

Storytelling and Built Environment: Mapping the Literal with the Metaphorical

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Stories are the things that make us human. Stories help us devise better paths for the good of our society by generating interest, understanding community needs, improving communication and interaction, and ultimately empowering people with knowledge and wisdom. Storytelling is generally human-centric. On the other hand, built environment is crafted to cater to human requirements and inevitably involves human interaction. Thus, the built environment shaping storytelling is expected to be related to human factors. A study is required to analyze how the built spaces shape the human emotions and thus, enriching the human experience. This particular paper aims at discovering the relationship between sociological concept of storytelling and built environment of architecture. It can be achieved by translating the intangible expressions and perceptions that a story creates on our minds into tangible form through creating spatial experience and providing a sense of place. The argument of the research is that this relationship between storytelling and architecture is established by three parameters – Knowledge Appreciation, Transformation and Hermeneutics which can be compared to both the contexts of storytelling and architecture. Besides, the uniqueness of the paper resides in defining the methodology that is not only significant in architectural pedagogy, but also very crucial in the practical field.

Keywords: *Storytelling, Narrative, Built Environment, Spatial experience, Sense of Place*

INTRODUCTION

Through several research documentations, it is observed that there actually persists a well-established relationship between storytelling and architectural built environment, but mostly in theoretical interpretations. In relation to the relationship between literary narrative and architecture Tschumi (1990). suggests that 'the unfolding of events in a literary context inevitably suggests parallels to the unfolding of events in architecture.' However, a strong lacking can be observed in the practical implementation of the relationship between storytelling & architecture. Thus, this paper aims for the gap analysis between the theoretical relationship and the practical implementation by establishing a methodological framework. Built environment research consists of cognitive and affective, as well as behavioural, components.

Existing built environment research utilises either strong qualitative or, more often, strong quantitative methodologies. (Amaratunga, D., Baldry, D., Sarshar, M. and Newton, R 2002). The built environment and its users are a direct source of knowledge for design. In order to acquire this knowledge, we used qualitative research (quality: technical, functional, organisational, behavioural, economic), observation, surveys, interviews, way-finding, participations, etc. (Foss, K., Winnicka-Jaslowaska, D., Guminska, A., Masly, D. and Sitek, M, 2015). The objectives of the paper are – i.to study the different aspects of storytelling – its history, forms, scope and importance in life and in society ii.to understand the built environment in architecture, its design and spatial expression respecting human scale, emotions and experiences, and iii. to translate the intangible aspects of storytelling into tangible aspects of built forms that is, connecting experientialism with

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materialism. The universe is made of stories, not of atoms (Rukeseyer, 1968). Stories are an integral part of our lives. We live in stories, with stories. Storytelling is a traditional concept practised through ages since the dawn of mankind – from cave paintings to the ancient ‘Shruti-Bakyas’ in Vedas and Upanishads to the modern-day various forms like dance, drama, pottery, sculptures, painting, music etc. and different mediums like television, media, film, animation, social media etc. A land’s glorious past and cultural heritage is transferred from generation to generation through stories and storytelling.

A narrative or story is a report of connected events, real or imaginary, presented in a sequence of written or spoken words, or still or moving images, or both (Jorgen and Jorgen, 2016). Design creates stories, and stories create memorable experiences, and great experiences have this innate ability to change the way in which we view the world (Saylor, n.d).

Storytelling describes the social and cultural activity of sharing stories, sometimes with improvisation, theatrics, or embellishment. Every culture has its own stories, or narratives, which are shared as a means

of entertainment, education, cultural preservation or instilling moral values. Crucial elements of stories and storytelling include plot, characters and narrative point of view (Chaitin, 2003).

A person who tells stories, who prepares the environment with an impressive manner, body language and voice modulation, to grasp the attention of the audience is called the storyteller.

Stories have existed long before recorded history, and the telling of stories has changed forms drastically throughout the ages. From cave painting to novels to movies, stories have always fascinated mankind. Although the methods have changed, the desire to tell and hear stories has remained unchanged, and still significantly impacts the way we look at life (*Big Fish Presentations, 2012*).

Since the evolution of mankind, humans began to share experiences through stories. With time, storytelling evolved into many forms. The following are the different forms of storytelling (Kirstiemarienorth, 2012): Cave paintings, Oral traditions, Fable, Myth, Legend, Theatre, Text-Narrative, Film/TV

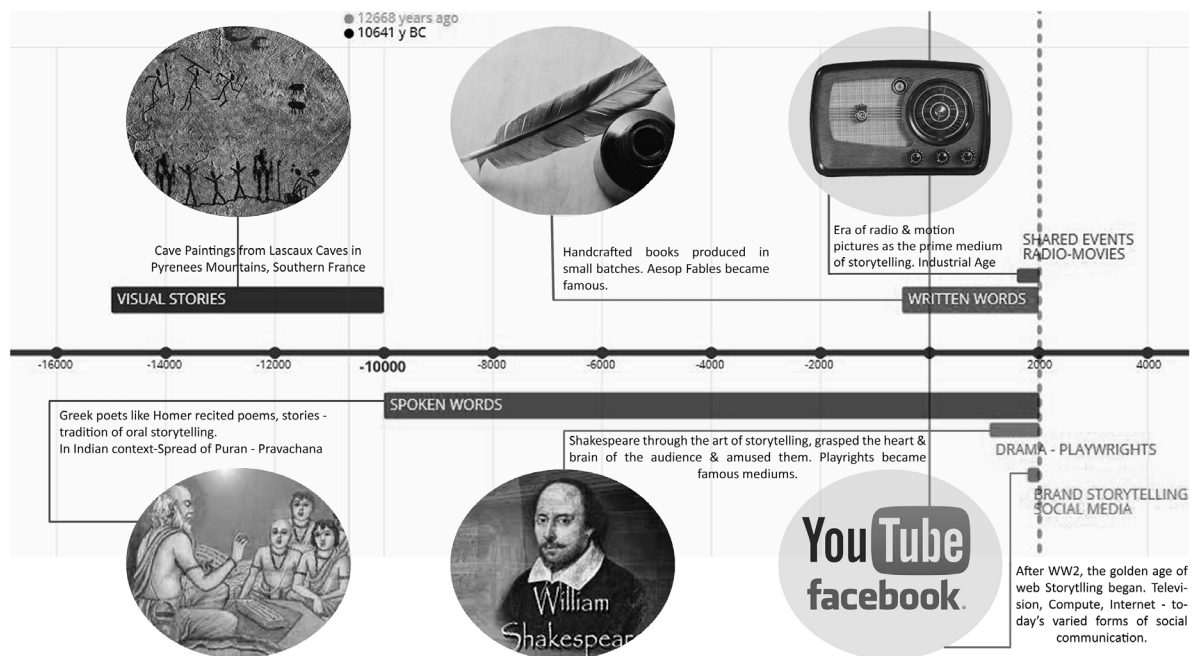


Figure 01: Brief historical timeline of Storytelling / The Authors

Traditional Indian art forms can be broadly divided into - Epic Mahakabyas (i.e. Ramayana, Mahabharata), Folktales or fables (i.e. Hitopadesh Tales, Panchatantra, Jataka, Aesop's Fables) and Living Traditions.

Living traditions further include Pala Gaan, Pachali, Baul/Fakir in West Bengal, Potochitro/Pabuji ki Phad, Katho-katha. Katho-Katha, in turn consists of Purana-Pravachana, Katha Kalakshepa, Villu-pattu in Andhra Pradesh, Kavada-Bachana in Rajasthan, Kathakali Puppeteers in Kerala, Hari Katha in Tamil Nadu etc.. (Kumar, 2013).

BUILT ENVIRONMENT

In social science, the term **built environment**, or **built world**, refers to the human-made surroundings that provide the setting for human activity, ranging in scale from buildings to parks. It has been defined as "the human-made space in which people live, work, and recreate on a day-to-day basis" (Roof and Oleru, 2008).

For any given building, the space enclosed by the built mass is what generally defines its respective function and form. However, an antithesis of these occupied spaces is unbuilt spaces, or voids in a given built fabric. In a very superfluous manner of speaking, unbuilt spaces are what remain when built spaces are discounted from a given built form. These unbuilt spaces have varying configurations, degree of enclosure as well as function, and work in harmony with the built spaces. They act as determinants of form, functional buffers, multifunctional areas (supplementing the designated function of the built environment that they are a part of), as well as climatic aids (Saraswat, n.d).

Open spaces are the lungs of a city or town. They are used by the city people in different times for different purposes. In cities of developing countries, green open spaces are needed for environmental and ecological balance (Nilufar, 1999). A clear hierarchy of public open spaces is the basis of a network of linkages to be enjoyed by pedestrians and cyclists. The components of the open space system include: parks, natural features, bikeway and pedestrian rails, and storm water management ponds and corridors (Riverside South

Community Design Plan, 2015). In terms of scale, open space is divided into urban public open space, community public open space, semi-private open space and private open space (MIT, 2006).

NARRATIVE AND ARCHITECTURE

'Language is a medium for storing (...). Material forms and the immaterial spaces determined by the forms, and their mutual relationships, are the means of architectural communication' (Pallasmaa, pp 43, 2005). Narrative is often seen as a form of representation bound with sequence, space and time (...). A narrative requires a narrator and a reader in the same way in which architecture requires an architect and a viewer. A narrative, therefore, is not only the content of the story that is narrated, or the way in which it is interpreted by readers, but also the way in which it is structured and presented to an audience by an authorial entity, a writer, a film-maker, an architect or the curator of an exhibition. The relationship between narrative structure, perceptual experience and representation is the aspect of narrative that is most relevant to architecture (Psarra, 2009).

POWER OF STORYTELLING

We live in stories. Throughout ages, storytelling inspires us to entertain, engage, teach, heal, and most importantly, to live. Thus, storytelling has an immense influence on us. Storytelling triggers emotions in us and thus makes us human distinguished from a robot. The importance and power of storytelling on us, our society is versatile. The power of storytelling can be assessed based on certain characteristics comparable with those that make the built and physical environment responsive. The characteristics are:

Permeability: Stories connecting new generation with the old, thus establish a bridge of relevance.

Legibility: It emphasises on how stories influence and act on us. Stories can activate seven regions of our brain. Each region is triggered by a specific sense described in the story. The seven regions namely Motor cortex, sensory cortex and cerebellum, Broca's Area,

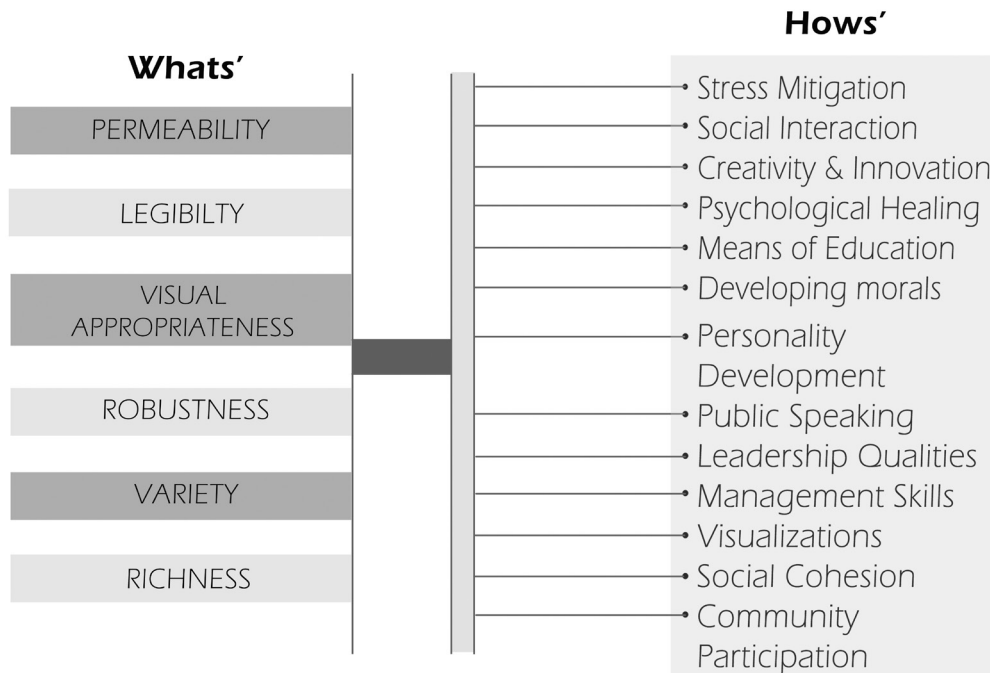


Figure 02: Whats' and Hows' of the Power of Storytelling / The Authors

Olfactory cortex, Wernick's area, Auditory cortex, Visual cortex are respectively activated by different elements of storytelling like movement, touch, language processing, scents, language comprehension, sounds, and colours and shapes (Schwertly, 2015).

Robustness: Stories ignite spirit in us not only about the cultural diversity of our heritage but also educate us about various scientific and technical interventions.

Richness: Stories enrich our five senses of touch, smell, hearing, sight, taste. Connecting to these senses brings a healthy and encouraging relationship of memories, nostalgia and relatability (Brandenberg, 1962).

Variety: There are different varieties of stories imparting different areas of knowledge to us. Also, it is believed that the shortest distance between a human being and truth is the story as said by Anthony de Mello (1990) *an Indian Jesuit priest and psychotherapist, a spiritual teacher, writer and public speaker.*

Visual Appropriateness: Vision is the most researched

area of Neuroscience. It is experimented that humans are more responsive to pictures and visual information and thus it is a great tool of public interaction (Bingham, 2015).

SUMMARIZED IMPACT (WHAT'S & HOW'S) OF STORYTELLING ON SOCIETY

The more one interacts with their community, there develops a strong bonding that enhances community participation, leadership qualities, social coherence, public speaking, management skills etc.. The characteristics attributing to the power of storytelling – permeability, legibility, variety etc.. can act as catalysts. Storytelling deepens the learning, ensures accountability, quickens the sharing of best practices, sparks creative thinking, and establishes a robust, intrinsically motivated learning community (Ditkoff, 2017). The design of the environment can greatly affect the choices people make at different levels. It affects where people can go, the range of uses available, the understanding of these choices, the degree to which people can use different spaces of choice, and so on.

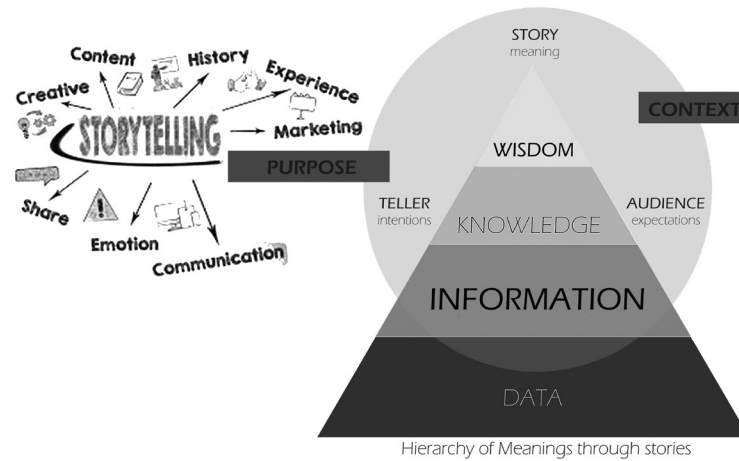


Figure 03: Depiction of Storytelling and Knowledge Appreciation [Wisdom Hierarchy, Story Triangle, Eva Snijders] / The Authors

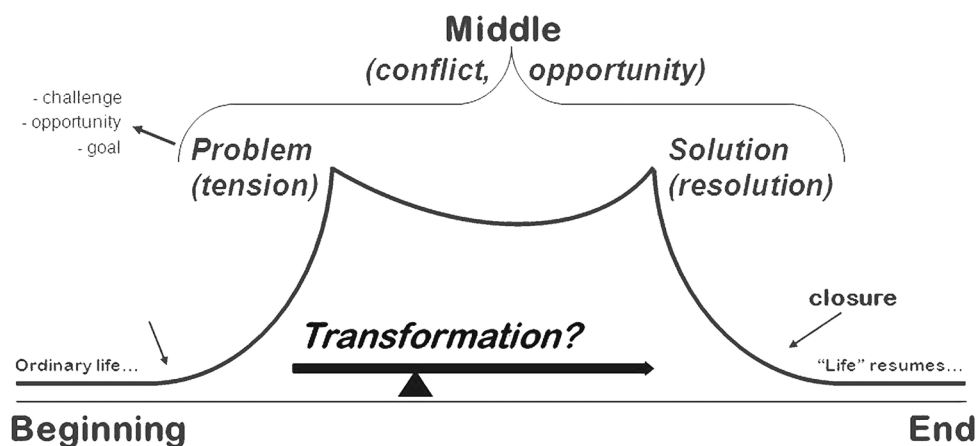
NEED OF STORYTELLING

Stories have the potential to harness the learners' creativity and imagination (Huffaker, 2005; Sneddon, 2005) and to increase their confidence in their use of language (Anderson and Chung, 2011; Bell, 1998). With the passing days, children are more involved with their technical devices and less social interaction in the growing technologically advancing world, people are suffering more from depression, anxiety, drug-use disorders, alcohol-use disorders etc.. and thus deteriorating the healthy mind-heart-body relationship and proceeding towards destructive nature. This, in turn, inflates the rate of crimes, cyber-crimes etc. Data

tells us what is happening. Stories tell us why it matters (Sharma, 2018)

Following an event, emotions come first. They may trigger feelings, or an evaluated response and these may be altered or modified (appraised) before they become encoded into memory (Nicks and Carriou, 2016).

Thus, in today's socio-cultural context, storytelling as a tool is extremely powerful; hence, the thought of connecting architecture with storytelling is justified. We can create a spatial expression, a built environment for storytelling.



(Dillingham, 2003; modified, Ohler 2005)

Figure 04: Depiction of Storytelling and Transformation (Story concepts) / Dillingham, 2003: modified; Ohler 2005

DISCUSSION

It is attempted to draw the connectivity between storytelling and architecture through the three parameters Knowledge Appreciation, Transformation, Hermeneutics.

STORYTELLING AND KNOWLEDGE APPRECIATION

The word **Storytelling** refers to both the narrative discipline (“telling stories” if you want) and the relationship between narrator, story, audience and context. This is a dynamic relationship, in which all parties influence each other. Stories possess a hierarchy of meanings with ‘data’ as the pyramidal base of DIKW hierarchy, followed by ‘information’, ‘knowledge’ and ‘wisdom’ as the apex (Rowley 2007).

Storytelling has both a context and a purpose. The context of a story revolves around three prime factors:

- i. STORY: Meaning
- ii. TELLER: Intentions
- iii. AUDIENCE: Expectations

Storytelling has multiple uses: to serve and share emotion, experience, history, marketing, creative, communication, etc.

STORYTELLING AND TRANSFORMATION

Every story transforms through 3 parts:

- i. The beginning
- ii. The middle
- iii. The end.

Basically, every plot has its ups and downs – it revolves around the movement of how it reaches the climax – THE JOURNEY. Thus, it can be deduced that TRANSFORMATION is actually the journey.

That is, **TRANSFORMATION = JOURNEY**

The story development process happens in steps: Story core, Story map, Story script, Story Table. The other considerations include the stages of transformation and

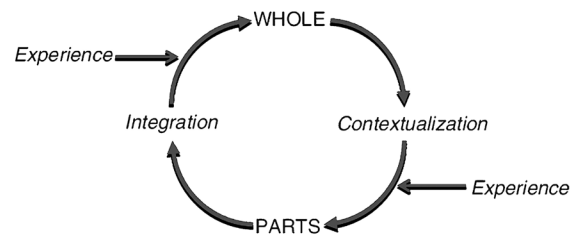


Figure 05: Depiction of Storytelling and Hermeneutics

story movement. There are eight levels of transformation: Physical/ kinesthetic, Inner strength, Emotional, Moral, Psychological, Social, Intellectual/creative, Spiritual (Ohler, 2012).

STORYTELLING AND HERMENEUTICS

The term hermeneutics refers to the interpretation of a given text, speech, or symbolic expression such as art (Oxford Bibliographies, 2016). A text can be any form of communication. The interpretation is not just what is being said, but also based on how it is said as well. On the basis of that, there may be several interpretations of the same texts.

The **hermeneutic circle** (German: *hermeneutischer Zirkel*) describes the process of understanding a text hermeneutically. It refers to the idea that one’s understanding of the text as a whole is established by reference to the individual parts and one’s understanding of each individual part by reference to the whole. Neither the whole text nor any individual part can be understood without reference to one another, and hence, it is a circle. However, this circular character of interpretation does not make it impossible to interpret a text; rather, it stresses that the meaning of a text must be found within its cultural, historical, and literary context (Gadamer, 1975).

Studying all the three parameters: Knowledge Appreciation, Transformation and Hermeneutics, it is observed that the fundamental factor that binds all the three is: EXPERIENCE. The five ‘E’s of Experiential Design (Stillman, 2017) are:

ENTICE – ENTER – ENGAGE – EMOTION – EXTEND.

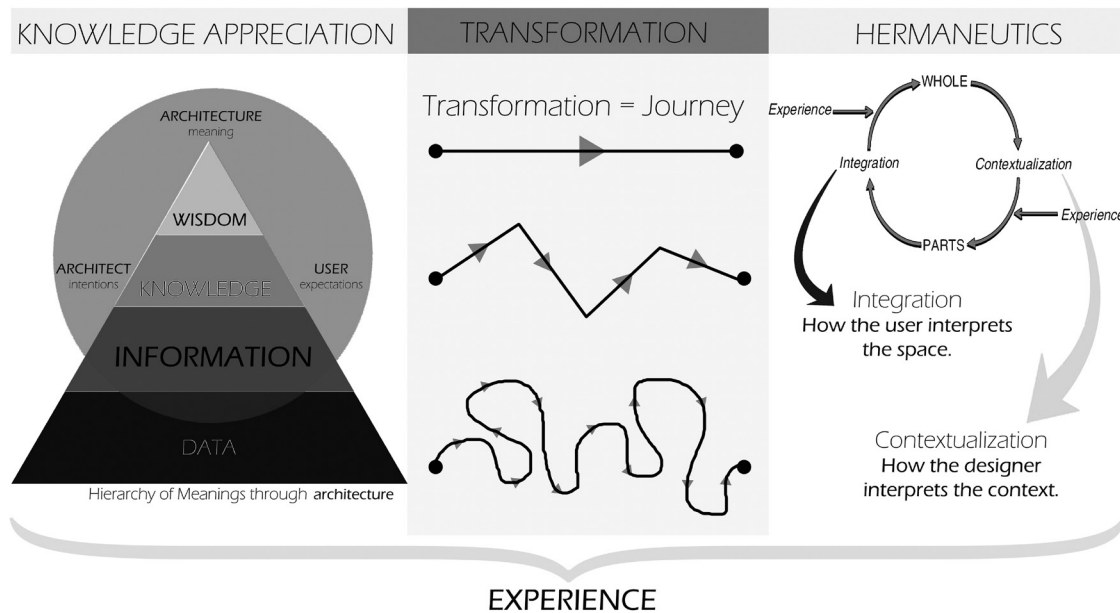


Figure 06: Comparing Storytelling and Architecture based on the identified parameters / The Authors

MAPPING STORYTELLING PARAMETERS TO BUILT ENVIRONMENT

Comparing Storytelling and Architecture, it can be found that all the parameters relevant to storytelling are also equally to be emphasized in architecture. Once again, the binding factor among them is Experience.

The context of knowledge appreciation in architecture revolves around the architect (intentions), the user (expectations) and the architecture, the creation (meaning). Koseoglu and Onder (2011) considered two main features affecting the acquisition of spatial knowledge: i) Characteristics of the space, and ii) Characteristics of the user. The concept of transformation in architecture can be interpreted as a journey or circulation. Circulation is the movement through space (Ching, 1943). There are four entry points for an architectural hermeneutics:

- I. Use of the word 'interpretation' in everyday architectural discussion.
- II. The idea of reception.
- III. The idea that to design is to interpret (Coyne and Snodgrass, 2006).
- IV. The idea of threshold (Coyne, 2015).

SENSE OF PLACE: MAPPING THE LITERAL WITH THE METAPHORICAL

It is known that any livable & interactive space attains a sense of place when it is a function of its physical characteristics, urban design qualities like permeability, variety, robustness etc..., and individual reactions in an interrelated way.

Many definitions have been stated for 'place', but expresses a strong affective bond between a person and a particular setting (Sime, 1986). Hummon noted people's satisfaction, identification, and attachment to communities cause different kinds of sense of place which vary among people (Hummon, 1992). In other study, Cross defined the sense of place as a combination of relationship with the place and social activities. Cross clustered the relationships with the place in biographical, spiritual, ideological, narrative, commoditized and dependent (Cross, 2001). The sense of place is the relationship between man, his image and environmental characteristics. This concept, on the one hand, is rooted in the subjective experience of people (memories, traditions, history, culture, and society) and in other hand is affected from objective and external influences of the environment (landscape, smell,

During childhood did you listen to stories from your grandparents?

67 responses

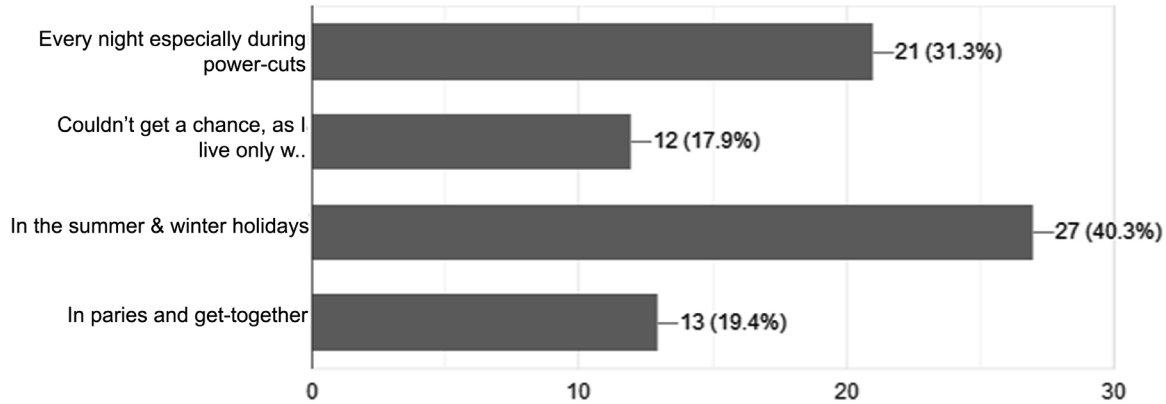


Figure 07: Degree of interaction through sharing stories among different generations. Survey questionnaire, 2018 / The Authors

sound) that these lead to a various association of a place. So sense of place is a complex concept of emotion and attachment to the human environment which is created from people adoption and use of places. This means that sense of place is not predetermined phenomenon, but is created from interaction between people and places. Thus people give some preconceived images to places which live in there (Hashemnezhad, Heideri and Hoseini, 2013).

It can be stated that the characteristics like permeability, legibility, richness etc.. that storytelling possesses are among the urban design qualities that provide a sense of place & determine its spatial character. After studying the three parameters, i.e. 'KA', 'T' and 'H', it is observed that they have equal importance in both the contexts – storytelling and architecture. Besides, in both the cases, the fundamental factor binding all the three is 'Experience'. Thus, it can be concluded that the fundamental requirement of the built environment for storytelling is to create a sense of place and spaces that evoke a spatial and experiential character.

From the parameter study, it can thus be concluded that,

STORY ≡ PLACE

ST ≡ KA + T + H ≡ EXPERIENCE

ST – Storytelling,
 KA – Knowledge Appreciation,
 T – Transformation,
 H - Hermeneutics

SURVEY AND ANALYSIS

An online survey was conducted via google forms to study the people's understanding & response regarding the importance of storytelling today and the idea of a built environment for storytelling. People of varying age groups from below 15 years to above 60 years, having different occupational backgrounds have participated in the survey. The total number of responses is 65.

The first question was meant to get the idea of the degree of interaction of different generations through the medium of stories. From the responses, it can be concluded that Storytelling can be a lively interactive activity for family get-togethers or friends trips for weekends.

What will you prefer?

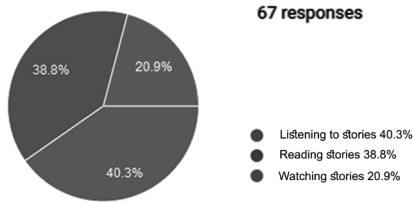


Figure 08: Preference regarding the medium of sharing stories. Survey questionnaire, 2018 / The Authors

With the second question, it is attempted to know the general preference regarding stories. In conclusion, it is observed that listening to & reading stories win over watching them.

Given the chance to TELL your TALE, will you be able to attract crowd?

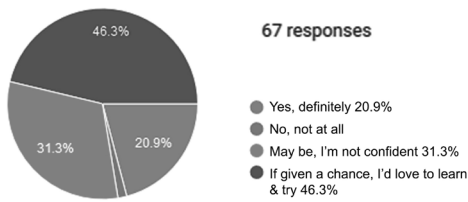


Figure 09: General psychology of people regarding sharing stories. Survey questionnaire, 2018 / The Authors

The third survey question was meant to understand the general tendency of people regarding sharing stories. From the survey, it is found that the survey shows that more than 85% are willing to give it a shot.

To what extent does storytelling influence Personality Development, Public speaking, Leadership & Management skills, Visualization, Social cohesion, Community participation, stress mitigation, means of education, Creativity & innovation etc. :

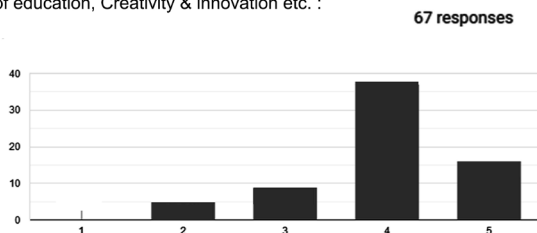


Figure 10: Importance of storytelling in society. Survey questionnaire, 2018 / The Authors

The fourth question was done to understand people's perception regarding the degree of importance of

storytelling in society. As the survey shows, to the majority's belief – storytelling does contribute to personal developments & other aspects.

Frequency of visiting any concerts - dance, drama, elocution or exhibitions painting or photography

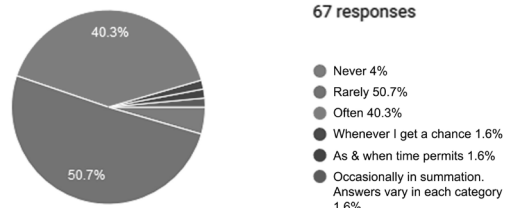


Figure 11: Cultural affinity of people. Survey questionnaire, 2018 / The Authors

The fifth question was meant to get an idea of people's cultural affinity. From the survey response, it can be understood that people need something more than a concert, movie or exhibition. It can be inferred that they may prefer a complete package of all these combinations of storyteller and people.

In what ambience you think will suit the concept of storytelling?

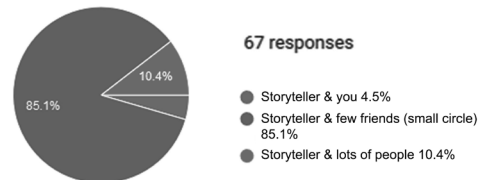


Figure 12: The quality of the surrounding for storytelling. Survey questionnaire, 2018 / The Authors

The sixth question was one of the very important ones to idealize the quality of surrounding to feel the experience of storytelling. From the survey, it is seen that storytelling is best effective in small informal circles.

Rate (on a scale 1-5) the concept of designing The Storytellers' Centre & to what extent it is effective in today's society?

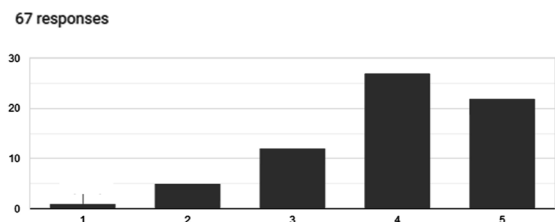


Figure 13: Impact of a built environment for storytelling. Survey questionnaire, 2018 / The Authors

The last and final question was shot to comprehend the impact of the concept of proposing a built environment on the common people. And luckily, from the survey, positive responses are received. Almost 75% of people appreciated the idea.

STORYTELLING AND BUILT ENVIRONMENT: MAPPING THE LITERAL WITH THE METAPHORICAL

It is now established that the connecting factor between the sociological concept of storytelling and the built environment of architecture is Experience. The translation of the intangible into tangible is further detailed at a more minute level, where it is found that the experiential character is expressed through time-space dynamism and thus bringing 'narrative' in the context of translation. Perception of space is directly

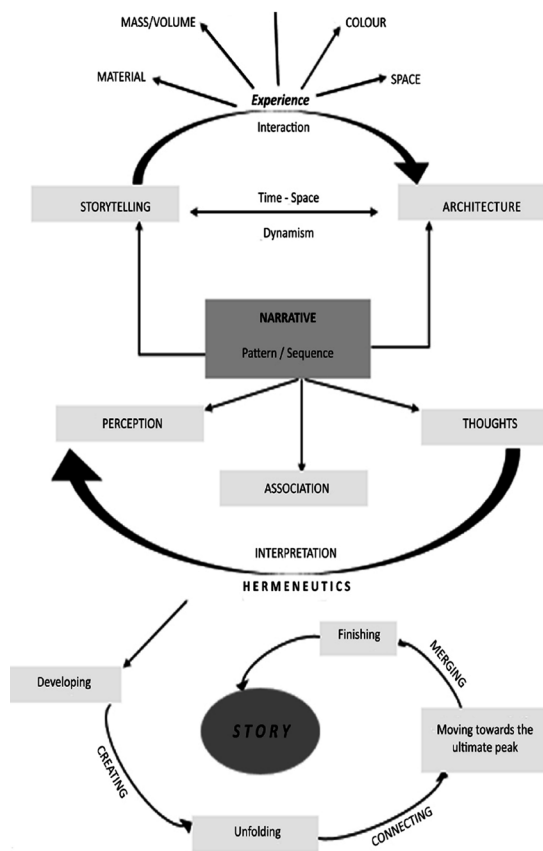


Figure 14: Theoretical Translation of storytelling into architecture/ The Authors

influenced by the idea of time itself (Molinari and Bigiotti 2014). The narrative is often seen as a form of representation bound with sequence, space and time. The relationship between the narrative structure, perceptual experience and representation is the aspect of narrative that is most relevant to architecture (Psarra 2009). A story grows through the sequence of developing, unfolding, moving towards the ultimate peak and finishing. The motto of storytelling can be said as creating, connecting and merging. The interpretation is carried on by individual perception and thought. Storytelling is used to compose a series of images, but a narrative structure is linear, time is absolute, and the human being is a passive observer. Space is the fundamental dimension of architecture; the primary element shaped and modelled by the construction (Molinari and Bigiotti 2014). We perceive, understand and describe our experiential world regarding ourselves as the point of reference and centre. In architecture, space is not merely a medium of guiding behaviour; it is also an intentional means of mental and artistic communication, and an object of aesthetic articulation. Architectural space mediates between the world at large and the human domain, the physical and the mental, the material and the spiritual. Architecture creates horizons and frames of reference for perception and understanding of the world (Pallasmaa and McCarter, 2012).

METHODOLOGICAL FRAMEWORK

This paper has furnished an important practical approach of mapping the literal with the metaphorical through storytelling and built environment based on theoretical discourse.

After having a detailed theoretical research regarding the translation of storytelling into architecture, a methodological framework has been deduced to be used as an application for any project such as Cultural Centre, Interpretation Centre etc., i.e., any project for which the fundamental need is to serve as the People's space, thus creating a sense of place and a spatial experience. To provide an identity to any space, it (the space) must be designed keeping in mind, the consecutive application of the three interlinked

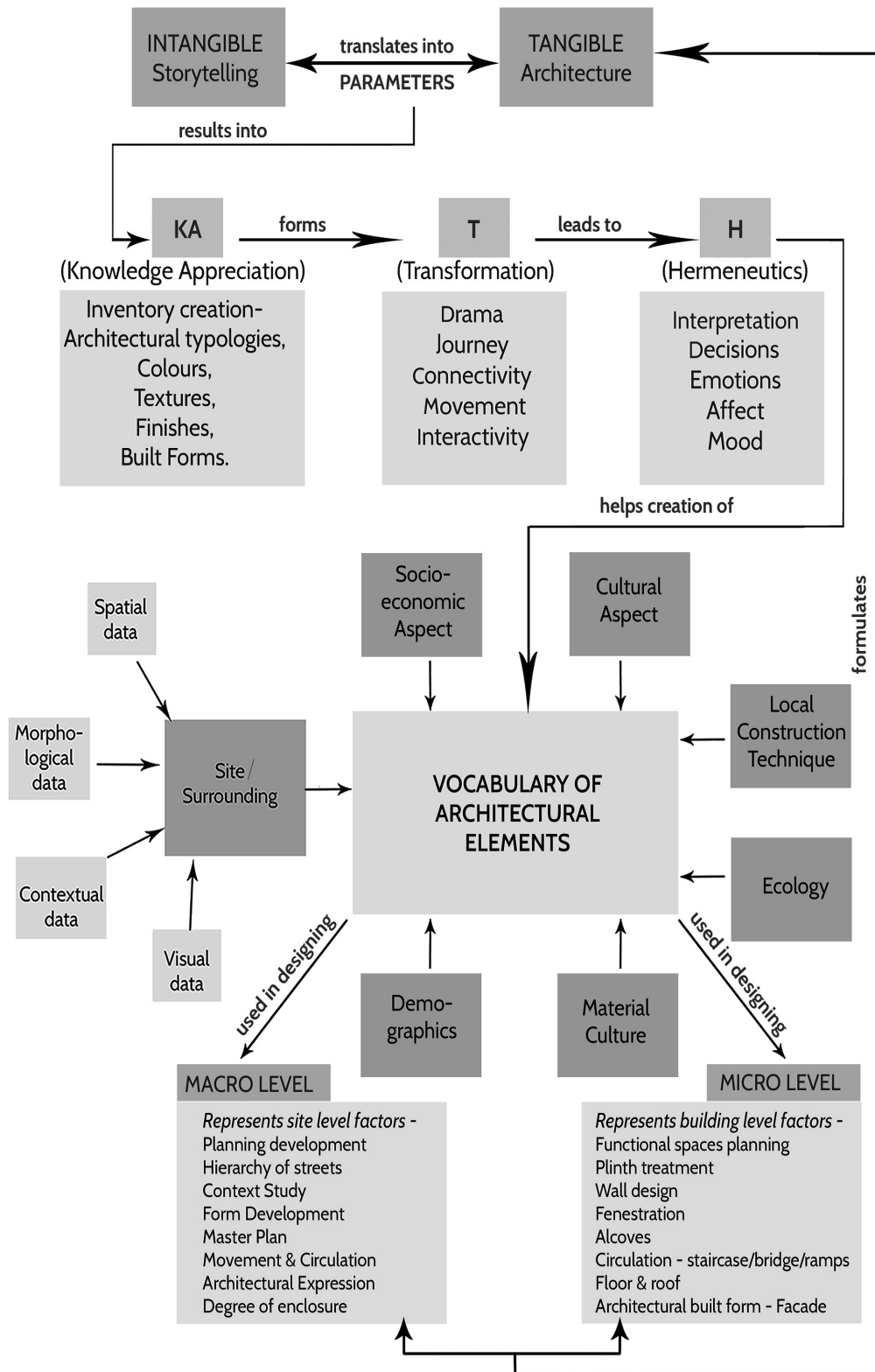
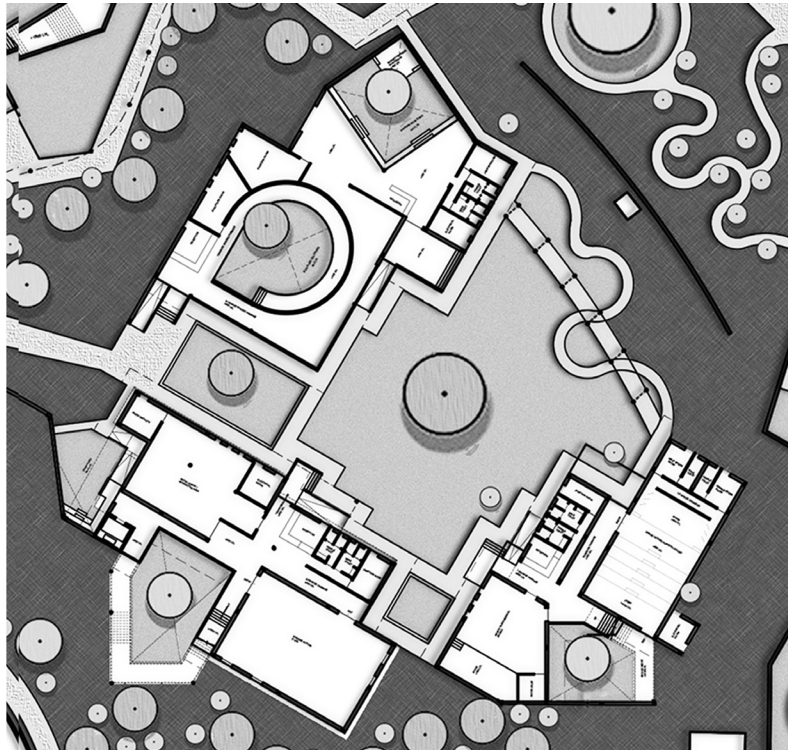


Figure 15: Methodological framework - Practical Translation of storytelling into architecture/ The Authors



DETAILS :

This is a part of an academic project 'Cultural Centre' at Kolkata in India. The design is based on the study of the research as discussed in this said paper.

The cluster consists of 3 blocks in clockwise direction starting from the top -

Visual Arts Studio - Painters' court, Sculptors' court, services.

Performing Arts Studio - Dance, acting, puppetry studio spaces, Music and instrumental studio spaces, services.

Literature & Media Studio - Media, animation studio spaces, Dark room, Book launch space, Interactive session space, Science fiction (7D, 11D) space, services.

Figure 16: Brief from Academic project / The Authors

parameters namely, KA (Knowledge Appreciation), T (Transformation) and H (Hermeneutics). First, the space should comprehend a character. Second, it is to emphasize the connectivity and the journey from one space to another & its gradual unfolding. And, third, while transcending and unfolding this path, the journey as well as the spaces should be interpreted, and how they influence human emotions, mood and affect.

CASE STUDY

Considering an academic project of a Cultural Centre at Kolkata, India, the methodological framework can be applied to translate the theoretical pedagogy into practical implementation with these three parameters : Knowledge Appreciation, Transformation and Hermeneutics. A part of the project can be studied to show the implementation. A cluster hosting three blocks namely: Performing Arts Studio, Visual Arts Studio, and Literature and Media Studio.

As detailed out, the first parameter **Knowledge**

Appreciation (KA) involves the inventory creation – the identity of the space – the painter's court, the sculptor's court, dance, drama, music studios etc., the activities and the functions of the spaces involved, the building forms & typologies, the use of colors, finishes, textures, materials, the walls designed, the use of light.

The second parameter **Transformation (T)** involves the journey, the permeability among the different spaces, the dynamic characters as emphasized through the connectors like corridors, bridges, staircases, pathways, trellis, ramps etc., highlighting the spatial flow that transforms the character of a space.

The third parameter **Hermeneutics (H)** involves the interpretation of the character reflected in the spaces created with the help of **KA** and **T**. It mainly represents the idea of the static spaces, like any functional rooms, courtyards, a deck, interactive spaces having a sense of enclosure and how these spaces can be interpreted in terms of part to whole and also from whole to part as well creating a hermeneutic circle, thus, how these spatial characters' influence human emotions.

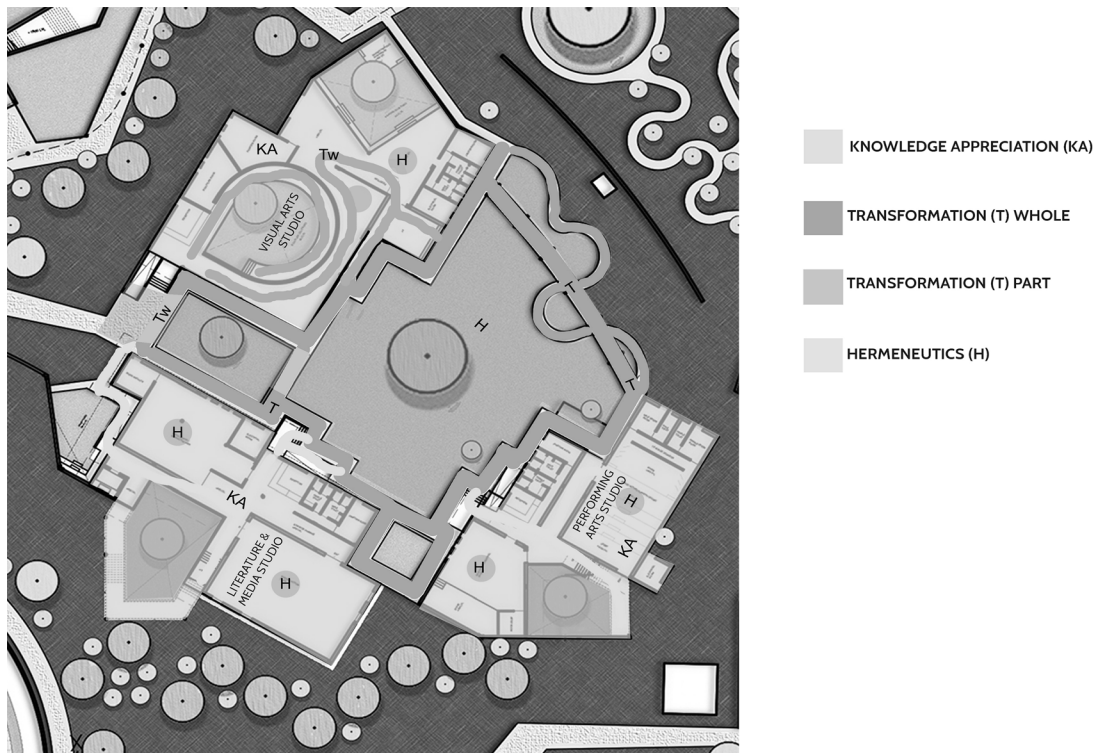


Figure 17: Implementing in Academic project / The Authors

CONCLUSION

This research paper introduces the connectivity between two different fields of exposure – Storytelling and Architecture. They even have a strong interrelation with psychology, sociology, and geography. However, the purpose being the one – to enrich human experience and improve social interaction. One of the famous maxims of storytelling be – ‘Show, don’t tell.’ The storyteller, while narrating the story, builds up the sequences, which in turn make the listener or audience interpret the spatial character in their head. This imagination-driven experience can thus be translated into a built environment, the spatial expression of which can be achieved by composing built masses and unbuilt spaces. There is a vast scope of further research by the detailed study of ‘narrative’ and the parameters namely Knowledge Appreciation, Transformation and Hermeneutics; their functional role to connect storytelling and architecture and practical implementation in design process. Storytelling through ages signifies the glorious past of the country’s

heritage, culture and ethnicity, strengthens ethics and community bonding. In today’s socio-cultural context, there is a growing void in emotions, community interactions and moral developments. This thought to cater the intangible yet strong emotional need led to the idea of creating a built environment for storytelling. At the end of this research paper, it is expected that the path to seek the goal has already started getting traced out; as Bjarke Ingels (2015) has said, ‘Architecture at its best is really the power to make the world a little bit more like our dreams.’

FOOTNOTE

The link to the google survey form which was conducted for UG Architectural thesis 2018 by the corresponding author. Some Survey questions are omitted in this paper according to the need of the Paper. <https://goo.gl/forms/MW0kKcTtHAfjgUD7i1>.

REFERENCES

- Amaratunga, D, Baldry, D, Sarshar, M and Newton, R (2002). *Quantitative and qualitative research in the built environment: application of "mixed" research approach*. *Work Study*, 51 (1). pp. 17-31. DOI: 10.1108/00438020210415488
- Anderson, J, Y, C Chung, (2011). Finding a voice: arts based creativity in the community languages classroom. *International Journal of Bilingual Education and Bilingualism*. vol. 14, no. 5. pp. 551-69.
- Bell, S, (1998). *Storyline*. Scotland. <http://www.storyline-scotland.freereserve.co.uk>.
- Big Fish Presentations, 'A VERY BRIEF HISTORY OF STORYTELLING', Big Fish Presentations under Presentation Theory, ThreeSixtyEight, February 28, (2012) The Big Fish Blog, 212 S 14th Street, STE B, Baton Rouge, LA 70802. [online] Available at <<http://bigfishpresentations.com>>. [Accessed on: 30 September 2019].
- Bingham, P, Mar 23, (2015). *10 New Rules of Visual Content Marketing, Almost 50% of our brain is involved in visual processing*, Visual website optimizer. [online] Available at <<https://www.business2community.com/content-marketing/10-new-rules-visual-content-marketing-01188589>>.
- Brandenberg, A, (1962). *My Five Senses*. Harper Collins Publisher. ISBN-13: 13 97800602381927.
- Chaitin, J, (2003), *Narratives and Story-Telling / Beyond Intractability*. [online] Available at <www.beyondintractability.org> Archived from the original on 2017-07-11. Retrieved 2017-07-08.
- Ching, F, D.K, (1943). *Architecture: Form, Space, & Order*. 3rd Edition. Wiley Publisher.
- Coyne, R, and Snodgrass, A, (2006). *Interpretation in Architecture: Design as Way of Thinking*. London, Routledge Publisher.
- Coyne, R, May 19, (2015). *Introducing hermeneutics to architectural audience*. Reflections on Technology, Media & Culture. WordPress.com
- Cross, J. E, (2001). *What is Sense of Place, Research on Place & Space*. Website Retrieved 12 Mar.2003, 20 Feb. 2003.
- De Mello, A, (1990). *Awareness: Conversations with the Masters*. Zondervan.
- Ditkoff, M, December 09, (2017). How to Leverage the Power of Storytelling in 15 Minutes Per Week, *STORYTELLING AT WORK A Blog about Conversations that Matter*. Available at http://www.ideachampions.com/storytelling/archives/2017/12/once_upon_a_ti.shtml.
- Ewing, R, Handy, S, (2009). Measuring the Unmeasurable: Urban Design Qualities Related to Walkability. *Journal of Urban Design*, Vol. 14. No. 1, 65–84, February 2009.
- Foss, K, Winnicka-Jaslowaska, D, Guminska, A, Masly, D and Sitek, M, (2015). Use of qualitative research in architectural design and evaluation of the built environment. *6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, AHFE 2015*, Elsevier Procedia Manufacturing 3 (2015) pp. 1625 – 1632
- Gadamer, H, (1975). *Hermeneutics and Social Science. Philosophy & Social Criticism / Cultural Hermeneutics*, SAGE Journals. Available at <https://doi.org/10.1177/019145377500200402>.

- Gjesdal, K, (2016). *Hermeneutic*. Available at <www.oxfordbibliographies.com> Last Reviewed: 19 September, 2016, last modified: 26 August 2011, doi: 10.1093/obo/9780195396577-0054.
- Hashemnezhad, H, Heidari, A, A, and Hoseini, P, M, (2013). Sense of Place” & “Place Attachment” – A comparative study. *International Journal of Architecture and Urban Development*. Vol. 3, No. 1, Winter 2013. Online available at [https://www.semanticscholar.org/paper/%E2%80%9CSENSE-OF-PLACE%E2%80%9D-AND-%E2%80%9CPLACE-ATTACHMENT%E2%80%9D-\(A-STUDY\)-Hashem-Akbar/be959663e31470e8d2c7b28569366c8b4721c9d3](https://www.semanticscholar.org/paper/%E2%80%9CSENSE-OF-PLACE%E2%80%9D-AND-%E2%80%9CPLACE-ATTACHMENT%E2%80%9D-(A-STUDY)-Hashem-Akbar/be959663e31470e8d2c7b28569366c8b4721c9d3).
- Huffaker, D, (2005). The educated blogger: Using weblogs to promote literacy in the classroom. *AACE Journal* 13, no. 2: pp 91-8.
- Hummon, D. M, (1992). Community Attachment. In: Altman I., Low S.M. (eds) *Place Attachment. Human Behavior and Environment (Advances in Theory and Research)*, vol 12. Boston, MA: Springer. [online] Available at <https://link.springer.com/chapter/10.1007/978-1-4684-8753-4_12>
- Ingels, B, (2015). BIG Ideas: Bjarke Ingels Talks 2WTC and Why Today’s Skyscrapers Lack Confidence. conference 2015 New York Times, *Cities for Tomorrow: Social Infrastructure with Bjarke Ingels, conversation with Michael Kimmelman*.
- Jorgen, T, and Jorgen, S (2016). *Cracking the enigma of asset bubbles with narratives*. Strategic Organization. Vol 15: 91. doi:10.1177/1476127016629880.
- Kirstiemarienorth, (2012). Forms of Storytelling. The *Elements of Storytelling for Games Blog*. Available at <<https://elementsofstorytelling.wordpress.com/2012/10/14/forms-of-storytelling/>>
- Koseoglu, E and Onder, D, (2011). Subjective and objective dimensions of spatial legibility. *Procedia - Social and Behavioral Sciences*. 30. Pp: 1191-1195. 10.1016/j.sbspro.2011.10.231.
- Kumar, R, (2013). *An Ancient Art of Storytelling*. History & Culture, The Hindu, Updated November 28, 2013. Available at <<https://www.thehindu.com/features/friday-review/history-and-culture/an-ancient-art-of-storytelling/article5371732.ece>>
- Massachusetts Institute of Technology, Department of Urban Studies and Planning, City Design and Development Group, February (2006). *Vanke Vision: Sustainable Residential Development in Shanghai, Urban Planning and Design Handbook*. Vol. 1. Research Seminar and Field Survey, p 58. Available at <http://web.mit.edu/11.952/www/S06_Vanke/Vanke_v1/ch4.0_OpenSpace.pdf>
- Molinari, C, and Bigiotti, S, May (2014). *The storytelling in architecture. A proposal to read and to write spaces*. Conference Paper, Conference: Storytelling: Global Reflections on narrative, At Lisbon. Available at <https://www.researchgate.net/publication/311451782_The_storytelling_in_architecture_A_proposal_to_read_and_to_write_spaces>
- Nicks, G, and Carriou, Y, (2016). Emotion, Attention and Memory in Advertising’, Ipsos Connect, *Game Changers*. Available at <https://www.ipsos.com/sites/...03/IpsosConnect_POV_EmotionAttentionMemory.pdf>
- Nilufar, F, (1999). *Urban Life and Public Open Space in Dhaka*. report submitted to Asiatic Society of Bangladesh.
- Ohler, J, October 29, (2012). How To Make A Story – Process Notes, *Story Concepts Blog*. Available at

- <<http://storyconcepts.blogspot.com/>>. Viewed at December 2017.
- Oxford Bibliographies, (2016). Oxford University Press, New York. Online available at <https://www.oxfordbibliographies.com/view/document/obo-9780195396577/obo-9780195396577-0054.xml>
- Pallasmaa, J and McCarter, R, (2012). *Understanding Architecture: A Primer on Architecture as Experience*. (London: Phaidon, 2012), 18.
- Pallasmaa, J, (2005). *The Eyes of the Skin. Architecture and the Senses*. Chichester: WileyandSons Ltd. P 43.
- Psarra, S, (2009). *Architecture and Narrative. The Formation of Space and Cultural Meaning*. 1ST Edition, Routledge Publisher, ISBN-13: 9780415343763.
- Riverside South Community Design Plan, 2015, *Planning and Growth Management, Urbanisme Et Gestion de la Crossance*, City of Ottawa Publication No 3 – 08, p 32. Available at <http://webcast.ottawa.ca/plan/All_Image%20Referencing_OP%20Amendment%20Application_Image%20Reference_Draft%20CDP%2C%20text%20only.PDF>
- Roof, K, and Oleru N, (2008). *Public Health: Seattle and King County's Push for the Built Environment*. J Environ Health. 75: p 24–27.
- Rowley, J, (2007). The wisdom hierarchy: representations of the DIKW hierarchy. *Journal of Information and Communication Science*, 33 (2) 2007, pp. 163–180 © CILIP, DOI: 10.1177/0165551506070706.
- Rukeseyer, M, (1968). The Speed of Darkness' Stanza IX, *The Collected Poems of Muriel Rukeseyer*, Vintage, 1971; First Edition (1971), ISBN-13: 9780394446592.
- Saraswat, A, n.d. *Voids in Architecture - A Study of Unbuilt Spaces*. [online] Available at <www.academia.edu/28005677/Voids_in_Architecture__A_Study_of_Unbuilt_Spaces> Accessed in December 2017.
- Shedd, C., (2008). inspire UX [online] Available at <http://www.inspireux.com/2008/10/27/great-experiences-have-an-innate-ability-to-change-the-way-we-view-the-world/>
- Schwertyl, (2015). *The Neuroscience of Storytelling* (For Presentations) from Ethos3 | Presentation Design and Training. Viewed January 2018, Available at <<https://www.ethos3.com/2014/10/the-neuroscience-of-storytelling/>>
- Sharma, A, (2018). Data Storytelling: Data tells you what's happening. Stories tell you why it matters. *Narrative: the business of stories*, Available at <<https://narrative.com.sg/storytelling/blog/data-storytelling-data-tells-you-whats-happening-stories-tell-you-why-it-matters/>>
- Sime, J. D., (1986). Creating places or designing spaces? *Journal of Environmental Psychology*, 6, pp 49-63.
- Sneddon, R. (2008). *Young children learning to read with dual language books*. English Teaching: Practice and Critique vol: 7, no. 2: pp 71-80.
- Snijders, E, n.d. *Story Triangle*. Eva Snijders Inspire, Communicate & Transform, Available at <<https://www.evasnijders.com/en/storytelling-en/>>
- Stillman, D., (2017). *The 5E's and 6P's Experience Inventory: A Conversation Guide*. Available at <<https://medium.com/@dastillman/the-5es-and-6ps-experience-inventory-a-conversation-guide-849696b5dc70>>
- Tschumi, B. (1990). *Questions of Space*. London, AA Publication. p. 92