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Research paper

HUMANISTIC SCALE OF GREEN URBAN DESIGN

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Abstract

Against the backdrop of high-density urban expansion and increasingly scarce land resources, pocket parks, as miniature green public spaces, are becoming an important direction for urban renewal and green space construction in China. However, existing research largely focuses on the ecological functions and landscape aesthetics of pocket parks, with insufficient exploration of their socio-cultural significance in carrying urban green space culture which is how space carries memory, shapes behavior, and cohesive community spirit.

This paper constructs a three-dimensional analytical framework based on the theory of spatial narrative, cultural memory, and environmental behavior: the accessibility of perception, the inclusiveness of behavior, and the attachment of meaning. Through a comparative study of six cases, provides a typological reference for pocket parks and their social restoration significance.

The study suggests that urban green space culture is not only about grand landmarks, but also about whether or not individuals are willing to leave small, breathing spaces for each other at a very small scale. Green urban design should focus on people-centered spatial experiences under the diverse regional cultural contexts.

Key words: *pocket parks, urban green space culture, spatial narrative, cultural memory*

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1. INTRODUCTION

China's urbanization rate has exceeded 65%. While the high-density urban clusters have created economic miracles, they have also led to a severe squeeze on public space [1]. Pocket parks, also known as Vest-pocket parks, typically refer to small park green spaces with an area of 400 to 10,000 square meters, open to the public, and possessing certain recreational functions [2]. In the Chinese context, pocket parks have gained particular prominence as a strategy for urban renewal in high-density old districts, where conventional large-scale park development is physically and economically infeasible. Chinese pocket parks are frequently embedded within densely populated residential neighborhoods and serve as functional substitutes for the traditional alleyway (hutong\nongtang) social spaces that have been largely lost to rapid urban redevelopment [3]. Their fragmented layout and high accessibility make them as key hubs in repairing the urban public space network.

This study adopts a multi-case comparative research method to demonstrate the diversity and flexibility of pocket parks in specific practical contexts. The aims of comparison are threefold: to understand specific pocket park practices based on conceptual framework; to evaluate how each case performs across perceptual accessibility, behavioral affordance, and meaning attachment; to derive typological classifications based on dominant dimensional profiles. The study emphasizes that, unlike quantitative evaluations of physical area and ecological indicators, the human scale emphasizes sensory accessibility, behavioral affordance, and psychological belonging.

2. CONCEPTUAL FRAMEWORK: URBAN GREEN SPACE FROM A HUMANISTIC PERSPECTIVE

Space is not merely a physical container, but a dynamic process of social production. Henri Lefebvre argued that space is a product of social relations, not a neutral geometric existence [4]. Nigel Thrift's Non-Representational Theory reminded us that the narrative meaning of space exists not only in formal texts such as monuments, plaques, official explanatory texts, but also accumulates more extensively in preconscious, everyday, and practical bodily experiences [5]. An elderly person dozing in the sun on a bench, two children chasing and playing in the shade of a tree, several dog walkers meeting on the same lawn—these seemingly trivial daily practices constitute the most vivid and authentic narrative of urban green spaces.

Aleida Assmann pointed out that memory is always activated and reinterpreted in the present [6]. Pierre Nora argued that "memory fields" (les lieux de mémoire) are material, symbolic, and functional, commemorative [7]. While grand historical spaces play an irreplaceable role in shaping collective identity, they are quite distant from the daily experiences of ordinary citizens. Daily life memories are small in scale, scattered in form, and lack in historical documentation, yet they play the most gentle and resilient cohesive role in the intergenerational transmission of the community [8].

What exactly makes people willing to enter a space and stay? Jan Gehl argued "gathering first, space later," meaning that the effectiveness of public space does not primarily depend on its aesthetic quality, but rather on its ability to induce and accommodate human activity [9]. High-quality spatial design can effectively transform necessary activities into spontaneous activities, thereby fostering social activities. He pointed out that in public spaces, people often don't plan how long they will sit initially, but rather decide to stop after walking through and observing. Gibson also believed that the environment provides or endows organisms with the possibility of certain actions [10]. Design is not only about shaping physical forms, but also about shaping the space of possible behaviors.

In summary, spatial narrative theory emphasizes that users constantly rewrite the meaning of space in their daily practices, cultural memory theory suggests the profound role of micro-memory places in social cohesion, and environmental behavior focuses on how spatial conditions induce or inhibit real physical activity. Based on this, this paper constructs a three-dimensional framework for humanistic scale of urban green space:

Dimension One: Perceptual Accessibility. Even the largest and most well-equipped urban green spaces fail culturally if they are isolated from the street by walls, elevation differences, or visual barriers, making them seem inaccessible or unwelcoming to outsiders. Perceptual accessibility requires visual transparency and psychological safety in design: activities inside should be clearly visible from a distance, entrances should not feel cramped or dark, and boundaries should be friendly rather than defensive.

Dimension Two: Behavioral Affordance. Specific indicators include: Are there sufficient and reasonably arranged seating facilities? Do the seats cater to the psychological needs of all activity groups? Do activity areas avoid direct conflicts between different behavioral groups, such as children running and the elderly sitting quietly? Are necessary auxiliary facilities such as shade, lighting, and drinking water provided? More importantly, does the spatial design allow multiple people to engage in spontaneous activities simultaneously without interfering with each other or feeling cramped?

Dimension Three: Meaning Attachment. Refers to whether a space possesses a symbolic density that transcends mere function; that is, whether it carries stories, memories, identities, or local emotions. This meaning can come from the site's own historical relics, such as ancient trees, old wells, and industrial components, or from conscious coding in design. However, the more fundamental source is the emotional experience spontaneously bestowed by residents through long-term use. "Topophilia" precisely captured this emotional dimension of the relationship [11].

The three dimensions mentioned above are not linearly progressive, but rather mutually supportive and reinforcing. Perceived accessibility is a prerequisite for behavioral inclusiveness, behavioral inclusiveness is the foundation for the attachment of meaning, and the attachment of meaning, in turn, enhances residents' willingness to maintain and the frequency of use, further improving perceived accessibility and behavioral inclusiveness, thus forming a virtuous cycle.

3. CASE STUDY

3.1 Case Selection Criteria

Geographic and urban context diversity. Cases were chosen from provincial capital or municipality, which prominently reflect the issues between population and urban green space. And the different urban morphologies (delta city, basin city, mountainous city, industrial heritage city, urban village)

Size range control. All cases fall within the typical pocket park area range of 3,000–10,000 m², ensuring comparability of scale [2].

Typological variation. Cases were selected to cover different primary function, enabling the identification of distinct humanistic design strategies.

Data availability. Each case has sufficient published documentation (design statements, photographs, post-occupancy usage reports) to support multi-dimensional analysis.

3.2 Individual Case Descriptions

Leshan Green Space, Shanghai



Figure 1. Leshan Green Space, Shanghai, VIASCAPE design on gooood

Leshan Green Space was built in the 1970s. Before the renovation, it was enclosed by walls, had outdated facilities, and was plagued by uncivilized behavior. The designer adopted the concept of "one design, multiple functions," incorporated residents' conceptual demands for Chinese landscape gardens through natural curved surface design, creating a rest space for all ages. After the renovation, Leshan Green Space became one of the most popular and frequently used pocket parks in Xuhui District, with daily visitor traffic comparable to some parks several times larger.

Perceptual accessibility was fundamentally enhanced by the removal of walls, creating visual permeability from surrounding streets. Behavioral affordance is

reflected in the precise configuration of multifunctional spaces, such like morning exercise areas, bird-walking zones, chess tables, and childcare corners each receive matching spatial support. Meaning attachment stems from the sense of psychological ownership brought about by the full participation of residents in the design process.

Fuzhou Songshan Cultural Park

Fuzhou Songshan Cultural Park was an undeveloped corner of land, with two ancient banyan trees surrounded by walls and temporary prefabricated houses. The transformed park, centered on the ancient banyan trees, has become an important activity space for surrounding residents. Meaning attachment is particularly prominent, that the ancient banyan trees not only provide physical shade but also become visual anchors for collective memory and emotional landmarks of community identity. Perceptual accessibility is moderate due to partial street visibility. Behavioral affordance includes shaded seating areas that accommodate elderly gathering and children's play.

The design team implemented a series of protective measures for the ancient banyan trees, including laying breathable materials to protect their root systems, clearing excess trees to create space, and planting Fuzhou's city flower, jasmine, and city fruit, the Fuzhou tangerine, to comprehensively showcase Fuzhou's characteristics.The dual qualities of landscape immersion and historical narrative place it at the intersection of urban green space design.

Xi'an Taohuatan Pocket Park

The Xi'an Taohuatan Pocket Park is situated within an area of urban industrial heritage. This area was once part of the old industrial base, such as the Xi'an Textile City. The pocket park's transformation strategy involves converting existing industrial components, such as abandoned railway tracks, machine parts, and factory structures, into landscape elements, preserving industrial memory while incorporating new public living functions.Its distinguishing feature from traditional memorial parks lies in creating memory spaces through the presence of material remains, achieving green redesign of existing buildings.

Meaning attachment is achieved through material preservation of industrial relics, transforming abandoned ruins into commemorative spaces bearing witness to a specific historical period. Perceptual accessibility is enhanced by open boundaries. Behavioral affordance includes multi-generational activity zones integrated with industrial artifacts.

Chongqing Fuling Tashuiqiao Pocket Park

Originally a corner plot of land in the city, With "age-friendly" as its core concept, the park is divided into children's play areas, a non-standard basketball court, leisure trails, and a woodland interaction area to demonstrates a refined response to people of all ages in terms of behavioral inclusiveness.The park also incorporates smart facilities such as smart rest stations, sensor lighting, smart trash cans, and dynamic monitoring, allowing more than 5,000 households in the surrounding area to see greenery from their windows and enter the park right outside their doors.

Chongqing, as a mountainous city, faces a scarcity of flat land, making hill climbing a common part of daily life. Behavioral affordance is the dominant dimension, the

Tashuiqiao case shows that even in terrain where complete accessibility is not possible, sophisticated designs such as tiered seating, multi-level platforms, and corner benches can still create diversity urban green spaces.

Guangzhou Wangnan Park



Figure 2. Wangnan Park,Guangzhou, http://www.archina.com

The original site of Wangnan Park suffered from outdated public facilities,,safety hazards in some areas where pedestrians and vehicles shared the same paths. After renovation, the park provides a safe space for community residents. Behavioral affordance includes diverse activity zones integrated with cultural heritage elements. Perceptual accessibility is high due to open boundaries and the "shared space" concept. The design cleverly integrates local history and culture, which is connecting ancient alleys while respecting the old village layout to create a flowing landscape.

Urban village renewal often involves the displacement of original residents and the rupture of collective memory. Meaning attachment is achieved through preservation of ancestral hall square, feng shui pond, and traditional meeting spaces under large trees, grafting modern design language onto the traditional village structure, rather than using standardized modern spaces to eliminate the chaotic historical fabric. Therefore, Wangnan Park is not only a relax space in a high-density modern city but also a cultural buffer zone connecting the past and present, easing the gap between old and new communities.

Caojiadu Garden, Shanghai

Caojiadu Garden was originally designed and built by Japanese architect Yoshiro Hoshino in 2003. The 2021 renovation adopted a micro-renovation strategy, abandoning the complex, zigzag lines of the traditional garden and incorporating nautilus curves to create rest spaces, providing appropriate areas and facilities for morning exercisers and bird walkers. Behavioral affordance is the core strength that the concept lies in integrating paths, nodes, and rest areas into an organic whole through the continuity and envelopment of the nautilus curve, allowing residents to naturally choose to stop or pass through while walking.



Figure 3. Caojiadu Garden, VIASCAPE design on gooood



Figure 4. floor plan, author's drawing

This case reveals that the design within a small area is not about cramming in as many functions as possible, but about creating possibilities for behavioral transformation. Perceptual accessibility is medium (street-visible but compact). Meaning attachment stems from long-term neighborhood familiarity and the distinctive curved spatial experience.

3.3 Comparative Analysis Matrix

Table 1 reveals several cross-cutting patterns. First, all six cases achieve at least medium scores across all three dimensions, suggesting that pocket parks inherently possess multi-dimensional humanistic potential. Second, meaning attachment is the dimension with the widest variation, ranging from low (Tashuiqiao) to high (Songshan, Taohuatan, Wangnan) indicating that the presence of tangible heritage elements (ancient trees, industrial relics, ancestral halls) significantly enhances this dimension.Third, behavioral affordance is consistently high or medium-high, reflecting that basic activity support is achievable even on constrained sites.Fourth, perceptual accessibility correlates strongly with boundary treatment.

Table 1. Comparative evaluation of six pocket parks across the three humanistic dimensions

Case	Location	Size (m^2)	Primary User Groups	Perceptual Accessibility	Behavioral Affordance	Meaning Attachment	Dominant Typology
Leshan Green Space	Shanghai	5600	Mixed ages, elderly, parents with children	High (wall removal, visual permeability)	High (multi-functional zones, chess tables, exercise areas)	Medium (resident participation in design)	Socially Driven
Songshan Cultural Park	Fuzhou	~4000	Elderly, families	Medium (partial street visibility)	Medium (shaded seating, open lawn)	High (ancient banyan trees as cultural symbols)	Landscape Immersive
Taohuatan Pocket Park	Xi'an	~5000	Mixed ages, history enthusiasts	High (open boundaries)	Medium (industrial artifacts integrated with activity zones)	High (industrial heritage preservation)	Historical Narrative
Tashuiqiao Pocket Park	Chongqing	~4500	Elderly, children, families	Medium (terrain constraints)	High (age-friendly design, smart facilities, tiered seating)	Low (limited heritage elements)	Terrain-adaptive
Wangnan Park	Guangzhou	6000	Village residents, mixed generations	High (open boundaries, shared space concept)	High (cultural square, leisure corridors, fitness zones)	High (ancestral hall, feng shui pond, tree meeting spaces)	Historical Narrative
Caojiadu Garden	Shanghai	3000	Morning exercisers, bird walkers, elderly	Medium (street-visible but compact)	High (nautilus curve enabling natural stopping behaviors)	Medium (long-term neighborhood familiarity)	Socially Driven

Note: High (green), Medium (orange), Low (red) indicate relative performance within the case set. Detailed rationale for each rating is provided in the case descriptions.

4.DISCUSSION

Based on the comparative analysis of the cases, this paper proposes four typological classifications of pocket parks:

Category 1: Socially Driven. Represented by Leshan Green Space, This type of pocket park primarily serves the daily social needs of surrounding residents.

Category 2: Landscape Immersive. Typical examples include Fuzhou Songshan Cultural Park and Chongqing Tashuiqiao, emphasizes the therapeutic function of natural space. This type of pocket park provides natural spiritual comfort, offering a moment of closeness to nature plants.

Category 3: Historical Narrative. Represented by Xi'an Taohuatan and Guangzhou Wangnan Park, the core is transforming historical spaces into memory spaces. These pocket parks serve as spaces for collective memory, responding to the need for identity recognition.

Category 4: Terrain-adaptive. Taking Chongqing's Fuling Tashui Bridge as a key reference, this type employs special strategies for mountainous or high-altitude sites. Even with unavoidable terrain limitations, it still faced the needs of vulnerable groups such as the elderly and caregivers of infants.

It is worth noting that the above four types are not mutually exclusive; a pocket park often possesses characteristics of multiple types simultaneously. However, typological identification helps in understanding the prioritization of design decisions. Research shows that contemporary Chinese green urban design is shifting from the early single goal of landscape decoration to a multi-faceted integration of functional complexity and cultural embedding. The unique value of pocket parks also lies in the diversity of their typological characteristics.

The Value of Pocket Parks in Urban Green Space Culture:

On the level of physical and mental health restoration, pocket parks, by enhancing perceptual accessibility, transform the cold, impersonal spaces of high-density cities into warmer places, effectively alleviating the mental and physical stress of urban life.[12][13][14] In contemporary society, where involution and atomization are increasingly prevalent, pocket parks offer a low-cost psychological refuge. Unlike the commercial consumption attributes of cafes or the closed nature of private residences, they provide open, free, and safe spaces for observation. For groups such as elderly people living alone, stay-at-home parents, and migrant workers, public interaction without the pressure of consumption is especially valuable.

On the level of connecting social collective relationships, pocket parks, through their behavioral inclusiveness, catalyze individualized necessary activities into social activities such as conversation, games, and group entertainment. Pocket parks, through everyday scenarios such as dog-walking socializing, parent-child alliances, and game matches, provide physical carriers and behavioral references for the reconstruction of "neighborhood." They are high-frequency places where weak connections are formed between strangers, and these weak connections are the micro-foundation of community resilience.

On the level of cultural intergenerational transmission, pocket parks rely on the attachment of meaning to transform material relics such as ancient trees, industrial

components, and traditional village textures into carriers of daily micro-memories. For example, Fuzhou Songshan Cultural Park uses ancient banyan trees to anchor local cultural symbols, and Xi'an Taohuatan Park revitalizes industrial relics to form historical narratives, so that daily activities can transcend grand memorial sites and be softly passed down between generations, ultimately achieving the cultural transformation from physical space to emotional support.

5.CONCLUSION

This paper selected pocket parks as a micro-case study, integrating spatial narrative, cultural memory, and environmental behavior theories to construct a three-dimensional humanistic scale analysis framework.Through a comparative study of six pocket parks and analyzed using a structured comparative matrix (Table 1), reveals the social functions of pocket parks in achieving physical and mental restoration, social connection, and intergenerational cultural transmission based on flexibility and diversity.

The contribution of this study lies in operationalizing the humanistic scale into analyzable three-dimensional indicators, providing a new analytical tool for urban green space culture research.Practical case studies suggest that the core of green city construction lies not in the continuous expansion of green space area, but in the precise response of each space to the needs of real life. Pocket park design should adhere to the principles of visual transparency and psychological safety, multi-level behavioral inclusion, and revitalization of local memory, while also acknowledging the usage rights of marginalized groups and avoiding standardized replication that diminishes local cultural diversity.

This study argues that urban green space culture is not a technical indicator of vegetation coverage or landscape aesthetics, but rather a value choice. The social significance of pocket parks lies in their ability to demonstrate a city's humanistic level at a minimal material cost by respecting the smallest, most vulnerable, and most everyday spatial needs. Only when the consensus on contemporary green city construction shifts from quantitative expansion.

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