new avenues for architectural innovation.

5. Historical and Social Awareness:

- A deep understanding of historical context and social dynamics, as explored by Marcolini and Seftakli, underscores the importance of considering the temporal and societal impacts of architectural projects. This awareness is crucial for creating designs that are not only innovative but also contextually and culturally relevant.

6. Pedagogical Contributions:

- Enhancing architectural education through rigorous research, such as the work by Rafael

Sousa Santos on freehand drawing, highlights the role of doctoral research in improving educational practices and preparing future architects with a solid foundation in both theory and practice.

The common threads among these essays revealed that doctoral research in architecture is essential for advancing the field through transdisciplinary approaches, methodological rigour, and practical applications. By addressing

contemporary challenges, integrating new technologies, and enhancing theoretical and pedagogical foundations, doctoral research significantly contributes to the evolution and enrichment of architectural knowledge and practice.

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