

Exploring the nexus of genius loci, heritage and vernacular architecture: A systematic literature review

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Abstract

According to Norberg-Schulz, genius loci is the “spirit of a place” and architecture creates an impression. Human identity is created by the identity of a place, which means place as a geographical entity gives humans the identity. There are various theories that have emerged on the topic of genius loci and most of them have similarities in defining it. On the other hand, heritage and vernacular architecture also determine the identity of a place, both in tangible and intangible ways. While genius loci are intangible, heritage and vernacular architecture have both tangible and intangible expressions imbibed. But, genius loci, heritage, and vernacular architecture are three strands of study having their own set of theories. This paper aims to interpret the various theories and find the relationship among the disciplines. Many authors have tried to explore these concepts through various perspectives but a clear connection is yet to be established. A systematic literature review adopted PRISMA 2020 guidelines to establish an interrelationship followed by the categorization of the expressions identified by various authors.

Keywords

Expressions, Genius loci, Interrelationship, Heritage, Vernacular architecture.

1. Introduction

The term “loci” is derived from the Latin word “locus,” which means “place” or “location.” The word “locus” was commonly used in Latin to refer to a specific point or position, both in physical space and in more contexts (Vecco, 2020). Over time, “loci” became the plural form of “locus.” The concept of “loci” has been used in various fields such as mathematics, genetics, and memory techniques. The Latin origin reflects its fundamental meaning of “place” or “location” and how it is applied across different disciplines to denote sets of points, genetic positions etc.

Genius loci holds significance in various domains. A “locus” denotes a collection of points satisfying specific conditions in mathematics. In genetics, it refers to particular spots on chromosomes where genes or markers reside, aiding the comprehension of inheritance (Björkegren et al., 2015). Memory techniques, such as the method of loci, employ this concept by associating data with imagined mental locales to enhance recall. Even in ancient Roman education, “loci” represented passages memorized to facilitate oratorical compositions (Christou et al., 2019).

The notion of genius loci, a term rooted in Roman mythology, encapsulates the very essence of a place—a culmination of its intangible spirit, emotions, and narratives (Jiang & Lin, 2022). This exquisite quality has inspired architects and theorists to craft spaces that resonate with the identity of their surroundings. A pioneer in this discourse is Christian Norberg-Schulz, whose formative work “Genius loci: Towards a Phenomenology of Architecture” delves into the idea that architecture should mirror and engage with the intrinsic spirit of its locale. Norberg-Schulz argues that a sense of identity and belonging emerges when architectural spaces are thoughtfully designed to align with the unique character of their environment. His influence is evident in the works of contemporary architects such as Steven Holl, who is a master of site-specific design that harmonizes with the genius loci, fostering a deep connection between people and place. However,

in the context of architecture, various authors have professed that genius loci is firmly intertwined with heritage and vernacular architecture. Hence, these terms are discussed elaborately in the forthcoming paragraphs.

Heritage borrows its core from the concept of inheritance. Inheritance is a multifaceted concept that plays a pivotal role in the perpetuation of traits and knowledge across generations (Marilena Vecco, 2010). In the realm of biology, genetic inheritance involves the transmission of genetic material from parents to offspring, culminating in the display of diverse traits and characteristics (Mercuri et al., 2010). This process is integral to the continuity of species and the driving force behind the evolutionary changes observed over centuries (Mc Auley, 2023). Simultaneously, inheritance extends beyond the genetic sphere into the cultural domain, where it encompasses the passage of traditions, languages, art, and values from one generation to another (Mc Auley, 2023). Cultural inheritance knits societies together through shared practices and historical awareness, shaping collective identities and fostering a sense of belonging. In both contexts, inheritance serves as an intricate thread that weaves the past with the present and lays the foundation for the future (Bakar et al., 2014).

The exploration of heritage, in the context of architectural discourse, delves into the historical and cultural legacy that structures carry. Architecture itself acts as a repository, embodying the stories, values, and societal evolution of bygone eras (Hegazi et al., 2022). Heritage, as a concept, transcends mere physical artifacts—it encapsulates the collective memory and identity of a community (Ahmad, 2006). In this context, heritage is synonymous with cultural inheritance, the thread that weaves together generations, transcending time and place (Aigwi et al., 2023).

As a branch of Heritage, “Vernacular” pertains to the ordinary, native expressions that originate from a particular region or community (Fu et al., 2021). It encompasses various aspects of everyday life, such as language, architecture, art, and culture. In linguistics

tics, it refers to the common language spoken by people in a specific area, reflecting their shared identity and communication (Kumar & Pushplata, 2013). In architecture, vernacular architecture and design arise from local materials and traditions, adapting to the environment and needs of a community (Philokyprou & Michael, 2021). Artistic expressions and cultural practices unique to a region are also considered vernacular, showcasing the creativity and heritage of ordinary individuals. Overall, “vernacular” captures the essence of local authenticity and tradition in various aspects of human life (Karahan & Davardoust, 2020).

The significance of heritage is not confined to the preservation of historic buildings; it extends to the broader context of vernacular architecture theories. The work of scholars like Sentosa investigates how traditional architecture, deeply ingrained in local cultures, reflects the heritage of a community. Sentosa’s exploration of traditional Java and Malay architecture in “Architecture as Cultural System” presents a case study that epitomizes the intricate interplay between cultural symbolism and architectural form. Sentosa’s work highlights how architectural structures become repositories for heritage, expressing cultural meanings and broader societal narratives within their physical fabric. Weiwei Jiang and Lin’s exploration of “Rural vernacular architecture in Northern China” unveils the confluence of traditional craftsmanship with contemporary design sensibilities, yielding sustainable architectural solutions that respect local resources and cultural heritage. This study emphasizes the importance of heritage in the vernacular context, where architecture is a tangible realization of cultural continuity (Carboni & de Luca, 2016).

Amidst the infinite voices shaping the discourse on architecture, this systematic literature review aspires to synthesize diverse perspectives, creating a narrative that encapsulates the essence of genius loci, heritage, and vernacular architecture theories. The synthesis seeks to interpret, bridge gaps, and trace emerging trends, offering a direction for future research. The review

helps us see architectural places in a new way, uncovering deeper meaning as it explains how genius loci, heritage, and vernacular architecture ideas connect. It uncovers the delicate equilibrium between cultural identity, historical narratives, and design innovation. In the end, the review encourages readers to look closely at where architecture, culture, and nature come together. This helps us understand and admire how architecture plays a big part in shaping the world we live in.

The research paper aims to systematically review and analyze literature studies on genius loci, heritage, and vernacular architecture to unravel their origin, and historical evolution, and conceptual frameworks, and interpret the interrelationship. Drawing inspirations from the intellectual fabric woven by revered scholars and thinkers, this literature review contributes to the enrichment of architectural discourse and practice by uncovering the hidden connections that bind architecture with its heritage in specific contexts. This systematic literature review delves into the nexus formed by these three fundamental concepts, aiming to unravel their synergies and implications within the realms of architecture, culture, and context. This systematic literature review is to study a diverse array of scholarly works that converge upon the intertwined nature of these concepts. By traversing the literature, this review seeks to illuminate recurring patterns, conceptual intersections, and the holistic implications that emerge when genius loci, heritage, and vernacular architecture are interwoven.

identity, and intergenerational cultural transmission.

Vernacular architecture gained attention in the 20th century due to cultural, and historical movements, anthropological studies, and sustainability concerns. Traditional building practices gained recognition for their diversity, sustainability, and contextual relevance. Vernacular architecture organizations, research, and projects contributed to its recognition, influencing contemporary design by emphasizing local knowledge and cultural connections (Fafouti et al., 2023).

1.1.1. Tracing the roots

The evolution of genius loci, heritage and vernacular architecture throughout history has been shaped by a variety of cultural, philosophical, and societal influences. This journey showcases how these concepts have evolved and intertwined over time, culminating in contemporary architectural practices that are more holistic and contextually informed.

During the ancient civilizations from around 3000 BCE to 500 CE, genius loci were rooted in the belief of protective spirits tied to places, influencing their character. This notion was manifested in structures like temples and shrines dedicated to these spirits. Concurrently, civilizations such as Egypt, Mesopotamia, China, and Greece valued heritage, preserving structures and artefacts to honour ancestry and assert cultural identities. The architecture of these eras demonstrated a harmony between culture, environment, and spirituality (Pincent, 1976). The Renaissance period (14th - 17th century) experienced a resurgence of classical architecture, emphasizing proportion and harmony. Although aesthetics were central, an appreciation for the cultural significance of historical structures emerged. In the Enlightenment (17th - 18th century), a rational and functional approach prevailed, somewhat distancing architecture from the emotional aspects of genius loci. The Romantic Movement (18th - 19th century) reignited interest in emotions and nature, aligning with the emotional qualities of places. The landscape architecture of this time highlighted the aesthetic value of natural environments (Mahanty, 2020). The Industrial Revolution (late 18th - mid-19th century) led to heritage preservation efforts as historical structures were threatened by urbanization and industrialization. The Arts and Crafts Movement (late 19th - early 20th century) responded to industrialization's drawbacks. Advocates like William Morris revived vernacular architecture, valuing craftsmanship and local materials. Modernism (early to mid-20th century) marked a departure from historical references for functionalism, while Postmodernism (late 20th

century) reintroduced history and ornamentation. Sustainable architecture (late 20th century - present) rekindled interest in vernacular architecture, genius loci, and heritage, driven by environmental concerns. Contemporary architectural theories emphasize a holistic, contextual approach (Smith et al., 2003). Present-day architects incorporate these concepts to create spaces that respect cultural identity, local context, and sustainability. In the current architectural landscape, genius loci, heritage, and vernacular architecture converge to celebrate heritage, promote sustainability, and ensure design resonates with inhabitants and surroundings. This journey through history reveals the continuous interplay and evolution of these concepts, contributing to the creation of meaningful, enduring, and environmentally sensitive architecture.

1.1.2. The chronological development of three concept theories

The evolution of the genius loci theory, centered on recognizing the unique essence of a place within architectural and design contexts, has unfolded over the course of several decades. Its foundations can be traced back to ancient cultures that attributed guardian spirits or deities to specific locales, influencing architectural choices. In the 20th century, early advocates like Karl Friedrich Schinkel and Jorn Utzon brought attention to the importance of considering a site's distinct character. However, it was Christian Norberg-Schulz's who popularized the term and solidified the concept. Norberg-Schulz underscored the interconnectedness of architecture, place, and human experience, urging designers to integrate a location's history, culture, and ambience into their creative processes. This emphasis continued through the late 20th century, with architects such as Alvaro Siza, Glenn Murcutt, and Juhani Pallasmaa further exploring the theory's implications in their designs. Today, the "Genius Loci" philosophy remains influential, shaping architectural practices and extending its influence beyond buildings to urban planning, landscape design, and

heritage preservation, underscoring the ongoing relevance of creating meaningful connections between people and their surroundings.

With respect to development heritage, The United Nations Educational, Scientific and Cultural Organization (UNESCO) has created a set of guidelines and agreements to steer the safeguarding of important cultural and natural sites globally, known as UNESCO World Heritage Sites. These documents, often referred to as charters, play a crucial role in setting standards for conserving these sites and promoting international cooperation. One of the earliest international agreements is the Athens Charter for the Restoration of Historic Monuments in 1931 (Gowen et al., 2023), also known as the Athens Charter. It stressed the need to respect the historical and artistic value of monuments while allowing for necessary restoration and adaptation. The Venice Charter for the Conservation and Restoration of Monuments and Sites in 1964 (Gowen et al., 2023), or the Venice Charter, focused on guiding the careful conservation and restoration of architectural heritage. It emphasized a scientific approach to restoration while upholding the authenticity and integrity of cultural heritage sites. Another key document is the Nara Document on Authenticity in 1994 ("ICOMOS Charter for the Interpretation and Presentation of Cultural Heritage Sites," 2008), which highlighted the importance of authenticity in cultural heritage conservation. It underlined how authenticity is vital for understanding and preserving the significance of cultural heritage, considering various values like historical, artistic, social, and spiritual.

Moving to more recent charters, the Burra Charter in 1999 (Truscott & Young, 2000) offers principles and guidelines for conserving cultural heritage places in Australia. It underscores the importance of understanding cultural significance and involving communities in decision-making. The Charter for the Conservation of Historic Towns and Urban Areas in 2002 (Taylor, 2004) guides preserving historic towns and urban areas, emphasizing maintaining their unique character

and fabric while accommodating modern needs. Lastly, the Florence Declaration in 2011 (Gowen et al., 2023) focuses on preserving historic gardens and landscapes, stressing the recognition and protection of their cultural, aesthetic, and ecological values.

The evolution of theories regarding vernacular architecture, rooted in local building traditions and indigenous methods, has unfolded across distinct stages. Early awareness in the Arts and Crafts Movement and regionalist movements during the early 1900s laid the foundation for the value of local craftsmanship and architectural heritage (Ndoro & Pwiti, 2001). By the mid-20th century, anthropological studies by scholars such as Amos Rapoport and Bernard Rudofsky spotlighted the diversity and sustainability of vernacular architecture, fueling its significance (Zhou et al., 2022). The 1960s and 70s saw a surge in environmental concerns, fostering a deeper understanding of how indigenous practices align with sustainable principles. In the 1980s, scholars like Paul Oliver delved into systematic exploration and documentation. Today, contemporary architects like Hassan Fathy and Balkrishna Doshi continue to integrate vernacular principles into their designs, underlining their relevance in expressing cultural identity and ecological consciousness. This journey reflects a growing recognition of vernacular architecture's enduring value, spanning from informal acknowledgment to formal academic integration.

2. Methodology

This study conducted a systematic literature review to explore the interrelationship between *genius loci*, heritage, and vernacular architecture. The literature search was carried out from January 2023 to August 2023, encompassing articles published between 2012 and 2022, ensuring an up-to-date review. Original research papers, published in English-language journals, were obtained from reputable electronic databases, including Scopus, Science Direct, Web of Science, Google Scholar, and Semantic Scholar. To identify relevant articles, specific keywords such as

genius loci, Guardian spirit, spirit of a place, heritage, Intangible and tangible heritage, Inheritance, vernacular architecture, Contextual architecture, and local HERITAGE were utilized. These keywords were combined within the literature to identify relevant manuscripts and articles. The research focused exclusively on peer-reviewed articles to ensure each selected paper had undergone evaluation within its discipline and was recognized as suitable for academic publication (Page et al., 2021). Filters in the utilized databases were employed to narrow down the research within the social sciences, humanities, and architecture disciplines, resulting in the identification of around 228 articles during the search process. To enhance the quality of review, the study adhered to PRISMA 2020 (Page et al., 2021) guidelines.

PRISMA 2020 (Page et al., 2021) guidelines provide a transparent framework for reporting systematic reviews and meta-analyses, aiming to improve the quality and credibility of research in various fields. The guidelines offer a checklist and flow diagram to enhance reporting and ensure adherence to rigorous research methodology. Articles on PRISMA 2020 guidelines (Page et al., 2021) were followed to understand the implementation of guidelines for systematic research review as shown in Figure 1.

Out of 562 papers identified, 228 papers were found to be relevant and included in the literature study. For the analysis of the literature, first, the essence from each paper was extracted and translated as a flow diagram. The research papers were identified as the definition of genius loci, heritage and vernacular architecture. The factors influencing and determining, the relation among the three areas, the origin of the theories, and the Tangible and intangible expressions of the study areas. These flow diagrams' content was analyzed to interpret the common parameters and the relationship among the disciplines.

2.1. Data collection

The research approach involved three main steps. Firstly, a comprehensive

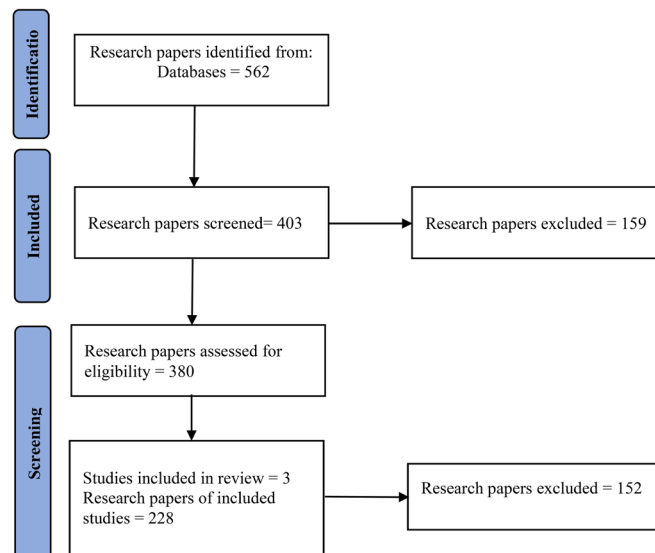


Figure 1. A PRISMA Flowchart adapted from “The PRISMA 2020 statement: An updated guideline for reporting systematic reviews” by Page et al., 2021.

search was conducted to gather relevant research articles related to the concepts of genius loci, heritage, and vernacular architecture. The search criteria encompassed terms such as place, spirit, cultural and natural heritage, inheritance and indigenous architectural traditions. Secondly, the scope was refined to investigate genius loci in heritage and vernacular architecture more specifically, leading to the exploration of articles related to cultural heritage conservation, historical preservation, and vernacular architectural heritage, people, place and time. This step aimed to identify scholarly content discussing the significance and methods of safeguarding heritage and vernacular architecture. Furthermore, the study delved into theories, methodologies, and approaches prevalent in the architecture and conservation domains. By synthesizing and analyzing the collected materials, a holistic understanding of genius loci, heritage, and vernacular architecture was developed, forming a comprehensive foundation for further exploration and analysis within these realms.

A total of approximately 562 research papers were identified as relevant to the themes of Genius Loci, Heritage, and Vernacular Heritage within the architecture, construction

sector and genetics. These papers were categorized into distinct themes, including heritage preservation, cultural sustainability, architectural conservation, and indigenous architectural practices. The titles and contents were systematically organized and reviewed, allowing for a coherent overview of the concepts. This compilation provided a comprehensive framework for understanding the interplay between genius loci, heritage, and vernacular architecture within the context of architecture and construction.

2.2. Data analysis

During the data analysis phase, the identified 562 papers were classified based on geographical locations, time and themes. Accordingly, 40% of the papers were related to the combined theory of genius loci and heritage, 50% was the combination of heritage and vernacular architecture, and 10% was related to genius loci and vernacular architecture. The papers were categorized based on the themes which were related to the interrelationship of concepts. A total of

562 research papers were categorized into themes like heritage preservation, cultural sustainability, architectural conservation, and indigenous practices based on the themes professed by the authors. This organized compilation provided a comprehensive foundation for understanding the interplay between genius loci, heritage, and vernacular architecture in architecture and construction. The analysis highlighted diverse perspectives, methodologies, and cultural spans, emphasizing the interdisciplinary nature of the study and contributing to a holistic understanding of the concepts.

3. Findings

The interrelationship between genius loci, heritage, and vernacular architecture is a profound and symbiotic connection that shapes the built environment and preserves the cultural identity of a place in a meaningful and enduring way. Each of these concepts is intricately woven together, and their synergy produces a cohesive narrative that celebrates the history, traditions, and wisdom of local communities. The findings were first categorized as Tangible and intangible expressions of the concepts and later classified as primary and secondary relationships among genius loci, heritage and vernacular architecture. The Interrelationship was then established among the three concepts.

3.1. Tangible and intangible expressions

The relationship between tangible and intangible expressions within the contexts of genius loci, heritage, and vernacular architecture holds significant importance in shaping the character, identity, and atmosphere of a place or region. In examining these concepts, a distinction can be drawn between their tangible and intangible components as shown in Table 1.

Tangible Expressions in genius loci encompass architectural and built elements, which include physical structures, buildings, and landmarks that embody the architectural style, materials, and craftsmanship of the area (Craith & Kockel, 2015). The tangible

Table 1. *Tangible and Intangible Aspects: Exploring the Interconnections of genius loci, heritage, and vernacular architecture.*

	Genius Loci	Genius Loci & Heritage	Heritage	Heritage & Vernacular Architecture	Vernacular Architecture	Interrelationship
TANGIBLE EXPRESSIONS	Architecture and Built Environment					Cultural Context: All three concepts are deeply rooted in the cultural context of a specific region or place. They reflect the customs, traditions, and values of the local community.
	Landscape and Natural Features			<i>Local materials and landscape features</i>	Local Materials and Construction Techniques	Adaptation to Environment: They are typically designed and constructed in harmony with the local climate, materials, and surroundings, showcasing a sustainable approach.
	Artefacts and objects		Documentation and archives	<i>Art, artefact, documentation, details and proportions</i>	Proportions, Layout and Details	Historical Significance: Genius loci, heritage, and vernacular architecture often have historical significance, representing the evolution of a place over time.
INTANGIBLE EXPRESSIONS	Stories, Myths, and Folklore		Oral Traditions and Narratives	<i>Traditional Knowledge</i>	Cultural Identity and Traditions	Symbolism: These concepts often carry symbolic meanings and cultural symbols that hold significance to the people who inhabit or visit the area.
	Rituals and Ceremonies				Environmental Adaptation	
	Language and Dialects			<i>Social and cultural traditions</i>	Community and Social Interactions	Community Involvement: The creation and preservation of these elements often involve the active participation and contribution of the local community.
	Traditional Knowledge and Practices				Traditional Knowledge and Skills	Cultural value: Genius loci, heritage, and vernacular architecture are deeply connected to the culture of a place. They showcase the artistic, spiritual, and social values that have shaped the community's lifestyle and practices.
	Social and Cultural Traditions					Sense of Place and Identity

facets further extend to the landscape and natural features, such as topography, vegetation, bodies of water, and geological formations, which contribute to the sensory and visual experience of the location. Additionally, historical artifacts, archaeological findings, artworks, and cultural objects associated with the place form tangible expressions, offering insights into the historical and cultural significance (Currie & Correa, 2022). In contrast, the Intangible Expressions in *genius loci* encompass intangible elements like stories, myths, and folklore that are passed down through generations, encapsulating the beliefs, values, and cultural heritage of the locale (Lin Xiaoyu & Jia Beisi, 2015). Rituals and ceremonies carried out in specific areas offer intangible expressions that hold deep-rooted symbolic meanings, enriching the spiritual and social fabric of the place (Melis & Chambers, 2021). Similarly, the unique language, dialects, and idioms spoken in a region constitute intangible expressions, embodying linguistic heritage, local identity, and cultural vibrancy. Additionally, traditional knowledge and practices, alongside social and cultural traditions, contribute intangible dimensions by fostering a sense of community, identity, and continuity (Chen & Cheng, 2020).

In the realm of Cultural and Natural Heritage, the tangible manifestations include architectural structures like historic buildings, monuments, and archaeological sites that encapsulate architectural styles, construction techniques, and the craftsmanship of past eras (Tavares et al., 2021). Likewise, objects and artefacts such as artwork, tools, and religious items hold tangible value by providing tangible evidence of historical civilizations, traditions, and artistic mastery. Landscapes and natural features, often imbued with cultural, spiritual, or historical significance, also contribute tangibly to heritage (Wahurwagh & Dongre, 2015).

The documentation of historical records, photographs, maps, and archival materials further represent tangible expressions by offering evidence and context of past events and traditions. Conversely, the Intangible Expressions in Cultural and Natural Heritage en-

compass narratives and oral traditions that transmit cultural values, beliefs, and collective memories. Rituals, ceremonies, festivals, and performances reflect the intangible heritage by embodying cultural practices, customs, and symbolic meanings (Cassalia et al., 2016). Traditional knowledge and skills, such as indigenous practices and craftsmanship, constitute intangible heritage, preserving skills, techniques, and wisdom that are passed down through generations (Ahmad, 2006). Language, dialects, and vernacular expressions are other intangible facets that mirror linguistic diversity, cultural vibrancy, and historical roots. Furthermore, social practices and traditions, encompassing customs, music, dance, theater, and culinary practices, enrich the intangible heritage by reflecting the social interactions, values, and ways of life within a community (Currie & Correa, 2022).

In the context of vernacular architecture, tangible expressions are embodied in architectural forms, structures, materials, and construction techniques. The physical buildings and houses, alongside their design principles and aesthetic details, form tangible manifestations that represent the specific architectural style and local context. Furthermore, the choice of indigenous materials and construction methods contributes tangibly, often adapting to climatic conditions and available resources (Artese & Gagliardi, 2022). In parallel, the Intangible Expressions in vernacular architecture are represented by cultural identity and traditions, where local customs, beliefs, rituals, and values are embedded in the design and construction principles passed through generations. Environmental adaptation, an essential aspect of vernacular architecture, reflects the intangible understanding of environmental factors and the incorporation of design elements that provide comfort and protection against climatic challenges (Lin Xiaoyu & Jia Beisi, 2015). Moreover, community and social interactions are intrinsically linked to vernacular architecture, fostering a sense of belonging, collaboration, and shared values within the community. Lastly, traditional knowledge and skills

encompass intangible dimensions, preserving craftsmanship, construction techniques, and skills transferred from one generation to the next, thus promoting sustainable building practices (Abdel-Azim & Osman, 2018). The overarching outcome of vernacular architecture lies in its contribution to a sense of place and local identity, which forms an intangible dimension that encompasses emotional attachments, memories, and collective experiences intertwined with the built environment (Zhou et al., 2022).

The exploration of tangible and intangible expressions in Genius Loci, Cultural and Natural Heritage, and Vernacular Architecture underscores their crucial roles in shaping the unique character, identity, and atmosphere of a place or region. These expressions intertwine to create a comprehensive understanding of the cultural, historical, and architectural dimensions of a locale, reflecting the intricate interplay between physical forms and intangible essence.

3.2. The Interrelationship

The theories concerning genius loci, heritage, and vernacular architecture are inherently interconnected, creating a cohesive framework that significantly shapes architectural design and cultural preservation. These interrelated theories underscore the profound importance of context, cultural identity, and sustainability. Moreover, they mutually inform and reinforce each other in distinct yet interwoven ways as shown in Table 2, 3 & 4.

Contextual Sensitivity (Van Bavel et

al., 2016) is a cornerstone of all three theories. Genius loci highlights the necessity of comprehending and responding to a place's distinctive character, including its historical evolution, cultural essence, and environmental context (Bostenaru Dan et al., 2024). Heritage preservation is founded on the belief that understanding and preserving the context of historical structures and traditions is essential for cultural continuity. Vernacular architecture embodies context, evolving harmoniously with local conditions and cultural practices. Cultural Identity is deeply embedded in the theories of genius loci and vernacular architecture. Genius loci emphasizes the intangible spirit of a place, representing the collective memory and identity of its community.

Vernacular architecture encapsulates cultural values through traditional building styles and techniques. Heritage preservation endeavors to safeguard cultural identity by conserving both tangible structures and intangible customs. Sustainability is promoted by the interconnected theories (Alves, 2017). Vernacular architecture inherently embraces sustainability through its utilization of local resources and design principles. Genius loci, when integrated into architectural design, encourages environmentally harmonious approaches.

Heritage preservation contributes to sustainability by repurposing existing structures, reducing the need for new construction (Fafouti et al., 2023). Community Engagement is emphasized by these theories. Understanding genius loci and embracing vernacular architecture often involve collaborating with local communities to integrate their insights and needs. Heritage preservation thrives on community involvement, fostering a sense of ownership and pride. Global and Local Dialogue is facilitated by the interconnected theories. Vernacular architecture's local roots can benefit from global insights (Aburamadan et al., 2021). Genius loci appreciates the uniqueness of a place while acknowledging its connections to broader contexts. Heritage preservation often collaborates with international efforts to protect

Table 2. Macro, meso and micro level parameters and interrelationships in Genius loci.

Framework	Genius Loci			
	Parameters	Macro level	Meso level	Micro level
Geographical context	Primary	Physical geography	Regional Ecosystem	Site-level micro conditions
		Climate	Landscape features	
		Topography		
	Secondary	Geographical formations	Microclimate	Microscale environment factors
	Natural resources weather patterns	Soil composition		
Cultural context	Primary	Historical narratives	Cultural practices	Sensory connections
		Cultural heritage	Faith, belief and rituals	Individual experience
		Traditions		
	Secondary	Demographic	Indigenous knowledge systems	Family history and lineage
	Linguistics pattern	Folklore	Local narratives	
Architectural expressions	Primary	Architectural styles	Regional building traditions	Architectural details
		Typologies and patterns	Construction materials and techniques	Spatial configurations
	Secondary	Symbolic representations	Traditional craftsmanship Ornamentation	Local interpretation of regional architecture
	Epigraphs	Local narratives		

sites of universal significance. Cultural Continuity (Kato, 2009) is supported by these theories. Heritage preservation ensures historical buildings and practices are passed on to future generations. Vernacular architecture, as a living tradition, sustains cultural wisdom while adapting to modern needs. Genius loci fosters a sense of belonging and continuity.

In summary, the theories related to genius loci, heritage, and vernacular architecture are intricately intertwined and mutually reinforcing in the realm of architectural practice and cultural preservation. They collectively underscore the paramount significance of context, cultural identity, community engagement, and the global-local dialogue. Architects, when embracing these interwoven theories, are empowered to conceive designs that seamlessly harmonize with the distinctive essence of a place, paying homage to its cultural heritage, while fostering a sustainable and meaningful connection between architecture and society. This holistic approach encourages architecture to not only respect the physical and historical context but also the aspirations and traditions of local communities. By striking a balance between global influences and local contexts, architects can create structures that are both culturally resonant and globally relevant, contributing to a richer, more sustainable, and more culturally significant built environment.

4. Discussion and conclusion

When it comes to the significance and essence of places, concepts like Heritage, Genius Loci, and Vernacular Architecture are important. These terms hold unique meanings and play important roles in understanding the cultural, historical, and architectural aspects of different locations. Heritage encompasses a vast range of both tangible and intangible elements that contribute to the value of a place. On the other hand, genius loci focuses on the distinct spirit or character of a place, while vernacular architecture refers to traditional building practices shaped by local conditions and cultural traditions.

Table 3. Macro, meso and micro level parameters and interrelationships in Heritage.

Framework	Parameters	Heritage		
		Macro level	Meso level	Micro level
Historical context	Primary	Historical layers	Rulers and dynasties	Local histories and stories
		Chronology	Cultural movements	
	Secondary	Chronological and historical narratives	Significant persons in history	Local experience of heritage sites and monuments
		Significant stages in history	Cultural shifts	
Social significance	Primary	Community attachment	Heritage policies and frameworks	Oral and art histories
		Collective memory	Local guidelines	Books and local narratives
	Secondary	Cultural landscape	Community engagement in heritage	Local traditions, belief, faith and worship
		Intangible heritage	Social cohesion towards heritage	Indigenous craftsmanship
Heritage management	Primary	Global heritage initiatives	Regional heritage management plans and frameworks	Local heritage programs
		National and local heritage Initiatives	Heritage conservation through history	Community involvement and initiatives
	Secondary	International conventions, charters and agreements	Collaborative projects	Adaptive reuse projects and community outreach initiatives
		National heritage significance and values	Funding and resource management	

4.1. Holistic vantage point

Heritage encompasses a broader scope that includes both tangible and intangible aspects of cultural significance, historical value, and natural heritage (Deacon & Smeets, 2013). It encompasses not only architecture and built structures but also cultural practices, traditions, landscapes, artefacts, and intangible elements such as language, music, rituals, and knowledge systems. Heritage can be associated with specific sites, regions, communities, or even entire nations. Genius loci, on the other hand, refers specifically to the unique spirit, character, or essence of a place (Badowska, 2008). It focuses on the distinctive qualities that define a specific location, including its architectural elements, cultural

Table 4. Macro, meso and micro level parameters and interrelationships in vernacular architecture.

Framework	Parameters	Vernacular architecture		
		Macro level	Meso level	Micro level
Environmental adaptation	Primary	Environmental factors	Regional climate patterns	Local microclimates
		Climate and weather changes	Ecological zones	Site-specific conditions
	Secondary	Deforestation	Indigenous Species	Environment-driven building design factors and techniques
		Natural resource depletion	Flora and fauna	
Cultural identity	Primary	Cultural diversity	Regional cultural identities	Family lineage and networks
		Indigenous traits	Ethnic traditions and beliefs	
	Secondary	Cultural heritage protection	Linguistic characteristics	Local adaptive strategies
		International conventions	Communal rituals	Community networks
Community resilience	Primary	Progressive development stages	Regional resilience patterns and frameworks	Local adaptive strategies
		Resilient planning and strategies	Traditional knowledge systems	Indigenous building techniques
	Secondary	Risk reduction strategies	Risk and disaster management initiatives	Community networks and cohesion
		Global frameworks and strategies		

associations, and natural environment (Elsorady, 2012). Vernacular architecture, meanwhile, refers to the traditional and indigenous building practices that have evolved over time in response to local environmental conditions, cultural traditions, and available resources. It embodies the architectural expression of a specific region or community, showcasing their local identity and cultural values.

While both *genius loci* and vernacular architecture can be elements of heritage, they represent specific aspects within the broader framework of heritage. Heritage encompasses a wider range of cultural and natural elements, including but not limited to architecture and the *genius loci* of a place (Alexandrino Ocaña, 2023). Therefore, heritage can be seen as the broader term that encompasses both *genius loci* and vernacular architecture, as well as other aspects of cultural and natural heritage.

4.2. Integration

Integrating the realms of *genius loci*, heritage, and vernacular architecture requires a thoughtful and holistic approach that acknowledges the importance of context, culture, and landscape. This intricate integration, while holding immense potential, is a complex undertaking that is yet to be realized to its full extent.

One method for harmoniously integrating architectural design with its surroundings involves conducting thorough contextual research and analysis (Dewi, 2017). This process encompasses understanding the historical, cultural, and environmental context of a site, which serves as the bedrock for making informed design decisions that resonate with the essence of the place. Design adaptation is a pivotal strategy, where the principles of vernacular architecture are utilized to create designs that reflect the cultural identity of the region, thereby ensuring a seamless blend with the existing built environment. This integration necessitates cultural sensitivity, achieved through engagement with local communities and

stakeholders to gain valuable insights into the cultural significance of the site (Carboni & de Luca, 2016). By integrating elements of heritage valued by the community, the design not only respects but also celebrates their identity. An additional approach involves adaptive reuse, preserving and repurposing historical structures to meet contemporary needs, thereby bridging the past and present (Zhao & Greenop, 2019). This approach underscores the value of heritage and the enduring relevance of vernacular architecture in modern contexts. Sustainability constitutes a crucial facet of integration, demanding the incorporation of eco-friendly design principles inspired by both the spirit of the place and vernacular architecture (Zhang et al., 2022). This could encompass the use of locally sourced materials to minimize the carbon footprint and enhance energy efficiency, thus aligning with the ecological harmony advocated by the spirit of the place (Jive'n & Larkham, 2003).

In crafting site-specific solutions, architects tailor designs to the unique attributes of the location, including climate, topography, and landscapes, creating structures that seamlessly extend from their surroundings (Ben-Hamouche, 2021). Storytelling through architecture emerges as a compelling technique, intertwining heritage and cultural narratives into the design through architectural features, patterns, and motifs that narrate the site's history and cultural significance (Jeannotte, 2016). Community involvement remains pivotal, as collaborating with local communities during the design process not only enhances authenticity but also fosters ownership and pride (Deacon & Smeets, 2013). Designing adaptable spaces further enriches integration, allowing for spaces to evolve and accommodate changing needs, echoing the adaptable nature of vernacular architecture and perpetuating heritage as a living tradition (Artese & Gagliardi, 2022). Modern interpretations complement this process by integrating contemporary technologies and materials while honoring the essence of the site, thereby exemplifying the evolution of heritage and vernacular architecture (Hapenciuc & Bănescu,

2022).

However, this integration is rarely realized to its full potential. The multifaceted nature of such an approach demands a holistic perspective, an interdisciplinary approach, and a deep commitment to preserving cultural identities, historical legacies, and the environment. When executed successfully, this integration creates architecture that is not just functional, but resonates deeply with its surroundings, celebrating the past while contributing to a sustainable future.

4.3. The Future Perspective

The intricate exploration of the broader context of environmental consciousness intertwines deeply with the themes of Genius loci, heritage, and vernacular architecture. These foundational pillars of architectural theory not only highlight the rich fabric of cultural narratives but also serve as points guiding towards a more profound understanding of shaping the built environment. As architecture looks to the future, embracing bio-centrism and eco-centrism brings new energy to longstanding conversations, paving the way for a remarkable harmony between human creativity and environmental preservation as represented in Figure 2.

Within the framework of bio-centrism, the essence of Genius loci assumes a devine quality, promoting the research to delve deeper into the intrinsic spirit of a place and its ecological context ("Maintaining the human species," 2013). This paradigm shift redefines architecture as a dynamic interaction between human aspirations and the natural world, in harmony with the rhythm of the environment. In this narrative, buildings cease to be static entities; they become living things, intricately woven into the fabric of the landscape, propagating the vibrance of the environment ("Maintaining the human species," 2013).

Simultaneously, the lens of eco-centrism expands the horizons of heritage preservation beyond the realm of cultural artefacts, embracing the broader spectrum of ecological inheritance. As mentioned by Guy and Farmer 2001, this holistic approach acknowledges

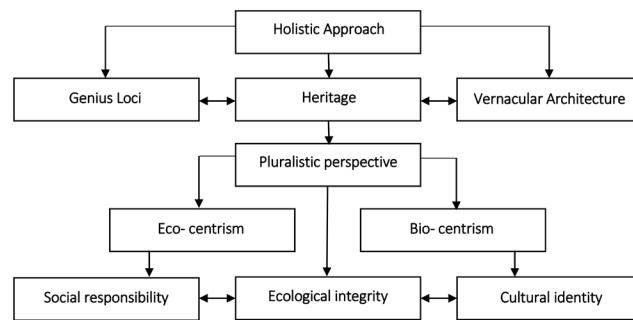


Figure 2. *Holistic Approach to Architecture: Integrating Environmental Consciousness with Bio-centrism and Eco-centrism.*

the interconnectedness of cultural and ecological diversity, propagating for the conservation of not only architectural landmarks but also indigenous ecosystems and biodiversity. Eco-centrism almost embraces the aesthetics, cultural and social logic which makes it much broader (Karahan & Davardoust, 2020). Vernacular architecture, when reframed within the context of bio-centrism, emerges as a witness to the adaptive genius of local communities, embodying centuries of ecological knowledge and resilience. By embracing indigenous materials and design principles, architecture can forge a deeper connection with the landscape, fostering practices that honour both cultural heritage and environmental integrity (Iakovaki et al., 2023).

The convergence of these theoretical frameworks with bio-centrism and eco-centrism heralds a paradigmatic shift in architectural studies, one characterized by a holistic appreciation of the symbiotic relationship between built environments and the natural world (Aplin, 2007). By synthesizing concepts such as genius loci, heritage, and vernacular architecture, designs can be created that resonate harmoniously within the ecological fabric of their surroundings (Wu & Chen, 2023). This integrated approach transcends the boundaries of conventional architecture, transforming buildings into living systems that nourish both the human spirit and the natural environment.

As architects navigate this transformative terrain, they must grapple with

the complexities of ecological management and cultural preservation, recognising that the two are very well intertwined. Embracing the principles of bio-centrism and eco-centrism can cultivate a more profound sense of responsibility toward the places that are inhabited, fostering a symbiotic relationship with the land that sustains them (Venkatachary & Kawathekar, 2018). In doing so, they have the potential to guide a new era of architectural understanding, one in which buildings serve as witness to the enduring resilience of the human spirit and the inherent beauty of the natural world.

In essence, the integration of genius loci, heritage, and vernacular architecture with bio-centrism and eco-centrism represents a holistic approach to architectural practice, one that transcends mere aesthetics to embrace the deeper interconnectedness of all living systems. By weaving together the threads of cultural identity, ecological integrity, and social responsibility, architecture can be created that to celebrate the past and also inspire a more sustainable and harmonious future. In this vision, architecture becomes more than just a profession and becomes a dedicated mission, a means of fostering harmony and balance within the web of life.

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