Interactive Narratives and Immersive Experiences

-- A Brief Discussion on the Creative Logic of Interactive Film and Television Works

Yifan Ding[1,a,*]

[1]*Beijing Forestry University, 35 Qinghua East Road, Haidian District, Beijing, China*
a. 909003097@qq.com
*corresponding author

Abstract: With the rapid development of the internet and the media industry's drastic changes, interactive film and television have emerged. Interactive narrative art refers to a narrative expression with specific characteristics of a particular medium, which can directly extend and manifest in the fields of visual arts and media. As the era progresses, the field of narrative studies increasingly emphasizes thinking from the reader's perspective, recognizing that a complete narrative and interactive process are jointly constituted by the author's thoughts and the reader's understanding. The rise of interactive film and television has prompted profound reflections in the film and television industry. This paper focuses on exploring how to enhance the audience's visual experience through interactive means and deepen their understanding and reflection. Through case analysis, the paper identifies current issues in interactive film and television and suggests better improvement methods, aiming to provide insights into the narrative experience of interactive film and television works.

Keywords: Narrative, Interactivity, Interactive Film and Television, Immersive Experience

1.   Introduction

In the contemporary era, with the continual advancement of scientific and technological means and the ever-expanding integration with other media, there have been numerous explorations of interactive narratives in various professional fields such as drama and film, digital media, and electronic game development. This paper explores the historical origins and development process of interactive film and television by discussing the evolution of technical means in the context of new media. Through case analysis, it delves into potential issues that may arise during the development of interactive film and television, concluding with a summary and innovative prospects. The aim is to provide a reference direction for the development of narrative immersive experiences in interactive film and television works.

2. The Origin and Development of Interactive Film and Television

2.1. Developmental Timeline of Interactive Film and Television

Interactive film and television have emerged as a new form of audio-visual content in recent years, propelled by technological advancements. The advent of new streaming audio-visual technologies such as Virtual Reality (VR), Augmented Reality (AR), and Extended Reality (XR) has led to the innovative development of feedback systems in film and television communication. However, the emergence of interactive film and television is not solely attributed to the rise of streaming audio-visual technologies but has a traceable history. In the 1967 Montreal World Expo's "Automatic Movie," audiences could press buttons at crucial moments to autonomously choose the direction of the plot they wanted to see. The more popular plot choices were played accordingly. In the present day, the prosperity of streaming audio-visual technologies ensures the advancement of interactive film and television, providing ample support and significant expansion opportunities.

2.2. Three Forms of Interactive Film and Television

Interactive film and television refer to audio-visual content in which users can engage in interactive communication. Based on the level of user involvement in the content, interactive film and television can be categorized into three types: fully immersive, semi-immersive, and non-immersive.

2.2.1. Fully Immersive: VR Holographic Participation

In VR film and television content shaped by a 360-degree virtual environment, users immerse themselves in the virtual world designed by creators. They adapt to the progression of the content by controlling their bodily movements, leading to a high level of physical involvement.

Internationally, there are numerous well-known cases based on VR holographic technology. Oculus, a pioneering company in VR wearable devices and VR film content globally, has released VR films and animations such as "Lost" and "Henry." Google has also released interactive VR films like "Rescue" and "Pearl." While these works may not have all generated significant societal impact, the systematic and large-scale creative layout reflects the importance and concern for VR film content production.

2.2.2. Semi-Immersive: AR Reality Integration

AR technology overlays digital images onto real-world objects, enriching the user's viewing experience. Unlike VR, AR does not require users to completely immerse themselves in the virtual space of film and television content. Therefore, its interaction emphasizes more on user initiative and the realism of reality.

Examples include the AR game "Pokémon GO" (Image 1), allowing users to capture creatures and participate in battles within real-world environments. Such interactive forms are relatively simple, with users consciously engaging in the interaction process without fully immersing themselves in the virtual world composed of images, making it a semi-immersive interactive film and television experience.

Figure 1: Pokémon GO.

2.2.3. Non-Immersive: Screen Click Control

In non-immersive interactive film and television works, users can watch on devices such as phones or computers. Viewers can choose the plot direction by clicking the screen, with no need for users' bodies to genuinely immerse in the virtual world shaped by the film and television work. Thus, it can be defined as non-immersive interactive film and television.

Internationally, Netflix is a comprehensive streaming video platform that has actively laid out this type of interactive film and television content. Starting from the first interactive film product, "Puss in Boots: Trapped in an Epic Tale" (Image 2), Netflix has aired 18 interactive TV shows, including the well-known "Black Mirror: Bandersnatch." In China, major long video platforms have also actively laid out this content in recent years. Youku has launched "A Day with Nana," and Mango TV has created "Detective Chinatown: Prime Suspect" (Image 3).

Figure 2: Puss in Boots: Trapped in an Epic Tale.

Figure 3: Detective Chinatown: Prime Suspect.

3. Characteristics and Applications of Interactive Film and Television Works

3.1. Narrative Aspect: Coordination of "Body" and "Emotion"

3.1.1. Concept of Narrative Interactive Film and Television

"Narrative," also known as "storytelling," is a universal phenomenon suitable for any material, co-evolving with human history. As a combination of visual and auditory elements, film and television works benefit from an appropriate narrative structure, aiding in showcasing content and deepening themes. In the realm of cinematic art, narrative structures generally encompass two currently popular forms: linear film narrative structure and non-linear film narrative structure.

Conventional film and television works typically employ linear narrative, with a clear time sequence and causal relationships. Viewers need to grasp the plot based on basic time and logical order. As cinema evolves, audiences seek novel viewing experiences.

In the process of industry development, non-linear narrative structures have emerged. These structures pause at critical points in plot development, breaking away from traditional time and space relationships, making the viewing experience more challenging and entertaining. The narrative structure is a key design element in determining whether interactive film and television works can continually engage users [5].

3.1.2. Types of Interactive Narrative Structures

In general, the narrative structure of interactive film and television is based on a specific event. By switching perspectives of characters who have experienced this event, the narrative continues. When users gain partial control that was initially exclusive to the creator, curiosity influences them to describe the presentation of the same event from different perspectives, unlocking and narrating subplots related to the same event or clue.

3.1.2.1. Tree Structure

Concerning the tree structure, it arranges the plot threads into a tree shape based on the development of the story. It extends continuously downward from the beginning, branching at nodes, with each node corresponding to at least two other nodes. The structure tends to be infinite and is commonly observed in the story structure of interactive dramas.

For instance, iQiyi's interactive drama "Her Smile" (2019) utilized a tree structure to design the storyline. The drama had multiple plot choices, and different choices triggered different plot developments, resulting in a total of seventeen possible endings. For example, during a crisis, the viewer could choose to seek help or not, affecting the story's progression.

3.1.2.2. Network Structure

Regarding the network structure, any node can connect to other nodes, providing viewers with a high degree of freedom to explore and arrange the film's order. This logic forms a branching structure like tree branches, intertwining and leading to various outcomes. This type of logic is prevalent in various game developments and has gradually extended to film and television creation.

In late 2018, Netflix released "Black Mirror: Bandersnatch" (Image 4), a film that gained significant attention and won the 71st Primetime Emmy Awards after its official launch. The film, with a total duration of nearly 300 minutes, offered viewers almost 100 different endings, giving ordinary viewers the choice of a plot direction that better matched their expectations. Interactive dramas use film language to make narratives more realistic and vivid while combining the interactive features of games to provide viewers with absolute control and a strong sense of immersion [4].

Figure 4: Black Mirror: Bandersnatch.

3.1.2.3. Multi-threaded Parallel Narrative Structure

For contemporary interactive videos, the application of this narrative structure is relatively rare. It typically involves transferring power to the user, allowing them to decide specific perspectives under different storylines. Each involved storyline needs to have corresponding connections, clear logical structures, and common clues to interconnect the stories.

In 1999, director Jason Reitman produced another interactive thriller suspense short film - "Clues." For the first time in this interactive film series, he introduced five distinctly different male and female characters. Each character lived in a room on a five-story building, parallelly narrating the stories of these different characters. Simultaneously, there were connections between each story. As viewers, you could watch directly on the Internet, switch different perspectives at any time, and choose different perspectives using the keys 1 through 5. This experience made viewers feel like they were switching between five different TV channels in real-time.

3.2. Sensory Experience: Immersion and Interactivity

Taking VR animation technology as an example, VR animations with immersive representation allow ordinary viewers to actively participate in real narratives and plot stories. This leads to a more rich, intuitive, and realistic sense of presence. The interactive scene system in the virtual environment can dynamically interact and provide personalized feedback based on the psychological actions of each viewer. The use of a first-person perspective brings the viewer closer, deepening the immersive experience, making it more intimate and realistic.

Renowned behavioral psychologist Donald Norman, in his book "Emotional Design," proposed three important levels in behavioral design: visceral level, behavioral level, and reflective level. "Behavior" mainly refers to the interaction design behaviors between individuals and products. Typically, by designing interactions between behavioral levels, designers can achieve more concrete and profound narrative emotional experiences for the participants.

The animation "Gloomy Eyes" (Image 5) is a sci-fi animation that has received awards at the American Animation SXSW and received an Oscar nomination for Best Sci-Fi Narrative Animation. The animation design team used innovative technologies such as 6DoF, 3D, and real-time computation. This allowed both the creators and viewers to directly enter and participate in the animation from a god-like perspective. Viewers experienced the entire adventure story of the protagonists, Gloomy and Nena, and felt their sincere emotions. The entire game process also achieved a high degree of game freedom, allowing viewers to freely move within the animated scenes. This interactive narrative method allows viewers to immerse their emotions and thoughts more deeply into the work, creating an atmosphere of "a specific time and space" [6].

Figure 5: Gloomy Eyes.

3.3. Freedom of Choice: Power to Determine the Story's Direction

Audiences of interactive films can obtain a stronger sense of participation and immersion in the immersive experience. Viewers can independently choose the direction of the plot at interactive points in interactive films. During the viewing process, viewers will contemplate the development of the plot, and the specific content of their thoughts will vary due to individual life experiences, aesthetic concepts, and cultural upbringing. The existence of the autonomy to choose implies that viewers are given the role of players. They can enjoy the choice of the plot while also having control over the storyline during the interactive process. The immersive experience maximizes the audience's viewing experience [1].

In 2018, Game Trust and the Tequila Works team jointly developed a virtual adventure puzzle called "Invisible Hours" (Image 6). "Invisible Hours" can be considered a VR image version of immersive drama. From the opening environment design of the film, viewers are deep within the traditional stage of the theater, indicating the director's hint about the nature of the film [2]. In the virtual world, time is controllable, and players can pause or rewind at any time, choosing past time points to continue searching for clues from another suspicious environment. When choosing plot options independently, players, like directors and editors, control the protagonist and connect scenes, immersing themselves in the plot from the protagonist's perspective or a god-like perspective. This allows them not only to control the story's direction but also to receive feedback from characters in actions or language [3].

Figure 6: Invisible Hours.

4. Challenges in the Development of Interactive Films and TV Shows

4.1. Challenges in Narrative Logic Precision

Firstly, compared to traditional-themed film and television works in China, the creation of scripts for narrative TV dramas is notably intricate and complex in terms of character story scriptwriting, film shooting methods, and practical production. Traditional web series generally revolve around a single plotline, while the narrative structure of interactive web series, if not logically connected properly,

can result in disjointed storylines. Hence, the precision of narrative logic is undoubtedly a major challenge in the creation of interactive web series materials.

4.2. High Costs and Limited Accessibility

The majority of current series require VIP subscriptions for viewing, limiting the consumer base and restricting the spread, thereby reducing overall accessibility.

4.3. Emphasis on Form and Technology over Content and Artistry

The vast volume and numerous branches of non-linear interactive drama do not guarantee that each branch has sufficient rich plot support.

For example, the film "Black Mirror: Bandersnatch" may lead to an abrupt ending due to a single wrong choice. Similarly, in the interactive series "His Smile," similar issues exist. If viewers only follow the shortest plotline, they may miss the core content that runs through the entire series. Therefore, while interactive dramas add an element of fun to storytelling and structure, they also to some extent affect the completeness of the plot.

4.4. Contradiction Between Interactivity and Immersion

In the design of some interactive thematic film and television works, the design effects of interaction between interactive nodes can directly impact the audience's final viewing experience. The interaction between interactive nodes, if set with too long intervals or durations, can lack audience engagement. However, if the intervals are too short, it can disrupt the overall immersive experience of the work. Currently, some domestically produced interactive web series may encounter various detail problems such as frame skipping, abrupt plot transitions, and sudden changes in the storyline at critical plot nodes. Further improvements are needed in the post-production phase. Therefore, these interactive web series require further optimization in design and enhancement.

5. Innovative Prospects in the Development of Interactive Film and Television

5.1. VR Technology: Empowering the Future Development of Interactive Film and Television

At present, the global development of interactive dramas is still in its early stages. Due to the need for extensive on-site research and practical operations by personnel in the creation of interactive drama scripts, narrative content structures, shooting, and editing, the quality of interactive film and television works produced, whether in the domestic or international market, is a cause for concern, and the overall output is not high.

The core competitiveness of interactive dramas lies in their interactive immersive experience. If improvements are made in this aspect, interactive dramas may achieve better dissemination speed and reach. For instance, optimizing the human-machine interaction during the viewing process could simplify some of the audience's head movements. Specifically, nodding or shaking one's head, focusing on options with their eyes, or using voice prompts could rapidly complete operations. This optimization could better prevent interruptions in the user's viewing experience at critical nodes, avoiding the drawbacks of interference from other options. With the advancement of the 5G process and the formal launch of 6G research, it can be predicted that the information transmission speed in the future era of the Internet will continue to increase, providing essential conditions for the continuous improvement of interactive drama quality.

5.2. Introducing Classic IPs and Designs to Promote the Rapid Development of the Interactive Drama Industry

Classic IPs help evoke a sense of familiarity among readers, making them more universally appealing and suitable for all ages. They also contribute to the positive exportation of traditional Chinese culture, fostering cultural inheritance and protection, and driving continuous development in native Chinese designs.

By translating the concepts of game design and the real experiences of esports players into the interactive process of derivative products. For example, the desktop card game "Legends of the Three Kingdoms" fully restores historical scenes and cultural contexts during gameplay. Players can portray real historical figures and participate in the course of history [7].

Alternatively, based on feedback from the post-audience, extensive research can be conducted to broadcast endings that better meet the general public's expectations and satisfaction. Furthermore, designers can extend the IP, creating a series of extension designs, including but not limited to IP characters and dynamic designs, enhancing communicability and further empowering the development of interactive dramas.

6. Conclusion

In conclusion, with the support of the future trends in digital technology and the diverse characteristics of interactive film and television works determined by the experiences brought about by narrative, immersion, and audience interactivity, as well as the choice of story development, continuous investment in creation and practice will inevitably lead to a gradual and comprehensive exploration of the forms of interactive film and television works. The relationship between audience experience and the presentation of film works will undoubtedly exhibit various complex interactive behaviors in the process of the interactive and integrated development of virtual content in films and social reality elements. Moreover, with the overlap and resonance of story content and the author's emotional expression, the narrative norms of traditional storytelling images are also being challenged. However, in this process, a series of drawbacks have emerged, prompting profound reflection. It can be believed that the future development trend of interactive film and television works presents both daunting challenges and boundless possibilities, ushering in a new era of film and television production.

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