

Rebuilding architecture's epistemology: KEPKA as a framework to reorient contemporary architectural development

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ARTICLE INFO	ABSTRACT
<p><i>Article history:</i> Received December 28, 2025 Received in revised form Jan. 27, 2026 Accepted February 20, 2026 Available online March 01, 2026</p> <p><i>Keywords:</i> Architectural epistemology Architectural evidence Compositional analysis Design justification Function–form–meaning KEPKA</p> <p>Corresponding author: Purnama Salura Doctoral Program of Architecture, Faculty of Engineering, Universitas Katolik Parahyangan, Bandung, Indonesia Email: purnama.salura@unpar.ac.id ORCID: https://orcid.org/0000-0002-3652-7192</p>	<p><i>Contemporary architectural practice increasingly exhibits fragmented approaches in which analysis and design, as well as visual, technical, symbolic, and social aspects, are treated as separate domains. This fragmentation reveals the absence of an epistemic framework capable of maintaining traceability between architectural claims and their underlying evidence. This article addresses this epistemic gap by proposing KEPKA (Kerangka Epistemik Properti Komposisi Arsitektur) as a regulatory framework for structured architectural reflection. KEPKA is developed through a critical synthesis of architectural theories concerned with the interrelations of function, form, experience, and meaning. It emphasises the traceability of architectural claims by grounding interpretations in elements, properties, and spatial composition. Rather than functioning as a single theory, design method, or normative value system, KEPKA operates as a reflective epistemic tool applicable across issues, methods, and paradigms without interfering with scientific claims. Structured into five analytical levels, ranging from elements and compositional relations to operational and discursive meaning, KEPKA enables an assessment of the degree to which an architectural reading or design is architecturally justified. This article argues that KEPKA does not aim to verify the truth of meaning, but to ensure that meaning remains inseparable from architectural evidence, while simultaneously opening a dialogical space for engagement with diverse theoretical traditions within architectural scholarship.</i></p>

Introduction

The crisis of meaning in the AI era

The epistemic vacuum discussed in this article does not suggest the absence of architectural approaches, but rather the lack of a regulatory framework that systematically organises the relationships between elements, composition, function, and meaning in a hierarchical and traceable manner. Recent developments in Artificial Intelligence (AI) have significantly transformed both the methods and speed of architectural production. AI systems are capable

of generating architectural images, spatial compositions, and formal configurations within seconds (Albukhari 2025).

However, such visual capabilities are not necessarily accompanied by an understanding of architecture's fundamental purposes, the operational logic of space, user experience, or architectural meaning (Yiannoudes 2025). As a result, a phenomenon often described as a "flood of meaningless forms" has emerged, driven by AI's tendency to reproduce homogeneous visual patterns derived from global datasets, frequently

without sensitivity to local contexts or identities (Manovich 2020).

This condition reflects an epistemic crisis, namely the fragility of architectural reasoning when confronted with AI-driven visual production (Mittelstadt et al. 2016). In the Indonesian context, however, this crisis cannot be attributed solely to AI, but must be understood in relation to internal conditions within the architectural discipline itself. For an extended period, there has been a noticeable absence of published epistemic frameworks that systematically guide the scientific interpretation and design of form, space, and meaning. Several scholars have described this condition as “epistemic looseness”: the lack of an integrative framework capable of unifying the diverse and partial theories that currently operate within architectural discourse (Bender et al. 2021). In this sense, the emergence of AI does not initiate the epistemic crisis, but rather exposes and amplifies a long-standing epistemic vacuum within the discipline of architecture.

Epistemic emptiness and the fragmentation of architectural theory

For several decades, architectural theory has developed in a fragmented manner, with multiple approaches advancing in parallel but rarely converging within a shared epistemic structure. Phenomenological approaches, which prioritise spatial experience and atmosphere, are frequently detached from systematic analyses of form and architectural systems (Seamon 2018). Semiotic approaches, which focus on signs and meaning, often remain disconnected from questions of function and architectural performativity (Pérez-Gómez 1983). Morphological and typological approaches emphasise formal patterns, yet frequently fall short of explaining how such forms generate experience and meaning in use (Salura and Fauzy 2012). Environmental psychology approaches foreground user behaviour, but commonly overlook the formal and compositional structures of architecture itself (Frank and Lepori 2000). Meanwhile, computational design and AI-driven approaches prioritise optimisation and generative processes, while offering limited interpretative capacity regarding meaning and cultural context (Picon 2010).

Although these approaches make substantial contributions to architectural knowledge, they largely operate in isolation and are seldom integrated within a coherent architectural

epistemic structure. This condition has been described as *epistemic fragmentation* in architectural discourse (Floridi 2019), contributing to an increasing gap between abstract theoretical positions and highly pragmatic architectural practice (Winsberg 2010). Such epistemic limitations create favourable conditions for AI systems to dominate architectural visual production, often without grounding in meaning, use, or contextual awareness (Mitchell 2019).

Thus, while architecture is rich in interdisciplinary theories, it continues to lack a unifying epistemic framework capable of systematically explaining the relationships between elements, composition, function, and meaning. This condition underscores the urgency of developing a comprehensive epistemic framework grounded in architectural scholarship itself, rather than borrowed piecemeal from adjacent disciplines.

The expanding influence of non-architectural disciplines and the blurring of architecture’s scientific identity

Contemporary architectural discourse increasingly incorporates theories and methodologies originating outside the architectural discipline, including psychology, sociology, anthropology, ecology, information technology, computational science, and artificial intelligence (Terzidis 2006). While this interdisciplinary expansion has enriched architectural perspectives, it has also produced an epistemological side effect: the gradual blurring of architecture’s scientific identity. This occurs when adopted theories are not grounded in the ontological questions specific to architecture itself, but are applied without a clear mechanism for architectural translation (Hillier and Leaman 1976).

As the scope of architectural inquiry expands laterally, both ontological and epistemological clarity tend to weaken (Heynen 1999). Architectural theory consequently risks becoming diffuse and ambiguous, as it lacks an explicit epistemic mechanism for distinguishing the core ontology of architecture from approaches borrowed from adjacent disciplines (Salura and Fauzy 2012). This condition may be understood as *epistemic overextension*: a situation in which a discipline expands horizontally across multiple domains while gradually losing the internal coherence and depth of its own scientific structure (Floridi 2019; Spennemann 2025).

In this context, the need for an epistemic framework grounded in the core ontology of architecture becomes evident. Rather than relying on the cumulative adoption of external theories, such a framework must provide a principled basis for integrating interdisciplinary insights while preserving architecture's disciplinary identity.

Research issues, objectives, and benefits

Based on the conditions outlined above, this research addresses the following central question: How can an architectural epistemic framework be constructed that is comprehensive, operational, and grounded in the core ontology of architectural science itself? This question emerges from the need to reconcile theoretical fragmentation and to respond to the increasingly evident epistemic vacuum intensified by developments in the AI era (Carpo 2023).

This theoretical study aims to formulate an architectural epistemic framework that is not only conceptual in nature but also operational, enabling its systematic application in reading, designing, and evaluating architecture. The proposed framework contributes to contemporary architectural theory by offering a structured epistemic foundation capable of addressing current challenges posed by AI-driven architectural production and interpretation (Babaei 2025).

The anticipated contributions of this research include: (1) the enrichment of architectural theory through the provision of a systematic epistemic framework grounded in the core ontology of architecture; (2) the development of operational, evidence-based guidelines for research-driven design; (3) the establishment of an objective evaluative framework applicable to academics, practitioners, policymakers, and the public; and (4) the opening of new directions for architectural design research, particularly in design evaluation, theories of meaning, spatial reading, and the epistemological integration of AI within architectural inquiry.

Methods

Research paradigm: interpretivist–critical with an evidence-based structure

This research is grounded in an interpretivist paradigm, as its primary objective is to examine and articulate architectural meaning. However,

the interpretive process is deliberately constrained and does not operate in an unconstrained manner, as is often observed in qualitative studies of meaning that rely excessively on subjective association or ad hoc interpretation. In the Indonesian academic context, this tendency is colloquially described as “*gathuk-gathuk*”, referring to interpretive practices that rely on superficial matching rather than systematic reasoning. Such practices are closely related to overinterpretation, pseudo-correlation, and confirmation bias (Eco 1992).

To address this risk, the interpretivist paradigm adopted in this study is structured within a critical and tightly bounded framework, grounded in basic architectural evidence and a systematic sequence of analytical steps. Interpretation is therefore treated as bounded interpretation (Maxwell 2012), in which interpretive freedom is maintained but remains accountable to architectural evidence, functional logic, and compositional structure. Creativity is neither suppressed nor unrestricted; rather, it is exercised within clearly defined epistemic limits derived from architectural data and reasoning.

This methodological position bridges two essential requirements. First, it acknowledges the necessity of interpretation in reading architectural meaning. Second, it insists on empirical grounding based on what is materially and spatially present within the architectural work itself. The integration of these two requirements distinguishes this research from many existing studies on architectural meaning, which often lack explicit epistemic guidelines or structured interpretive procedures.

Theoretical material

The case examined in this research is not a physical building or site, but the epistemic structure underlying a corpus of architectural theories developed by Purnama Salura. These theories are treated as a theoretical–epistemic case study, selected not for their association with a particular figure, but because they collectively address foundational architectural questions concerning the relationships between function, form, space, experience, and meaning.

The selection of these theories is based on four criteria. First, they conceptualise architectural meaning as emerging from architectural operations rather than as purely symbolic attribution. Second, they are grounded in core architectural issues, particularly the interaction

between function, form, space, and human activity. Third, they form an internally coherent body of thought, in which individual theories support and build upon one another toward a more comprehensive epistemic structure. Fourth, they are operational in nature and open to examination through basic architectural evidence.

The theoretical corpus analysed in this study consists of six interrelated theories. (1) *Ber-Arsitektur*, The Process of Architectural Theory: Making–Using–Experiencing–Understanding Architecture, which articulates four modes through which architecture exists in human life and provides an epistemic context in which meaning cannot be separated from use and experience (Salura 2001). (2) The Theory of Five Classifications (Idea–Formal Object–Medium–Material Object–Expression), which reconstructs Aristotle’s theory of causality into five operational categories for understanding and designing architecture (Salura 2015). (3) The Function–Form–Meaning Theory, which explains a cyclical causal relationship in which function generates form, form conveys meaning, and meaning subsequently influences function, offering a holistic logic for architectural reading (Salura 2018). (4) The Theory of Architectural Anatomy, which conceptualises architectural structure from the process of spatial formation rather than through analogy with the human body (Salura 2018). (5) The Theory of Properties and Composition, which explains how physical elements and compositional relations generate architectural order, with architectural properties functioning as initial evidence for interpreting function and meaning (Salura 2018). (6) The Theory of Operational Basic Meaning and Discursive Additional Meaning, which distinguishes meanings arising directly from purpose, function, and use from symbolic meanings that either reinforce or diverge from those basic meanings (Salura and Clarissa 2025).

Together, these six theories constitute the epistemic material analysed in this research to examine inter-level relationships and to assess their capacity to form a coherent and comprehensive architectural epistemic framework. Importantly, the use of Purnama Salura’s theoretical corpus in this study is strategic and historical rather than exclusive. These theories are treated as a starting tradition for formulating an epistemic structure that is not dependent on a single figure or school of thought, and that remains open to testing, correction, and

enrichment through engagement with other architectural traditions. A key requirement maintained throughout this process is the traceability of architectural claims across elements, composition, experience, and meaning.

Research method: five-step analysis

This research employs a five-step analytical method structured around an architectural epistemic framework. Six epistemic theories are treated as theoretical cases, with the Theory of Properties and Composition serving as the methodological foundation, as it provides the most fundamental mechanism for identifying architectural elements as properties and for understanding their compositional relationships. The remaining five theories contribute to and enrich specific stages of the analysis.

The method is organised as a hierarchical and causal sequence that progresses from architectural evidence to architectural meaning. Each analytical step functions as a prerequisite for the subsequent one, such that interpretations of meaning in the final stage are considered epistemically valid only if all preceding steps have been consistently fulfilled.

The first step focuses on the identification of architectural elements and their arrangements as basic evidence. This stage addresses the question: *What is physically present?* Its purpose is to establish objective architectural data, prevent premature interpretive leaps, and ensure that all subsequent interpretations remain traceable to concrete evidence.

The second step examines the properties and compositional relationships among elements in order to reveal structures of order, balance, and organisation. This stage addresses the question: *How are these elements arranged?* It emphasises that architectural meaning does not emerge from isolated elements, but from their relational configurations, and provides the basis for understanding spatial function and orientation.

The third step directs the analysis toward the identification and orientation of space through the relationship between people and space. This stage addresses the question: *How is space used and experienced?* Function is not interpreted as a static programmatic label, but as a pattern of orientation, movement, and use that can be traced from physical and compositional evidence.

The fourth step analyses the integration of spatial units to understand architecture as a systemic whole and to identify spatial hierarchies.

This stage addresses the question: *How do relationships between spaces form a coherent system?* It prevents partial or fragmented readings by ensuring consistency between individual spatial units and the architectural whole.

The fifth step involves the interpretation of architectural meaning through the distinction between basic meaning and additional meaning. Basic meaning derives from the purpose, function, and use of space (*purpose–function–use*), while additional meaning emerges from symbolic associations related to tradition, social class, and ideology. Interpretation at this stage is discursive and interpretive, yet remains strictly bounded by the evidence established in the preceding four steps, thereby avoiding speculative or ad hoc matching.

This five-step analytical method is epistemically grounded for several reasons. First, it follows a coherent progression from evidence to composition, function, system, and meaning. Second, interpretations at the level of meaning are empirically grounded in the analytical results of the preceding steps. Third, the method allows analytical procedures to be traced, repeated, or critically examined by other researchers. Fourth, it is compatible with an interpretivist paradigm while preventing unconstrained interpretation. Fifth, it is grounded in the core ontology of architecture rather than imported wholesale from other disciplinary frameworks. Sixth, it is applicable to both theoretical analysis and empirical case studies of architectural works.

In this sense, the five-step method functions not merely as a descriptive analytical tool, but as an epistemic guide that structures how architectural knowledge may be systematically produced, examined, and evaluated.

Results and discussion

Results of the first step: elements and composition - affirming architectural Ontology

The analysis demonstrates that the proposed Epistemic Framework does not begin with abstract concepts or symbolic interpretation, but with the most elementary level of architectural evidence: the presence of observable elements. This finding directly addresses a recurring tendency in studies of architectural meaning, which often bypass ontological considerations by moving prematurely toward symbolic

interpretation without acknowledging the material status of architectural elements.

The Theory of Five Classifications reinforces this result. At the level of the *material object*, the theory explains how architectural ideas are translated into physical elements. Within the Epistemic Framework, this indicates that the first analytical step is not merely an inventory of elements, but the stage at which architectural ideas acquire material embodiment. The physical is therefore understood not as a neutral substrate, but as *the physicalisation of architectural intent*.

Through the Function–Form–Meaning Theory, the initial stage of form is positioned as a conceptual bridge between function and material presence. The analysis shows that this initial form provides a preliminary classification of element shapes and configurations prior to their examination through property–composition relationships in the second step. In parallel, Process of Architectural Theory, particularly its *making* dimension, emphasises that every architectural process necessarily begins with decisions concerning which elements are to be produced and how they are initially configured.

Collectively, the results of the first analytical step indicate that the Epistemic Framework is capable of: (1) reasserting the core ontology of architecture by grounding analysis in material elements; (2) anchoring architectural interpretation within the process of making and initial formal decisions; and (3) establishing physical elements as the primary and indispensable evidence prior to any interpretive or symbolic reading.

Discussion

These findings are particularly significant in the context of the contemporary crisis of meaning associated with AI-driven architectural production. Many AI-generated representations present architecture as visually complete artefacts, offering “finished images” without prior confirmation of the ontological structure of elements from which meaning can be legitimately derived. By enforcing a return to elements as the foundational level of analysis, the first step of the Epistemic Framework functions as an epistemic filter against superficial visual matching.

In this sense, the first step prevents interpretive practices that are detached from architectural anatomy and compositional logic. It compels both architectural research and design practice to re-engage with the ontological basis of

architecture, ensuring that subsequent readings of function, experience, and meaning remain traceable to material and formal evidence rather than visual impression alone.

Results of the second step: properties and composition - from elements to formal structure

The elements identified in the first step are no longer understood in isolation, but are analysed relationally as part of a compositional system. This result confirms that while the first step addresses the question “*what exists?*”, the second step responds to the question “*how is what exists arranged?*”. Through the *formal* object stage of the Theory of Five Classifications, the second step is understood as a relational structure in which form is no longer merely a material entity, but a patterned relationship among elements. At this stage, form begins to emerge as a formal-compositional system rather than as an assemblage of physical components.

Analysis through the Function-Form-Meaning Theory indicates that function begins to *produce* form at the compositional level. Consequently, the second step becomes the stage at which function starts to organise elements into specific relational patterns. Within this step, the dimension of *use* emerges in a preliminary and pre-operational sense. Users have not yet actively engaged with the spatial system, but begin to perceive compositional cues such as dominance and subordination, foreground and background, balance and contrast. These perceptual impressions form the initial basis for spatial orientation in subsequent stages of analysis.

Discussion

The findings of the second step demonstrate that the Epistemic Framework does not remain at the level of elemental identification, but advances toward the systematic analysis of compositional structures. At this stage, the framework provides a formal language that enables both designers and researchers to assess the character and internal logic of an architectural composition. Composition may thus be evaluated in terms of whether it primarily supports functional requirements, merely pursues visual effects, or intentionally directs interpretation toward particular meanings.

In the context of AI-driven architectural production, this step is particularly critical. Many AI-generated design outputs appear visually compelling but are seldom examined for the

formal coherence of their compositional relationships with function and emerging meaning. Through the second analytical step, the Epistemic Framework establishes criteria for evaluating whether AI-generated compositions are purely decorative or whether they exhibit a formal logic that meaningfully relates composition, function, and systemic organisation.

Results of the third step: identification-orientation, spatial experience as epistemic evidence

The third analytical step is positioned as the stage at which humans identify and orient themselves within architectural space. At this level, spaces are recognised as primary, secondary, or transitional, while bodily movement, paths, and nodes become legible through spatial organisation. The analysis demonstrates that the Epistemic Framework treats the acts of using and experiencing space, as articulated in the Process of Architectural Theory, as epistemic evidence rather than as purely subjective narratives. Identification and orientation thus function as concrete indicators of how compositional structures established in the previous step are translated into movement patterns and spatial perception.

The Function-Form-Meaning Theory reinforces these findings by emphasising that function not only gives rise to form, but also organises spatial structure, such as public-private, primary-secondary, and transitional-intimate relationships. The results of the third step indicate that such structures can be empirically traced through orientation patterns, including primary trajectories, “going-to” spaces, and “passing-through” spaces. Within the Theory of Five Classifications, the *medium* dimension explains how spatial experience is realised through architectural means such as light, boundaries, paths, and atmosphere. Consequently, this step interprets function not merely as a programmatic designation, but as an experiential condition mediated by architectural form and spatial organisation.

The Theory of Properties and Composition contributes to this step by clarifying visual and spatial orientation cues, including dominance, directionality, and focal markers. At the same time, the Theory of Basic Meaning begins to operate at this level, as users’ recognition of spatial function and orientation becomes the

initial source of basic architectural meaning derived from use.

Discussion

The findings of the third step position spatial experience at the core of architectural epistemology while maintaining a strict evidential basis. This distinguishes the Epistemic Framework from phenomenological approaches to experience, which are often characterised by richly descriptive accounts that are difficult to verify or reproduce. Within the Epistemic Framework, experience is not treated as an autonomous phenomenon, but is causally bound to: (1) architectural anatomy established in the first step, (2) compositional relationships analysed in the second step, and (3) orientation patterns identified in the third step. Together, these stages construct a traceable epistemic path from elements to composition and, ultimately, to spatial experience.

In the context of AI-driven architectural production, these findings imply that designs which are visually compelling at the level of façade or image, yet fail to establish clear spatial identification and orientation, cannot be regarded as architecturally meaningful. According to the Epistemic Framework, spatial experience must be demonstrably grounded in architectural structure and organisation, rather than inferred solely from visual representation.

Results of the Fourth Step: Unit Integration and Hierarchy — Architecture as a System

The analysis of the fourth step demonstrates that architecture is not merely an aggregation of spaces, but an integrated spatial system. At this stage, the *understanding* dimension of The Process of Architectural Theory becomes central. Users do not only experience individual spaces, but begin to comprehend the overall organisation of paths, nodes, zoning, and hierarchies of importance. The findings indicate that *understanding* in this context refers to the apprehension of systemic spatial structures rather than isolated local atmospheres.

The Theory of Architectural Anatomy contributes to this step by clarifying the formation of subsystems and zoning. The division of core spaces, supporting spaces, and service spaces is shown to be not merely a programmatic outcome, but a hierarchical spatial structure that can be read from the organisation of architectural units. In parallel, the concept of hierarchy derived from the

Theory of Properties and Composition is elevated from the level of visual elements to that of spatial units and masses. Hierarchy thus operates not only as a compositional principle, but as a systemic ordering mechanism.

The Theory of Five Classifications further reinforces this result by explaining that architectural ideas ultimately materialise at the level of spatial systems. In this sense, the fourth step represents the manifestation of architectural ideas at a total and integrative scale, where elements, compositions, orientations, and spatial units are synthesised into a coherent architectural system.

Discussion

The findings of the fourth step indicate that the Epistemic Framework requires a systemic and holistic reading of architecture rather than a fragmentary one. This highlights a persistent epistemic issue in contemporary architectural theory, which often concentrates on local details, façades, or the atmosphere of isolated spaces while overlooking the integration of the architectural system as a whole. According to the Epistemic Framework, an architectural work can only be adequately assessed when zoning, spatial hierarchy, circulation systems, and inter-unit relationships are interpreted as an integrated structure.

In relation to the contemporary challenges posed by AI-driven architectural production, this step is particularly revealing. While AI systems are capable of generating visually intriguing forms, the critical question remains whether they can consistently construct hierarchical, functional, and intelligible spatial systems. The fourth step of the Epistemic Framework provides an epistemic tool for evaluating this capacity, shifting assessment from visual novelty toward systemic coherence and architectural intelligibility.

Results of the fifth step: basic meaning and additional meaning — epistemic and axiological culmination

The fifth step constitutes the culmination of analysis within the Epistemic Framework. At this stage, the Theory of Basic Meaning and Additional Meaning becomes central, supported by the Function–Form–Meaning Theory in its meaning phase. This step also integrates contributions from the Theory of Architecturalism at the level of *understanding*,

the Theory of Five Classifications at the *expression* dimension, and the Theory of Properties and Composition at the expressive level.

The Theory of Basic Meaning and Additional Meaning distinguishes two principal layers of architectural meaning. The first is *basic meaning*, which is operationally grounded in purpose, function, and use (purpose–function–use). The second consists of *additional meanings*, which may arise from and reinforce basic meaning such as symbols related to tradition, social class, or ideology (*tradition–social class–ideology*) or may emerge independently without a clear relationship to basic meaning. These additional meanings are generally discursive in nature. The analysis demonstrates that, within the Epistemic Framework, basic meaning emerges from the internal consistency of Steps One through Four. Additional meanings are subsequently interpreted as supplementary layers that should either grow coherently from basic meaning or, at minimum, not contradict it. In some cases, however, accidental meanings may appear that remain entirely detached from the basic meaning.

The Function–Form–Meaning Theory further clarifies that meaning is the outcome of a cyclical relationship between function and form that has progressed through compositional and systemic stages in Steps Two to Four. In this fifth step, meaning is therefore not treated as a point of departure, but as a logical consequence of the architectural relationships established earlier. This directly challenges interpretive practices in architecture that treat meaning as something externally imposed or symbolically “installed” without grounding in architectural structure. Within The Process of Architectural Theory, the *understanding* stage is thus defined as a meaning-making process in which users or interpreters synthesise spatial experience (Step Three), spatial systems (Step Four), and functional logic into a coherent architectural interpretation.

The *expression* dimension in the Theory of Five Classifications explains how ideas and meanings are articulated through formal and material media. In parallel, the Theory of Properties and Composition accounts for how compositional attributes carry expressive potential: dominance may be interpreted as significance or sacrality in certain contexts, rhythm as dynamism, symmetry as formality, and asymmetry as informality or fluidity. Through this mechanism, formal properties operate as

carriers of additional meaning, while remaining grounded in architectural structure.

Discussion

The findings of the fifth step yield several important epistemic and axiological implications. First, the Epistemic Framework demonstrates that architectural meaning can be interpreted without resorting to ad hoc matching or speculative association, as all claims of meaning remain traceable to the analytical results of Steps One through Four. Second, basic meaning is treated as a necessary foundation that should not be overridden by additional meaning. Within this framework, an architectural work that symbolically appears “traditional” yet fails to operate according to its intended purpose and use is considered epistemically problematic.

Third, in the context of AI-driven architectural production, meaning must be critically examined. The framework enables evaluation of whether AI-generated designs merely produce additional or accidental meanings that are inconsistent with basic meaning, or whether they demonstrate coherence with purpose, function, and use. Crucially, KEPKA does not seek to determine the truth or legitimacy of meaning itself; rather, it provides an epistemic basis for assessing whether claims of architectural meaning can be justified through architectural evidence, structure, and logic.

Synthesis: an epistemic framework for architectural composition properties

The overall results of this study demonstrate a coherent epistemic progression across five analytical levels. Step One establishes the ontological grounding of architectural elements; Step Two constructs relational and compositional structures; Step Three connects composition to spatial experience and functional orientation; Step Four integrates spatial units into a coherent architectural system; and Step Five culminates in the interpretation of basic and additional meanings as the highest epistemic outcome.

This epistemic structure is designated as the Epistemic Framework for Architectural Property and Composition (KEPKA), as its foundational logic is derived from architectural properties and compositional relationships. The five analytical steps are formally articulated as Levels One to Five (L1–L5), forming a hierarchical and traceable epistemic sequence from evidence to meaning.

Synthesis discussion

The findings of this research confirm that KEPKA functions as an operational and analytically rigorous architectural epistemic framework grounded in the core ontology of architecture itself. Rather than assembling concepts from adjacent disciplines in an ad hoc manner, KEPKA provides a structured epistemic logic capable of organising architectural knowledge from elemental evidence to interpretive meaning.

In response to the contemporary crisis of meaning intensified by AI-driven architectural production and the long-standing fragmentation of architectural theory, KEPKA demonstrates several contributions. First, it offers a unifying epistemic structure capable of integrating previously fragmented architectural theories without collapsing their conceptual distinctions. Second, it provides a clear sequence of analytical steps applicable to both theoretical inquiry and real-world architectural cases. Third, it establishes a methodological foundation for research-based design by linking evidence, composition, experience, system, and meaning. Fourth, it opens pathways for further research into architectural meaning, design evaluation, and the epistemological integration of digital and AI-based technologies within architectural scholarship. Although this research formulates KEPKA through a synthesis of Purnama Salura's theoretical corpus, the resulting five-level epistemic structure is not conceived as a closed

system. Approaches such as spatial configuration, spatial phenomenology, architectural semiotics, and systems theory may be remapped onto the levels of KEPKA, provided that their analytical claims remain grounded in architectural evidence and maintain epistemic traceability.

Accordingly, KEPKA is not proposed as a school of thought, but as an epistemic platform that enables dialogue across architectural traditions without sacrificing the clarity of architectural ontology. The framework does not position itself as a mechanism for judging other approaches as erroneous or invalid. Instead, it functions as a regulatory tool for epistemic traceability, rather than as a singular benchmark of truth. Within specific contexts, partial or specialised approaches retain scientific legitimacy, as long as their claims are explicit about their scope, limitations, and domain of applicability.

Given that this study is theoretical in nature and grounded in a single dominant architectural tradition, the principal strength of KEPKA at this stage lies in its internal coherence and epistemic consistency. Future research may further test, expand, or recalibrate the framework through engagement with alternative architectural traditions and empirical case studies. The complete structure of the Epistemic Framework and its five analytical levels is summarised in [table 1](#), which synthesises the relationships between levels, key questions, types of evidence, and epistemic outputs.

Table 1. Epistemic framework of architectural property and composition (KEPKA) the proposed epistemic framework derived from the research findings

Level KEPKA	Core question	Theme - Issue addressed	Conceptual clarification (domain of inquiry)	Expected outcome (scientific output)	Basic evidence (empirical basis)
L1 Element Arrangement (spatial ontology)	What is physically present?	Physical elements and spatial configuration Identification of architectural elements and their tangible arrangement	Floor Wall Roof, Openings, Boundary	1.Space 2.Enclosure of space	Plan Elevation Section Sketches Photographs
L2 Property Composition (formal concept)	How are the elements composed?	Formal relationships, order, balance, hierarchy Clarification of compositional structure and formal logic	Morfology Geometry Structural Spatial	1. Dominant compositional pattern 2. Experiential potential of space derived from the composition	Overlay: Plan-fasade Grid-axis Mass-void

Level KEPKA	Core question	Theme - Issue addressed	Conceptual clarification (domain of inquiry)	Expected outcome (scientific output)	Basic evidence (empirical basis)
L3 Identification Orientation (epistemology)	How is space used and experienced?	Functional orientation and spatial experience Understanding spatial use and user orientation	Activity pattern Structure-circulation Orientation-focus threshold-transition Experiential zone	1. Empirical evidence of user activity orientation 2. Mapping of the spatial experience journey	Movement tracking Sequential photographic documentation User interviews
L3 Identification Orientation (epistemology)	How do spaces function as an integrated system?	Spatial system, zoning, hierarchial structure Clarification of systemic integration and spatial hierarchy	Integration + hierarchy Function Position Boundary Primary-secondary Exterior-interior	1. Functional flow system diagram 2. Spatial hierarchial structure	Zoning Bubble diagram Spatial relationship scheme
L3 Identification Orientation (epistemology)	What meanings are produced?	Basic meaning and additional meaning Interpretation of architectural meaning grounded in evidence	Purpose Function Use Tradition Social class Ideology	1. Meaning statements derived from 11-14 and user activities 2. Distinction between basic meaning and additional meaning	Synthesis of all data levels Triangulation of form and user activities Narrative analysis of interviews and documents

KEPKA's position in relation to other architectural traditions

KEPKA is not proposed as a new theoretical school intended to replace existing architectural traditions. Rather, it is conceived as a regulatory epistemic framework aimed at maintaining architectural legibility across diverse approaches. In this sense, KEPKA does not operate at the level of theoretical content, but at the level of epistemic structure governing how architectural claims, whether functional, phenomenological, symbolic, or critical, may be systematically traced back to spatial and compositional evidence.

The hierarchical structure of KEPKA enables dialogue with multiple architectural traditions without negating their respective conceptual distinctiveness. Morphological, typological, and spatial configuration approaches (such as space syntax), for instance, may operate primarily at the levels of elements, properties, and spatial composition. Phenomenological approaches and studies of inhabited experience may be situated at the level of identification and orientation, provided that experiential claims are grounded in spatial relations and patterns of actual use. Similarly, semiotic, hermeneutic, and ideological critiques may contribute at the level of meaning,

as long as interpretive claims remain traceable to concrete architectural structures and systems.

Accordingly, KEPKA's openness to other traditions is not a form of indiscriminate theoretical inclusiveness. Rather, it is epistemically conditional. KEPKA does not seek to merge or hybridise paradigms, but to provide a shared epistemic platform within which different paradigms may operate at appropriate analytical levels without negating one another. As a consequence, KEPKA does not aim to generate a single causal explanation, universal truth claim, or final normative judgement of architectural works.

It should also be emphasised that the formulation of KEPKA presented in this study remains grounded in a single dominant architectural tradition and is therefore proposed as an initial framework. As such, it is explicitly open to testing, critique, and refinement through engagement with other architectural traditions. In this sense, KEPKA is not a closed system, but an epistemic arena that invites further development while maintaining architectural inquiry firmly anchored in its core ontology: the production and inhabitation of dwelling space.

KEPKA as a value-free, cross-issue, and cross-paradigm framework

The results of this synthesis indicate that KEPKA is not only an epistemic framework grounded in the core ontology of architecture, but also one that operates independently of external normative agendas. Its value-free position does not imply the absence of values altogether, but rather its grounding in the internal epistemic values of the architectural discipline itself. Accordingly, KEPKA does not prescribe which architectural issues should be prioritised, promote particular ideological positions, or determine whether specific interpretations of meaning are right or wrong. Instead, KEPKA functions as a regulatory epistemic framework that structures how architectural evidence, compositional relationships, spatial experience, systemic integration, and meaning are to be processed and related in a coherent and traceable manner. This regulatory role applies regardless of the substantive values, interests, or agendas pursued by researchers, designers, or other stakeholders. As a result, KEPKA is compatible with a wide range of architectural issues, including environmental sustainability, social and cultural questions, technological development, artificial intelligence, and design automation.

Beyond its cross-issue applicability, KEPKA is also cross-paradigmatic. The framework can operate within positivistic, interpretivist, and critical research paradigms, as it does not impose a specific epistemological stance but instead provides a shared architectural structure for organising inquiry. Because it is grounded in basic architectural evidence, KEPKA may be employed in both qualitative and quantitative research contexts. In this sense, KEPKA functions as an epistemic container capable of accommodating diverse theories and methodologies without sacrificing architectural specificity, rigour, or disciplinary clarity.

Implementation of KEPKA in empirical cases

Although this article primarily focuses on epistemic structure and theoretical synthesis, the findings demonstrate that KEPKA is operational and can be directly applied as a method for empirical architectural analysis. Its implementation follows a structured sequence corresponding to Levels One through Five (L1–L5).

At L1 (Elements), analysis begins with the identification of physical architectural elements

through floor plans, photographs, and field observations. L2 (Composition) involves examining compositional relationships by overlaying plans and façades to reveal patterns of rhythm, proportion, balance, and visual hierarchy. L3 (Identification–Orientation) focuses on spatial use and experience through methods such as movement tracking, user interviews, and systematic observation of spatial behaviour. L4 (Integration–Hierarchy) examines architecture as a system through zoning analysis and schematic mapping of relationships among spatial units. L5 (Meaning) synthesises evidence from Levels One to Four through triangulation, distinguishing between basic meanings derived from purpose, function, and use (*purpose–function–use*) and additional meanings related to tradition, social class, and ideology (*tradition–social class–ideology*).

This sequence of empirical implementation demonstrates that KEPKA functions not as an abstract or speculative framework, but as an operational epistemic tool. It can be employed to evaluate existing buildings, analyse architectural typologies, conduct evidence-based spatial studies, validate design proposals, and support rigorous architectural critique. Moreover, by maintaining traceability between evidence and meaning, KEPKA provides a structured basis for integrating AI-assisted analysis and generative processes within architectural epistemology without detaching design outcomes from architectural logic.

Conclusions

This study demonstrates that KEPKA constitutes an architectural epistemic framework capable of addressing three fundamental challenges currently facing the architectural discipline: the intensifying crisis of meaning in the era of artificial intelligence, epistemic fragmentation arising from the proliferation of partial and disconnected theories, and the limited availability of theoretical frameworks genuinely grounded in architecture's core concern with the relationship between function, form, and meaning.

Through its five analytical levels, elements and arrangement, properties and composition, identification and orientation, unit integration and hierarchy, and basic and additional meaning, KEPKA shows that architectural meaning can be

examined in a systematic, evidence-based manner without resorting to speculative arbitrary fit-and-match interpretation. Rather than merely compiling Purnama Salura's theoretical contributions, KEPKA reorganises them into a coherent epistemic sequence that progresses from physical presence and formal relations, through spatial experience and functional organisation, toward systemic structure and the production of meaning. From a theoretical perspective, KEPKA reaffirms the core ontology of architecture by positioning elements, composition, function, system, and meaning within a consistent and traceable epistemic order, thereby reducing excessive dependence on external disciplinary frameworks. Methodologically, KEPKA offers a five-level operational analytical structure that constrains interpretation through architectural evidence while remaining compatible with both qualitative and quantitative modes of inquiry.

In the context of AI-driven architectural production, which increasingly generates forms detached from epistemic grounding, KEPKA has significant implications. It functions as an instrument for distinguishing meaningful architectural design from visual imitation, as a methodological guide for research-based design, and as an objective framework for architectural evaluation applicable to academics, practitioners, and stakeholders. In this sense, KEPKA not only provides a systematic way of reading architecture, but also contributes to the reorganisation of architectural reasoning itself. While not proposed as a definitive or exclusive model, KEPKA may be positioned as a promising reference framework for contemporary architectural epistemology.

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