Chapter 10

Urban Morphology and Phenomenology

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Introduction

In ancient native Indian planning practices, a formal urban setting existed with informal phenomenology. Urban morphology was guided with parameters such as geographical locational attributes, centrality of activities and organization and orientation. Further varied approaches and urban morphology need to be studied for the advancement of heritage innovation, management and adaptive use for contemporary India. This chapter is intended to understand the organic behaviour of native towns and its spatial morphology. Indian peninsula had urban settlements and a unique morphology in various phases since 4500 years ago, initiating from the erstwhile Harappan civilization, Mahajanapadas and the native settlements (B.B Dutta, 1925; Begde, 1978; Kostof, 2018; Morris, 2013; Smith, 2007; Tod, 2018a). Native practices of town planning since ancient times in Indian peninsula showcase the footprint for urban morphology and are complex entities with diverse associations, experiences, anchor memories; social and cultural phenomenon's inherent in its organization and orientation. These phenomenon are guided in the manifestation of unique geographical locations and the actors who initiate it are the people and the centrality of activities (Bird, 2013; Pereira et al., 2013).

The current chapter intends to decipher the history of one such ancient urban form and the native practices of town planning. It reflects the unique dimensions, culture, and way of life from antiquity to till date, owing to the existence of such native settlements which are living through centuries. Many of the ancient and native Indian towns with historic areas and precinct areas are just ruins and remains in archaeological terms (Kaur & Roy, 2023). Pre-dominantly the remaining historic structures are either in the form of architectural heritage on building scale or built-mass ruins. Across the Indian peninsula only few spatial layers at urban form (precinct) scale are intact such that these studies can be undertaken. These are in the form of non-living towns of Harappan civilization (Joseph, 2018; Morris, 2013; Walter A. Fairservis Jr., 1961), few of the living towns from Rajputana region and few of the living towns from Southern states region (Begde, 1978; Chattopadhya et al., 2005; ITPI, 2013).

For the current study we have considered the native settlement of Jaisalmer Fort which was established in 12th CE in the marwar region of the present day north-western state of Rajasthan in India. It has old layers of urban character, ethos, culture, phenomenon even after the transition and contemporary urban development. The identity of the yesteryears is still evident even after the urbanisation around the Fort city. Though in certain other cases these manifestations are objectified and stand in isolation, dis-engaged from the community, which has improvised perceptions and removed its association with the people (Siddhi Joshi, 2020). Thus in such cases of heritage precinct, the ancient and native fabric is visible only in the historic core areas while it is rarely found in and around the city.

A distinct phenomenology existed in Indian historic core areas and precinct areas defined by the ever-changing chronicle of human activity, retained yet diversified by century's worth of interactions and experiences. Urban morphology across various ancient settlements globally has objective and subjective aspects. The objective aspect of urban morphology entices the tangible physical form and the subjective side of the urban morphology which entices through the evolution and continuum of human activities (Henri Lefebvre, 1991; Morris, 2013; Smith, 2007). Urban spaces turn into places as it conceals a multi-dimensional phenomenon encompassing identities, meanings, and images. The fact that, despite it is not evident immediately and is not apparent but are present in the form of conceptual constructed manifestations, memories, and local and folk-lore tales (Urban & Schortman, 2019).

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Historic cores through native practices had unique urban fabric, which in formal and informal ways enabled linkages between human dimension and urban spaces. This phenomenon is isolated, dis-jointed and dis-engaged owing to the chosen urban processes from the daily activities of the city and thus the community. People and communities are being devoid of the emotional anchor and thus being cut off from their surroundings. The historic cores' and their ethos are facing a veiled challenge from the current planning and development practices which are primarily sector based. These current practices do not follow the ancient and native practices where pre-dominant mixed land use existed along major street networks with active edges; they are primarily dictated by logics and codes. The key components of the phenomenological approach are the diverse and dynamic layer of experience, human associations and engagement. Thus to study urban morphology these intangible dimensions are pre-requisite for the tangible physical layer of the historic core areas (Henri Lefebvre, 1991; Soiferman, 2010).

The research quest initiated with the thought whether the concept of phenomenology was inherent and integrated in the planning thought process of ancient Indian settlements or not? The present study which focuses on the case of Jaisalmer Fort city in the north-west state of Rajasthan in India has the typology of highland fort city which is live till date. Initiated in 12th CE how Jaisalmer Fort has provided sustenance through the centuries and is an enticing phenomenon to study.

Aim of the present study is to elaborate the organic behaviour in a formal setting in the planning of Jaisalmer's historic precincts through the lens of phenomenology. Following were the objectives of the study:

• To understand the generic phenomenological study approach.
• To explore the uniqueness of Jaisalmer Fort's urban morphology through phenomenology.
• To question why these practices were either discontinued or left behind from the mainstream urban research.

Methodology involves a comprehensive analysis between theory of phenomenology and urban morphology of Jaisalmer Fort area. Initiating through observation, establishing pattern, cross checking with the tentative hypotheses of research quest and thus validating the phenomenological approach. The methods explored study of causal content analysis and how systematic literature review can lead to the morphological analysis. This study provides abstract representation to such native settlements through the lens of phenomenology.

Phenomenology as an approach in theory

The expression 'phenomenology' can be formulated in Greek as 'legein ta phainomena'. But legein means 'apophainesthai'. Formal meaning of apophainesthai translates as "appearing," "bringing to light". Hence phenomenology means: apophainesthai ta phainomena — to let what shows itself be seen from itself, just as it shows itself from itself. 'To the things themselves!' Heidegger builds upon this word's etymological relationship to legein and logos for his description of causality as a form of responsibility for the "presencing" and "revealing" of things (Chris Goad, 2020; Urban & Schortman, 2019; Wasiak, 2009).

Figure 1: (Left) Keywords about Phenomenology, (Right) Objectivity and Subjectivity perspective.

In the philosophical discipline, founded in its modern form by Edmund Husserl "phenomenology" is studies of appearances, considering the matter from the outside, refer Figure-1 (left). Few philosophers favour emergentism, a form of non-reductive physicalism. Thus the quest of objectivity and subjectivity in the study of urban morphology as shown in Figure-1 (right) (Siddhi Joshi, 2020). The actors in any urban morphology are the people and the activities set in the stage of urban form.

As per phenomenological approach human perception tends to first view things in objectivity and later form mental mapping and pattern which intends in breaking its order through experiencing directions. As illustrated in Figure-2 (left clockwise) the pattern viewed at first is led by the diagonal dotted lines in both the directions. In the second instance these diagonal dotted lines are drawn perpendicular to the initial diagonal, thus a bit of subjectivity introduced in perception and breaking of the pattern. In the third instance the drawn perpendiculars are shown in different colour that is red and thus the breaking of the pattern becomes more evident. This shows how human brain tries to break complex phenomenon and patterns through directional attributes (Chris Goad, 2020).
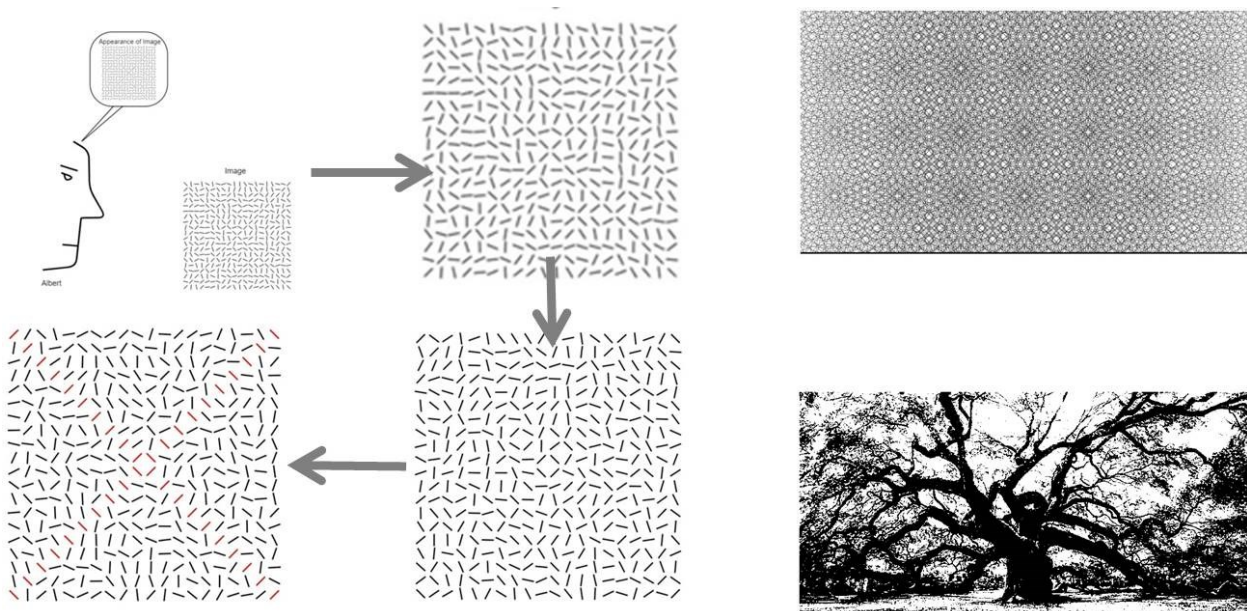
Figure 2: (Left) Phenomenological approach and human perception. (Top Right) Complex geometrical articulation through circles, arcs, repetitive patterns. (Bottom Right) Complex organic articulation of a tree through roots, trunk, braches, leaves etc.

Further in Figure-2 (top right) the geometric pattern becomes more complex, but the geometrical articulation breaks it through arcs, circles, repetitions. Figure-2 (bottom right) shows the highest epitome of nature's phenomenology that is a full grown matured tree, the complex phenomenon is but organic with articulation through roots, trunk, branches, leaves etc. (Chris Goad, 2020). The above is evident how human brain utilizes directional approach to mental mapping for the intricate yet orderly street patterns and activities in historic core areas.

Native Urban Settlements in Indian peninsula – An overview

Urban settlements have dotted its footprint across the globe since antiquity; they have a certain phenomenon which has been very distinct from rural settlements. They have been independent entities yet dependant on each other in a unique way. It has been the humanistic response till date to rural-urban continuum (Ching, 2011; Francis D.K Ching, 2007; Morris, 2013; Smith, 2007, 2011). Indian peninsula also witnessed this phenomenon with established urban settlements and a unique urban morphology of upper town, middle town (optional) and lower town which pre-dominantly existed in the north-western region. Else towns existed with either religious structures such as temple or tanks or civic structures at its centre and the town circumscribing along these nodes or were planned in blocks along them (Acharya, 2010; B.B Dutta, 1925; Begde, 1978).

Indian peninsula has seen urban settlements in various phases since 4500 years ago initiating from the Harappan civilization. As shown in the Figure-3 these were the native urban settlements which propagated on India peninsula. Harappan civilization has been the first cradle of urban settlements with central planning and a settlement hierarchy in the region (Joseph, 2018; Morris, 2013).

Approximately 2500 years ago around 500 BC which can be considered second wave of urban settlements in the Indian peninsula twenty-two Janapadas and later sixteen Mahajanapadas were established which survived well till the Kannauj Triangle (750-900 CE) with empires of Palas, Gurjara-Pratiharas and Rashtrakutas (B.B Dutta, 1925; Begde, 1978). Trade flourished in these empires and non-pastoral traits and sectors got prominence. From era of Mahajanapadas and onwards native settlements have been dotting the

landscape in Rajputana, Maratha, Deccan, Dravida, Pepsu regions etc. (Giles Henry Rupert Tillotson, 2006; Tod, 2018a, 2018b, 2018c).
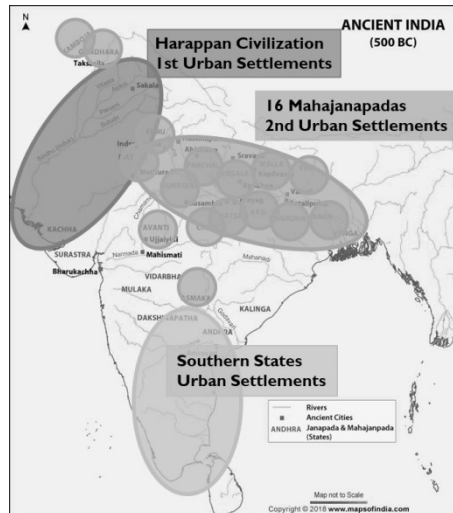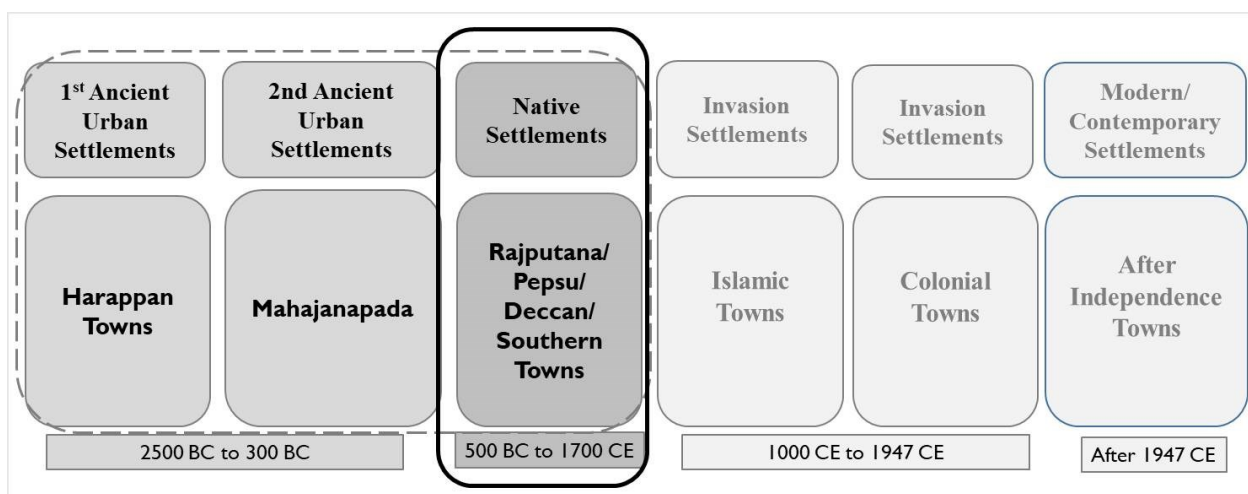

Figure 3: Indian Native Urban settlements – An overview (Source: Compilation by Author, 2023)

Urban morphology in the above ancient and native town planning practices was guided with parameters such as geographical locational attributes, centrality of activities and organization and orientation. These urban form showcase organic behaviour in entirety, yet the urban spatial morphology had a certain formal order which engulfed the informal phenomenon led by centrality of activities and the community (Agboola et al., 2018; Morris, 2013; Nia & Suleiman, 2018; Smith, 2007). A unique phenomenology existed in these settlements which are very enticing to study.

Ancient and Native Indian Urban settlements

Indian peninsula has seen urban settlements since 4500 years ago and these ancient and native towns have been categorized based on these historical periods into six categories as shown in Figure-4. First ancient urban settlements were in Harappan civilization which are in the form of ancient ruins (Kennedy, 2000; Walter A. Fairservis Jr., 1961), second ancient urban settlements were sixteen Mahajanapadas, which have few living and few non-living cases, though the archaeological remains are present for each (Shakeel Anwar, 2017). Third category is of native settlements which present many towns which are live (Deshpande & Shinde, 2006). This study primarily focuses on native settlement in Rajputana region through the case of Jaisalmer Fort. Fourth category is of invasion settlements which are in two segments of Islamic towns and Colonial towns. Fifth category is the modern and contemporary towns after the Indian independence (Ching, 2011; Fletcher Banister, 1905; Grover, 2003; Morris, 2013; Smith, 2007).

Figure 4: Indian Native Urban settlements – Historic phases (Source: Compilation by Author, 2023)

Rajputana region in Indian peninsula in its urban form and built form both has stood the test of times against Islamic invasion and colonial invasion. The present study focuses on the case of Jaisalmer Fort city in the north-west state of Rajasthan in India, refer Figure-5 below.
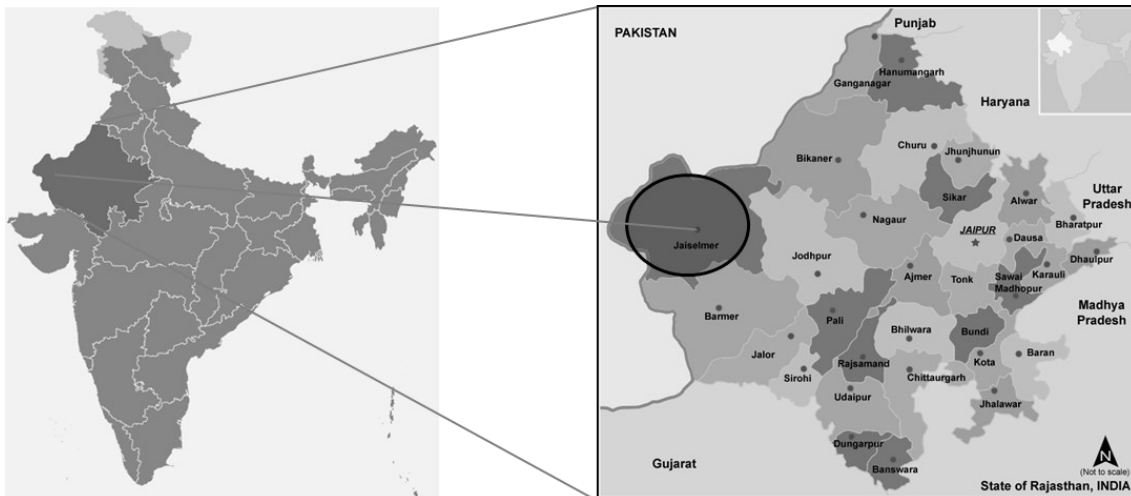
Figure 5: (Left) Map of India showing Rajasthan state, (Right) State map with Jaisalmer district.

Built by Raja Rawal Jaisal in 12th CE how Jaisalmer Fort has provided sustenance through the centuries is an enticing phenomenon to study (Deshpande & Shinde, 2006).

Jaisalmer Fort in present context

Historical precinct which is living fort till date is in the formation of Upper town citadel on highland with 400 houses, groups of temples and a Royal palace complex. Lower town is also fortified and has linear organization, set on the north-eastern slopes of the ridge in the wind shadow of the citadel.
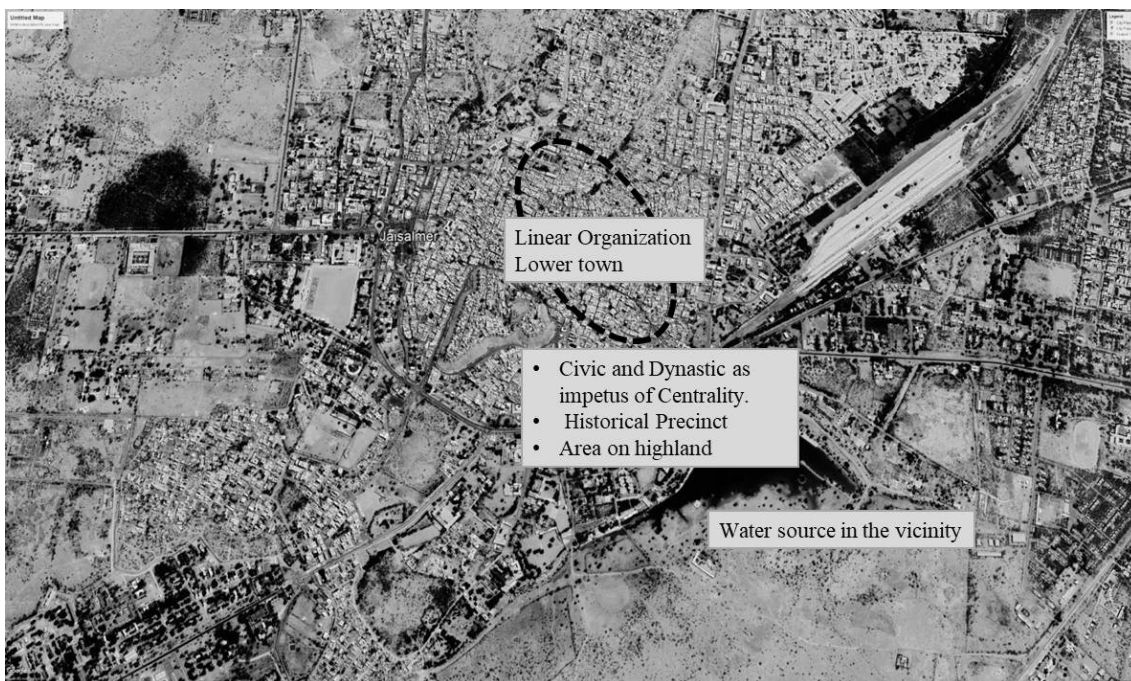
Figure 6: Jaisalmer Fort and City in present context.

Water source in the vicinity is still active. Maharawal Gadsi in 14th CE built Gadisar Lake in the SE periphery of the plateau town for water needs which was fed by rain water. When the lake was full, extra water flowed to lower level and further to next level, this way the nine lakes system worked. Other than this wells, step-wells and johads were other source of water in the city (Dhiman & Gupta, 2011; Hussain et al., 2014; Mukhopadhyay & Devi, 2018; Tod, 2018a). The nexus between centrality of activity around the water

source and the Fort city acted as one of the pre-dominant phenomenological experience refer Figure-6. Google image shows the working water source and vicinity of the fort's upper and lower town. This in itself is a unique and advanced heritage innovation of our ancestors wisdom which can provide for some solutions to today's water scare city's.

Material and Methods

In humanistic experiential based studies casual content analysis through systematic literature review is a research methodology which analyses the observation, document analysis, texts, visuals, maps, documentations. These interfaces help in making replicable and valid inferences from the data to their context in a systematic and objective manner. It is an un-obstructive or non-reactive method of social research and conforms to the three basic principles of objectivity; systematic; and generalizability (B Devi Prasad, 2008; Khirfan et al., 2020).

Phenomenology as an approach to study urban morphology

Tangible and intangible dimensions are inherent in urban morphology; it was inherent in the ancient and native planning practices in Indian peninsula. Two principle actors existed in any native town of India that were people and centrality of activities. Phenomenology is all about how humans experience this physical existence of the urban world. It is the humanistic approach in postmodernism to understand experiential behaviour by the human subjects (Tarek et al., 2021). Martin Heidegger propagates the idea of experiential interactions with materialism, thus the objectivity and the subjectivity (Urban & Schortman, 2019). Conceptual framework of the phenomenological approach is illustrated in the Figure-7 which branches out into three dimensions of placemaking, experiential and activity.
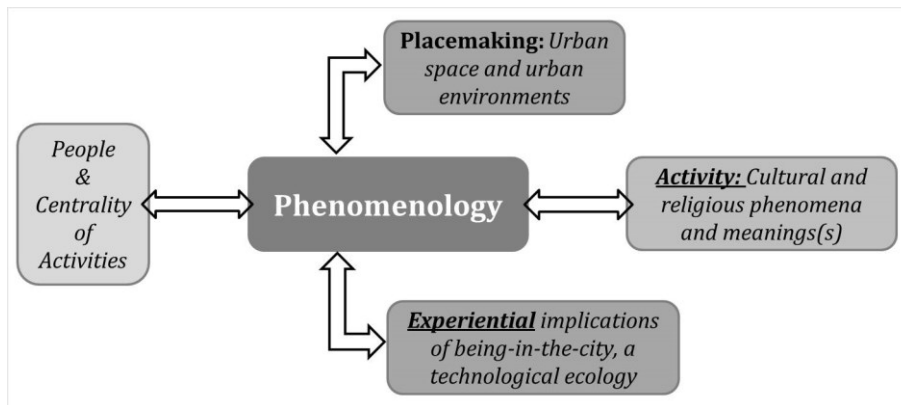
Figure 7: Conceptual Framework Phenomenology, people and centrality of activities (Source: Author, 2024)

Inter-subjectivity creates individualistic as well as collective experiences and thus these experiences have an important time dimension. This time dimension acts as an anchor whenever the mental memory witnesses any similar experience. The technological ecology in terms of infrastructure, signage's, utilities, urban lighting to name a few as part of the urban morphology is another experiential factor, implications of being in the city, experiencing the city (Wasiak, 2009). For any given setting these led to placemaking of urban space and urban environments as is the case of Jaisalmer Fort (Neha Jain, 2012).

Urban morphology and phenomenology: Jaisalmer Fort

Jaisalmer fort in its geographical location and urban setting has the continuum of Harappan civilization model of upper town and lower town; refer Figure-8 (left). The town through centuries has grown primarily in the shadow area of the highland plateau.

Jaisalmer Fort with its streets oriented in the geomorphic alignment of the highland plateau and the squares (chowks) created by the nooks and croons of the street is one of the best example of experiential materialism. Organization and orientation of Jaisalmer Fort has natural settings respected in city layout. Geographical locational attributes has street network along the geo-morphology of the plateau, refer Figure-8 (centre).

Royal complex in the Jaisalmer Fort, refer Figure-8 (right) has a large royal square indicated by the large circle at the bottom right. Three smaller circles denoting the intermediary public space leading to culmination into the temple square is one of the royal streets. Other royal street leads through a ribbon formation to the second temple square. These irregular spaces on the two main royal streets act as vintage points for the collective human interaction.

Planning wise Jaisalmer fort consists of three layers of wall. The outer wall (the lowest) is composed of solid stone blocks. Narrow winding streets with densely built construction on both sides. All major streets were oriented in the East-West direction at right angles to the direction of dust storms. The height of the building compared to the width of streets is large to create shaded cool environment for the pedestrians and other social activities on the streets (Neha Jain, 2012).

Figure 8: (Left) Jaisalmer Fort and City plan. (Centre) Jaisalmer Fort atop highland plateau with geomorphic branching out of the streets. (Right) Royal Palace Complex with the interactive nodes.

Gathering Datasets

An experiential way was utilized to collect dataset which included visual documentation, stakeholder's interview, and expert interviews, which were undertaken from fall of 2022 to fall of 2023. Further archival maps and documents were also studied, refer Figure-8. A sample of the visual documentation and the representational model is shown in Figure-9.   The dataset when validated through phenomenological approach established that the experiential attributes in the street network were interactive and provided perceptual anchors. In placemaking each morphological, sociological, and behavioural element are an entity in itself and need to synergize with other elements to form a sustainable, effective, and holistic ecosystem for urban phenomenon.
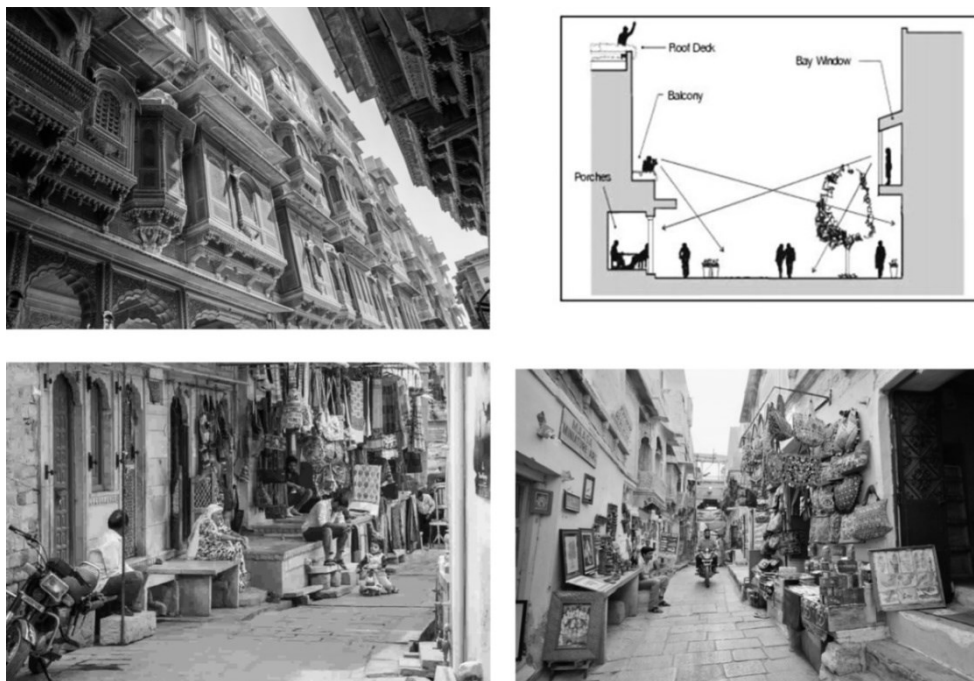

Figure 9: Eye on the street, active edges, interactive streets in Jaisalmer Fort.

Indigenous Indian urban forms were established as a two-way interaction along the street lines, thus providing the safety and security of 'eyes on the street.' It is evident from Figure-9 that the concept has been inherent in the streets of Jaisalmer Fort. Top right of the figure illustrates a conceptual sketch while top left shows how the shadow inherent due to the street section provides comfort to the pedestrian. Bottom right and left are evident of the active edge of the street which provides mandatory help in the mental mapping for residents as well as outsiders such as tourists etc.

An experiential framework

Street patterns which were punctured with community activity spaces such as pols, katras, mohallas, chowks, bazaars, haats and ghats (in the case of waterfront towns) which acted as mini congregation area. They create vibrant, liveable, and meaningful public spaces and reflect the unique character and identity of a community. These suffice the targets of SDG-11 such as inclusive, safe, and sustainable cityscape (Nia & Suleiman, 2018; Sasanpour, 2017; Valipour et al., 2017).
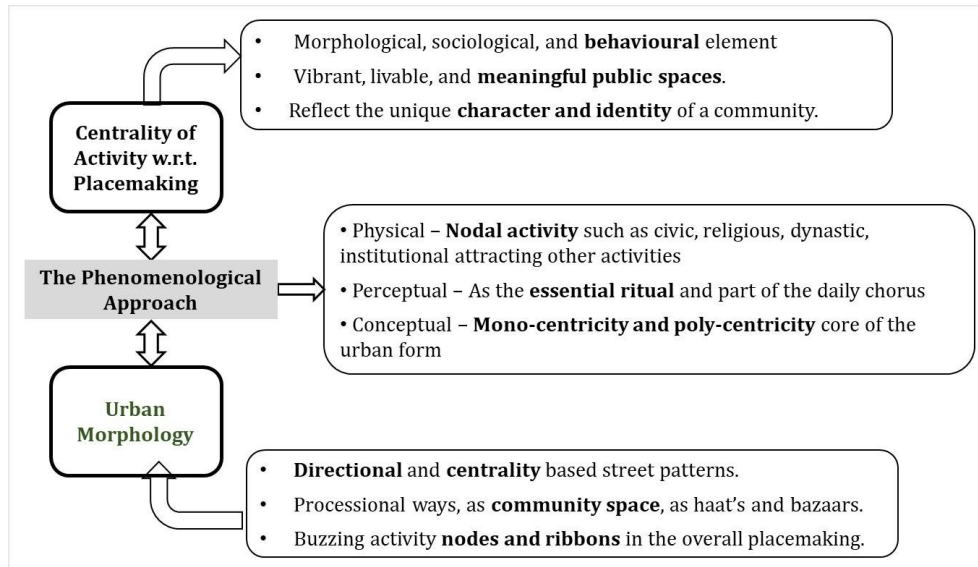
Figure 10: The phenomenological approach framework and its varied dimensions.

The above framework illustrates the phenomenological approach and its dimensions of urban morphology and centrality of activity w.r.t placemaking, refer Figure-10. Urban morphology has been directional and centrality based streets which at times act as processional ways during vibrant festivals of the desert fort. The nodes and ribbons are explained with the case of royal complex in Figure-8 (right).

Discussion and Conclusion

The phenomenological approach and the nexus of centrality of activity and urban morphology show three principal layers in its placemaking. First is physical with nodal activity such as civic, religious, dynastic, institutional attracting other activities. Second is perceptual as the essential ritual and part of the daily chorus or seasonal chorus or annual chorus. Third is conceptual either with mono-centricity or poly-centricity (Amen & Kuzovic, 2018; Bird, 2013; Pereira et al., 2013; Tarek et al., 2021).

Rajputana region's historical core areas and heritage precincts have been aligned along vibrant and diverse markets indulging in traditional handicrafts, textiles, stone jewellery, embroidery and mirror work and highlight the region's rich craftsmanship. Such are the cases of Jaisalmer Sadar bazar, Jaipur's Johari bazar and Jodhpur's clock tower market to name a few. These precincts were liberated from any kind of external insurgencies owing to political alliances with Delhi sultanate whether it was under the Islamic rule or the colonial rule. The humanistic evidence across centuries is present till date (Jain, 2011; Mishra, 2019). Jaisalmer Fort is a place to visit in Rajasthan that transcends visitors back in time along with its regional alluring activities (Tod, 2018a, 2018b, 2018c). This adds to the revealing aspect of phenomenology of this desert town.

In the lower town of Jaisalmer Fort is a set of five intricately carved mansions (havelis) known as Patwon ki Haveli. Beautiful building design and deft craftsmanship with the elaborately carved balconies, interiors, and facades offer a window into the lavish way of life enjoyed by the affluent merchants of bygone times. On the south-eastern side Gadisar Lake, an artificial lake provides a peaceful break in the daily hustle of life, and it is encircled by cenotaphs, ghats, and temples. Aside from taking boat excursions in this water scarce region, one may indulge in breath-taking views of the Fort, surrounding buildings and the lake (Chandel, 2019; Neha Jain, 2012).

In particular for Jaisalmer Fort and city the annual sand dunes festival is set up into the desert towards the southwest which acts as an experiential anchor to the visitors (Chandel, 2019). Apart from region's diverse cultural experiences it showcases the traditional arts and crafts, thus enticing all the aspects of a phenomenological approach in an urban set-up. This further adds nuances and anecdotes to the urban experience of Jaisalmer fort, the city and the sand dunes. The festival acts as an experiential outreach which

attracts international and domestic tourist's diaspora equally (Neha Jain, 2012). The magic of desert festival also invites tourists to experience the living fort, also known by the name of the Golden Fort 'Sonar Qila' owing to the hues of the golden sandstone. Further it acts as a reminiscence of Jaisalmer being on the caravan route connecting India to central Asia, Middle East and North Africa in the ancient times.

Celebrating seasonal and annual festivals are the core culture of Rajasthan. The desert festival was re-initiated in early 20th CE in its contemporary version, thus it is almost a century old. It has stood the test of times and still holds a place in the international and domestic tourist experiences apart from few others from the Rajputana region. The festival initiates with a wonderful procession adorned by the Jaisalmer's traditional folk artists, musicians and dancers, camels, horses traversing through the Fort and the city and setting the colourful and festive atmosphere that follows (Giles Henry Rupert Tillotson, 2006). It is as if the objectivity of this procession and the subjectivism in the interactive experience of by-standers (Urban & Schortman, 2019). The intangible dimension is exploited through the performances showcasing Rajasthan's traditional folk music and dance such as Kalbeliya dance, Ghoomar dance, and various puppet shows. Also a range of desert activities such as desert safaris, camel races, polo matches, tug-of-war, dune bashing, witnessing sunrise and sunsets, camping and star gazing adds to the luxuriate experience. Jaisalmer Fort during the visits treats to an immersive experience through range of competitions and activities such as tying traditional Rajasthani turbans, camel rides, hands on experience on traditional crafts to name a few.

Jaisalmer Fort has directional and centrality based street patterns, refer Figure-8 (centre). One can explore narrow alleys, bustling marketplaces, ancient mansions (havelis), and intricately carved temples. Processional ways and squares engaged with yearly festivals and rituals act as community space, or as haat's and bazaars (Praharaj, n.d., 2014; Singh, 2011; Tod, 2018a). Thus the urban morphology is buzzing with activity nodes and ribbons in the overall placemaking exploring the intricately carved havelis along the streets. Further the surrounding region adds to its phenomenological lustre as discussed.

The ancient and native Indian settlements study's from the perspective of phenomenology is one of the key factor to improvise the current scenarios as historic fabric seldom finds its incorporation and presence in the city. The need is to focus on studies from diverse perspectives for advancing heritage innovation in historic areas and the historic precincts. It could be providing us how to engage in the urban dialogue of placemaking and urban form in such areas (Amen & Kuzovic, 2018; Sasanpour, 2017). Cities are a complex network of social and cultural interactions, associations, experiences and memories intertwined with the built fabric. The manifestations of these networks have been places that mirror life, domesticities, culture of its inhabitants and decode city's past. The process of urbanization, transformation and current development trends has resulted in the loss of character, ethos and identity of these historic layers within the city. This disjunction has altered perceptions and weakened its associations with the people, transforming these manifestations mere into objects standing in isolation.

Acknowledgement

Conflict of Interests

The author declares no conflict of interest.

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