

Research on New Media Interactive Art Design Based on Traditional Chinese Painting from the Perspective of Cultural Heritage Inheritance

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Abstract: This article mainly explores the new media interactive art design based on traditional Chinese painting from the perspective of cultural heritage inheritance. This article first elaborates on the concepts of Chinese painting and new media interactive art, analyzes the significance of new media interactive art based on traditional Chinese painting in social life, and further analyzes its characteristics. Finally, it prospects its future development direction, in order to provide some useful support and reference for theoretical research in this field.

Keywords: New Media Interactive Art Design; Traditional Chinese Painting; Cultural Heritage Inheritance

Under the background of China's "Fourteenth Five Year Plan", the country actively develops digital cultural tourism and smart cultural tourism. In recent years, new media interactive art based on the creation of traditional Chinese painting has emerged in some exhibitions. This art form not only widely publicizes the original Chinese painting itself, it is also a new digital art form, which is interesting and interactive, and attracts a large number of audiences. This paper mainly discusses the new media interactive art design based on traditional Chinese painting in the perspective of cultural heritage inheritance, to providing useful reference for theoretical research in this field.

1. Chinese painting and interactive art of new media

1.1 Overview of Chinese painting

Chinese painting, also known as "traditional Chinese painting", was generally called "Dan Qing" in ancient times. It is one of the four arts of lyre-playing, Chess, Calligraphy and Painting. It uses a brush as a painting tool to dip water, ink and color on paper or silk. The aesthetic origin of "image" and "artistic conception" in Chinese painting can be traced back to the philosophy of the pre Qin period, namely Lao, Zhuang and Yi. With the establishment of Lao Zi's philosophical and aesthetic thought of "invisible elephant", "trance and sleepiness", the artistic standard and aesthetic form of Chinese painting with "image" and "artistic conception" as the aesthetic core have been gradually constructed (Guo,2022:200-201).

1.2 Overview of new media interactive art

Professor Lu Xiaobo of Tsinghua University in China defines new media interactive art design as an art design activity based on knowledge, with multiple media technologies and information technologies as the carrier, which is interactive, real-time and experiential (Liu, 2019:249-250). New media art has an extraordinarily complex, cross-disciplinary and multifaceted history that interweaves several strands of artistic practice and artistic movements with different industrial and computer-based technologies and technological innovations (Paul and Arnold, 2016:5). In the field of new media art, interaction means that the audience actively participates in the artwork, interacts with the artwork, communicates and reacts with each other, and gets information exchange and emotional resonance from it(Wei, 2018:8). The research object in this paper is based on traditional Chinese painting works, which are interactive and immersive new media art works created by using animation, digital projection, motion capture and other technical means. Such works generally use high-definition screens to expand all or part of Chinese paintings in proportion, and add dynamic animation to make the pictures more three-dimensional and realistic, and vividly show the content and artistic conception of Chinese

paintings.

2. The significance of new media interactive art based on traditional Chinese painting to social life

2.1 Make cultural heritage alive

The new media interactive art based on traditional Chinese painting can enable masterpieces to achieve the transformation from static to dynamic, from flat to three-dimensional, and from one-way appreciation to two-way interaction. It can more vividly show the traditional culture and artistic conception contained in Chinese painting works to the public and make the static cultural heritage “live”. Therefore, this new form can well help the inheritance of cultural heritage and better carry forward the traditional Chinese culture.

2.2 Make Chinese paintings more widely spread

Since the emergence of silk painting in the Warring States Period, Chinese painting has a history of more than 2000 years in China. Many historical and cultural resources are extremely fragile due to their long history and can not withstand repeated inspection and detailed research. New media interactive art can avoid the damage to cultural relics caused by traditional physical restoration and research, and can also restore and reproduce the cultural resources that are difficult to preserve and repair by traditional technology. It can not only be used for scientific research under zero risk, but also enable the public to see the elegant demeanour of precious cultural relics (Yang and Wei 2018:67-70). The integration of Chinese painting and new media interactive art can enable Chinese painting to be more widely disseminated both domestically and internationally.

3. Characteristics of new media interactive art based on traditional Chinese painting

3.1 4D realism

New media interactive art allows viewers to immerse themselves in various aspects of the scene, including visual, auditory, and tactile senses. The Picture of the River during the Qingming Festival is a genre painting created by Zhang Zeduan, a painter of the Northern Song Dynasty. In the 2018 High tech Interactive Art Exhibition “Riverside Scene 3.0 at Qingming Festival” at the Palace Museum, the works presented by the Hongqiao Ball Screen Cinema have a 4D sense of reality. The designers enhance the dynamic visual perception of the works by re-establishing 3D models of the pictures. These dynamic effects can enable the viewer to better feel the bustling scenes of Bianjing, the capital of the Northern Song Dynasty (now Kaifeng city, Henan province), and the atmosphere of the market life at two banks of the Bian River. Compared with the static work, the audience’s experience will be more realistic. The huge screen, surrounding sound and moving seats all make the work very realistic and immersive.

3.2 Immersive interactive experience

New media interactive art works based on traditional Chinese painting use new technologies such as holographic projection, motion capture, intelligence and virtual reality to make the works have a good immersive interactive experience. The audience can interact by approaching the work, touching the screen, making specific gestures, etc. In 2021, the Lingnan Flower and Bird Immersive Science and Technology Art Exhibition of “Rebirth in the Earth” has held in Guangzhou Shixiang Garden Memorial Hall. Among them, Chasing the Forest was created based on Yang Shanshen’s painting Sparrow. The digital modeling technology was used to rebuild the model and skeleton based on the original, and the HDRP real-time rendering and radar induction technology were used to achieve the interactive effect of startling the birds as soon as the audience approached. The work create interactive links with a strong sense of immersion, increase dynamic changes, music, interaction and other diversified experiences, and change the one-way viewing behavior of the audience.

3.3 People travel in paintings

The new media interactive art is committed to deeply excavating the connotation of cultural relics collection, creating the intersection of real people and historical virtual scenes, so that the audience can have an immersive experience of visiting in the painting. In 2019, the “Look at the Treasure of Rivers and Mountains - AR Science and Technology Art Exhibition of Thousand Miles of Rivers and Mountains” was held in Shanghai Century Hui Square. The exhibition took the surrounding exhibition hall as the screen, laying holographic projection landscapes on three enclosed walls and the largest ground, respectively, to enhance the immersion of the works. People can enjoy the green mountains and waters, the light boat pavilions and the virtual waterfalls pouring down from all angles, and viewers only need to touch the projection wall of the exhibition hall’s scroll to see white cranes flying in the touched area, just like people touring in the painting.

4. Future development of new media interactive art based on traditional Chinese painting

4.1 Emotional design

Attractive things make people feel happy, thus making people more creative (Norman 2015:6-7). A key point of emotional design is to stimulate people's attraction to such works. The integration of new technology will greatly enhance the public's interest in the original Chinese painting. In the future, new media interactive art works will pay more attention to the emotional design of works. If works can touch people with emotion, people will greatly improve their liking for new media interactive art works.

4.2 Highly realistic

The new media interactive art have been able to vividly display the content of Chinese painting using real-time rendering technology, and make good interaction with the audience by using the advantages of multi sensory experience, so that these new art forms have been widely loved by people. In the future, ray tracing, true shadow and other technologies may be realized, and the graphic rendering effect of new art works will look more realistic.

4.3 Immersive naturalized interaction

With the development of new technologies such as VR, AR, the mode of Chinese painting display will more diversified. New media interactive art have a good immersive experience, which will be strengthened in the future. People will quickly immerse themselves in the multi sensory experience brought by virtual and real spaces. The interaction methods of it will develop more naturally, with improved touch and recognition methods. The interaction ways will be more diversified, comfortable, and natural, so that the audience will has better interactive experience.

5. Conclusion

In the future, art and technology will continue to integrate. This paper focuses on the new media interactive art based on traditional Chinese painting, analyzes its impact and significance on social life, and discusses its three characteristics. Finally, the future development direction is prospected. It can be seen that this timely promotion method plays a significant role in the inheritance of cultural heritage, but there is still some room for improvement in restoring the philosophical ideas and cultural spirit of the original work, which requires continuous exploration and practice. In the new era of the future, we should still actively explore new ways to assist in the dissemination of cultural heritage, strengthen national cultural confidence, in order to better promote and disseminate China's vast and profound excellent traditional culture.

References:

- [1] Guo X.W. (2022) Advocating the value and significance of Chinese painting image and artistic conception aesthetics in today's college teaching. *Journal of Nanjing Arts Institute (Fine Arts & Design)*(01):200-205.
- [2] Liu Y.T. (2019) Research on the Application of New Media Interactive Art to the Protection of Traditional Culture. *Think Tank Era* (33): 249-250.
- [3] Norman D.A. (2015) *Design Psychology 3: Emotional Design*. Beijing: China Citic Press.
- [4] Paul C. and Arnold D.(2016) *A Companion to Digital Art*. London: John Wiley & Sons.
- [5] Wei Y.L. (2018) *New Media Interactive Art*. Beijing: Chemical Industry Press.
- [6] Yang Y.Q. and Wei Y.L. (2018) Research on the Application of New Media Interactive Art Based on the Protection and Communication of Traditional Culture. *Journal of Xichang University (Social Science Edition)*30(01): 67-70.

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