

Bodily Presence
——**The Integration of Experiences and Narrative in Exhibition Spaces under the**
Perspective of Embodied Cognition

Wei Jinmeng

Abstract: Exhibition spaces, as material carriers and existential realms for presenting and communicating information, are inseparable from human perception and emotional experiences. In the contemporary design of exhibition spaces, it is crucial to focus on the audience, shifting from an object-centered to a human-centered logic. This paper aims to explore the key factors in the integration of experience and narrative in exhibition spaces from the Perspective of Embodied Cognition—connectivity, nonlinearity, interactivity, and fluidity—and analyze how these factors influence and shape the design of exhibition spaces. Through specific case studies, it emphasizes the importance of creating immersive and multi-sensory perception-fused narrative environments and discusses the possibilities for the future development of exhibition space design.

Keywords: Exhibition Space Design; Embodied Cognition; Spatial Narrative; Body Theory

1. Introduction

The core ideology of design is rooted in humanism, emphasizing a focus on human needs. However, current practices in exhibition space design exhibit overemphasis on visual elements and neglect of audience sensory experiences, which contradicts the original intent of design and fails to fully realize the potential for effective information communication. With social development and technological advancements, exhibition space design is gradually returning to a human-centered design philosophy, re-emphasizing the importance of audience experience and participation. This paper aims to explore the following questions: How can contemporary exhibition space designers motivate active participation from attendees? From the Perspective of Embodied Cognition, how can exhibition space design coordinate various elements to enhance the quality of attendees' perceptual and emotional experiences? And in the trend of social and cultural diversification, how can exhibition spaces meet the differentiated needs of individuals? Through in-depth analysis of these issues, this paper hopes to provide a new theoretical perspective for the field of exhibition space design, promoting its development towards a more humanized, interactive, and immersive direction, in order to achieve effective information communication and comprehensive optimization of audience experience.

2. The Body as a Medium of Narrative

Embodied Cognition Theory, an important outcome in the interdisciplinary field of philosophy, psychology, and cognitive science, emphasizes that human cognition and understanding of the world are deeply influenced by bodily experiences. In exhibition space design, this theory urges designers to incorporate the vitality of the body into narrative, thereby deriving a design thinking centered on the body view—not only focusing on spatial narratology but also emphasizing the importance of the body in narrative and experience. In the field of exhibition space design, the body is not only the foundation of perception and experience but also the core intermediary for information flow. The relationship between the

body and narrative intertwines on multiple levels, evolving from traditional narrative to embodied spatial narrative, where the body's importance is increasingly prominent. In this process, narrative transforms from simplicity to complexity, from unilateral transmission to interactive co-creation between the audience and space, forming a complete closed loop.

Embodied narrative uses the body as a participatory medium for narrative, converting abstract narrative content into concrete bodily experiences through interaction with the narrative environment. This type of narrative is dynamic, unfolding with the movement of the body and the participation of the senses, becoming a two-way, interactive process.

In the integration of experience and narrative, the role of the body is further strengthened, emphasizing the foundational role of bodily experiences in cognition and narrative. It is believed that bodily sensations and movements are key to understanding the world and constructing narratives. This interactive narrative was proposed in the 1980s and has since gained attention in fields such as video games, scent-vision movies, and perceptual interactive imagery, all focusing on senses as channels for information and applying them in narrative. In exhibition spaces, by designing multi-sensory interactive experiences, attendees' embodied narrative experiences can be enhanced, making them not just receivers of the story but co-creators of it.

As important cultural fields, exhibition spaces play a crucial role in conveying ideas, stories, and information. The integration of experience and narrative in exhibition spaces from the Perspective of Embodied Cognition refers to making the interaction between the body and space an integral part of narrative through coordinated senses, creating a comprehensive and immersive experience environment for visitors, enabling them to engage more deeply with information transmission from bodily, emotional, and cognitive levels. This integration is not a simple addition of technology, embodiment, and narrativity but rather a collaborative effort centered on the body view, drawing from spatial narratology, psychology, intelligent interaction, technology philosophy, and other disciplines. It utilizes design elements to create a sensory and emotional experience for visitors beyond mere information transmission and content expression.

Against the backdrop of rapid information technology development, exhibition space design is undergoing a transition towards multi-sensory experience integration. This trend requires designers to explore how to combine embodied cognitive experiences and narrative to create environments with greater immersion and engagement, thereby enhancing the attractiveness and educational value of exhibition content. This, in turn, improves the effectiveness of information dissemination and cultural transmission in exhibition spaces, enhances user experience, and fosters understanding and exchange among different cultural backgrounds.

3. Experience within the Framework of Embodied Cognition

In modern society, experience has become an important issue in the field of space design. In exhibition spaces, experience is a multidimensional process triggered by sensory perception, developed through behavioral interaction, and ultimately achieving emotional and

cognitive resonance in meaning construction. This process can stimulate visitors' interest and curiosity, making them more willing to actively explore and participate, thereby enhancing the effectiveness of information communication and establishing emotional connections, imaginative links, and meaning construction between visitors and content.

Bodily perception is the foundation of experience within the framework of embodied cognition. Bodily perception involves how visitors receive information in exhibition spaces through their senses. Designers utilize various sensory elements such as vision, hearing, and touch to enhance visitors' perception of exhibitions. For instance, multimedia installations and lighting effects are used in exhibition spaces to amplify visual perception (Figure 1), while the combination of temperature, materials, and lighting enhances tactile experiences. Spatial forms, tones, and sounds suggest emotional atmospheres (Figure 2), evoking emotional resonance and providing visitors with an intuitive and immersive experience, thereby resonating with the narrative content on emotional and cognitive levels.



Figure 1: Guiding visitors through specific lighting, sound, and tactile feedback to establish initial sensory connections.

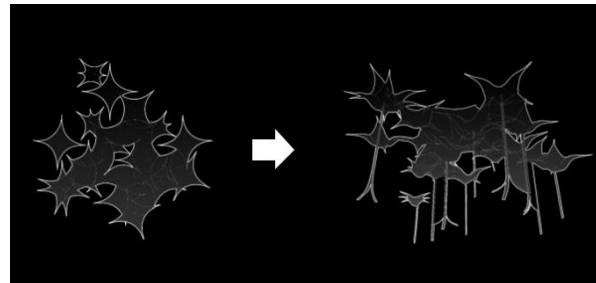


Figure 2: Enhancing emotional atmospheres by using spatial forms.

Behavioral control is the second level of experience within the framework of embodied cognition. It involves the behaviors and interactions of visitors in exhibition spaces. Designers can establish narrative clues and guide and control visitors' behaviors through spatial layouts, navigational signs, and interactive installations, making them part of the narrative (Figure 4). By setting specific paths or interaction points (Figure 5), visitors can explore along the designed narrative line. This design not only enhances the coherence of the experience but also boosts visitors' engagement, making them active actors in the exhibition space.



Figure 3: guides and controls visitors' behavior through spatial layout, directional signage, and

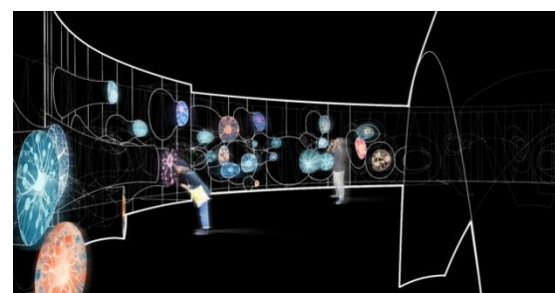


Figure 4: Adding interaction points in space.

interactive installations.

Meaning construction is the deepest level of experience. It concerns how visitors understand and assign meaning to exhibition content. In exhibition spaces, designers can help visitors build deep understandings of exhibition themes through narrative structures, metaphors, and symbolism. This understanding transcends mere sensory experiences, encompassing emotional, cognitive, and cultural dimensions, enabling visitors to continue thinking and reflecting after the experience. Through this multi-layered experience design, exhibition spaces can better convey information, stimulate thought, and leave a lasting impression on visitors.

In today's era, exhibition spaces have transformed from static information display platforms to dynamic, interactive communication venues, not only serving as knowledge transmitters but also creators of emotional resonance. Currently, exhibition space design tends to create a multi-sensory and highly interactive experience environment, emphasizing the integration of advanced technology to enhance visitors' immersion and engagement. Designers not only focus on personalized and customized experiences but also integrate various spatial elements across disciplines to meet the needs of different visitors. Furthermore, there is increasing emphasis on sustainability and the establishment of communities beyond exhibition spaces, striving to provide captivating exhibition experiences while enhancing social and cultural resonance. These trends reflect the pursuit within the field of exhibition space design to create exhibitions with greater attractiveness, educational significance, and cultural value.

4. Factors in the Integration of Experience and Narrative from the Perspective of Embodied Cognition

4.1 Connectivity

The integration of experience and Narrative in exhibition spaces manifests firstly in connectivity in terms of information communication. Connectivity refers to the ability to establish meaningful connections between people and objects within exhibition spaces from the perspective of embodied cognition. This kind of connections not only involve the layout of physical space but also pertain to the continuity of narration and emotional resonance, collectively acting on visitors' sensory systems to achieve a smooth transition from the narrator to the recipient. In the context of embodied cognition, connectivity refers to the ability to establish meaningful connections between people and objects within exhibition spaces. As emphasized by Berners-Lee, the value of information lies in its structure and connections, rather than in individual elements themselves. In exhibition spaces, these connections are not merely physical but also narrative continuity, which strengthens visitors' emotional experiences through the layout and design of various spatial elements.

Connectivity refers to the ability of people and objects within exhibition spaces, from the perspective of embodied cognition, to engage in meaningful connections with each other. The design of exhibition spaces should not be viewed as isolated scenes but rather as creating a sense

of continuity through the interconnectedness of spatial elements, which structurally serves as a bridge and injects vitality into the exhibition space. A reasonable layout of various elements in the exhibition space provides visitors with a sense of story connection between different fields, emphasizing the logical links between them and maintaining the continuity of the narrative. Taking the *Wonderland* exhibition at the Australian Centre for the Moving Image (ACMI) as an example, this exhibition, inspired by *Alice's Adventures in Wonderland*, invites visitors to participate in the narrative from multiple angles through interactive installations and immersive environments. In this process, elements such as props, interfaces, forms, lighting, and textures in the scenes are not only functionally and visually interconnected but also form an intrinsic link in the plot, implying the possibilities of transitional spaces and narratives. For instance, the “Garden Room” uses floral scents and large interactive teacups (Figure 6), while the “Mushroom Forest” creates a dreamlike environment with projections and lighting. These designs not only enhance visitors’ immersion but also, through multi-sensory experiences such as vision, smell, and touch, make visitors feel like they have truly entered the fantastical world of the story, thereby demonstrating the importance and effectiveness of connectivity in exhibition space design. Connectivity emphasizes visitors’ immersion, and through multi-sensory stimulation, narrative continuity, and emotional resonance are achieved, allowing visitors to feel like they have truly entered the magical world of the story.



Figure 6 Garden Room

(image source:

<https://thehoneycombers.com/singapore/alice-in-wonderland-artscience-museum-marina-bay-sands/>)

4.2 Nonlinearity

Saussure’s view that language is a linear arrangement of symbols is equally applicable to exhibition space design. Linear thinking, as a unidirectional and temporally sequenced mode of thought, influences how information recipients interpret and experience stories. The transmission of information in exhibition spaces follows a preset linear flow, requiring visitors to receive information along a designated path, which limits their active exploration and experience of the story.

Technological advancements have revolutionized visitors’ participation in narratives, enabling them to engage with stories from different perspectives and at varying paces, thereby obtaining unique and profound aesthetic experiences. The integration of experience and narrative

in exhibition spaces from an embodied cognition perspective transcends traditional linear constraints, allowing for more free and proactive participation in narratives. For instance, *Sleep No More*, an immersive theater adaptation of Shakespeare's *Macbeth*, breaks the boundaries of traditional theater by creating a nonlinear stage narrative space where audience members can freely navigate through the textual matrix within the space, encountering and separating from narrative nodes, and even actively participating in the construction of narrative texts, integrating subjective narrative plots. The introduction of randomness and contingency brings new exploratory fun to embodied narrative spaces. In nonlinear exhibition spaces, visitors' psychological timelines are no longer single-linear processes but dynamically change as they move within the space, creating a leapfrogging, multidimensional experience. This experience transcends traditional flat space and temporal trajectories, enriching the narrative content and making it more three-dimensional. Nonlinearity emphasizes the deep interaction between visitors and the space, as well as the narrative, reflecting the trend of personalized experiences and innovative practices in exhibition space design under the guidance of embodied cognition theory.

4.3 Interactivity

Interactivity is a crucial aspect of the integration of experience and narrative in exhibition space design. It is embodied in actively engaging visitors in exhibitions, making the experience more memorable and immersive. By incorporating interactive elements, designers can construct a two-way communication system, thereby facilitating interactive dialogue between designers and visitors through the exhibition space. Visitors are not merely information recipients but co-creators of narratives, completing narratives through bodily perception and personal experience, achieving emotional resonance. In the "Van Gogh Alive" exhibition, a highly interactive immersive experience environment is provided for visitors through the combination of digital projections, soundscapes, and scents. The exhibition space is surrounded by Van Gogh's paintings, with music and ambient sounds complementing the visual experience, while fragrances from flowers further enhance the immersion (Figure 7). The interactivity of the space deepens visitors' understanding of Van Gogh's works and creates emotional resonance, highlighting the role of sensory experiences in establishing emotional connections between visitors and exhibition content. By engaging visitors' emotions through multi-sensory interactions, emotional connections between visitors and exhibition content are established. Emphasizing sensory experiences and incorporating interactive design can make visitors more engaged during the experience, thereby deepening their perception and understanding of exhibition content. This not only enhances the educational value of exhibition spaces but also strengthens their cultural and emotional impact. In this way, exhibition space design can better meet modern audiences' demands for immersive and interactive experiences, achieving the dual goals of information transmission and emotional communication.



Figure 7 “Van Gogh Alive” exhibition

(Image Source: <https://grande-experiences.com/van-gogh-alive/>)

4.4 Fluidity

Technological advancements have opened up new possibilities for narrative intervention in exhibition spaces, redefining the relationship between visitors and narratives. Fluidity manifests in two primary aspects: firstly, the breadth, multiplicity, and variability of visitor identities render the narrative subject no longer fixed but fluid and diverse; secondly, the “readable and writable” nature of narrative texts facilitates the mutual transformation of roles between narrators and recipients, thereby enhancing interactive participation in narratives. This openness also extends to groups of different cultural backgrounds and their interactions, turning participants into co-creators of the space through continuous cultural collisions, with their behaviors and interpretations becoming part of the narrative and influencing other participants’ experiences. Cao Fei’s “Stage of the Times” series of exhibitions serves as an example. This exhibition employs technological means such as interactive screens and sensor devices, enabling audiences to directly interact with exhibits through touch or movement, revealing more background information and story layers of the works. This design not only deepens audiences’ understanding of the works’ connotations but also makes them active components of the narrative, thereby enhancing the immersion and memory depth of the experience. Under embodied cognition, exhibition spaces transform into dynamic, co-constructed, and equally dialogical narrative environments, where each participant’s contribution is unique, collectively constituting the overall narrative of the exhibition.

In summary, technological advancements not only promote narrative fluidity in exhibition spaces but also appropriately leave room for the fluid changes of narrative subjects within rules, allowing individuals to leave their marks in the narrative. Fluidity enhances information communication effectiveness and enriches the experience, making it more personalized.

5. Conclusion and Outlook

This paper emphasizes that contemporary exhibition space design should shift from focusing on “presenting objects” to returning to people, by integrating multi-sensory experiences and interactive narratives. It fully mobilizes the key factors of the integration of experience and narrative, including connectivity, nonlinearity, interactivity, and fluidity, which interact to shape a dynamic and interactive exhibition environment, enhancing visitors’ participation and the quality

of their experiences, transforming them from passive recipients to co-creators of stories. In the future, exhibition space design needs to further explore technological innovation, interdisciplinary collaboration, cultural diversity respect, and sustainable development to adapt to the needs of sociocultural diversity, achieve effective information transmission and comprehensive optimization of visitor experiences, and better serve the needs of different groups.

6. References

- [1] Liu Shengli. *Body, Space, and Science* [M]. Jiangsu People's Publishing House: Phoenix Library, 2014.11.447.
- [2] Saussure. *Course in General Linguistics* [M]. Beijing: The Commercial Press, 1980.
- [3] *Space Exhibition Design*, Huang Jiancheng. [M]. Peking University Press, 2013.
- [4] Falk J H, Dierking L D. *Learning from Museums* [J]. 2000.
- [5] Hale J. *Narrative Environments and the Paradigm of Embodiment* [M]//*Museum Making*. Routledge, 2012: 221-245.
- [6] Guo Zichun. *Embodied Interactive Narrative: An Experiential Interpretation of Narrative Forms in the Intelligent Age* [J]. Journalism & Communication Review, 2022, 75(02): 23-34. DOI: 10.14086/j.cnki.xwycbpl.2022.02.003.
- [7] Sun Wei. *Research on Interactive Media Narratives* [D]. Nanjing University of the Arts, 2011.
- [8] Wang Siyi. *Multi-sensory Museology: The Cognition and Communication of Embodiment and Museum Phenomena* [D]. Zhejiang University, 2019. DOI: 10.27461/d.cnki.gzjdx.2019.001961.