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Eric Studt, SJ

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Virtual reality documentaries and the illusion of presence

Eric Studt, SJ

Philosophy Department, University of St Andrews, St Andrews, UK

ABSTRACT

I argue that virtual reality (VR) documentaries mandate that users employ a fictional attitude toward their presence in a virtual environment (VE) for the purpose of engaging with nonfictional content. The most salient feature of VR is that VR users typically feel as though their bodies were present in a VE. This paper explores presence in VR as a perceptual illusion facilitated by certain technological features. Drawing on Kendall Walton's concept of fiction, I argue that the illusion of presence in VR also requires a fictional attitude that VR users employ when imagining themselves in a VE. In the case of VR documentaries, while users' attitude in regards to the feeling of presence is best characterized as make-belief, they nevertheless employ an attitude of belief in regards to the content of the documentary and accept this content as nonfictional.

KEYWORDS

Virtual reality; nonfiction;
fiction; documentary;
presence; illusion

Introduction

This paper proposes a view of virtual reality (VR) documentaries according to which users are mandated to employ a fictional attitude toward their presence in a virtual environment (VE) for the purpose of engaging with nonfictional content. I develop this argument in three stages. Firstly, drawing on Stacie Friend's analysis of fiction and nonfiction in terms of genres, I show how the content of some nonfiction VR films may be properly classified as documentary. From the perspective of content, then, VR documentaries do not significantly differ from traditional documentaries. What typically distinguishes VR documentaries from their cinematic counterparts, however, is the VR user's strong feeling of being present within the scene that the documentary presents. In the second stage, then, we explore the concept of 'presence' as it applies to VR. Thirdly, I borrow from Kendall Walton's concept of fiction to argue that users' experience of VR documentaries normally involves a fictional attitude toward users' presence in a VE.

While there are currently several subgenres of VR documentary on the market such as travel documentaries and interactive documentaries, this paper focuses on immersive journalism since this subgenre comes closest to emulating traditional documentary content. Media researcher and VR-filmmaker Nonny de la Peña describes immersive

CONTACT Eric Studt, SJ  ems27@st-andrews.ac.uk  Philosophy Department, University of St Andrews, Saint Andrews, Scotland

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journalism as ‘the production of news in a form in which people can gain first-person experiences of the events or situation described in news stories’ (De la Peña et al. 2010, 291). In general, the examples of immersive journalism currently available are films that use a head-mounted display offering a 360° field of view with three degrees of freedom (3DoF: rotation of the head to the right and left, side to side, backward and forward). Immersive journalism generally does not allow users to wander around the scene, which would require six degrees of freedom (6DoF: 3DoF plus movement of the body up and down, to the right and left, backward and forward). The United Nations’ 2015 film *Clouds over Sidra* will serve as our paradigm case of immersive journalism. By way of introduction, *Clouds over Sidra* is a virtual tour of the Za’atari camp for Syrian refugees in Jordan with a 12-year-old refugee named Sidra serving as guide. The premise of the film is simple: Sidra introduces users to her perspective on life in the camp. Because of the 360° field of view and the 3DoF technology, users have the visual impression of standing in the places that Sidra describes: her bedroom, a classroom, a bakery, a gym, a football pitch, and so on.

Alongside *Clouds over Sidra* we explore two contrasting examples that highlight the fiction-nonfiction distinction. Firstly, the BBC’s 2016 VR documentary *Trafficked* is an animated film about Maria, a Nicaraguan mother trafficked as a sex worker in Mexico. *Trafficked* is generally considered an example of immersive journalism. Secondly, using far more sophisticated, 6DoF technology, Alejandro González Iñárritu’s 2017 *Carne y Arena* immerses users in a scenario involving a group of Latin American migrants crossing the border into the United States and their subsequent arrest by border patrol agents. *Carne y Arena* is a dramatic piece based on the accounts of actual migrants but is not generally considered a documentary.

VR documentaries

In this section, we explore what it means to classify the content of some VR films as nonfiction and as documentary. Here, I will be relying on Stacie Friend’s classification of nonfiction and fiction as genres of narratives. I expand Friend’s analysis to carve out a space in nonfiction cinematic narratives for documentary films, which I consider to be a subgenre of nonfiction films.

Friend argues that there is no one criterion that we use to distinguish fictional narratives from nonfictional ones; rather, fiction and nonfiction are better considered as genres, that is, as ‘a way of classifying representations that guides appreciation, so that knowledge of the classification plays a role in a work’s correct interpretation and evaluation’ (Friend 2012, 181). Adapting Kendall Walton’s model for categorizing works of art (Walton 1970), Friend goes on to explain:

Membership in most categories is not determined by necessary and sufficient conditions, but rather by a cluster of non-essential criteria that include not only features internal to the work [...], but also facts about the work’s origins, in particular the category in which the artist intended the work to be appreciated, or in which the artist’s contemporaries would have placed it. (Friend 2012, 187)

While the following list of features standard to nonfiction is not exhaustive, it is sufficient for our discussion here: ‘If we take a work to be non-fiction [...] we will expect an effort

to be faithful to the facts; references to real people, places, and events; assertions that convey the author's views; and so forth' (Friend 2012, 189).

According to Friend's account, the features that would make *Clouds over Sidra* nonfiction are that it is true to the facts, references real people, places, and events, is intended by the filmmakers as nonfiction, is intended to inform the public of a current social issue, and is widely accepted by contemporary audiences as nonfiction. So *Clouds over Sidra* fits comfortably within the nonfiction genre. The same is true of *Trafficked* since, despite the highly stylised animation, the filmmakers insist that the narrative sticks to the facts (Watts 2017). The case is not so clear with *Carne y Arena*. The nonfiction-standard features of this film are that it highlights a real social issue and the film's assertions convey the author's views. However, authors of fiction also often highlight real social issues and use their works to convey their own views, so these standard features of nonfiction do not firmly situate a work in the nonfiction genre. A contra-standard feature of the film is that, instead of depicting an actual historical event, the film is a creative interweaving of real-life narratives that are representative of the experience of migrants. Of course, the accurate depiction of historical events (or at least the intention to do so) would seem to be rated rather highly as a standard feature of nonfiction. In the end, *Carne y Arena* borrows standard features from both fiction and nonfiction genres in order to create an emotionally impactful story that highlights a real-world social issue.

Documentaries are a subgenre of nonfiction film and the standard features of documentaries are more specific. Nonfiction films that do not belong to the subgenre of documentary include exercise videos, instructional videos, recorded academic lectures, etc. A suitable account of the documentary genre, therefore, requires a cluster of standard features characteristic of documentaries but uncharacteristic of other nonfiction films. I adapt the following list of standard features of documentaries from Bill Nichols: documentaries typically present real people as social actors who represent themselves, present real locations, present a realistic perspective on actual historical contexts or events, and have some indexical quality (Nichols 2017, 10). Again, this list is by no means exhaustive.

From what has been said, it is reasonable that the content of *Clouds over Sidra* counts as documentary because it makes use of most of the standard features of the genre: Sidra is a real person who represents herself, the film is shot on location in the Za'atari camp, the intention of the filmmakers was to inform the public of a current social issue, and the film has been widely accepted as a documentary.

One objection to categorizing nonfiction VR films as documentaries generally has to do with the question of their indexical quality. Charles Saunders Peirce writes that 'indications' or 'indices' 'show something about things, on account of their being physically connected with them' (Peirce 1998, 5). Photographs, Peirce maintains, are examples of indices because of their 'having been produced under such circumstances that they were physically forced to correspond point by point to nature' (Peirce 1998, 5-6). VR films such as *Clouds over Sidra* are often capable of a higher degree of photographic and phenomenological realism than traditional films, but this is due to a sophisticated process of stitching together separate video and audio footage from multiple cameras and microphones. Because the editing ideally produces flawless transitions between the separate footage in order to create an illusion of space, the user has the impression that she is seeing footage from a single camera. The complaint is that the representation

of space in VR is illusory and not indexical. There are two ways of responding to this objection.

Firstly, following Peirce's definition, we can think of the indexical quality of documentary films (and of films in general) in terms of what Berys Gaut calls photographic representations' 'causal relation to their subjects' (Gaut 2010, 67). Gaut explains:

So photographs, whether traditional or digital, can only be of what is actual [...] Non-photographic digital images or aspects of digital images that are not photographic, in contrast, can be of what is not actual. So traditional film is ontologically realistic, but digital film is not in all cases. (Gaut 2010, 68)

The digital photographic representations in *Clouds over Sidra* such those of Sidra herself and the camp, then, are of what is actual. If the filmmakers digitally altered the appearance of Sidra or the camp to suit their intentions, these alterations would not count as indices. By contrast, the frameless 360° field of view is not a representation of what is actual, but an alteration of the digital footage in order to create an illusion of space. In short, some aspects of the film bear a causal relation to what they represent and to this extent they have indexical quality. The representation of space created by the piecing together of separate footage, however, is an illusion. *Trafficked* and *Carne y Arena*, by contrast, do not have the kind of indexical quality typical of documentaries. Because *Trafficked* is animated, the representations do not bear any causal relation to what they represent. With *Carne y Arena*, the photographic images bear some causal relation to the actors with the exception of CGI enhancements; however, the actors do not represent themselves, so the images would be indices of the actors, not of the real-life people whose stories they represent.

Since neither *Trafficked* nor *Carne y Arena* manifest the kind of indexical quality typical of documentary, does this exclude them from the documentary genre? This brings me to the second response to the above objection. On the account we are using, indexical quality is not a necessary or sufficient condition for inclusion in the documentary genre. That being said, indexical quality has traditionally been appreciated as a particularly valuable feature of documentaries. So the fact that *Trafficked* and *Carne y Arena* have little or no indexical quality means that they have serious contra-standard features of the documentary genre. A few additional features of *Trafficked* probably make up for this deficiency: it was produced by the BBC as a documentary; the story purports to accurately represent the circumstances of its subject; the filmmakers intended the film as a documentary and the film has been received and appreciated by audiences as such. So *Trafficked* probably counts as a documentary in a way similar to the 2008 animated film *Waltz with Bashir*. On the other hand, *Carne y Arena* probably does not count as a documentary since the narrative is invented to a significant extent. Furthermore, Iñárritu has not indicated that he intended the film as a documentary nor is that correct category to guide the audience's interpretation and appreciation of the film. That is to say, when watching *Carne y Arena*, the audience does not have the expectation that the film be shot on location, that it present social actors, or that it accurately present a factual account of historical events.

In this section, we explored how Friend's analysis of fiction and nonfiction as genres can be employed to understand the difference between the content of VR films that count as documentaries (*Clouds over Sidra* and *Trafficked*) and those that do not (*Carne y*

Arena). The above analysis focuses on the content of VR documentaries, which is in many ways similar to the content of traditional documentaries.

Presence in virtual environments

It is generally agreed that what distinguishes VR from other media such as traditional cinema is the degree to which VR users feel present in a VE (Steuer 1992). Whereas in the previous section, we explored the categorisation of the content of VR films in terms of genre, in this section, we focus specifically on the user's engagement with VR documentaries and focus on the phenomenon of presence – particularly spatial presence – as the key to understanding that engagement.

While vivid representations in literature and traditional cinema might lead audiences to have some sense of what it is like to be present in the narrative, VR technology gives users the tools to seemingly visually and auditorily immerse themselves in another environment. Norman Mooradian argues that VEs are simulations of 'systematic relations among objects [... i.e.] the conditions that obtain between objects and a perceiver such that they are experienced in a way similar to the way reality is experienced' (Mooradian 2006, 676). It isn't so much that VR representations of objects exhibit a greater degree of photographic realism than cinematic ones, but that users perceive VR representations as being, at least visually and audibly, in a similar relation to them as objects in the real world.

How is this simulation of realistic relations achieved? In an empirical study, VR researchers James Cummings and Jeremy Bailenson found that tracking level (i.e. the speed at which the visual representation changes in conjunction with the user's movement), stereoscopy, and field of view are far more important for facilitating the feeling of presence than are image and sound quality (Cummings and Bailenson 2016, 297). When we talk about users' feeling of presence when engaging immersive journalism such as *Clouds over Sidra* and *Trafficked*, then, we are primarily describing a felt repose to the visual perception of represented spatial properties rendered by 360° field of view and the 3DoF technology. To the representation of spatial relations might be added features that are presumed to intensify the feeling of presence: haptic feedback, photorealistic images, engaging narrative elements, 6DoF technology, and the possibility of interacting with the VE and with other avatars (Schubert, Friedmann, and Regenbrecht 2001, 273–274; Sanchez-Vives and Slater 2005, 334).

While presence entails some cognitive elements, it is also closely tied to bodily feelings. Cognitive neuroscientist Anil Seth and colleagues argue that the feeling of presence relies chiefly on the interoceptive network (Seth, Suzuki, and Critchley 2012, 3). Interoception is the sensory branch of the nervous system that picks up signals mainly from internal bodily states that form the basis for the feelings we associate with things like hot, cold, pain, and emotions. For example, as users watching *Trafficked* see Maria being struck in the head by a trafficker, they may perceive changes not only in their visual and auditory fields, but also in their bodily states, perhaps an emotional feeling. This feeling is perceived via the interoceptive network. According to Seth et al., presence works on similar principles: perceptions of an environment occasion changes in bodily states, interoception picks up these changes, and the person experiences these bodily perceptions as feelings.

Presence is the typical, real-world feeling of being in the environment we are inhabiting. In VR, however, presence is an illusion, more precisely a perceptual (as opposed to a cognitive) illusion. As a rough definition, we might say with David Chalmers that a ‘perceptual illusion is a case where an object looks a certain way, when it is not that way’ (Chalmers 2017, 327). Cognitive illusions, by contrast, generally involve false beliefs. For example, a person seeing two parallel lines seeming to converge in the distance is experiencing a perceptual illusion. If the person believes the parallel lines actually converge, then she is suffering from a cognitive illusion. Since users do not typically falsely believe that they are actually present in VEs, presence in VR is usually a perceptual, not a cognitive, illusion (Slater and Sanchez-Vives 2016, 37–38).

How is the illusion of presence achieved? Seth et al. argue that a felt sense of presence in a VE becomes possible when users’ predictions about their relation to the representations in the VE correspond to what they are actually perceiving (Seth, Suzuki, and Critchley 2012, 2). In other words, the reason audiences feel more present in VEs than they do in environments represented in literature or in traditional cinema is that, while reading or watching a traditional film, the visual and auditory information picked up by audiences’ eyes and ears continually confirm their presence in the real world (e.g. the living room, bedroom, cinema ...) and not in the narrative. By contrast, VR technology isolates users’ visual and auditory perceptions so that when users look up, down, and side to side, they only see and hear the represented environment, not their real-world environment (Slater and Sanchez-Vives 2016, 4).

An example will illustrate the role of prediction in the feeling of presence. In the real world, when a football traverses our visual field and disappears behind us, we correctly predict that by turning our heads and bodies we will be able to visually follow the ball’s path. Similarly, in a cleverly filmed scene from *Clouds over Sidra* the representation of a football traverses users’ visual field and disappears behind them. Users are able to correctly predict that adjusting their bodies and turning around will enable them to follow the ball’s trajectory. Contrast this with the experience of watching the film in a version cropped to fit the proportions of a computer screen. In this scenario, viewers’ visual perceptions are not isolated and they will not predict that they can follow the ball’s trajectory beyond the confines of the screen. In VR, it typically feels natural for users to employ bodily movements in order to determine what they visually perceive because users’ predictions about how their bodies relate to the VE are continually confirmed by the updating of the film’s representations in response to users’ movements. This, Seth et al. argue, is the foundation for the feeling of presence in VR.

The idea that interoceptive feelings form the basis of presence in VR gains credibility when we consider how presence influences users’ experiences. A study by Donghee Shin compared audience response to VR and non-VR versions of the 2015 documentary *The Displaced*. Shin determined that VR technology can give rise to a feeling of presence, which in turn may foster a sense of embodiment, empathy, flow, and ultimately engagement (Shin 2018, 69). Another study by Nicola Schutte and Emma Stilinović compared the levels of engagement and emotional experiences of viewers of *Clouds over Sidra* in both VR and non-VR formats. Again, levels of engagement and empathy were significantly higher in the VR group (Schutte and Stilinović 2017, 709–710). The interoceptive model of presence, therefore, makes sense when we think of presence as underpinning other states that typically involve bodily feeling. Both studies point to a clear

phenomenological difference between viewing a film in VR and non-VR formats: VR tends to involve more realistic bodily responses and feelings than traditional films.

An important objection to the view of presence as a perceptual illusion comes from David Chalmers. Chalmers writes about presence: ‘the sense of “presence” need not involve suffering an illusion that one is [in] a non-existent physical location. Rather, it may involve the correct perception that one is in a virtual location’ (Chalmers 2017, 332). Chalmers is arguing from a stance he calls ‘virtual realism,’ which holds that virtual objects and locations exist, VR events take place, and the experience of VR is non-illusory (Chalmers 2017, 310). Even if we were to grant that there are such things as virtual objects, locations, and events, Chalmers’s notion of presence in VEs as a veridical perception fails to convince for the following reason. As Chalmers states, presence involves the sense that one is in a particular place. Drawing on the work of Seth et al., we can say that this sense of presence relies on the perception of bodily states (i.e. interoception) in relation to the perception of an environment. In VR, users perceive their bodily states as if their actual, physical bodies were in a VE. However, users’ actual bodies are in a real-world environment, not in a VE. The seeming perception of something nonactual is a misperception. Therefore, the feeling of presence in a VE is a misperception. Perceptual illusions are kinds of misperceptions that, as Chalmers explains, ‘often persist even when the subject is not deceived at the level of belief’ (Chalmers 2017, 327). In VR, users are not generally deceived into believing that they are actually present in a VE. Nevertheless, the sensation of presence in the VE often persists despite beliefs to the contrary. For this reason, presence in a VE is best classified as a perceptual illusion.

To summarize our findings so far, effective engagement with VR requires two essential features that are closely linked. Firstly, VR technology offers a representation of a coherent spatial environment in which the user can plausibly relate to that environment. Secondly, there is the user’s interoceptive response that allows the user to feel present in the VE as if it were her real environment. In this section, I argued that presence in VR is a perceptual illusion. In the next section, I make the case that it is also fictional.

Presence as make-believe

In this final section, I argue that while the content of VR documentaries may be just as nonfictional as that of traditional documentaries, users’ feeling of presence in a VE is more typical to our engagement with games of make-believe than with works of nonfiction. Here, I will be applying Kendall Walton’s concept of fiction not to the content of VR documentaries but to the feeling of presence itself. While I do not assume with Walton that the act of imagining is specific to fiction, an attitude of make-believe is typically seen as an important standard feature of fiction and a contra-standard feature of nonfiction.

Walton’s analysis begins with the recognition that there are certain things that we imagine to be true in games of make-believe that we would not hold to be true in the real world: ‘Briefly, a fictional truth consists in there being a prescription or mandate in some context to imagine something. Fictional propositions are propositions that are *to be* imagined – whether or not they are in fact imagined’ (Walton 1990, 39). For example, when users watch *Carne y Arena*, they imagine it to be true that some of the actors are migrants at the border. Users know, however, that in the real world these actors are not being filmed as they are actually crossing the border. So the first distinction

is between make-beliefs (i.e. propositions imagined to be true) and beliefs proper (i.e. propositions that we hold to be true).

Jamie McRoberts talks about presence in terms of ‘suspension of disbelief’ and a willingness ‘to believe in the simulation’ (McRoberts 2018, 104). Although I generally agree with McRoberts’s analysis of presence in VR, it is important to distinguish between the users’ beliefs and make-beliefs. Feeling present in a VE does not require that users falsely believe that they are present in the VE, just as highly engaged users are not required to falsely believe that the actors in *Carne y Arena* are being filmed while actually crossing the border. Rather, presence involves users making-believe that they are somewhere else, all the while knowing that this is not factually the case.

The second element of Walton’s analysis is that fiction involves the use of props, which are generators of fictional truths (Walton 1990, 37). As Neil McDonnell and Nathan Wildman argue in a recent article, what Chalmers calls ‘virtual objects’ are more accurately described as ‘VR specific props and principles of generation’ in a game of make-believe (McDonnell and Wildman 2019, 391). For example, the actors in *Carne y Arena* are props with particular principles of generation; namely, when users see representations of the actors, they are mandated to make-believe they are seeing people as they cross the border. Notice that the content of *Clouds over Sidra* does not make use of props in the same way. When users see representations of Sidra or the camp, they are mandated to believe that they are seeing photographic footage of Sidra and the camp, which they are in fact doing. Nevertheless – and this is where my account differs from McDonnell’s and Wildman’s – I argue that *Clouds over Sidra* and all VR experiences mandate a fictional attitude, not necessarily toward the content of the film, but toward users’ feeling of presence in the scene. That is to say, I see the VR technology that produces the illusory representation of space as the primary prop that facilitates a feeling that the user fictionally experiences as presence. And this is my main point: presence is not merely a perceptual illusion; rather, it is a particular attitude by which the perceptual illusion is accepted as true for the purposes of making-believe that the user is present in the VE.

The third element of Walton’s theory of fiction is that props generate fictional truths according to the conditional rules of the game of make-believe (Walton 1990, 40). Although game researcher Jesper Juul does not rely on Walton specifically, his analysis of the role of rules in VR fits nicely with Walton’s account (Juul 2019, 334–337). The main import of Juul’s account for our purposes is that every VR experience comes with a set of rules for how users may or may not engage with its representations of people and objects. If a user attempts to interact with the film’s represented objects in ways not prescribed by the rules, this has a negative impact on the feeling of presence. For example, in *Clouds over Sidra*, when the representation of the football disappears behind users’ visual field, they are invited to imagine that the trajectory of the football continues behind them. The rules of this particular VR film dictate that users can reposition their bodies so as to follow the ball’s trajectory. However, in 3DoF films such as *Clouds over Sidra* and *Trafficked*, the rules of the game do not invite users to imagine walking around the scene, talking with or touching the representations of the social actors or animations. Such actions would require a more sophisticated simulation. Just as we cannot use Monopoly money to buy houses in the real world, users cannot relate to representations of objects in VR in all of the ways that they might relate to

objects in the real world. As we saw in the previous section, VR simulates realistic spatial relations between users and represented objects; however, VR does not simulate all the possible relations between users and represented objects that we would expect from their real-world counterparts (Juul 2019, 337–340). Feeling present in a VE requires accepting and playing by the rules by imagining what is mandated and by not imagining what is not mandated.

An objection to the view argued here holds that presence in VR can be explained solely in terms of perceptual illusions. For example, when we illusorily perceive parallel lines converging in the distance, we do not believe or make-believe that the lines actually converge. And yet, since this illusion is cognitively impenetrable, our perception remains tricked by the illusion. So the objection goes, presence in VR works in the same way: users know that they are not in a VE, they do not even pretend to be in a VE, and yet they continue to perceive themselves in relation to the environment as if they were actually there. In response, it is important to remember that it is possible to experience the illusion of space without adopting a fictional attitude toward presence. In fact, evidence suggests that the feeling of presence in a VE depends upon a voluntary decision on the part of users (Shin and Biocca 2018, 2814). Perceptual illusions do not necessarily propose a mandate to believe or make-believe. For example, two parallel lines going off into the distance appear to converge. In the case of a straight stretch of railroad tracks across an open plain, there is no mandate that a viewer believe or make-believe that the parallel lines converge on the horizon. However, artists sometimes use linear perspective in order to facilitate the illusion of depth, which viewers are invited to imagine as three-dimensional space. In the case of VR, it is possible to appreciate or assess the quality of the graphics or the realism of the representation of space, to enjoy an engaging narrative, or simply to sample a VR film or game without committing oneself to feeling present. In short, there is a phenomenological distinction between experiencing an illusion of space and feeling present. Walton's concept of fiction can account for this distinction.

Another objection points to the fact that the feeling of presence in VR does not always seem to be voluntary. For instance, in an experience called 'the pit demonstration,' VR users simulate walking a narrow plank positioned over a precipitous drop. Users generally illusorily perceive danger and feel genuine fear (Blascovich and Bailenson 2011, 38–43). Although users generally do not believe that they are in any real danger, they often cannot voluntarily dial down their fear response. I respond to this objection with a comparison to cinema. Audiences of horror films are mandated to make-believe certain fictional propositions such as 'there are such things as monsters,' 'such-and-such a character is in danger,' 'I am witnessing acts of violence,' etc. While watching horror films, audience members may experience real fear in response to danger they know to be fictional or real disgust in response to violence they know to be special effects. This does not necessarily mean that audience members actually believe fictional propositions; rather, it means that imagining danger and violence can encourage real emotional responses. The same applies to VR. Although users may not be able to voluntarily suppress their fear response in the pit demonstration, they do voluntarily agree to imagine that they are present in the VE at the outset and are free to remove the head-mounted display at any time. Of course, it is possible that some users may suffer cognitive illusions in regard to presence, just as some audience members at a horror film may falsely believe

that fictional representations of violence are real. But this is not the norm and false beliefs are not required for experiencing presence in VR or for enjoying horror films. Walton's concept of fiction allows us to clarify how it is that VR users normally experience presence without holding contradictory beliefs.

Conclusion

VR documentaries are valued for their capacity to immerse users in real-world scenarios that users might not otherwise have access to. The immersive technology typically encourages a sense of presence, which leads to a level of personal engagement, particularly emotional engagement, that is often far more phenomenologically realistic than the experience of reading a work of nonfiction or watching a traditional documentary. The interesting thing is that the most salient feature of VR documentaries, the phenomenological realism that the user experiences, is the result of a fictional attitude, part of a game of make-believe that the user entertains. This fact does not make VR documentaries fictional, but it must be admitted that the pretence of feeling present is a contra-standard feature in most categories of nonfiction. In other words, a contra-standard feature of nonfiction is what makes VR documentary such a powerful medium for nonfiction storytelling.

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Notes on contributor

Eric Studt, SJ is a PhD student in philosophy at the University of St Andrews. His research mainly involves the role that emotion, and bodily feeling in particular, plays in our response to narratives. Other interests include the aesthetic appreciation of virtual reality and emotion in religious experience.

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