

# Narrative Possibilities and Spatial Construction in Interactive Installation Art

Yibo Sun

School of sculpture, Royal college of art, London, UK

---

**Abstract:** As a key form of artistic innovation in the digital age, interactive installation art breaks with the traditional art form of "one-way output." With "participant involvement" as its core characteristic, it presents diverse breakthroughs in narrative expression and spatial construction. Drawing on practical cases of interactive installation art, this article explores the path to expanding its narrative possibilities—the shift from linear to multi-threaded narrative, and from deterministic to generative narrative. It also analyzes the unique logic of its spatial construction: reconstructing the functionality of physical space through technology and building a symbiotic field of "participant-installation-space" through interaction. Most importantly, the incorporation of theatrical performance makes the narratives of interactive installation art more immersive and dramatic, transforming space into a "mobile stage" and achieving a deep fusion of narrative, spatial, and physical experience. This study concludes that by activating the subjective initiative of participants, interactive installation art not only enriches the expressive dimensions of art but also reshapes how people perceive the world and participate in narrative, providing important insights for cross-disciplinary innovation in contemporary art.

**Keywords:** Interactive Installation Art, Narrative Possibilities, Spatial Construction, Theatricality, Immersive Experience.

---

## 1. Introduction

Driven by the widespread adoption of digital technology and evolving artistic concepts, interactive installation art has gradually emerged from the margins and entered the public eye, becoming a crucial component of contemporary art exhibitions, public space design, and cultural communication. Unlike traditional static art forms like painting and sculpture, interactive installation art focuses on "interaction," integrating technologies like sensors, computer programs, and multimedia devices with artistic creativity to create "living" works that respond to the actions of participants. This "living" quality inherently allows it to transcend the limitations of traditional art: narrative no longer relies on a single, pre-defined storyline by the artist, but rather allows participants to engage with the narrative through movement, sound, and touch. Spatially, space is no longer merely a "container" for the work, but rather is transformed into an artistic language, collaborating with participants' actions to complete the work's "final presentation." Current academic research on interactive installation art focuses primarily on technical applications and visual effects, with insufficient exploration of the deeper transformations in narrative logic and the inherent mechanisms of spatial construction. In particular, research on the integration of theatrical performance and interactive installation art is even more fragmented. Theatrical art centers on performance, emphasizing narrative drama, spatial theatricality, and audience presence. Interactive installation art, with its emphasis on participant involvement, naturally aligns with the theater's "audience-performance relationship." Incorporating theatrical performance not only enhances narrative impact but also transforms the space from a "fixed scene" into a "dynamic theater," elevating the artistic experience. Against this backdrop, this article systematically analyzes the expansion of its narrative possibilities, deconstructing the logic and methods of spatial construction, and exploring the role and value of theatrical performance,

drawing on representative domestic and international case studies. This research not only deepens understanding of the essence of interactive installation art but also provides practical references for artists and spatial designers, promoting innovation in narrative expression and spatial creation.

## 2. Expanding the Narrative Possibilities of Interactive Installation Art: From "One-Way Storytelling" to "Co-creation"

Traditional artistic narratives are often "artist creates, audience observes," with the content determined by the creator and the audience merely observing. Like the Mona Lisa, the characters and emotions are fixed, and no one can alter the story's trajectory. Interactive installation art leverages technology to break free from this "fixed narrative," transforming "one person telling a story" into "multi-person collaborative creation." This is achieved through two key breakthroughs. First, it shifts from a "single-line narrative" to a "multi-threaded narrative." Traditional art, limited by its medium, often follows a linear logic: films follow a timeline, novels rely on chapters to tell a story. Interactive installations leverage sensors and programming to create a multi-threaded framework, with participants' choices acting as switches for the story's branches. In "Flower Forest," by the Japanese team Lab, a sensory floor is linked to a projection screen: when a person steps in, virtual flowers "grow" on the ground, while the screen simultaneously displays a "seasonal story": pausing causes the flowers to bloom like spring, while walking faster causes them to wither like autumn. Different routes and durations of stay create distinct experiences, breaking the traditional narrative's singular perspective. Second, it shifts from a "fixed narrative" to a "generative narrative." This narrative is centered on uncertainty, with content generated through participant interaction and the installation's algorithms. In "Room 8," by Belgian artist Leos

Villason, the space is filled with sensory screens that store improvisational footage of the actors. Once a person enters, the screen captures their movements, and a "virtual actor" interacts with them remotely: they lean in, look each other in, and wave in response. The story itself becomes the interaction, forming an "action-feedback-reaction" cycle. Much like improvisational theater, the audience moves from "listening to a story" to "making it up." Furthermore, narrative mediums are expanding. Traditional art often relies on a single visual and audio experience, but interactive installations can integrate multiple senses to create "multisensory storytelling." Dutch artist Nick van de Velde's "Fogland" uses an atomizer to create fog and laser projections of light and shadow. As a person moves through the fog, their body blocks the lasers, distorting the light and shadow. The installation then plays sound effects at varying rhythms based on their movement speed. The tactile sensation of the fog, the shifting light and shadow, and the rhythm of the sound all contribute to the story. The human body becomes a "narrative pen," enhancing immersion and expanding the boundaries of narrative[1].

### 3. The Spatial Construction Logic of Interactive Installation Art: From "Container" to "Symbiotic Field"

Traditional art treats space as a "carrier" for the artwork. The white boxes of art galleries and the display cases of museums are designed to highlight the artwork, diminishing the artistic quality of the space itself. Interactive installation art radically reshapes the role of space: with technology as its backbone and interaction at its core, it transforms it from a "passive container" into an "active partner," weaving a symbiotic space of "participant, installation, and space." Its construction logic is structured in three layers. First, technology is used to dismantle and reshape the perceptual boundaries of physical space. Using sensors, projection mapping, and sound localization, the space breaks free from its fixed form and single function, becoming responsive and malleable. American artist Rachel Ross's "Roof" is a prime example: within the rectangular space of the art gallery, 360-degree projections transform the walls and floor into a "living sky," alternately clear and rainy. Ground pressure sensors capture footsteps, and as people move around, the clouds in the "sky" gather and disperse with their steps[2]. The once static space is transformed into a "shifting natural theater," using audiovisual interaction to immerse participants in nature and become a "visual vehicle" for narrative. Second, interaction generates "fluid spatial relationships." The space of an interactive installation is not a static finished product, but rather a dynamic formation through the interaction between participants and the installation. In "Resonant Space," a work by the Japanese art group Masaru Meguro, dozens of transparent spheres equipped with light sensors and LED lights hang in the empty exhibition hall. As participants approach, their bodies block the light, creating a warm yellow hue; as they move away, the light shifts back to a cool white. As multiple people move, the lights interweave to form "color veins," their paths becoming "spatial brushes," creating a "warm yellow core" and a "cool white interwoven zone" in the exhibition hall. Spatial relationships are no longer defined by walls or display shelves; participants become both "experiencers" and "constructors," subverting the traditional one-way relationship between people and space. Thirdly, the

work incorporates theatrical scenographic thinking, transforming the space into a "flowing stage." Drawing inspiration from theatrical stage design, the work uses zoning, scenery, and lighting to create a sense of drama while retaining the fluidity of interaction. The Shanghai Rockbund Art Museum's "Silent Dialogue" divides the exhibition hall into three zones: "Memory," "Present," and "Future." Stepping on the sensory floor tiles in the "Memory Zone" resonates with the sounds of old Shanghai alleyways; the touch screen in the "Present Zone" transmits images and text; and the "Future Zone" features a "text cloud" on the walls, derived from sharing in the "Present Zone." Actors in plain clothing traverse three zones, their slow steps creating an ethereal cloud of words, their swift pace a rushing throng. The space transforms into a "three-act stage," creating a "dynamic theater" with actors, participants, and installations, achieving a deep fusion of spatial construction and narrative[3].

### 4. Narrative Fusion of Theatrical Performance and Interactive Installation Art: From "Observation" to "Immersion"

The soul of theatrical art lies in the presence of the performer and the interaction between audience and performance. Interactive installations inherently emphasize participant involvement, creating a natural fit between the two. Incorporating theatrical elements can enhance the narrative's drama and appeal, transforming participants from "spectators" into "participants," and heightening immersion. There are three specific approaches. First, actor improvisation complements installation interaction to create a "dual narrative." While traditional theater actors follow a script, interactive installations logically link actor performance with the installation, forming a "performer thread" and a "installation thread." Abramović's "Gaze" in Germany is a prime example: a large one-way mirror sits in the center of the exhibition hall, with her "gaze" projected behind it, allowing people to gaze directly in front of it. Actors in black walk slowly nearby, their positioning affecting the clarity of the image: blurry if close, sharper if further away. The participant's gaze at the image is a "personal narrative," imbued with emotion; the actor's movements and the shifting images form a "public narrative," their movements acting as a "rhythm controller" to evoke collective emotion. These two intertwined themes create drama in a simple gaze, immersing participants in both their own experiences and their shared empathy. Secondly, the interaction between participants becomes a "performative narrative." The theatrical performances of interactive installations are not limited to professional actors; they rely on design to activate participants' "sense of performance," enabling "universal performance." Janet Cardiff's "Sound Walk," set in a city street, involves participants wearing custom-designed GPS-enabled headphones: walking to an old post office, they hear the cries of a mother searching for her child; stopping at a cafe for over three minutes triggers the sounds of an argument; opening the door reveals a staff member acting out a scene; and straying from the route encounters random fragments of the story. The participants' movements, stops, and choices create a narrative with a "performative" feel, seamlessly connecting reality and fiction, breaking down narrative boundaries. Thirdly, "generative plots" create conflict and enhance narrative drama. The charm of theater lies in the

tension of plot conflicts, and interactive installations rely on "generative plots" to allow conflict to arise naturally through interaction. "Choices and Costs" in Beijing's 798 Art District is themed "Life Choices." The exhibition hall features a touchscreen "Choice Station," displaying options such as "Graduate School or Work." After selecting, the wall projects a corresponding "life fragment," and the lighting changes with the selection: blue for graduate school and orange for work. When multiple people make the same selection, the image and lighting blend; those choosing to stay in the city and those returning home appear similar, with "overtime work in the city" and "rural life" appearing side by side, with alternating orange and green lighting, conveying the tension of "choices without right or wrong, but with costs." The installation generates a "choice trend chart" every hour, intensifying the conflict between "individual and group choices," combining theatrical drama with a sense of immersive reality[4].

## 5. The Value of Interactive Installation Art Spaces: From "Art Space" to "Social Interaction Field"

The spatial design of interactive installation art not only houses art but also transcends the boundaries of "art space" to encompass social interaction, becoming a "field of interaction" connecting people with one another and with society. This value is realized through, first, "interaction" to stimulate participation and, second, through theatrical approaches to strengthen "publicity." Specifically, this value is embodied in three aspects. For individuals, it serves as a "small world of free expression." Traditional art museums have an elitist feel, with people often looking up at the works, lacking the desire to express themselves. However, interactive installations mitigate this sense of authority and emphasize participation. For example, the "Emotional Graffiti Wall" at Guangzhou K11: an entire wall is an interactive screen. By scanning a QR code, users can draw emotional patterns on their phones and upload them to create a "collective graffiti" by overlapping them with others' works. A sensory area at the bottom of the wall allows users to adjust and combine their drawings with a wave of their hands. There's no distinction between "professional" and "amateur." Every creation is an emotional release. Essentially, it lowers the barrier to entry, empowers people with "creative freedom," and satisfies the need for "expression in one's own way" in the digital age. For groups, it helps connect strangers. With today's rapid urbanization, people are becoming increasingly atomized, and public spaces often offer only superficial interactions[5]. However, interactive installations, such as "Collaborative Piano" at London's Southbank Centre, bridge the gap by creating collaborative interactions. The exhibition hall floor features an oversized piano keyboard, requiring multiple people to play the keys together to create a complete melody. There's also an "Ensemble Challenge," where a screen displays simple music notation, and everyone divides up the keys to trigger a light show. Strangers will even take the initiative to form impromptu "small bands," and the installation even records audio for archival purposes. This space fosters a "temporary community" through collaboration, breaking down barriers through art. For society, it serves as a forum for public discussion. While theater art uses plots to address social issues, interactive installations leverage the public nature of space and the interactive "feeling of

participation" to make these issues more tangible. "Climate Voices" in New York's Times Square features interactive pillars focused on climate change. Touching them plays documentaries, displays global messages, and allows users to voice-transmit opinions onto a large screen. The installation generates a "heat map" based on the number of people touching it; the more people touch, the brighter the color. Passersby participated in the exhibition, sharing their experiences and offering suggestions. The large screen became a hub for opinions and the square a forum for discussion. This design transforms interactive installations into more than just fun and aesthetically pleasing, becoming a medium connecting individuals and society, demonstrating the social responsibility of contemporary art.

## 6. Challenges and Future Trends in Narrative and Spatial Construction in Interactive Installation Art

Although interactive installation art has achieved breakthroughs in narrative and spatial design, its practical implementation faces numerous challenges. Technically, most works rely on complex sensors and programming, which directly impacts the user experience. If the sensors are insensitive, participant interaction won't trigger the installation; if the programming is flawed, the generative narrative will become "logically tangled." The "Light and Shadow Maze" exhibit at a 2023 Shanghai exhibition suffered from interference from light on its laser sensors, resulting in frequent instances of "touching the mechanism but no light or shadow reaction," leading to narrative interruptions and a significantly diminished experience. In terms of artistic expression, many works focus solely on showcasing technology, losing narrative depth and spatial emotion, resulting in an awkward situation of "interaction without resonance." For example, some interactive installations at commercial exhibitions are designed solely for photogenic purposes, with shallow storytelling and illogical spatial design, ultimately failing to evoke any emotional resonance in participants[6]. Furthermore, the integration of theatrical performance and installation is still in its exploratory stages. In some works, the actors' performances and the interaction with the installations are disconnected, with the performances becoming "superfluous embellishments," failing to achieve the desired effect of "1+1>2." In the future, the narrative and spatial construction of interactive installation art will develop in three directions, incorporating sustainable concepts. First, technological simplification will be coupled with artistic deepening: As the Internet of Things and AI mature, the technical barriers will be lowered, and sensors and programs will become more stable, allowing creators to focus more on polishing the narrative and creating a sense of spatial emotion, avoiding the "hijacking of art by technology." For example, using AI-generated technology, installations can "autonomously optimize" their narrative logic based on the participants' interactive habits, making the generative narrative smoother and more profound. Second, cross-disciplinary integration will move towards "essential integration": moving beyond a simple overlay of forms to a deeper integration with dance, literature, sociology, and other disciplines. Integrating with dance, the dancer's body not only triggers the installation but also becomes the "core thread" of the narrative. Integrating with sociology, spatial design can reflect the living conditions of different groups, lending the

work greater social insight. Third, balance publicness and personalization: Refine the "interaction layering." At the public level, collective interaction fosters a "shared narrative," strengthening the public nature of the space. At the individual level, exclusive narrative segments are delivered based on age and interests to satisfy emotional needs and achieve a "private experience within a public space." Furthermore, with the rise of the concept of "sustainable art," spatial construction will prioritize environmental protection: using recyclable materials and energy-saving technologies to reduce consumption, while also incorporating "sustainable development" into narratives to foster ecological awareness. For example, using biodegradable materials as the main body of the installation, while using narrative to promote the "symbiosis of man and nature," the space becomes both a venue for artistic experience and a vehicle for environmental awareness, unifying artistic, social, and ecological values[7].

## 7. Conclusion

Interactive installation art, centered on "participant involvement," transcends the boundaries between narrative and space in traditional art. Narratively, it shifts from linear to multi-threaded, and from deterministic to generative, transforming narrative from "artist monologue" to "participant chorus." Spatially, leveraging technology and interactive logic, it transforms "passive containers" into "active symbiotic spaces." Incorporating theatrical thinking, the space becomes a "mobile stage," ultimately achieving a deep fusion of narrative, space, and physical experience. At the same time, its spatial construction has also stepped out of the field of art and become a driving force. The social landscape of individual expression, group interaction, and public discussion highlights the diverse values of contemporary art. While interactive installation art currently faces challenges in terms of technological stability, artistic depth, and cross-disciplinary integration, its development direction is clear: technology will serve art rather than dominate it; cross-disciplinary approaches will evolve from a superposition of forms to a fusion of essences; a balance will be achieved between publicness and individuality; and

sustainable concepts will be integrated into creative practice. In the future, it will not only enrich the expressive dimensions of contemporary art but also reshape the relationship between people and art, people and space, and people themselves—transforming art from a "hanging exhibit in a hall" into an "engaging experience" in everyday life; and transforming space from a "cold physical presence" into a "living space" filled with emotion and interaction. For creators, the human element must always be at the core: making effective use of technological tools without falling into the trap of "technical gimmickry" and maintaining the essence of art. For researchers, further exploration is needed into the profound transformation of narrative logic and the social value of spatial construction, providing more targeted theoretical guidance for practice. I believe that with the enrichment of creative practice and the deepening of theoretical research, interactive installation art will occupy a more important position in the landscape of contemporary art, bringing people a more diverse, immersive and warm artistic experience.

## References

- [1] Ellis R. Thinking space: adapting narrative cinema for installation art[M]. University of Salford (United Kingdom), 2022.
- [2] Huang Xuening. Research on the artistic presentation of interactive installations in narrative space[D]. Wuhan Textile University, 2023.DOI:10.27698/d.cnki.gwhxj.2023.000421.
- [3] Yum MS. Exploration of fictional spaces in art & design: Installations[J]. 2020.
- [4] Bendor R, Maggs D, Peake R, et al. The imaginary worlds of sustainability: observations from an interactive art installation[J]. *Ecology and Society*, 2017, 22(2).
- [5] Wang Tianpu, Wei Wei, Wang Yue. Paradigm transformation of public art exhibitions: from spatial intervention to social participation[J]. *China Exhibition*, 2025,(07):79-81.DOI:10.20129/j.cnki.11-4807/f.2025.07.021.
- [6] Wilson S. Interactive art and cultural change[J]. *Leonardo*, 1990, 23(2): 255-262.
- [7] Li, Sang. "Aesthetics of sustainable architecture." (2011).