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ICBE 2026

MAY 08th-09th, 2026
POLIS University, Tiranë

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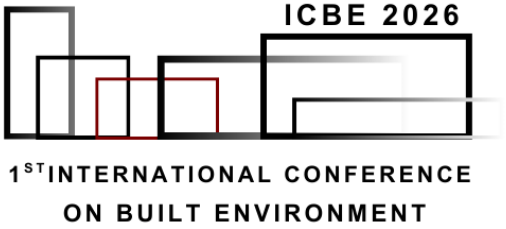
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1st International Conference on Built Environment

ICBE 2026

Conference Theme and Rationale

The 1st International Conference on Built Environment (ICBE 2026) was conceived as an international and interdisciplinary forum for advancing knowledge, critical discussion, and innovation across architecture, urban planning, engineering, construction, materials, design, and the wider built environment. Organized by POLIS University in collaboration with the National Agency for Scientific Research and Innovation in Albania (AKKSHI), the Academy of Sciences of Albania and the University of Ferrara in Italy, the conference brought together academics, researchers, practitioners, students, and industry representatives to exchange research findings, professional experience, and emerging perspectives on the transformation of contemporary cities and territories.

The conference theme reflected the increasingly complex challenges shaping the built environment, with particular attention to sustainability, resilience, technological innovation, heritage preservation, and socially responsive design. Contributions addressed sustainable architecture and green building, innovative construction technologies and materials, climate-responsive and energy-efficient design, disaster risk reduction, circular approaches to construction, and the integration of renewable energy. Equal emphasis was placed on digital transformation through Building Information Modeling, Geographic Information Systems, artificial intelligence, data analytics, automated solutions, digital fabrication, and advanced manufacturing.

ICBE 2026 also recognized that the future of the built environment cannot be approached through technological innovation alone. Urban transformation, cultural heritage, adaptive reuse, inclusive design, ecological thinking, art, and interdisciplinary research were therefore integral to the conference rationale. The scientific sessions examined topics ranging from seismic resilience, geotechnical engineering, and structural safety to urban fragmentation, public space, heritage conservation, adaptive environments, and new relationships between human and non-human systems.

Through keynote lectures, scientific presentations, case studies, and interdisciplinary debate, the conference encouraged connections between research and practice while promoting approaches capable of responding to environmental, social, cultural, and technological change. The breadth of contributions demonstrated the value of bringing engineering, architecture, urbanism, design, heritage, and emerging technologies into a shared academic framework for more resilient, sustainable, adaptive, and human-centered environments.

Held on 8-9 May 2026 at POLIS University in Tirana, with in-person and online participation, ICBE 2026 welcomed guest speakers and participants from Albanian and international universities, research institutions, professional organizations, and industry. Its sessions established a platform for presenting current research, exchanging expertise, strengthening meaningful collaboration, and identifying future directions for the built environment.

The event

The **1st International Conference on Built Environment (ICBE 2026)** is an interdisciplinary academic and professional forum dedicated to exploring contemporary challenges, emerging research, and innovative approaches shaping the future of the built environment. Bringing together researchers, academics, architects, engineers, urban planners, designers, practitioners, and industry professionals, the conference promotes the exchange of knowledge and encourages collaboration across traditionally interconnected disciplines. Its thematic scope encompasses sustainable and resilient construction, technological innovation, advanced building materials, urban transformation, cultural heritage, and interdisciplinary design approaches. Particular attention is given to the growing role of digital technologies, data-driven methodologies, intelligent design processes, and advanced analytical tools in supporting more informed and responsive approaches to architecture, engineering, and urban development. At the same time, ICBE 2026 recognizes the importance of environmental responsibility, cultural identity, social needs, and human-centered design in shaping contemporary cities and territories. Through keynote lectures, scientific sessions, case studies, and interdisciplinary exchange, the conference provides a platform for presenting current research, discussing professional experiences, and developing new perspectives capable of contributing to **safer, more sustainable, adaptive, inclusive, and resilient built environments**.

Objectives

- Promote interdisciplinary collaboration among researchers, academics, practitioners, and professionals in architecture, engineering, urban planning, construction, design, heritage, and related fields of the built environment.
- Advance the use of digital technologies and innovative methodologies, including BIM, GIS, artificial intelligence, data analytics, digital fabrication, and parametric approaches, in research and professional practice.
- Encourage sustainable, resilient, and climate-responsive approaches to architecture, construction, and urban development through innovative materials, energy-efficient strategies, and environmentally responsible design.
- Address contemporary challenges affecting cities, buildings, and infrastructure through scientific research, applied case studies, evidence-based approaches, and innovative design solutions.
- Promote the conservation, transformation, and adaptive reuse of cultural heritage, balancing cultural identity, contemporary needs, structural safety, and responsible urban development.
- Support human-centered and socially responsive urban transformation, considering public space, mobility, ecological systems, community needs, and the wider social and economic impacts of the built environment.
- Provide a platform for knowledge exchange and emerging research, enabling scholars, young researchers, professionals, and students to present innovative ideas, strengthen international collaboration, and contribute to future directions in the built environment.

Main Conference Themes

- Sustainable architecture and green building practices.
- Innovations in construction technologies and materials.
- Heritage preservation and adaptive reuse in the built environment.
- Digital tools and smart technologies in architecture and construction (e.g., BIM, GIS).
- Climate-responsive and energy-efficient design.
- Disaster risk reduction and resilience in the built environment.
- Circular economy approaches in construction and material usage.
- Integration of AI and data analytics in building design.
- Acoustic and thermal performance in building design.
- Renewable energy integration in building systems.
- Advanced manufacturing techniques in construction, such as 3D printing.
- Innovations in construction technologies and materials.
- Heritage preservation and adaptive reuse in the built environment.
- Disaster risk reduction and resilience in the built environment.
- Digital tools and smart technologies in architecture and construction.
- Advanced manufacturing techniques in construction.
- Geotechnical Engineering for Sustainable Development.
- Cartography and Geographic Information System.
- Computer Automated Solutions for Built Environment.
- Reliability in Civil Engineering.
- Urban planning strategies for resilient cities.
- Climate-responsive and energy-efficient design.
- Regulatory frameworks and policies impacting construction and urban development.
- Design in the Era of Anthropocene (Rethinking the Relation between Human and Non-Human Species)
- Speculative Design (with Attention to “Discursive” and “Critical” Design)
- Design and Cross-Disciplinarity (with Emphasis on Processes rather than Design Outputs)
- Inclusive Design
- Art and Urban Regeneration (Focus on Participatory, Collaborative, and Research-Based Practice)
- Relational Art and Architecture
- Monuments and ‘Anti-Monuments’ (Particular Attention to the Process of Designing and Building the City)

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The conference is structured around six thematic sessions, each addressing a specific area of research and practice within the built environment.
Each session is coordinated by experts in the relevant disciplinary field and is open to professors, researchers, PhD candidates, and other scholars and professionals contributing to the conference themes.

SESSION I
Urban Planning and Societal Impact

Chair: Dr. Gent Avdija

This session examines the relationship between urban transformation, spatial development, and their social implications within contemporary cities. Contributions address rapid urbanization, urban fragmentation, the transformation and loss of public space, informal and spontaneous development, and the challenges associated with balancing growth and modernization with human-scale urban environments. Particular attention is given to the evolving conditions of Albanian cities and to planning approaches capable of supporting more inclusive, sustainable, socially responsive, and livable urban environments.

SESSION II
Sustainable Materials, Resilient Construction & Smart Design

Chair: Dr. Endri Duro

This session explores innovative approaches to sustainable construction, resilient structural systems, and environmentally responsive design. Particular attention is given to sustainable materials, energy-efficient and climate-responsive strategies, prefabricated and lightweight construction technologies, and human-centered approaches to structural and architectural design. The session investigates how material innovation, technological development, and responsible design practices can contribute to safer, more efficient, adaptable, and environmentally sustainable built environments.

SESSION III
Technological Advancements and Seismic Design for Resilient Places

Chairs: Dr. Seyyed Behrad Emadi & Dr. Ornela Şen

This session examines the role of technological innovation and advanced engineering methodologies in developing safer, more resilient, and adaptable built environments. Contributions address seismic hazard and risk assessment, digital fabrication, parametric and computational approaches, transformations of building envelopes and prefabricated housing systems, and emerging concepts for future urban mobility. The session highlights how the integration of engineering knowledge, digital technologies, and resilience-oriented design can strengthen the capacity of buildings, infrastructure, and urban environments to respond to contemporary and future challenges.

SESSION IV

Cultural Heritage

Chairs: Dr. Nikolla Vesho & Dr. Marsela Demaj

This session addresses the preservation, interpretation, and transformation of cultural heritage within contemporary architectural and urban contexts. Contributions explore conservation strategies for historic buildings and sacred architecture, seismic assessment and strengthening of heritage structures, adaptive reuse, and the social implications of urban regeneration and heritage loss. Particular emphasis is placed on achieving a responsible balance between conservation ethics, cultural identity, structural safety, and the evolving functional requirements of historic buildings and urban environments.

SESSION V

Spaces of Connection: Art and Design for an Interspecies and Interdisciplinary Environment

Chair: Dr. Francesco Scasciamacchia

This session explores the intersections of art, architecture, design, technology, and the built environment through interdisciplinary and experimental perspectives. It investigates changing relationships between human and non-human systems, spatial perception, adaptive reuse, post-industrial landscapes, urban representation, digital heritage, and environmentally and socially engaged design practices. Through critical, speculative, participatory, and research-based approaches, the session examines how art and design can generate new forms of connection, reinterpret existing environments, and contribute to emerging cultural and spatial narratives within contemporary cities.

SESSION VI

Next-Generation Pioneers of the Built Environment

Chair: Dr. Flogerta Krosi

This session provides a dedicated platform for emerging researchers and students to present innovative, experimental, and forward-looking approaches to the built environment. Contributions span architecture, engineering, urban planning, environmental resilience, design, and related creative disciplines, reflecting the interdisciplinary character of a new generation of researchers and practitioners. Through projects addressing topics such as bioclimatic design, flood-risk management, structural technologies, architecture-inspired design, and critical interpretations of objects and social space, the session encourages critical inquiry, experimentation, and new perspectives on the future of the built environment.

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Digital and computational technologies: Digital fabrication / Parametric methodologies / Computational design / Technology-assisted decision-making.

Adaptive building systems: Façade transformation / Prefabricated housing systems / Adaptive architectural solutions / Building-envelope innovation.

Resilient urban systems: Future mobility / Technology-driven urban transformation / Resilience-oriented planning / Safer and adaptive urban environments.

Phenomeno-Parametrism:
Translating Place Experience into Parametric

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Abstract

Parametric practices in contemporary architecture have the capacity to generate form and optimise performance. However, "place" is often treated as a problem that can be translated into measurable variables. As a result, central aspects of lived experience, bodily orientation, rhythms of movement, thresholds, cue density, atmosphere, and memory, tend to remain outside the generative logic, or they return only as stylistic or formal effects. This paper proposes "Phenomeno-Parametrism" as an approach that builds an operational bridge between the phenomenology of place and parametric design. In this framework, a "parameter" is not an isolated number; it is a rule, a relation, and a constraint that can shape patterns of perception and use.

The paper argues that parametrism can function as a methodological interface. It can make readings of place legible, comparable, and open to revision, without claiming to "measure" place as a single objective fact. The guiding question is: "What changes when parametric design is used to encode experience rather than only form and performance?"

The research is developed through a focused case study that examines how readings of "Genius Loci" can be translated into a generative rule set. The process is anchored in Kevin Lynch's framework of urban legibility paths, edges, districts, nodes, and landmarks—as presented in "The Image of the City" book. These elements provide a clear analytic structure and support the extraction of experiential indicators such as visual sequences, threshold intensity. The indicators are then reformulated as a reviewable parametric grammar. The aim is to produce variants that remain coherent with place character, while resisting the reduction of atmosphere to a purely aesthetic signature.

Keywords: *genius loci, phenomenology of place, Kevin Lynch, parametric architecture,*

generative rules, critical atmosphere.

1. INTRODUCTION

Contemporary architecture is evolving amid advances in technology, computation, and complexity. Parametric design a process in which parameters (measurable factors) define and drive architectural forms is central to this shift: here, the architect creates not just a final form, but a system of relationships, rules, and dependencies that generate and modify that form. This method grants more control of geometry, better data management, and improved performance in structure, environment, and function (Woodbury, 2010). Yet, as tools expand, a theoretical and practical question arises: what happens to place when design relies more on computable logic?

In many cases, a place in parametric design is treated as a constraint, a physical context, or a set of inputs that influence form. While this approach has value, it is often insufficient. Place is not just topography, climate, solar orientation, airflow, or circulation; it is also how a person orients themselves, senses transitions, remembers urban sequences, experiences boundaries, distinguishes nodes, or identifies with environmental character. When these aspects are excluded from the generative process, architecture may become precise but weak in its relationship to experience. (Heidegger, 1971, pp. 145-149; Norberg-Schulz, 1980, p. 12).

This study explores whether parametric logic in architecture can move beyond a narrow focus on form and performance and engage more directly with the experience of place. The question is relevant to both theory and practice. Although parametric design is highly effective at producing formal variation, it does not always establish a meaningful relationship with its context, suggesting a gap in how knowledge of 'place' is incorporated. By considering perception and the way people inhabit space, this study examines how the epistemological foundations of architectural design specifically, how knowledge of place is generated and validated can support outcomes that are more responsive, grounded, and connected to place.

This study looks at both technical and knowledge-based questions, especially particularly concerning the types of knowledge included or excluded in parametric models. If these models only use measurable and easily coded data, the experience of space can be reduced to numbers. But if the system also includes things like orientation, rhythm, memory, and character, parametricism could become a richer language for design.

1.1 Background and rationale

This paper focuses on two main areas: the phenomenology of architecture and parametric design. From a phenomenological perspective, architecture is not understood simply as an object. Instead, it plays an active role in helping people orient themselves, develop a sense of belonging, and relate to their surroundings. Here, place is a meaningful structure experienced through bodily perception, sensory engagement, and memory (Heidegger, 1971, pp. 145–149; Norberg-Schulz, C. (1980). Genius Loci: Towards a Phenomenology of Architecture. Rizzoli.). Thus, place is more than a geographic location. At the same time, parametric design

demonstrates that architecture can be developed by adjusting the relationships between its elements. This makes it a powerful design approach. However, a key issue remains: is it possible for parametric design to engage not only with functional performance, but also with the lived experience of inhabiting a space?

This study is motivated by a gap in current practice and theory. Many parametric projects respond to climate, structure, or movement flows. Many phenomenological texts explore place, environmental character, and spatial experience. But there is no operative bridge between these two areas. What is missing is a method for showing how phenomenological ideas can be translated into design rules. This translation must occur without reducing phenomenological ideas to decorative or purely formal effects, especially because parametric design thinking is often developed through computationally structured design processes rather than through lived spatial experience (Bhooshan, 2017).

In this study, Genius Loci is a central idea. Here, it is not seen as a romantic or vague notion of authenticity, but as a way to describe the character of a place. This character is made up of spatial, perceptual, and cultural relationships, which together shape how people understand and experience a place. According to reviews of Christian Norberg-Schulz's work, for parametric design to address the idea of place, it needs to turn these relationships into structures that guide design choices. This paper does more than just criticize parametricism. The issue is not the technology itself, but how its parameters are defined. The real problem is that the inputs are too limited. If a model only includes climate, light, access, and geometry, it misses important aspects. But if it also considers perceptual order, sequence, threshold, rhythm, and memory, the model better reflects real experience.

1.1.1 Research question, objectives, and scope

The study is structured around the following question: How can the lived qualities of place be translated into parameters that can be used in architectural design? An additional question addresses: What is lost and what is gained when the phenomenology of place is introduced into parametric logic?

The first objective of the paper is to clarify the meaning of *Genius Loci* and to show why it remains important in the contemporary design debate. The second objective is to construct a methodological structure that links the phenomenological reading of place to a parametric system. The third objective is to propose a translation model. In this model, indicators such as orientation, thresholds, movement rhythm, visual sequences, and memory become generative rules. The fourth objective is to discuss the limits and risks of this approach, especially the risk that the atmosphere of the place may become only aesthetic.

The scope of the study is primarily theoretical and methodological. The paper does not provide a broad empirical study with extensive field measurements, but instead seeks to build a clear conceptual and operative basis for application in specific design cases. For this reason, Kevin Lynch is considered a key figure, as his model offers a conceptual structure that connects perception to spatial organization and facilitates the transition from description to rule (Lynch,

1960).

This study does not claim to turn experience into a closed formula. While the experience of place is always more intense than any model can capture, experience can still be partially structured. Design works by selecting, relating, and ranking elements (Norberg-Schulz, 1980). Therefore, the real question is not whether experience can be completely modeled, but whether it can influence the generation of form.

2. LITERATURE REVIEW

The debate on place in architecture has been long and multifaceted. In some cases, place is treated as a historical and cultural context. At other times, it is a perceptual structure or a physical background for intervention. Within the phenomenological tradition, place holds a deeper status. It is not just an external frame for a building, but a reality experienced, understood, and inhabited. One of the most important figures here is Christian Norberg-Schulz. For him, architecture helps human beings dwell in the world and shapes a place's character. The concept of Genius Loci describes this character. It relates to identity, orientation, and a sense of belonging. Sometimes the built form does not fully comply with every rule, not because it is wrong, but because it aims to be closer to people or specific groups (Norberg-Schulz, 1980).

Building on these ideas, Martin Heidegger links building with dwelling. He argues that building is not just about making objects, but about creating spaces where people can live (Heidegger, 1971, pp. 145-149). Although Heidegger does not offer a specific design method, his philosophy shows why the experience of place should not be seen as secondary. Juhani Pallasmaa adds to this discussion by challenging the focus on vision in architecture and highlighting the importance of all the senses and the physical qualities of materials (Pallasmaa, 2005). This matters for this study because it shows that people experience place through more than just images—they engage with it through a range of sensory and existential connections.

On the other hand, the literature on parametricism has followed a different path. Instead of beginning with experience, it usually starts with the system or data. Robert Woodbury describes parametric design as a way of creating adaptable models in which a change in one part affects other parts (Woodbury, 2010). This makes parametricism highly suitable for managing complexity. Julio Monedero has emphasized that the term “parametric” often masks the fact that, in essence, what we are dealing with are relationships (Monedero, 2000). This observation is very important because it opens the door to a broader understanding of the parameter. If a parameter is a relationship rather than just a number, it can also include aspects that at first seem difficult to measure.

Patrik Schumacher developed parametricism as a new architectural paradigm. For him, parametricism involves continuous differentiation, variation, and adaptation at many levels (Schumacher, 2009). However, this view has critics. One main critique is that parametricism can focus too much on form. When this happens, it risks turning into a self-contained

aesthetic. This critique matters for this paper. The aim is not to add another style but to shift parametricism's center toward experience and the character of place.

Kevin Lynch offers an important point of connection. In The Image of the City, he describes the city as a legible structure. People construct the image of the city using elements such as paths, edges, districts, nodes, and landmarks (Lynch, 1960). This approach is valuable because it's not just philosophical. It also offers an analytical structure. Lynch's elements are not just theoretical. They can be used to analyze how spatial experience and orientation are organized.

Existing phenomenological approaches provide a strong conceptual basis for understanding place, but they rarely develop operative methods for translating lived experience into design rules (Alexander et al., 1977). Heidegger's discussion of dwelling establishes the existential importance of building, yet it does not offer a design procedure for parametric modelling (Heidegger, 1971). Norberg-Schulz explains place through orientation, identity, and Genius Loci, but his work remains primarily interpretive rather than computational (Norberg-Schulz, 1980). Pallasmaa expands the discussion by emphasizing embodied and multisensory experience, although his contribution is also directed toward perception and architectural meaning rather than rule-based design systems (Pallasmaa, 2005). In contrast, parametric design literature, including Woodbury, Monedero, Schumacher, and Bhooshan, explains relational modelling, variation, and computational design processes, but does not fully address how phenomenological qualities of place can become structured design inputs (Woodbury & Burrow, 2011). The gap, therefore, is not the absence of theory, but the lack of a clear methodological bridge between phenomenological interpretation and parametric operation (Hazbei & Cucuzzella, 2023). This study addresses this gap by advancing two main propositions: first, that the experience of place cannot be reduced to a single measurable factor; and second, that parametric design can facilitate the management of complex relationships. Rather than treating these ideas as separate, this paper integrates them to pose a central question: how can a design method be developed that both respects place and addresses the challenges of contemporary complexity?

One major gap in current research is the lack of a clear link between these two approaches. Some works focus on atmosphere, the feeling of place, and lived experience. Others look at algorithms, scripts, and parametric systems. What is missing is a common language to connect these views. This paper suggests that a parametric grammar of place could create this link by turning phenomenological ideas into practical design relationships.

At this stage, the study establishes its position. It does not propose a return backward, away from technology, nor does it advocate an undefined romanticization of place. On the contrary, it proposes expanding the scope of design rationality. Instead of limiting rationality to efficiency, it extends it toward experiential coherence as well. This move is important because it gives parametricism a broader, more responsible foundation.

3. METHODOLOGY

This paper follows a theoretical-analytical methodology with an interpretive and propositional character. It is not a laboratory experiment or a classical statistical analysis. The chosen approach seeks to build a working model that can serve as a basis for further empirical developments. Accordingly, the methodology is not neutral. It is based on one conviction: place cannot be understood only as a group of physical data, but neither can it remain only at a poetic or descriptive level. Therefore, an intermediate method is necessary.

In this study, Figure 1 presents a workflow that establishes a conceptual and procedural framework for the research process, rather than functioning as a formal linear programming model. The diagram does not specify numerical decision variables, objective functions, or strict mathematical constraints; instead, it clarifies the transition from phenomenological reading to potential design indicators. At this stage, optimization terminology is intentionally excluded, and the method is introduced as a preliminary framework to inform future computational development.

This framework serves two main functions. First, it makes the overall process easier to follow by giving it a clearer internal structure. Second, it creates a common language that connects theoretical interpretation with the possibility of future computational or algorithmic development. In this way, the methodology goes beyond simple description and takes the form of an ordered sequence of decisions.

3.1 Description of research design and approach

The research design is mainly qualitative. It is based on theoretical analysis, conceptual comparison, and methodological formulation. This approach is appropriate for the study's object because the problem is twofold: one part concerns concepts, while the other concerns design operations. A quantitative method would be insufficient at this stage because it would require ready-made, standardized indicators. These indicators are still being constructed.

The paper's approach is also interdisciplinary. It draws elements from architectural theory, phenomenology, urban analysis, and the logics of parametric modeling. Place is not only a matter of form, nor only a matter of perception. It is precisely the point where form, experience, and cultural relationship meet.

The methodological process is structured as follows.

Step 1 – Define the conceptual framework

At this stage, the study's central framework is constructed. Here, the main concepts, the boundaries of the field of work, the category of place to be read, and the initial repertoire of phenomenological indicators are defined. In architectural terms, this is the stage in which the basic structure of the interpretive model is established.

Step 2 – Produce the first interpretive reading.

Here, a first reading of the system is carried out. Rather than understanding “LP” solely in a strictly mathematical sense, this paper reads it as the central platform on which the study's main relationships are organized. This stage produces the first version of the analytical

structure and shows whether the initial model is sufficient to read the place.

Step 3 – Identify missing experiential conditions

At this stage, the gaps in the initial model are identified. These are not necessarily numerical violations. In the context of this study, they are elements of experience that are not adequately represented in the system. For example: unarticulated thresholds (transitions between spaces that are unclear or undefined), unread rhythms (difficult to perceive spatial or experiential patterns), areas with unclear identity (spaces lacking distinctive qualities), omitted sequences (missing experiential steps or progressions), or memory points (locations of significance) that the model fails to capture.

Step 4 – Add design conditions to the framework

If important elements of place emerge during the reading and are missing from the model, they are added as constraints, rules, or new conditions to the central model. In a future computational implementation, these would function as constraints, weights, thresholds, visibility rules, adjacency rules, or movement filters.

Step 5 – Develop generative design rules

After adding the new conditions, clearer generative relationships are produced. These may be translated into intervals, priorities, hierarchical logics, densities, porosities, exposure coefficients, or transformation sequences. This is the point at which experience begins to take shape as a parametric grammar.

Step 6 – Test specific experiential categories

At this stage, subproblems are tested. For example, only the threshold question may be tested, only the rhythm of movement, only the orientation network, or only the relationship between landmarks and nodes. This division helps the analysis avoid becoming too general and makes the process more controllable.

Step 7 – Evaluate spatial coherence.

Here, it is evaluated whether the resulting configuration preserves the character of the place and whether it is workable as a design logic. In this study, “optimal” is not understood as an absolute solution. Rather, it is understood as an acceptable level of coherence between the parametric structure and the experience of place.

Step 8 – Revise and recalibrate the framework

If the outcome fails to convincingly represent the character of the place, an improvement strategy is implemented. This may entail recalibrating the indicators, adjusting parameter ranges, modifying parameter hierarchies, or introducing additional analytical layers.

Step 9 – Establish criteria for methodological completion.

The process stops when the model reaches a sufficient level of clarity, coherence, and design usability. Therefore, the stopping criterion is not only technical. It is also critical: the model

must be clear, usable, and connected to the real experience of place.

Expressing the methodology in workflow language is essential for consistency with the pseudocode figure and greater procedural precision. It underscores that the study extends beyond theoretical reflection and aspires to establish an operational procedure.

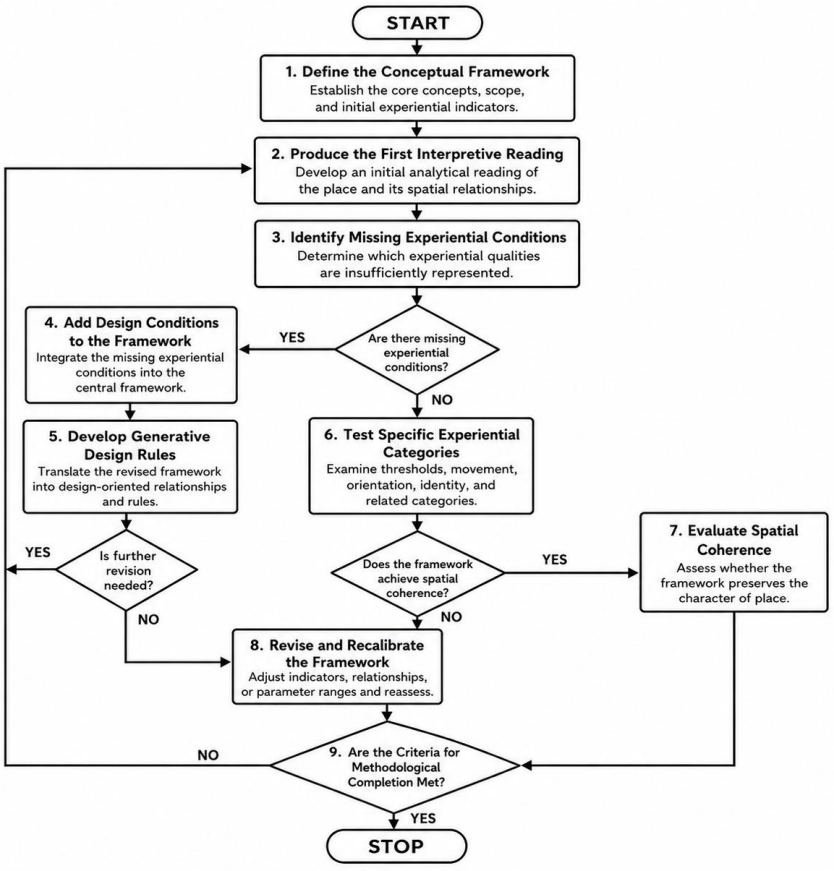


Figure 1. Pseudocode-based workflow structure.

3.2 Data collection and analysis methods

Although the study does not use a classical numerical database, it works with a set of analytical materials. These include theoretical categories, phenomenological descriptions, interpretive models, and analytical structures, such as Kevin Lynch's. The method of analysis is twofold. First, conceptual reduction is carried out, that is, the division of the experience of place into more understandable indicators. Second, parametric synthesis is performed, that is, the conversion of these indicators into design relationships.

For instance, the way individuals find meaning when moving between public and private spaces can be described using indicators such as spatial filtering, threshold frequency, material density variation, and changes in visual access. These qualities are then translated into model parameters or constraints. The goal is to organize these experiential qualities clearly while maintaining their complexity.

From a technical perspective, observations regarding spatial experience can be articulated

through practical design terminology. Examples include the visibility gradient, which quantifies the extent of visibility along a path; threshold intensity, which measures the perceptual strength of boundaries; path curvature ratio, indicating the degree of path bending; node density, representing the frequency of key intersections; landmark exposure coefficient, reflecting the frequency of landmark visibility; material transition rate, tracking changes in material composition; porosity index, assessing the openness or enclosure of a space; movement deceleration zones, identifying areas where individuals naturally slow down; and sequential compression or expansion values, which indicate spatial narrowing or widening along a route.

Each of these terms describes a different aspect of how people experience space, such as what they see, how they move, transitions, or how they find their way. The purpose of using this vocabulary is not to turn places into mechanical systems, but to give structure to qualities that are usually hard to include in design. Phenomeno-Parametrism is meant to connect real experience with practical design, not to replace one with the other.

3.3 Ethical considerations

Ethically, this study does not involve human participants, interviews, or the collection of personal data. Nevertheless, an ethical consideration arises regarding the interpretive method. When a designer articulates the essence of a place, there is a risk that individual interpretations may supplant collective experiences. Consequently, translation of Genius Loci into parameters must be approached with caution. Models derived must be recognized as open to revision, rather than representing absolute truths.

For this reason, in future stages, such a method should be complemented with field verification. Mental maps, observed walks, user evaluations, and perceptual analyses would help determine whether the parametric model is truly translating the character of place or only the author's interpretation. This is important for another reason as well: a parametric model that claims to represent a place without being tested with users can quickly become an appealing instrument, but one detached from reality.

4. RESULTS AND DISCUSSIONS

Still, there is an ethical issue in the interpretive method. When a designer tries to capture the essence of a place, personal views can sometimes take the place of shared experiences. For this reason, translating Genius Loci into parameters should be done carefully. Models created this way should stay open to change, rather than being treated as final truths.

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appealing instrument, but one detached from reality.

4.1 Objective presentation of findings

Below is a summary structure of the translation from phenomenological reading to parametric rules:

This table shows that the elements of the experience of place can be organized in an operative way. We are not dealing with a brutal reduction of experience, but with an attempt to articulate it in a design-oriented manner. This represents a significant shift. Many approaches speak about place in general terms, but they do not show how place actually enters the design process. Here, by contrast, place becomes part of the generative mechanism.

Additionally, the table illustrates that a parametric system need not originate with form; it can instead begin with the organization of experience. This represents a significant shift in perspective. Rather than using form as the starting point and subsequently justifying it with reference to place, this approach positions place as the foundation, allowing form to emerge from a deeper set of relationships.

Table1. Translation Syntax Table.

Analytical category	***Phenomenological reading***	***Preliminary operational indicators***	***Design effect***
Paths	rhythm, sequence, orientation	path curvature ratio; directional-change frequency; visibility corridor index; stop-point frequency	clearer movement structure
Edges	separation, transition, threshold	boundary permeability ratio; threshold depth; transition gradient; enclosure variation	more articulated transitions
Districts	identity, coherence, character	material continuity ratio; density range; programmatic clustering; repetition index	stronger spatial identity
Nodes	intensity, concentration, encounter	connectivity degree; dwell-time potential; spatial expansion ratio; convergence frequency	clearer gathering and orientation points
Landmarks	memory, recognition, reference	visibility frequency; contrast ratio; visual dominance score; reference-point distance	stronger recognition and spatial memory

4.2 Highlight significant patterns or data points

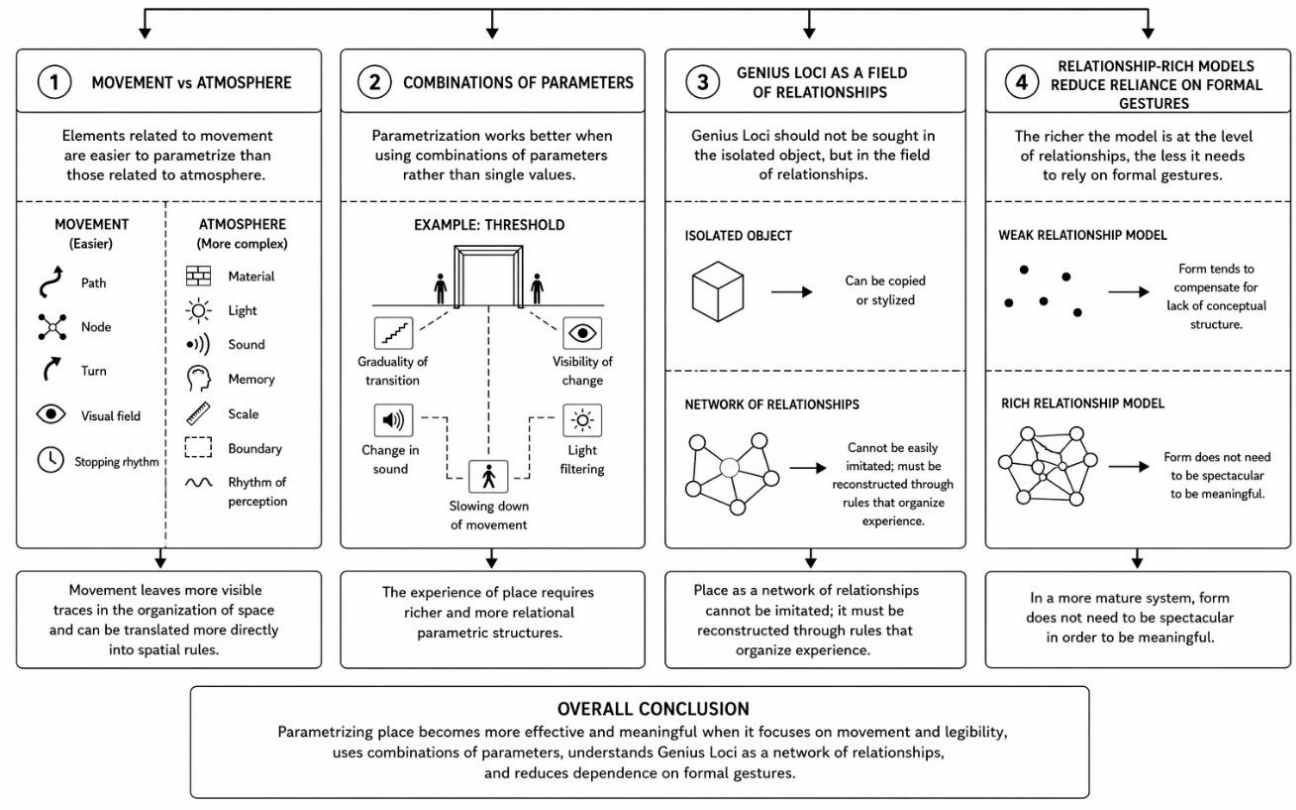


Figure 2. Conceptual relational model of movement and environmental components

The figure should be read as a conceptual relational diagram rather than as a formal optimization model. Its purpose is to show how different experiential categories interact, not to define a linear or non-linear programming problem.

One clear pattern from the analysis is that it is easier to parametrize elements related to movement than those connected to environmental character. Movement leaves visible traces in the organization of space. Features such as paths, nodes, turns, visual fields, and the rhythm of stopping can be more directly translated into spatial rules. On the other hand, atmosphere is harder to define. It depends on material, light, sound, memory, scale, boundaries, and how we experience these elements over time.

A second pattern is that the parametrization of place works better when it uses combinations of parameters rather than single values. For example, a threshold is not defined only by width or by material. It is defined by a combination of factors: how gradual the transition is, how visible the change is, how sound changes, how light is filtered, and how movement slows down. This means that the experience of place requires richer and more relational parametric structures.

A third pattern is that Genius Loci should not be sought in the isolated object, but in the field of relationships. This is a critical point. When a place is reduced to an image, it can be copied or stylized. When a place is understood as a network of relationships, it cannot be easily imitated. It must be reconstructed through rules that organize experience.

From this, a more general observation also emerges: the richer the model is at the level of relationships, the less it needs to rely on formal gestures. This is significant because part of the problem with parametricism appears precisely when form tries to compensate for the lack of conceptual structure. In a more mature system, form does not need to become spectacular in order to be meaningful.

4.3 Interpretation of results

The findings indicate a clear conclusion. Parametricism may be an effective tool for investigating the phenomenology of place. This is possible if the parameter definitions are reconsidered. When parameters are just technical inputs, experiential aspects stay disconnected. If parameters are instead seen as relationships, constraints, and organizing structures, experiential qualities can be integrated into the generative process.

This interpretation also has an additional implication. It shows that phenomenology should not remain only an interpretive discourse. It can also produce methodological effects. This is significant for architecture because theory and practice often remain separated. Not every element of experience can enter the model without losing something. This means that Phenomeno-Parametrism should not be seen as a total solution, but as a meaningful improvement in the way a project relates to place. Its value lies not in closing the problem, but in opening a more responsible way of working.

4.4 Comparison with previous studies

Compared with classical phenomenological approaches, this paper takes a further step toward operationalization. The texts of Norberg-Schulz, Pallasmaa, and Heidegger are fundamental for understanding the importance of place and experience, but they do not directly provide a usable system for modeling. On the other hand, compared with parametric approaches focused on performance or formal differentiation, this paper shifts the field of attention. The center is no longer only form, but the way form and spatial organization construct experience.

Compared with Lynch's model, this paper uses his categories not only for analysis but also for generation. This is a fundamental distinction. Lynch teaches us how to read the city. Here, it is proposed that this legibility should also serve as the basis for creating design rules.

In this sense, the paper's main contribution is to bridge phenomenology, urban analysis, and parametric logic—three rarely connected fields—demonstrating how their integration can advance both analysis and generation in urban and architectural design.

4.5 Implications for theory, practice, or policy

From a theoretical perspective, this paper argues that parametricism can be understood as an epistemology rather than merely a technique. It can become a way of knowing, organizing, and articulating place. From a practical point of view, this approach may help in projects where a more careful relationship with context is required. This applies to interventions in historic areas, in landscapes with strong identity, in urban regeneration, and in projects where orientation and character are highly important.

From a design policy perspective, this approach may also shape how place analysis is understood. Analysis would no longer be merely a preliminary phase that ends before design begins. It would become an active part of the generative mechanism. This would imply a more integrated way of working, in which reading place and producing form are not two separate moments.

5. CONCLUSIONS AND RECOMMENDATIONS

This paper explores how parametric architecture can engage with the phenomenology of place by linking the experiential aspects of phenomenology—such as experience, orientation, memory, and environmental character—with the organizational capacity of parametric design. Phenomenology offers insights into how places are experienced and understood, while parametric design provides methods for structuring and testing spatial relationships. The main challenge addressed is how to connect phenomenological insights with parametric processes so that each informs and strengthens the other.

The main conclusion of the paper is that this connection is possible through a broader understanding of the parameter. The parameter should not be limited to a number. It can also be a rule, a relation, a constraint, an interval, or a hierarchy. When understood in this way, it can also absorb aspects of the experience of place. This allows parametric design to move from the production of form toward the articulation of character.

An important contribution of this paper is the formulation of a parametric grammar of place—a set of organizing principles that relate experience to design. This grammar does not enclose a place within a fixed formula; instead, it creates an open system in which elements of experience can be organized and tested. In this way, Genius Loci—the spirit or unique character of a place—is not treated as decoration or as a critical slogan, but as an operative structure that can directly influence design.

This study identifies several limitations. First, it is mostly theoretical and methodological, with little testing in real-world situations. Second, turning experience into parameters is never complete, because some parts of a place cannot be fully captured. Third, there is a risk that a designer's personal view might be seen as the only correct one. This highlights the importance of use this method carefully and stay open to more testing.

A structured development timeline guides the process. The initial stage defines conceptual indicators and categorizes them into two primary domains: Movement and Environmental Components. The subsequent stage evaluates these indicators using field observation, pedestrian movement mapping, visibility analysis, material transition mapping, light and sound documentation, and user-based perceptual feedback. In the third stage, data are normalized to comparable scales, such as 0 to 1, to facilitate objective comparison of movement rhythm, threshold intensity, visibility frequency, and environmental variation. The fourth stage tests the indicators within a parametric design environment and refines them based on user experience comparisons. This sequential approach enables the conceptual

framework to evolve into a precise numerical model and avoids premature classification as a formal optimization problem.

The paper recommends that place analysis should not be just an add-on to architectural projects. Instead, it should be central to the design process. This shift enables parametricism to go deeper, helping manage complexity and encouraging greater sensitivity to place.

The value of Phenomeno-Parametrism is not in creating a new style, but in changing the main questions designers ask. Instead of only asking what forms can be made, it encourages a closer look at the experiences being shaped. This shift indicates a more responsible way of practicing architecture today.

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