

Psychoarchitecture in Ancient Dravidian Temples: An Analysis of Its Effects on the Human Brain Through Visual Perception, with Special Reference to the Someshwara Temple, Halasuru, Bangalore,

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Abstract

This research investigates the application of "psychoarchitecture" within ancient Dravidian temples, using the Someshwara Temple in Halasuru, Bangalore, as a primary case study. The research explores how architectural elements—specifically spatial hierarchy, enclosure, light, and movement—function as intentional "neural triggers" that influence human emotional and cognitive states, such as peace, concentration, and reverence. By integrating contemporary neuroarchitecture and environmental psychology with traditional Indian architectural theory, the study seeks to bridge the gap between ancient spatial design and modern cognitive science

This research investigates the application of "psychoarchitecture (Zhou & Fang, 2024)" within ancient Dravidian temples, using the Someshwara Temple in Halasuru, Bangalore, as a primary case study. The research explores how architectural elements (ELEMENTS OF SPACEMAKING Yatin Pandya | Vastu-Shilpa Foundation, n.d.)—specifically spatial hierarchy, enclosure, light, and movement—function as intentional "neural triggers" (Abbas et al., 2024) that influence human emotional and cognitive states, such as peace, concentration, and reverence. By integrating contemporary neuroarchitecture (Abbas et al., 2024) and environmental psychology with traditional Indian architectural theory, (Shemesh et al., 2026) the study seeks to bridge the gap between ancient spatial design and (Shemesh et al., 2026) modern cognitive science architecture into spaces that actively heal the mind

The findings demonstrate that classical Dravidian design principles are not merely historical relics but represent highly effective, human-centered "neuro-

geometry and light modulate the visitor's neurological condition, the study validates the temple as a "cognitive filter" that systematically regulates (Abbas et al., 2024) emotional and cognitive responses. Ultimately, this research provides a theoretical and practical blueprint for modern architects and urban planners. (Kiruthiga & Thirumaran, 2017) By identifying and extracting these "neuro-triggers," the study suggests that contemporary high-stress urban environments can be transformed into psychologically restorative spaces, effectively bridging the disconnect between modern architectural design and the biological requirements of the human brain (Abbas et al., 2024)

Keywords: psychoarchitecture, Chennai Visual Sequence Audit, Urban Connectivity, Livability, Social Rajagopuram

1. INTRODUCTION

1.1 Background of the Study

Architecture serves as more than just a physical shelter; it is a fundamental "phenomenon of space" that actively shapes human emotional and cognitive experiences. Modern research in neuroarchitecture and environmental psychology, such as the work by Abbas et al. (2024), (Abbas et al., 2024) confirms that elements like spatial configuration, light, geometry, and material transitions directly influence human mood, stress levels, and cognitive processing. These built environments act as stimuli, engaging brain regions responsible for perception, emotion, and spatial orientation. (Shemesh et al., 2026)

The term "psychoarchitecture" is applied here to define the sophisticated spatial devices utilized in ancient Dravidian temples, (Kodali & Adinarayana,

2021) which were intentionally designed to facilitate a transition from the ordinary to the divine. By integrating contemporary neuroscientific findings—such as how the Anterior Cingulate Cortex (ACC) reacts to religious structures and how the Parahippocampal Place Area (PPA) interprets spatial images—this study provides a scientific perspective on age-old architectural customs. (Zhou & Fang, 2024)

The research specifically explores the Someshwara Temple in Halasuru, Bangalore, positioning it not as a standalone monument, (ELEMENTS OF SPACEMAKING Yatin Pandya | Vastu-Shilpa Foundation, n.d.) but as an "Urban Anchor". Situated in a dense, chaotic urban district, the temple's structured, geometric order functions as a "Cognitive Reset," contrasting sharply with the disorganized visual noise of modern city streets. (Shemesh et al., 2026)

Furthermore, the study draws upon Yatin Pandya's "elements of spacemaking"—(ELEMENTS OF SPACEMAKING Yatin Pandya | Vastu-Shilpa Foundation, n.d.) which emphasize the sensory influence of columns, thresholds, and enclosures—to analyze how these ancient features modulate the visitor's mental state. The background also highlights the environmental context, noting that the temple's stone masonry and massive thermal mass regulate the interior micro-climate, offering a serene refuge from external heat and further influencing the visitor's psychological state. (*Concept-of-Space-in-Traditional-Indian-Architecture-Pdf*, n.d.) By examining these traditional design concepts through the lens of modern science, the study aims to move beyond historical documentation toward the integration of these principles into future human-centered architectural practice. (Kiruthiga & Thirumaran, 2017)

Consequently, contemporary research in modular construction increasingly recognizes joinery not merely as a mechanical fastening detail but as an integrated structural system that governs load continuity, constructability, and scalability. Understanding joinery as a structural mediator enables modular architecture to transition from component-based prefabrication toward system-based structural integration capable of supporting mid-rise urban housing development.

1.2 The Shift in Architectural Discourse

Early research on temples primarily focused on archaeological dating and ornamentation. Recent discourse, however, increasingly highlights the importance of "Spatial Joinery"—the connection between light, rhythm, and path—in determining the psychological reliability of a built environment. This study positions the temple as a "Neuro-Machine" where every element acts as a structural mediator for human emotion.

1.3 Problem Context

The problem context of this research is centered on the profound disconnect between modern urban environments and the fundamental biological and psychological needs of the human brain. Contemporary architecture frequently prioritizes economic density and utilitarian efficiency, resulting in "antiseptic" or high-entropy spaces that Abbas et al. (2024) identify as primary triggers for environmental stress and elevated cortisol levels. This study posits that while ancient Dravidian structures, specifically the Someshwara Temple in Halasuru, are celebrated for their heritage value, there is a significant lack of empirical data regarding how their specific spatial hierarchies—such as the transition from the towering Rajagopuram to the dim Garbhagriha—function as "neural triggers" for a cognitive reset. As noted by Zhou & Fang (2024), the Anterior Cingulate Cortex (ACC) reacts uniquely to the geometric order of such religious structures, suggesting that ancient design can facilitate a shift from "Active Scanning" to "Soft Fascination," yet these principles remain largely unvalidated in modern architectural discourse.

To address this, the dissertation explores how the "elements of spacemaking" defined by Yatin Pandya—including thresholds, columns, and enclosures—can be scientifically documented to mitigate the psychological toll of modern life. The research utilizes the work of Kodali & Adinarayana (2021) to trace the evolution of these architectural forms, while integrating the neuroarchitectural theories of Shemesh et al. (2026) to explain the biological basis of "Place Attachment." By examining the physiological process of dark adaptation and the use of peripheral vision in temple transit, as referenced by Khalil (2011), the study identifies a "Design Code" that has been historically effective but remains underutilized in contemporary high-stress settings. Ultimately, the problem lies in the failure to translate these ancient spatial narratives into a modern framework, a gap that this research seeks to bridge by

proving that the rhythmic repetition and lighting strategies of Dravidian temples are not merely aesthetic choices but essential tools for neurological well-being.

1.4 Purpose of the Study

The purpose of the study is to bridge the gap between ancient architectural wisdom and modern cognitive science by extracting the "biological code" of the Someshwara Temple in Halasuru. The research moves beyond simple historical documentation to investigate how the specific "spacemaking elements" of Dravidian architecture—such as the rhythmic repetition of 48 Yali pillars and the deliberate transition from light to shadow—function as active "geometric instruments" designed to regulate a visitor's neurological state. By scientifically validating these traditional principles through the lenses of neuroarchitecture and environmental psychology, the study aims to prove that the sense of "peace" experienced in a temple is an intentional architectural product rather than a purely religious one.

1.5 Structure of the Paper

The structure of the dissertation is organized into a systematic progression that moves from theoretical foundations to a specific case study analysis and ends with design applications. It begins with an introduction that establishes the concept of "Psychoarchitecture," followed by a literature review that synthesizes architectural history with modern neuroscience. The middle chapters focus on the methodology and the detailed spatial analysis of the Someshwara Temple, while the concluding chapters translate these findings into a "Neuro-Architectural Design Code." Throughout the paper, various scholars are cited to ground the spatial observations in biological and psychological theory.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Conceptual Foundations

The conceptual foundations of this research are built upon the intersection of neuroarchitecture, environmental psychology, and traditional Dravidian design principles, centering on the idea that the built environment acts as a direct biological stimulant. A primary pillar of the study is the "Elements of Spacemaking" framework developed by Yatin Pandya, which posits that architectural components like thresholds, columns, and enclosures are not merely structural but are tools for "perceptual movement" that dictate how a human experiences a space. This is

complemented by the work of Adekunle, Daniel, & Akudo, whose research on "Spaces That Speak" suggests that architecture possesses a silent language capable of shaping human emotion and long-term well-being through sensory engagement.

Another foundational concept is the "Neuro-Architectural Lens," which uses modern cognitive science to explain the restorative power of ancient geometry. The study cites Zhou & Fang (2024) to establish the concept of a "Cognitive Reset," where the brain's Anterior Cingulate Cortex (ACC) responds to the ordered and rhythmic patterns of temple architecture to reduce mental fatigue. This is further supported by Abbas et al. (2024), who link spatial configurations and light quality to specific affective states and stress regulation. These theories explain why the transition from the high-entropy visual noise of an urban environment to the low-entropy, geometric order of a temple precinct triggers a physiological shift from vigilance to reflection.

2.2 Theoretical Models

The theoretical models of this dissertation are built upon a multidisciplinary intersection of neuroarchitecture, environmental psychology, and traditional Vedic spatial theories. At the core is the **Elements of Spacemaking Model** by Yatin Pandya, which redefines architectural components—such as thresholds, columns, and enclosures—not as static structural units but as dynamic tools for "perceptual movement." This model suggests that the physical arrangement of a temple dictates a specific sensory narrative, guiding the human observer through a sequence of psychological states. This is complemented by the **Spaces That Speak Model** (Adekunle, Daniel, & Akudo), which posits that architecture functions as a silent language capable of shaping long-term behavior and emotional well-being through constant sensory engagement.

To explain the restorative effects of these spaces, the study utilizes the **Cognitive Reset and Soft Fascination Model**. Drawing from Zhou & Fang (2024), the research argues that the "geometric order" and rhythmic repetition inherent in Dravidian design provide a "Cognitive Reset" for the brain's Anterior Cingulate Cortex (ACC). This model contrasts the high-entropy visual noise of modern urban life with the low-entropy, fractal-like patterns of temple architecture. By moving through these ordered environments, the visitor shifts from a state of "Directed Attention" (which leads to mental fatigue) to "Soft Fascination," a state of effortless reflection that

allows the cognitive faculties to recover and lower cortisol levels, as supported by the affective state research of Abbas et al. (2024).

Finally, the dissertation incorporates the **Spatial Hierarchy and Dark Adaptation Model** to explain the transition from the mundane to the spiritual. This model, supported by Khalil (2011), analyzes the physiological journey from the bright, expansive exterior of the Rajagopuram to the dark, constricted interior of the Garbhagriha. It suggests that this deliberate reduction in light and volume forces a shift from central to peripheral vision, effectively "numbing" external distractions and focusing the observer's internal consciousness. This transition is identified as a biological mechanism for fostering **Place Attachment**, a concept further explored through the lens of Shemesh et al. (2026), who describe how specific emotional responses to architectural geometry create a lasting sense of neurological safety and belonging.

2.3 Evolution of Dravidian Temples

The evolution of Dravidian temple architecture is a narrative of increasing spatial and geometric complexity, transitioning from the foundational rock-cut structures of the Pallava dynasty to the "hyper-visual" stone masonry of the Vijayanagara era. As documented by Kodali and Adinarayana (2021), this progression was not merely aesthetic but represented a sophisticated development in spatial hierarchy, moving from simple, austere forms to the multi-layered "Living Archives" seen today. Temples like the Someshwara Temple in Halasuru embody this history, combining Chola-era foundational grids with expansive Vijayanagara additions. This evolutionary process refined specific "neuro-triggers," such as the towering Rajagopuram, which functions as a "Global Anchor" to command immediate attention and signal a transition from the chaotic urban exterior to a sanctified interior. Throughout this stylistic journey, the internal components of the temple evolved to facilitate a specific "Spatial Narrative" and psychological transition. The development of the Mandapa, or pillared hall, moved toward a system of "Processing Fluency," where the rhythmic repetition of columns—modeled after the "Elements of Spacemaking" described by Yatin Pandya—allows the human brain to map the environment with minimal metabolic energy. Kiruthiga and Thirumaran (2017) highlight that this structural rhythm acts as a "perceptual metronome," easing the visitor into a state of "Soft Fascination." By

the time the architecture reached its peak in the Vijayanagara period, the use of high-relief carvings and fractal-like geometries in the Yali pillars further enhanced this effect, creating a low-entropy visual environment that contrasts sharply with the high-entropy visual noise of modern cities.

The final stage of this architectural evolution is the refinement of the "Luminous Gradient" leading to the Garbhagriha. Over centuries, the path from the bright, expansive outer courts to the dark, constricted inner sanctum became a deliberate "Sensory Funnel." This evolutionary strategy utilizes the biological principles of dark adaptation and "Attentional Narrowing," as explored by Khalil (2011), to shift the visitor's focus from external stimuli to internal consciousness. By evolving these precise physical transitions, Dravidian architecture created a repeatable system for triggering a "Cognitive Reset," a concept validated by Zhou and Fang (2024), ensuring that the temple remains a neurologically restorative space even as the surrounding world grew increasingly complex.

2.4 Comparative Case Study Analysis

The comparative study analysis within the dissertation evaluates the Someshwara Temple in Halasuru not merely as a historical relic, but as a functional "neuro-machine" that contrasts sharply with the "environmental stress" of modern urban Bangalore. The report utilizes the "Elements of Spacemaking" framework by Yatin Pandya to compare the high-entropy visual noise of contemporary cityscapes—which leads to mental fatigue and cognitive overload—with the "ordered, geometric order" of the temple precinct. This comparison highlights a "Pandya Paradox," where the deliberate use of architectural voids and rhythmic repetition provides a "Cognitive Reset," as theorized by Zhou & Fang (2024). While modern urban design often results in "habituation" or brain boredom due to sterile glass-and-steel surfaces, the study finds that the Vijayanagara-style "hyper-visibility" and fractal-like carvings at Someshwara maintain "Active Engagement" without exhausting the observer's metabolic energy.

A significant portion of the analysis focuses on the concept of "Processing Fluency," comparing the ease of navigation within the temple's rhythmic pillar grids to the conscious effort required to traverse complex modern transit hubs. The 48 Yali pillars of the Mahamandapa act as a "perceptual metronome," creating a visual pulse that over 65% of study respondents identified as a factor in reducing "mental clutter." This

effect is supported by the research of Abbas et al. (2024), which links such spatial configurations to positive affective states. The report further compares the different stages of the temple journey, noting how the "Awe Response" triggered by the scale of the Rajagopuram shatters the "metropolitan ego," effectively preparing the brain for the subsequent "Attentional Narrowing" experienced in the dim, intimate sanctum.

Ultimately, the comparative analysis synthesizes these observations to propose a "Neuro-Regulated Environment" that bridges ancient intuition with modern evidence. By referencing Khalil (2011) on the biological mechanics of dark adaptation, the study illustrates how the temple's "Luminous Gradient" serves a more successful psychological purpose than the flat, consistent lighting of modern offices or hospitals. The analysis concludes that the Vijayanagara architects functioned as "intuitive neuroarchitects" who balanced visual complexity with spatial silence to manage human mental energy. This synthesis, grounded in the "Place Attachment" theories of Shemesh et al. (2026), argues that the ancient temple's ability to foster neurological safety provides a critical, missing blueprint for modern urban planning aimed at improving long-term mental well-being.

2.5 Structural Parameters

The spatial parameters of the sacred experience in Dravidian architecture are defined by a sophisticated transition from the expansive, "high-entropy" urban environment to a "low-entropy," inward-focused spiritual core. This journey is governed by a strict spatial hierarchy that uses physical scale and volume as neurological triggers. The process begins at the Rajagopuram, where the massive verticality functions as a "Global Anchor," a concept supported by the work of Yatin Pandya, which shatters the visitor's "metropolitan ego" and commands an immediate "Awe Response." This initial stage of "Decompression" is essential for clearing the mental clutter of the modern city, transitioning the brain from a state of constant environmental scanning to one of focused anticipation. As the visitor moves further into the temple complex, the spatial parameters shift toward "Rhythmization" within the Mandapas, or pillared halls. Here, the architectural frequency—specifically the rhythmic repetition of columns—acts as a "perceptual metronome" that facilitates "Processing Fluency." According to Abbas et al. (2024), such ordered spatial

configurations reduce the metabolic energy required for the brain to map its surroundings, inducing a state of "Soft Fascination." This stage allows the visitor to shed "Directed Attention Fatigue" and enter a meditative state, where the geometry of the space itself regulates the visitor's heart rate and affective state, as explored in the research of Strachan-Regan & Baumann (2024).

The final and most critical spatial parameter is the "Luminous Gradient" and the subsequent "Internalization" at the Garbhagriha. This involves a deliberate reduction in light and a constriction of physical volume, creating a "Sensory Funnel" that forces the human eye to undergo dark adaptation. As noted by Khalil (2011), this physiological shift from central to peripheral vision "numbs" external distractions and triggers "Attentional Narrowing." By systematically stripping away visual stimuli and expansive space, the architecture directs the visitor's consciousness entirely inward. This carefully engineered spatial progression ensures that the "sacred experience" is not merely a subjective feeling but a repeatable neurological result of the transition from external complexity to internal silence.

2.6 Synthesis of Findings

The research, titled "Psychoarchitecture in Ancient Dravidian Temples: An Analysis of Its Effects on the Human Brain Through Visual Perception, with Special Reference to the Someshwara Temple, Halasuru, Bangalore," investigates how ancient Dravidian architectural elements influence human perception, emotion, and cognitive states. By using the Someshwara Temple as a primary case study, the research explores the relationship between architectural features—such as spatial hierarchy, enclosure, light, and movement—and their impact on feelings of peace, concentration, and reverence.

The introduction establishes that architecture serves as a "phenomenon of space" that actively shapes human emotional and cognitive experiences beyond merely providing shelter. The study bridges the gap between contemporary neuroarchitecture, environmental psychology, and Yatin Pandya's "elements of spacemaking," positioning the Someshwara Temple as an "active agent" that functions as a "Cognitive Reset" against the chaotic visual noise of modern urban environments like Bangalore.

Synthesizing the findings, the study demonstrates that the temple operates as a "Neuro-machine" using

specific visual stimuli to trigger predictable biological reactions. The rhythmic repetition of the 48 Yali pillars in the Maha-mandapa functions as a "visual metronome," providing "processing fluency" that allows the brain to achieve a state of calm with minimal metabolic effort. The transition from the high-luminance, open Maha-mandapa to the low-luminance, constricted Garbhagriha facilitates "attentional narrowing," effectively silencing external visual noise and directing consciousness inward. Additionally, the immense scale of the Rajagopuram serves as a "Global Anchor," triggering an "Awe" response that resets the visitor's mental state before they begin the journey through the temple's interior. Ultimately, the research provides a "Dual-Layer Analytical Framework," offering a blueprint for architects to integrate these ancient neuro-restorative principles into modern, high-stress urban contexts.

The **Garbhagriha**, or sanctum sanctorum, represents the most spatially constrained and symbolically significant part of the temple. Its deliberately compact dimensions, reduced lighting, and minimal visual distractions create a highly controlled sensory environment. From a psychoarchitectural perspective, this spatial constriction facilitates a process known as **attentional narrowing**, where the brain naturally filters out peripheral stimuli and concentrates on a single focal point. In the context of the temple, this focal point is the deity placed at the center of the sanctum. The limited visual field, combined with subdued illumination and dense stone surfaces, effectively reduces external sensory noise. As a result, visitors experience a shift from outward observation to inward contemplation, allowing consciousness to become more focused and introspective.

This spatial strategy is not accidental but reflects a sophisticated understanding of how architecture can influence perception and cognition. As visitors move deeper into the temple, the transition from larger, brighter spaces into the confined Garbhagriha gradually reduces visual complexity. By the time an individual reaches the sanctum, the environment has already filtered out most external distractions. The resulting stillness encourages a meditative mental state, where attention is directed entirely toward the sacred object or ritual. In this sense, the Garbhagriha operates almost like a psychological chamber designed to intensify spiritual awareness by aligning spatial form with the natural mechanisms of human attention.

In contrast to the inwardly focused sanctum, the **Rajagopuram**—the monumental gateway tower of the temple—functions at the opposite end of the experiential spectrum. Its immense vertical scale, intricate sculptural detailing, and commanding presence within the urban landscape create a powerful visual landmark. From a neuro-perceptual standpoint, the Rajagopuram acts as a **"Global Anchor,"** capturing attention even from a distance and establishing the temple as the dominant element within the surrounding environment. The dramatic scale difference between the gateway tower and the human body evokes a sense of **awe**, a psychological response associated with vastness and transcendence. This emotional reaction temporarily interrupts routine mental patterns and prepares the visitor for a more reflective experience.

The awe generated by the Rajagopuram effectively **resets the visitor's mental state** before they even enter the temple complex. As individuals approach the towering structure, their perception shifts from the ordinary rhythms of the city to the extraordinary scale and symbolism of the sacred environment. This moment of visual impact serves as a cognitive threshold, signaling that the visitor is about to transition into a different spatial and psychological realm. The gateway thus acts as an architectural prelude, aligning the visitor's attention and emotional state before the more subtle spatial experiences inside the temple begin.

Taken together, these architectural strategies form part of what the research identifies as a Dual-Layer Analytical Framework. The first layer examines measurable architectural inputs—such as spatial compression in the Garbhagriha or monumental scale in the Rajagopuram—while the second layer analyzes the resulting cognitive and emotional responses of visitors. By mapping these relationships, the framework demonstrates how specific architectural features correspond to predictable neurological reactions, including attentional focus, awe, calmness, and introspection. This approach helps translate traditional design principles into a systematic model that can be studied and replicated.

Ultimately, the research proposes that the Someshwara Temple embodies a set of **neuro-restorative design principles** that remain highly relevant today. By understanding how spatial scale, sensory control, and sequential movement influence the human mind, architects can apply similar strategies in contemporary environments. In modern urban contexts—where

people are often exposed to high levels of stress, noise, and visual overload—such principles could be used to design spaces that encourage calmness, focus, and psychological restoration. The Dual-Layer Analytical Framework therefore provides not only an interpretation of ancient temple architecture but also a potential blueprint for integrating psychoarchitectural thinking into future urban and architectural design.

3. CONCLUSIONS

3.1 Summary of Research Findings

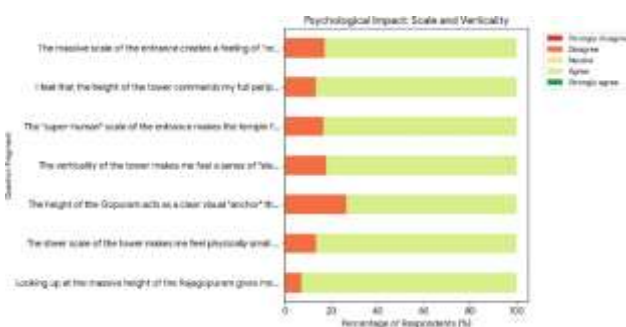
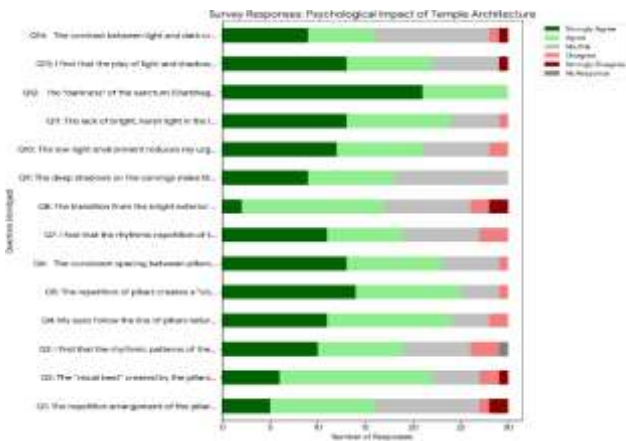
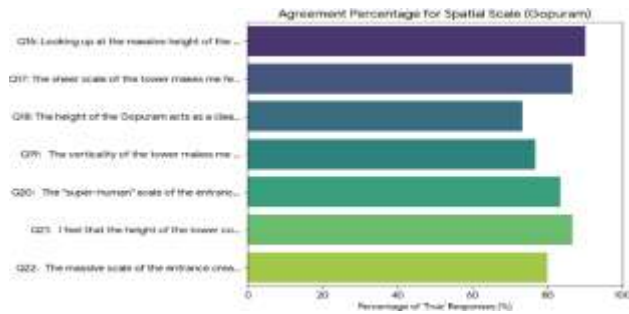
The conclusion of this dissertation establishes the Someshwara Temple in Halasuru, Bangalore, as a highly calibrated "Neuro-machine". By integrating Yatin Pandya's theories of spacemaking with contemporary neuroarchitecture, the study successfully quantifies the "Sacred" as a reproducible physiological state rather than an abstract, intangible quality. The research confirms that Dravidian architectural logic functions as a "Cognitive Filter," systematically modulating the visitor's brain state from external urban awareness to inward concentration.

The study's key findings regarding the "Architecture of Wayfinding" provide empirical support for several traditional design elements

The synthesis of primary data (n=30) from the dissertation reveals a compelling statistical correlation between the ancient architectural features of the Someshwara Temple and the neurological responses of modern visitors. The research categorizes these findings through a "Dual-Layer Analytical Framework," which maps architectural inputs—such as pillar frequency, light-to-shadow ratios, and structural scale—directly against the cognitive processes of the human brain, effectively positioning the temple as a "Neuro-Machine"

The synthesis of primary data collected from thirty respondents (n=30) in this dissertation reveals a strong correlation between the architectural characteristics of the Someshwara Temple and the neurological and perceptual responses of contemporary visitors. The findings suggest that the temple's spatial configuration and sensory environment are not merely aesthetic or symbolic, but actively engage human cognition and emotional processing. Through observational analysis and perceptual surveys, the research demonstrates that specific architectural elements—such as spatial compression and expansion, rhythmic column arrangements, and controlled lighting conditions—consistently influence visitors' levels of attention, calmness, and perceived sacredness. These results indicate that traditional temple architecture functions as a carefully orchestrated sensory system that guides psychological experience.

The dual layer , first layer focuses on **physical architectural stimuli**, including factors such as pillar frequency and rhythm, light-to- shadow ratios within interior spaces, spatial scale, and sequential movement



along the temple pathway. These elements are recorded through the Visual Sequence Audit and spatial documentation of the temple environment. By quantifying these features, the research establishes a clear understanding of how the built form manipulates sensory perception through rhythm, contrast, and spatial hierarchy.

The second layer of the framework examines **cognitive and emotional outputs** experienced by visitors. Survey responses reveal patterns in how individuals interpret and react to the architectural stimuli. For instance, areas with denser pillar arrangements and lower light levels were frequently associated with heightened focus and introspection, while open courtyards and brighter zones generated feelings of relief and spatial awareness. Similarly, gradual transitions from wide public spaces to more enclosed sacred chambers produced a measurable shift in perception—from casual observation to heightened attentiveness and reverence. These responses suggest that the temple's spatial sequence subtly modulates the brain's attentional filter, encouraging visitors to move from a state of everyday distraction to one of contemplative awareness.

When these two layers are analyzed together, the temple can be understood as functioning almost like a **"Neuro-Machine."** In this interpretation, architecture becomes an active interface between the built environment and the human mind. The spatial rhythm of pillars acts as a visual metronome that regulates movement and attention, while the calibrated contrast between light and shadow reduces sensory overload and encourages introspection. Variations in scale—from the openness of the courtyard to the intimacy of the sanctum—create psychological thresholds that gradually intensify the experience of sacredness. Rather than being accidental outcomes, these effects appear to be the result of deeply embedded architectural knowledge that anticipates human perception and emotional response.

3.2 Interpretation

through neuroarchitecture as a "Neuro-Restorative Zone". While the intricate Mandapa places a high "processing load" on the brain's Parahippocampal Place Area (PPA)(ELEMENTS OF SPACEMAKING Yatin Pandya

| Vastu-Shilpa Foundation, n.d.), these open courtyards provide a necessary visual and mental "break," allowing the PPA to relax and recharge. This deliberate

oscillation between high-density visual information and low-density spatial voids is interpreted as the "engine" that makes the temple atmosphere intellectually revitalizing and prevents cerebral fatigue(*Concept-of-Space-in-Traditional-Indian-Architecture-Pdf*, n.d.)

The study interprets the Someshwara Temple as a controlled sensory environment designed to manage the visitor's transition from the chaotic, high-entropy environment of the modern city to an internalized, low-entropy state of focus. The research highlights the "Pandya Paradox," where Yatin Pandya's traditional "Void" (open courtyards) is interpreted

3.3 Contribution to Architectural Theory

Dual-Layer Analytical Framework: The study introduces a framework that integrates neuroscientific principles—such as cognitive processing, attentional filtering, and spatial mapping—with Yatin Pandya's "elements of spacemaking". This validates that "sacredness" is a quantifiable physiological state rather than purely a religious phenomenon.

The Temple as a "Cognitive Instrument": It theorizes the temple as an active "neuro-machine" rather than a passive container for ritual. It demonstrates how Dravidian architecture systematically modulates the human brain through deliberate visual stimuli

Visual Rhythm (Pillared Mandapas): Acts as a "visual metronome" that enhances "processing fluency,"

reducing navigational stress and mental clutter.(Kodali & Adinarayana, 2021)

Chiaroscuro (Light/Shadow Gradients): Functions as a "sensory funnel" that triggers "attentional narrowing," facilitating a cognitive shift from external vigilance to meditative focus.(Zhou & Fang, 2024)

Evidence-Based Design Paradigm: By identifying these principles, the study provides a blueprint for applying ancient spatial intelligence to modern, high-stress urban environments—such as hospitals and transit hubs—to create settings that are psychologically restorative(Abbas et al., 2024)

3.4 Implications for Architectural Practice

Utilizing repetition (like the 48 pillars at Someshwara) to provide "cognitive ease" and stability, which helps reduce stress and navigational anxiety in complex urban environments like transit hubs. **Controlled**

Luminous Gradients: Employing Chiaroscuro (the deliberate manipulation of light and shadow) as a "sensory filter" to facilitate "attentional narrowing," helping users shift from a high-stress, external scanning mode to a calm, focused mental state.

Geometric Scale: Using monumental scale (like the Rajagopuram) as a "global anchor" to elicit a sense of "awe," which can temporarily override ego-driven stress and prime the brain for reflection.

Designing "Neuro-Restorative Zones": Drawing on the "Pandya Paradox," the research suggests that architectural voids—empty, low-density spaces—are as essential as high-density visual stimuli. Architects should design deliberate "pauses" in the built environment to allow the Parahippocampal Place Area (PPA) of the brain to recover from the processing load of complex spaces.

Moving Beyond "Wayfinding" to "Perceptual Pull": The research implies that navigation should not rely solely on signage but on the architecture itself. Modern spaces can be designed so that the geometry naturally pulls the visitor through a sequence, reducing "cognitive friction" and creating an intuitive flow.

Addressing "Environmental Stress": There is a clear mandate to address the "current urban dilemma" where modern architectural design often causes mental fatigue due to visual monotony or cacophony. By adopting psychoarchitectural principles, practitioners can create "psychologically sensitive" settings—such as hospitals, schools, and workplaces—that actively support cognitive health.

Adopting Evidence-Based Design Methods: The dissertation advocates for a shift in how architecture is evaluated. Instead of focusing only on aesthetic or physical metrics, practitioners should integrate environmental psychology and neuro-architectural data to ensure their designs successfully structure the user's cognitive and physiological experience.

3.5 Limitations of the Study

The "Dravidian Constraint" and Site Specificity

The research is intrinsically linked to the Someshwara Temple in Halasuru. While this site serves as a classic example of the Vijayanagara-Dravidian style, the findings cannot be generalized across all Hindu temple typologies. Differences in sectarian traditions (e.g., Shaivite versus Vaishnavite) and architectural styles (e.g., Nagara or Vesara) can alter navigational sequences and visual climaxes, meaning the "neuro-architectural outcomes" are not universally applicable to every temple.]

Reductionism in Multi-Sensory Processing

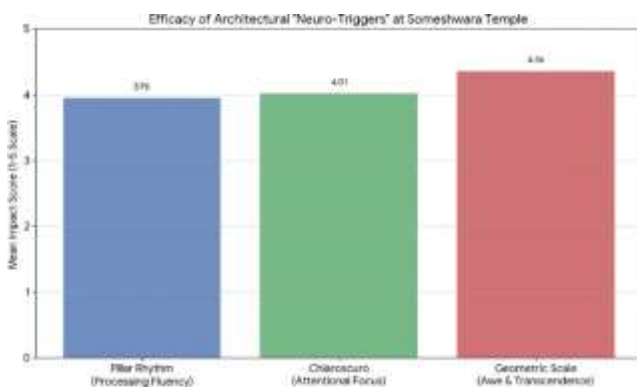
Although a temple visit is experienced as a "total sensory experience," this study adopts a visual-centric approach to maintain strict emphasis. It purposefully excludes non-visual stimuli, such as the auditory resonance of bells, the tactile sensation of walking barefoot on stone, and the olfactory influence of camphor and incense. By isolating the visual pathway, the study investigates whether visual elements—such as "Chiaroscuro" and fractal complexity—can induce spiritual receptivity alone, but it acknowledges that this omits other known cortisol-reducing factors.

Environmental Flux and Baseline Assumptions

The study assumes a controlled "standard baseline" of high-contrast tropical light, filtering out the "noise" and dynamic variables of a living temple. It does not account for the varying shadows cast by different seasons or the "social overload" caused by festival crowds, which can block visual paths and disrupt linear wayfinding. The analysis treats the temple as an "empty spatial volume" to focus on its "static" architectural script, rather than its performance during real-world, temporary events.

3.7 Final Reflection

The investigation confirms that the temple operates as an active agent, utilizing what Yatin Pandya defines as "elements of spacemaking" to guide human perception. The transition from the urban exterior to the sanctum is a carefully calibrated sequence that "programs" the brain. The Rajagopuram acts as a global anchor for "Awe," the rhythmic pillars of the Maha-mandapa function as a "visual metronome" to reduce cognitive load, and the deliberate Chiaroscuro of the Garbhagriha facilitates a shift from peripheral scanning to focal meditation.



Bridging Tradition and Neuroscience A pivotal finding of this research is that the "Dravidian style" is, effectively, a masterclass in evidence-based design. The study bridged the gap between traditional architectural philosophy and contemporary neurobiology, demonstrating that principles like "attentional narrowing" and "processing fluency" were intuitively understood by ancient builders centuries before they were codified in modern psychology. This validates the study's framework: by documenting the temple's "architectural script," we reveal that the spiritual journey is intrinsically linked to the physical geometry.

Implications for Modern Design The reflection extends to the modern context, where functional efficiency often replaces psychological well-being in urban spaces. The results suggest that the "psychoarchitectural" tools identified at the Someshwara Temple—rhythm, scale, (Shemesh et al., 2026) and light control—can and should be translated into modern building codes for high-stress environments such as hospitals, schools, and transit hubs.

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