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## Spectator Perspectives in Virtual Reality Cinematography. The Witness, the Hero and the Impersonator

**Abstract:** Along with the technological advancements in virtual reality (VR) headset technology in the past three years, a new form of cinematic experience emerged – virtual reality cinema. This new form of filmic experience provides a significant departure from the collective spectatorship that pertains to two-dimensional (2D) cinema. VR films offer a 360-degree image when experienced through a virtual reality headset and abolishes the distance between spectator and frame. At the same time, this allows for a spectator virtual presence within the narrative, which in turn implies that the film is designed as an individual experience where a virtual actor and spectator is found at the center of the story, not as a collective one for cinema theatres which is the case for 2D films. There are indeed three possible experiences that a spectator can have in a VR film or three spectatorship modes: the hero – where the spectator is the one that is at the center of everything and retains his/her identity, the witness – where the presence of the spectator is ignored by the characters and the impersonator – where the spectator point of view is assimilated with a character in the film and the character's identity is forced upon the spectator. Furthermore, we witness an expansion of the cinematic frame and a release from its „dictatorship” as film director Alejandro González Iñárritu described it when presenting his Oscar winning virtual reality film *Carne y Arena* (2017), which features the stories of South American immigrants crossing the US border and the abuses they encounter along the way. In this article I will explore the frictions between the individualistic filmic experience that VR film proposes as opposed to the 2D collective filmic experience in order to understand the aesthetics of cinematic virtual reality. In this sense, I will analyze four virtual reality films namely *Dear Angelica* (Saschka Unseld, 2017) for the witness perspective, *I, Philip* (Pierre Zandrowicz, 2016) for the impersonator perspective and *IT: FLOAT* (Warner Bros. Pictures, 2017) along with *Annabelle: Creation* (Warner Bros. Pictures, 2017) for the hero perspective.

**Keywords:** virtual reality, vr, spectatorship, cinema, frame.

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### **Introduction to VR cinematic film. The Cannes controversy**

In the past three years, virtual reality films have made their way into mainstream film festivals such as Sundance in the U.S., the Venice Biennale Film Festival and even the Cannes Film Festival. The later event was the site of the premiere for Alejandro González Iñárritu's VR film *Carne y Arena* in 2017 which received excellent reviews and even received a Special Achievement Academy Award.

The daring film featured high end VR technology that allowed the audience to experience a story that dealt with the sensitive issue of immigrants' abuse at the hands of U.S. border patrols. The film split film critics into three sides which either see VR cinematic film as the natural evolution of cinema where the audience has now control over what they see in the 360-degree moving image (also named VR triumphalists), either accept it as a new form of art in itself that has nothing to do with cinema as we know it and 2D film-making (Gleiberman 2017) or, lastly, have suggested it to be something akin to the new media experiments found in contemporary art galleries (Bradshaw 2017). This Cannes controversy surely did not begin then since VR cinematic films had been presented at film festivals in 2015, but it took flight after the film premiere with Iñárritu actually bringing forth a frame expansion / frame dictatorship "manifesto" stated in the presentation for his film, *Carne y Arena* (2017) – which was also part of a complex art installation:

"My intention was to experiment with VR technology to explore the human condition in an attempt to break the dictatorship of the frame, within which things are just observed, and claim the space to allow the visitor to go through a direct experience walking in the immigrants' feet, under their skin, and into their hearts" (Iñárritu, Fondazione Prada).

One can safely say that the "dictatorship of the frame" was very much a given, a convention and the only way of envisioning truly artistic cinematic film but with Iñárritu's claim of the expansion of the filmic frame in VR and thus an consciousness-enveloping and complex filmic space to be explored can this dictatorship be truly challenged and even democratized - and spirits heated up among the critics.

In an interview for Hollywood Reporter (Roxborough), Iñárritu applauded the manner in which a 360-degree film breaks the dominance of the 2D framed image over the cinema viewer and even testified the difficulty encountered when envisioning the movement of each character in the scene rather than have a framing vision of a scene (according to an interview for artnet.com), at no point did he believe that his VR film could be called cinema, much less to replace cinema. He chose to focus solely on the expanded filmic frame and its implications and effects on the spectator.

"Cinema is frame, cinema is length of the lens, cinema is editing, the position of images that create time and space. Virtual reality, even when it's visual, is exactly all what cinema is not" (Iñárritu, Fondazione Prada).

In his opinion the fact that virtual reality cinema is a drastically different experience from traditional cinema is seen as an argument in favor of the idea that virtual reality is running alongside traditional cinema but that it will never really replace it, nor can it be considered an evolution of 2D film,.

The technology used for relaying VR cinematic films today (head mounted displays or headsets) have been around for more than 50 years but it was only in the past three years that it began to be used in for cinematic creation with the launch of the second wave of virtual reality technology in 2014 (Fassone 2017). Prior to this, virtual reality content via headsets had been used mostly in laboratories for various experiments aimed at studying how people react to VR perceptual input and unsuccessfully and marginally as commercial gaming equipment. Some of the better known experiments are described in the. Metzinger and. Madary (2016) ethical code concerning commercial virtual reality content (which expands over VR cinematic films) and laboratory experiences with VR on human beings.

The reason why both Metzinger and Madary (2016) considered it was necessary to elaborate the ethical code was due to the technological advancements that VR had seen in that year alone coupled with the specificity of a human being experiencing virtual reality content via headset. The ethical code places the human at the center of the debate over this technological evolution. In this article I will explore some of the aspects related to cinematic virtual reality spectatorship and indicate the various stances or perspectives that a cinematic spectator may have in a very short VR film, which vary greatly from other known spectatorship modes, be it film, theatre, concerts, festivals, etc.

### **VR spectatorship. Perceptual transfer and perceptual occlusion**

As mentioned before the history of headset-rendered virtual worlds is not contemporary, but it does differ in quality today as the technology has seen a significant evolution in the past three years. Prior to this shift of paradigm virtual reality experiments on humans have been the subject of many research enterprises particularly those aimed at establishing presence and immersion facilitated by the VR technology in order to improve therapy in pain and fear / phobia mental disorders. Consequently there is extensive literature on the successful experiments done on people where immersion and thus, the sense of presence was effective, but also about those designed as therapeutic VR environments (Metzinger and Madary 2016).

As the French neuroscientist Daniel Mestre puts it: "In a Virtual Environment (VE), Immersion, defined in technical terms, is capable of producing a sensation of Presence, the sensation of being there (part of the VE), as regards the user. Presence is indeed, historically, at the core of Virtual Reality (VR)" (2005). Many experiments have been conducted just to illustrate this simple fact and to define the various levels of presence experienced by people such as the experiments that measured presence in

V.E. conducted by Bob G. Witmer and Michael J. Singer (2017) or the one conducted by a Brazilian research collective (2016). However, the primary focus of human VR experiments is the therapeutic aspect, with emphasis on the emotional responses of the subjects (in particular fear) (See “The impact of perception and presence on emotional reactions: a review of research in virtual reality” (2015).

More VR experiments on humans are mentioned in Metzinger and Madary’s ethical code paper like the “Illusory ownership of an avatar in virtual reality experiment” (2013) where viewers wore a head-mounted display and a body tracking suit and could see their avatar in VR moving in synchrony with their own movements in a virtual mirror. The majority of subjects claimed ownership of the virtual avatar. In another experiment (“Creating a whole-body analog of the rubber-hand illusion experiment” 2005) the viewers would see through a HMD their own virtual body in 3D, standing at 2 m in front of them and being stroked synchronously or asynchronously. Many subjects projected the virtual stroke to their own physical body as well. Most of these experiments indicate that people are prone to perceptual confusion when in VE and, as a result, they exercise a form of perceptual appropriation of events that do not relate to their person physically, but are most of the time purely visual in nature. Consequently, visual domination of virtual events can give rise to false physical perceptions.

While it may seem hard to believe that such images can elicit such intense responses from people, there are many other immersive experiments that prove that the degree of consent for experiencing virtual reality content is high even if it varies between different subjects. This result implies an increased responsibility for audiovisual content makers. The two authors warn in their ethical code of the possibility of using VR for torture or for traumatizing children or mentally ill people with very scary content or pornographic content that may have lasting effects. At the same time, the code can be seen as a response to the fact that VR headsets are also used as entertainment in malls and other public places that offer short experiences such as cartoons for kids or thrilling and very scary experiences for adults that make profitable use of the medium’s inherent immersion qualities, in an attempt to raise awareness for the providers of said type of entertainment of the consequences some content might have on their customers if used inappropriately.

Of course, this type of content cannot be compared to the cinematic VR one since it is mostly exploitative and caters to either primal reactions such as fear and excitement or simply represents snippets of entertainment for the children. VR films can be experienced at films festivals, in special VR cinema theatres such as the one found in the Netherlands and Bucharest or at home, on one’s personal VR Headset, provided that people can actually make the difference between these two types of productions.

As such, given its overall and undeniable capabilities of immersion, there are many other dimensions to experiencing VR content which naturally extends to film

and one of them refers to the effect of perceptual transfer when spectators are under the headset. VR content – which is a 360-degree content – implies that whatever the spectator sees under the headset appears as though it surrounds him. So it may seem to some viewers that for a moment or, perhaps, for more than a moment feel like they have left their reality and have entered another one that can be explored via head movements. Some of the VR content can be interactive and viewers can interact with various virtual objects and more advanced VR technology allows people to take a stroll through a virtual environment provided that they have the headset, controllers and a PC-backpack such as it is the case in the Iñárritu's *Carne y Arena* film, in the *Enemy* experience (2017) by Karim Ben Khelifa and the William Henry Fox Talbot VR Exhibition entitled "Thresholds" (2017).

Perceptual transference is an effect that different types of audio and/or visual media have on the subjects that interact with it and imply that people abandon their immediate surroundings and project their perceptions *wholly* into the scenery presented by the respective media. Out of all of these mediums, the most engaging one of them all has always been the cinematic or the filmic experience as it occurs in movie theatres.

Perceptual transfer in cinema experience has been discussed in the framework of semiotics and psychoanalytic film theory by Christian Metz or Jean Mitry in their seminal works on psychology and film perception: "The Imaginary Signifier: Psychoanalysis and the Cinema" (Metz 1982) and "The Aesthetics and Psychology of the Cinema" (Mitry 1997). Christian Metz claims, when comparing the filmic state to the dream state, that perceptual transfer is intense in those who are still and watch a movie and that those who react loudly or physically to events in a movie in the cinema theatre – they actively invade the diegesis of the film – or engage in other forms of energy discharge can break off from the spell of perceptual transfer and are no longer under the influence of the movie. Nevertheless the disengagement can be reversed (Metz 101-106). He said that those who experience the film without disengagement take perceptual transfer a bit further and hallucinate or have the impression of fictional reality. An effect of this is that these very engaged spectators may forget temporarily that they are watching a movie, much like they would in a dream, or during a VR experience, I might add.

However, in the case of VR experiences the viewers actively invading the diegesis of the film appear to be more heavily drawn into it than away from it. On the other hand, there are situations when people are not really convinced by the perceptual presence of a different reality in VR and make intentional trans-perceptual comments or gestures which imply that they know very well that there is an artifact that they are 'inhabiting'.

Jean Mitry stated that we phenomenologically associate the film displayed at the cinema with the frame because we have the prior knowledge that – much like in a mirror or in a painting – all that happens in the fictional world is situated within a

frame and that this frame provides the threshold between reality and the diegesis. He also likens, in this context, the effect of perceptual transference to a type of dreaming state that is combined with a hypnotical state:

“Naturally we are conscious of sitting in a seat because we never lose consciousness of our self, any more than of our body; but, though we know ourselves to be in a cinema, we perceive an image which becomes a substitute for all other perceptions and gives us the almost total illusion of real perception. In this way we are confronted with a quasi-reality whose very mobility involves us and seems to stand as proof of the authenticity of that reality. Our consciousness is demanded by this ‘action’, whereas our physical being is demanded by the ‘space’ affecting our faculty of vision. Thus we are dealing with an effect somewhat similar to hypnosis in its captivation of our consciousness, but also and more specifically with a state analogous with dreaming (midway between actual dreaming and daydreaming) by virtue of this perceptual transfer in which the imaginary takes place of reality” (Mitry 82).

Perceptual transfer in VR, can happen in a literal fashion, as Metz and Mitry defined it, because it is not related in any way to how masterful a film or any other type of content is made and it effectively does it regardless of content. There is no frame and no distance from the frame, in VR. There’s just the surrounding image that engages the spectator, thus separating him from reality and inhibiting his perception of the real world. Sensorimotor engagement can be easily disentangled from fiction in 2D but its engagement in VR just enhances immersion in the diegetic space and the fictional world.

Consequently, perceptual transfer in VR content experience works hand in hand with perceptual inhibition of the surrounding real world as opposed to framed content provided by other media such as the cinema theater screen, tv, tablet, phone, etc. In 2D cinematic displays it is possible to break from the ‘viewing spell’ by checking in a sensorimotor fashion the surrounding setting next to the spectator. On the other hand the same cannot happen in the case of VR film spectatorship. Perceptual occlusion makes it difficult for the spectator to engage in other activities that require undivided attention. That would imply taking the headset off and completely miss the proceedings on the screen. Surely, one can go on with the story from the moment the headset is put on again or may choose to rewind in order to see that missing part; however, but both situations would represent a different type of viewing experience altogether and would simply ruin the film’s flow. The entire sequencing of how things unfold makes it impossible for spectators to engage in other activities that require undivided attention. VR film spectatorship does not allow for a safe and contemplative space from which the spectator can experience the work of art, but he/she gets to see the work of art or film in this case, from within its architecture (Bartlem 2005).

This aspect of VR film spectatorship as a solitary, inescapable and solipsistic experience was not lost to Alejandro González Iñárritu. He designed *Carne y Arena* as a complex installation that required people to leave their phones and possessions behind and wait in an empty isolated room before they experienced the film and the subsequent exhibition with information about the people that they had seen in the film. Thus he embedded the viewer in a similar constrained living experience as the one apprehended by the characters of the film, i.e. South American migrants.

### Spectator perspectives in VR cinematic content.

#### The witness, the hero and the impersonator

An essential paper on the subject of user perspective in VR and 360-degree content was written by Devon Dolan and Michael Parets ("Redefining the Axiom of Story: The VR and 360 Video Complex" 2016). They emphasize the clear difference between VR movies and 360-degree movies in terms of the spectator's interaction with the VR world. They define 360-degree movies as productions that place the spectator in a scene that is strictly filmed with specific cameras that reduce the possibility of interactivity, as opposed to software generated VR movies, part of which will always seem more artistic and beautiful because, to put it simply, they create a distinct diegesis. It should be noted that, while some of the 360-degree films and documentaries qualify as artistic productions and have received awards or prizes, there are many 360-degree videos available online that have no artistic value and are merely clips filmed by people who own an appropriate camera.

They identify four types of interaction in a VR medium in their article: active observant, passive observant, active participant, passive participant based on the ending of the experience, i.e. if these actions have affected it in any way. The majority of cinematic VR films employ a passive observant stance which implies that spectators are simply experiencing the story without being able to modify it or the passive participant one where spectators can pause, zoom or change point of view in the film, again without influencing the film events in any way. Certainly, VR cinematic films today do not yet feature the other two more complex perspectives mentioned by Dolan and Parets namely active observant and active participant but VR games and other entertainment experiences do.

John Matter (2017) makes reference to the two user perspectives and means of user engagement in cinematic VR film-making: manipulation of first person (i.e. the user being directly addressed by a story character and thus present within the narrative) and third person (i.e. the user purely observes the action) perspectives. These two perspectives, I argue, can easily be named the *hero* (first person perspective) and the *witness* (third person perspective). The hero perspective puts the spectator at the heart not only of the filmic space, but also at the heart of the story, much like it would happen in a video game of sorts – regardless of the level of interactivity. While most VR films solely offer the audiovisual content and the film characters talk directly to

or simply acknowledge the spectator's presence in any other way, there are some films that have the added feature of interactivity that allow spectators various types of interaction with the film<sup>1</sup>.

The witness perspective implies that the spectator takes part in the film events as a digital specter / silent avatar – at the heart of the filmic space but not at the heart of the events –, where no character is aware of their “presence”. Many VR films employ this kind of third person view. In a hybrid fashion in *Carne y Arena*, towards the end of Iñárritu's film, the characters become aware of the spectator-character presence which becomes an emotionally effective plot-twist.

Here I would like to take note of the fact that some experiences are completely neutral such as landscape and nature animations or other filmed content, where it is very difficult to say whether there is a hero perspective (a POV shot) or a witness one (a neutral narrator shot) as the films do not engage with the viewer in an obvious manner. For example, the VR film or experience *Planet* (Momoko Seto, 2017) simply transports the spectator through an alien planet without asking anything of them.

The third type of perspective is one that I have named the *impersonator* one, which refers to cinematic VR films that place the spectator's perspective *within* the body of a character – literally, the body of the character is visible in the film and sometimes so is the gender – and in some cases even the face is visible if there are shots that show the character in a reflective surface. For example *My name is Peter Stillman* is a 2017 VR film that uses this identity-play. Moreover, the characters in the film interact and refer to that specific character's situation. The reason why I name this the impersonator perspective is because it is a form of body takeover that is only clear when the story begins and inhabiting a visible virtual body does have its degree of uneasiness, nothing that would impinge the viewing per se but it does come as a different experience that the ones where the spectator is a non-identity ascribed hero.

The difference between the hero perspective and the impersonator perspective is that in the former, the spectator maintains his/her mental representation integrity, even if they do play along with the story, whereas in the impersonator perspective, he/she has to make due, not with an exceptional situation that requires him/her to adapt to it, but with a different body and personality that has to handle an exceptional situation and is also very aware of playing role of that person.

In the following I will briefly present a few VR cinematic films that make use of these three types of perspectives: *Dear Angelica* (Saschka Unseld, 2017) for the witness perspective, *I, Philip* (Pierre Zandrowicz, 2016) for the impersonator perspective and *IT: FLOAT* (Warner Bros. Pictures, 2017) along with *Annabelle: Creation. Bee's Room* (Warner Bros. Pictures, 2017) for the hero perspective.

The first VR film that will be the subject of this analysis is also one that makes use of a primarily female universe. In Saschka Unseld's *Dear Angelica*, the spectator witnesses an animated young Jessica writing letters to her departed mother, Angelica (played by Geena Davis). The film is designed to have the writing surround the

spectator as Jessica narrates her letters up to a point where the writing becomes and is substituted by images of memories. We soon find out that Angelica was an actress and that one of the means of remembering her that Jessica uses, is by watching the films she starred in as her memories fade and it becomes harder and harder to tell if her memories of her are real or are in fact memories of her film scenes.

The story is an impressive one and so is rendering the characters at alternating distances from the spectator's point of view, the drawing of scenes that suggest motion where there is none and the ribbon-like engulfing writing. Many of the reviews for the film acknowledge the mastery of the visual artist that designed the scene, while also testifying to the amazement of experiencing this new type of mediated narrative as it follows:

At an early point in *Dear Angelica*, you switch from watching an animated movie to living inside it. It feels a little like stepping into a dream, except it isn't one sprung from your own mind, but that of an artist leading you into hers (Joan E. Solsman, cnet.com).

Frantic images appear all around, and it's as if you're in the middle of a painting during creation. Tying in with the calligraphic style of the script, illustrator Wesley Allsbrook uses a ribbon-like style in her artwork which draws the eye across vast spaces, compels you to look to and fro and conveys a sense of frantic motion. It's beautiful and overwhelming all at the same time, and I felt as if I was surrounded by an ever-growing paint tornado (Tal Blevins, uploadvr.com).

Both of these reviews for *Dear Angelica* emphasize the distanced experience of the story, and the perspective of a passive witness to Jessica's animated memories ("surrounded by an ever-growing paint tornado"). The lack of control over the events is apparent in Joan E. Solsman account of the film being like the dream of an artist that has led you into it.

The impersonator perspective can best be exemplified in *I, Phillip* where the spectator embodies or takes on the role of the resurrected or reconstructed consciousness of Phillip K. Dick throughout his adaptation to the world and the revelation that he has become a product to be marveled at, but still owned as property. Phillip K. Dick was a SF author that wrote works such as *Minority Report* (1956), *A Scanner Darkly* (1977) or *Do androids dream of electric sheep?* (1968) – just to name a few. The latter novel features androids created and owned by a corporation and bound to complete servitude so it seems fitting that the downloaded consciousness of Phillip K. Dick should inhabit or be resurrected as an android that is then paraded around as the ultimate tech and wonder. The spectator experiences the film as Phillip K Dick's consciousness and they both get to reside and share the body of an android and in doing so, they raise many a question regarding the exact position an android would have in our world, which would be one of servitude and complete ownership by people, as suggested by the events in the film.

One reviewer's account of his/her experience of the VR film blends the lack of control the impersonator perspective offers with the aforementioned lack of control an android would have in its quality of both property and commodity:

The choice of telling a story from the point of view of an avatar is true to Dick's spirit, while also revealing the limitations of a non-interactive first person perspective. I wish I could move around with the camera, and interact with this small world, get some piece of the action. I am inside a bubble, like a museum artifact. The frustration also comes from the fact I am answering questions without ever having control over my body (imm3rsiv.com).

As can be seen from this review of the film, the spectator may struggle at times with the character that is forced upon him and the helplessness of the character's situation. Simultaneously, they feel as though they cannot answer the questions or interact with the other virtual people because the experience does not allow them to do so.

In the case of the VR films *IT: FLOAT* (Warner Bros. Pictures, 2017) and *Annabelle: Creation* (Warner Bros. Pictures, 2017), which use the hero perspective, it should be mentioned that these are complimentary experiences to the 2D blockbuster films *IT* (2017) and *Annabelle: Creation* (2017). These films are indebted to 2D cinema but are closer to the non-artistic extreme horror or entertainment experiences that are played in VR entertainment centers, because they are also designed as primarily basic frightening experiences. There are also more akin to extra content from a commercial point of view. However, from a spectatorship point of view what they offer the first person point of view complements the 2D distanced third person point of view experience. As such, in *IT* we have an adaptation of Steven King's horror novel about a dangerous entity that takes on the shape of a clown which terrorizes the children of a small town in Maine every 27 years. The entity creates elaborate and hypnotizing scenarios before whisking the children to its underground lair which is appropriately found in a sewerage pit. In the 2D film, we see those intricate illusions that the entity concocts but we do not see the journey that the hypnotized children undergo and this is what *IT: FLOAT* the VR experience effectively offers, by placing the spectator at the heart of the events, being kidnapped by the clown entity and journeying through the sewerage canals.

The same can be said about the other 2D horror film, *Annabelle: Creation* where we get to see the story of how the eerily and creepy puppet becomes the vengeful and murderous entity. In this particular film, one of the more suspenseful places is Annabelle's room (where both her demonic spirit and the doll reside) and this is exactly what the VR experience *Annabelle: Creation. Bee's Room* offers by controlling the spectator's attention through ghostly sounds or written notes that pop out of the air among others that provide instructions on where to look in the scene.

### Conclusions and some questions

Virtual reality cinematography appears to be, for the moment, a new way of experiencing filmic content, one that is engaging by engulfing the spectator and taking over most of the perceptual input from reality, and placing natural emphasis on that primarily audio-visual content. Furthermore, it is an experience that offers very different perspectives from the ones people are used to when it comes to media – which is the framed image be it coming from a cinema theatre, a flat-screen monitor or a phone – that allows, and in some cases forces, the spectator to take on a certain identity in the narrative such as they are implied in the scene as a hero, where the characters or the events happen around them. The viewer can, in other cases, maintain his identity to begin with. He can be a witness and he can simply take part in the events without being noticed by the characters in any way and or can be an impersonator which refers to experiencing the VR narrative as an imposed character inside it like it is the case in *I, Philip* where the spectator becomes the android that houses the reconstructed consciousness of the late writer Philip K. Dick.

Whether or not VR cinema can be placed under the category of cinema, contemporary art and new media or it is simply an art form in itself – an eighth art – of that remains to be seen as more VR films are made each year with more and more film-makers adapting to this novel medium and with the technology seemingly evolving towards increased interactivity, as Iñárritu's film seems to suggest. However, this does beg a question. If the majority of VR films make use of the basic 360-degree image rendered via headset while employing no interactive features, are we to believe that this is due to financial restraints or cultural restraints inherited from VR film being associated the 2D film-making that only offers the audiovisual experience. The last issue can be partially explained as film-makers adapting to the medium while also maintaining some of the prejudices related to traditional cinematography, where the content is preponderantly audiovisual and completely non-interactive. It is not such a huge stretch for ingenious film-makers to envision a first person point-of-view 360-degree story and then work on it to make it appealing, but it is a significant leap for them to envision the interactive side of a story because that is not something that they had previously had to conceive, as opposed to, for example, a game-maker. It should also be noted at this point that the majority of well-made and appreciated VR films, were done by directors with film-making experience rather than video game directors.

Moreover, the division between VR cinematic films available at film festivals and non-artistic VR films available at entertainment centers seems to be, for the moment, simply the place where the films are distributed and the name of the director (who come from a 2D film-making background) attached to them, like it is the case with *Carne y Arena*, *Dear Angelica*, *Spheres* (Darren Aronofsky, 2018), etc. and as such the film-makers dominance over VR cinematic film production for the time-being.

### End Note

- 1 The *Notes on Blindness* (2016) VR film allowed spectators to zoom on a scene, to see it better, as the objects in the scenes are positioned very far away from them in order to suggest the visual distancing of the real world from the man who is turning blind.

### Works Cited

- Bartlem, Edwina. *Reshaping Spectatorship: Immersive and Distributed Aesthetics*. The Fibreculture Journal, Issue 5, 2005. <http://seven.fibreculturejournal.org/fcj-045-reshaping-spectatorship-immersive-and-distributed-aesthetics/>. Accessed 15 Aug. 2018.
- Bevins, Tal. *Dear Angelica Review: If Someone Cries in a VR Headset, Does Anyone See It?*, 18 February 2017. <https://uploadvr.com/dear-angelica-review-if-someone-cries-in-a-vr-headset-does-anyone-see-it/>. Accessed 15 Aug. 2018.
- Bradshaw, Peter. *Carne y Arena review - dazzling virtual reality exhibit offers a fresh look at the refugee crisis*, 22 May 2017. <https://www.theguardian.com/film/2017/may/22/carne-y-arena-review-inarritu-virtual-reality-refugee-cannes-2017>. Accessed 15 Aug. 2018.
- Dolan, Devon and Parets, Michael. *Redefining The Axiom Of Story: The VR And 360 Video Complex*, 14 January 2016. <https://techcrunch.com/2016/01/14/redefining-the-axiom-of-story-the-vr-and-360-video-complex/>. Accessed 15 Aug. 2018.
- Fassone, Riccardo. *Every Game is an Island: Endings and Extremities in Video Games*. New York: Bloomsbury Publishing USA, 2017.
- Gameran, Ellen. *The A-List Tackles VR. Kathryn Bigelow, Alejandro G. Iñárritu and Megan Ellison are behind a wave of new virtual reality projects*, 19 April 2017. <https://www.wsj.com/articles/virtual-reality-films-push-into-mainstream-1492620143>. Accessed 15 Aug. 2018.
- Gleiberman, Owen. *Cannes Virtual Reality Review: Alejandro G. Iñárritu's 'Carne y Arena'*, 20 May 2017. <https://variety.com/2017/film/reviews/carne-y-arena-review-alejandro-g-inarritu-1202438293/>. Accessed 15 Aug. 2018.
- imm3rsive. I, Philip. *Inside the digital mind of Philip K. Dick. A 360° stereoscopic short film that takes the viewer inside the imagination of one of the masters of sci-fi*, 23 February 2016. <https://imm3rsive.com/en/2016/02/23/i-philip-inside-the-digital-mind-of-philip-k-dick/>. Accessed 15 Aug. 2018.
- Marantz, Andrew. *Studio 360. The pioneers who are making the first virtual-reality narratives*, 26 April 2016. <https://www.newyorker.com/magazine/2016/04/25/making-movies-with-virtual-reality>. Accessed 15 Aug. 2018.
- Mateer, John. *Directing for Cinematic Virtual Reality: how the traditional film director's craft applies to immersive environments and notions of presence*. Journal of Media Practice, 2017, VOL. 18, NO. 1, 14–25. <http://dx.doi.org/10.1080/14682753.2017.1305838>. Accessed 15 Aug. 2018.
- Mestre, Daniel R. *Immersion and Presence*. [http://www.ism.univmed.fr/mestre/projects/virtual%20reality/Pres\\_2005.pdf](http://www.ism.univmed.fr/mestre/projects/virtual%20reality/Pres_2005.pdf). Accessed 15 Aug. 2018.
- Metz, Christian. *The Imaginary Signifier: Psychoanalysis and the Cinema*. Bloomington: Indianapolis University Press, 1982.

- Metzinger, Thomas K. and Madary, Michael. *Real Virtuality: A Code of Ethical Conduct. Recommendations for Good Scientific Practice and the Consumers of VR-Technology*, 19 February 2016. <https://www.frontiersin.org/articles/10.3389/frobt.2016.00003/full>. Accessed 15 Aug. 2018.
- Mitry, Jean. *The Aesthetics and Psychology of the Cinema*. Bloomington: Indianapolis University Press, 1997.
- Roxborough, Scott. *Alejandro G. Inarritu Embraces Virtual Reality (But Don't Call It Cinema)*, 24 Mai 2017. <https://www.hollywoodreporter.com/news/alejandro-g-inarritu-embraces-virtual-reality-but-dont-call-cinema-1006881>. Accessed 15 Aug. 2018.
- Silva, G.R., Donat, J.C., Rigoli, M.M. et al. *A questionnaire for measuring presence in virtual environments: factor analysis of the presence questionnaire and adaptation into Brazilian Portuguese*. *Virtual Reality* (2016) 20: 237. <https://doi.org/10.1007/s10055-016-0295-7>. Accessed 15 Aug. 2018.
- Solman, Joan E. *'Dear Angelica': A VR film that steps inside a painter's brain*, 17 January 2017. <https://www.cnet.com/news/dear-angelica-vr-film-that-steps-inside-a-painters-brain-sundance/>. Accessed 15 Aug. 2018.
- Witmer, Bob G. and Singer, Michael J. *Measuring Presence in Virtual Environments: A Presence Questionnaire*. *Presence: Teleoperators and Virtual Environments*, Volume 7, Issue 3, June 1998, pp. 225-240.
- Zara, Janelle, *Alejandro González Iñárritu on Why Artists Should Embrace the 'Transcendental and Powerful' Technology of Virtual Reality*, 1<sup>st</sup> December 2017. <https://news.artnet.com/art-world/1166630-1166630>. Accessed 15 Aug. 2018.