

A Study on Public Spatial Furnishing Aesthetics with Phalaenopsis Bonsai as the Medium

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Abstract:

Integrating the visual characteristics of modern floral art and the millennia-old oriental landscape conception lineage of traditional bonsai, Phalaenopsis bonsai serves as a composite living aesthetic medium suitable for the environmental construction of contemporary urban public spaces. Based on empirical spatial design research of four categories of creative samples, this paper summarizes core furnishing design strategies including differentiated scene deployment, softening of hard spatial interfaces, reconstruction of spatial cultural connotations and promotion of multi-layered aesthetic experience. It verifies that Phalaenopsis bonsai functions as a design medium with integrated spatial aesthetic value and cultural symbolic significance. The research elaborates on the application logic of Phalaenopsis bonsai plant installations in the construction of public spatial aesthetics, and highlights the theoretical and practical significance of advancing the development of public space furnishing aesthetics in the current urban context.

Keywords:

Phalaenopsis Bonsai, Public Space, Furnishing Aesthetics

1. Theoretical Foundation and Aesthetic Origins

1.1. Origins and Aesthetic Basis of Phalaenopsis

Phalaenopsis is a genus of Orchidaceae. Its generic name derives from two Greek roots: “phalaina” (moth) and “opsis” (resemblance), named for its flower morphology resembling flying butterflies. The discovery of Phalaenopsis dates back to 1750, when the German-Dutch botanist Rumphius first recorded Phalaenopsis amabilis in Herbarium Amboinense, naming it Angraecum album majus at that time [1]. Formal taxonomic classification of the genus was completed in the 19th century. Taiwan, China, one of the native habitats of Phalaenopsis, has established a pivotal global position in Phalaenopsis breeding and commercial production since the 1980s. Through long-term introduction, domestication, cultivar improvement and floral cultivation, Phalaenopsis is hailed as the “Queen of Orchids” and ranks among the world’s most economically significant potted flowering plants.

The aesthetic value of Phalaenopsis lies primarily in its floral structure, layered color palette and integral plant morphology, endowing it with superior ornamental

performance and spatial adaptability aligned with contemporary public aesthetic preferences. Its aesthetic core resides in the stretched, upward floral stalk lines embodying minimalist modernist aesthetics, paired with highly variable floral hues. Accordingly, Phalaenopsis is widely deployed in modern interior furnishing, landscape design and artistic installations, and enjoys exceptional popularity among audiences in the Lingnan region.

1.2. Bonsai Lineage and Landscape Conception Aesthetics

Chinese bonsai art originated in the Wei-Jin dynasties, flourished during the Tang and Song dynasties, and reached full maturity in the Ming and Qing dynasties. Over millennia of evolution, it has deeply integrated with mountain-water aesthetics, literati culture and pure offering art, forming an independent oriental miniature landscape system. In *Bonsai Science*, Professor Peng Chunsheng from Beijing Forestry University defines bonsai as an artistic creation within containers that reproduces natural scenery, rooted in the human longing for natural landscapes of mountains, waters and stones, and the leisurely aesthetic pursuits of Chinese literati cultivated through millennia of garden traditions [1]. Zhu Liangzhi proposes that “vital vitality” constitutes the spiritual core of Chinese bonsai; the pursuit of organic vitality is the fundamental distinction elevating bonsai from craftwork to fine art [2]. Beyond landscaping techniques, bonsai acts as a spiritual carrier embodying the perpetual vitality of the universe.

The core aesthetic logic of bonsai lies in landscape conception. Employing the artistic technique of “condensing grand mountains into miniature inches”, practitioners recreate mountain wilderness charm and poetic imagery within limited pot containers. As shown in Figure 1. The Qing court painting *Painting of Ten-Thousand-Year Blooming Flowers* exemplifies classical bonsai aesthetic composition governed by literati landscape principles: shallow round pots support plant assemblages paired with conch ornaments and orchids, with layered vegetation arranged in balanced density and sparse spacing, extended branches restrained in elegant vitality, and a holistic layout balancing void and substance. The miniature yet expansive spatial wisdom of traditional bonsai provides profound cultural resources for the integration of Phalaenopsis bonsai into public spaces.



Figure 1. *Painting of Ten-Thousand-Year Blooming Flowers.*

1.3. Furnishing Aesthetics of Public Space

In *On Beauty*, Zhu Guangqian illustrates aesthetic subjectivity through the metaphor of an ancient pine: timber merchants perceive its economic utility, botanists observe its biological properties, while painters appreciate its rugged form [3]. This analogy demonstrates that beauty is neither an inherent attribute of objects nor an arbitrary projection of viewers, but an interactive product of subjective consciousness

and objective entities. The artistic aesthetics of Phalaenopsis bonsai within public spaces reflect this tripartite interpretive framework: audiences may regard it merely as decorative ornamentation, biological specimen, or a carrier of authentic aesthetic perception. The core of public spatial aesthetics resides not in landscape media per se, but in the interactive aesthetic experience generated between the public and spatial objects.

In summary, botanical landscapes function as integral components of spatial aesthetics rather than isolated decorative elements within contemporary public environments. When introduced into public spaces, Phalaenopsis bonsai simultaneously undertakes dual functions of spatial aesthetic construction and symbolic representation of auspiciousness and elegance, serving as a bridge connecting traditional cultural auspicious connotations with modern spatial etiquette systems.

2. Furnishing Aesthetic Value of Phalaenopsis Bonsai

From a macro furnishing aesthetic perspective, Phalaenopsis bonsai constitutes a visual art synthesizing botanical beauty, artificial formative beauty, environmental harmony and spiritual artistic conception. This chapter systematically deconstructs the multi-layered aesthetic system of Phalaenopsis bonsai as independent miniature landscapes across four sets of creative samples, sorting out its aesthetic logic and intrinsic value as summarized in Table 1.

Table 1. *Dimensional Aesthetic Characteristics of Phalaenopsis Bonsai.*

Case No.	Aesthetic Dimension	Core Characteristics	Aesthetic Application	Intrinsic Aesthetic Value	Case Origin
1	Form Aesthetics	Vertical primary axes and curved sequences construct three-dimensional structures; gradient color transitions; translucent petals cast layered shadows; symbiosis with dead wood interprets the cycle of life		Generates visual tension balancing rigidity and gentleness, amplifies natural vitality and artistic appeal	EQ High-branched Phalaenopsis Installation, Beijing
2	Color Aesthetics	Floral clusters arranged by color zones to form rhythmic visual flow; cold-warm color partitioning; light-absorbing petals enhance chromatic gradation; contrast and harmony balance emotional atmosphere		Enriches time-based viewing dimensions, reinforces dynamism and spatial immersion	Yuhuatian Floral Design, Harbin

3	Light and Shadow Aesthetics	Sparse branching reserves light transmission interfaces; translucency creates variable color temperatures; petal shadows form dual visual imagery alongside physical blooms; shifting daylight generates alternating void and substance		Expands time-sensitive aesthetic perception, deepens immersive spatial experience	Xiaosheng Floral Studio, Shandong
4	Artistic Conception Aesthetics	Tiered plant heights simulate natural mountain topography integrating distant and flat perspectives; muted tones infused with vital greenery; moss and foliage reflect soft scattered light; miniature mountain ecosystem embodying the unity of human and nature		Achieves integration of material form and spiritual philosophy with profound cultural and ontological connotations	Tiffany&Wonderful Jungle, Shenzhen

2.1. Form Aesthetics

Form constitutes the fundamental and core artistic language of Phalaenopsis bonsai, falling within the category of pure formal aesthetics [4]. As monopodial orchids, Phalaenopsis can be manipulated as living spatial structural components. Designers adjust the inclination of floral stalks to guide sightlines, modulate plant height to match spatial scale hierarchies, and combine multiple individual specimens to create rhythmic visual focal points within expansive atriums.

The form aesthetics of Phalaenopsis bonsai in public spaces transcend superficial floral visual pleasure, centering on the structural spatial force embodied by integral plant morphology. Linework forms the foundation of all formative art: the soft curvilinear floral stalks of Phalaenopsis intertwined with rigid dead wood branches generate striking rhythmic visual contrast. Case 1, a dead-wood epiphytic bonsai installation, constructs a complete sculptural aesthetic framework through three layers of formal expression: linear rhythm, volume contrast and textural juxtaposition, realizing aesthetic symbiosis between natural primitive morphology and artificial compositional order.

2.2. Color Aesthetics

Color functions as the most emotionally resonant visual medium of Phalaenopsis bonsai, with its core logic rooted in the dialectical unity of cold and warm chromatic tonality and balanced distribution of visual weight [5]. Case 2 juxtaposes warm and cool floral cultivars to achieve dynamic visual equilibrium. Warm orange and yellow

blooms expand outward visually, conveying vibrant, energetic emotional signals; cool pale blue cultivars recede inward psychologically, generating calm, restrained perceptual effects. Mutual counterbalance between cold and warm color partitions eliminates restlessness induced by dominant warm hues and alienation triggered by exclusive cool palettes, stabilizing spatial emotional atmosphere through visual mediation.

The living, seasonally variable chromatic characteristics of *Phalaenopsis* infuse public spaces with narrative temporality. Visitors perceive distinct color palettes across seasonal cycles, transforming static, unchanging spatial backdrops into breathing, rhythmically layered environments—an irreplaceable aesthetic experience unavailable with synthetic artificial materials.

2.3. Light and Shadow Aesthetics

Light penetrating translucent petals generates dual-layer aesthetic perception through physical blooms and projected silhouettes, with natural daylight possessing inherent dynamic temporal attributes. In public spaces equipped with floor-to-ceiling windows and central atrium lighting, diurnal shifts in solar elevation continuously alter incident light angles and luminous intensity, synchronously transforming the position, area and layered void-substance quality of bonsai shadows. Distinct light-shadow effects emerge at dawn, noon and dusk, endowing static landscapes with temporally fluid aesthetic value [6].

In Case 3's design, directional spotlights illuminate a white *Phalaenopsis* bonsai assemblage, casting floral silhouettes onto muted red wall surfaces to create mirror imagery reminiscent of Chinese ink wash painting. This case verifies that light and shadow possess transformative power over botanical installations, elevating bonsai beyond mere plant specimens into symbolic spatial imagery. Light and shadow do not merely subordinate to *Phalaenopsis* specimens; they coordinate with bonsai to modulate holistic public spatial ambiance, establishing aesthetic connections between miniature plant assemblages and macro architectural environments.

2.4. Artistic Conception Aesthetics

Conceptional beauty represents the highest tier of *Phalaenopsis* bonsai's aesthetic system, transcending superficial formal attributes of form, color and light-shadow to occupy the realm of oriental spiritual aesthetics and aesthetic psychology. Case 4 constructs a miniature mountain forest symbiotic ecological community to interpret the core bonsai tenets of “condensing grandeur into miniature scale” and “seeing vastness through smallness”. Twisted dead wood simulates mountain frameworks, with tiered *Phalaenopsis* specimens distributed atop simulated peaks and beneath cliff facades, complemented by multi-layered undergrowth including calamus, ferns and moss to restore interdependent wild botanical communities. Layered vegetation with alternating concealment and exposure fully interprets “vital vitality”—the quintessence of bonsai aesthetics—conveying cyclical natural life philosophies embedded within traditional oriental cosmology.

Embedded within hard pavement systems, these miniature landscape assemblages transcend standalone decorative functions to serve as narrative starting points for holistic public spatial conception, carving meditative natural voids amid expansive stone and metallic hardscape environments suitable for spiritual contemplation.

2.5. Unique Aesthetic Advantages of Phalaenopsis Bonsai as a Medium

Collectively, Phalaenopsis bonsai delivers systematic support for upgrading public spatial quality as a landscape medium, with three core merits:

First, exceptional dimensional flexibility spanning desktop micro-landscapes, floor-standing composite assemblages and vertical hanging installations. Layout modes including single display, arrayed arrangement and thematic clusters enable full-scale spatial coverage, sustaining consistent natural landscaping vocabulary across functional zones to guarantee coherent integrated landscape narration.

Second, deep cultural recognition rooted in oriental bonsai's "learning from nature" landscape conception tradition. As an iconic floral species of Lingnan, Phalaenopsis evokes widespread emotional resonance and cultural recognition. As a composite cultural carrier, it conveys refined, auspicious oriental spiritual connotations without redundant decorative supplements, offering a lightweight solution to mitigate homogenization crises in contemporary urban public landscape design.

3. Applied Strategies of Phalaenopsis Bonsai in Public Spatial Art Aesthetics

3.1. Differentiated Aesthetic Deployment Strategies

Public spaces constitute heterogeneous environments, where functional categorization dictates divergent user behavioral patterns, psychological expectations and aesthetic demands [7]. Phalaenopsis bonsai deployment must adopt differentiated aesthetic strategies grounded in spatial typology, as outlined in Table 2.

Commercial spaces prioritize consumer activity, with atmospheric design logic focused on stimulating visual excitement, extending visitor dwell time and consolidating brand memory. Within such environments, Phalaenopsis bonsai operates as visual marketing installations; containers and display fixtures break conventional bonsai boundaries to align with corporate visual identity systems, integrating specimens into commercial spatial narrative frameworks. Continuously refreshed floral landscapes generate shareable visual media events amid social media culture.

Government administrative spaces pursue opposing aesthetic orientations, prioritizing solemnity and elegance consistent with public service functionality. Deployment adheres to the minimalist principle of "few but exquisite" specimens. Low-saturation cool-toned cultivars (white, pale green, blush pink) dominate year-round arrangements; limited scarlet varieties may be incorporated during ceremonial festivals to embody auspicious symbolism without overwhelming spatial solemnity.

Cultural venues including art galleries, museums and cultural centers demand transparent visual rhythms, profound spiritual temperament and rich humanistic heritage. Phalaenopsis bonsai functions as independent miniature artworks engaging in aesthetic dialogue with exhibition content, selecting gracefully structured, subtly hued, restrained cultivars.

Transportation hubs represent the most challenging public spatial typology, characterized by high pedestrian volume, brief visitor dwell time and elevated psychological stress, with audiences maintaining low aesthetic arousal thresholds. Phalaenopsis serves as mild chromatic embellishment delivering low-stimulus visual relief. Large-scale clustered landscape configurations are favored, with integrated

seating-bonsai design positioning green assemblages within natural sightlines of resting passengers. This passive aesthetic exposure outperforms guided ornamental design in alleviating travel fatigue and waiting anxiety.

Despite divergent deployment logics across the four spatial categories, the underlying design principle remains unified: the color palette, scale, compositional structure and cultivar selection of *Phalaenopsis* bonsai must precisely align with spatial functionality and user psychological expectations, subordinating aesthetic expression to holistic ambient construction.

Table 2. *Typological Classification of Public Spaces and Corresponding Deployment Schemes.*

Public Spatial Typology	Aesthetic Deployment Orientation	Dominant Color Palette	Scale Configuration	Aesthetic Space
Commercial Space	Fashionable, dynamic, visually striking	High-saturation warm hues	Medium-to-large sculptural installations	
Government Administrative Space	Solemn, structured, understated elegance	Low-saturation cool tones; scarlet accents for festivals	Small-to-medium standalone furnishings	
Cultural Venue	Transparent, serene, humanistic profundity	Neutral tones with blank visual spacing	Flexible mixed composite arrangements	
Transportation Hub	Soothing, quiet, stress-alleviating	Muted neutral shades	Large clustered landscape assemblages	

3.2. Softening Hard Surfaces through Micro-Nature

Contemporary public spaces are typically constructed from stone, metal, and glass. Phalaenopsis bonsai, as a miniature natural insert, serves as a flexible medium that tempers the rigidity of these artificial environments. Vertically, a medium-sized compound Phalaenopsis composition placed beside a plain stone wall or metal curtain wall introduces organic curvilinear lines that counter the geometric right angles of the architecture, creating a visually soothing buffer zone on an otherwise monotonous background. As spatial dividers, small Phalaenopsis compositions placed near metal grilles or glass partitions maintain spatial separation while substituting semi-transparent naturalistic interest for mechanical obstruction, allowing the eye to pass through. Horizontally, the expansive paving of atriums and corridors often induces a sense of emptiness; a sequence of Phalaenopsis arrangements of increasing scale can soften hard boundaries with continuous greenery, delineating a fluid viewing trajectory across the human-made terrain. A single pot thus imparts a living warmth to the cool-toned environment, achieving a synthesis of function and aesthetics.

3.3. Reconstructing Spatial Cultural Connotations via Furnishing Aesthetics

Three methodologies facilitate cultural reconstruction within public spaces:

First, implantation of traditional auspicious cultural symbols. Complementary plant species carrying symbolic connotations (*Ganoderma lucidum*, *Asparagus setaceus*, *Funaria hygrometrica*, *Caladium bicolor*) are paired with Phalaenopsis to implicitly transmit refined auspicious cultural connotations through natural landscapes, replacing rigid, homogenized traditional decorative patterns and realizing modern visual transformation of classical cultural elements (Table 3).

Table 3. Cultural Symbolism of Companion Plants for Phalaenopsis Bonsai.

	Species/Latin Binomial	Ornamental Traits	Cultural Symbolic
	<i>Ganoderma lucidum</i> (Curtis) P.		Auspicious fortune, opulence, longevity and health
	<i>Asparagus setaceus</i> (Kunth) Jessop.		Literary refinement, integrity, progressive advancement
	<i>Phalaenopsis</i> <i>aphrodite</i> Rchb.		Prosperous commerce, accumulated blessings, flourishing kinship
	<i>Funaria</i> <i>hygrometrica</i> Hedw.		Perseverance, modesty, tranquil harmony

	<i>Caladium bicolor (Ait.) Vent.</i>		Joyful vitality, peace and affluence
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Second, reproduction of literati bonsai aesthetics. Classical compositional logic derived from ancient paintings such as Painting of Ten-Thousand-Year Blooming Flowers is replicated through shallow pots, plain orchids, stone ornaments and moss collocations, recreating leisurely pure offering imagery of ancient literati within modern interiors and constructing oriental aesthetic scenes integrating classical heritage and contemporary minimalism.

Third, establishment of lightweight oriental landscape systems. Contrasted with high-cost, large-scale indoor rock-water landscape installations, Phalaenopsis bonsai features compact dimensions and flexible layout, requiring no extensive hard renovation to rapidly implant oriental landscape conception aesthetics. It delivers low-cost, lightweight cultural atmosphere upgrading suitable for medium and small-scale public venue cultural construction.

3.4. Multi-Layered Promotion of Spatial Aesthetic Experience

Phalaenopsis bonsai mobilizes visual perception and emotional psychology to construct tiered public aesthetic experiences, breaking the single distant-view ornamental mode of conventional landscape design:

Surface Layer: Basic Visual Experience. Distant visitors rapidly perceive spatial atmosphere modulation through floral color and formative contours, fulfilling fundamental landscape beautification functions.

Middle Layer: Immersive Detailed Experience. Close-range observation enables systematic core nodes activating holistic spatial perception.

audiences to appreciate petal texture, leaf luster, pot-stone coordination and alternating light-shadow void-substance interplay, interpreting sophisticated compositional and chromatic design logic for specialized aesthetic appreciation [8].

Deep Layer: Integrated Art and Digital Interactive Experience. Digital technologies embedded within exhibition frameworks allow visitors to access Phalaenopsis bonsai creation narratives via mobile terminals, expanding the imaginative boundaries of aesthetic engagement with botanical installations within public spaces.

Synchronized multi-layered aesthetic experiences distributed across multiple spatial nodes elevate Phalaenopsis bonsai beyond isolated decorative furnishings into systematic core nodes activating holistic spatial perception.

4. Conclusion and Prospect

This research investigates the furnishing aesthetic value and practical application of Phalaenopsis bonsai as a medium within contemporary public spaces through empirical analysis of four creative samples, deriving three systematic design methodologies:

The integrated aesthetic system advances hierarchically from form, color and light-shadow to artistic conception, with formal linguistic elements serving conceptual

construction, transforming landscape installations from passive viewed objects into immersive experiential fields. Miniaturized natural landscapes embedded within artificial architectural environments soften hard spatial interfaces; traditional auspicious symbolic elements and classical landscape conception techniques facilitate the cultural transformation of neutral architectural space into culturally rooted place. Three-tiered ornamental frameworks (distant viewing, close appreciation and digital interaction) break static ornamental limitations, establishing Phalaenopsis bonsai as systematic perceptual activation nodes throughout public environments.

Future research directions center on developing localized public art creation and evaluation systems for Lingnan-region Phalaenopsis bonsai grounded in indigenous cultural characteristics, forming a complete methodological framework covering cultivar breeding, formative design and spatial aesthetic deployment to provide replicable paradigms for cross-regional practical reference. Interdisciplinary collaboration between horticulture, environmental design and aesthetics will advance selective breeding of Phalaenopsis cultivars optimized for public spatial deployment.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

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