

Field, Gameplay, and Blank-leaving in the Nine Dimensions

New Discussion on the Creation Mode of VR Documentary

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Abstract—In the traditional documentary, according to the self-positioning of the director's creation, the three creation dimensions of micro-intervention, semi-intervention and deep intervention are formed, and the viewer is always in God's perspective. In the VR documentary, the viewer is no longer in God's perspective, can enter the play, or even be assigned to the role. The traditional triple creation dimensions have expanded into nine dimensions. According to the orientation of the director and the viewer, the VR documentary is classified and analyzed. The most fundamental change in the role of the director in the creation of VR documentary is that his identity becomes the leader of the field; the narrative mentality is to create gameplay; and the key skill of creation is the use of blank-leaving.

Keywords—VR documentary; creation dimension; field; gameplay; blank-leaving

I. INTRODUCTION

Susanne K.Langer once mentioned in the "Art Problems" that the emergence of new technology, at the beginning, is to imitate reality more perfectly and later it will become a new form or a new style "convention" [1]. Virtual reality technology is the most perfect imaging technology for realizing the reality by far. It is characterized by immersion, interaction and imagination. Among them, immersion is the most important feature, which can bring immersive experience to the audience. From the perspective of the audience, it is the freest way to watch movies by far. For the director, due to the characteristics of its full-space image, the original image narrative methods are all disrupted, and the lens type and movement mode are cancelled. The editing method has also been challenged, and it has become the most difficult image method for current directors. However, there is a type of image that is well known to the public. On the contrary, it can be well adapted to the presentation mode of virtual reality images. That is virtual reality documentary, also known as VR documentary.

The VR documentary is filmed by virtual reality technology, takes real life as the material and artistically displays it, so as to create a good immersive experience and make the audience have thinking. The VR documentary is a kind of documentary. It was born with the maturity of virtual reality devices. It is also shorter due to current themes and

technical limitations. From the "Cloud over Sidra Bay" broadcasted at the Davos Forum in the summer of 2015 to the first Chinese VR news documentary "Kindergarten in the Mountain Village" in 2016, and the American VR documentary "The People's House" that won the Emmy Award in 2017, it was discovered that the documentary language, roaming lens, and natural sound effects have a natural adaptability to virtual reality images. Therefore, the documentary became another breakthrough in the integration of virtual reality technology and video art after animation and games. In recent years, it has attracted a large number of traditional documentary directors. We can't help thinking, compared with the traditional documentary, what is the difference of the audience experience mode and the director creation mode of the VR documentary? Will it form a style of "convention" as Susanne K.Langer said? Where will it go in the integration of technology and art? These should be analyzed from the two aspects of director's creation mode and viewer positioning of VR documentary.

II. TRIPLE CREATION MODES OF DOCUMENTARY

Authenticity is the life of a documentary. From the birth of the documentary, the confrontation between the director's intervention and authenticity has emerged, and it has lasted for a long time. Even the industry has divided the different genres of the documentary with this degree of confrontation. From the father of the documentary Robert Flaherty's "playing" of "Nanook of the North" to the objective of Vertov's "movie eye school", and from the "real film" represented by the French director Jean Rouch to the "direct film" represented by the American Maysles brothers, it is found that the documentaries aimed at recording the truth actually reflect the opinions of the creators more or less. People shifted the concern about the documentary to the attention of documentary creators: should pretend to kill seals in "Nanook of the North"? Why does "Triumph of the Will" have a miraculous effect on Nazi propaganda and anti-war propaganda? Are these obtained things true through the extreme way of excavating the real in the "Chronique d'un été"? All of this is actually about the director's subjective involvement. As the American scholar Bill Nichols said, the documentary creator should take the initiative to create meaning and make a cinematic expression, rather than being omniscient in real life but not showing attitude [2]. The

"objective reality" is reflected by "subjective record", and its way of expression is influenced by subjective intervention, but its essence is objective and true.

The documentary without director's involvement does not exist. Even if it is an observational documentary, the director has intervened in the creation of the documentary since the selection of the scene. This kind of intervention is only a deep or shallow problem. According to the director's involvement degree, the documentaries can be divided into three modes: micro-intervention mode, semi-intervention mode and deep-intervention mode.

A. *Micro-intervention: Observational Documentary*

Micro-intervention documentaries are mainly observational documentaries, most of which belong to the category of direct films. In this documentary, the director tries to be "the flies on the wall" — silent observation, recording the progress of the event, no participation, no intervention, no questions, no conflict creation, no emotion intensification, and pick out relevant materials later to form a complete work. It is characterized by the calm observation of the creator's creative approach, and the implicit expression of emotional expression. In terms of technical means, such documentaries mostly use long shots and simultaneous sounds. The director will spend a long time tracking and waiting for shooting in order to reproduce the real scene. This kind of calm observation shooting mode is mostly used to shoot human geographies, such as "Planet Earth", political propaganda, such as Leni Riefenstahl's "Triumph of the Will". In China, the film "The Last Mountain God" directed by Sun Zengtian in 1992 showed the ancient culture of the Oroqen nationality with the story of the last shaman. The director Chen Xiaoping filmed "Longji" in 1994, which showed the life of the Longji teenagers with cool intuitive camera lens and clear narration. These two works are the documentary films of the director's micro-intervention model, and they have all become the classics of Chinese documentaries.

Micro-intervention documentary can restore life scenes to the maximum extent, show the reality, and give people a sense of presence. However, this way of recording challenges the director's basic skills. Sometimes it takes years of follow-up and a bit of luck. Because the director does not participate or break the rhythm of life, the documentary is characterized by shooting a large amount of material and low information density. The documentary is necessary to be clearly explained by narration, helping the audience to understand. The late work is huge. It is a very challenging way to record, but is also the most basic way of recording.

B. *Semi-intervention: Interview Documentary*

The semi-intervention documentary is mainly an interview documentary. It is a relatively common documentary model. A complete documentary consists of the fragments of narrative or lyric functions, with a certain percentage of interviews. It is characterized by the fact that the creator still does not interfere with the filming or promote the story, but it has more communication between the creator

and the subject than the mere observational documentary. This communication is presented in the positive documentary in the form of an interview to expand the film information, to achieve the accuracy of the narrative, and increase the authenticity of the film. In the late 1980s and early 1990s, classic documentaries such as "Sand and Sea" and "Odyssey of the Great Wall" used this shooting mode of director's semi-intervention. Later, Jiang Yue's "The Other Shore" recorded a group of out-of-town children who failed in the college entrance examination having actor dream in Beijing, failing to achieve the dream, and going back home. In recent years, there have been such excellent works as "A Bite of China", "Masters in Forbidden City", and "This Is Life".

The semi-intervention documentary is between calm and intuitive and passionate. The record language is diverse and the expression is free. The director can integrate the expected clues into the interview in advance. For the director, this is a narrative and emotional manipulation of the easier form of recording. A large proportion of the narrative discourse is from the photographer, which is easier for the audience to accept than the narrative method explained by the voice actor. In the micro-records of the people's livelihood, "Micro-vision", the director also tried to use the words of the interviewee as the voiceover of the film. However, with the deepening of the director's intervention, the more sensitive interviewees may judge the director's intention in the interview, and tend to follow the director's thinking, which will hinder the trend of the narrative to a certain extent, and affect the authenticity of the film. This is a shortcoming of this type of intervention.

C. *Deep-intervention: Becoming a Member of the Documentary*

The documentary of the deep intervention mode is mostly the first-person documentary. The "I" in the film participates in and promotes the development of the film without any concern, and even controls the narrative direction of the film, as if "I" was telling a life that "I" had experienced. It is characterized by its strong immersive during viewing. At the same time, it is very persuasive and appealing. However, the director needs to reflect on his role from the beginning of his creation, lead the film in a way that is both calm and neutral, and do himself in the film. The deep-intervention model was adopted by Zhou Quan's news medical documentary "Life Matters". The whole story was explained by the director. The director used the convenience of shooting to help the patient's relatives to do something within his power to promote the development of the emotional line. Participating in the advancement of the plot, and adding personal thinking and lyricism in the commentary make the theme of the film very clear. Exploring the ultimate problem of life and death, praising the sacredness of the doctor's "life-saving" profession, facing the end of life, anger and struggle, he explained with his own understanding, both objective and human.

The deep-intervention documentary is a great test for the director's basic skills, worldview and even humanity. This documentary conveys the director's personal thoughts almost

on the basis of documentary life. The first person to do this is the American director Michael Moore. He used the way to stand in front of the camera to expose the greed of the capitalist, and he was criticized for this radical approach. For this mode, the director must have a correct position, but also consider whether his participation is to dig out the truth or cover up the truth, need to be calm but not cold-blooded, and the appropriate excitement can't be too radical, so as to avoid making the work a guided play, meaningless farce.

The three modes of micro-intervention documentary, semi-intervention documentary and deep-intervention documentary adopt three creative methods. It can also be said that the creator gives himself a position. It is not that only deep-intervention mode is superb. The intervention mode is not for stunning, but to choose the most appropriate expression according to the theme and creative intention. The ultimate goal is to reveal the true meaning of life. Life is calm and trivial. Only the intelligent eyes can understand the deep meaning in the trivial daily life. Documentary directors are the kind of people who lead the audience to understand life. They concentrate their time and try to find out the essential law and truth by following the complicated scene, so as to convey a personal point of view to enlighten the hearts of the audience. It is not difficult to find out that in the traditional documentary, the director's intervention plays such a pivotal role. After entering the era of virtual reality image, can the directors follow the triple modes to make the creation? The answer is not certain, because the virtual reality image ecosystem has created a new variable that cannot be ignored, that is, the positioning of the audience.

III. VIEWER POSITIONING OPENS THREE NEW DIMENSIONS

In most traditional documentaries, the audiences are always in the perspective of God. In the era of virtual reality imaging, the advancement of technology has made the identity of the audience free, no longer a passive viewer. They sometimes enter the image, and sometimes become the characters and sometimes retreat to God's perspective. The user experience becomes a hot word, and the viewing effect becomes personalized. The mass of the audience is divided individually into countless viewers. Therefore, the focus of creation revolves around the viewer's demands. After analyzing the user experience of the existing VR documentary, it is found that visual perception, participation and mobility are the three progressive perceptions of the viewer. It can expect that VR documentaries in the future will also form brand new positionings of the audience according to the expansion of the three kinds of viewers' perceptions: the viewer is in the perspective of god; the viewer is in the documentary; and the viewer is endowed with a role.

A. Visual Perception Expansion: the Viewer Is in God's Perspective

In the VR documentary, the expansion of the viewer's perspective at the initial level is the expansion of visual perception. When the viewer is in the perspective of God, the viewer is still unable to participate, but this perspective of

God is more ambitious than the ordinary non-VR documentary perspective. It is also more detailed, allowing the viewer to perceive more and more detailed information. At present, the VR documentaries that can be seen on the market almost all meet the requirements of visual perception expansion. For example, in "Kindergarten in the Mountain Village", the viewer is still in the perspective of God, and passively appreciate it. They can not only fully sense the entire mountain village environment, but also can see every detail of the children's home in detail, watch more freely, and the characters in the play will not be affected by the viewers, which will not realize the existence of the viewer.

B. Participation Expansion: the Viewer Is in the Documentary

On the basis of visual perception expansion, further expanding the participation of the viewers can place the viewers in the film plot. The viewer does not speak, which does not affect the progress of the plot. However, the viewer is able to realize that he is in the drama and become a member of the documentary. The most important sign is the communication with the characters in the film. Most of the current VR documentaries can only achieve eye contact between the viewer and the characters in the film, which is a great breakthrough. In the VR documentary "Clouds over the Sidra Bay", the viewer can follow the Syrian girl named Sidra and enter her life. They can see the children in the film laughing as if they were inviting the viewers to join their game. "The People's House" won Emmy Award showed the 10 rooms in the White House. The viewer became the tourist. The Obamas seem to be tour guides and lead the viewers into these rooms. The viewer has become a member of the documentary regardless of whether the viewer is willing or not, integrating with the characters in the film. However, it does not affect the activities and plots of the characters in the film.

C. Execution Expansion: the Viewer Is Endowed with a Role

On the basis that the viewer can feel himself in the documentary, the degree of visual perception and participation are well expanded, and the viewer's execution is further expanded until the viewer is given the role. The viewer becomes the person, cat, and birds, and even all living, inanimate individuals in the film, and are given a human perspective, an animal's perspective, and an object's perspective, which can even influence the plot. When the camera aims at the devout worshippers, the viewer "becomes" the hero step by step and feels the power of faith; when the camera skips the animals that migrated on the African savannah, the viewer "becomes" the lion who runs and prey, experiencing the battle of life; when the camera is close to the vulture on the cliff, the viewer "becomes" a nestling bird that flies down and up, experiencing the difficulty of survival. In photography, this kind of lens called subjective lens. The development of virtual reality technology enables people to make subjective lens more realistic and credible, which is relatively rare in VR documentaries. However, in some interactive experience devices, it is already very mature. If it can be deeply applied

in the VR documentary, it will greatly expand the space for creation.

The emergence of virtual reality technology is not only the innovation of technology, but also makes art producers rethink the creative mode of art: from the evolution of

director positioning to the evolution of viewer positioning. After the above analysis, dimension of VR documentary director and viewer's positioning has changed from triple to nine, forming nine modes of VR documentary, as shown in the "Table I".

TABLE I. NINE MODES OF VR DOCUMENTARIES

Director positioning Viewer positioning	Micro-intervention (observation)	Semi-intervention (interview)	Deep intervention (First person)
God's perspective (only expanding visual perception)	"Kindergarten in the mountain village"	"Craftsman's Ingenuity" "If you live on Mars"	series of "the Adventures" "Part of the Pride" "Master"
entering the documentary (Expanding visual perception and participation)	"Clouds over the Sidra Bay"	"The People's House"	—
Be given a role (Expanding visual perception, participation and execution)	"The most beautiful China —see the world from the perspective of an eagle"	"When he only dances for you"	—

Dividing the VR documentary mentioned above and the VR documentary film produced by the current popular VR imaging company according to the director positioning and viewer positioning, it is found that the creation in some dimensions has been matured, and some dimensions are still blank. Although the blank-leaving is the innovation, it is very difficult to fill these creative gaps from the existing way of thinking. In other words, it is necessary to re-analyze the functions of VR documentary directors. Can they still be the narrators of a story, or have new identities, mental characteristics and imaging means? The author believes that it is easy to add some new skills on the basis of traditional techniques, but this is just a new bottle of old wine, and it is not a stunning work. It is better to try to abandon the old creative thinking and treat the VR documentary as a new film type to rethink the problem of creation.

IV. THE DIRECTOR'S NEW ROLE OF VR DOCUMENTARY

When an "armed" viewer sees through the director's trap and tries to break away from virtual reality devices, this is undoubtedly catastrophic for the work. The image of the VR documentary needs to be more fascinating than the traditional image, and can grasp the viewer's eyeballs and thinking, making people immersive. This immersion comes from experience. The physical and psychological experiences will promote each other. Among them, the psychological experience brings the most thorough immersion, which makes people actively follow the images and does not want to wake up. On this basis, the works can resonate with the viewers, purifying the human mind. Therefore, in order to achieve psychological immersion, the viewer must always enter the play, often making him feel fun, throwing him questions from time to time, which brings a new identity, a new narrative mentality, and new creative skills to the director.

A. New Identity: the Leader of the "Field"

The expansion of the viewer's perspective will inevitably lead to the change of the identity of the creator. The creation

of the traditional documentary only needs to do a good job of "presentation", and the audience will have no choice to accept it. However, the way of watching the VR documentary has changed, and the viewer is driven by the curiosity. With subjective initiative, if the director wants to achieve a coherent narrative, they must lead them to watch. Psychologist Kurt Kaufka once put forward his field theory. He believes that the mind field has two poles of self and environment, and the environment is divided into geographical environment and behavioral environment. The geographical environment is the real environment, and the behavioral environment is imaginary. The behavior is generated in the behavioral environment, and it is influenced by imagination. In the VR documentary, the viewers can wear the virtual reality device in the real world, and enter a practical viewing space, which is undoubtedly the geographical environment. The behavioral environment is the psychological field formed by the image physical field acting on the viewer's psychology. The director's role is to change the viewer's psychological field by controlling the image physics field. From the perspective of cognitive science, this is the use of the principle of physical cognition, using the physiological experience and psychological experience to "activate" each other. Through the physical field, the views can be guided to have a physical sense of presence, activating the psychological sense of presence, integrating the physical and mental experience and creating a complete sense of physical and mental immersion. This is a kind of experience remodeling.

In the appreciation process of traditional documentary, there is also a field. This field is different from the field of VR documentary. The difference is whether the subject and object are confrontational. The subject of the traditional documentary is the viewer, and the object is the image. The subject and object are clear and confrontational, and the enveloping effect of the field is less obvious. The virtual reality technology brings about the disappearance of the media boundary, the dissipating sense of distance, and the change of the viewer's autonomy, which makes the situation of the subject and object confrontation no longer exist. All

the environments integrate to form an active field containing artists, works, the world and the audience. This field is a fusion of mental and physical fields. It exists both in consciousness and in real space. In consciousness, it is boundless. In real space, it has physical technical boundaries. All communication and experience are what happened in this field.

Unlike the traditional film director who tells the story without restraint, the VR documentary film director needs to use various artistic means to lead the viewer into the immersive field on the basis of completing the narrative, and to re-lead the viewer to enter the field in which each viewer may break away. For the viewers of VR documentary, "waking up" means breaking free from the field. This is undoubtedly terrible, and many factors lead to such breakaway. Montage and sense of life are pairs of the conflicting factors. Montage uses forced editing and arranging pictures to convey meaning, and the immersive experience of the viewer will depend on the relative truth and logical rationality of time and space. [3] Immersion requires an almost perfect logic experience of the life. Professor Ye Lang of Peking University has talked about the beauty of everyday life. He said that it was the beauty of the atmosphere [4]. The charm of the VR documentary is that it can restore the atmosphere of life to the utmost extent. The similarity of the time and space experience between the VR documentary and the daily life is too high to tell real from virtual. The rich editing methods of traditional montage lost their luster, and directors are looking for new metaphors and symbols. Even documentaries can't rule out editing, and immersive video has not yet established a universal editing scheme, but it's only a matter of time.

B. New Narrative Mentality: Creating the Gameplay

The viewing mode of the VR documentary is different from that of the traditional documentary. The viewing device brings a real physiological immersion, but once the viewer feels boring, they will want to break away from the virtual reality field. This kind of break-up is fatal for the narrative. Therefore, to maximize the immersion, it is necessary to create a sense of video game, and the viewers can find it interesting, so as to achieve long-term immersion. No director is willing to take a funny plot seriously, unless he is playing a rhetorical game with the viewer. The game is a human instinct and a cultural element. It is very important in the history of human civilization and almost catalyzes all civilizations. [5] In film and television art, all perspective-based creations can be said to be role-playing games. All the puzzles and ignorance seem to be playing guessing games. All quarrels, debates, and the pursuit of the most rigorous narrative logic are all playing sophistry games, all of which are designed to achieve one purpose — being interesting. The range of fun is very large, and it can be humorous and thought-provoking. In the traditional documentary, only by means of image presentation, the sense of gameplay is limited, and the multiple presentation techniques of VR documentary can open this door. CG Technology and the realization of a variety of interactive technologies can bring a sense of gameplay, thereby enhancing viewers' immersion.

Psychological research confirms the importance of gameplay and inspires time and space control in the creation of VR documentaries. The theory of heart flow points out the importance of fun in people's activities and work. Psychologist Mihaly Csikszentmihalyi believes that when people are concentrating on something, they often immerse themselves in it, creating a high degree of excitement and fullness, and even feeling there is no change in space and time, and the premise of energy input is that people find fun in this matter. Therefore, the theory of flow also needs the sense of gameplay as a premise. The author believes that this discovery provides a new idea of time and space control for the creation of VR documentary film, that is, it is safer to control the transformation of time and space in the part with higher film immersion.

C. New Creative Skills: the Use of "Blank-leaving"

In the VR documentary, the space changes from plane to solid. How to use the new space correctly is always a difficult point in the creation. The background space outside the ideographic part can't be ignored, such as the explanation environment, the rendering atmosphere and the guiding viewpoint. China and the west have very different approaches to dealing with these background Spaces. This difference has caused the Chinese and Western VR documentaries to be very different in image style. Influenced by Chinese traditional painting, the Chinese people understand the background space as the "blank-leaving" space, while Westerners' understand is "filling up". The "filling up" limits imagination, and "blank-leaving" really eliminates the boundaries of time and space.

The idea of "blank-leaving" in Chinese painting may be the key to solve the problem of using virtual reality image space. The secret of immersion is hidden in "blank-leaving" space. It is not really nothing to draw. It seems to have no content in the whole frame. It seems to waste the paper, but actually constitutes a real field. Compared with the rich and crowded Western paintings, Chinese paintings seem to be spatially sparse, full of vitality, and have no boundaries. In the fields, the viewers can enter them, achieving a high level of immersion that mobilizes imagination. The same is true in motion pictures. The classic Chinese ink animations "Little Tadpoles Search for Their Mother", "Pastoral Flute" and "Feeling from Mountain and Water" are typical representatives.

For China, the film is an exotic product, which has the gene of focus perspective of Western painting, and the VR documentary seems to be a turning point. Its full-space features are more suitable for the scatter perspective of oriental painting. Although the current Chinese directors are still exploring the use of the VR documentary space, some directors have noticed the magical effect of leaving the blank. In "When he only dances for you", the dancers dance in the practice room, and the surrounding light is dark. "He" dances in front of the viewers, giving a quiet beauty. In "The Willow Blossoms", three children sit on the stone and sing, and they are surrounded by mountains and flowing water, which makes people realize the bitter and pleasant life of the children in the documentary. The author believes that the

correct use and further exploration of the "blank-leaving" space in the VR documentary can make the Chinese directors out of the usual practice of emulating the western film and television language, which helps to form the unique Chinese style of the VR documentary. Therefore, the correct use of the blank-leaving is the key skill to create the VR documentary.

V. CONCLUSION

The VR documentary film is produced in the cradle of the traditional documentary. It is bound to follow the three basic creative modes of micro-intervention, semi-intervention, and deep intervention. However, virtual reality technology gives it a flexible viewer perspective. There have three viewing angles of a God perspective, entering the film, and being a role, and this will make the creation complicate. However, it also allows people to face the new features of the VR documentary. In the nine dimensions of director positioning and viewer orientation, the creator has a new identity: the leader of the "field". The director has a new narrative mentality: the creation of a sense of gameplay, and also explores new creative skills: the use of "blank-leaving".

First of all, the "field" of the VR documentary is different from the "field" of the traditional documentary. This is the inclusive field of the subject and object to eliminate confrontation. It exists in the physical space and the viewer's psychological space, and the director is the leader. Secondly, the sense of gameplay is the key of immersion, which determines whether the viewer can continue to watch. The director needs to change the narrative mentality and make the narrative interesting. Finally, the "blank-leaving" is a unique feature of Chinese painting. It is also a typical reference for the use of VR documentary space. If people can use the "blank-leaving" correctly, it will be a great progress in the creation of VR documentary. The three new changes in dealing with the role of the director are conducive to the formation of VR documentary's "conventions", and even the formation of Chinese style of VR documentary.

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