The Dual Frame Apparatus of Headset Cinema

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ABSTRACT

"The Dual Frame Apparatus of Headset Cinema" sets out to define one of the medium-specific qualities of "headset cinema," a relatively new format of 360-degree video viewed on a VR headset. The medium-specific quality analyzed is the "see-for-yourself effect," which allows the viewer to maneuver the frame of their headset throughout the encompassing 360-degree frame. The paper argues that the see-for-yourself effect disrupts the manipulative editing techniques of mainstream media. The paper also likens this disruption to Orson Welles and Gregg Toland's use of deep focus cinematography in *Citizen Kane* and draws upon Andre Bazin's analysis of the film. The see-for-yourself effect relies on the dual frame apparatus of headset cinema, and this paper analyzes its technological structure and then explores its implications.

The 2010s have been met with exponential growth in the world of Virtual Reality Headset technology. In 2009, motion-controlled gaming and *Wii Sports* was all the rage. In 2011, the public became eager to experience a deeper sense of immersion after reading Ernest Cline's *Ready Player One*. In 2012, Oculus raised almost 2.5 million dollars from 10,000 Kickstarter contributors to fund the Oculus Rift, a consumer-friendly PC-gaming headset. When it was finally released in 2016 alongside its competitor, the HTC Vive, the floodgates opened, and the world was irreversibly changed. In the past five years, VR headset technology has disrupted major industries such as gaming, education, career training, and co-working, among many others. Artists have been making cinematic works for VR headsets at a rapid pace for the past five years, and in 2017 a Google spotlight film called *Pearl* became the first VR film to be nominated for an Academy Award.[1] A handful of VR documentaries, animated shorts, and experimental works have won awards since then, and now most mainstream

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[1] Throughout this essay, I use the term "VR film" to refer to cinematic works made for a Virtual Reality Head Mounted Display (HMD), or "headset." I refer to the subject of VR films as "Headset Cinema" because it directly acknowledges the change in technology used to view the films. VR films are essentially the same as 360-degree videos, but while those can also be viewed on smart phones and computers, a VR film is made expressly for the VR headset.

film festivals include a category for VR films.

The biggest difference between theatrical cinema and headset cinema directors need to adjust to is how the frame functions. The cinematic tradition was practically founded on the frame; past directors have borrowed from painting and photography to create beautiful compositions. While directors such as Ozu, Welles, and Renoir have used the boundaries of a nearly square frame for aesthetic ends, the frame has also been an instrument of manipulation and control, exploited by directors of mainstream and state-sponsored cinema, modern advertisements, and news media. André Bazin analyzed the inherently manipulative nature of the frame in his essay, "The Technique of *Citizen Kane*." He points out that there are rarely ever two important things shown on-screen at the same time in a typical Hollywood feature. The editors of 1930s Hollywood were trained to efface their cuts and align the shots with the viewer's interests. For example, in typical dialogue scene, the editor will implement the shot-reverse-shot technique because the viewer wants to see each character as they speak. As though one is watching a play, "the cutting of the camera can be compared to the compulsory movement of one's head" (Bazin 233), except, rather than the viewer moving the position of their head, it is the camera changing position. There is a crucially important power dynamic at play here: the director does not merely *align* the shots with the viewer's interest—they *decide* what the viewer should deem interesting.

Bazin outlined the manipulative nature of cinema in the context of Orson Welles' debut feature, *Citizen Kane* (1941). Whereas the typical Hollywood feature would only show one object of interest on-screen at once, the amateur Welles and experimental cinematographer Gregg Toland used deep focus cinematography to place objects of interest throughout the frame while keeping them all in focus. This practicing of staging in depth was a radical subversion of the dominant Hollywood style because it refused to reveal what was "important" or "of interest." The viewer can watch something important in the foreground and miss something equally important in the background. A famous example of this is when Kane's mother is giving her son away to Mr. Thatcher in the foreground, the helpless father is standing in the midground, and the young Kane is seen playing with a sled outside the window in the background (Figure 1). In this long take, the viewer can

Figure 9: Example of deep focus cinematography in Citizen Kane, *1941*

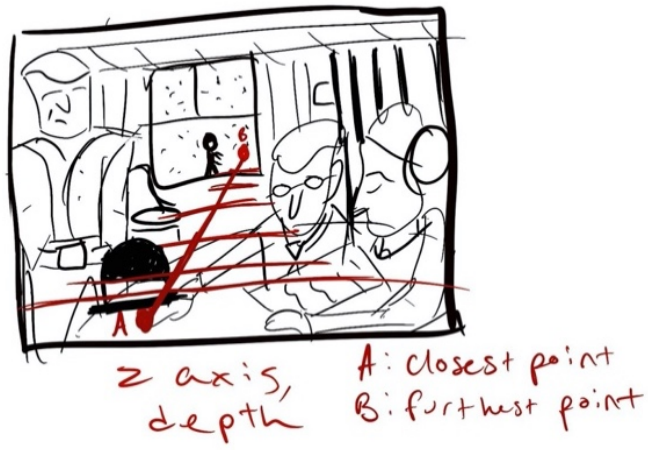

Figure 10: Representation of z-axis in above Citizen Kane *deep focus shot, wherein 'A' marks closest point and 'B' marks furthest point.*

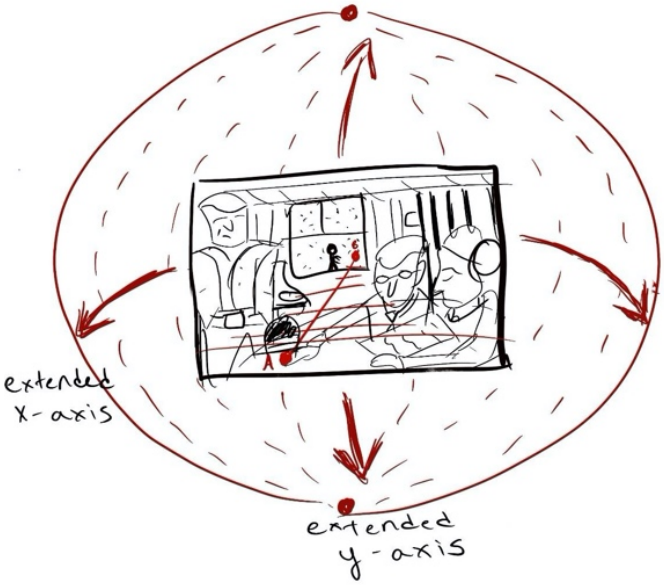

Figure 11: Dimensions of the rectangular, theatrical frame versus the spherical, headset frame.

glance at whichever character they choose, as each actor remains in character regardless of whether they are the object of interest. This new life that Welles breathed into an invisible and controlling style of cinema lives on today in headset cinema, except Welles was restricted to a single, rectangular frame.

The dual frame apparatus of headset cinema is structured upon three major departures from theatrical cinema. First, whereas Welles' achievement in *Citizen Kane* was staging in depth along the z-axis of a nearly square frame, the primary frame of headset cinema is 360-degrees, allowing the director to stage objects along its extended x- and y-axes.

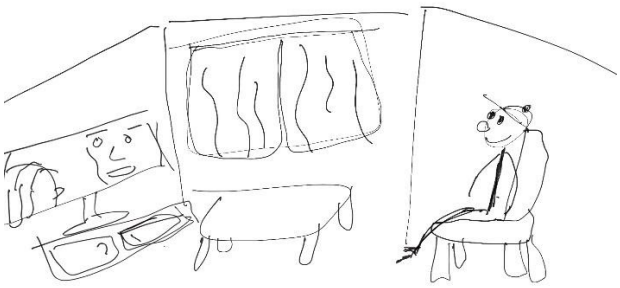

Figure 12: Representation of negative space in living room.

Second, whereas the viewer of *Citizen Kane* sits at a marked distance from the frame (separated by the negative space of a cinema or home theater), the viewer of headset cinema is positioned in the middle of the 360-degree, spherical frame, and therefore confronted by the image on all sides.

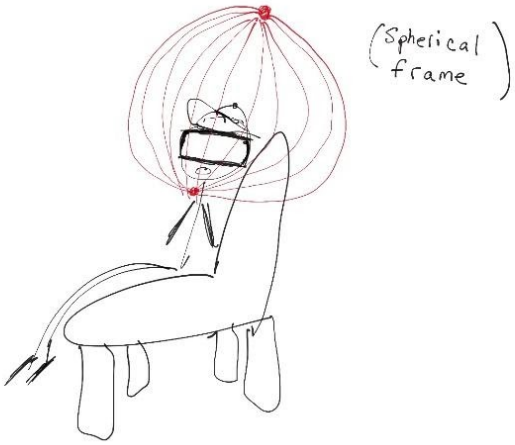

Figure 13: Representation of headset's spherical frame.

Third, whereas the entire frame remains visible while the viewer of *Citizen Kane* glances about the foreground, midground, and background of Toland's deep focus shots, the majority of the 360-degree frame is not visible to the headset user at any given moment. This is because the viewer can only see a portion of the encompassing 360-degree frame through the secondary headset frame. This secondary frame is marked by the natural borders of the headset and controlled by the will of the viewer (Figure 6).

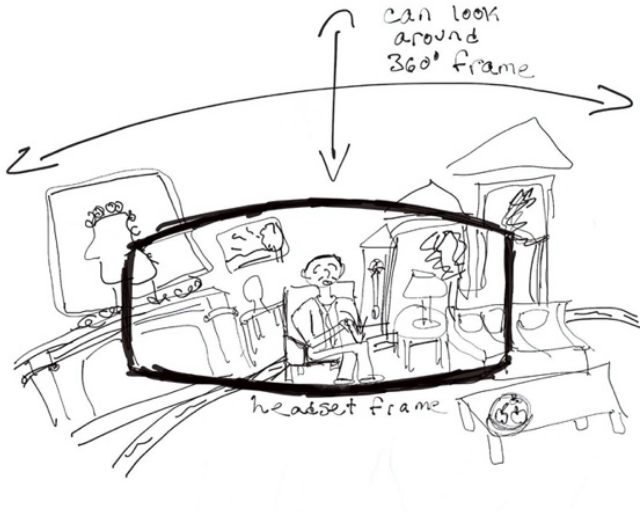

Figure 14: Representation of headset frame moving inside of the 360-degree frame, in The People's House *(Felix and Paul Studios, 2017). What is outside the headset frame is not seen by the spectator.*

The primary 360-degree frame and the secondary headset frame constitute the dual frame apparatus of headset cinema. This apparatus radically subverts the mainstream invisible style of editing with the same spirit as Welles in *Citizen Kane*. As Welles used deep focus shots in reaction against Hollywood's manipulative editing style, which decides what aspect of the scene is important, the viewer of headset cinema reclaims this authority by freely navigating the headset frame, thereby choosing for oneself what aspects of the 360-degree frame are important.

There is a unique psychological phenomenon accompanied by the freedom to navigate the headset frame throughout the encompassing spherical frame – it is the experience of seeing for oneself. This phenomenon, "the see-for-yourself effect," is the flagship feature of headset cinema, as it fundamentally alters the relationship between the viewer and the video. The see-for-yourself effect not only requires active rather than passive viewing, but it also imprints the role of co-creator of the artwork onto the viewer. The dual frame apparatus allows the viewer to feel as though they are a camera operator on set, witnessing the important moments as they play out. For example, in the documentary *The People's House* (Felix and Paul Studios, 2017), the 360-degree camera is placed in a fixed position in various rooms of the White House, and the viewer can direct their gaze wherever they please as the outgoing President and First Lady share facts and stories about each room through voice over. At the beginning and end of the film, the viewer is seated beside President Obama in the Oval Office as he speaks directly to the camera about what his two terms meant to him. As President Obama shares his stories, the viewer is free to look at the trees outside the window, the bowl of apples on the table, or the president himself. Whatever aspect of the spherical frame the viewer chooses to look at, it will surely make for a unique and unrepeatable experience dictated by the individual's interests.

Although the dual frame apparatus of headset cinema enables the viewer to look freely throughout the frame, this neither implies that the best 360-degree shots are without focus nor that the best 360-degree films consist of the spectator randomly looking in every direction. In fact, the opposite is true. Many directors of headset cinema will utilize objects of attraction to intentionally guide the viewer's gaze throughout 360-degree frame. For example, when President Obama shares a

personal story about reading the handwritten speeches of Abraham Lincoln during challenging times in office, the President becomes the object of attraction. The apples and trees are still available to be seen. Still, the engaged viewer will likely fix his frame upon the President because the emotional weight of this moment naturally compels the viewer's attention. This offers a remarkably different experience than if the same scene were in a typical, rectangularly framed documentary, even if the director would have inserted a shot of President Obama at this moment anyway. Rather than being forced to look at the President, it is the viewer who chooses to look at him. This type of seeing has a *quality* to it that has previously been restricted to real life, and it only becomes noticeable when presented in contrast to the option to look away. The see-for-yourself effect of headset cinema embodies the psychological qualities of engagement, agency, and sincere interest, and these qualities are wholly absent from a cinema which imposes images upon the viewer.

While the see-for-yourself effect allows for a newfound quality in intentional seeing, this does not mean that the director must always clearly signal where the viewer is "supposed" to look. Luring the headset frame with objects of attraction is merely one tool in a bottomless toolbox. The technology of 360-degree animation and virtual environments allow for amazing moments of surprise, misdirection, and magic. For example, in one scene of an animated short called *The Nature of Consciousness*, a green, billowing flower sprouts on one side of the 360-degree frame, attracting the headset frame, as a transition-wipe begins on the other side of the 360-degree frame, thus surprising the viewer when it reaches them. The mode of 360-degree video also allows for, and perhaps even encourages, a diversity of perspectives and conclusions, as each individual is bound to have a somewhat unique viewing experience. The director of headset cinema can also decide to include multiple hidden objects of attraction throughout the same shot, making their artwork best understood after multiple viewings. While there is a special quality to seeing when the viewer intentionally follows an object of attraction, there will still be moments of disagreement between the director's wishes and the whims of the viewer. For the sake of innovation, this inevitable disagreement should also be embraced.

From its very beginnings, the cinematic tradition has been built on the rectangular frame. Therefore, the

director of headset cinema sacrifices a large portion of that tremendous amount of art and tradition. But, in return for that one rectangular frame, they receive two radically new frames to work with: an encompassing and all-seeing 360-degree frame, and, within that, the free headset frame, directed by the viewer's whim and desire. This new apparatus is bound to lead to all kinds of experimentation, as directors figure out whether the two frames of headset cinema ought to work in harmony, in dissonance, or a combination of the two. The possibilities are truly endless.

BIO

Kyle Hand is in the first year of the screen studies track at Feirstein. He graduated Loyola University Maryland in 2020 with an interdisciplinary major in philosophy and writing, and a minor in film studies. His academic interests are cinema history, movie palaces, and virtual reality immersive media. He creates VR films under the name "Really Virtual Films" and produces a podcast called "Notes on Headset Cinema."