# Analyzing the Impact and Development of the Metaverse on Film from a Film and Television Creation Perspective

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**Abstract.** With the rapid development and widespread application of virtual reality technology, the concept of the metaverse has gradually permeated various fields such as gaming, social networks, digital art, and has had a profound impact on the film industry. This study focuses on the film industry, examining comprehensively the influence and development of the metaverse on film from the perspective of film and television creation. It revolves around four main aspects: the application of the metaverse in film, changes in narrative structure and audiovisual experience in film due to the metaverse, the impact of the metaverse on film and television artistic creation and audience participation, and the sustainable development of the film and television industry with the metaverse. Through this research, a deeper understanding of the relationship between the metaverse and film is achieved, providing valuable insights and references for the practice and future development of film works.

**Keywords:** Metaverse, film and television creation, narrative structure.

## 1    Introduction

In recent years, with the rapid development of technologies such as virtual reality, interactive technology, and artificial intelligence, the concept of the metaverse has gradually infiltrated daily life and become a focus of academic attention. However, the definition and evolution of the metaverse are not a simple process. "The concept of the metaverse began with the 1992 foreign science fiction work 'Snow Crash,' which introduced the concepts of 'Metaverse' and 'Avatar.' In these, people could have their virtual alter egos, and this virtual world was called the 'metaverse.'" [1] "Hee-soo Choi and Sang-Heon Kim in their research article "A Content Service Deployment Plan for Metaverse Museum Exhibitions: Centering on the Combination of Beacons and HMDs "presents the meta-universe as an important way to innovate existing museum exhibitions." [2] "In 2020, human society reached the threshold of virtualization, and the pandemic accelerated the development of new technologies, promoting the formation of a contactless culture." [3] In September 2022, the National Committee for Standardization of Scientific and Technical Terms provided a clear definition for the concept of the

metaverse: "The metaverse is a virtual world constructed by humans using digital technology, which maps or transcends the real world and can interact with the real world." [4] Professor Shen Yang from Tsinghua University's School of Journalism stated, "The metaverse is not a technology itself, but a concept that requires the integration of various new technologies, such as 5G, 6G, artificial intelligence, big data, etc., emphasizing the blending of the virtual and the real." [5] The definition and evolution of the metaverse are an ongoing process, and as technology advances and academic research deepens, the understanding and definition of the metaverse will gradually become more refined and unified.

As a virtual shared space, the metaverse has brought new forms of expression and interaction with the audience to artistic creation. In traditional artistic creation processes, real-world settings and physical constraints often limit the creative process. However, introducing the concept of the metaverse can, to some extent, dissolve these constraints, granting creators greater creative freedom to construct richer virtual environments to meet diverse creative demands. Simultaneously, audiences, as active participants in the metaverse, can more actively engage with works, interact with characters, and even influence the direction of the plot through their choices, thereby forming closer emotional connections. In addition, the introduction of the metaverse also opens up new possibilities for expanding traditional media such as text, imagery, and sound.This article will delve into the impact and development of the metaverse on film from the perspective of film and television creation, aiming to comprehensively understand the close connection between the metaverse and cinema.

## 2      The Application of the Metaverse in Film

The earliest use of metaverse elements in film can be traced back to Stanley Kubrick's 1968 movie "2001: A Space Odyssey." The film primarily tells the story of astronauts traveling to Jupiter to investigate a mysterious monolith found on Earth and experiencing a series of surreal events. Although the concept of the metaverse had not been introduced at that time, the fictional space exploration depicted in the film shares similarities with the metaverse concept. Baudrillard's understanding of virtual reality suggests that modern society has surpassed material reality, becoming a virtual world that influences people's cognition and behavior. The first cinematic representation of this "metaverse" world was offered in the 1999 film "The Matrix," directed by the Wachowskis. The movie centers on hacker Neo, who, with the guidance of Trinity, teams up with the leader of a hacker organization, Morpheus, to resist the controllers of the real world known as "the Matrix." "The Matrix" constructs an extreme metaverse world that encompasses elements like Zen, philosophy, mythology, robots, and artificial intelligence. The film's exploration of human-machine relationships and virtual spaces profoundly impacted the audience's perception of the virtual world. In James Cameron's 2009 film "Avatar," the director employed CGI, 3D, and other digital technologies to present viewers with a perfect virtual world on the planet Pandora. The protagonist, Jake, frequently switches between his "real self" and his "virtual Na'vi self," much like entering a virtual world through a "brain-machine" interface, perfectly

illustrating the concept of "avatar" in the metaverse. Christopher Nolan's 2010 film "Inception" primarily tells the story of a dream thief who infiltrates the dreams of others to steal information and reshape dreams. The presence of multiple dream levels in the film precisely reflects the multiple spatial aspects of the metaverse.

## 3      Changes in Film and Television Narrative Structure and Audiovisual Experience due to the Metaverse

### 3.1      Innovation and Reconstruction of Film and Television Narrative Structure

"The most common and traditional narrative technique in film art is 'linear narration'—from the beginning of the story to its conclusion, maintaining a straight line between the starting and ending points," [6] while the use of the metaverse brings innovation and reconstruction to film and television narrative structure. The non-linear narrative form of the metaverse, through multiple timelines, jump-cut story development, and interwoven plot arrangements, breaks free from the constraints of traditional storytelling, offering audiences a more free and personalized viewing experience. Christopher Nolan's 2010 film "Inception" employed a non-linear narrative approach by layering and interweaving multiple dream levels, delving into the relationship between dreams and reality. Meanwhile, viewers, while watching the film, seem to freely shuttle between different layers of dreams along with the characters in the film, greatly enhancing their experience of time and space traversal. Furthermore, the metaverse enhances the audience's sense of participation and immersion through interactive narrative forms. Audiences can interact with the virtual world in the film through metaverse technology, even participating in the development of the story, making the interaction between film and television works and the audience much closer. In the film "Black Mirror: Bandersnatch," produced by the American company Netflix, at key junctures, viewers can make choices, and each different choice affects the subsequent plot development. This interactive narrative form breaks down the boundaries between viewers and the viewed, making them creators and participants in the story.

### 3.2      Enhancement and Transformation of Film and Television Audiovisual Experience

"Film is an audiovisual art; vision and hearing provide nearly 90% of sensory information, and it has a unique advantage in creating an immersive experience." [7] The application of the metaverse provides a more realistic and immersive viewing experience for the reception of film and television works. Through technologies like virtual reality, augmented reality, panoramic video, the audience can immerse themselves in the virtual world created in the film, gaining a more immersive audiovisual experience and participating in the creation and development of the film. This immersive audiovisual experience, combined with multimedia-rich film language, provides broader possibilities for conveying stories and emotions in films. In James Cameron's 2009 film

"Avatar," through 3D and virtual reality technologies, a lifelike virtual environment was created, allowing the audience to choose to wear 3D glasses and "enter" the world of Pandora, the virtual environment crafted in the film. This enhancement of the audiovisual experience enables the audience to more deeply experience the emotions and stories conveyed by the film. Additionally, the technical means of the metaverse expand the audiovisual expression of film and television. Using VR panoramic metaverse scenes, the audience can immerse themselves in all directions without any blind spots, no longer limited to traditional flat screens. This panoramic audiovisual experience can provide a more immersive viewing experience, allowing the audience to perceive the scenes and stories presented in the film from all angles. At the 2023 China Science Fiction Conference "Wave Fantasy Adventure Season" - Virtual Reality Experience Unit, the production "Free Solo" realistically recreated the majestic landscapes of nature through panoramic shooting techniques. Simultaneously, through virtual reality technology, the audience could be virtually transported to the cliffs thousands of feet high, experiencing firsthand the thrill and excitement of free solo climbing.

# 4     Impact of the Metaverse on Film and Television Artistic Creation and Audience Participation

## 4.1     Impact of the Metaverse on the Film and Television Artistic Creation Process

"The entire process of film and television production is a series of interlocking phases, including pre-production, shooting, and post-production. Each phase is essential, and their combined efforts ensure the production of high-quality film and television works." [8] However, with the emergence of the metaverse, film and television artistic creation are undergoing an unprecedented and disruptive transformation. The advent of the metaverse has had a profound impact on film and television artistic creation, opening up new possibilities, from expanding creative perspectives, eliminating constraints, to promoting the widespread use of virtual characters and restructuring the film production process.Firstly, the metaverse provides new creative perspectives and artistic freedom. Through metaverse technology, creators can design any scene, breaking free from the limitations imposed by traditional sets and creating more fantastical and diverse virtual worlds. Simultaneously, the application of virtual character technology allows creators to break free from reliance on real-life actors and craft unique virtual characters, expanding the possibilities for character performance and enhancing creative freedom. Secondly, the metaverse offers the potential for highly efficient and cost-effective film and television production processes. Creating scenes within the metaverse through programming eliminates the time and cost associated with building physical sets in traditional production, providing a more economically efficient solution for film and television production. Moreover, using virtual characters to replace actors, combined with motion capture technology, reduces the human labor required for actual filming, thereby increasing production efficiency. Additionally, the metaverse changes the demands and work patterns of future film production professionals. The application of

metaverse technology will accelerate the digitization and automation of film production, improving production efficiency and productivity. Future film production may only require two main job categories, namely real-world shooting personnel and post-production digital processing programmers, reducing the complexity and cost of intermediate steps.

### 4.2    Impact of the Metaverse on Audience Participation

According to the viewpoint of M.H. Abrams in his work "Mirror and Lamp," "A complete artistic ecosystem is composed of the work, the artist, the world, and the appreciator." [9] For film and television artworks, the role of the appreciator corresponds to the audience. "Due to the immediacy and presence of visual reception, the audience can establish psychological identification with the protagonists and become immersed in the story, experiencing various aspects of life through different characters." [10] The metaverse provides the audience with a more immersive and interactive mode of participation, igniting a deeper interest and enthusiasm for film and television artworks. Firstly, metaverse technology empowers the audience with more participation and creative autonomy. Using augmented reality, virtual reality, and other technological methods, the audience can be integrated into the story context of the film, creating their virtual identities within the metaverse and interacting with the virtual world, making them participants and decision-makers in the story. This interactive experience stimulates the audience's desire to participate, making them more actively engage with the film and influence the storyline. Secondly, the openness and diversity of the metaverse provide the audience with a broader scope of participation. In the metaverse, viewers can choose their preferred characters, plot clues, or participate in tasks, thus customizing their viewing experience to their individual preferences. This personalized form of participation satisfies the diverse needs and preferences of the audience, enhancing their sense of participation and satisfaction. Additionally, the social and shared nature of the metaverse also encourages interaction and cooperation among the audience. In the metaverse, viewers can communicate, collaborate, or compete with other viewers, collectively exploring the virtual world and creating shared experiences. This social interaction model breaks the limitations of traditional film and television viewing, turning the audience from passive receivers into active participants in the creation and interpretation of film and television works.

## 5    The Metaverse and the Sustainable Development of the Film and Television Industry

The metaverse, as a new concept and technology, brings a series of opportunities and challenges to the development of the film and television industry. Firstly, through metaverse technology, creators can establish virtual stores to sell related merchandise, and the audience can also log in to platforms to purchase virtual clothing, props, and other items. This new consumption model disrupts the existing profit structure of the

film and television industry, to some extent, driving the industry's transformation. Secondly, metaverse technology strengthens the close connection between the film and television industry and various other fields, including gaming, animation, fashion, entertainment real estate, tourism, and more. This cross-industry integration not only enhances the competitiveness of each industry but also promotes the sustainable development of the film and television industry. Additionally, metaverse technology allows for virtual production, enabling real-time processing of visual effects during the shooting process, rather than just in post-production. This digital and intelligent enhancement significantly shortens the production cycle and costs in the film and television industry. However, the integration and development of the metaverse with the film and television industry also face several urgent challenges. Currently, metaverse technology is still in its early stages and requires more mature and stable technical support. Moreover, maintaining the quality and appeal of works, while applying metaverse technology in the creative process of film and television works, requires higher production standards from creative teams. Furthermore, there is a need to address issues such as the spread of false information and infringement on others' works, potentially through the enactment of relevant laws and regulations to protect the legitimate rights of creators and maintain the long-term sustainable development of the film and television industry.

## 6    Conclusion

In conclusion, the metaverse plays a crucial role in the development of the film industry. It not only influences the process of film and television art creation but also has a profound impact on the content and form of film and television art. Additionally, it provides valuable technical support for the sustainable development of the film and television industry. However, it's important to acknowledge that the development of the metaverse also faces challenges, and the establishment of a robust legal and ethical framework is necessary for its sustainable development. With continuous technological advancements, the integration and development of the metaverse with the film industry are expected to proceed more smoothly.

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