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Interactive Spaces in art museums: New landscapes for exhibitions

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Abstract

The interactive function of art museums has been paid more and more attention by the public, and art museums are constantly expanding their boundaries. The interactive scene application shows the practical power and innovation of the museum practitioners. In the wave of digitalization, art museums actively respond to technological changes, use digital technology to digitize precious resources such as cultural relics and artworks, build an open public platform, promote the "democratization" of artworks, and build a new exhibition landscape. On the one hand, art museums are committed to fully engaging the audience's senses through interactive Spaces to enrich the audience's experience. On the other hand, art museums are paying more attention to the quality of interactive experiences. The function and effectiveness of interaction in curatorial practice have become important aspects of art museum exhibition, rather than merely being an observer outside the exhibits.

Keywords: Art museum; An art museum; Curatorial strategy; Interactive space

1. Sustainable learning space

The museum space provides an environment for both formal and informal learning. As Gail Dexter Lord says in "Manual of Museum Planning: Sustainable Space, Facilities, and Operations," "In addition to spaces that accommodate and interpret museum collections, museums are increasingly investing in dedicated educational spaces." [Rowman Altamira, 2012.] Contemporary art museums are not only concerned with the order of exhibition display but also more concerned with the experience of visitors in the exhibition, interactive spaces are one of the most important links to change visitors' experience. In museum studies, "physical context" along with "personal context" and "social cultural context" constitutes one of the important elements of the museum experience. The shaping of physical context is the first aspect to be addressed in the exhibition, which includes the arrangement of exhibition space, objects, display methods, and the overall architectural form of the art museum. These physical environmental factors strongly influence how visitors move around in the museum and directly guide visitors, helping them observe and remember. The term "interaction" has certain controversy in academia and has different application scenarios in different usage fields. In the simplest explanation, interaction is a concept of communication. The definition of interaction in museum studies application usually refers to a power of exchange and mutual influence. Interactive spaces have early examples that began in science museums, in the 1920s, the European science museums that focused on science developed exhibits that visitors could interact with. Museums that focus on interactive displays mainly meet the needs of visitors to interact with their bodies. [Solsko Polje, 2015.] In 1933, this idea was introduced to the United States, where interactivity was considered an important element of science museums. [Bedno J, 1999.] Later, other types of museums also began to pay attention to the research on interactive spaces. In 2002, the Smithsonian Institution issued a set of guidelines on how to develop interactive exhibitions. The guide explains the process and shortcom.

The act of exhibiting is actually about telling stories rather than making value judgments, according to Walter Benjamin. He believed that "half the magic of the art of storytelling lies in telling without interpretation." The interactive spaces or interactive elements in exhibitions extend Benjamin's idea, as interaction and interactivity provide curators with more curatorial tools. Curators present incomplete knowledge and discourse, offering opportunities for audiences to enter the discourse system on an equal footing and construct their own discourse. After 2000, the concept of interactive art in museums began to be put into practice, and it was first oriented towards families.Elliot Eisner discusses in his book "The Creation of Mind" the strong similarities between artistic creators and artworks, and child's play. Both the artist at work and the playing child display an "artistic mindset," an open, creative, and receptive state, where the interactive space provides permission and freedom to explore and fully immerse oneself in sensory experiences. In 2005, the J. Paul Getty Museum organized a symposium titled "Family-Oriented Interactive Spaces in Art and History Museums," focusing on the key issues that museums face when creating interactive spaces and experiences to attract family audiences. The use and interpretation of artworks for family audiences change, and so do the design strategies involving technology. The Paul Getty's interactive space practice focuses on introducing art and the museum's collection to children and family audiences through interactive means and cultivating a lifelong learning habit in the museum. It attracts visitors' interest and curiosity. In 2005, the High Art Museum's "Understanding Visitor: Interactive Family Gallery" project provided two different creative game spaces that combined cutting-edge technology with hands-on activities. Both spaces offer a warm, fun, child-centered environment that provides age-appropriate activities for children. Developing interesting, safe, and inclusive spaces that spark curiosity and wonder, provide meaning-making and family bonds, and cultivate loyal museum visitors. The family-oriented interactive space provides a supportive environment for families, stimulates children's creative thinking, maintains family intergenerational communication, and promotes long-term audience development goals. In 2013, the Cleveland Art Museum's "Transforming the Art Museum Experience" program launched its groundbreaking Gallery One, It is an interactive art gallery that opened in late 2012. In the main area of Gallery One, a wealth of works invites visitors to interact with the art on display through questions and experiences. Interactive games encourage visitors to

actively connect with the collection and see themselves in the art on display. Visitors can share all of their work via email, Facebook and Twitter, and the interactive presentation better connects with a wider audience in the community, thus facilitating communication within the community.

The emergence of the interactive concept in the exhibition also gives a new form to the curatorial reform of the museum. At the end of 2015, "Reading the City - Tracing the historical Beijing City" exhibition was launched at Capital Museum. The exhibition aims to explore various forms of interaction between exhibitions and visitors. The second section focuses on Beijing's urban development history, featuring a towering wall constructed from cardboard boxes. This massive structure was built by students from primary and secondary schools in Beijing, who left their personal marks on wall tiles. Through this participatory approach, teenagers became builders of "Beijing City" within the exhibition space. Each city brick attached with small questions related to the city requires audience members to pull them out and find answers on their backsides, creating an engaging experience through a process of questioning, interacting, viewing, and answering. In the third unit titled "What are today's cities in Beijing?", children are guided to visit modern city ruins and complete individual artistic creations centered around "the city of Beijing". The exhibition concludes with childlike artworks that reflect how young people understand and express their perception of present-day Beijing. While evaluating this entire exhibition based on traditional historical exhibitions may suggest loose organizational logic, it is crucial to recognize that "Reading the City" presents a novel mode for audiences by incorporating educational vision throughout its design while transforming curation into a two-way interaction.

Educationalist Dewey once emphasized that "education is synonymous with growth and life," aiming to provide a more comprehensive understanding of the educational dimension. In the context of an art museum as a learning space, interaction has emerged as a vital means for knowledge transmission and assimilation. Serving as a medium, interactive spaces expand exhibition displays and narrative techniques while fostering transparent discourse within the exhibition hall by opening channels for audience interaction. Consequently, audiences are enabled to actively participate in exhibitions rather than passively receive information.

2. Curatorial concepts in the digital age

The role of the professional curator has evolved with the environment in which curatorial work takes place, from the hoarding of carefully selected sacrificial objects to arrange tombs in the ancient world, to the systematic collection and placement of treasures in curial cabinets by wealthy and learned collectors in the 17th century, to the birth of the White Cube exhibition space in the second half of the 18th century, to the creation of virtual and interactive exhibitions on today's online platforms. Curators are still considered selectors and interpreters of works of art, as well as intermediaries who communicate and establish conceptual or intellectual relationships, and engage in dialogue between works of art and the audience. A careful study of the history of exhibition collections and the responsibilities of those who act as "custodians" of collections shows that the way curators operate exhibitions has changed in response to the way the public interacts with the collections, as well as broader socio-cultural developments. Throughout the 19th and 20th centuries, artists increasingly explored new media and technologies, thus accelerating the redefinition of works of art. The emergence of new forms of interpretation and new exhibition discourses, Audiences are more and more involved In the discussion of artworks [Henning, 2008.]

In this context, the curator has changed from an intellectual authority figure, a custodian of culture and art that exists behind glass cases in museums, to a cultural intermediary. Through museum displays and exhibitions, curators seek new forms of presentation that allow audiences to interact with artists, their ideas, and their works of art. The traditional expert image of a curator evolves as needed into a range of curatorial models, such as artist curators, independent curators, and even content creators who produce themed educational and interactive experience exhibitions. Not only are new models of non-institutional curators emerging, but also innovative ways of communicating and interpreting museum exhibitions.

Now, as we embrace the digital age, the role of art museums and art museum directors has changed significantly, and art museums are increasingly engaging with society and their audiences through educational services and the use of interactive media. Digital technology is integrated into museum practice, allowing visitors to interact with museum collections in the physical space of the museum as well as in the virtual space. In Hunan Museum, Keshi cooperated with Yingkang Technology to fully restore the shape of the tomb of Xinqi 2,000 years ago through projection. Xinzhuo tomb adopts inverted trapezoid excavation, the tomb structure is magnificent and complex, and the modern projection technology fully interprets it to present a very spectacular scene with bright colors and magnificent atmosphere. In the process of digital intervention, based on the cultural relic protection requirements of the tomb, the laser projector must be hidden in the structure of the cultural relic. Therefore, using 3D modeling and UV mapping, the projection is not obtrusive, but can be accurately positioned and seamlessly integrated with the surrounding environment. Across thousands of years, digital reproduction of precious landscapes, so that the exhibition of cultural relics and artworks in Hunan Museum dazzling, thousands of years ago cultural relics in the digital era radiates new vitality, the unprecedented scale of the exhibition and the flow of people also reflects the era of digital exhibition and interaction recognition. As Tony Bennett points out in The Birth of a Museum: "In order to attract enough visitors to justify continued public funding, museums are therefore now often attempting to imitate rather than distinguish themselves from places of mass assembly." [Bennett, 2013.].

It is also worth noting that digital technology is often thought of as a medium designed to provide an interactive educational approach to traditionally passive content in museum Spaces and to enhance learning, visualization, and perception of exhibits. Digital interfaces enable museum visitors to select, use and transform visual and textual information, especially in art museums where the power of digitalization is emerging. Breaking through the walls of the museum, interactive Spaces are gradually expanding the boundaries into digital online Spaces.

In recent years, the British Museum has gradually advanced the digitization of its collection, thereby enhancing accessibility and sharing of its extensive and valuable collection, enabling a wider audience to benefit from it. This year witnessed the official opening of the new Sanxingdui Museum, which successfully achieved deep integration of digitalization and technology in museum management through digital intelligence and technology. This not only improves museum efficiency but also provides

visitors with a more immersive and captivating exhibition experience. Seizing this opportunity presented by the new museum and mode, the Sanxingdui Museum fully utilizes digital interactive means to elucidate the essence of Sanxingdui exhibits, facilitating better understanding and reproduction of the enigmatic and solemn Sanxingdui culture. Nanjing Museum collaborates with Tencent Cloud to create a comprehensive digital platform that serves as a "gold card". Prior to visiting, visitors can swiftly access information such as opening hours, transportation routes, etc., allowing them to plan their trip in advance. During their visit, they can utilize indoor navigation on this platform along with other features like intelligent question-answering for an enhanced interactive tour experience. Additionally, sections like fine object storage showcase Nanbo cultural relics while providing relevant information about them; The beauty of cultural relics section allows visitors to further appreciate history; And Nanbo lecture Hall offers educational insights into these artifacts. After completing their tour, visitors can engage in creative punch tasks or purchase Nanbo cultural products as souvenirs-thus leaving behind a "footprint" while enjoying convenient one-stop exhibition services that cater to global tourists' needs effectively harnessing digital technology's role in cultural publicity and promotion.

The establishment of interactive spaces and the presentation of exhibitions continue to be the ongoing focus of research. Whether through new digital means or technological products, they do not represent a forceful intervention of technology in exhibition concepts, but rather an evolution and integration. The potential for "interaction" and the sustainability of learning are taken into consideration during the curation process, which also encompasses the "long tail effect" in museum education. How to consistently engage audiences has become a key area for continuous exploration by museums.

3. The construction of interactive space

Museum exhibitions are the product of research and are organized and designed to convey ideas. The exhibition brings the audience sensory communication, the main sense is visual, this process is not only the shaping of cultural cognition, but also the embodiment of cultural symbols. This process involves people's perception of what they see and the meaning they ascribe to it. Thus, in a given historical and cultural context, the exhibition is a public secular ceremony of the social representation of the collective "self" in the Durkheim sense. This view leads us to inquire into the nature of the presented collective: who is presenting what? For whom? Why?

To some extent, technology is not the only means of interaction, and the interactive landscape construction of exhibitions always serves the image and positioning of art museums and galleries, as well as the objectives of exhibitions and the needs of audiences. A total of 50 art museums participated in a survey on the direction of museum interactive space. Thirty-three museums in the United States and 17 in Europe responded. The data was collected between January 6, 2014 and March 28, 2014, and the survey was conducted primarily by the museum's director of education or curator, followed by the museum's curator. The first part of the survey focuses on three questions: 1. How many art museums have interactive Spaces? 2. What are these interactive Spaces like? What are their aims, objectives, exhibition strategies and methods? 3. How to install, display and interpret art works in interactive Spaces for the target audience? [Gul S N, 2015.]

In the second part of the survey, data about the nature of interactive space and the display design strategy of the interactive area of the art museum were obtained by asking questions. In the third part, questions related to the physical context are raised for the target audience regarding the installation, display and interpretation of the artwork. More than half of the museums surveyed in 2014 had interactive Spaces, and most of the Spaces added interactive Spaces after 2000.Museums have different goals in the development of interactive space, which basically focus on the following aspects. Provide audiences with the opportunity to experience art; Experience art through handmade reproductions; Comprehensive knowledge of collecting and art history; Achieve a tactile experience. Experience a sense of satisfaction, accomplishment and control based on some of the above educational goals. The respondents believe that the interactive space prompts the rules and elements of art, and contributes to a motivation to enter the art world.

Surface technology, including multi-touch, mobile technology, wearable smart devices, is widely used in interactive space. Earlier models of interaction focused on computer terminals, interacting with individuals as a unit. The forms of interaction offered by traditional computer displays prioritize individual users while largely ignoring collaboration and simultaneous participation. The system requires a person to follow and respond to instructions displayed on a screen. Interaction with the system is structured as a continuous, single action that triggers a user to "move" the system, whether it's an instruction, a question, a query, or any other action. [Vom Lehn D, 2005.] Although tactile learning and participatory learning are emphasized by museums, the data suggest that museum practitioners may not be familiar with theories related to the context of learning, leaving interactions limited to form and behavior rather than scene and functionality. Museums have an educational way of showing creativity and making art accessible. The interactive space of art museums is also based on the constructive learning model, and there are many studies showing diversity in different types and positioning of art museums. The interactive space of the Art museum is built for educational purposes. In contrast to earlier art museums, which tended to interpret works of art in very simple and expressive texts, today's audience is expected to experience this interpretation using interactive tools. [Gul S N, 2015.]

In curatorial practice, art museums tend to combine interactive exhibition elements with temporary or permanent exhibitions to achieve more returns under the same expenditure. Lack of funds, space and professional curators is the main reason for the lack of interactive space. Most interactive Spaces offer a variety of opportunities for visitors to get more information about the exhibition. They also have the goal of focusing on art objects or art history to provide more information and motivation to discover, examine and create, talk about art objects and discover art. Most of the interactive Spaces in the survey were aimed at families and children. Research on interactive Spaces has shown that due to the increasing family attendance at museums over the last two decades, the demand for design specifically for families has increased dramatically, corresponding to home audience research.

From the perspective of space construction, the traditional art exhibition space is usually static, without too much interpretation of art works and art concepts. The audience receives information by watching the static art works on the wall or in the exhibition cabinet. The space line is relatively fixed, and there is a certain narrative logic. The dynamic information distribution and art presentation in the interactive space bring the audience a more immersive art experience. The integration of art and technology is characterized by rich content and diversified forms, including the use of different new media materials, interactive equipment and virtual technology. Through digital media technology, it breaks the space and time limitation under the limitation of display space, displays more content in limited space and time, and expands the flexibility of space display. Therefore, compared with traditional exhibition Spaces, interactive exhibition Spaces can better display and convey artistic concepts, enhance visitors' sense of participation and experience, and make them resonate with the exhibition content and theme.

4. Interactive curatorial strategies in the new museological perspective

In an edited collection, The New Museology, published in 1989, Peter Vergo does a good job of articulating the change from what he calls "old Museology" to "new Museology." In the past, he wrote, "too much attention was paid to the methods of museums and too little to the purpose of museums." The museum industry is mainly concerned with issues such as museum management, education or conservation, and lacks the exploration of exhibition concepts and assumptions that establish the importance of, or provide ways to deal with, relevant issues related to museum management, education and conservation in the first place. In contrast, "New Museology" is more theoretical and humanistic. [Macdonald, 2011].

In the new museology, the first concern is about understanding the meaning of museum objects, focusing on the context and continuity of museum collections, rather than the inherent scene. Peter Virgo makes this argument in his book with the elegant concept of "the reticent object." The second area concerns the expression of museums, which in the past may have been considered as outside the inherent scope of museology for business and entertainment, and which are not considered in the operation and management of museums and their possible effectiveness. Nowadays, these areas involving business and entertainment are also included in the scope of museum consideration, and even more actively promote the cooperation between art and business. At the same time, the museum has widely accepted a variety of exhibitions into the pavilion, in addition to academic considerations have more. The new Museology ADAPTS to the conceptual changes in contemporary society, highlights the continuity between museums and other Spaces and practices, and thus questions the idea of museums as "separate" or "above" secular or market concerns, and becomes a new methodology to guide practice.

The new museology no longer sees the meaning of museums and their contents as fixed and bounded, but as situational, random, and flexible. In the construction of the art field supported by the concept of the new museum, the core concern of museum people is how to build public education scenes, attract people through narrative, and immerse themselves through scenes. In the preparation and atmosphere creation of narrative and Catholic scenes, interactive design or interactive exhibits are combined to guide the audience's behavior, so that the audience can interact with the exhibits, trigger the audience's comfortable or novel emotional experience, so that the audience can benefit to the maximum extent and achieve self-improvement.

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As a platform for public cultural services, art museums have become "the living room of mass education and the laboratory of aesthetic education". The change of perspective has brought about the change of museum curatorial strategy. If art museums in the past lacked theoretical support in planning and could only accumulate in practice based on experience, then in today's flourishing of interdisciplinary research, the art museum field composed of digital interactive experience and contextualized sensory perception, especially the on-site methodology of experiential art in public education, has become more and more important. It is gradually developing and forming relatively excellent practice cases. The Catholic characteristics and advantages of the museum are "situational openness and situational experience". Art museum education is conducted in a random, open, informal and relaxed environment. Different from the closed environment of the classroom, it can bring more light and pleasant educational experience to the audience.

Summary

The pursuit of interaction in contemporary art museums shows the marginalization and ambiguity of identity, which in essence represents the enhancement of the publicity of art museums or art museums, focusing on reality and a wide range of people on the basis of ensuring authority. At the same time, the digital process of art museums is a response to the pursuit of museum education in the new museology. The expansion and inclusion of the boundaries of museology, particularly with regard to business, marketing, and entertainment issues, has also been further developed in the growing interest of museum research. The development of the theory stems from the practice of "museology", which seems to show that the curatorial landscape is not necessarily limited to the art itself, and that an art museum can shape the vision beyond its walls.

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