

Identifying the Perceptual Qualities of a Heritage Precinct - Entrance Gateway (Rajagopuram)

G. Yogapriya, Senthamil Kumar

Abstract: Existence of a heritage / historical structure is the one that adds meaning to urban or rural space. The perceptual quality of the structure enhances the aesthetic sense to the settings or place. The aesthetic sense makes the place, a visual appealing entity with augment of identity. It develops a sign and symbol to the place. Without that, the meaning is lost, identity is destroyed and placelessness is formed. Urbanization and globalization always concentrate more on development, without understanding the basic meaning and cultural heritage of any built environment with its tangible and intangible aspects. This paper explores the ideas and thought process of the architects, urban design theorists, and psychologist in considering perceptual qualities of a structure and it turns in relation with the feature of a Dravidian style Rajagopuram that acts as an entrance gateway to a heritage precinct.

Keywords: Raja Gopuram, Temple, Perceptual Qualities, visual image, cognitive image, social image

I. INTRODUCTION

Perceptio, the latin word clarifies the low level information to the higher - level information with the resultant of restorative mechanism. Rajagopuram is a structure established as a sign and symbol of an area where ever the Hindu religion people settle themselves. It is a structure act as entrance gateway to any Dravidian style temple precinct. Though the gopuram is placed in all cardinal directions, the rajagopuram is the one which dominates mostly in eastern direction with its height more than the other entrance gateways. The study is segregated into three levels of meaning elucidated by its existence. The symbol stands to signify something else by connection or similarity, deriving its meaning primarily from the structure in which it emerges.

In a place of word, a mark or figure is used to express a complex notion, a sign is used. (D.K.Ching, 2007). As the gopuram form acts as both symbol and sign, the image selected as a visual, social and cognitive attribute that is considered as the basic information added to the enrichment of sense of perception.

II. PERCEPTION THEORY AND THE PHENOMENOLOGY

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Srirangam Rajagopuram.

SOURCE:

<https://shrihub.com/srirangam-temple-tamilnadu/>

Picture - 1

People's reaction to the surrounding world and their experience is the perception theory (Hochberg, 1964). Walter Gropius explains the theory based on people with varied nature in observing the man-made design and the feelings towards it. The passive sense of experience and the active motor dimension with the bodily movement also integrated into the theory (Taylor Carmen, 2008). The phenomenology theory goes further in these feelings and perceptions. Study of human experience in its interpretation is explained in Phenomenology (Seamon, 2000). Elements, stimuli and spaces that surround them are considered in the experience (Horvath, 2010). People experience to both natural and manmade environment (Vischer, 2008). By the creation of specific places, the environment has the ability to have enhanced meaning. (Norberg-Schulz, 1980). Thus the approach in phenomenology is described with the people perceptual contact in surrounding environment with their experience.

III. MEANING OF THE BUILT ENVIRONMENT

Majority of the time, people are spending in the manmade environment where they dwell, work, relax and socialize. It plays a major role in all aspects, provoking their perception and experience.

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The process of perception exhibits with immediate awareness of the environment (Norberg-Schulz, 1965). This process allows them to appreciate, interpret and draw relationships with their surrounding set up. Brebner, Rapoport, and Viljoen explain that it arouses notion, mind-set, and sentiment in environmental psychology. They are constantly affected by both physical and emotional behavior.

The place consists of two sets of identity; one is a tangible character and the other one being intangible (Relph, 1976). Identity to places is not a naturally created one. But it is constructed by human actions in response to the places. (Osborne, 2001). The technical people involved in the creation and the construction of the physical environment has to go with readily identifiable structures by members of the society. There is always a dilemma to represent the belief, traditions, and identity in reality. The importance of architecture can just exist inside its social explicitness of time and place. Roland Barthes writes, "A truly meaningless architecture remains outside the realm of culture and thus it would cease to be architecture."

This interrelation between humans and therefore the surroundings is crucially coupled back to sensual experiences and human perception (Rapoport, 1995) The rajagopuram is related to this idea that it adds meaning to the place where it is constructed as a part of the entrance gateway to the temple precinct, it arouses the notion of worshipping as a structure, and sometimes it is perceived as a deity itself. The tangible built environment inculcates the awareness of worshipping, comfort and the feel of safety to the observer. As a whole, the combination of tangible and intangible aspects gives a cumulative idea of meaning wherever it exists in the land.

There are 51 perceptual qualities (Picture 2) have been identified by the urban designers and environmental psychologists like Camillo Sitte (1889), Kevin Lynch (1960), Gordon Cullen (1961), Jane Jacobs (1961), Christopher Alexander, Sara Ishikawa, and Murray Silverstein (1977), Richard Hedman (1984), Roger Trancik (1986), Jan Gehl (1987), William Whyte (1988), Raymond Unwin (1909), Amos Rapoport (1990), Allan Jacobs (1993) Henry Arnold (1993).

When considering the entrance gateway of RajaGopuram Structures, 16 qualities were selected and its meaning related is explored based on various literature reviews. The qualities were grouped under the category of visual, social and cognitive characters.

Picture 2

Fifty-One Perceptual Qualities of the Built Environment

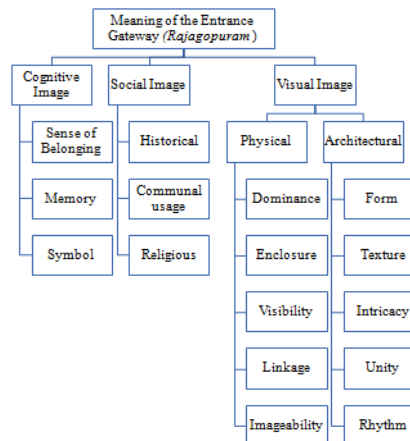
adaptability	singularity	naturalness	identifiability	deflection
distinctiveness	clarity	texture	ornateness	interest
intricacy	enclosure	compatibility	upkeep	regularity
richness	meaning	formality	continuity	vividness
ambiguity	spaciousness	novelty	imageability	depth
diversity	coherence	transparency	prospect	intimacy
legibility	expectancy	complementarity	variety	rhythm
sensuousness	mystery	human scale	contrast	
centrality	territoriality	openness	intelligibility	
dominance	comfort	unity	refuge	
linkage	focality	complexity	visibility	

Source: R. Ewing and O. Clemente (2013)

IV. ARCHITECTURAL VISUAL IMAGE

Primary elements of architecture are point, line, plane, and form. Promoting of endeavors', eliciting responses and

conversing the importance are decided by the collection and ordering of form and space (D.K.Ching, 2007). The form and space are mutually enhanced by the ordering principles like unity, rhythm, hierarchy, proportion etc. These parameters constitute the visual image of any structures. Thus the visual image is understood as architectural image perceived by the user with its physical image observed.



Flow Chart - 1

Source: Author

a. Form

Other than relating to the activity occurring and space, the form also supplements meaning or a sign. Meaning of syntax, semiotics and pragmatics ideas are related to the form. The form establishes three categorical conditions. It defines the space, a sign, and structures. A pyramid can be transformed by altering the dimensions of the base, altering the height of the apex, or tilting the normally vertical axis (D.K.Ching, 1995). The pyramidal form is a reputable symbol of Egyptian massive masonry structure. Here the gopuram form exhibited is the pyramidal solid that tapers with its diminishing layers at the apex point. The base is rectangular in shape. Being a three-dimensional form, the sides have been clearly visualized by the observer. The form is the derivative pyramidal structure influencing the observer. The shape is observed at varied angles and lighting conditions. Even, the spatial organization also enhances the firmness of the form at different locations.

b. Texture

Texture outlined because of the tactile quality of a surface. Visual texture created is that the results from the mix of colors and its tonal values (D.K.Ching, 1995). The texture are the size and organization of the particles constituting of surfaces. By the proportion of parts with size, shape, and arrangement, the texture is elevated with the surfaces of a form replicate or absorb incident light. Visual texture can be rough, smooth, hard-soft and in other sense dull-shiny, opaque-transparent and could be metallic, iridescent. The texture can be two-dimensional surface decorations or three-dimensional tactility. Here the gopuram is recognized with the texture of three-dimensional statues, depicting the stories of the deity exhibiting the visual texture, attracting the observer in a built realm of diminishing towers.

c. Intricacy

“God lies in the details” the famous architectural quote by Mies Vander Rohe. Unlimited set of connection developed between our environment’s discrete parts exists in a world where we live. Most of them are rarely noticed, acknowledged. The built environment details stand up and stand out, making the environment a more memorable one. A small part in relation to a larger whole is defined as the details giving the idea of intricacy. It could be part of a whole or whole to part notion. The Rajagopuram is ornated with the intricacy of small motifs and details.

d. Unity

Moughtin (1999) explains unity brings order in chaos and it is asserted by the design, it constitutes composition, cannot be formed by disjoint elements that are not related to one another. As a result, in the environment, design suggesting an idea completely needs an absolute unity. Jackle (1987) Wong (1993) Hashimoto (2003) Bell (2004) Stewart (2007) discuss the concept of unity in composition with Continuity, proximity and enclosure, contrast and centrality, repetition, Similarity, transition, and hierarchy. The elements on the visual plane appear to be one cohesive unit irrespective of varied elements. The major principle of design composition is the unity equated directly with beauty. The inherent property of the unity shows that the elements have been added for a single reason. In symmetrical composition the mirror images of an individual element across the center line supplement unity while in asymmetrical compositions it is more complex. When the grouping of elements is clustered close to the central axial line vertically or horizontally, then the compositions are united one. Gopuram has been observed as a structure with detailed elements, symmetrically placed along the imaginary centerline in the vertical axis of doorway till the apex point, groups the element in unity.

e. Rhythm

A unifying movement defined by a patterned repetition or alternation in the same or altered form of formal elements or motifs. By incorporating emphasis points or outstanding intervals into a sequence, more complicated rhythmic patterns can be developed. These accents or beats assistance to distinguish in composition between significant and minor topics (D.K.Ching , 2007). Though the word borrowed from art of music, the simplest examples would be regular size of shapes with regular intervals. A colonnade represents a pattern creating a rhythm. Solid-void, projection-recession, light-dark, though contrast to each other creates a rhythmic pattern. Even if the scale varies with proper proportion, acceptable balance, visual harmony expresses rhythm. This idea can be applied to any of the visual dimensions, such as shape, size, tone, or texture. Consequently, instead of the same form, it can alternatively be used to repeat two or more contrast forms, colors, or intervals. The picture 1 explains how the rajagopuram has the signified rhythmical pattern, reduced in scale and proportion as it’s ascend the tapering portion. The recession also creates repetitive harmony in the form of a rhythmical way.

f. Dominance

By means of size, intensity or interest, an element can dominate over others. Physical characteristics, to the extent that they are over the verge of notice at all, seem to spread out their image conceptually to some degree, distributing out from a center. (Kevin Lynch, 1960). The Rajagopuram Structure with its height higher than the other typology of the

building always dominates the skyline in the rural and urban space. Few developments in metro cities are beyond this height and it that sense it loses its dominance.

g. Enclosure

According to Voltolini, an enclosure is concerned with “the degree to which streets and other public spaces are visually defined by buildings, walls, trees, and other elements”. A point of interest that blocks the view to go further also acts as enclosure. Andres Duany and other new urbanists advocate final vistas at street ends with significant buildings, monuments, fountains, or other architectural elements as a way of attaining enclosure in all directions. When a street is not strongly defined by buildings, focal points at its ends can maintain the visual linearity of the arrangement. Likewise, the layout of the street network can persuade the sense of enclosure. Though the enclosure differs with the height of the building and the width between buildings, the enclosure perceived here is understood as the structure with its massing and dominancy enclose the space on the horizon, stopping the view to go further.

h. Visibility

Visibility of a landmark or heritage structures adds identity to the place where it exists. Among all urban design qualities, visual aspects play a prominent position for its inhabitants. It depends on the viewing angle, distance from the observer, height of other building and neighboring development. Various studies have been going on relating to the visibility analysis of the built environment, landscape and heritage structures using methods like space syntax, isovist with the use of software like GIS. The entrance gateway is visible from a far distance or nearby, unless and until the other structure with its heights blocks the visibility. (Picture 3). In a few cases, depends on the visual pollution near the structure.

i. Linkage

In an urban or rural space, identity to reach particular destinations is derived by means of landmarks. People need a place which is comfortable, attractive, accessible and good linkage and spaces to conduct varieties of social activities (Carmona et al, 2003). Travel to the destination, exploratory travel with the goal of returning to the familiar point of origin and travel to reach a novel destination are the three categories of way finding tasks. (Allen, 1999). As an entrance gateway is being prominent node, the linkage to the other spaces is highly enhanced because of its spatial organization.

j. Imageability

Landmarks give image ability to an environmental image. (Lynch, 1960). The visual image is thus motivated by the form, texture, unity, balance and symmetry for the landmarks. Landmarks act as a point of reference. Most of the cases they won’t enter within them. They are external. They could be a building, sign or mountain. It can have the view from many angles giving clue of identity and making the journey more familiar. (Lynch, 1960). The rajagopuram gives an established sign or symbol to the temple towns like Madurai, Srirangam. Not only in the temple town, wherever it exists, it is also the one that makes the environment familiar. Though the gateway allows them to move exterior and interior, the landmark features are perceived when it is seen in the far distance to maximum efficiency adding imageability and legibility.

Picture 3



Identifying the perceptual qualities of a heritage precinct - entrance gateway (*Rajagopuram*)



Thiruvannamalai temple – Rajagopuram
Dominating the urban agglomeration and the other gopuram too.

Source:
<https://www.thiruvannamalai.in/tiruvannamalai-temple/aranachaleswar-temple-architecture/>

V. SOCIAL IMAGE

The heritage precinct noted in this study is the Dravidian style architecture, reaching its final form in 16th century. Temple complex has various spaces encompasses in it. The temple has been constructed for various reasons like worshipping, conducting daily rituals for the deity, religious festivals and for safeguarding the people during disasters. Each temple has its own story, historical connections and events associated with it. Whenever the study is conducted for the entrance gateway – Rajagopuram, the associated functions of social characters has to be explored in all its possible ways to understand the perceptual qualities.

VI. COGNITIVE IMAGE

Place, location and land are more important to people as they are one that makes the identity. Sense of belonging mainly means to be meticulous and to stand apart to be regular, continue secure and belong to the group (Golmohammadi, 2002). The inhabitant's emotional and behavioral; attachment to their dwelling places, nearby structures or buildings makes the places to be identifiable and more memorable one. Processing the five senses of nature with the built environment makes a structure to be in memory. These sensory inputs can have a distinctive meaning for individuals' depending on their past experiences and memories, and each sensation contributes specifically to a person's experience. (Augustin, 2009) and also rely on memory of a place.

The symbol is an object, action, or idea that speaks to an option that is other than itself, gradually unique in nature, while imagery is the act of speaking of things by images, or of contributing things with representative significance or character. (Wikipedia)

Three levels of significance in built environment classified by Rapport (1990) are the cosmological and supernatural symbolism that may be encoded in buildings and city layouts, next level is the conscious messages about uniqueness and status communicated by the designers and constructors of buildings and cities, and the last one being the built environment channels and interrelate recursively with behavior and movement.

The Rajagopuram associated with the heritage precinct acts as a structure with its historical, religious and communal usage adds symbol of identity to the place. A structure with its

established form, texture, details, unity creates a rhythm stands in the memory with its all historical, religious usage and with all its parameters, it is in memory. With all its details, it provokes the sense of belonging to the inhabitants dwells nearby.

VII. CONCLUSION

This study is the initial process of understanding the perceptual qualities of an entrance gateway, Rajagopuram. The visual image has the meaning of architecture and physical features adding aesthetical appeal to the built environment interconnected with the social and cognitive image. Interlinked parameters add meaning to the urban and rural spaces, with all its features constitutes the symbolic meaning.

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