Towards Creating Wholesome Architecture by Re-inventing Vernacular Qualities: Validating a Tool to Measure Genius Loci through Two Sites in Mumbai, India

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Abstract

With the modern and post-modern impact, Architecture is still fighting to become wholistic, regional, and multi-sensory. Reflection of vernacular design experience in contemporary Architecture is one solution in this struggle. Norberg Schulz's Genius Loci is a lens for studying local identity of a place. Schulz argues that local identity comes from the relation of architecture to a region, its environment, culture and heritage. Hence, one can use the analysis of Genius Loci as one of the ways in implementing vernacular experiences in contemporary architecture. For this purpose, one needs a method and tool to analyse genius loci of a place.

This research has developed a tool for analysing the experience of Genius Loci through grounded theory as a methodology. The tool is a questionnaire of 28 attributes that evaluates the experience of genius loci. This research tests the questionnaire on two case study sites to establish its robustness and reliability for universal applicability. Interpretation and discussion of the findings elaborate on the nuances of the tool, detailing of the attributes. It articulates how these attributes are evaluated.

The questionnaire as a tool is available to any stakeholder interested in studying architectural experience or the Genius Loci of a place or effect of the experience of Genius Loci on a user. As a future prospect, researchers can develop design guideline of Genius Loci elements using this analysis tool.

Keywords: Genius Loci, Grounded Theory, Architectural Experience, Norberg Schulz, Experience Analysis Tool.

Introduction

Architecture today is losing the essence of vernacular because of urbanization and migration. Communities lose their sense of identity and association with the places in the process of migration. Tangible requirements in new places take priority. The resultant architecture does not address intangible needs like belongingness (Gulati et al., 2019). Research shows that belongingness to vernacular places have been stronger as opposed to the new urban developments (Kareem and Al Ani, 2023).

Belongingness or sense of place is derived from the relation of a person with the environment. Sense of place is a complex idea. It is associated with social, cultural, psychological, and physical aspects (Kareem and Al Ani, 2023). Strong sense of place existed in many vernacular settings which have now been lost. Indeed, one invariably loses sense of place and belongingness when vernacular is abandoned.

Meaning or identity of a space is associated with its soul or spirit, also termed as Genius Loci. For example, sacredness of a space can be the soul or spirit of a space. It is driven by the spiritual process and rituals performed by the people. It is well-known that vernacular architecture had naturally tapped into this sacredness well. Unfortunately the sacredness of a space is identified by the liturgical objects placed in it today (Fugate, 2015), hence, losing the soul and its Genius Loci.

In the process of adopting modern technologies and styles, one loses the local connection and hence the identity of places. Kucuk (2014) argues that local architecture is termed as the use of local construction methods, materials and technologies, local climate, geomorphology and anthropology (Küçük, 2014). The definition of vernacular or traditional architecture is one that is born from such local environments, local culture, and local habits (Sari, Nuryanti and Ikaputra, 2019). It is therefore argued that reflection of this local ideology and amalgamation of the same with the people leads to an architecture that generates the experience of Genius Loci.

To design spaces based on genius loci elements, one needs to analyse people's experience of genius loci in various settings. Hence, a tool is required for this purpose. This research uses grounded theory methodology to study Genius Loci and derive its attributes to develop an analysis tool. The tool is an attitude scale-based questionnaire to analyse experience under three identified categories of experience: emotional, physiological, and cognitive. Each category is detailed with genius loci attributes derived from literature studies.

Its aim is to facilitate contemporary architecture to regain the sense of place, spirituality and the soul, that prevailed in vernacular architecture.

Its objectives are

1. To present the tool: the questionnaire that can evaluate spatial experience- genius loci.
2. To Test the test the validity and reliability of the tool to be used for different situations.

Theoretical Framework

Philosophy of Merleau-Ponty and Norberg Schulz offer a meaningful theoretical interpretation to understand the complexity of human spatial experience in built-settings. Two main theoretical frameworks exist and are derived as:

1) Architectural Experience

2) Understanding of Genius Loci.

This theoretical framework presents the definitions of architectural experience, an understanding of its history, subjectivity, and objective ideas. It also presents the definition of Genius Loci and its attributes that can be used to derive a tool for analysis.

Architectural Experience

From Brentano to Merleau-Ponty (1945), phenomenology has evolved and today it is being discussed as the 'phenomenology of the lived world' by theorists and architects like

Juhani Pallasmaa and Peter Zumthor. They define phenomenology as an articulation of the lived world experience (

Fig. ***1***). Experience is defined as the outcome of emotional, physiological, and cognitive changes in a human body.

Merleau-Ponty's (1945) argument 'the dialogue' becomes important between the lived world and the user once in proximity. Darmayanti, Bahauddin and Aryani (2024) argue that Ponty's dialogue is especially concerned with the meaning of activities, existence of objects, flow of time, self and the connection with the others. This summarizes the dialogue of the user and the lived world under three categories: emotional, physiological, and cognitive.

Similarly, Bachelard (1964) says "The richest experiences happen long before the soul takes notice". This is further confirmed by Pallasmaa (1996) in his argument of experience being a multi-sensory aspect and that architecture should hence tap all the senses simultaneously. As Eysenck & Michael (2008) point out, sensory evocation causes physiological changes in the body. Hence one can confirm that physiological changes are part of the experience.

Brower et al. (1987) have produced a theory known as the Semantic Network Theory (Forgas, Bower and Krantz, 1984), which explains what, where and how of emotions. Indeed, Eysenck and Keane (2000) detail the functioning of the emotions. They argue that emotions act as key junctions between various ideas, actions and expressions. The Semantic network nodes triggering emotions are activated by external or internal stimuli (Eysenck and Keane, 2000). Hence an emotion can be evoked through an internal thought or an external stimulus (social interactions, personal experiences, thoughts, and even internal biological processes). Some other theories in the field of emotional studies establish the role of emotional changes in wholistic experience. James–Lange theory says that depending on the bodily expressions of an emotion, it could alter the intensity of the emotional experience (James, 1884). Similarly, Papez's theory (1937) articulates that an emotional stimulus when reaching the brain, is directed to the stream of thinking and the stream of feeling. Hence, it culminates itself into an emotional and a bodily (physiological) response (Papez, 1937).

On the other hand, Gardner (1985) says that emotion is a factor "which may be important for cognitive functioning. Eysenck and Keane (2000) also point out that emotional activations trigger thoughts. These theories confirm the role of cognitive faculties in the experience process. Moreover, psychoanalysis literature also validates cognitive changes in lived world experience. Eisenman and Lacan in their book Architecture in Psychoanalysis (2006) argue on the role of psychoanalysis in architecture and the importance of cognitive faculties in lived world experience.

To complete the story of experience, Merleau-Ponty (1945) explains how the physical movement of the body / user within the space is of vital importance to experience (Merleau-Ponty, 1945). He says that only after a user walk into a space and gets woven with the space as one entity does the experience become wholistic and multi-sensory. Hence, it is established that experience is a combination of physical knowhow, sensory evocation, emotional reaction, and cognitive effect. Agustina (2022) examining religious tourism experiences also point out that physiological, emotional, and cognitive dimensions make a wholistic experience. The research claim that religious tourist experience involves a physical and a psychological journey to the destination. It says that the emotional and physiological side connects with the spiritual aspects of the place while the cognitive dimension taps the educational aspects of experience (Agustina, Fauzi and Ekasari, 2022).

These demonstrate that in any lived world, all the users will experience genius loci but with variations in emotional, physiological and cognitive changes. Emotional, physiological, and cognitive categories define the subjective aspect of experience. While the objective part of experience will be the overall experience type. Indeed, in this study, it is Genius Loci. In fact, there can be many other objective experience types too.

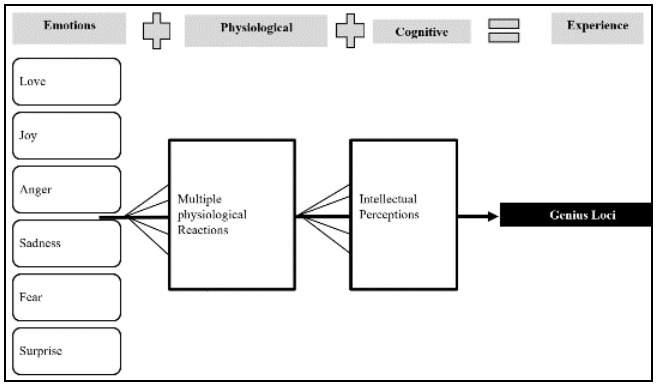


Fig. 1: Experience as an outcome of Emotional, Physiological and Cognitive changes in a human body
Source: Author

Genius Loci

According to literature, Genius Loci means spirit of a place / object / event. In this paper, it is referred in context of a place. As it is known, vernacular living habitats of the people have been strongly related to natural landscapes (Bourassa, 1988). Indeed, Man has always built their shelters from what is available and what is required. Their designs have always been regionally responsive, and rooted in the vernacular practices. Hence, one can say that people and their surrounding are strongly woven in their built shelters; this is where Norberg Schulz begins his argument from, about Genius Loci. Schulz says that the bonding of the people with their dwellings is the biggest challenge that God put forth before Man (Norberg-Schulz, 1980b). Hence, the lived world must respond and reflect its dwellers and its context.

Children develop perceptions of their surroundings as they grow, and these notions determine their future experiences. They orient and identify themselves with their environments and become one with it. In fact, every environment / place has its own identity to offer for a user to bond with. Heidegger further says that dwelling is possible only when Man and his habitat coexist with and within each other (Heidegger, 2013). This identity that we are trying to uncover enlivens people and the places and provide a unique character to the place – it is called the Genius Loci.

To reflect Genius Loci through a lived world, it must respond to its context. Context includes all aspects from its immediate surrounding, cultural heritage, historic references, functional structure, geographic condition, and topography. Contextual elements may be embedded within the tangibles or the intangibles of the lived world. Hence diverse modified contextual elements and imbibed place characteristics are important attributes of Genius Loci (Kareem and Al Ani, 2023). As Darmayanti, Bahauddin and Aryani (2024) point out, contextually generated place characteristics include unique character, distinctiveness and identity of the location and environment.

Indeed, sacredness of a space can be its genius loci. A Mosque for example is an opportunity for the creation of a sacred space. Fugate (2015) point out that it is not sacred because of the holy objects or relics in it. In fact, it is the use of the space by its inhabitants for rituals and spiritual processes that make the space sacred. Needs for the ritual processes are designed and embedded by Architecture, hence imbibing the structure with a keen sense of sacredness as its identity.

Environmental psychology literature show that increased exposure of people with space helps them build attachment to place and belongingness. A continuous exposure usually leads to a positive cognitive behaviour (Ahmed and Al Ali, 2023). Genius Loci is hence the spirit of a place imbibed from vernacular that connect what is experienced strongly by regular user than a newcomer.

Genius Loci Analysis Tool

Lianto (2021) uses Schulz's theory combined with Zumthor's sense of place understanding to analyse the Genius Loci of Ubud resorts. It is a multi-sensory spatial experience study of the spirit of place. Smell of vegetation, sight of sunrays, touch of the materials, sounds of the flowing Ayung river etc. are few such sensory evocative elements (Lianto et al., 2021). This paper generalizes Genius Loci as an experience type, that can be experienced at various buildings that follow the Genius Loci principles. These 28 attributes enlisted in this research include physiological, emotional, and cognitive changes occurring in a user as an experience. The physiological changes are on the account of things like smell of greens and sound of breeze as established by Lianto (2021).

The attributes are meant to reflect subjective experience, hence not all users will experience each attribute. For one person, a particular attribute may be of intense experience while the other person may not experience the same attribute at all. Hence the developed tool based on the attributes is a 0 to 4-point attitude scale questionnaire. The 28 attributes are clustered under three categories of experience as derived in its definition: emotional, physiological, and cognitive. The survey questionnaire is intentionally made user friendly and easily understandable by the masses because participants for this study range from all class, caste, age group, nationality, occupation, and literacy backgrounds.

Table is the final analysis tool for Genius Loci experience.

Table 1: Genius Loci Experience Analysis Tool. List of 28 Attributes under the three categories of experience (Emotional, Physiological and Cognitive)
Source: Author

Physiological					
To what extent did the following changes occur in your body when engaged with this place in your 'lived-in-world'	**NA**	**Low**	**Medium**	**High**	**Extreme**
Variety of activities took your attention	NA	1	2	3	4
Your breathing was slow and peaceful	NA	1	2	3	4
Your heartbeat became very fast	NA	1	2	3	4
You had focused thoughts	NA	1	2	3	4
You felt safe and secure	NA	1	2	3	4
You felt throat dryness due to emotions	NA	1	2	3	4
You got goose bumps or felt slight shiver run down your spine	NA	1	2	3	4
Your body wanted to move out of the lived world as soon as possible	NA	1	2	3	4
Your body wanted to stay in the lived world as long as possible	NA	1	2	3	4
You felt as if you belonged to that lived world or vice versa	NA	1	2	3	4
You felt as if you had an intimate relation with that lived world	NA	1	2	3	4
Emotional					
To what extent did the following emotions evoke within you when engaged with this place in your 'lived in world'	**NA**	**Low**	**Medium**	**High**	**Extreme**
Warmth (compassion, sentimentality)	NA	1	2	3	4
Joy (cheerfulness, delight)	NA	1	2	3	4
Peace and calm (satisfaction, contentment, relief)	NA	1	2	3	4
Belonging (intimacy, affection)	NA	1	2	3	4
Security (safe)	NA	1	2	3	4
Fear (anxiety, nervousness, uneasiness)	NA	1	2	3	4
Anger (frustration, resentment, irritation)	NA	1	2	3	4
Cognitive					
To what extent did you reflect on or understand the following when engaged with this place in your 'lived-in world.'	**NA**	**Low**	**Medium**	**High**	**Extreme**
lived world was welcoming, interactive and social	NA	1	2	3	4
lived world appeared appropriate for its function	NA	1	2	3	4

Elements and things within the lived-in-world merged with each other harmoniously	NA	1	2	3	4
The lived world reflected culture (lifestyle, religion, tradition, ideology, customs)	NA	1	2	3	4
The lived-in-world reflected a social structure (class, caste, type of people) association	NA	1	2	3	4
The lived-in-world reflected a relation with any past / ancient ideology or thinking	NA	1	2	3	4
The lived-in-world reflected a uniqueness, as if having an identity of itself	NA	1	2	3	4
The lived-in-world reflected probability of changing its character with respect to its changing event / function (Temporality)	NA	1	2	3	4
The lived-in-world appeared to be related to its surrounding / locality / neighbourhood in some manner	NA	1	2	3	4
The lived-in-world appeared wholesome / uniform and complete in itself	NA	1	2	3	4

Research Method

This research employs grounded theory methodology to derive a tool for the analysis of genius loci experience. An experience is a qualitative idea, which has never been quantified except in parts by Bill Hillier in his space syntax methodology (Hillier *et al.*, 2004). The tool derived in this research quantifies and provides a percentage measurement of an experience. Considering the qualitative nature of experience study and the quantifiable outcome of the tool, the research can be termed as quasi (bridging the qualitative and quantitative) (Groat and Wang, 2013). The grounded theory method is appropriate because a strong basis has to be developed for theory generation (Spradley, 1979). It also goes beyond descriptions and guides to evolve a theory (Cresswell, 2007). Theoretical sampling is used along with grounded theory methodology.

The derived tool based on the theory generation is a scale-based questionnaire. It is tested on two sites: a Railway Terminus and a Religious Tomb. To establish reliability of the tool / questionnaire, Cronbach α test is conducted on the collected data. Normality test is conducted to check the extent of deviations in the answers and hence conclude the functionality of the tool. Correlation test is conducted to understand the interrelation between the three categories of the experience analysis questionnaire / tool (Emotional, physiological, cognitive). Correlation will prove that the experience categories and attributes function with each other as wholistic and not in isolation.

Other statistical tests help understand the nuances of the tool on a single site, in comparison to other site, and its application on any other later. These test findings and their interpretation are discussed in the paper for further contemplation.

The paper finally provides a questionnaire as the tool for genius loci experience analysis. It can be run on any site that may reflect genius loci elements. It can also be tested on any participant above the age of 18.

Case Study Introduction

The two sites that are undertaken for tool testing are:

1) A Railway Terminus (Chatrapati Shivaji Maharaj Terminus, Mumbai) CSMT and
2) A Religious Tomb (Raudat Tahera, Mumbai) RT.

Railway Terminus: Chatrapati Shivaji Maharaj Terminus, Mumbai

Hustling bustling with activity, Chhatrapati Shivaji Maharaj Terminus in Mumbai is a major entry point to the city. It is a recognized UNESCO (United Nations Educational, Scientific and Cultural Organization) world heritage site today, functioning since it was built in 1887. CSMT has seven suburban and eleven out-station platforms, sprawling over 2.85-hectare land. It also includes AC dormitories since 2013. There are two entries from the

suburban side and 1 vehicular + pedestrian entry from the out-station side. It's an eventful journey from outside to inside the station until one board's the train.

British architects and Indian craftsmen came together to carve this majestic Architectural wonder. It has strong Gothic features at the heart of Indian elements. Gothic gargoyles have Indian and western creatures. Western classical arches are carved with Indian floral and animal forms Classical pylons are adorned with lion sculptures. Gothic pinnacles grow in tiers reflecting a shikhara. It reflects regional climate response and also reflect the Indian and Western Architectural culmination.

The façade is an intricate work of craftsmanship that glows at night through its colourful etched glass windows. It grows over the viewer during the day through its sheer volume and sculptures. Its internal volume feels like a world within a world that sucks the users inside. From sprawling areas of ticket counters to colourful line of commercial stalls, to aromatic and visual pleasure of food, to the juxtaposition of inward and outward trains – the railway station is a space of extreme experiences.

Fig. is a three-dimensional representation of Chhatrapati Shivaji Maharaja Terminus.

At no point can one miss the spirit of the place, which is about being a major railway terminus since the Victorian period opening Mumbai to the rest of the country. Experience of Genius Loci through the spirit of the place and its social relevance is inescapable.

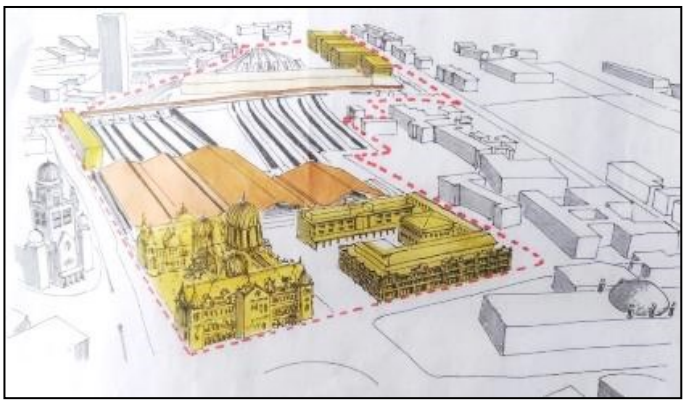


Fig. 2: Drawing of Chhatrapati Shivaji Maharaja Terminus
Source: Author

Religious Tomb: Raudat Tahera

Raudat Tahera is a mausoleum (tomb) of 2 religious heads (51st and 52nd) of the Dawoodi Bohra Community, a sub-section of Islam. It follows the Architectural style of Bohra Community also identified as Fatimid Architecture. This tomb is in Bhindi Bazaar, Mumbai - inaugurated in 1975. It is a 51 x 51 ft square base with 80 ft internal height. A 40 ft diameter dome sits on an octagon that in turn sits on the square base of 51ft. It has 5 ft thick walls supported on 92 pile foundations. All these numbers are not just structurally decided but also have a cultural and religious background. Fig. 3 represents the Raudat Tahera's architectural detailing.

Raudat Tahera is iconic for the Bohra community across the globe. In Mumbai, it is a go to place for every Bohra. Many events and festivals take place over here all round the year. The second grave in that tomb got added in Jan 2014. Because it is recent, it has created more waves of people flocking to the tomb during the last few years.

The 2 souls buried here are the heart of the tomb's existence and the user's connection with them is what makes the tomb special for the users. The buried individuals, their role in history of the community, their impact on the existence of the community today are intangible ideas that make the Genius Loci of the tomb. Design of the tomb aids in this purpose of connecting the user with itself. The symmetry, clarity, central focus, calming ambience, play of light, sounds of hymns, colours of reflection, objects of rituals and more such elements make the space what it is. Overall, an experience of Genius Loci due to the reflected cultural and religious background makes the tomb iconic and relevant for our study.

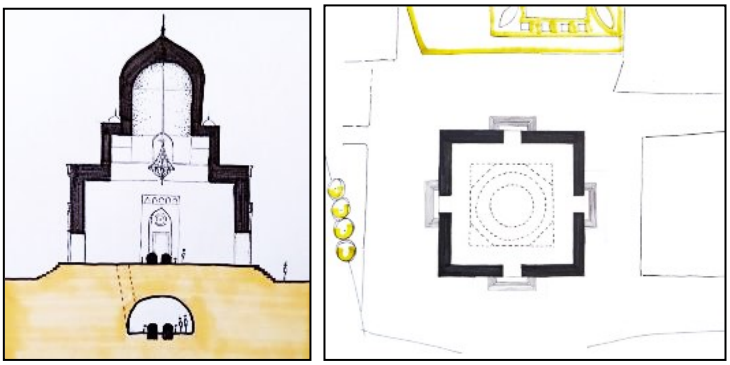


Fig 3: Drawings of Raudat Tahera (Plan and Section)
Source: Author

Site Justification

Table 2 below is a detailed 11-point site justification done in a comparative manner to make the site selection valid as individual and in relation to each other.

Table 2: Site Justification
Source: Author

Criteria	Railway Station (Chhatrapati Shivaji Maharaj Terminus)	Religious Tomb (Raudat Tahera)
Researcher's association with the Site	Strong	Strong
Applicability of Genius Loci as hypothesis	Genius Loci - Due to its landmark identity and function.	Genius Loci - Due to the strong religious relevance.
Variant Typologies	Railway Terminus	Religious Tomb
Variation in Participant type	All class, cast, occupation. Age group above 18.	Only Bohra community people. Hence restricting the cultural background of the participants.
Volume / Scale	Large. Local and Intercity / state terminus included. Multi-unit structure.	Very Small. Single interior space. With single roof and envelope.
Enclosed / Openness ratio	Semi-Enclosed. Wide side openings	Enclosed
Social or Cultural Association	Railway terminus is also a social meeting or departing point.	Associated to single cultural background people. Important pilgrimage place for Bohra.
Historic Story or Phenomenon Association	CSMT is a historic landmark for Mumbai in India's history.	Tomb has Bohra community leaders buried there. Hence the place has a strong phenomenon attached to it, of life and death.
Feasibility of running the test	Easily accessible. Wide range of participants also available from across the country.	Accessible to the researcher. Also has enough contact of participants for achieving the required numbers.
Participants with varying nos. of visits	Possible. Some had visited once, and some were regular users. Some had visited many years back and some were current users.	Possible. Some had visited once (non-believers), and some were regular users (religious). Some had visited many years back (outside the country) and some were current users (local to the tomb).
External Connect / Association with its surrounding	Strong association with its urban setting. Iconic landmark on the street and in the chowk. Extrovert Architecture.	Strong visibility from outside. But once inside, it is cut-off from the external world. Introvert Architecture.

Data Collection

Genius Loci analysis tool is tested on two case study sites with a total of 300 participants. All the participants above 18 of age. The tool was made into a google form. Snowball sampling was adopted to reach the required participant numbers. The google form introduced the site and the survey being conducted. Genius Loci as terminology was not used in the introduction to avoid any confusion or bias among the participants. The questionnaire was also floated in regional languages for non-English speakers.

Data was received in an excel format. They were sorted for repetitions, incomplete forms, or any other errors that would affect the analysis. Sorted data was separated into the three experience categories for detailed study. Using SPSS12, the data was tested for Reliability, Normality, Factorial ANNOVA and Correlation.

Findings and Discussion

Reliability of the Tool

To test the reliability of the tool, Cronbach α test is used. It is the ability of the scale to produce consistent results. This study involves latent constructs (physiological, emotional, and cognitive). A latent construct is a multiple item scaled variable, and hence, Cronbach α is used to study the reliability. Cronbach α ranges between 0 and 1.0, α value of 0.7 and above indicates reliability.

Table shows the reliability test findings for the tool, all the readings are above 0.8 hence the tool is concluded as reliable for future use.

Table 3: Reliability Test Result for the Tool
Source: Author

Construct Variable - Genius Loci	Cronbach A	Result
Physiological	0.861	Reliability Supported
Emotional	0.82	Reliability Supported
Cognitive	0.936	Reliability Supported

Genius Loci Experience Percentage Achieved

At both sites, Genius Loci experience is measured as above 50%. 4 shows the experience percentage of Genius Loci at both sites under the three categories respectively. It shows that cognitive attributes are experienced more, indicating that the lived world provokes thoughts in user's minds more than physiological or emotional changes in the body. Hence the cognitive attributes should be given more attention when running tests on any other site. Also, elements for design may be derived giving more weightage to the cognitive category.

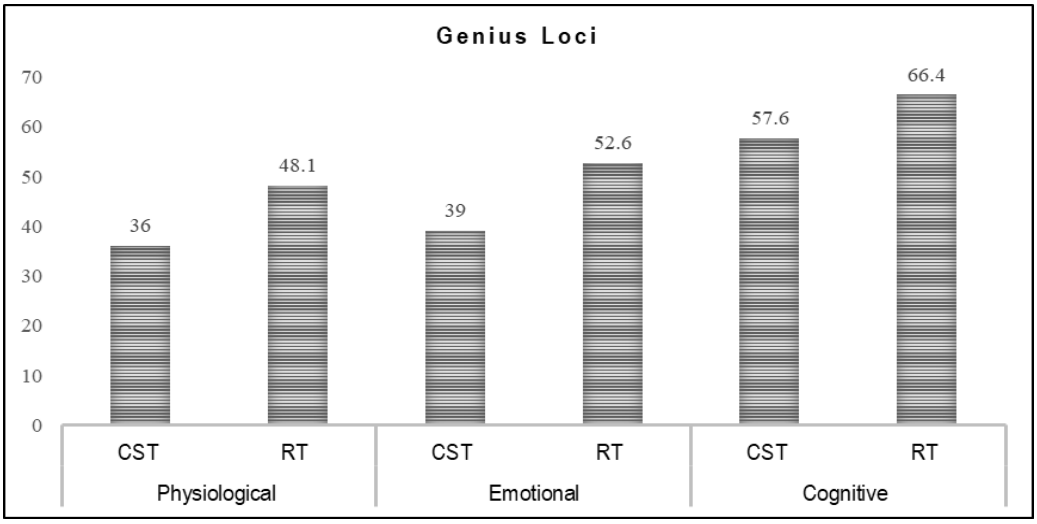
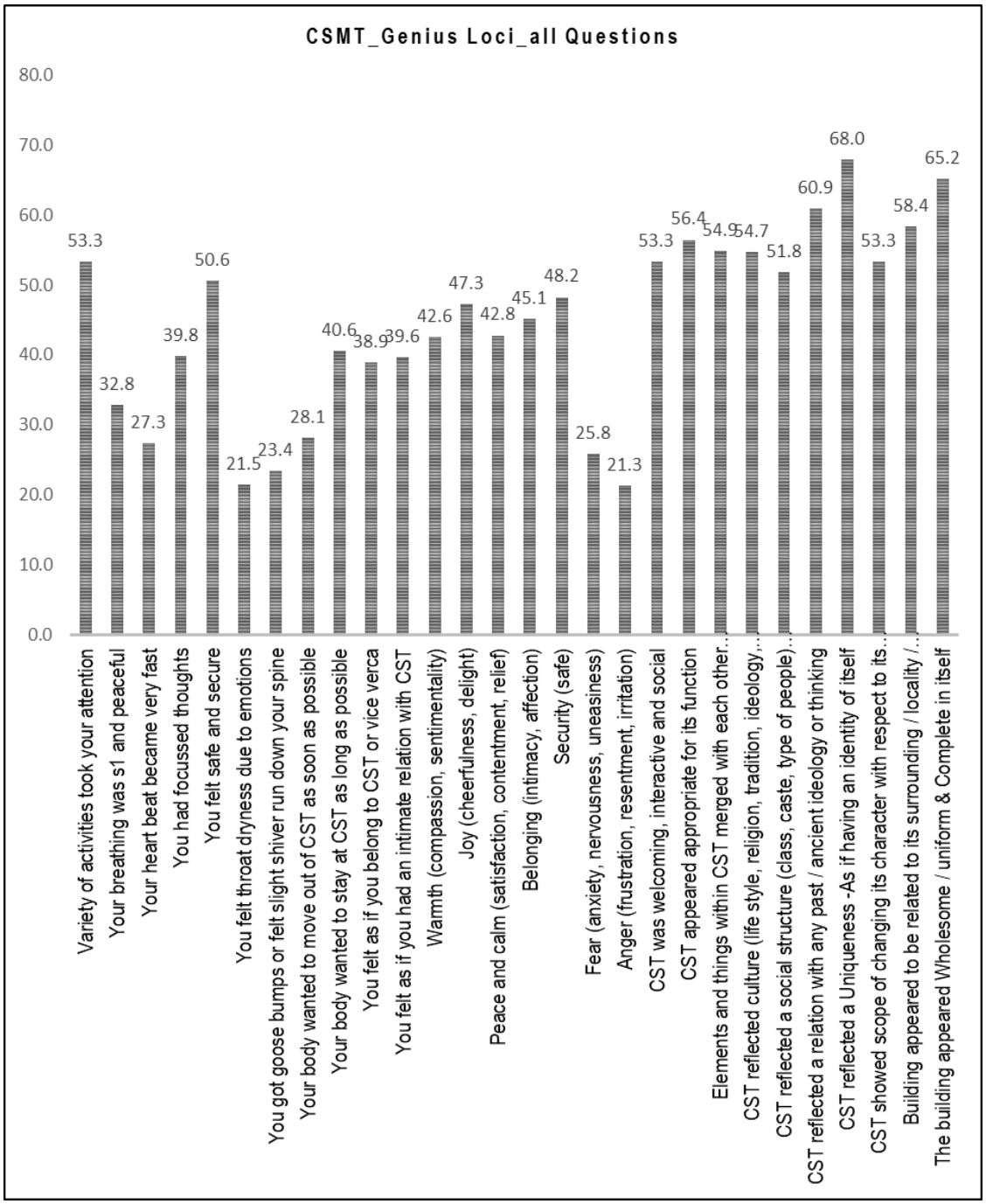


Fig. 4: Experience Percentage of Genius Loci at RT and CSMT under the three Categories of Experience



Source: Author

Fig. 5: A detailed account of Experience percentage of all Genius Loci Attributes at CSMT
Source: Author

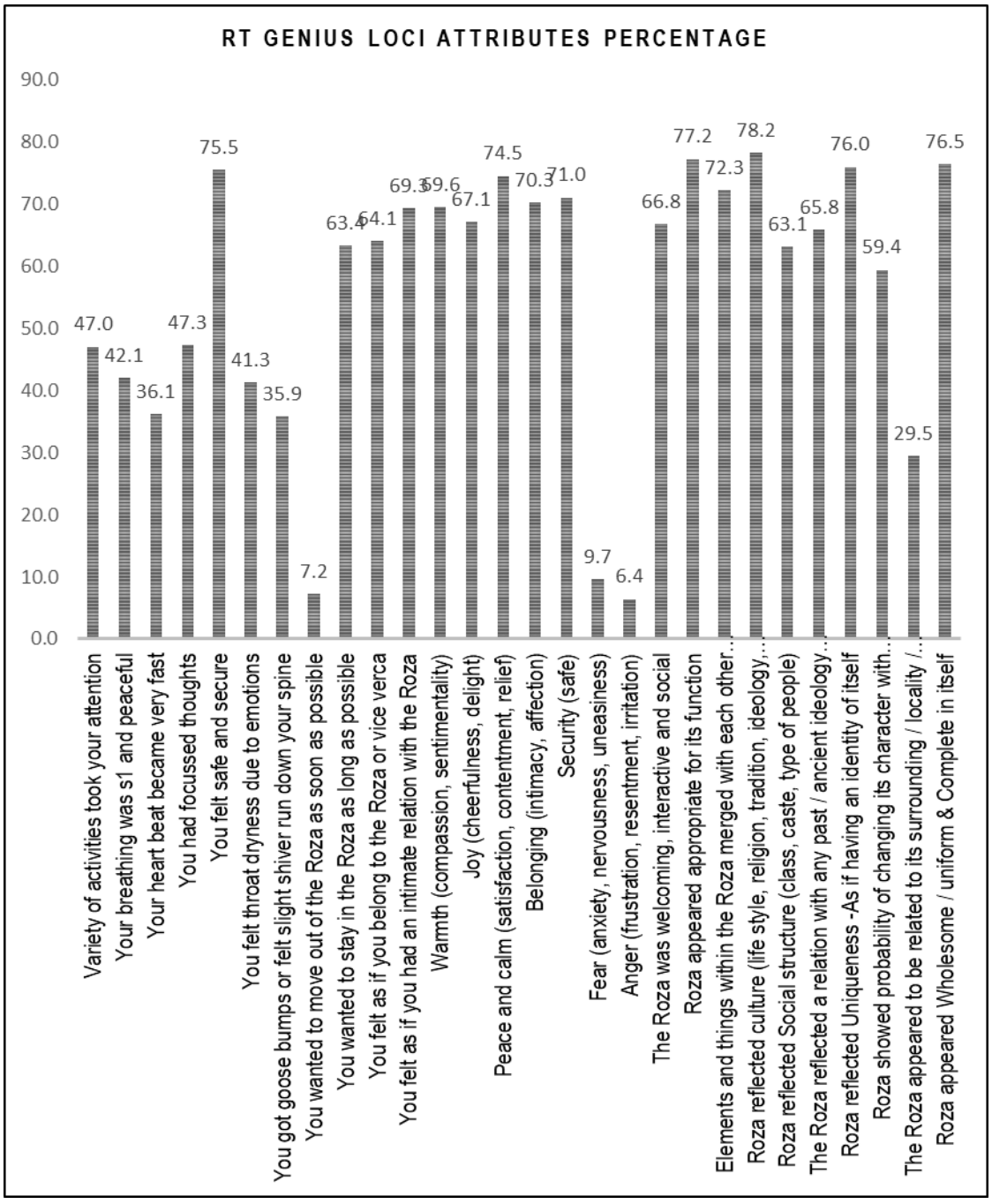


Fig. 6: A detailed account of Experience percentage of all Genius Loci Attributes at RT
Source: Author

Fig. and 6 provide a detailed experience percentage study for each attribute of Genius Loci. One can see that there are attributes which have been rated around and above 70%. This indicates that those attributes were experienced the most while the ones below 20% are in the lower pile. Below is a discussion of selected attributes that are rated similar or different at the two sites.

Physiological Attributes: You felt safe and secure

Experience of this attributes at RT is 75.5% and at CSMT is 50.6%. They both are in the higher pile. But RT is more than CSMT. Considering that RT is a tomb where a religious head is buried, it relates to the user more strongly through the buried person's identity. This

person through his existence as a spiritual being gives the user the feeling of being safe in his shelter. While CSMT is safe because one feels physically and socially protected through vigilance, volume, and movement of people. Security feeling at RT is a mental association and hence is stronger.

Cognitive Attributes: Building appeared to be related to its surrounding

Experience of this attributes at RT is 29.5% and at CSMT is 58.4%. One can say that the experience of this attributes at RT is in the lower pile because the building does not seem to fit into its context as strongly as the CSMT does. CSMT was designed externally keeping in mind its identity as a landmark in Indo-Saracenic Architecture and as an icon of Mumbai city. CSMT befits its heritage and culture from the past while it exists as the entry port to the city. While in the case of RT the residential development around it grew as a response to the tomb, they somehow do not register with the user. This is because RT is an introvert architecture where the user is relating to the lived world as an insider, the user forgets the outside world once they are inside the tomb. While CSMT is an extrovert structure, and the user relates to it from inside out and *vice versa*.

Emotional Attributes: Fear and Anger

Experience at CSMT of Fear is 25.8 and Anger is 21.3 while at RT Fear is 9.7 and Anger is 6.4. Both sites do not evoke fear or anger, yet RT has a very low reading. Emotions of fear and anger at a tomb are least because the user is rather more peaceful and safer in the shelter of the buried person. While at CSMT being a railway station one may get angry at the chaos or the speed of people or delay of trains etc. One could feel fear if they are lost or confused in the crowd.

Regardless of varying experience percentage of attributes at both sites, one observes that they are appropriate for reflecting and supporting the identity of the lived world. Genius Loci of the terminus is to be enlivened with people and activity while at RT it is achieved through the silence, self-contemplation and mourning at times.

Normality of Experience

Normality is an assumption that the data used for parametric statistics has a normal distribution. Normality has been confirmed using the criteria suggested by (George and Mallery, 2018). According to these authors, if the skewedness value is between ±1 and kurtosis is between ±2, normality is supportive.

Usually in statistics it is considered important that the data collected is equally distributed, that means there is minimum standard deviation. Skew to the left means the answers are on the higher end of the scale. Similarly, if Kurtosis curve is tall and high that means all participants' data is gathered in one region. Now if the kurtosis tall curve is overlapping with the left side skewness that means that all participants have had the same high experience of the given attributes. This is a very positive result for the given study. Hence the Normality test in this study is not limited to observing that the curve is a perfect bell shape, but also if there is any skewness or kurtosis that overlap to give more positive results. There are a few cases that were promising in this study.

There are discrepancies in this study for CSMT and RT. They are Highlighted in red as lower piles of skewness and tall and narrow curve for kurtosis. While highlighted in green are the higher piles of skewness. One discrepancy example is discussed ahead for each site.

Table 1: Normalcy Statistics for Genius Loci At CSMT And RT.
Source: Author

CST	Mean	Skewness	Kurtosis
	Statistic	Statistic	Statistic
[You felt throat dryness due to emotions]	1.51	1.719	3.16
[Fear (anxiety, nervousness, uneasiness)]	1.59	1.326	1.287
RT	**Mean**	**Skewness**	**Kurtosis**
	Statistic	**Statistic**	**Statistic**
[Your body wanted to move out of CST as soon as possible]	1.26	2.305	4.257
[Fear (anxiety, nervousness, uneasiness)]	1.56	1.452	1.269
[Anger (frustration, resentment, irritation)]	1.37	2.612	7.739
[RT reflected a Uniqueness -As if having an identity of itself]	3.34	-1.116	0.241
[The building appeared Wholesome / uniform Complete in itself]	3.32	-1.183	0.293

CSMT Site

Physiological Change: You felt throat dryness due to emotional overwhelm.
Skewness is 1.719 which means the data is piled up on the lower side.
Kurtosis is 3.16 which means data is very high disparity.

These two readings tell us that maximum participants did not experience the given attributes hence the data got piled on the lower side. Also, the participants within the lower side range have disparity which means there is no consistency in response.
Considering that the site was CSMT (a railway station) one would not feel emotional overwhelm unless they are seeing someone off. Hence one can conclude that this attribute was not relevant for the given site.

RT Site

Physiological Changes: Your body wanted to move out of RT as soon as possible.
Skewness: 2.305 which means the data is piled up on the lower side.
Kurtosis: 4.257 which means data is very high disparity

Considering that the site was RT (a religious tomb) people who believe in the place and the person buried, would not feel like leaving the tomb so soon. Hence these two readings tell us that maximum participants did not experience the given attributes and the data got piled on the lower side. Also, the participants within the lower side range have disparity which means there is no consistency in response.

A Comparison of Genius Loci at RT vs CSMT

- Physiological Change: Your body wanted to move out of CSMT as soon as possible. Skewness: CSMT: 0.68, RT: 2.305
- Cognitive Impact: Lived world reflected a Uniqueness -As if having an identity of itself. Skewness: CSMT: -0.225, RT: -1.116
- Cognitive Impact: The building appeared Wholesome / uniform and Complete. Skewness: CSMT: -0.05, RT: -1.183

CSMT skewness reading for physiological change indicates normality, signifying that the idea of moving out of the place did not occur to the participants equally, there is no

extreme reaction. Some wanted to be around, and some did not. While at RT the reading is skewed on the lower side indicating that participants did not want to move out of the lived world. One can understand that the participants' whose association with the spirit of the place is stronger, wish to be there for a longer period. They feel the bonding and or connection with the given lived world identity.

Skewness reading of RT for the Cognitive attributes about uniqueness of the lived world is on the higher side as opposed to CSMT. This once again emphasizes that participants realized more uniqueness and identity at RT as opposed to CSMT. The Skewness reading of RT for the Cognitive attributes about building appearing wholesome is also on the higher side as opposed to CSMT. Indicating that participants realized more identity at RT as opposed to CSMT. These attributes cause the identity to bond with the participant and hence the user did not want to move out of the lived world.

Normality study confirms that the experience of Genius Loci occurred at CSMT and RT. The variation is with the individual attributes as expected. Each site will not have same responses for all attributes but if they are planned with a contextual response that abides the principles of Genius Loci then the overall experience of Genius Loci will occur. One can also conclude that some physiological and cognitive attributes make the experience of Genius Loci greater at RT as opposed to CSMT.

Conclusion

Through a grounded theory methodology, this research has defined experience as being both objective and subjective. The subjective includes 3 categories: emotional, physiological, and cognitive. The objective overall experiences are termed as types. This study is limited to Genis Loci experience as a type.

The research has developed a tool (questionnaire) for analysing the experience of Genius Loci in any lived world. Theoretical sampling played a critical role in the process of tool creation. The tool (questionnaire) includes 28 attributes under three categories of experience: emotional, physiological, and cognitive.

The tool is tested on two sites that demonstrate promising experience of genius loci. The sites are rooted in their context. RT reflects its contextual relation through historic ensemble of architectural elements, climatic response, cultural reflection, and memory embedment through the existing sarcophagus. While CSMT relates to its context through site setting, architectural elements, climatic response, material used and spatial juxtaposition.

Based on gathered data reliability test is conducted to establish robustness of the tool. Detailed discussion of the findings shed light on how various sites would have different attributes readings while they all would confirm the experience of Genius Loci if they were rooted in their vernacular context and identity.

The paper provides a Genius Loci analysis tool ready for application on any site by any researcher interested in studying the Genius Loci experience of users. One can also use the Genius Loci tool on multiple sites of same typology and context to then conclude design elements that lead to Genius Loci. The method of developing this tool through grounded theory can be used to develop similar tools for other experience types.

A reflection of Genius Loci in design today is critical for the development of Architecture that is grounded in its roots. Modernism and Post modernism left the world with a void that sucked individual building and site identity. An awakening of the regional response today is already being discussed; this tool is a step in the same direction supporting the cause.

Abbreviations

CSMT - Chatrapati Shivaji Maharaj Terminus, Mumbai
RT - Raudat Tahera, Mumbai

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