

Lineage, cosmology, and sacred access: Reinterpreting *Nawa Sanga* in the Royal Compounds of Blahbatuh

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ARTICLE INFO	ABSTRACT
<i>Article history:</i> Received February 14, 2026 Received in revised form Marc.08, 2026 Accepted April 07, 2026 Available online June 01, 2026 <i>Keywords:</i> Balinese palace architecture Genealogical structure Hierarchical access Nawa Sanga cosmology Sacred space *Corresponding author: I Gusti Ngurah Anom Gunawan Doctorate Study Program in Architecture and Urbanism, Department of Architecture, Faculty of Engineering, Universitas, Indonesia Email: igustingurahanomguna@students.undip.ac.id ORCID: https://orcid.org/0009-0009-0276-493X	<i>This research is grounded in the prevailing inclination within studies of Balinese palace architecture to interpret the Nawa Sanga cosmology chiefly as a symbolic framework of orientation, while its function as a governing apparatus in organizing hierarchical access and sacred spatial domains has not been thoroughly explored. In reality, the configuration of sacred space within a palace is shaped not solely by cosmological gradients but also by genealogical structures (pasemetonan), which establish ritual legitimacy, authority, and rights to spatial occupation. This study seeks to reconceptualize Nawa Sanga as a socio-spatial governance system that organizes hierarchical access and sacred space within Puri Ageng Blahbatuh and Puri Kaleran Jelantik. The research adopts a qualitative multiple case study methodology, incorporating spatial observation, architectural documentation, in-depth interviews, and genealogical analysis. The results reveal that hierarchical access and sacred spatial organization are generated through the interaction of three interconnected layers: cosmological orientation as a normative framework, genealogical structure as the foundation of legitimacy, and spatial mechanisms, such as thresholds and circulation patterns, as instruments of regulation. These findings affirm that Nawa Sanga operates not merely as a symbolic construct but as a regulatory system that sustains and reproduces social hierarchy through stratified control over access to sacred space.</i>

Introduction

Traditional spatial planning within Balinese indigenous settlements is profoundly grounded in cosmological principles that organize space according to symbolic, ritualistic, and hierarchical meanings. Among these principles, Nawa Sanga operates as a cosmological framework that structures spatial orientation through a nine-directional system associated with deities, cardinal directions, and sacred values.

Historically, this framework has guided the organization of settlements, temples, and palace compounds, embedding cosmological order into the configuration of the built environment and shaping the logic of spatial hierarchy in Bali (Geertz 1980; Dwijendra 2008; Ardika, Sutaba, and Winaja 2013; Gunawan et al. 2025). Rather than functioning solely as symbolic guidance, Nawa Sanga serves as an ordering system that informs spatial hierarchy, orientation, zoning, and the relationship between sacred and profane domains within Balinese architecture.

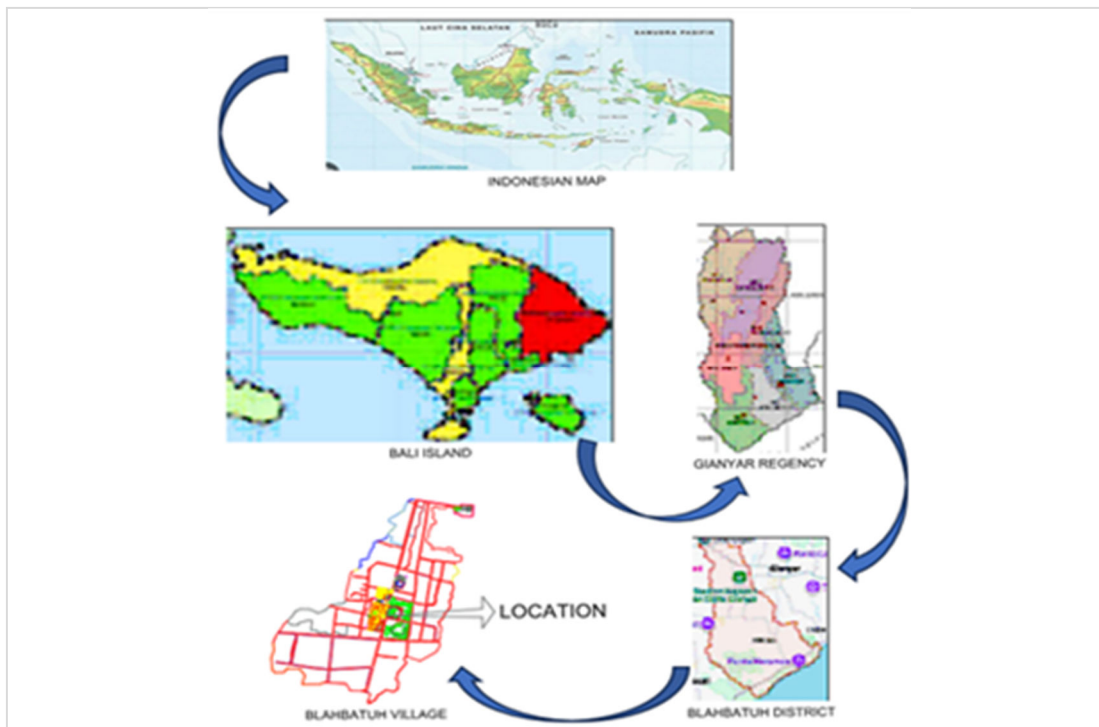


Figure 1. Location and genealogical context of *Puri Ageng Blahbatuh* and *Puri Kaleran Jelantik*, Blahbatuh Village, Gianyar, Bali

As presented in [figure 1](#), spatial organization is articulated along the *kaja-kelod* and *kangin-kauh* axes, which establish the orientation of sacred and profane domains. These directional systems are not merely conceptual constructs but are materialized in spatial configurations that regulate movement, accessibility, and spatial depth. The alignment of built forms along these axes generates a hierarchical gradient in which degrees of sacredness correspond to spatial position, enclosure, and controlled access. This condition demonstrates that cosmological orientation is embedded within spatial configuration, enabling cosmology to be interpreted through the arrangement of pathways, compounds, courtyards, and boundary elements.

Previous scholarship has explored the spatial organization of Balinese traditional settlements and palace compounds, emphasizing the role of cosmological principles in structuring spatial hierarchy and orientation ([Geertz 1980](#); [Dwijendra 2008](#); [Ardika, Sutaba, and Winaja 2013](#); [Gunawan et al. 2025](#)). These studies indicate that spatial order is not arbitrary but is grounded in cultural and cosmological systems that guide the arrangement of the built environment. Nevertheless, much of this work

remains predominantly descriptive, focusing on symbolic interpretation and cultural meaning rather than critically examining how spatial hierarchy is operationalized through architectural configuration, spatial depth, and systems of controlled accessibility. Consequently, the processes through which cosmological principles are translated into spatial structure, movement patterns, and hierarchical access remain insufficiently theorized within architectural discourse.

Within architectural research, spatial configuration has been widely acknowledged as a determinant of movement, interaction, and hierarchy within built environments. The configurational approach, particularly as articulated in space syntax theory, underscores the significance of spatial relationships, depth, and connectivity in shaping social and spatial order ([Hillier and Hanson 1984](#); [Hillier 1996](#); [Karimi 2018](#); [Peponis, Psarra, and Lee 2022](#)). In this framework, hierarchy is not externally imposed but emerges from patterns of accessibility, visibility, and permeability embedded within spatial systems. Concepts such as spatial depth, axial integration, threshold sequencing, and controlled permeability therefore provide

analytical instruments for examining how built environments regulate movement and organize differentiated levels of access.

Recent studies in spatial analysis further demonstrate that architectural elements such as thresholds, boundaries, and circulation systems function as mechanisms of spatial governance, shaping how individuals move through and interact within space (Dovey 2019; Sailer, Dalton, and Turner 2021; Kim and Penn 2022; Zhang, Chen, and Zhao 2022). These studies emphasize that spatial hierarchy is actively produced through configuration and controlled accessibility rather than passively defined by symbolic meaning. This perspective offers a productive lens through which traditional spatial systems, including Nawa Sanga, may be reinterpreted not merely as cultural constructs but as operative architectural systems whose logic can be examined through the arrangement of routes, interfaces, and spatial depth.

Despite these developments, the synthesis between configurational analysis and established cosmological frameworks remains insufficiently explored. Previous investigations into Balinese spatial planning have seldom addressed the manner in which cosmological doctrines are translated into quantifiable spatial configurations, particularly with respect to depth, accessibility, and movement dynamics. Furthermore, scholarly discourse remains limited regarding how palace compounds employ thresholds, enclosure systems, and circulation strategies to convert cosmological order into mechanisms of architectural control. Consequently, a disconnect persists between symbolic readings of space and analytical frameworks capable of explaining how spatial hierarchy is materially generated and sustained.

This research responds to this gap by analyzing the spatial organization of Puri Ageng Blahbatuh and Puri Kaleran Jelantik as representative case studies of Balinese palace compounds. Blahbatuh offers a valuable empirical setting, as prior studies have demonstrated that traditional spatial principles continue to inform settlement organization despite pressures arising from modernization, land-use transformation, and socio-economic shifts (Gunawan et al. 2025). Building upon this foundation, the present study examines how the Nawa Sanga concept is articulated into spatial hierarchy through architectural configuration, sequential thresholds, and regulated accessibility.

The investigation concentrates on identifying patterns of spatial depth, circulation systems, and zoning structures that reveal how cosmological principles are operationalized in the built environment rather than merely expressed through symbolic discourse.

The significance of this research lies in its effort to bridge cultural and architectural perspectives by demonstrating that Nawa Sanga operates not solely as a symbolic cosmology but also as a spatial system that actively organizes hierarchy through configuration. By reinterpreting Nawa Sanga within a configurational analytical framework, this study contributes to architectural theory by proposing a model that clarifies how traditional spatial systems function through measurable and analyzable processes. Additionally, the research enriches discussions on vernacular architecture by illustrating that sacred order is reproduced not only through belief systems and ritual practices but also through the material structuring of circulation paths, thresholds, and layered spatial access.

Accordingly, this study positions Nawa Sanga as a configurational model of spatial governance, wherein hierarchy is materially constructed through architectural mechanisms rather than merely symbolically represented. Through this perspective, the research advances a rigorous understanding of traditional spatial planning as an operative architectural system, offering insights relevant not only to Balinese architecture but also to broader discourses on spatial configuration, sacred architecture, and architectural theory.

Methods

This research employs a qualitative methodological framework utilizing a multiple case study strategy. The qualitative paradigm was deliberately selected as the study addresses a socio-spatial phenomenon that is intrinsically contextual, symbolic, and embedded within customary socio-cultural practices. The interrelationship between cosmology, genealogical organization, and sacred spatial accessibility cannot be effectively simplified into quantitative variables; instead, it necessitates an interpretive reconstruction grounded in lived experience and direct spatial observation (Creswell and Creswell 2023; Yin 2018).

Accordingly, the research adopts an exploratory-interpretive orientation aimed at reconstructing the processes through which sacred spatial hierarchy is produced via the interaction of cosmological norms, lineage legitimacy, and architectural mechanisms.

The application of a case study design is justified by the focus on two palace complexes situated within the same village, Puri Ageng Blahbatuh and Puri Kaleran Jelantik, which share a common cosmological framework (Nawa Sanga) as well as a genealogical lineage (Dalem

Pemayun), yet exhibit variations in spatial configuration and access regulation. This condition enables a comparative analysis within a relatively controlled cultural setting. By examining divergence within shared structural conditions, the study identifies how normative cosmological principles are differently operationalized through genealogical authority and spatial configuration. Figure 2 provides spatial orientation and clarifies both the proximity and lineage relationship between the two palace compounds.

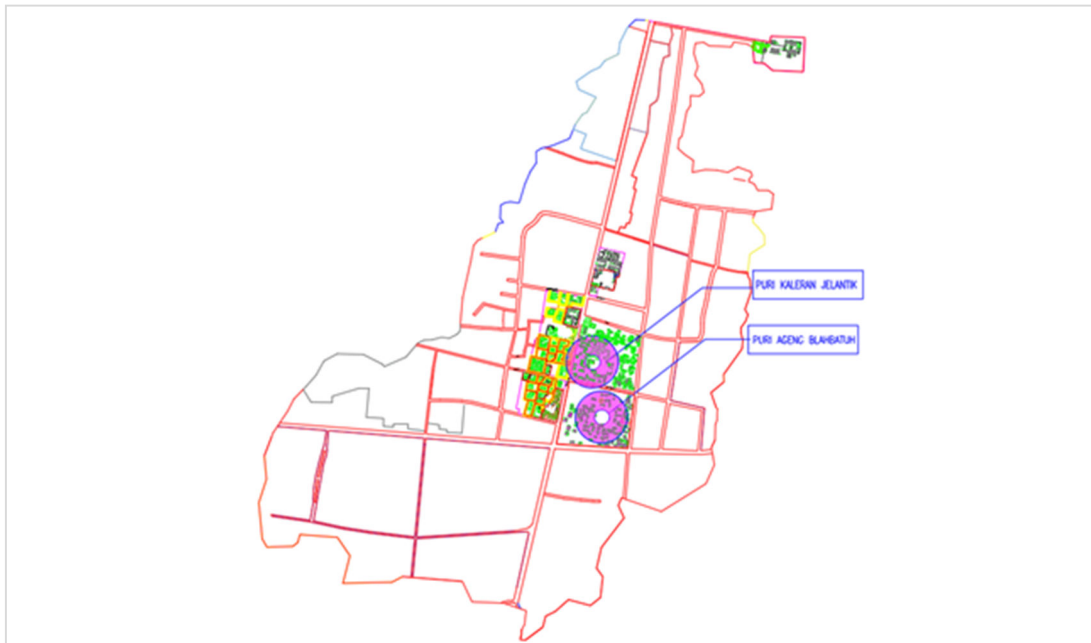


Figure 2. Location of *Puri Ageng Blahbatuh* and *Puri Kaleran Jelantik* in Blahbatuh Village

With respect to the units of analysis, this study establishes two interconnected analytical domains, namely spatial units and social units. Spatial units comprise zoning configurations (palebahan), sacred architectural elements (merajan agung, merajan alit, pura), circulation systems, layered gateway sequences, and boundary components (penyenger, angkul-angkul, kori agung). In contrast, social units encompass genealogical structures (pasemetonan), ritual authority, lineage-based roles, and the distribution of access rights across principal and subsidiary family lines. This dual analytical framework facilitates the interpretation of architecture both as a material spatial configuration and as an instrument of socio-spatial governance. More specifically, these spatial components are examined to identify

gradations of sacredness and patterns of access restriction embedded within the spatial arrangement.

In order to generate field data, four data collection techniques were implemented to ensure methodological triangulation and analytical depth. These methods include spatial observation, architectural documentation, ethnographic interviewing, and archival investigation. The data obtained were subsequently subjected to a four-stage analytical procedure, consisting of:

Cosmological-spatial mapping

Spatial layouts derived from observational documentation were interpreted using the Nawa Sanga framework to identify sacred gradients and zoning coherence. This phase elucidated the

manner in which cosmological principle's structure spatial orientation.

Access hierarchy analysis

Circulation systems, layered gateways, and boundary elements were analyzed through the lens of spatial configuration theory. This stage focused on identifying varying degrees of permeability and restriction extending from peripheral zones toward sacred cores.

Genealogical legitimacy analysis

Genealogical information collected through interviews with members of the customary village community was analyzed to determine how lineage position shapes ritual authority, access entitlements, and control over sacred domains. Ethnographic interviews provided emic insights into how genealogical legitimacy influences spatial accessibility. This stage established the relationship between social hierarchy and spatial access structures.

Integrative synthesis

Findings derived from spatial and genealogical analyses were integrated to identify patterns of hierarchical access. This synthesis informed the development of an empirical model of sacred spatial access hierarchy, incorporating cosmological normativity, genealogical legitimacy, and spatial-operational mechanisms.

Through this analytical framework, space is conceptualized as a relational system in which cosmology becomes operationalized through mechanisms of access control.

Results and discussion

Cosmological structuring of space: Architectural translation of sacred gradients

The spatial arrangement of Puri Ageng Blahbatuh and Puri Kaleran Jelantik indicates that Nawa Sanga operates not merely as a symbolic cosmological construct, but as an active architectural system that organizes hierarchy through spatial configuration, gradational depth, and regulated accessibility. Empirical observations from the field reveal that cosmological alignment is materially embedded within architectural components, circulation systems, and enclosure strategies, thereby producing a clearly legible gradient of sacredness across both compounds (Karimi 2018; Netto and Batty 2021; Peponis, Psarra, and Lee 2022). The kaja–kangin axis functions as a directional ordering principle translated into spatial depth, whereby increasing proximity to the sacred core corresponds with decreasing permeability and intensified spatial control (Vaughan 2020; Kim and Penn 2022; Lyu, Wang, and H. Li 2023).

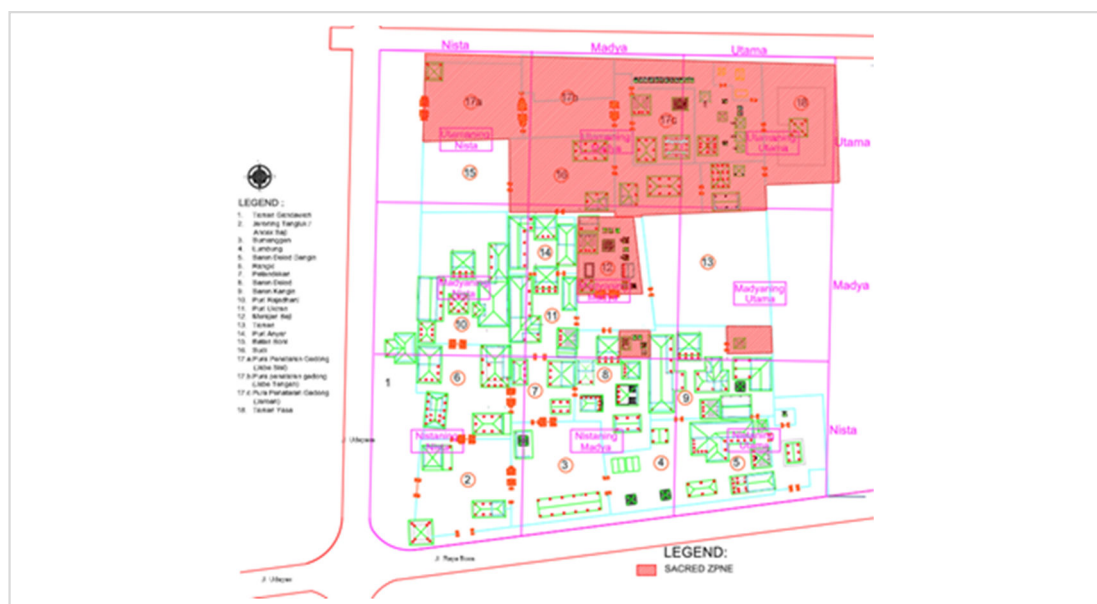


Figure 3. Sacred spatial gradient of Puri Ageng Blahbatuh based on Nawa Sanga orientation

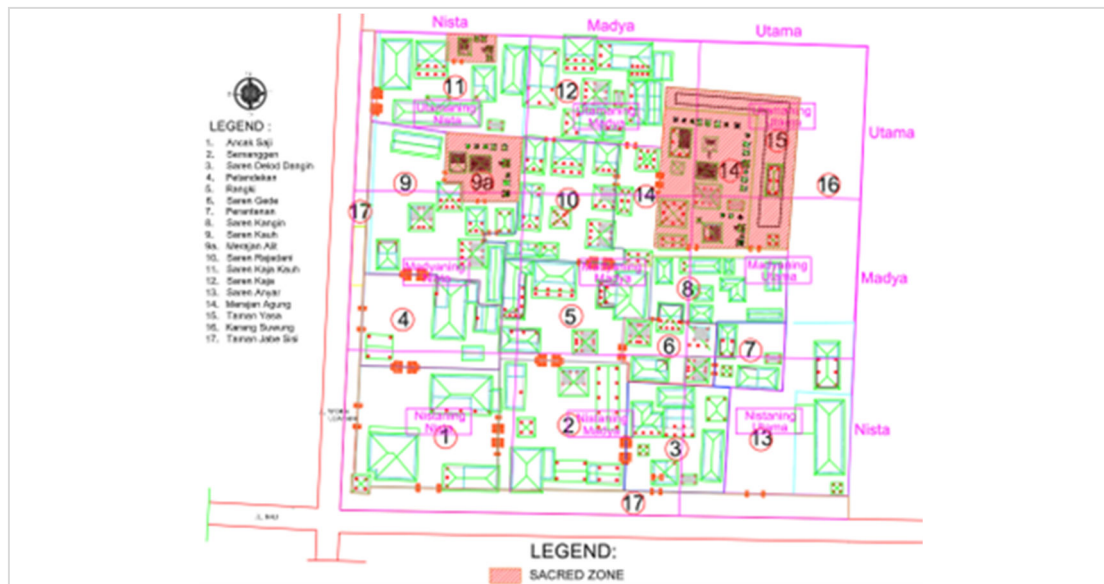


Figure 4. Sacred spatial gradient of *Puri Kaleran Jelantik* based on Nawa Sanga orientation

Figures 3 and 4 demonstrate that sacred hierarchy is articulated through a tripartite zoning framework consisting of nista, madya, and utama zones. These zones are architecturally differentiated through variations in enclosure intensity, degrees of permeability, and spatial depth (Netto and Batty 2021; Sailer, Dalton, and Turner 2021). The nista zone is characterized by high permeability and minimal enclosure, functioning as the outer interface accommodating public and semi-regulated activities. Conversely, the utama zone is defined by stronger enclosure, restricted accessibility, and increased spatial depth. The madya zone operates as an intermediate layer that regulates movement between these two conditions.

This configuration confirms that sacred hierarchy is generated through relational spatial organization rather than fixed symbolic assignment. The consistency of zoning patterns across both compounds suggests that cosmology

provides a stable normative framework, whereas architectural configuration determines how this framework is translated into an operational spatial order (Karimi 2018; Peponis, Psarra, and Lee 2022).

Hierarchical access patterns: Threshold sequencing and spatial control

The conversion of cosmological gradients into an operational hierarchy is achieved through a sequential system of architectural thresholds that regulate movement and access. These thresholds, comprising gateways, courtyards, and boundary elements, collectively operate as a spatial filtering mechanism (Dovey 2019; Sharmin and Kamruzzaman 2022; Abdullah and Said 2022). Each transition progressively reduces permeability while increasing control, thereby producing a cumulative hierarchy of access extending from outer courts toward the sacred core.

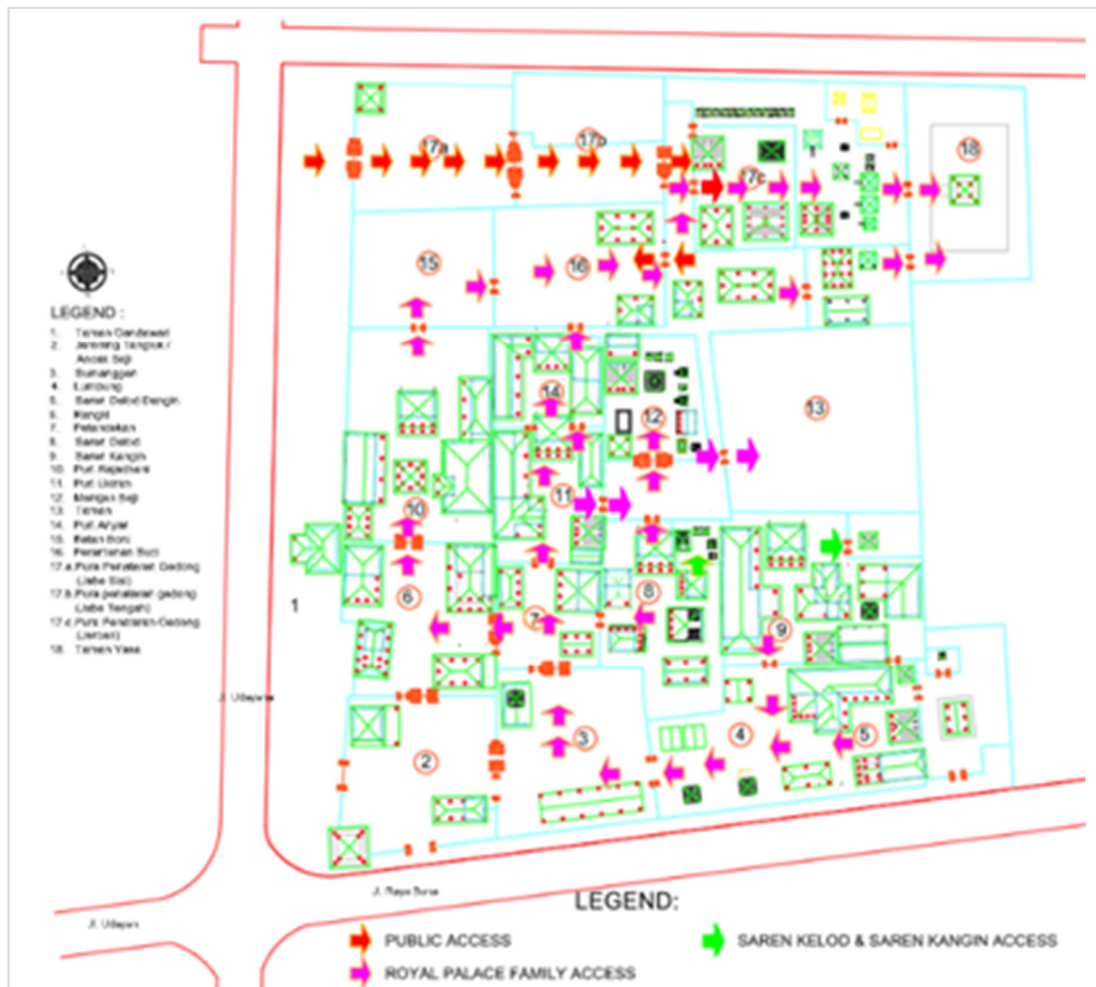


Figure 5. Threshold hierarchy and progressive access filtering in Puri Ageng Blahbatuh

Figure 5 illustrates that movement is organized through a linear sequence beginning at the angkul-angkul, proceeding through transitional courtyards, passing the kori agung, and culminating in inner sacred zones. Each stage corresponds to a progressive decrease in permeability and an increase in restriction (Netto and Batty 2021; Vaughan 2020). This demonstrates that sacred hierarchy is actively constructed through regulated movement rather than passively defined spatially. Accordingly, thresholds function as regulatory devices controlling visibility, interaction, and spatial mobility (Kim and Penn 2022; Zhang, Chen, and Zhao 2022).

Centralized configuration: Axial hierarchy and controlled progression

Puri Ageng Blahbatuh exhibits a centralized spatial configuration structured along a dominant

linear axis. From a configurational standpoint, this arrangement reflects high axial integration coupled with increasing depth toward interior spaces (Hillier and Hanson 1984; Karimi 2018). The alignment of thresholds along this axis reinforces hierarchical ordering by directing circulation through a clearly legible linear sequence. Each transition imposes progressively stricter control, producing a pronounced gradient of accessibility in which hierarchy is encoded through spatial depth, alignment, and movement regulation.

Distributed configuration: Segmented networks and adaptive access

In contrast, Puri Kaleran Jelantik exhibits a distributed spatial arrangement, characterized by multiple circulation networks and segmented courtyard systems.

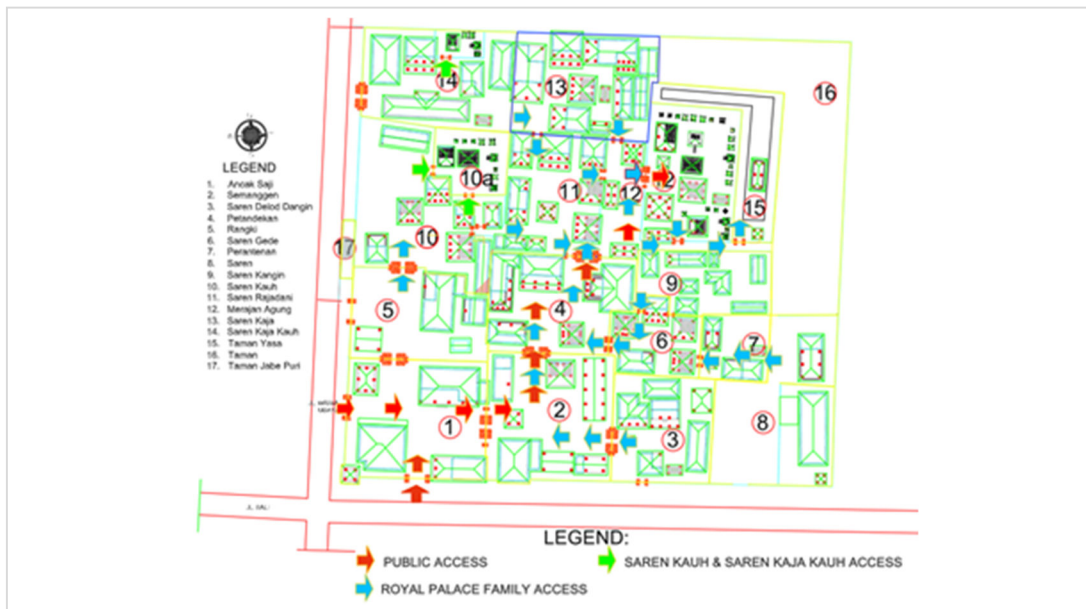


Figure 6. Distributed sacred layering and lineage-based access corridors in *Puri Kaleran Jelantik*

Figure 6 illustrates that circulation is organized through a networked configuration rather than a singular linear axis, creating multiple nodes of interaction and access. This layout represents a reticular system featuring lower global integration but enhanced local differentiation (van Nes and Yamu 2021; Lyu, Wang, and H. Li 2023). Although access within this configuration is more adaptable, hierarchical oversight is preserved through localized thresholds and spatial compartmentalization. The distributed arrangement enables the palace to

accommodate genealogical expansion while maintaining the overarching hierarchical structure.

Architectural thresholds as mechanisms of spatial governance

Architectural thresholds serve a critical function in converting cosmological hierarchy into material spatial regulation. Structural elements, including *candi bentar*, *kori agung*, and *penyengker* walls, operate as layered control mechanisms that sequentially filter access.

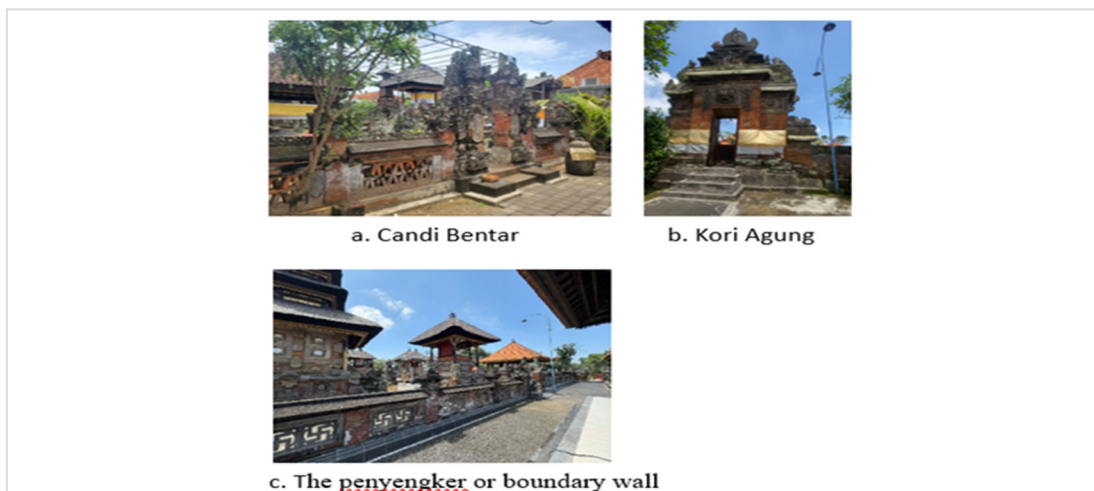


Figure 7. Architectural thresholds regulating access in Puri Blahbatuh: (a) *candi bentar* as domain transition, (b) *kori agung* as sacred filtration, and (c) *penyengker* or boundary wall as micro-boundary control. These elements materialize cosmological hierarchy into physical access restriction

These architectural elements establish a stratified system of access, wherein each threshold introduces additional layers of restriction. Both the density and sequencing of thresholds dictate the level of spatial permeability; higher threshold density correlates with more stringent control (Karimi 2018; Vaughan 2020). This evidence confirms that sacred hierarchy is materially enacted through

architectural mechanisms rather than merely represented symbolically.

Genealogical structure as spatial encoding

The spatial layout of both palace complexes embodies genealogical hierarchy, which is materially inscribed within architectural organization.

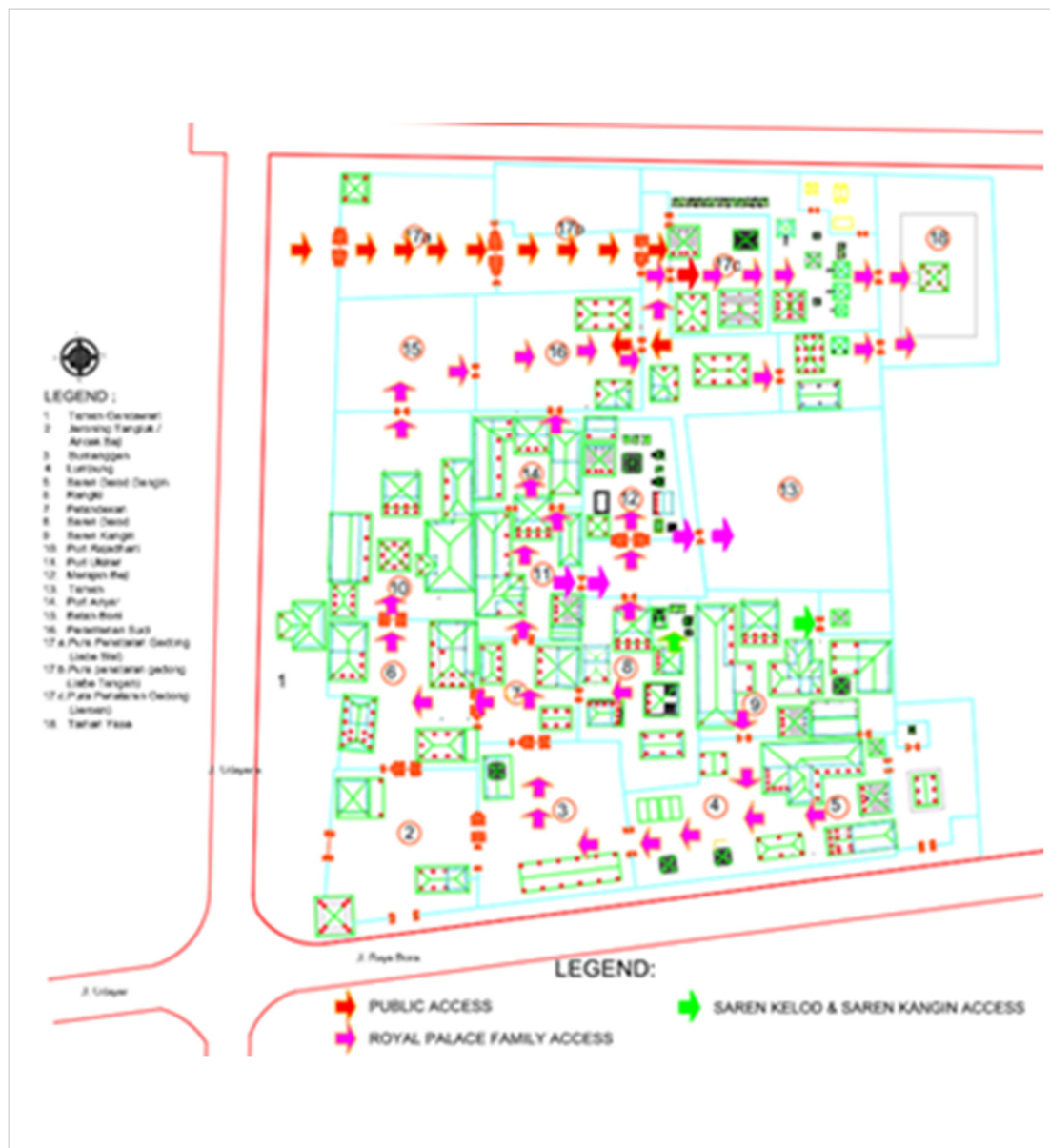


Figure 8. Genealogical hierarchy and corresponding access entitlement structure of Puri Ageng Blahbatuh

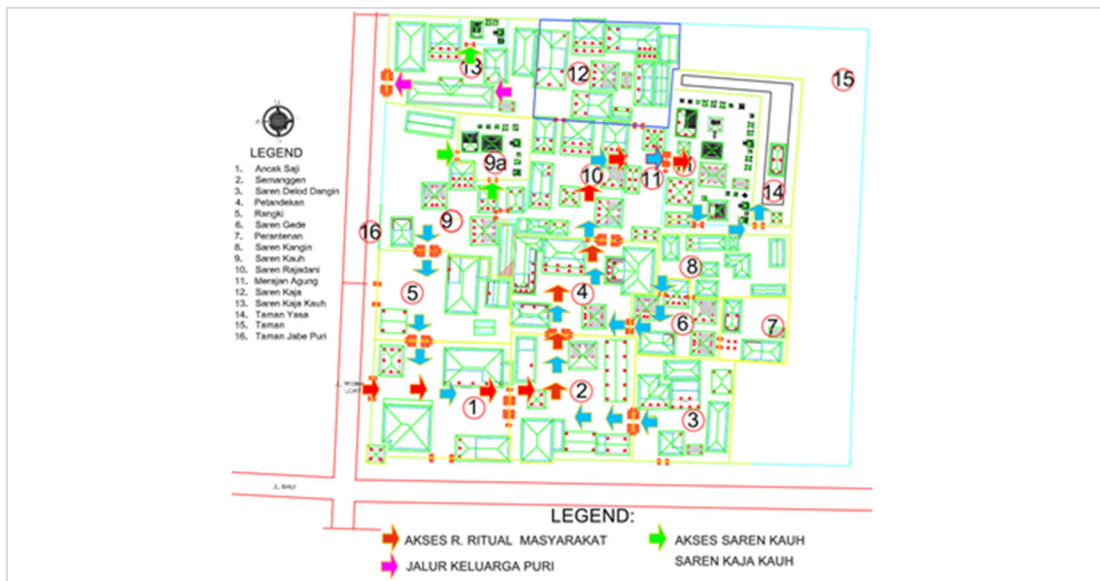


Figure 9. Genealogical hierarchy and corresponding access entitlement structure of *Puri Ageng Blahbatuh*

Figures 8 and 9 demonstrate that variations in lineage status correspond to differences in spatial depth and accessibility. Senior family members occupy areas closer to the sacred core, whereas junior members are positioned toward peripheral zones (Vaughan 2020; Sailer, Dalton, and Turner 2021). These spatial differentiations are encoded through circulation hierarchies and spatial arrangement rather than explicit prohibitions. Genealogical structure, therefore, operates as an intrinsic factor shaping spatial configuration rather than as an exogenous anthropological variable.

Integrative spatial model: Configuration, threshold, and control

The findings indicate that sacred spatial hierarchy emerges from the interplay of three architectural dimensions: cosmological orientation, spatial configuration, and threshold-mediated regulation. Cosmological principles define directional order, spatial configuration structures relational depth, and thresholds manage access via controlled circulation (Karimi 2018; Netto and Batty 2021; Dovey 2019). Variations between centralized and distributed palace layouts reflect adaptive spatial strategies rather than deviations from cosmological norms. Sacred hierarchy is consistently produced through spatial depth, sequential circulation, and architectural filtering. These results validate that Nawa Sanga operates as a coherent architectural system wherein hierarchy is enacted through spatial logic and controlled accessibility, consonant with

contemporary spatial analysis and architectural theory (Peponis, Psarra, and Lee 2022; Zhang, Chen, and Zhao 2022; Marcus 2023).

Discussion

As evidenced in the results, spatial hierarchy is actively produced through configurational design and threshold sequencing rather than statically assigned. Building upon these observations, this section reconceptualizes Nawa Sanga as an operative architectural system that regulates spatial hierarchy through relational depth, sequencing, and controlled access.

Reinterpreting Nawa Sanga as an operative architectural system

The study's findings reposition Nawa Sanga from a symbolic cosmological framework to an operationalized architectural system regulating spatial hierarchy through design, depth, and access control. Rather than a static diagram of orientation, cosmological principles are materially embedded in spatial sequencing, threshold placement, and circulation management. This interpretation aligns with contemporary architectural theory, particularly space syntax, which emphasizes that social order is constituted through spatial relationships, including accessibility, integration, and depth (Hillier 1996; Sailer, Dalton, and Turner 2021; Penn and Turner 2022). Accordingly, sacred hierarchy is generated through movement regulation and configurational logic, not symbolic assignment.

This perspective is pivotal for situating Balinese palace architecture within architectural discourse. By demonstrating that cosmological order is operationalized through spatial design, the study advances beyond representational interpretations toward framing architecture as a regulatory system. This approach resonates with current research highlighting how built form structures social interaction and governs spatial control (Peponis, Psarra, and Lee 2022; Karimi 2018).

Architectural configuration and the production of hierarchical depth

Comparative analysis of Puri Ageng Blahbatuh and Puri Kaleran Jelantik illustrates that spatial hierarchy is materially realized through architectural configuration. At Puri Ageng Blahbatuh, the predominance of an axial arrangement directs movement toward a central sacred core, reinforcing hierarchical depth by incrementally restricting access at successive spatial layers, thereby producing a gradient of control (Hillier and Hanson 1984; Karimi 2018).

Conversely, Puri Kaleran Jelantik features a distributed layout with multiple circulation pathways and segmented courtyards, forming a

reticular network in which access is negotiated across several nodes rather than a singular axis (Netto and Batty 2021; Sailer, Dalton, and Turner 2021). From a configurational standpoint, this approach reduces global integration while enhancing local differentiation, permitting flexibility in circulation without compromising hierarchical order (Lyu, Wang, and H. Li 2023; Marcus 2023).

These observations confirm that architectural configuration is the primary mechanism mediating between cosmological structure and spatial hierarchy. Hierarchy arises from the spatial arrangement of pathways, thresholds, and boundaries rather than symbolic orientation alone, reinforcing architecture as an active system of spatial governance.

Threshold Architecture and Spatial Governance

A central contribution of this study is the identification of threshold architecture as the key mechanism through which cosmological hierarchy is operationalized. Thresholds act as spatial filters, regulating movement through sequential transitions, thereby translating abstract cosmological order into concrete spatial control (Dovey 2019; Sharmin and Kamruzzaman 2022).

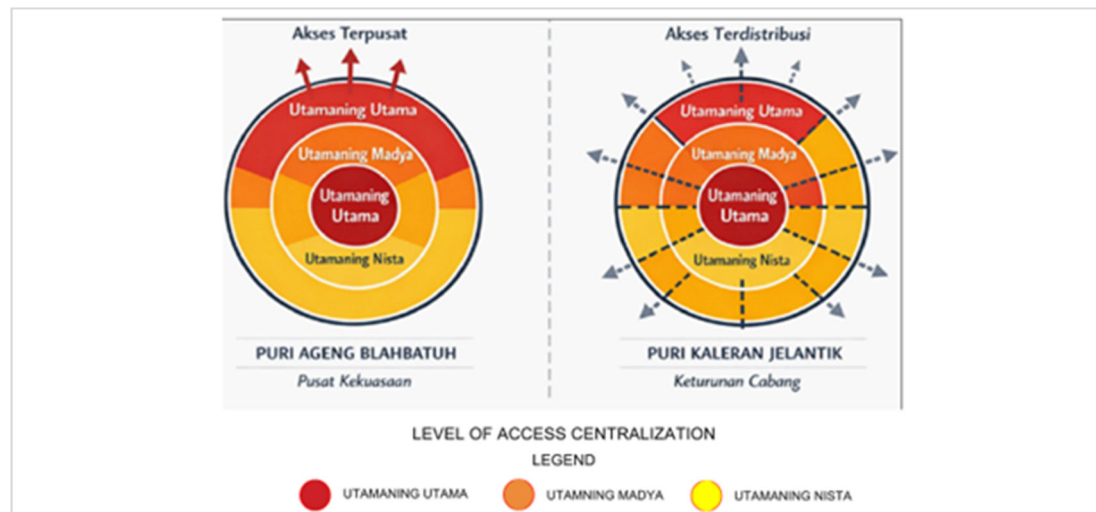


Figure 10. Transformational diagram: From cosmological orientation to sacred access regulation

Transformation from cosmological orientation to spatial access regulation

Figure 10 demonstrates how cosmological alignment is transposed into architectural regulation through a hierarchy of thresholds. Each threshold marks a shift in permeability, directing movement from public to increasingly restricted

domains. Sacredness, therefore, is not inherently tied to spatial placement but emerges through regulated progression across spatial layers (Karimi 2018; Vaughan 2020).

From a configurational perspective, both threshold density and sequencing determine the degree of spatial control. Higher threshold density

produces stricter restriction and reduced accessibility, while threshold positioning governs circulation and interaction potential (Netto and Batty 2021; Kim and Penn 2022; Zhang, Chen, and Zhao 2022). These findings are consistent with recent studies highlighting the role of architectural boundaries in regulating spatial permeability and social interaction.

Genealogical structure as spatial encoding

While cosmology provides the normative framework, genealogical structure delineates access rights within the spatial system. This study shows that genealogy is encoded within architectural configuration rather than treated as an external variable. Lineage status is expressed through variations in depth, accessibility, and proximity to sacred cores (Vaughan 2020; Sailer, Dalton, and Turner 2021).

Such encoding is realized through circulation networks, threshold sequencing, and spatial zoning, where access is structured via movement control rather than explicit prohibition. These findings support broader architectural theory suggesting that built form materializes social hierarchy (Netto and Batty 2021; Peponis, Psarra, and Lee 2022), positioning architecture as a medium that interfaces social structure with spatial organization.

Adaptation and Configurational Transformation

The results indicate that adaptation in Balinese palace architecture occurs primarily at the level of spatial configuration rather than cosmological principles. The Nawa Sanga framework remains stable, yet its architectural expression is recalibrated through modifications in circulation, threshold distribution, and courtyard segmentation (Netto and Batty 2021; Dovey 2019).

In Puri Kaleran Jelantik, the expansion of genealogical lines results in a distributed spatial layout characterized by multiple circulation pathways and segmented courtyards, reflecting a shift toward a networked spatial organization. This spatial adaptation accommodates increasing internal complexity while retaining the fundamental cosmological gradient (Lyu, Wang, and H. Li 2023; Sailer, Dalton, and Turner 2021). Conversely, Puri Ageng Blahbatuh preserves a centralized axial arrangement, with modifications largely confined to peripheral zones, while the central hierarchical core remains intact.

These observations illustrate that architectural systems are inherently dynamic, capable of responding to social transformations while sustaining underlying spatial principles. This supports the premise that spatial configuration functions as a resilient yet flexible instrument for maintaining hierarchical order.

Toward an architectural model of spatial governance

Synthesizing these findings suggests that Balinese palace architecture operates as an integrated system of spatial governance, wherein cosmology, spatial arrangement, and architectural mechanisms are mutually constitutive. Cosmological principles provide directional and normative guidance, spatial configuration structures relational depth, and architectural thresholds regulate movement and access (Karimi 2018; Netto and Batty 2021; Dovey 2019).

Access emerges as the critical mediator among these components. It is actively structured through architectural configuration, controlling proximity, circulation, and participation within the spatial system (Vaughan 2020; Sharmin and Kamruzzaman 2022). This understanding aligns with contemporary architectural research that emphasizes spatial systems as active determinants of social interaction and organizational hierarchy.

Conclusions

By reconceptualizing Nawa Sanga as a regulatory architectural framework, this study advances architectural theory by demonstrating the operationalization of cosmological principles through spatial configuration and threshold-mediated control. Sacred space is thereby framed as a dynamic socio-spatial construct in which hierarchical order is continuously enacted through architectural processes, rather than passively represented. This research proposes a configurational interpretation of Nawa Sanga as a system of spatial governance structured around threshold-mediated hierarchy.

Empirical analysis reveals that sacred hierarchy in both palace complexes is produced through three interdependent layers. First, cosmology establishes a directional sacred gradient oriented toward *kaja-kangin*, defining a normative topology of ascending sacred intensity. Second, genealogical structure delineates ritual

rights and proximity entitlements, translating lineage legitimacy into spatial differentiation. Third, architecture operationalizes this legitimacy via layered thresholds, controlled circulation, and boundary articulation. In this way, sacredness is enacted through regulated approaches rather than inherent spatial designation.

Comparative findings further indicate that cosmological stability coexists with genealogical differentiation. While both palace complexes adhere to the Nawa Sanga framework, variations in threshold density and circulation sequencing correspond to lineage segmentation rather than deviations from cosmological order. This confirms that sacred spatial hierarchy is adaptively maintained through selective reconfiguration of access mechanisms: peripheral zones accommodate social change, while inner sacred cores remain governed by genealogical authority.

The study advances an Empirical Model of Sacred Spatial Access Hierarchy, wherein the regulation of access functions as the central mediating variable linking cosmological orientation, kinship relations, and spatial configuration. This model contributes to the discourse on vernacular architecture by repositioning sacred architecture as a form of socio-spatial governance rather than a mere symbolic artifact. Additionally, it informs spatial anthropology by illustrating how genealogical authority is materially encoded within architectural form. Within heritage studies, the findings underscore that the resilience of active palace complexes derives not from strict preservation of architectural form, but from the continued management of access systems that uphold and sustain sacred hierarchy.

By reconceptualizing Nawa Sanga as a regulatory cosmological framework rather than a purely symbolic spatial orientation, this research provides a transferable analytical lens for studying sacred architectural systems beyond the Balinese context. Sacred space is thus understood as a dynamic socio-spatial construct in which cosmic order is perpetually reproduced through the deliberate architectural control of proximity and entitlement. In this sense, the palace operates not merely as a symbolic representation of sacred order, but as an operative mechanism through which hierarchical relations are enacted, structured, and sustained over time.

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Author(s) contribution

- I Gusti Ngurah Anom Gunawan** contributed to the research concepts preparation, methodologies, investigations, data analysis, visualization, articles drafting and revisions.
- Suzanna Ratih Sari** contribute to the research concepts preparation and literature reviews, data analysis, of article drafts preparation and validation.
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