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See table of contents

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Article abstract

Humanitarian organizations, journalists, and artists are increasingly turning to virtual reality (VR) and immersive filmmaking because of its ostensibly unprecedented ability to conjure empathic feelings that lead to humanitarian action. Recent media studies scholarship attends to the possibilities and pitfalls of curating empathy through VR in the context of documentary filmmaking; however, these analyses primarily focus on VR's unique visual address. The status of the participant's body, as it exists in the physical world and as it is conjured within the virtual environment, remains under-explored in scholarship on immersive media and humanitarianism. In this paper, we offer a comparative analysis of embodiment in two recent multisensory VR film installations with humanitarian themes: Alejandro González Iñárritu's *Carne y Arena* (2017) which stages an attempted border crossing between Mexico and the United States; and *Hero* (iNKStories, 2018), which places participants into an unnamed Syrian village during an air raid. Using bodily absence as a framework, we argue that agency, responsibility, and a humanitarian subjectivity are ambiguously constructed through the sensing of bodily and psychic borders within these contemporary VR installations. We conclude that humanitarian VR is better understood as a technology of encounter rather than one of empathy.

On Bodily Absence in Humanitarian Multisensory VR

Eszter Zimanyi and Emma Ben Ayoun

In 2018, Jacki Zehner, a current member of the Sundance Institute Board of Trustees known for being one of the "top 50 most powerful women in US philanthropy,"[1] posted a short video clip to the media-sharing platform Vimeo. The clip shows Zehner sitting down with Navid Khonsari, Lead Artist and Executive Producer for the multisensory virtual reality experience *Hero* (iNKStories, 2018). It appears to be filmed either on a cell phone or a point-and-shoot digital camera, shortly after Zehner experienced *Hero* at its Sundance Festival debut; the sound quality and lighting are both poor, suggesting a spontaneous decision on the part of Zehner to share—immediately—her impression of the project. No fewer than 30 seconds into the clip, Zehner turns to Khonsari and breaks down in tears as she attempts to introduce both the artist and his work. In the ensuing three minutes, Zehner continues to cry as Khonsari speaks in general terms about his team's desire to simultaneously make the technology behind virtual reality "disappear" and engage all of a participant's senses in order to "legitimize the technology, and not in an entertainment way, [but] in a way that hopefully can actually have an impact on the world." Warned not to "give anything away," Zehner turns to the camera and, between sobs, says:

> Let me just say this part of it [...] My work in the world is to be a philanthropist, activist, donor, to bring resources to causes and issues. And, since beginning at Sundance with learning about VR, I've always wondered

[1] David Callahan and Kiersten Marek, "Meet the 50 Most Powerful Women in U.S. Philanthropy," *Inside Philanthropy,* March 2016, https://www.insidephilanthropy.com/home/2016/3/10/meet-the-50-most-powerful-women-in-us-philanthropy.html (accessed 9 February 2019).

> whether technology could take you to places of empathy and feeling, that you can be there and understand, and for the first time—I think it's transformational, this piece. So congratulations [sic].[2]

¶2 As Zehner's emotional endorsement attests, humanitarian organizations, journalists, and artists are increasingly turning to virtual reality (VR) and immersive filmmaking because of its ostensibly unprecedented ability to conjure empathic feelings that can lead to humanitarian action. Recent media studies scholarship attends to the possibilities and pitfalls of curating empathy through VR in the context of documentary filmmaking;[3] however, these analyses focus primarily on VR's unique visual address in documentaries that use multidirectional camera rigs to film in 360 degrees, placing viewers into a fixed central position from which they can mobilize their gaze in a digital sphere. These documentaries, including *Clouds over Sidra* (Gabo Arora and Chris Milk, 2015), *The Displaced* (Imraan Ismail and Ben C. Solomon, 2015), and *The Hidden* (Linsday Branham, 2019) generate a sense of immersion by giving spectators the illusion that they have been freed from the borders of the cinematic frame and can enact a sovereign gaze. For Chris Milk, co-director of *Clouds over Sidra*, the presencing achieved through mobile gazing is precisely what generates heightened empathy. In his much-quoted TED Talk, Milk says: "When you look down, you are sitting on the same ground [Sidra's] sitting on [...], you feel her humanity in a deeper way, you empathise with her in a deeper way."[4] Swallowed by the image, the spectator feels herself to be in an altogether different world from the one she knows; in the process of absorbing—and being absorbed by—her visual surroundings, she opens herself up to the Other (or so we are asked to believe).

[2] Jacki Zehner, *Sundance Festival 2018* Hero *VR Experience*, 2018, *Vimeo*, https://vimeo.com/253888118 (accessed 31 March 2020), 00:03:22.

[3] Kate Nash, "Virtual Reality Witness: Exploring the Ethics of Mediated Presence," *Studies in Documentary Film*, vol. 12, 3 July 2017, p. 119–131; Si Mitchell, "The Empathy Engine: VR Documentary and Deep Connection," *Senses of Cinema*, no. 83, June 2017, http://sensesofcinema.com/2017/feature-articles/vr-documentary-and-deep-connection/ (accessed 31 March 2020).

[4] Chris Milk, « How Virtual Reality Can Create the Ultimate Empathy Machine », 2015, *TED,* https://www.ted.com/talks/chris_milk_how_virtual_reality_can_create_the_ultimate_empathy_machine?language=en (accessed 31 March 2020), 00:10:18.

¶3 In the broader context of VR films, many of which rely entirely on computer-generated imagery (CGI), scholarship on virtual reality often celebrates the immersive quality of VR environments for allowing participants to transcend the confines of their bodies and "step inside" another character's point of view.[5] Yet even this writing considers the experience of immersion and embodiment primarily through visual framing. Methods such as direct address from virtually rendered characters, wherein participants feel that they are "seen" by others in the environment, or visual illusions (like approaching a virtual mirror and seeing a body different from one's own appear as a reflection) are cited as examples of virtual embodiment that heighten empathic feeling.[6] While these visual tactics are an important concept of study, we argue that the bodily experience of navigating virtual environments is equally significant, particularly as VR technology advances and developers experiment further with immersion by building corresponding physical props that engage all of a participant's bodily senses during a VR experience.

¶4 In this paper, we offer a comparative analysis of embodiment in two recent multisensory VR film installations with humanitarian themes: Alejandro González Iñárritu's *Carne y Arena* (2017),[7] which stages an attempted border crossing between Mexico and the United States; and *Hero*, which places participants into an unnamed Syrian village during an air raid. Though they demand different levels of physical engagement, *Carne y Arena* and *Hero* both extend "virtual reality" beyond the sights and sounds of the headset and into a tactile environment through built sets that participants must navigate. As VR becomes an increasingly popular medium for relating experiences of war, migration, and displacement to distant audiences,[8] the

[5] Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media*, Cambridge, Massachusetts, MIT Press, 2000, p. 242–256.

[6] Miriam Ross, "Virtual Reality's New Synesthetic Possibilities," *Television & New Media*, 26 October 2018, https://doi.org/10.1177/1527476418805240 (accessed 31 March 2020); Rose Eveleth, "The Limits of Empathy," *Topic Magazine*, no. 7, 12 January 2018, https://www.topic.com/the-limits-of-empathy (accessed 31 March 2020).

[7] In the United States, the installation was exhibited with a Spanish-language title. However, we would like to note that *Carne y Arena* translates to "Flesh and Sand" in English.

[8] For example, in 2015, the United Nations launched its VR program, UNVR, "to bring the world's most pressing challenges home to decision makers and global citizens around the world, pushing the bounds of empathy." That same year, *The New York Times* launched a smartphone application named NYTVR to bring immersive, VR journalism to the public. See, "About," *United Nations Virtual Reality,* http://unvr.sdgactioncampaign.org/home/about/ (accessed 31 March 2020); Bryan Lufkin, "The *New York Times* Virtual Reality App Is Here—

(dis)embodied experience it offers, of moving through virtual and physical environments simultaneously, becomes particularly noteworthy. Borderlands and war zones are virtual realities in the most literal sense; they project national and political imaginaries onto physical bodies; yet the status of the VR participant's body, as it exists in the physical world and as it is conjured within the virtual environment, remains under-explored in scholarship on immersive media and humanitarianism.[9] Our paper intervenes in current discourses about humanitarian VR works by examining the way borders are conjured, sensed, and/or evaporated within virtual environments. How are borders—whether material, visual, bodily, or psychic—felt by participants when they are tasked with mastering virtual spaces through a mastery of their own bodies?

¶5 Although many artists and advocates claim that VR's immersiveness is key to its ability to both foster empathy and represent "reality" better than other media forms,[10] we argue that the central animating force of VR lies not in its simulations of embodiment within the virtual field, but rather precisely in the bodily *absences* that such simulations make tangible. We situate these multisensory VR productions within longstanding debates in film and media studies, drawing primarily on phenomenology, intermediality, and documentary theory, in order to examine how VR's uncanny coupling of bodily presence and absence transforms the body into an intermediary object, one that unravels some borders while solidifying others, as it oscillates between image and experience, self and other, virtual and "real." Through thick descriptions and close readings of both *Carne y Arena* and *Hero*, we demonstrate the ways in which humanitarian multisensory VR's mobilization of the participant's body, and the encounters it stages between the participant-self and virtual others, give rise to a profound ambivalence. We read this ambivalence through Jean-Paul Sartre's notion of anguish to reanimate ongoing debates about the ethics and politics of rendering crisis visible for public consumption and humanitarian action.

And It's Very Very Cool," *Gizmodo*, 5 November 2015, https://gizmodo.com/the-new-york-times-virtual-reality-app-is-here-and-its-1740793369 (accessed 31 March 2020).

[9] Sita Popat provides a helpful theorization of embodiment in virtual reality more broadly, but does not focus on projects with humanitarian aims. See, Sita Popat, "Missing in Action: Embodied Experience in Virtual Reality," *Theatre Journal,* vol. 68, no. 3, September 2016, p. 357–378, https://doi.org/10.1353/tj.2016.0071 (accessed 31 March 2020).

[10] Milk, 2015, 00:10:26.

Abandoning the Empathy Machine: The Absent Body in Virtual Reality

¶6 For the purposes of this paper, we define VR as 3D virtually generated environments that users access through the use of a head-mounted display.[11] This technology is used for a wide variety of purposes, including surgical procedures, military training, psychiatric treatment, gaming and entertainment. In its scientific uses, VR is celebrated as a "window into the brain," providing doctors previously impossible entryways into the bodily and psychic interiors of their patients—whether through simulating traumatic memories on behalf of patients receiving treatment for PTSD,[12] or complex surgical procedures for doctors to practice with before operating on their patients' bodies.[13] Humanitarian VR has been hailed as an "empathy machine," capable of giving users the freedom to inhabit the interiority of the proverbial Other and of fostering a greater connection to humanity at large.[14] Across all of these appraisals is a shared investment in VR's supposedly unmatched ability to create highly realistic simulations that have the potential to provide users with unprecedented access to, and mastery over, the interiorities of *both* the self and Other.

¶7 VR's ability to produce empathy has been touted by industry professionals and journalists across a number of contexts, not all of which are necessarily humanitarian in aim. We use the phrase "humanitarian VR" to specify projects that make documentary claims to the real, claims that are intended to bring the spectator-participant into a space of collective consciousness about existing states of crisis, suffering, and emergency. Humanitarian VR seeks to move beyond provoking *feeling* on the part of its spectator in order to raise the possibility of taking tangible action *outside of* the representative space. While advocates of humanitarian VR emphasize the value of embodied presence simulated by this advanced technology, we argue that

[11] For a fuller explanation of virtual reality and its multiple manifestations, see William R. Sherman and Alan B. Craig, *Understanding Virtual Reality: Interface, Application, and Design*, San Francisco, California, Morgan Kaufmann Publishers, coll. "Computer Graphics," 2003.

[12] Robert McLay, *At War with PTSD: Battling Post Traumatic Stress Disorder with Virtual Reality,* Baltimore, Maryland, Johns Hopkins University Press, 2012.

[13] Mandy Erickson, "Virtual Reality System Helps Surgeons, Reassures Patients," *Stanford Medicine News Center*, 11 July 2017, https://med.stanford.edu/news/all-news/2017/07/virtual-reality-system-helps-surgeons-reassures-patients.html (accessed 31 March 2020).

[14] Grant Bollmer provides a thorough engagement with this discourse; see Grant Bollmer, "Empathy Machines," *Media International Australia*, vol, 165, no. 1, 24 August 2017, p. 63–76, https://doi.org/10.1177%2F1329878X17726794 (accessed 31 March 2020).

humanitarian VR's potential lies precisely in the ambivalent sensory experience of bodily *absence* triggered by its technological limits.

¶8 A phenomenological approach may help us clarify the nature of VR's dualistic, mediated subject position and its relationship to the self and the body. How does the VR film imagine the borders between experience, embodiment, and subjectivity? While one of phenomenology's central contributions was to situate the body-subject as wholly "in" the world, Drew Leder's *The Absent Body* (1990) takes phenomenology as a starting point from which to investigate the various "disappearances" of the body: the ways in which we "forget" about our body when we are engaged in thought or absorbed in contemplation, the foreignness of our own body parts to us, the seeing eye's inability to register itself in the visual field, the even deeper mystery that surrounds the internal organs.[15]

¶9 Leder's work follows a lengthy philosophical tradition and draws largely from the writing of Maurice Merleau-Ponty. In *The Phenomenology of Perception*, Merleau-Ponty suggests that the body itself cannot be understood as mere object or material entity: "one's own body," he writes, "is in the world just as the heart is in the organism: it continuously breathes life into the visible spectacle, animates it and nourishes it from within, and forms a system within it."[16] Leder is interested in the organism's heart not for its vitality and necessity but for its invisibility, for its hiddenness (as long as we are living and conscious, we cannot "see" our own pulsing hearts), as well as for the fact that it cannot but contain the promise of its own ends, of the moment it stops beating and pulls the subject *out* of the perceptual field forever. Following Jacques Derrida's critique of the metaphysics of presence,[17] Leder is interested in the ways that a phenomenology of embodied perception, which asserts the body's ongoing *presence* in space and time, is in fact undergirded by myriad forms of absence. In uncovering the lack that constitutes the present, enfolded subject of phenomenology, Leder's work troubles the binary that distinguishes whole from

[15] Drew Leder, *The Absent Body*, Chicago, Illinois, University of Chicago Press, 1990.

[16] Maurice Merleau-Ponty, *Phenomenology of Perception* [1945], trans. Donald A. Landes, London, Routledge, 2012, p. 209.

[17] Leder opens his book by asserting that "a certain telos towards disembodiment is an abiding strain of Western intellectual history" (p. 3), though it has frequently been overshadowed by phenomenology's emphasis on embodied presence. Nevertheless, a few of Leder's forbears have made gestures towards absence and disembodiment that inform his own work. In particular, he points to Derrida's work on Husserl in *Speech and Phenomena* (1967), where, Leder writes, Derrida exposes "the self-effacements and deferments that lie hidden at the heard of any ideal of pure presence," Leder, 1990, p. 2.

unwhole bodies (physical and otherwise). His text is particularly useful for thinking through the status of the body in virtual reality: the participant is, on the one hand, entirely immersed in the virtual space, and in the case of both *Hero* and *Carne y Arena*, experiencing physical sensory stimulation as well. The only thing missing from the visual field is her own body; she is both the beating heart of the experience—its centre—and the only absent member, subordinated to the role of witness or character, breathing "life into the visible spectacle," but not entirely of it. VR offers us two worlds and construes the body as their border, as the site of their contact, differentiation, and intermediation.

¶10 Both *Carne y Arena* and *Hero* presume a spectator-participant whose own daily lived experience is distant from that of a Syrian civilian besieged by war or a Central American migrant crossing borders without legal documentation.[18] The processes of identification incurred by these VR films are predicated upon the body's ability to mediate that distance, not to exist but to *act*—precisely *through* its simultaneous absence and presence—in between the virtual and the real. Ágnes Pethő, in *Cinema and Intermediality: The Passion for the In-Between*, writes of the "sensual mode" in cinema, one that she argues invokes an intermedial experience: a "proximity of entangled synaesthetic sensations," she writes, "based on the attitude of *flânerie*," can open up "sensuous interfaces" that bring film into direct contact with the viewer.[19] How does the sensuous surface of the body come to constitute the spectator-participant's meandering subjecthood in VR? Leder, meanwhile, differentiates between two forms of absence: ecstatic and recessive. He writes, "As ecstatic, the body projects outside itself into the world. As recessive, the body falls back from its own conscious perception and control."[20] How might the spectator-participant of VR find herself caught between these two forms of disappearance, and what might this bodily in-betweenness mean for the encounter between the virtual self and the political Other?

[18] This is made clear by the films' exhibition sites as well as the directors' repeated references in published interviews to the power of showing such VR films to politicians and philanthropists. *Carne y Arena* premiered at the prestigious Cannes Film Festival and has had long-term gallery installations in Los Angeles, Washington D.C., Mexico City, Amsterdam, and Milan. *Hero* has yet to find a long-term installation space, though the University of Southern California hosted *Hero* for five days in June 2018. It has otherwise only been exhibited at the Sundance and Tribeca film festivals, to our knowledge.

[19] Ágnes Pethő, *Cinema and Intermediality: The Passion for the In-Between,* Newcastle upon Tyne, UK, Cambridge Scholars Publishing, 2011, p. 15.

[20] Leder, 1990, p. 69.

Felt, Seen, Known: Virtual Reality and the Documentary Image

¶11 In order to understand the stakes of this mediated encounter, we must first interrogate how VR engages with both embodied knowledge and the evidentiary truth-claims most closely associated with documentary formats. Questions about spectatorship, experience, and the facticity of the image demand a more specific turn to film and media theory. VR is the culmination of over a century's worth of experimentation in 3D and immersive storytelling.[21] Industry professionals and critics alike have hailed VR as a "revolution" and "the future of filmmaking" for the sense of unmediated realism it provides.[22] Regardless of whether the 3D virtual environment is built entirely through CGI or comprised of digital photographic images stitched together to form a 360-degree spherical view, VR in its humanitarian mode incites what Vivian Sobchack terms "documentary consciousness," wherein documentary is understood as "less a *thing* than an *experience*," one which can arise at any time in relation to any media object and constitutes our cinematic identification and engagement with the image as veracious.[23] Documentary consciousness challenges our tendency to fix media objects in specific and stable categories. It provokes a more subjective and sensual approach to media and attunes us to the moments when "reality" erupts through constructed images. In order to be effective as agents of change, humanitarian VR films must instigate documentary consciousness; only when audiences believe their experiences to be reflective of reality, the logic goes, will they be motivated to act on behalf of the humanitarian causes represented in these texts. As Thomas Elsaesser argues, unlike in traditional cinema, "'reality' in VR is no longer identified with index, trace, or reference, but with a total environment: it thus is a function of a coherence theory (of truth), rather

[21] For a history of immersive viewing, see Alison Griffiths, *Shivers Down Your Spine: Cinema, Museums and the Immersive View,* New York, Columbia University Press, 2013.

[22] Carita Rizzo, "Alejandro Iñárritu Ushers in the Future of Film with 'Carne y Arena'," *Variety,* 10 November 2017, https://variety.com/2017/film/awards/alejandro-inarritu-carne-y-arena-governors-awards-2017-1202606852/ (accessed 31 January 2019). Also, Owen Glieberman, "Cannes Virtual Reality Review: Alejandro G. Iñárritu's 'Carne y Arena'," *Variety,* 20 May 2017, https://variety.com/2017/film/reviews/carne-y-arena-review-alejandro-g-inarritu-1202438293/ (accessed 31 January 2019).

[23] Vivian Sobchack, "Toward a Phenomenology of Nonfiction Film Experience," Jane M. Gaines and Michael Renov (eds.), *Collecting Visible Evidence*, Minneapolis, Minnesota, University of Minnesota Press, coll. "Visible Evidence," 1999, p. 241 (italics in the original).

than a correspondence theory."[24] In other words, while we are aware that the images and characters rendered virtually for us within our headsets may be entirely fabricated, our experience of VR's sensuous interfaces—our visual immersion and (increasingly) tactile sensation within these environments—invites us to understand them as representatives of the real.

¶12 Although both multisensory VR experiences we analyze here are primarily CGI constructions, they intentionally traffic in the language of documentary and make claims to an indexical evidentiary value in order to legitimate their humanitarian projects. *Hero*'s producers make an explicit claim to a documentary mode of truth-telling. iNKStories advertises *Hero* as "A Vérité VR Experience,"[25] recalling the *cinéma vérité* movement most closely associated with documentarian Jean Rouch (see Fig. 1). *Hero*'s Lead Artists and co-founders of iNKStories, Navid and Vassiliki Khonsari, explain the categorization thus: "In vérité cinema, the role of the creatives is to capture moments that are true to life. In vérité VR, we are capturing the moments that are true to life, but not allowing you to be a viewer at a distance."[26]

Fig. 1. Promotional image for *Hero,* multisensory location-based VR, Navid Khonsari, 2018. Courtesy of iNK Stories.

[24] Thomas Elsaesser, "Pushing the Contradictions of the Digital: 'Virtual Reality' and 'Immersive Narrative' as Oxymorons between Narrative and Gaming," *New Review of Television and Film Studies*, vol. 12, no. 3, 24 June 2014, p. 298, https://doi.org/10.1080/17400309.2014.927182 (accessed 31 March 2020).

[25] "Hero," *iNKStories,* http://inkstories.com/HERO/index.html (accessed 31 January 2019).

[26] Ken Jacobson, "Documentary VR Breaks through at Sundance's New Frontier," *IDA: International Documentary Association,* 27 March 2018, https://www.documentary.org/online-feature/documentary-vr-breaks-through-sundances-new-frontier (accessed 31 March 2020).

¶13 In an interview with *Engadget,* Navid Khonsari goes on to explain that *Hero*'s production team sought to create a digital world that felt as authentic as possible, noting that the music played in the opening scene is from a popular contemporary Syrian artist and the virtual characters in *Hero* were created with digital body scans of Syrian refugees hired by the production team to serve as models (see Fig. 2).[27] These production choices emphasize a desire to claim an indexical link between the virtual environment and our material life-world. By turning the bodies of living Syrian refugees into digital data, and using that data to translate these refugees into virtual 3D avatars, Khonsari seems to suggest that the virtual and the real are in fact not only indexically connected, but already deeply intertwined with each other in our data-driven world (see Fig. 3). In humanitarian VR, the virtual is no longer a space of irreal fantasy, but rather a parallel plane from which we are asked to experience, understand, and possibly even intervene in our lived reality.

Fig. 2. A behind-the-scenes photograph shows the motion capture process used to create virtual avatars in *Hero,* Navid Khonsari, 2018. Courtesy of iNK Stories.

[27] Cherlynn Low, "Experience the Horror of a Syrian Air Raid in 'Hero'," *Engadget*, 20 April 2018, https://www.engadget.com/2018/04/20/hero-syria-air-raid-vr-tribeca/?guccounter=1 (accessed 31 March 2020).

Fig. 3. The virtual avatar rendered for "Kamel," *Hero*, Navid Khonsari, 2018. Courtesy of iNK Stories.

¶14 Iñárritu is, perhaps, less presumptuous in his description of *Carne y Arena* as a "semi-fictionalized ethnography,"[28] but here, too, an epistemic connection is made between VR, documentary media, and the latter's close relationship with anthropology. *Carne y Arena,* which plays out in three distinct parts (only one of which deploys VR in the form of a headset and immersive, virtual visual field), also gestures towards an indexical link between the virtual and the material. The VR film in the installation combines digitally photographed images of the US-Mexico borderlands, taken by Iñárritu's collaborator Emmanuel Lubezki, with CGI characters rendered through digital scans of undocumented migrants Iñárritu interviewed during the course of researching and making *Carne.* These migrants performed the VR film's narrative on a sensor-equipped soundstage so that Iñárritu

[28] Olivia Gauthier, "A Border Crossing Simulation Probes Virtual Reality's Ethical Limitations," *Hyperallergic,* 14 September 2017, https://hyperallergic.com/399290/a-border-crossing-simulation-probes-virtual-realitys-ethical-limitations/ (accessed 31 March 2020).

and his team could accurately map their body movements in three dimensions, imbuing their avatars with traces of their genuine bodily expressions.[29] The installation's primary claim to indexicality, however, comes not through the VR film, but rather in the first and third rooms of the exhibit, where we are presented with physical objects collected from the Sonoran Desert and moving image portraits of Iñárritu's interviewees (to which we will return later).

¶15 In both *Hero* and *Carne*, the documentary consciousness generated through these (pseudo)iconic and deictic indexicalities works to align these VR projects with documentary's longstanding humanitarian impulse. Like traditional documentary, these multisensory humanitarian VR projects attempt to cohere what Leshu Torchin terms "witnessing publics": audiences driven to take action against injustice after witnessing atrocities through the media.[30] Yet unlike traditional documentary, multisensory humanitarian VR projects directly engage participants' bodies so that they not only feel summoned as witnesses to "real" events, but also feel *individually responsible* for their actions within the virtual space. By their own admission, the Khonsaris chose to create *Hero* as a multisensory production in order to "counteract what [they] perceive to be a distant and 'disembodied' collective response to war in general and airstrikes in Syria in particular."[31] iNKStories' advertising focuses heavily on the interactive properties of the experience, enticing prospective participants with the following teaser: "A barrel bomb drops, blowing rubble everywhere. Amidst the destruction, a call for help comes from the debris. Will you embark on the hero's journey?"[32] With its allusions to *cinéma vérité* and tenuous claims to a digital indexicality, *Hero* is, by its own assessment, a documentary experience in which the viewer-participant is called upon to intervene in real time. Having established the link between the VR film and documentary consciousness, we turn now to thick descriptions of our personal experiences with both *Hero* and *Carne y Arena* in order to consider the ways that the spectator-participant's body is apprehended, mobilized, and erased by these multisensory humanitarian VR installation films.

[29] Jason Farago, "Iñárritu's 'Carne y Arena' Virtual Reality Simulates a Harrowing Border Trek," *New York Times,* 17 May 2017, https://www.nytimes.com/2017/05/17/arts/design/alejandro-gonzalez-inarritu-carne-y-arena-virtual-reality-cannes.html (accessed 31 March 2020).

[30] Leshu Torchin, *Creating the Witness: Documenting Genocide on Film, Video, and the Internet,* Minneapolis, Minnesota, University of Minnesota Press, 2012, p. 12.

[31] Jacobson, 2018, para. 26.

[32] "Hero," *iNKStories.*

The Hero's Journey into Syria: Humanitarian VR's Interventionist Mode

¶16 *Hero* places participants into an unnamed, presumably Syrian city, moments before it is destroyed in an air raid. When I first enter the gallery space in which *Hero* is hosted, I am greeted by a young woman. In a calm and gentle voice, she says: "After you put on this headset and walk through those doors, you will be transported to another world." I am informed that *Hero* is not a time-sensitive experience, that I can move through the environment at my own pace. She emphasizes that this experience is entirely mine, and there is no "right way" to enact the narrative. I am told that I will be able to reach out and touch the objects rendered virtually for me within the headset, and my guide encourages me to use my hands to explore the environment. If I see any "pathways" open up, I should feel free to follow them. I am instructed to close my eyes as I am guided by hand into the gallery space, up a ramp and around some corners. By the time I come to a stop, I have no sense of where I am in the room or how high the ramp has elevated me above the ground.

¶17 When I open my eyes to the world of the headset, I see a stack of tires, some old barrels, and a portion of a wooden fence in front of me; beyond them lies a city neighbourhood. I reach out to touch these objects, but cannot see my own hands within the virtual environment, disorienting my sense of depth and giving me a sense of spectral (dis)embodiment. When I try to take a step forward, I realize the tires, barrels, and fence are keeping me boxed into a small viewing area, prohibiting me from exploring my surroundings further. Here, my body becomes the intermedial link between the physical and virtual installation, mapping the visual information I receive from the headset onto my tactile environment. In other VR films, my mobility is limited to turning my head in a visual sphere; in *Hero*, I am also invited to feel my way around the limits of the frame. This tactic is meant to help me project myself into the narrative, but it constantly undermines itself, as I struggle to balance my body in a visual field that has forcibly erased it. Before long, a dog runs up to me and sniffs in my direction as though it can see me, interpellating me as a visible entity to the other characters in this world, despite the visual absence of my body. Still boxed in, I watch and listen as children play outside, women hang their laundry, and a man tinkers with some kind of generator. The dialogic sound flows smoothly back and forth between English and Arabic, and this calm and banal scene continues for a few moments until, suddenly, a plane appears in the sky overhead. I watch as the characters begin to panic and run in various directions. Then, a virtual bomb drops, the ground beneath my feet jolts and shakes, a strong, hot gust of air blows across my

face, and a bright white light floods into my eyes. I do not duck behind any of the objects that might shield me and discover after the "bombing" that bits of cardboard and dust are caught in my hair. The smell of smoke suffocates me, and as I try to make sense of my surroundings, I begin to hear cries for help from a little girl, whom I cannot see anywhere.

¶18 A pathway opens up to my left and I realize I can now leave my enclosure. I am led towards a burning building and as I approach it, a portion of the building's facade suddenly crashes downward, crushing the body of a man lying nearby who moments before could be heard moaning. I leave him to enter the building, and as I do so, a brick wall materializes behind me. The virtual pathway I entered with seals itself shut, and I realize I will not be able to return to the previous space. I find myself in the narrow hallway of a house and feel a sudden and sharp increase in temperature. To my right I see an area engulfed in flames. In front of me, at the end of the hallway, I notice the dog that approached me previously and know I am meant to follow it. The dog leads me to a ledge, revealing I am many stories above the ground. The exterior facade of the building is gone, and I can see the entire city stretched out before me (see Fig. 4).

Fig. 4. Still image of *Hero*'s virtual landscape, Navid Khonsari, 2018. Courtesy of iNK Stories.

¶19 The virtual image seems to reach infinitely into the distance, but standing at the ledge, I am too afraid to test how far the ground beneath me extends. I walk slowly, feeling my way around the walls of the house with my hands. All the while, the little girl's cries for help are becoming louder and more frequent and are now

joined by the calls of her father: "Help! Over here! Can you hear me? This way! Help us!"

¶20 I feel pressured to find them quickly. I follow the dog along the precarious edges of the building and around a corner, until I come upon a room where the ceiling has collapsed. Through a small hole, I see the little girl and her father trapped beneath the rubble. The father instructs me to lift a bar in order to help them climb out. As I reach my invisible hand into this hole, I feel a real human hand grasp mine. The shock of this unexpected tactile encounter causes me to jerk my head backwards so strongly that the VR headset falls off of my eyes and the illusion is broken. Although I try to readjust my headset and return to the film, the guides instead end my experience, instruct me to close my eyes, and guide me out of the gallery. I do not manage to free the little girl or her father.

¶21 Jane Gaines, in her 1999 essay "Political Mimesis," asks "what it is that the body is *made to do*" by "committed documentaries" that seek to inspire social and political change.[33] She conceptualizes political mimesis as an affective relation between bodies in the audience and bodies represented on screen, one that is activated through appeals to the senses rather than the intellect, produced through "conventionalized images of struggle," working ultimately to mobilize audiences towards action and intervention.[34] Multisensory humanitarian VR works like *Hero* take political mimesis to a new level of intensity, imploring the body to act through manipulations of the physical environment. Despite the guide's emphasis on there being "no right way" to explore and engage *Hero*'s narrative, the little girl's cries for help increase in frequency and desperation as time passes, and the temperature of the hallway becomes uncomfortably hot if participants remain there too long. Rather than providing participants the option of exploring different areas of the virtual environment, *Hero* shepherds them towards a singular end goal: the rescue of Syrian civilians. We do not have the opportunity to look for evidence, for example, of who dropped the bomb. Was it government forces, insurgents, or a third party? Where was the bomb manufactured and how did it arrive in this place?

¶22 These questions are deemed irrelevant by the sheer fact that the emergency mode activated by *Hero*'s narrative precludes our ability to ask them. Instead, *Hero*'s unspoken mandate—that the ideal performance of its narrative is to quickly

[33] Jane M. Gaines, "Political Mimesis," Jane M. Gaines and Michael Renov (eds.), *Collecting Visible Evidence,* Minneapolis, Minnesota, University of Minnesota Press, coll. "Visible Evidence," 1999, p. 89 (italics in the original).

[34] *Ibid.,* p. 92.

intervene and successfully rescue the injured girl and her father—raises a number of ethical and political concerns that have long plagued documentary filmmaking, but are made even more apparent by the fantasy of spectatorial agency in VR. Participants do not take on a character when they enter this experience; rather, they enter *Hero* as a version of themselves, and while the intensity of *Hero* may inspire participants to take "real world" action afterwards, *Hero* itself provides no context at all to the situation it depicts. In emptying its narrative of almost all historical and political specificity, and providing no further information about the Syrian Civil War to participants after they exit the experience,[35] *Hero* absolves itself of responsibility for the actions participants may or may not take outside of its virtual world. The emotional distress caused by the multisensory experience of the film, its graphic images of the aftermath of a bombing, paired with thermal manipulation, the smell of smoke, the shaking of the ground, and the sounds of injured civilians moaning in pain, all of which supposedly produce the sought-after empathic connection between self and other, come at the expense of providing participants with any useful knowledge about the Syrian Civil War or their material relationship to it. The participant's surveilled performance of rescue (and we must not forget that it is surveilled by those employed to run the simulation) trains privileged participants from more-or-less politically stable countries to behave as proper neoliberal citizens; their capacity for individual choice and humanitarian action is favoured over measured consideration of structural inequalities across political and economic contexts. The question prompted by *Hero*'s advertisement, "Will you embark on the hero's journey?" asks nothing of what our role is in sustaining the various forms of violence that cause humanitarian crises around the globe, nor does it encourage us to turn our intervention towards our own political systems and economic modes of being. As a result, any empathy that *Hero* might generate is problematic and insufficient. The experience willfully neglects power differentials between participants and Syrian civilians, whose traumas are virtually rendered, placed on display, and offered up for public consumption. In its attempts to suture us fully in the narrative space by dissolving the borders of the cinematic frame and offering us the role of the saviour, *Hero* ultimately reifies the borders between citizen and

[35] It is important to note that we experienced *Hero* as part of a demo presentation at the University of Southern California, hosted from June 18-22, 2018. Changes may have been made to later exhibitions of the project. However, to our current knowledge, installations of *Hero* presented at film festivals did not provide further contextualizing information about the Syrian Civil War to participants.

refugee, liberator and liberated, and falls prey to the imperialist tendencies of the "empathy machine." It sustains a fantasy in which we, through the overwhelming force of our felt embodiment, can instinctually come to know the lives of vulnerable others and, consequently, intervene freely in situations without considering their larger contexts.

From *Hero* to *Carne y Arena*: Mobilizing the (Im)mediated Gaze

¶23 The fantasy of spectatorial agency in *Hero* amplifies what Pooja Rangan terms documentary's "immediations," tropes that emphasize urgency and immediacy, and seek to hide the constructed quality of documentary filmmaking in favour of redeeming the dehumanized lives they display.[36] Rangan focuses on participatory documentaries in which disenfranchised subjects are asked to contribute to the production of their own image; however, her critique of documentary filmmaking is made even more compelling by humanitarian VR experiences like *Hero*, that not only convert their disenfranchised subjects into empty virtual signifiers, but quite literally mobilize the VR participant's body towards physical intervention in their narratives. Multisensory humanitarian VR projects inherit and exacerbate documentary's operational mode of "emergency thinking," a process that "institutes a humanitarian order of priorities in which saving endangered human lives takes precedence over all other considerations, including the aesthetics and politics of representation."[37] They aim to trick the participant's body into believing it is under threat in order to transform the participant into an ideal humanitarian agent, one who privileges action and intervention over analysis and reflection.[38]

¶24 In *Hero* and *Carne y Arena*, these values transcend the narrative and are built into the medium itself. On the one hand, virtual reality simultaneously invokes a transparent interface, which Jay Bolter and Richard Grusin define as one "that erases itself, so that the user is no longer aware of confronting a medium, but instead stands in an immediate relationship to the contents of that medium."[39] On the other, VR circumscribes the whole of the user's visual field; it swallows the spectator-

[36] Pooja Rangan, *Immediations: The Humanitarian Impulse in Documentary*, Durham, North Carolina, Duke University Press, 2017.
[37] *Ibid.*, p. 3.
[38] *Ibid.*
[39] Bolter and Grusin, 2000, p. 24.

participant, freeing the act of looking from any constraints while maintaining total control over the visible. Iñárritu's installation cleverly plays with this duality—and the anxieties it produces—by expanding its scope beyond VR technology.

¶25 The first room in the exhibition is a replica of the holding spaces (often referred to as "freezers" or *las hieleras* due to their unbearably cold temperatures) in which migrants are held after being detained by US Customs and Border Protection. After signing a series of waivers, I am instructed to enter the freezer, alone. I am told to remove my shoes and socks, to place them inside of a locker along with my other belongings, and to wait inside this room for a flashing red light and alarm sound that will grant me permission to move to the next space. The floor is uncomfortably cold. The room is small, bleak, and windowless, with low ceilings and only a long, icy metal bench as furniture. I feel myself entirely alone, not quite sure what lies beyond the next door, aware that there are security cameras watching me, though I do not immediately see them. I have had my personal items taken from me and am denied any other source of physical or psychological comfort. In this way, an identification with the migrant—not any specific person, but the figure of the migrant, abstracted at the US-Mexico border—is already being affectively invoked. However, there is another key element to the exhibit's first room: it is filled with small, personal objects, artifacts found strewn across the borderlands, shoes and gloves and rucksacks left behind by people journeying through the desert. The objects are indexical in the most literal sense: they are the traces of unknown others, making their owners' absence glaringly visible in the harsh fluorescent lighting of *la hielera*. Ill at ease, anxious and disoriented, and suspended in time, I am left to wonder at these dusty fragments: a single toddler's shoe, a leather pouch on its last threads. These were never meant to be exhibited. They were meant to carry their owners elsewhere, and offer no answers about their owners' fates.

¶26 I do not know how long I wait before a flashing red light and abrasive, ambulatory sound signal my cue to open the next door, and I enter a wholly different space. Dark, save for a large, glowing strip of orange-red light lining the perimeters of the walls (and in this way evocative of the movie theatre), the VR room is a stark contrast to the one that came before. The air is warm and lightly breezy; the floor is thick with sand and pebbles. Two museum volunteers gently outfit me with headphones, a headset, and a backpack, and the film begins (see Fig. 5).

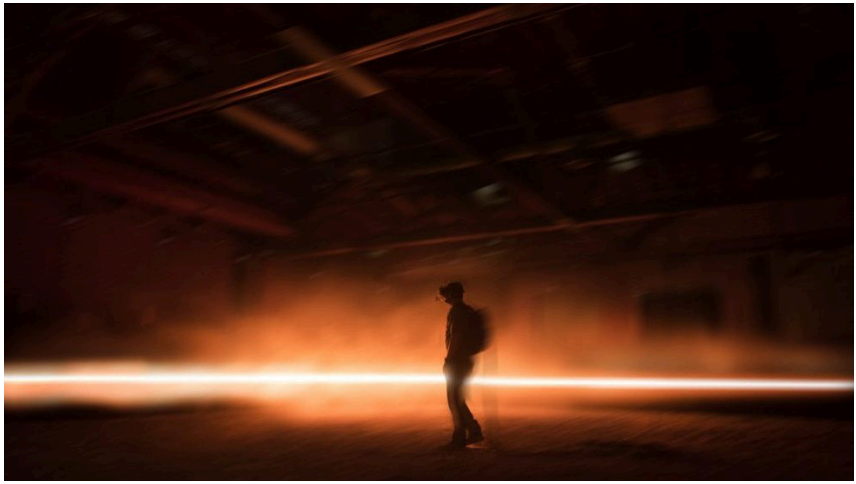

Fig. 5. A spectator-participant, wearing a backpack and headset, traverses the physical space in which *Carne y Arena,* VR, Alejandro González Iñárritu, 2017, is screened. Photographs of the installation are strictly forbidden at *Carne*'s exhibition sites, and few promotional photographs have been circulated in the press. Courtesy of Emmanuel Lubezki, via *The Verge*, 2017.[40]

¶27 I find myself in the midst of a vast, desert landscape at dusk, quickly joined by a group of CGI migrants and a *coyote*[41] leading the way, demanding that the migrants following him move faster. None of them appear to see me, though we are close enough to one another that I may imagine myself as part of their group. One woman collapses, succumbed to a broken ankle. As the rest of the group pauses to help her, an intense spotlight appears overhead; a strong gust of wind whips around me; the sounds of helicopter propellers and sirens grow closer, threatening and harsh. The group freezes in fear as CGI policemen dismount from their vehicles, barking orders at the migrants—including elderly women and young children—who crouch on the desert floor. Panic mounts in the space, but I decide to push the limits of the frame. I walk towards a police van with the intent of looking inside, but just as I near it, I feel a tug on my backpack from my museum guide that signals I can go no further. A cloud of smoke interrupts the scene at hand: darkness swallows the image, abstract light shapes float across the headset, and I find myself in a dream sequence. A long

[40] Bryan Bishop, "Alejandro González Iñárritu's Carne y Arena proves that great virtual reality means going beyond the headset," *The Verge*, 8 July 2017, https://www.theverge.com/2017/7/8/15941596/carne-y-arena-alejandro-inarritu-virtual-reality-installation-border (accessed 3 July 2020)

[41] *Coyote* is a commonly used term that refers to a person hired to covertly guide and transport Latin American migrants across the U.S.-Mexico border, often for a high fee.

dining table appears in the centre of the scene, where the woman with the broken ankle sits, humming a lullaby, and a child plays with Skittles near her. A miniature boat materializes in front of them and sinks into the table as though it were the sea.[42] This phantasm is soon interrupted by the glaring white beam and noise of a helicopter, and I am thrust back into the first scene, into the tense and fearful present of the migrants' encounter with the state. While I cannot see my own body, the entire experience is sensual: the textures on the soles of my feet, the shifting winds and temperatures, and the elaborate soundscape each activate the sensorium in a different way. The VR film's moment of greatest intensity comes near its end: a border patrol officer, without warning, points his gun directly at me, commanding me to get down on the ground. As I move, his gun tracks me. My own absence from the scene has been ruptured; I have been interpellated directly, held accountable for the movements of my own body, even if its contours are still invisible to me. Startled, I crouch, and the scene dissolves again, leaving me back where I began, alone in the quiet desert, its vast emptiness now stripped of any possible serenity, only a backpack and some water bottles left lying in the dust. The museum workers remove the equipment from my back and head; whatever shocks may still be reverberating through my arms and legs, I know I am back in this safe place, nestled deep in the museum.

¶28 From here, I move into the final room of the experience. It uses a more conventional exhibition style: ten square video screens are mounted along a dark wall, lined up horizontally at eye level. Each screen depicts a different face, gazing steadily

[42] These two "Easter egg" details make important references of solidarity, but rely on the spectator-participant's external knowledge. The capsized boat recalls migrant deaths in the Mediterranean and the images of Europe's contemporary "migrant crisis" that have been prominent fixtures in the global news media since 2015. The Skittles, meanwhile, make two connections. During Donald J. Trump's 2016 presidential campaign, his son, Donald Trump Jr., compared Syrian refugees to Skittles on the social media platform Twitter. On 19 September 2016, Trump Jr. posted a tweet which contained an image of a bowl of Skittles and read, "If I had a bowl of Skittles and told you just three would kill you, would you take a handful? That's our Syrian refugee problem. Make America Great Again!" In the United States, Skittles also became symbolic of African-American teenager Trayvon Martin, who was shot to death on 26 February 2012 by his neighbour George Zimmerman for looking suspicious, but was found to be carrying only a bag of Skittles and some other personal items in his backpack. For Trump Jr.'s tweet, see "Donald Trump Jr. Compares Syrian Refugees to Skittles," *BBC News,* 20 September 2016, https://www.bbc.com/news/election-us-2016-37416457 (accessed 31 March 2020). For Trayvon Martin, see Leo Benedictus, "How Skittles Became a Symbol of Trayvon Martin's Innocence," *The Guardian*, 15 July 2013, https://www.theguardian.com/world/shortcuts/2013/jul/15/skittles-trayvon-martin-zimmerman-acquittal (accessed 31 March 2020).

and directly into the camera. They are the faces of ten subjects Iñárritu and his team interviewed as sources for the VR film I just experienced. In the lower half of each screen, transcripts of each subject's verbal testimony, along with their first name, age, and country of origin, play on a loop. The subjects range widely in age, nationality, race, and gender; all but one (a white American border patrol officer) are undocumented migrants from Mexico or Central America. They tell stories of the reasons they fled their countries of birth; the various stages of their journeys; abuse faced at the hands of *coyotes* and border police; and the ongoing precarity of immigrant life in the United States, especially for those without documents. These stories, even though they are mere fragments, are profoundly affecting (see Fig. 6).

¶29 While I was forced to surrender command of my visual field and control of my time to the first two rooms, this final room, which feels like many other museum spaces, asks me to make active choices in my gaze and presence. I may choose to pass quickly through the space without reading the content of each video in full, but by this point in the exhibition, it is clear that "looking away" is a political choice with tangible, serious consequences.

Fig. 6. Promotional image for *Carne y Arena,* Alejandro González Iñárritu, 2017. Courtesy of Emmanuel Lubezki, via *The Verge*, 2017.

Border Crossings: From Virtual to Real and Back Again

¶30 *Carne y Arena* effectively moves us from the virtual to the real across its three spaces. In the first room, the migrant figures as absence, and my embodied presence—my performance and participation in the space—activates the exhibition. This shifts in the second room where, in the VR film's immersive construction of a virtual world, the migrant becomes a screen figure and my tenuously embodied, sensorial presence anchors the film's affective grip. Finally, the third room offers a set of migrant *figures* in the French sense of the face or the portrait. The steady and ongoing flow of these documentary images points us towards each person's real and sustained presence (in the exhibit as in the United States), one that happens whether I, as spectator-participant, care to see it or not. This is not to suggest that *Carne y Arena* feeds straightforwardly into the xenophobic logics that conceive of a zero-sum game between the citizen and the migrant, wherein the existence of one threatens the existence of the other. Rather, Iñárritu's choice to embed the typical VR format (the headset and 360-degree film) within a larger curatorial project, one that engages questions of simulation, practices of looking, and bodily presence at each stage, invokes an intermedial space that challenges Bolter and Grusin's assertion that VR's "transparent interface is [a] manifestation of the need to deny the mediated character of digital technology altogether."[43] Where the creators of *Hero* state overtly that their goal is to erase evidence of the medium, *Carne y Arena* consistently draws attention to itself as a construction. Placing one's head "through" the virtual bodies in *Carne* allows the viewer to see and hear the beating hearts of each character. This is, perhaps, an overly saccharine manifestation of the saying "we're all the same inside," but it nonetheless brings us into a productive confrontation with VR's formal possibilities and thus with its status as media object. Pethő describes this diegetic reflexivity as a "'structural gateway' into intermediality [...] [wherein] the spectator is invited not to a narrative decoding but to a kind of post-cinematic contemplation."[44] While *Hero* interpellates the viewer and tasks her body with a specific mission from its outset, Iñárritu's decision to allow the viewer to feel like an invisible observer for the majority of his VR film allows her the opportunity to test the borders and boundaries of the visual text. *Carne* maintains a level of identificatory ambiguity; devoid of any direct address until its very end, the experience prompts us as viewers to consider the political stakes of our intermedial presence relative to the absent bodies around us,

[43] Bolter and Grusin, 2000, p. 24.
[44] Pethő, 2011, p. 5–6.

both in our virtual environment and in our material life-worlds. There are, after all, two kinds of absent bodies at play here: the virtual, computer-generated bodies that populate the landscape and the bodies of the refugee and the migrant, thousands of which remain uncounted, [45] displaced, unknown, unnamed. *Carne*'s subtitle, "Virtually Present, Physically Invisible," extends this idea further: while the specter of the "illegal migrant" overwhelms our virtual realities everyday through the discourses we consume on social media and in the news, undocumented migrants living in the United States must continuously make themselves invisible in order to avoid deportation.

¶31 The question of the subject in virtual reality is a complex one, one that reanimates longstanding media debates about the nature and ethics of spectatorship, identification, point of view, and representation. Bolter and Grusin suggest that virtual reality's political potential lies in its ability to "[redefine] the ego in its traditional sense."[46] They compellingly argue for virtual reality as a paradigm beyond the headset; they contend that it is effectively "the space of contemporary culture," a space in which "the integrity of the self is always compromised. The borders of the self dissolve [...] [and] the freedom to be oneself is the freedom to become someone (or something) else."[47] While they are apprehensive about the ways that VR's illusion of free exploration, agency, and autonomy might give rise to a "conservative and highly individualistic politics," [48] they remain generally optimistic about its relationship to immediate, embodied forms of knowledge and the forms of empathy these knowledges may produce.

¶32 This optimism is echoed in recent writing on VR filmmaking as well. Sarah Atkinson and Helen W. Kennedy argue that feelings of immersion, presence, and embodied experience instigated by VR allow spectators to experience "the sensation of journeying across unfamiliar lands," "the psychological trauma of confinement,"

[45] Here we use the term "uncounted" to mean both "unaccounted for," and "politically disregarded and disenfranchised, stripped, often, of their political and human rights."

[46] This fantasy is hardly exclusive to virtual reality. In "Visual Pleasure and Narrative Cinema," Laura Mulvey famously suggested that "the cinema has structures of fascination strong enough to allow temporary loss of ego while simultaneously reinforcing the ego." Mulvey's contribution here is key: she points us to the ways that absorption and immersion, far from freeing us from our human constraints, reproduce a powerful and singular "I," constituted in and through looking. Laura Mulvey, "Visual Pleasure and Narrative Cinema," *Screen*, vol. 16, no. 3, Autumn 1975, p. 6–18.

[47] Bolter and Grusin, 2000, p. 247.

[48] *Ibid.*, p. 245.

and other situations that are "unfamiliar and hard to communicate or represent" through traditional cinematic forms. As a result, VR technologies "facilitate a deeper engagement" with humanitarian issues and "extend our ability to empathise" with others.[49] Likewise, Sarah Jones and Steve Dawkins argue that although VR should not be limited to the concept of the "empathy machine," it nevertheless does hold the potential for evoking more significant and sophisticated empathic encounters between the spectator and VR's represented subjects.[50]

¶33 Scholars have also begun to contest the notion of VR as a uniquely suited technology for generating empathy,[51] as well as the impulse to celebrate empathy as a productive outcome of interacting with VR films.[52] Whether or not they consider VR an "empathy machine," these texts build from several key assumptions in Bolter and Grusin's text related to immersion and embodiment. The idea that VR allows us not merely to embody but to *become* another subject is one we have contested here. Bolter and Grusin's notion of the *freedom* to become oneself or another within VR environments ought to be excavated further, and takes on new weight in a discussion of national borders, citizenship, and documentation. Here we might turn, as Leder does, to the work of Sartre, for whom questions of bodily absence and presence had serious political implications. Sartre, in *Essays in Existentialism*, famously explored the notion of responsibility. Responsibility, he writes, is

> consciousness (of) being the incontestable author of an event or of an object [...] it is simply the logical requirement of the consequences of our freedom. What happens to me happens through me, and I can neither affect myself with it nor revolt against it nor resign myself to it.[53]

[49] Sarah Atkinson and Helen W. Kennedy, "Extended Reality Ecosystems: Innovations in Creativity and Collaboration in the Theatrical Arts," *Refractory: A Journal of Entertainment Media,* vol. 30, 14 July 2018, p. 14, 16, https://refractory-journal.com/30-atkinson-kennedy/ (accessed 31 March 2020).

[50] Sarah Jones and Steve Dawkins, "Walking in Someone Else's Shoes: Creating Empathy in the Practice of Immersive Film," *Media Practice and Education*, vol. 19, no. 3, 16 February 2018, p. 298–312.

[51] Janet H. Murray, "Not a Film and Not an Empathy Machine," *Immerse News*, 6 October 2016, https://immerse.news/not-a-film-and-not-an-empathy-machine-48b63b0eda93 (accessed 31 March 2020).

[52] Bollmer, 2017; Sasha Crawford-Holland, "Humanitarian VR Documentary and Its Cinematic Myths," *Synoptique*, vol. 7, no. 1, 2018, p. 19–30, http://synoptique.ca/wp-content/uploads/2018/09/176-1071-2-pb.pdf (accessed 31 March 2020).

[53] Jean-Paul Sartre, *Essays in Existentialism* [1965], trans. Wade Baskin, New York, Citadel Press, 1993, p. 64.

Though Sartre's context—postwar Europe reckoning with its history—was markedly different from ours today, it nevertheless resonates: if freedom is a kind of singular, authorial control—over oneself and one's actions and, by extension, one's environment—then what we feel as "responsibility" is the coming-to-consciousness of that control, the sense of life as an embodied phenomenon, and the inescapable requirement that we form the contours of our own subjectivity. If we are, as Sartre suggests, in an ongoing process of making ourselves and the world, the moral imperative is clear: we cannot evade responsibility for any part of it.

¶34 Sartre elaborates: "I am *abandoned* in the world not in the sense that I might remain abandoned and passive [...], but rather in the sense that I find myself suddenly alone and without help, engaged in a world for which I bear the whole responsibility [...]."[54] In the immersive virtual world of *Carne y Arena*, Sartre's abstracted notion of abandonment is made manifest, felt as the narrative's central structuring force. Hardly free to be merely myself or entirely another, uninstructed and alone, I become instead aware that my experience is shaped by both imposed, external physical sensations (temperature, texture, light, sound) and, at the same time, my own capacity for choice and, correspondingly, my total responsibility. It is only when I am directly addressed by the world of the VR that the anguish of that choice—the encounter with myself and/as the Other—comes to the fore.

¶35 The anguished encounter brings us back to Leder, who notes that:

> For Sartre there is no true thematization of one's body prior to the encounter with the Other. The body as being-for-itself is always the 'passed by in silence,' a point of view upon the world that I *exist* without directly apprehending. [...] [With the introduction of the Other] I come to thematize my body explicitly as an object, a tool among other tools or a collection of organs.[55]

¶36 This is a negative experience, albeit a productive one: revealed as object, the body's limitations come starkly into relief, jolting us out of the Cartesian (and the VR interface's) fantasy of unimpeded subjectivity, of disembodied vision, of uncomplicated world-making. For Sartre, this is a cause of anguish;[56] for Leder, it is proof of the body's ability to evade us even in its apparent moments of clearest

[54] *Ibid.*, p. 67 (italics in the original).
[55] Leder, 1990, p. 93 (italics in the original).
[56] Sartre, p. 39.

presence. The instrumentalization of the body, through this encounter with the Other, Leder argues, does not efface our being, but instead reveals our "mutual incorporation" with other bodies. To different degrees, both *Carne y Arena* and *Hero* exploit VR's ability to simulate this Sartrean encounter—narratively, visually, and sensorially—in ways that are not in the service of producing empathy so much as they provoke bodily anxieties that thrust us productively into a new relation with the Other being represented. Iñárritu's work, in particular, offers us a way to understand VR as a technology of incorporation rather than inhabitation. Its political potential lies not in its invocation of empathy and humanism or its urgent calls to action, but in its ability to bring us into contact with the process of encounter itself. By drawing our attention to the unstable and porous boundaries between self and other, fact and fiction, virtual and real, and mind and body—and more specifically to the cognitive and emotional work we must consistently do to maintain those distinctions—*Carne y Arena* reframes the national border as a way of thinking, as a kind of ongoing performance, and as the producer of an embodied knowledge that is never fixed or whole.

¶37 A framework of bodily absence does more than merely de-centre the hypermediated, embodied presence of the individual in virtual reality: it allows us to imagine VR otherwise, as a technology of encounter rather than empathy. In so doing, we can begin to recuperate the productive potential VR holds for generating affect without falling prey to a politics rooted in a flattening, unidirectional—and ultimately imperialist—fantasy of empathic understanding. As a parting provocation, we offer Jacques Rancière's notion of "the cause of the other"[57] as a possible framework for parsing this distinction between encounter and empathy. For Rancière, there need not be an opposition between ethics, which imagines the encounter between self and Other outside of historical and political contexts, and politics, which returns our attention to the myriad material, social, and cultural hierarchies that structure our lived experiences. Rather, ethics and politics can meet through "the cause of the other," which Rancière defines as "a refusal to identify with a *certain* self."[58] Where appeals to empathy ask us, misguidedly, to absorb and inhabit the other's experiences, the cause of the other recognizes both the boundaries between self and Other (the impossibility of ever fully knowing another's experience) and the interdependencies of self and Other (our inextricable responsibility to one

[57] Jacques Rancière, "The Cause of the Other," *Parallax,* vol. 4, no. 2, 1998, p. 25–33.
[58] *Ibid.*, p. 29.

another). The cause of the other does not foster an identification *with* the Other, but incites a *disidentification* with the version of the self that is produced and assigned to us by the state. For Rancière, humanitarianism provides no solutions for global injustices, as it "retreats from politics into ethics,"[59] mummifies the dispossessed in their status as victims, and keeps them outside the realm of the political.

¶38 The anguish provoked by VR is not just an affective response to the pain of others laid before us; it is a Sartrean anguish, a dispossession of the self. What Sartre and Rancière each call for is a refusal of the terms of selfhood that a privileged place of citizenship affords us. Though humanitarian VR projects do not necessarily intend to bring about this disavowal, the political and ethical potential of VR lies in its ability to generate disidentification through the myriad absences it animates. Bodily absence is not the same as disappearance; it is precisely the move from individuated hero to flesh and sand, contained and amorphous, subjected and subject. By conjuring the virtual space of the border in and through the body, these VR films allow us to understand intermediality as a political and ethical imperative, as a way of destabilizing empiricist notions of the self, and as a space for learning to look anew.

[59] *Ibid.*, p. 31.

On Bodily Absence in Humanitarian Multisensory VR

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ABSTRACT

Humanitarian organizations, journalists, and artists are increasingly turning to virtual reality (VR) and immersive filmmaking because of its ostensibly unprecedented ability to conjure empathic feelings that lead to humanitarian action. Recent media studies scholarship attends to the possibilities and pitfalls of curating empathy through VR in the context of documentary filmmaking; however, these analyses primarily focus on VR's unique visual address. The status of the participant's body, as it exists in the physical world and as it is conjured within the virtual environment, remains under-explored in scholarship on immersive media and humanitarianism. In this paper, we offer a comparative analysis of embodiment in two recent multisensory VR film installations with humanitarian themes: Alejandro González Iñárritu's *Carne y Arena* (2017) which stages an attempted border crossing between Mexico and the United States; and *Hero* (iNKStories, 2018), which places participants into an unnamed Syrian village during an air raid. Using bodily absence as a framework, we argue that agency, responsibility, and a humanitarian subjectivity are ambiguously constructed through the sensing of bodily and psychic borders within these contemporary VR installations. We conclude that humanitarian VR is better understood as a technology of encounter rather than one of empathy.

RÉSUMÉ

Journalistes, artistes, et organisations humanitaires se tournent de plus en plus vers la réalité virtuelle (VR) et les projets multimédias immersifs pour leurs capacités, apparemment sans précédent d'évoquer des sentiments d'empathie qui débouchent sur des actions humanitaires. Des recherches récentes sur les médias s'intéressent aux possibilités offertes et aux pièges posés par la VR pour la réalisation de documentaires, mais la plupart portent sur l'aspect visuel de la VR, plutôt que sur ses aspects haptiques ou autres éléments sensoriels. Les recherches sur les médias immersifs et l'humanitarisme relatives à l'état du corps du participant, tel qu'il existe dans le monde physique et tel qu'il est évoqué et effacé dans l'environnement virtuel, n'ont pas été suffisamment approfondies. Dans cet essai, nous proposons une analyse comparative de la corporalité dans deux récents films multisensoriels de VR: *Carne y Arena* (Alejandro González Iñárritu, 2017) et *Hero* (iNKStories, 2018). *Carne y Arena* met en scène une tentative de passage à la frontière entre le Mexique et les États-Unis ; *Hero*

place les participants dans un village syrien anonyme pendant un raid aérien. En utilisant comme cadre l'absence corporelle, nous soutenons que l'agentivité ou capacité d'agir, la responsabilité et la subjectivité humanitaire sont construites de manière ambiguë au travers de la perception des frontières corporelles et psychiques contenues dans ces installations contemporaines de VR. Nous concluons que la VR humanitaire est comprise comme une technologie de rencontre plutôt que comme une technologie d'empathie.

BIOGRAPHICAL NOTES

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