

Exploring the Role of Mise-En-Scène in 360-Degree Video

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Abstract. Mise-en-scène, a fundamental concept in filmmaking, refers to the arrangement and presentation of visual elements within the frame to create a coherent and engaging visual narrative for the audience. Originating in the theatre, the concept has become a fundamental tool for filmmakers to convey mood, atmosphere, and plot through the effective use of lighting, set design, and costume design. With the advent of 360-degree video, a new form of media for film studies, mise-en-scène faces new obstacles. 360-degree video technology allows the audience to experience the film from a variety of angles and perspectives, necessitating a reevaluation of traditional mise-en-scene elements and their effectiveness in a 360-degree format. This paper examines the differences between traditional film mise-en-scène and 360-degree video, as well as the impact on the viewing experience of the audience.

Keywords: Mise-En-Scène, 360-Degree Video, Visual Storytelling

1 Introduction

360-degree video, also known as immersive video, spherical video or surround video, the video is recorded all directions at the same time from specific place by omnidirectional camera or a collection of cameras (Franck, 2005; Martinez, Garcia & Moraleda, 2022).

This paper will examine the differences between the mise-en-scène of 360-degree video and traditional film, as well as how these differences affect the viewing experience of the audience. This research will provide insights into how filmmakers can maximise the potential of 360-degree video while maintaining effective visual story-telling techniques by analysing the specific challenges posed by this new technology.

2 How Mise-En-Scène Works

Mise-En-Scène is a fundamental concept in film studies that refers to the arrangement and presentation of visual elements within a frame. The term is of French origin and literally translates as "putting into the scene." In the field of theatre studies, mise-en-scène refers to how everything on stage is arranged in accordance with the script. In film studies, it is the director's responsibility to create the visual elements in front of the camera in order to convey a particular mood, emotion, or message to the audience. (Sikov, 2020; Kuhn & Westwell, 2012)

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360-degree video, also referred to as immersive video, spherical video, or surround video, is a new form of media for film studies. 360-degree video, unlike traditional film, is captured simultaneously from all directions using an omnidirectional camera or a collection of cameras. This technology poses new challenges for mise en scène, as everything must be arranged around the camera's focal point. The director must restrict the movement of the actors to a specific area, which may affect the viewing experience of the audience (Williams, Love & Love, 2021). The serious problem is the filmmaker does not have any well-constructed guideline to creative 360-degree video (Tong, Lingdeman & Regenbrecht, 2022) This paper aims to investigate the differences between 360-degree video and traditional film mise-enscène and their impact on the viewing experience of the audience.

3 Elements of Mise-En-Scène For 360-Degree Video

3.1 Setting

The film's setting is essential to the audience's comprehension of the plot. Since the beginning of film, the environment and background have played a crucial role in creating a believable and immersive experience for the audience. The Dunkerque (2017) 360-degree video experience transports viewers to the events of May 1940, specifically the evacuation of Allied troops from Dunkirk. This film's setting is meticulously designed to provide the audience with an authentic and engaging experience. Through the use of 360-degree video technology, viewers are able to experience the setting as if they were physically present. This paper will examine the role of setting in creating an immersive experience for the audience in Dunkerque - 360° Video Experience - Gardez Votre Souffle, as well as the contribution of 360-degree video technology to the construction of the film's setting.

3.2 Costume and Makeup

Costume and makeup in film studies refer to the visual representation of characters and their identities. It entails the use of clothing, accessories, and hairstyles to convey a character's personality, social status, or occupation (Bordwell, Thompson, & Smith, 2020; Kuhn & Westwell, 2012). The costume and cosmetics of a character are crucial to creating a believable and immersive world for the audience. It is a potent instrument for filmmakers to establish the film's tone, mood, and thematic elements (Bordwell, Thompson, and Smith, 2020).

3.3 Lighting

Lighting is one of the most crucial aspects of mise-en-scène in film, as it can convey a variety of meanings and sentiments to the audience. It can create a sense of depth,

texture, and atmosphere and can be used to emphasise specific objects or characters (Bordwell, Thompson, & Smith, 2020). A bright light can represent hope or enlight-enment, whereas a dim light can represent mystery or peril. Additionally, the colour of light can significantly affect the mood and meaning of a scene, with warm colours such as yellow and orange conveying warmth and happiness and cold colours such as blue and green conveying calmness or melancholy.

The illumination of a scene in a 360-degree video must be approached differently, however. Due to the nature of the technology, any lights used on set must be meticulously concealed, particularly the camera (Academy Guides, n.d.). This is due to the fact that the camera captures everything in the surrounding environment, and any visible lights would disrupt the viewer's immersion. To accomplish the desired lighting effect, filmmakers must rely on natural light sources or carefully placed props.

In some instances, illumination may be integrated into the props, such as with a lamp or neon sign. This can create a more seamless effect in the immersive experience and permit greater illumination control without destroying the illusion of the 360-degree environment. Overall, the use of illumination in 360-degree video presents filmmakers with unique challenges and opportunities, necessitating careful consideration of light's effects on the immersive experience.

3.4 Staging

Staging, it refers to the performance of a play or show, it is one of the most important aspects of mise-en-scène in film. Staging offers an unlimited range of the creative choices to the director, the director controls the action of character onscreen to express feelings, thoughts and create kinetic patterns to the audience; however, the director must control the character's performance forcedly (Bordwell, Thompson, & Smith, 2020).

The staging of 360-degree video must be different from ordinary film. For traditional film, audience is led by film director to focus on one specific detail or character; but for 360-degree video, the audience is focus on in one area or several areas around 360-degree space (Williams, Love & Love, 2021). All character must perform in front of the camera of the ordinary film; but for the staging of 360-degree video, the character has the more freedom of the movement around the camera, the performance style is closed to the traditional drama than the film.

3.5 Orientation Space

Orientation Space is the most important aspects of 360-degree video. For classic film grammar, the director use 'shot' and 'edit' to create space and time (Dooley, 2021). For 360-degree video, shot size is not exited, every shot is long take.

Camera is center point for the 360-degree video because everything is around the camera. The audience can see the four relational layers from any direction if the camera at the center of four concentric circles, it is called inner, near, far and outer orbits (see Fig.1.).

Inner Orbit. The audience can recognize detail on the prop and read emotions on the character's face within $2\sim5$ feet from the camera (Williams, Love & Love, 2021).

Near Orbit. The audience will have a near orbital relationship with character or prop, and will command attention and notice the props within 5~10 feet from the camera (Williams, Love & Love, 2021).

Far Orbit. The Main character who is very important to the story can be recognized by audience, large or highlighted in someway to be recognized by audience within 10~18 feet from camera (Williams, Love & Love, 2021).

Outer Orbit. Prop or character always be ignored by the audience beyond 18 feet from the camera unless there are only one character in the scene (Williams, Love & Love, 2021).

Different distance of the space has different perspective, and camera placement will highlight each area differently on the same space.



(Fig. 1. Inner-Near-Far-Outer Orbits, Williams, Love & Love, 2021)

3.6 Point-of-View (POV)

Point-of-view (POV) is very important aspects of the film. POV represents the point of view from which the audience to see from the story (Cannavo et al, 2023). POV is original from literature, POV has three types: first person of POV, second person of POV and third person of POV. In ordinary film, the director controls position of the camera to control the POV during the shots; but in the scene of 360-degree video, the camera is controlled by audience, who can look in all directions freely, cued by story

events and sounds (Maranes et al. 2020; Cannavo et al, 2023; Dooley, 2021). It meanwhile that director cannot control the audience where they want to look (Cannavo et al. 2023).

4 Conclusion

One could argue that the setting is the most important element of any film, including 360-degree films. The significance of setting, costumes, staging, and makeup is consistent across all film genres.

First of all, lighting is essential in all visual art, including film. When it comes to 360-degree videos, however, caution must be taken to conceal artificial light sources. The staging of 360-degree videos is more akin to theatrical productions than that of traditional films because everything surrounds the camera, allowing actors greater freedom of movement. However, caution must be taken when moving the camera in 360-degree videos, as excessive and rapid movements may make viewers uneasy.

Secondly, 360-degree videos, unlike traditional films, shot size is not exited because the video is stateless. Instead of shot sizes, orientation space functions as a substitute.

Thirdly, 360-degree videos can provide audiences with an immersive experience, allowing them to feel like they are a part of the narrative and view the world from the perspective of any character. Point of view is essential for demonstrating how the audience perceives the story universe.

Lastly, for staging, traditional film is focus on viewer's attraction in one specific detail or character at a time; but 360-degree-video can use the similar technology to focus attention in various areas around the space. Compared to traditional film, 360-degree video has more freedom than the traditional film and the performance style is closed to the theater style than the film.

References

- 1. Academy Guides. (n.d.). How Do I Make 360 Videos. [BBC]. Retrieved from https://www.bbc.com/academy-guides/how-do-i-make-360-videos/
- Bordwell, D., Thompson, K., Smith, J. (2020). Film Art: An Introduction. (12th ed). McGraw-Hill Education, New York, NY.
- 3. Cannavo, A., Castiello, A., Prattico, F, G., Mazali, T., & Lamberti, F. (2023). Immersive movies: the effect of point of view on narrative engagement. *AI & Society*. https://doi.org/10.1007/s00146-022-01622-9
- 4. Dooley, F. (2021). Cinematic Virtual Reality: A Critical Study of 21st Century Approaches and Practices. Palgrave Macmillan, Switzerland.
- 5. Frank, N. (2005). Surround video: a multihead camera approach. *The Visual Computer*. 21, 92-103. https://doi.org/10.1007/s00371-004-0273-z

- Lang, B. (2013): An Introduction to Positional Tracking and Degree of Freedom. Road Tovr. [Road Tovr]. Retrieved from https://www.roadtovr.com/introduction-positional-tracking-degrees-freedom-dof/
- 7. Kuhn, A., Guy, Westwell. (2020). *A Dictionary of Film Studies*. (2nd ed). Oxford University Press, Oxford, United Kingdom.
- 8. Martinez, V, C., Garcia, A, L, G., & Moraleda, I, J, M. (2022): 360 Video Trend on YouTube Before and During the COVID-19 Pandemic. *Journal of Creative Communications*, 17(1), 22-34 (2022). https://doi.org/10.1177/09732586211038923.
- Maranes, C., Gutierrez, D., & Serrano, A. (2020). 2020 IEEE Conference on Virtual Reality and 3D User Interfaces (VR), Atlanta, GA, USA, pp. 73-82, doi: 10.1109/VR46266.2020.00025.
- Nolan, C. [Warner Bros. France]. (2017, July 14). Dunkerque 360° Vidéo Expérience Gardez Votre Souffle [YouTube Video]. Retrieved from https://www.youtube.com/watch?v=- nhimLeGYw
- 11. Sikov, E. (2020). Film Studies: An Introduction. (2nd ed). Columbia University Press, New York, NY.
- Tong, Lingwei., Lindeman, R, W., & Regenbrecht, H. (2022). Adaptive Playback Control: A Framework for Cinematic VR Creators to Embrace Viewer Interaction. *Frontier in Virtual Reality*, 2, 1-17. https://doi.org/10.3389/frvir.2021.798306
- 13. Williams, E, R., Love, C., & Love, M. (2021). *Virtual Reality Cinema: Narrative Tips and Techniques*. Routledge, New York, NY.

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