Inspiration of Dramatic Stage Space

Research on the "Spatial Narrative" Mode of VR Images

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Abstract—**With the development of the times and society, virtual reality has gradually integrated into humans' lives. Compared with ordinary video movies, VR movies are more complicated and diverse in terms of script design, 360 camera capture, and image stitching using special software, and post-production editing and production. Although different types of VR clips continue to be produced, VR movies are still limited and development is still slow. The "spatial narrative" of the dramatic stage art features a lot of VR images. In this article, the author will start from the specific case and his own practice, analyze the current excellent expression of VR film after drawing on the elements of the theater stage, integrate the development of the theater stage into the creation of VR film, explore the law of VR creation, and explore the future. The development of virtual society has a very good meaning both in theory and in practice.**

Keywords—VR image space; narrative drama; stage art; VR technology

I. INTRODUCTION

With the continuous progress of science and technology, virtual reality technology has achieved rapid development, and VR image works have gradually entered people's vision. When a user wears a VR headset, he or she enters a virtual space different from the real world. This virtual space inherits the function of cyberspace and is completely different from the real space.

II. FROM LENS TO SCENE: THE "SPATIAL NARRATION" OF VR IMAGES BREAKS THE TRADITIONAL NARRATIVE MODE

Alejandro Gonzalez Inarritu, who won two Academy Awards in a row for birdman and the revenant, said at the ceremony for his award-winning VR work Carne y Arena: "VR is a space narrative: space comes first, then narrative."[1] VR images have the characteristics of "immersion", "presence" and "reality", which bring people a visual feast that breaks the time and space. Different audiences wear virtual reality head display devices to enter the VR image space to capture different information points, each time there is a new experience.

In the 1950s, Bazan mentioned in the concept of "complete film" that the purpose of film is to "reproduce the illusion of an external world with sound, color and three-dimensional sense". In order to achieve the purpose of "complete film" to faithfully preserve the reality, most traditional films focus on narrative, which is an irreversible linear art attached to the time line. In the space narration of traditional films, a specific and realistic field is used as the narrative space, and montage narration is often used to combine a group of shots for narration. Later editing is the key to narration. In its narrative space, it has an overall and systematic organizational relationship and film structure mode, which is generally carried out in accordance with the narrative logic of realism literature, and the discourse narrative dominates the image narrative. In the overall organizational structure, the elements and combination of various narrative structures are complex and various, which promotes the development of the story.

In VR images, the traditional montage narrative technique in which different shots, pictures, elements and other elements are stitching together for narration will not only make the audience feel dizzy, uncomfortable and other problems, but also weaken the audience's autonomy in watching the film. VR films set different scenes in the space or different stories in the same scene, and audiences watch them according to their own habits. The scenes in the space are the basic units of narration, so the way in which the discourse narration dominates the image narration in most traditional films will be broken. In addition, the scripts of traditional films are mainly composed of dialogue, monologue, narratives and action instruction. If VR film scripts are written in a traditional way, there will be no clear marks on actors' standings, machine placement and scenery, etc., and the scene will be very chaotic. In the VR movie "live to the end", which is dominated by lanting digital, the shooting place is the closed room, and the plot develops in the closed room. In this film, the film space is the first, followed by the discussion of narrative in space.

III. THE INSPIRATION OF DRAMA STAGE SPACE ON VR NARRATIVE MODE

Drama is the general term of stage performance art, which originated from ancient Greek period and has developed to the present day, and achieves the purpose of narration through language, action, dance, music, puppet and other forms. On the stage of drama, different creators, such

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[1] "Oscar Award Director talks about VR creation: there is a narrative inside, but more about space".

as directors and actors, create infinite content through limited time and space, with certain virtuality. In his book the empty space, Peter brook, a famous British drama and film director, wrote, "I can take any space and call it an empty stage. One person walking across the stage under the gaze of others is enough to constitute a drama".[2] The stage of a drama is a space in which the actors and the audience live together. On the stage, actors, choreography, scenery, sound, lighting and other elements are integrated to form a complete stage performance, which can express both the simulation effect and illusion effect of VR image. Although there are many differences between drama stage and VR image, its spatial attribute has certain reference significance for the spatial narration of VR film.

A. Spatial Thinking

The amphitheater in ancient Rome is in the center of the auditorium. "This kind of stage form has been considered as a kind of performance space style with ideal horizon."[3] Faced with a multifaceted stage, the director needs to consider the viewing problem in different directions. It puts forward how the director should deal with the picture and space setting when facing the surround stage, which is a valuable reference when creating VR films. The amphitheater is a special drama stage case, but other drama stage forms also need to consider the picture and space setting, which also has reference significance.

The stage space of drama USES visual elements such as points, lines and planes to skillfully divide the limited space by means of scenery, props and actors' positioning, which is both hierarchical and rhythmic. "Drama not only divides the stage performance area based on the audience's perception of the stage space, but also summarizes the basic rules of stage scheduling: 'left is strong, right is weak, front is strong and back is weak'.[4] According to the audience's perception of the stage space, the drama creators set the stage and divide different scenes to achieve the effect of clear priorities, guiding the audience's line of sight and driving the narrative rhythm. However, the narrative mode relying on traditional audio-visual language will be weakened in VR images. The position movement of VR camera becomes the core audio-visual language means of VR images. The position of VR camera is the audience's viewpoint, and the position movement is the movement of the viewpoint. With the VR camera as the central position, the creators divide the space into multiple scenes around the center, learn from the experience of setting the stage space of drama, and create immersive content in the limited space by means of props, sets and actors' positioning.

From the beginning to the end of the play, and from the moment the audience takes their seats to the moment they stand up, every position and every actor on the stage will receive the attention of the audience. The attention of different audiences varies from person to person. In VR images, the audience will be placed in the virtual space after wearing the virtual reality head-mounted display device and freely watch the behavior of a certain character and the props of a certain scene. The distinction between the leading role and the supporting role is no longer obvious. Therefore, the scheduling of space and actors needs to learn from the stage art of drama, so that multiple events can take place in parallel at the same time, and multiple perspectives of characters, multiple plot branches and multiple endings can be obtained.

B. Scene Change

Aristotle mentioned the art of "imitation" in his theory of poetry. In order to make the audience resonate, the stage space setting of drama will imitate the real life scenes. This approach is also required by VR films, which enables the audience to have an immersive illusion, try or temporarily forget that they are watching a play, and integrate themselves into the emotions of the people in the play to enter a specific dramatic situation.

In order not to affect the audience's sense of reality and immersion, VR films usually use a single linear narrative mode in shooting and production, and flashbacks, flashbacks and other ways can easily make the audience feel disjointed from time and space. However, linear narration is not easy to speed up or slow down the pace of narration, so the content of expression is limited. In this case, the dramatic stage space gives a lot of inspiration.

Stage light is an important element for the connection between the scenes on the stage of a drama. In order to create a stage space that is both real and unreal, the director often USES lighting control to make the transition between time and space. This form of scene transition on the stage of drama is also applicable to the creation of VR films. When shooting VR films, long-lens shooting mode of one lens to the end is often adopted. The transition of scenes and the scheduling of actors can be controlled through the stage light and light switching to make up for the deficiencies in shooting. There are also some differences between scene presentation and transition. The setting on the stage of most plays is set for narrative, with symbolic significance. However, the presentation and transition of props and scenes in VR images strive to be real in order to immerse the audiences.

Actors perform. The stage of a play is usually controlled by changes in scenery and the performance of the actors. In VR films, scene switching can still be achieved through actors' performances. The long-lens shooting method of VR films makes it impossible to interrupt the filming process as much as possible, which requires actors and props to complete narrative guidance and scene conversion. In the process of practice, it is necessary to transfer the stage by referring to the way of the stage actors. When a new character appears, the light will be on, and when the character leaves the scene, the light will be off. The scene and the transformation of the scene will be transferred through the gradual extinction and brightening of the lights

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[2]   Peter Brooke: "The Empty Space".

[3]   Xiao Shi Xin Ba: "Traditional Research on Space Design — Research Report on Applying VR in Stage Creation Process".

[4]   Zhou Hui: "Director's Exploration and Construction of Modern Narrative Mode in Traditional Chinese Opera Stage".

in the whole scene, which is actually the fade and fade effect in the nonlinear editing software.

C. Spatial Guidance

Long lenses are often used in VR films. Although the long lens keeps the continuity and integrity of time and space, it is easy to be boring and empty. When switching between scenes, in order to avoid making the audience feel dizzy and uncomfortable, space and line of sight should be guided.

First: Lighting is an important way to guide the audience on the stage of a drama, which can also be applied to the spatial guidance of VR films. By means of light movement, light and shade, the audience can be guided to look at the bright place in the dark environment. When there are multiple narrations in a space, the lighting of the main narration can be turned on and the lighting of the secondary narration can be dimmed. When a narrative content in the space is finished and the audience needs to be guided to watch the next narrative content, the light of the previous narrative content can be gradually transferred to the next narrative content, and the audience will follow the narrative progress according to the direction of flashing lights.

Second: Actors can also guide the audience's eyes in the space. On the stage of drama, the audience can follow the actors to watch the story. In VR films, the actors' positioning can also be used to guide the spatial vision. When there is more than one actor in a scene, the audience is prone to confusion. At this time, the leading actor can conduct some guidance of sight, action and props. Hand pointing, eye orientation, body orientation and other contents can help the audience to watch in the space.

Third: Sound plays an important role in VR films. In VR space, the audience is at the center of the space, and the 360-degree panoramic sound effect enables the audience to hear the sound from all directions. The sound can identify the direction and position of the sound source, and then guide the audience to find the sound source for further viewing and interaction.

D. Interactive Narrative

"Greek drama is the way in which Greek culture openly thinks and feels the most important questions of anthropology, including ethics, morality, politics and religion."[5] From it can see that drama is a tool of thinking and communication, and actors should pay attention to the expression of emotion and the interaction with the audience when performing. VR films are also people-centered. The audience can freely choose to watch the story when watching, and have more freedom to experience the film. On the other hand, they are the "creators" of the film. Therefore, in VR films, attention should be paid to the psychological feelings and experience of the audience, so as to enhance the sense of participation and resonance of the audience. When the audience is completely immersed, they can wander freely in the virtual world.

Randall Collins as mentioned in the "interactive service chain", the core of interactive ceremony is a process, in the process, the participants through mutual action or event (including typical conventional ceremony) and brief emotions will make groups gathered together to develop a common focus, sharing a common mood and emotional experience, and this common action or event and the interaction of short emotion which produce one of the important factors.[6] In the drama performance, the actors interact with the audience through the sound table and stage setting, which evokes the audience's resonance and arouses the audience's emotion. In VR films, it is the interaction between audience and VR space that facilitates the narrative development. The interaction of VR films is also one of the issues to be considered by creators. The interaction of VR films is different from that of VR games. At present, there are few interactive VR films, but in the future practice; it needed to learn from the presentation form on the stage of drama: the audience can interact with the actors, but it does not affect the occurrence and progress of narration.

IV. RECONSTRUCTION AND REFLECTION OF "SPATIAL NARRATION" UNDER VR TECHNOLOGY

A. Reconstruction of Thinking Mode — Spatial Thinking of "Sand Table Model"

At the beginning of traditional film shooting, different functional departments in the film team got different books, for example, the director got scripts and shooting scripts, etc. In VR films, the 360 degree video feature of full visibility determines that every functional department on the set should have panoramic thinking. One of the effective ways to cultivate "panoramic thinking" is to cultivate "sand table model" spatial thinking with the help of sand table model.

The sand table model is refers to according to the topographic map, the aviation picture or the field topography, according to the certain proportion relations, USES the sand, the war chess and other material to make the model, has the three-dimensional feeling, the image is direct, the manufacture is simple, the economy is practical and so on the characteristic. Before setting up the traditional drama stage, the stage designer also needs to create a small scale model of the stage to facilitate the director to set and arrange actors.

VR films show different scenes in a 360-degree space and narrate in the scene, so the plane narrative mode of traditional films will no longer be applicable in VR films. Build "sand table model", divide different scenes in the space, and refine the scene according to the narrative content of each scene. Creators can intuitively see the space division, scene setting, narrative structure and other contents of VR films.

Because the time-oriented linear narrative mode is somewhat monotonous, spatial narration is also one of the main narrative modes of VR films. In the spatial narration of VR films, the scene is the basic unit. People and events in

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[5]   Brenda Laurel: "Human Machine Interaction and Drama Performance".

[6]   Randall Collins: Interactive Ceremony Chain.

different scenes in the same space may not be closely related, even if they are not closely related in the same scene, so spatial narration can show the whole picture of space. How to reasonably arrange the scene layout, transformation, audience line of sight guidance and other issues in the spatial narration is also a problem to be considered when using the "sand table model" spatial thinking.

Through "sand table model" thinking mode, the global thinking of VR films can be constructed. It is helpful for VR film creators to think from a holistic perspective, establish a global awareness and systematic thinking, deepen the director's global awareness, help actors quickly and accurately get into roles, and better coordinate the collaboration between various departments and each link of filming.

B. Change of Narrative Structure

First: Who am I, where am I, what am I looking at? When the audience enters the virtual space with a VR headset, they will feel the occurrence of space scenes and stories according to their own role Settings in the space. Therefore, VR films have the property of freely choosing the perspective. The audience can see 360 degrees in the plane and 360 degrees in the vertical plane, so different actions of different characters will take place at the same time, in different directions. This reminds the creator that when creating VR film narration, should first consider the audience's choice of perspective, first person or third person.

Second: "Mntage" in space. In his papers, Einstein said, "what we are used to seeing on the screen, suddenly 'swallowed' us into the depths of the screen never seen before, or 'entered' our hearts with an unprecedented 'momentum'". Einstein's words were based on two-dimensional films, and many 3-d films now take us into this virtual environment. For VR films, sudden "swallowing" or "drilling" does not give the audience a sense of immersion, but makes the audience feel dizzy. This is because traditional montage narrative techniques are basically no longer applicable to VR films. However, this does not mean that VR films do not have the combination and transformation of scenes, or the acceleration and deceleration of plots. In VR films, "space montage" still exists, but it needs to be tested and practiced. The camera is equivalent to the eyes of the audience in the VR space, so the safe distance of the VR camera should be taken into consideration in the scene design, which also means that it is comfortable for the audience to watch the scene in the space. Moreover, in the middle of the adjacent two lenses of VR cameras, people and scenery should not be designed as much as possible. This position is an extremely dangerous area, which is easy to be divided and misplaced.

The montage narration in traditional films is mostly applied to the combination of shots. However, in VR films, it is still possible to connect the upper and lower scenes through scene transformation, producing different artistic effects such as coherence, jumping, strengthening, weakening, parallelism, contrast and contrast, and expressing different meanings. However, this spatial narrative method needs to be constantly tested to prevent the audience from feeling dizzy.

C. Reorganization of the Space System

When it comes to the creation of VR films, there is no systematic and complete process in the industry. Even the script creation in the early stage has no theoretical guidance. Our practice is also feeling the stones across the river, the original according to the traditional drama creation VR script writing specification, only with good conversation, narrator, stage motion instructions, such as content, results in the first photo is found the script writing mode: how space layout, actor how to walk, VR camera on which Angle is a safe place and so on. After personal practice, people can fully aware of the importance of VR film space arrangement.

There are few scene transitions in VR films, so it can draw lessons from the way of shooting scenes on the stage of drama, rather than the method of shooting scenes opposite actors in the process of film and TV shooting. In addition to space and scene Settings, performances and actions of global actors should be noted. When writing a script, you should also mark the direction and pay attention to the line of sight guide. Because the viewpoint of the audience has the property of freedom, the action of the actor may not be seen by the audience. Therefore, in the early stage of the action design, it is necessary to try our best to make the action of the actor be continuous and convenient for the audience to understand. When different characters act, they should have a guiding design, whether it is the voice or the sight of other actors. If there is no way to build a "sand table model", the paper can be divided into six quadrants, each quadrant represents a bearing, divided into top, bottom, left, right, front and back six parts. Label each part clearly, and label the basic transition mode and guidance mode, so that both actors and other staff can understand the content of each orientation narrative, and can predict the picture before shooting.

V. CONCLUSION

When "the great train robbery" was shown at the beginning of the film, the audience was scared into running away. Now it's easy to see explosions, wars, outer space and more in movies. This is the audience's long-term accumulated inherent experience and has formed the habit of thinking, is now people have adapted to the film as a medium. VR films break away from the traditional way of creation, narration and production, and emerge as a new medium. In the face of VR, a new way of image expression, people also need a process of adaptation and habit. Nicholas Negroponte as early as 1996 years of "being digital" was predicted in the book: the idea behind virtual reality is, by making the eyes to receive to receive information in the real situation, make the person produces the feeling of "immersive", more importantly, you can see image with instant changes your perspective, it is further enhanced the scene of the movement. Virtual space gives people a sense of immersion, presence and reality, which is both novel and strange to the audience, so now there is no clear criterion for the quality of virtual reality art. VR films need to absorb the

advantages of traditional films, especially the space setting of drama stage art, which gives VR films a lot of inspiration. Therefore, it should be carefully considered and may promote the faster construction and development of virtual reality art.

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