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Significance of Symbolism in Envisioning Architectural Scale Through the Comparison Between Two Living Chola Temples and Their Relationship Between Cultural Psychology and Architectural Sublime

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1. Introduction

A narrative is an abstract concept. It is incumbent not only on the mind of the creator but also on the perspective of the consumer of the narrative. The construction's conceptual reach and spiritual dimension lend sublimity to its architecture. The two statements that geometric principles form the basis for architectural construction and others, and that narrative exists in architectural constructs and others, therefore, seem contradictory. Structure and size in any construction depend upon its functions. Similarly, each component's size within the construction also depends on its utility. The proportion of each component to the whole is determined by scale.

Through the comparison of two great living Chola temples, namely the Brihadeeswara at Thanjavur and the Gangaikonda Cholapuram temple, this paper proposes to show how the sublime and abstract narratives in architecture remain unaffected by scale.

2. Background and Context

The relationship between culture, narrative, and architecture is well documented. Architects use a predetermined scale to determine the size of the components of constructions and create a narrative by structuring inner spaces to drive perception. Architects create space within a construction with not only functionality in mind but also the perspective of the observer. Coates (2012) contends that architects prioritize meaning (narrative) over performance. Religious architectural constructions are places to experience the sacred and worship the Lord. They also serve the local community. Faith develops over time, and symbolism is a manifestation of faith.

The foundation for any place of worship lies in tradition. It offers *oases of peace, prosperity, and justice*. A geometrical design called the *vastu-purusha-mandala* forms the basis of Hindu temple design. Common architectural elements in Hindu temples include (i) the sanctum (*garbhagriha* literally 'womb-house'), which is the place where the main deity resides, (ii) the *pradakshina* path, usually a circumambulatory path along which devotees walk paying homage to the deity, (iii) the *antheral*, a space to maintain a respectful distance from the deity, and (iv) the *mandapa*, an open space for devotees. A dome tops the sanctum in most Hindu temples, called the *vimana* or *shikhara*. An Islamic mosque has similar spaces in the *Sahn* or courtyard, the *Hauz*, or a water body within the courtyard; the *mihrab*, which is a niche indicating the direction of Mecca concerning the mosque, *mimber*, or a dais for the preacher; a

minaret, or tower; and a *Qubba*, or dome: A church comprises the nave, or a place for public gatherings, a baptismal font or water body, the altar and tabernacle that symbolize the steadfastness of the church, and the crucifix, or the main deity. Most churches also have a steeple or tower.

This discussion indicates that most places of worship are structurally similar, consisting primarily of a sanctum, a tower, and an open space for devotees.

3 Problem Statement

Does a religious construction's grandeur, narrative, and sublimity diminish if built on a smaller scale?

4 Research design and methods

We first highlight the differences in the construction of the two temples. Next, we show the relationship between culture, faith, and symbolism. Finally, we conclude that the grandeur and sublimity of the Gangaikonda temple result from its symbolism. The Gangaikonda is sublime, even though it is smaller than the Brihadeeswara temple.

5 Literature Review

5.1 Aesthetics in Architecture

Aesthetics refers to beauty and taste. The term originates from the Greek *aisthetikos*, which means sensitive or sentient. It refers to perception and sense. Aesthetics investigates how people perceive and approach their surroundings. The articulation of sensory impressions gives meaning to the narrative. The difference between architecture and other art forms is that the need for functionality restricts the creation of architecture. Naz et al. (2017) show that color impacts the senses while light impacts the feeling of spaciousness. Therefore, a well-lit room or space may seem larger than one with diminished illumination. Illumination also impacts the senses. Spatial features evoke an emotional response. There exists a relationship between open physical spaces and perceived spaces. Specific forms convey specific meanings—perception of spatial texture results from earlier experience with material, weight, shape, and resistance. A construction's appeal to the common eye combines several factors: shape, size, color, functionality, contrast, symmetry, alignment, culture, context, and more. The combined effect of these factors on each containing element and the building contributes to the aesthetic appeal of the construction. Aesthetics in architecture is, therefore, a combined effect of the multiple elements and sub-elements of the structure.

5.2 Sublimity in Architecture

The word sublime has many meanings. Its connotation has evolved to mean lofty, grand, exalted, outstanding (morally, intellectually, or both), awe-inspiring, high quality, supreme, or utter. It means different things, from immensity to suaveness, gracefulness, and urbaneness. Immensity is physical as well as phonemic. The word may be used to mean enormous, overwhelming, or awe-inspiring. This paper uses the words grandeur, sanctity, and awe-inspiring spirituality.

Ancient architecture separated utility from art. Construction was focused on functionality. Art entered construction only when grandeur was required. Thinley et al. contend that physical architectural features do not contribute to sublimity or spiritualism. Instead, sublimity and grandeur come from the conceptual reach of a construction. Sublimity is *the echo of the greatness of the spirit*. It is an experience of the pervasive imagination of the writer. By extension, therefore, a sublimity in architecture is the perception of the creator's imagination that is pervasive in the structure. Sublimity, therefore, is a psychological rather than a physical concept and is perceived rather than created.

5.3 How Architecture is Perceived

Architectural perception is the collective perception of architecture and its history. Cultural history comprises a significant part of history or architecture, if not the whole. It includes all factors contributing to its creation. Objects in architecture are not just physical but also relate to the object's psychological perception, including the circumstances leading up to its creation. Perception is the process of selecting and organizing sensory input in a way that gives it meaning. It originates from knowledge. Information is gathered from the environment through the senses, which gives meaning to that information. Perception thus includes the past as well as the present environment. In addition, it includes the perception of legends passed down through generations, i.e., cultural history.

5.4 Role of Cultural Psychology in Perception of Architecture

The eye perceives the environment around us, whereas the other four senses collect information about the space and store it in memory, and the brain recalls this information when it encounters a similar environment, which is the process of psychological cognition. The process may be executed consciously or unconsciously. The psychological cognition of a large group creates culture, and culture influences the individual psychological process. The current environment and the recollection of material, texture, sound, and smell from previous experiences with similar environments influence the perception of an object. Rapoport A. (1969), in *Cultural Context in Architecture*, describes architecture as *a profession rooted in culture*. Architecture and culture are interdependent. Cultural heritage is a collection of a community's systems, values, norms, ideologies, and beliefs. While these elements refer to the intangible aspects of culture, symbols, technologies, and objects, such as buildings, constitute tangible proof of that culture. Greely (1995), in *The Cultural Construction of Religion*, contends that religion's imaginative or abstract aspect is necessary to understand any religion.

When people congregate at a place of worship, they create customs and rituals. For instance, the service at a church creates a sublime mood or sacred environment. The preacher requests that attendees focus on a symbolic object, such as the altar or a candle. The hymns and discourses lead the attendees through different levels of sublimity. These customs comprise religion, and the building in which they are executed symbolizes that ritual. Thus, when one visits a place of worship such as a church, one experiences the sublime atmosphere resulting from centuries of custom, rituals, and legends. Cultural psychology, therefore, plays a significant role in the perception of the sublime.

5.5 Discussion through a comparison of the Brihadeeswara and Gangaikonda temples

Summing up the above research, architectural constructions reflect society's culture and its interaction with the structure. It includes society's social, political, economic, and other aspects. Ettehad et al. confirm this observation in *The Role of Culture in Promoting Architectural Identity*.

Mapping this conclusion to religious architecture in general and the Chola temples in particular, one may conclude that sublimity or grandeur in architecture comes from its aesthetic appeal and the collective cultural and historical perception. We now delve into comparing the two selected temples, namely, the Thanjavur Brihadeeswara temple and the Gangaikonda Cholapuram temple, to show how aesthetics, symbolism, and cultural psychology invoke sublimity and grandeur.

5.6 Background of the Chola Temples

The dates or duration of the Chola dynasty's rule are not well established, but most literature agrees that they ruled between the ninth century to the thirteenth century C.E. (850–1279 CE). Vijayalaya (850 - 871 CE) is the earliest known Chola ruler, followed by Aditya I (871-907), Parantaka I (907 - 953 CE), and Rajaraja I (985 CE–1014 CE). The Chola rule peaked during the reign of Rajaraja I, who also built the first of 80 Chola temples at Thanjavur, followed by the Gangaikonda temple built by his son Rajendra I. The Tanjore temple is one of the finest constructions of the Cholas, and the Gangaikonda temple is its miniature image. The Chola temples are known for their grandeur, art, symbolism, architecture, and the practice of Shivaism. The reason for selecting the Tanjore and Gangaikonda temples for this research is that they are identical except for a few distinctions, like the scale of construction.

6 Similarities and Differences in the Gangaikonda Chola Puram and Brihadeeswara Temples

6.1 Differences in Legend

The bigger temple was built following a dream in which Lord Shiva directed Emperor Rajaraja Chola to do so. Locals believe that the temple commemorates the Chola rule in south India. The temple at Gangaikondacholapuram (the place of the Chola who conquered the Ganges) celebrates Emperor Rajendra I's victory over several regions en-route to the Ganges in east India. Following the victory, Rajendra I assumed the name Gangaikonda Cholan according to tradition. He then set up his capital in Gangaikonda and the village came to be called Gangaikonda (conqueror of the Ganges) Chola Puram (place).

Even though the Gangaikonda is constructed on a lower scale, the grandeur and aesthetics of both temples are similar.

6.2 Structural Comparison of Gangaikonda and Brihadeeswara Temples

The two temples are identical except for three points of distinction, of which only one is structural. Unlike the temple at Tanjore, the Gangaikonda temple (Ref. Fig. 01, Fig. 02) is concave in shape and constructed on a smaller scale compared to the Brihadeeswara temple. The tower of the Gangaikonda is smaller than that of the Brihadeeswara temple by three meters. Locals believe this was done as a mark of

respect for the bigger temple: Finally, the larger temple has two enclosures, compared to a single enclosure (*prakara*) with a gateway on the east for the smaller Gangaikonda temple:



Fig. 01- Panoramic view of Brihadeshwara Temple, Gangaikonda Cholapuram (view from the northeast).

Source: personal archive of the author.

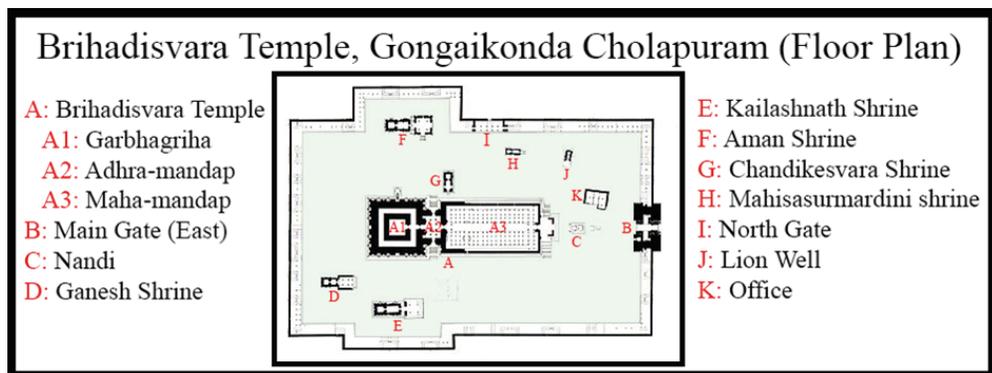


Fig 02- Floor plan of Brihadeshwara Temple, Brihadeshwara Temple, Gangaikonda Cholapuram

Source: personal archive of the author.

The Cholaveshwaram temple has an area of 340x110 feet compared to the massive 790x400 feet of the Tanjore temple, which is more than double the size of the smaller temple. Both temples are shaped like pyramids, with a hemispherical dome at the top above the *garbhagriha*, or central shrine. The Gangaikonda temple has eight stages in its vimana, compared to the thirteen stages of the Tanjore temple. The tower of the Gangaikonda temple is a vertical square rising 35 feet above the *adhithanam*, or base. There are two horizontal bands and a cornice. Each band has five bays, one in each direction. There are carvings of Shaiva, Shakta, and Vaishnava traditions, Hindu mythological legends, and other mythical creatures on each side of the tower. In contrast, the tower of the Brihadeeswara temple (Ref. Figs. 03 and 04) at Tanjavur has a total height of 217 feet.

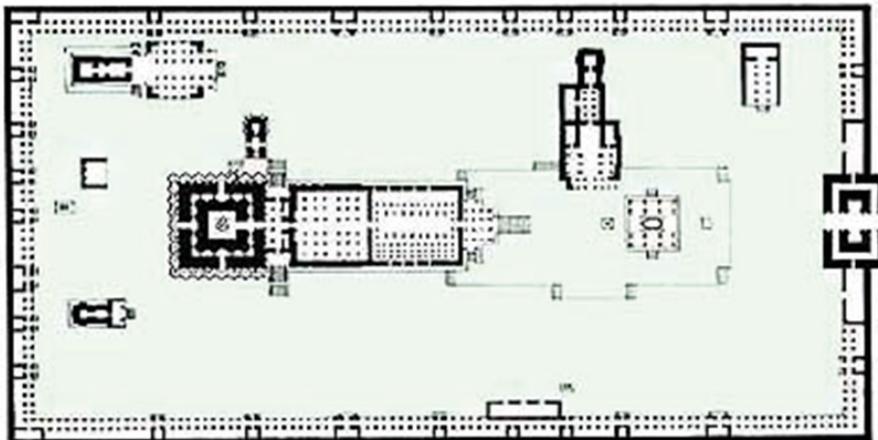


Fig 03- Plan of the Brihadishwara Temple, Thanjavur (“The History of Architecture in India” by Ch. Tadgell)

Source: personal archive of the author

Brihadeeswara Temple map

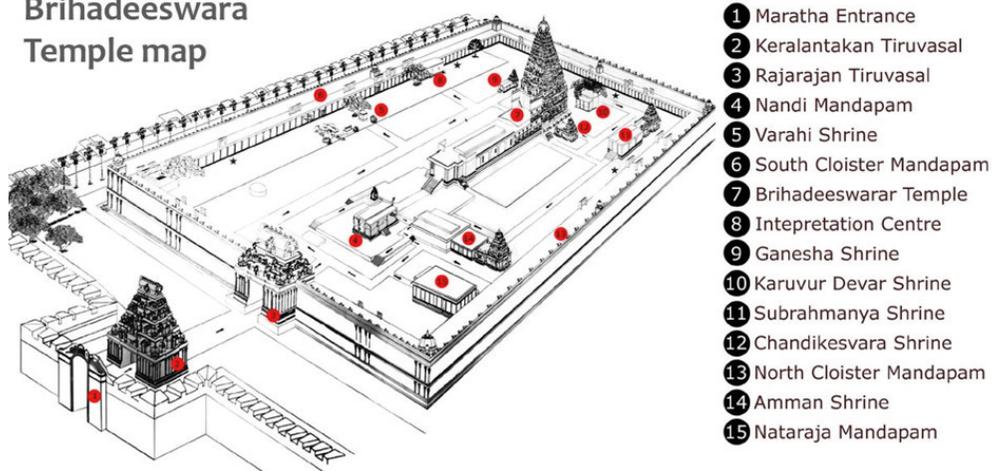


Fig 04- Brihadeeswara Temple top view map

Source: personal archive of the author

A *mukhamandapa*, or front porch, precedes the *garbhagriha* at both temples. Both temples have secondary shrines within the *mukhamandapa*. In addition, both temples have smaller shrines north and south of the main shrine, presumably indicative of an existing superstition or local belief. These shrines, believed to have housed *lingas*, are now known as the north and south Kailasa (the abode of Lord Shiva). Both shrines are identical in construction:

Table of differences between the Gangaikonda and Brihadeeswara Temples

Parameter	Brihadeeswara Thanjavur	Brihadeeswara Gangaikonda
Built By	Rajaraja Chola I	Rajendra Chola I
Legend and reason for the construction	Built following a dream in which Lord Shiva directed Emperor Rajaraja Chola to build the temple. It established the rule of the Chola dynasty.	Celebrates the victory of Rajendra I over several regions en-route to the Ganges
Overall Size	Larger than Gangaikonda (212 ft or 64.8 meters)	Smaller than Thanjavur . Courtyard area 560 feet (170m) x 320ft (98m). Sanctum – 100 sqft (9.3 sqm).
Semantic Meaning	Brihat (big) + Iswara (Lord) The temple of the great lord (Shiva according to legend)	Gangai (Ganges) Konda Chola (Conqueror) Puram (Place) The place of the Chola who conquered the Ganges.
Shape	Angular	Concave
Height	The tower is taller by 3 meters	The tower is shorter by 3 meters
Enclosures	Two enclosures	One enclosure
Area	790x400 feet	340x110 feet
Vimana	1. Is 217 feet in height 2. Has 13 stages	1. Is 35 feet in height 2. Has 8 stages 3. Has 2 horizontal bands with 5 bays each 4. Has a cornice
Nandi Statue	Is larger	Is smaller
Beliefs	The sentiments and religious beliefs surrounding both temples are similar. Both temples are dedicated to Lord Shiva. Both were epicenters of socio-economic activities.	

Both shrines have a front porch and entry halls. Both have a temple dedicated to Caṇḍikeśvara, the guarding steward deity of Lord Shiva. To the southeast of both temples is a shrine dedicated to Lord Ganapathy, the older son of Lord Shiva. Both these shrines are dated back to the thirteenth century (Nagaswamy in The statue of Nandi guards the entrance at both temples. However, the one at Gangaikonda is proportionately smaller than the one at the Thanjavur temple. Whether the Nandi at Gangaikonda Cholapuram is composite and has the same legendary magical powers of growth as that at the Tanjore Brihadeeswara temple is uncertain.

6.3 Beliefs Surrounding Thanjavur and Gangaikonda Temples

The reign of Rajaraja Chola, and presumably the Thanjavur temple, established Chola rule. It legitimized the Chola rule. Both Thanjavur and Gangaikonda were epicenters of socio-economic activity, albeit ruled by different Cholas. Paintings and sculptures of various Hindu gods and goddesses adorn the walls of both temples.

The main deities at the Brihadeeswarar temples are the *lingams* of Lord Shiva. Both are called Peruvudaiyar, and the temples are often called Peruvudaiyar Kovil. The sculptures that adorn the walls of Brihadeeshwara temples at both Thanjavur and Gangaikondacholapuram, for the most part, depict Lord Shiva in various forms. The frescoes that adorn the walls indicate religious ideology, while paintings of dancing maidens and musicians allude to the existence of social culture. Emperor Rajaraja I took the title of Shivapada Shekhara (the one who bows his head at the feet of Shiva). These findings are indicative of the fact that both temples had common beliefs, religions, and customs.

7 Discussion

Pichard (1994) argues that the two temples are not structurally identical. He contends that Emperor Rajendra I expanded upon the architecture of the existing temple, which explains the few but significant architectural differences. Brown, P. (1959) contends that while the temple at Thanjavur is exemplary of Chola art, the Gangaikonda temple has an independent grandeur. Both temples were, however, built with spiritual intent Pichard, 1994 in .

These contentions and the preceding discussion indicate that the similarities between the Gangaikondacholapuram temple and the Thanjavur Brihadeeswara temple outnumber the differences. The most significant point of difference is that the Cholapuram temple is smaller in scale than the Thanjavur temple. The question, then, is whether the size of the construction affects its impact on the viewer. The exploration of aesthetics, sublimity, and the evocation of awe by a construction determines this.

Aesthetics in architecture, and presumably in other fields too, is the combined effect of the material, its placement, the color scheme, and other elements of the building on the senses. Therefore, each individual perceives a building or its containing elements differently. The experience of an atheist in the Thanjavur or Gangaikonda temple may, for instance, be very different from that of a religious person. Regular visitors reverently view the place of worship, unlike occasional locals or tourists, who may view it with detachment. When people visit temples regularly, customs and rituals are created. As a result, people began viewing the place of worship as sacred. Aesthetics in religious constructions may therefore be described as a combination of the different perceptions of the building.

Sublimity is a psychological concept. Sublimity is perceived. The literature review in the relevant section supports this contention. Sublimity, for this paper, has three aspects: grandeur, sanctity, and awe-inspiring. Sanctity comes from the regular performances of cultures and rituals in the spaces within the building. Grandeur comes from the art and artifacts within the construction. The Science of Awe (2018) relates awe to spirituality and culture. Awe is a psychological phenomenon that occurs when the senses are overwhelmed by vastness or the need to adapt the senses. In religious places, therefore, the feeling of sublimity is evoked by grandeur, sanctity, and awe. Symbolism is a by-product of culture and customs.

8 Conclusion

This discussion concludes that any construction's sublimity, grandeur, and awe come from the perception of aesthetics, the evocation of awe, and sanctity (in the case of religious constructions). Awe is driven not merely by size or vastness but also by the legends, culture, and symbolism surrounding the construction.

In the examples selected for this paper, it was found that both the Brihadeeswara temples at Thanjavur and Gangaikondacholapuram had their independent legends. While both were built by the same clan or dynasty, each was created for a different reason. Shaivism was practiced at both temples. Both Rajaraja Chola and Rajendra I followed a conquest policy. However, there were subtle differences in their administrative practices.

Rajaraja I established the power of the navy and initiated a practice of local self-government. He was a pious ruler who accepted other religions like Buddhism and Vihara along with Shaivism. While Rajaraja was both a conqueror and a pious man who believed in religion, his son Rajendra, I, was more politically minded. He was also a philanthropist, giving education grants.

These observations and findings show that the effect of symbolism, culture, and legend on the sublimity of an architectural construction is stronger than the effect of its scale or size.

9 Implications and contributions to knowledge

This study presents a different perspective on scale in architecture. The importance of scale in architecture cannot be denied from a construction perspective. Most architects, however, focus more on the quantifiable aspect of scale rather than its sublime aspect. Earlier research has alluded to elaboration rather than a larger scale in architecture as the sublime aspect of monumental scale. Monumental scale is an unwarranted increase in construction size to accommodate public gatherings. A vision scale is described as *the size of an object seen regarding the objects around it* Papapericleous, A., talks of vision as an image generated by the fusion of all five senses and visibility, which results from what the eye sees combined with the other knowledge surrounding the structure.

These arguments prove the contention in this thesis that scale in architecture is not merely a measurable, geometric, or mathematical concept but rather the combined effect of the perception of the proportions in the architectural construction, the culture and legend surrounding it, and the perception of individuals through all five human senses. Architects must therefore consider the abstract aspects of scale and the measurable elements. In other words, the impact of culture, period, human vision and perception, and symbolism are important architectural constructs.

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I truly acknowledge the language Tamil and its culture, from which I got the passion for researching this project, and I drew my inspiration by reading about the Great Raja Raja Cholan (985 C.E. to 1014 C.E.), the emperor of south India.

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