Anne Karhio

National University of Ireland, Galway

SPACE AND LANDSCAPE IN HEARTS AND MINDS: THE INTERROGATION PROJECT: UNCOMFORTABLE PROXIMITIES

Abstract: This article focuses on the panoramic digital work *Hearts and Minds: The Interrogations Project*, and examines how it uses immersive audiovisual experience to examine the relationship between narrative memory, space and landscape. It argues that the spatial aesthetic of the work forces the audience members, the artists, and the narrators to interrogate their own conflicted positions in relation to the narratives of military power and torture. *Hearts and Minds* engages with visual perspective and space, and focalization through individual human voices, to consider agency, victimhood, witnessing and trauma, and does this in a manner that denies its audience a detached position from which to observe the events set in its digitally created environment.

Keywords: digital art, digital narrative, immersive space, trauma narrative, virtual reality, space and landscape

This essay will focus on the panoramic digital work *Hearts and Minds: The Interrogations Project*, and examine how it uses immersive audiovisual experience to examine the relationship between narrative memory, space and landscape. More specifically, the following discussion argues that the spaces and landscapes presented within the work force the audience members, the artists, and the narrators of the performed work to question their own positions in relation to the narratives of military power and torture. The concept of "interrogation" thus extends to how any participant in the experience considers her role within the visual spaces and oral narratives that she occupies and witnesses. In short, *Hearts and Minds* engages with visual perspective and space, and focalization through individual human voices, to consider agency, victimhood, witnessing and trauma. It does this in a manner that denies its audience a detached position from which to observe the atrocities and traumatic events that it narrates in its digital environment.

According to the artists Roderick Coover and Scott Rettberg, *Hearts and Minds* was originally authored for the CAVE2 "320-degree panoramic environment which provides users with the ability to see 3D stereoscopic content in a near seamless flat

LCD technology at 37 Megapixels in 3D resolution matching human visual acuity."¹ It was first presented in public performances in June and July 2014 in the Electronic Visualization Lab at the University of Illinois, Chicago. Though the project was designed specifically for an immersive digital environment, it has also been subsequently performed on screen in 2D format. In the CAVE2 environment, the viewer perceives the digitally created space in a manner that resembles the first-hand visual perspective of a human observer. In this respect, its immersive environment can be seen to join a long list of panoramic experiences offered to audiences from the late 18th century onwards.²

The history of the immersive panorama can be traced back to a precise date, 17 June 1787, when the Irishman Robert Barker received a patent for his panorama, created by joining a series of sketches as framed portions of a panoramic view by placing them around a fixed point, until they "covered the full circle of the horizon", thus "giving a viewer standing in the centre the illusion of a landscape extending in all directions."³ Stephen Oettermann defines panorama as the technical term for this kind of visual representation, "a specific form of landscape painting which reproduced a 360-degree view."⁴ Benosman and Kang's slightly more general definition describes the panorama as "an artistic format of paintings which practically surrounds the viewer."⁵ After their emergence, panoramic displays immersed their viewers in a virtual setting, and "became a pattern for organizing visual experience"—as a result, in the 19th century "panoramic vision became a means for providing a visual sensurround experience."⁶

In short, immersion and the construction of a landscape from a specific point of view or perspective from a distance were the key elements of panoramic experiences from the beginning. Painting was complemented by photographic panoramas and projections in the latter half of the 19th century, and Raoul Grimoin-Sanson introduced the first "motion-picture panorama", or the "Cinéorama" at the Paris World Fair in 1900.⁷ The emergence of the cinema as a popular mass medium further highlighted the immersive qualities of the panorama experience, and while full-length feature productions remained too costly for mainstream success, the technology offered potential for spectacle experiences where viewers would be drawn into the

⁵ R. Benosman, Sing Bing Kang, *Panoramic Vision...*, op. cit., p. 5.

¹ R. Coover, S. Rettberg et al., *Hearts and Minds: The Interrogations Project*, http://retts.net/documents/ hearts_minds_art_vis2014.pdf [accessed 2016-09-28].

² In 19th century Europe, panorama shows of various kinds were popular to the extent that they have been called "the first genuine visual mass media". R. Benosman, Sing Bing Kang, *Panoramic Vision: Sensors, Theory, and Applications*, New York: Springer-Verlag, 2001, p. 5. For an overview on the development of the medium, see: S. Oettermann, *The Panorama: History of a Mass Medium*, Cambridge, MA: Zone Books, 1997.

³ S. Oettermann, *The Panorama...*, op. cit., p. 100.

⁴ Ibidem, p. 6.

⁶ Ibidem, pp. 5-6.

⁷ S. Oettermann, *The Panorama...*, op. cit., p. 85.

events on screen in an entirely new way; for example in the 1950s, Broadway Theatre advertised its panorama spectacle with the words "this is going to happen to you!"⁸ The advertisers highlighted how the immersive experience of the panorama would erase the distance between spectator and the world on screen, thus also detaching the viewer from her actual material environment.

Contemporary immersive environments like the CAVE2 continue this tradition of panoramic representation, but also take it further. Digital immersive experiences allow for new degrees of interaction between audiovisual narrative and audience, and also create new kinds of embodied experiences. The authors describe how the performer of *Hearts and Minds*, for example,

[...] navigates the environment using a wand, a 3D mouse used to interact with and control a VR experience in the CAVE2TM. The virtual scene is continuously updated according to the orientation and position of the head, as measured with head and arm trackers, and the 3D view of the scenes is focalized on this perspective.⁹

This visual and bodily experience is accompanied by an aural narrative, and is also made responsive to an individual's actual position within the CAVE2 space. If anything, this digital immersive environment makes it possible to create an even more realistic embodied experience, one that complements visual and aural perception with physical, kinetic interaction with the digital interface.



Figure 1: Shared audience experience of *Hearts and Minds* (with courtesy of the authors: Roderick Coover and Scott Rettberg)

In *Hearts and Minds*, however, the experience of full lifelike immersion is moderated by a number of choices by the authors. For example the choice of shared space

⁸ Ibidem, p. 89.

⁹ R. Coover, S. Rettberg et al., *Hearts and Minds...*, op. cit.

for the audience, rather than a private VR experience through a single-viewer device (like Oculus Rift or Google cardboard), constantly alerts viewers to the presence of others, and makes them share their potentially uneasy encounter with the narratives with other participants in the performance space (see Figure 1). Full immersion and detachment from the actual physical environment becomes difficult or even impossible when one witnesses, even in a limited manner, other individuals' reactions and responses to the unfolding narrative.

The overall narrative of the work unfolds in three different settings, presented in concentric circles, from inside out. The first scene is an interior of a round mosque or temple in an undefined location (see Figure 2).



Figure 2: The temple interior (with courtesy of the authors: Roderick Coover and Scott Rettberg)

From the temple, several doorways open to the interior of a middle-class American home, an everyday domestic space including a boy's bedroom, a kitchen, a living room, and a small garden (Figure 3). As the performer navigates her way through the house via individual, everyday objects found in these rooms with a 3D mouse wand or similar, the domestic interior fades out to reveal a desolate landscape of what we, based on the voiceover narrative, presume is Iraq or Afghanistan (Figure 4).¹⁰

¹⁰ The landscapes are actually based on images from Pinochet's Chile and nearby military bases in the US (Coover, Rettberg 2016). While they thus meet the audience's expectations of what the warzone landscape in Iraq and Afghanistan would look like, they also highlight how the viewer constructs the landscape by measuring the visually perceived environment against pre-held conceptions and expectations.



Figure 3: The suburban domestic interior (with courtesy of the authors: Roderick Coover and Scott Rettberg)



Figure 4: Deserted warzone landscape (with courtesy of the authors: Roderick Coover and Scott Rettberg)

The early panoramas typically presented wide vistas, i.e. the medium offered "a visual overview of a cityscape or landscape", an expanse of space that would

"reproduce the real world so realistically that the onlookers could believe that what they were seeing was real."11 The terrain experienced in these panorama landscapes crucially relied on immersive proximity (the feeling of being *within* the landscape) combined with a visual evocation of a separation between the observer and the space observed: the viewer would be placed within the panorama landscape, but could witness its terrain as if from a governing viewpoint at a distance. From this perspective outside the perceived stretch of land, one could master the surrounding environment through a focused gaze, while not quite being a participant in its unfolding lifeworld. In Hearts and Minds, however, the landscape can only be accessed by navigating through the temple, the rooms of the house, and the individual objects that trigger the narrators' memories, told against the backdrop of the landscapes at the outermost circle of the work's setting. The cultural and geographical disconnection between these spaces already defamiliarizes the panoramic experience. However the immersive environment forces the audience members not only close to each other, but also close to the narrators and their viewpoints expressed through human voices, which makes it impossible to withdraw to what Rettberg calls a "comfortable distance" from the witnessed atrocities.¹² The domestic space with its familiar objects, together with the first-person narratives of the soldiers therefore orientate the (Western) viewers' experience of the work via reference points that are also familiar parts of their own everyday lives-the individuals behind the voices are, as Coover notes, "people who could be your neighbors."13

A further choice contributing to a sense of self-aware estrangement is the adoption of a first-person shooter game aesthetic, with the cursor replicating the weapon's sight. Though the work was not created as an interactive game, the choice implies agency, participation, or involvement. Yet the visual graphics used in Hearts and Minds are quite basic, with a clumsy and slightly dated appearance, and don't offer the polished visual experience of most recent game environments. If games often attempt to immerse players in escapist virtual experiences of alternative worlds, not unlike many immersive panorama experiences, Hearts and Minds immerses its audience in an environment where each individual is awkwardly close to the reality of war. The spectators are also made uncomfortably aware of the entertainment industry's commercial exploitation of armed conflicts, which are now shown to have real human victims. It is impossible to ignore the implied reference to US Army's use of game environments in training soldiers who are then sent out to inflict their gaming skills on living human beings in unfamiliar territories-literally and figuratively. As Corey Mead has noted, the military's use of virtual training environments adapted from computer games had a goal of "creating [a] fully immersive domain" that would

¹¹ R. Benosman, Sing Bing Kang, *Panoramic Vision...*, op. cit., p. 5.

¹² Authors' talk and performance, Galeria Bunkier Sztuki, Kraków, Poland, 13 June 2016.

¹³ Authors' talk, Bergen International Film Festival, "Virtual Reality" seminar, 26 September 2016.

"give soldiers the most accurate training environment possible outside of live field exercises."¹⁴

Ulrich Baer highlights how any embodied experience takes place from a specific location or position, and also underlines that the "stark truth" is always determined by the chosen viewpoint: "Prior to all efforts at commemoration, explanation or understanding, I would suggest, we [...] must find a place and a position from which we may then gain access to the event."¹⁵ The spatial setting of Hearts and Minds visually enacts the work's different levels of narration, as well as the various perspectives constructing the overall narrative: the author/performer directing the experience with the mouse wand, the voices of the soldiers carrying out the interrogation, and the audience members witnessing the events. What is absent are the perspectives of the political and military establishment, and the torture victims. For a member of the audience, the only point of access to the events is between these two: through the men and women who became soldiers, torturers, and also witnesses to each others' actions. Importantly, the work does not claim to speak for the victims, or to assume their point of view. Instead, it draws an implicit parallel between the American soldiers and the civilians, the citizens amongst whom all military personnel are also recruited. Rather than bystanders, the viewers are asked to consider their own conflicting roles as members of the political system behind the war, and as witnesses of the resulting atrocities. Moral distance, too, is denied to them. Within the interface of the immersive virtual environment, they, too, occupy an interstitial position as agents as well as targets of military power.

This starting point shared between the soldiers and the audience members is also enacted in the visual representation of space within *Hearts and Minds*. Both the indoor and the outdoor spaces are markedly void of visible human presence, which makes the viewer/listener/spectator the only human observer of the narrative. The human being in the room, and in the landscape, is *you*, and you are also adopting the viewpoint of the person using the 3D mouse wand, physically as well as virtually moving between the difference spaces, between the temple, the middle class home, and the desert vista. As you listen to the voices of the narrators/soldiers, and perceive the environments that accompany them (either the everyday, domestic settings or the desert warzone landscape), you are forced to place yourself within these spaces, as a human agent and observer. As a result of the first-person shooter perspective and aesthetic, viewers are engaged in a constant balancing act between familiar everyday security and the violence of threatening otherness, their own habitual reality and its virtually evoked other. However, keeping these modes separate quickly becomes impossible: memories of torture infiltrate the home, and the Middle Eastern landscape

¹⁴ C. Mead, *War Play: Video Games and the Future of Armed Conflict*, New York: Houghton Mifflin Publishing Company, 2013.

¹⁵ U. Baer, "To Give Memory a Place: Holocaust Photography and the Landscape Tradition", in: M. del Pilar Blanco, E. Peeren (eds.), *The Spectralities Reader: Ghosts and Haunting in Contemporary Cultural Theory*, London: Bloomsbury, 2013, p. 421.

is focalized through the voice of the soldiers whose homes we must traverse to hear the stories.

Addressing memory through representations of interior space and landscape also has a long history in literature and arts. The house as a metaphor for the self is a recurring literary trope, and domestic space in particular has repeatedly been adopted as a metaphor for the inner world of a psychologically complex individual subject. Similarly, in the romantic and post-romantic tradition, landscape is an aesthetic category tied to a subjective point-of-view, but also to power through detached, depersonalized vision. The same developments in optics and visual technology that gave rise to the immersive panoramas of the 19th century also contributed to the period's overall interest in landscape in visual arts and literature. As Ulrich Baer notes,

To look at a landscape as we do today manifests a specifically modern sense of self-understanding, which may be described as the individual's ability to view herself within a larger, and possibly historical, context.¹⁶

It is not that the natural environment would never have been considered a part of human experience before the late 18th and early 19th century, but it was only now that landscape became an established and widespread *aesthetic* category. Accordingly, the "ability" to perceive oneself "within a larger [...] context" was from the beginning tempered by a desire to withdraw *from* this context. Thus, importantly, the emergence of landscape as a central motif in the arts was motivated by a nostalgia for the untainted natural, rural experience that was considered to be threatened by the rapid industrialization of the modern society: the aestheticized experience of landscape provided a guard against a threatening, mechanical modernity. This implied temporal as well as spatial distance.

The motif of interior space is equally a part of a long tradition, and one of the most famous philosophical discussions of the house, or home, as integral to human experience is Gaston Bachelard's *The Poetics of Space*, where he argues that

[...] the house is one of the greatest powers of integration for the thoughts, memories and dreams of mankind. [...] Without it, man would be a dispersed being. [...] It is the human being's first world. Before he is "cast into the world", as claimed by certain hasty metaphysics, man is laid in the cradle of the house.¹⁷

Bachelard's study has been accused for its perceived unacknowledged masculine gender bias as well as for its ignoring of the various personal and social crises that may characterize domestic experiences—not to mention the experience of homelessness.¹⁸ *Hearts and Minds* can be employed for a similar critique as it demonstrates how the domestic space so integral to our sense of self in Bachelard's thought may

¹⁶ U. Baer, "To Give Memory a Place...", op. cit., p. 421.

¹⁷ G. Bachelard, *The Poetics of Space*, Boston: Beacon Press, 1994, pp. 6-7.

¹⁸ See for example: J. Olivares, "The House on Mango Street, and The Poetics of Space", *Americas Review* 1987, no. 15/3-4 (Fall-Winter), pp. 160-170.

become devoid of secure intimacy when it is haunted by the experiences of the soldiers suffering from traumatic memories and post-traumatic stress disorder (PTSD). The game interface graphics underline the sense of alienation that now marks this environment: the rooms are clean and uncluttered to the point of sterility, and while the spaces are filled with necessary furniture and appropriate objects, they appear functional yet lacking in comforting signs of actual everyday life. As the media artist Sharon Daniel observes, "The combination of computer-game-like artificiality in the setting and the documentary realism of the narrating voice is uncanny."¹⁹ Consequently, the objects (an alarm clock, a framed photograph, a boy scout poster, a toy truck, a fireplace, a loudspeaker, a television screen, a lamp, a garden watering can, a green plastic tricycle, a whiskey bottle, a kitchen knife, a fridge, a cupboard door handle) lose their context of quotidian routine and prompt more sinister associations. They force, as Caruth has described the experience of trauma, the narrators "to relive [the violent event] later on in repeated nightmares", as "the response to the event occurs in the often delayed, uncontrolled repetitive appearance of hallucinations and other intrusive phenomena."20 In her discussion on Geoffrey Hartman's work on trauma, Whitehead also draws on Caruth and describes how "the structures of trauma are present in the dislocation of event and experience, so that the event is not fully experienced at the time of its occurrence, but only in a belated movement of return."²¹ For the soldiers suffering from PTSD, such a belated moment of trauma takes place after their return home, which has now lost the identity as a secure everyday environment that it had before their departure.

The interplay between domestic space and a barren landscape of violence thus erases the safety barrier between home and the distant location of violence—an element underlined by the gradual overlap transition from the image of the house interior to the warzone landscape, where the individual objects, now visually decontextualized, continue to appear for a short time as the narrative voice takes over. The representation of architectural spaces in the immersive narrative reflects the way in which perspective and context define the significance of the different structures. Despite the estranging effect of the computer game interface, the domestic interior implies an access to lived, if disjointed experience of individuals: the house invites us to understand the lived experiences of the soldiers, even if it does not succeed in offering the intimacy of home within the wider narrative framework. Humanistic geographers like Edward Relph and Yi-Fu Tuan have argued that abstract space is rendered a place proper, a meaningful human dimension, through particular emplaced human experience. As Relph argues, in contrast with abstract space, place "has meaning in

¹⁹ Sharon Daniel, commentary on *Hearts and Minds: The Interrogations Project*, http://www.crchange.net/hearts-and-minds/ [accessed 2016-09-28].

²⁰ C. Caruth, Unclaimed Experience: Trauma, Narrative and History, Baltimore: Johns Hopkins University Press, 1996, p. 11.

²¹ A. Whitehead, "Geoffrey Hartman and the Ethics of Place: Landscape, Memory, Trauma", *European Journal of English Studies* 2003, no. 7/3, p. 286.

terms of some human task or lived experience."²² The points of reference created by such moments and events offer a sense of familiarity, as a result of which, Tuan proposes, "place is security."²³ But instead of creating familiar places out of abstract and alienating spaces, *Hearts and Minds* offers us a reverse process: domestic and familiar locations are now void of intimacy and security. The rooms of a home are characterized by alienation and the intrusion of traumatic memory.

In the desert landscapes, the interplay between human presence and haunting absence is also repeated. Markers of human life in these landscapes have been reduced to mere unrecognizable ruins that offer no shelter, physically or emotionally. Yet the landscapes include visual signs of past human presence: there are ruined structures that resemble bunkers, or industrial or military installations, and walls that once seem to have been parts of houses, homes, shops or other buildings sheltering everyday life. Anne Whitehead suggests that "the process of viewing a landscape is [...] one of careful construction, through which the indifferent or unaccommodating space of a site or environment is transformed into a place."²⁴ Her distinction between space and place follows the approach of Relph and Tuan, but fails to account for how the landscape never becomes a place proper in a work like Hearts and Minds. In the stories of the soldiers, narrated by actors, the audience members hear of events taking place in other homes in the warzone, which also should, but do not, offer security to their inhabitants, including children. At one stage a green plastic tricycle prompts access to a landscape where ruins, with walls between rooms still partially intact, appear on both sides of a road. At the same time, a female voice tells about a raid into an almost empty home, where one of the soldiers, "a grown man in body armor", terrorizes a six-year-old child. Within the context of the narrative, it is nearly impossible not to view the ruins as structures that have once protected family life. However, as a result of the war and from the point of view of the individuals narrating the story, these buildings have lost their significance as a part of their inhabitants' lifeworld. Instead, they now stand for the kind of impersonalized wasteland that offers no points of familiarity or emotional attachment.

In *Landscape as Seen by the Military*, J.B. Jackson comments on his own experiences of battlefield landscapes in World War II, and finds that they "possessed the same classical ordering as the eighteenth-century European landscape."²⁵ He writes:

I still find myself wondering is there is not always some deep similarity between the way war organizes space and movement and the way contemporary society organizes them; that is, if the military landscape and military society are not both in essence intensified versions of the

²² E. Relph, *Place and Placelessness*, London: Pion, 1976, p. 16.

²³ Yi-Fu Tuan, *Place and Space: The Perspective of Experience*, Minneapolis–London: University of Minnesota Press, 1977, p. 3.

²⁴ A. Whitehead, "Geoffrey Hartman and the Ethics of Place...", op. cit., p. 275.

²⁵ T. Vanderbilt, Survival City: Adventures Among the Ruins of Atomic America, Chicago: University of Chicago Press, 2010, p. 180.

peacetime landscape, intensified and vitalized by one overriding purpose which, of necessity, brings about a closer relationship between man and environment and between men.²⁶

Jackson's peacetime and military landscapes may connect human beings in everyday settings and in warzones, but the landscapes of *Hearts and Minds* are by necessity divided by the fact that we only have an access to the perspectives of the soldiers, and our own roles as viewers, while remaining uneasily aware of the other, now absent human presences in the stories set within this same terrain. As witnesses to the narratives, we must acknowledge how terror and torture rely on the ability to *detach* oneself from the life experiences of their targets. The locations depicted in the panoramic landscapes are only viewed from the outside, and in this sense function in a manner similar to early landscape paintings, where underlying control and authority were depicted as an "appropriated object" of the "detached individual spectator", as Denis Cosgrave has phrased it.²⁷

The vistas completely lack familiar points of reference and depth; the fact that they are 2D representations set in a fully immersive environment, two- rather than three-dimensional, is not without significance. It is for this reason that images from locations in South and North America can stand for desert landscapes in Iraq and Afghanistan: they do not suggest first-hand experience or communal belonging in a specific cultural/geographical setting, but simply signify a space to be conquered through aggressive invasion. W.T.J. Mitchell's discussion of Middle Eastern and American landscapes highlights the significance of this perspective, the idea of landscape as wilderness to be conquered, to the American cultural imagination: the Nevada landscape is a "desert frontier, after its violence has receded and left behind petrifying, desiccated relics."28 Mitchell considers the conflicted desert landscapes of Israel and Palestine as products of a similar process and similar ideology: "The empty landscape, the waste or wilderness or void, is an iconoclastic icon; it throws down the high places and smashes the traces of indigenous or aboriginal dwelling. The desert is, as Roland Barthes might put it, landscape degree zero."²⁹ News media, films, and other visual representations of the warzones in Iraq and Afghanistan are similarly filled with imagery of deserts and ruins-this, too, is a landscape as "degree zero", there to be conquered and controlled. It is a blank space on which to project the established cultural associations of a frontier to be overcome, understood as void of human life-experiences.

Some have questioned the choice of focus on the perspective of the soldiers participating in the interrogation and torture of prisoners in Iraq, and the highlighting

²⁶ Ibidem.

²⁷ D. Cosgrove, "Prospect, Perspective and the Evolution of the Landscape Idea", *Transactions of the Institute of British Geographers* 1985, vol. 10(1), p. 49.

²⁸ W.J.T. Mitchell, "Israel, Palestine and the American Wilderness", in: idem (ed.), *Landscape and Power*, Chicago–London: Chicago University Press, 1994, p. 273.

²⁹ Ibidem, p. 275.

of their traumatic experiences-surely the victims themselves are the individuals who were subjected to military atrocities (Rettberg)? What is the justification, and what are the consequences of hearing the stories of the perpetrators of torture, rather than their victims? Does such an approach end up victimizing the torturers and marginalizing the experiences of the targeted foreign soldiers and civilians? I would suggest that rather than disregarding the suffering of the victims, a simple division between torturers and their victims creates a binary that downplays the role of the military and political establishment, as distinct from the individual soldiers, in the Iraq war. While these two perspectives cannot be entirely separated (the torturers are unavoidably a part of the establishment), it is clear that the soldiers themselves faced a situation they were not prepared for, and for which they were not trained, resulting in an equally unexpected psychological impact. Computer games can help train you how to shoot and aim, but they cannot make you ready to face the human price of an armed conflict. For this reason it is more appropriate to understand the voices of the soldiers in the work's narrative as a kind of interface between the political military establishment and its victims, thus occupying a dual position. This does not mean that we should consider the torturers as impassive and unwilling vehicles for faceless power structures, with no responsibility for their actions. However their role as a part of the military machine and as traumatized individuals draws attention to how any person's enactment of impersonal military violence makes that individual a target as well as an agent of dehumanization.

The chosen perspective also draws attention to the role of the implied, mostly Western, audience for the audiovisual narrative: through spaces and objects familiar to North-American (and many other Western) viewers, we are drawn into the uncomfortable situation of being witnesses to the atrocities, but also a part of the society and political system which sanctioned these events in the first place. In June 2016, Facebook executives Sheryl Sandberg and Mike Schroepfer made headlines when they described the company's virtual reality headset as the "ultimate empathy device."³⁰ Whether *Hearts and Minds* should be considered a VR project as such or not is open to question; its authors do quite rightly refer to CAVE2 as a "the next-generation large-scale virtual-reality 320-degree panoramic environment". Yet Brenda Laurel, for example, has argued that in a genuine VR experience participants have to be able to "*take action in the world and perceive the effects*", and make use of "coded gestures that [invoke] various actions"—forms of engagement not available to the audience members during a performance of the work.³¹ But the finer details of defining VR are less important here than the point that experiencing a work like *Hearts and*

³⁰ A. Levy, *Facebook execs call virtual reality 'ultimate empathy' experience*, CNBC, http://www.cnbc. com/2016/06/01/facebook-execs-call-virtual-reality-ultimate-empathy-experience.html [accessed 2016-09-28].

³¹ R. Coover, S. Rettberg et al., *Hearts and Minds...*, op. cit.; B. Laurel, "What Is Virtual Reality?", *Medium*, 16.06.2016, https://medium.com/@blaurel/what-is-virtual-reality-77b876d829ba#.a9i3qxfso [accessed 2017-06-29] (emphasis in the original).

Minds in the privacy of a single-viewer device would only detach viewers from the communal experience of the audience, in the same way that the agents of violence remain cut off from the pain of their victims, rather than making them responsive to it.³² It could therefore be argued that it is the presence of others that evokes genuine emotion, no matter how conflicted, not the separation from a social setting. In a shared space, the audience members can never assume the role of a detached voyeur, but are constantly made aware of their own, as well as their fellow audience members' reactions and experiences: an awareness of being observed by one's peers makes disconnected immersion or complete suspension of disbelief impossible. This also applies to the effect of the clumsy computer game graphics in the work's visual surface aesthetics, which becomes a digital visual correlative for literary estrangement. Experiencing the narrative through a visual game interface, accompanied by human voices, and in the presence of other humans in the room, underlines the gap between impersonal technological warfare and its real, flesh and blood victims. In presenting a conflict situation where emotional detachment would seem to be a prerequisite, Hearts and Minds calls for emotional engagement at another level, through forcing us close to the experiences of the soldiers through their voices, and to the reactions of other viewers through physical proximity.

Finally, of the three different settings presented within the visual environment, it is the mosque or temple that has no explicit connection to the narratives of the soldiers. Like the desert landscape, it is a non-place, and lacks points of personal reference. But the temple, too, can be understood as having a more complex role: it is, at once, an unspecified sacred space, a site of cultural otherness (with the arches on the floor design, for example, it points towards the architecture of non-Western religious traditions), and a point of access to the individuals' lives. It is also a liminal space between the real/actual world, and the inner world of the participants in the narrative. To enter the American rooms, and then the landscapes triggered by the domestic objects, the viewers must traverse through this sacred space. Since a final reconciliation cannot be achieved within the narrative experience of Hearts and Minds (this is not a story with a beginning, a middle, and an end), the closest we get to equilibrium is through a visual experience with a space that we recognize as one corresponding with the sacred architectural spaces of the West. This interior, and the desert landscapes at the outermost circle of the immersive experience, are the two points of encounter at opposite extremes of the narrative space. It is a silent centre from which the audience, the soldiers and the victims move towards a conflicted landscape, and to which they return

³² Coover in Cracow.

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