

INTIMATE IMMENSITY

KEYA SINGH

Fine Art Dissertation
2020/21

Fine Art Experimental Media

Prague College
School of Art & Design

Layout by Sofie De Jong

ABSTRACT

With mixed reality and immersive art, it is possible to create embodied experiences that can induce moments of contemplation that blur the boundaries between the participant's inner and outer world. The purpose of this thesis is to explore the elements required to make such experiences possible and successful. I will be looking at these elements mainly through the lenses of poetry, phenomenology, physiology and philosophy with a focus on the works created by Char Davies in the 90s. Further, this thesis will deconstruct the value of physical stimuli in such experiences lending weight to mixed reality experiences.

01

introduction

02

self

inner immensity
in poetry

03

senses x self

the senses in VR

04

immersive art
+ embodiment

the world of Osmose
immersion beyond vision
the tactility of Insider

05

world x self

the nature of Ephémère
shared vs solo immersion

06

conclusion

07

references

bibliography

image list

appendix

introduction

introduction

A frequent connotation of the word 'space' is a lack of matter or substance in an area. When thinking of one's 'self' as space, we find ourselves attempting to perceive an inner space. Especially when we are alone, mentally or physically, we can go deeper into these spaces with more conviction. Simultaneously, we are capable of recognising the boundaries between self and world. Our physiological senses indicate these boundaries to our minds without our active, conscious participation. The mind and body together create our sense of self and present us with body boundaries that allow us to function in the world with a feeling of agency.

These boundaries, however, have a fluctuating state of penetration. To diminish these boundaries, we must engage in a dialogue between these two spaces. Artists have been exploring the mechanics of this dialogue in a variety of mediums. Frida Kahlo created surrealist paintings wherein she often revealed the trauma her inner world was undergoing due to her experiences in the outer world. The relationship between her worlds is extended by way of her subject looking back at the viewer as if to penetrate the boundary between herself (inner) and us (outer). More recently, these worlds can be recognised in 'extended reality' experiences where the inner is denoted via the virtual and the outer is connected to the physical reality.

introduction



Image 1: Without Hope by Frida Kahlo (oil on canvas on masonite, 1945)

Popularly used for entertainment purposes, extended reality experiences have become more mainstream in recent years. During its early days in the 90s, artists like Char Davies laid out the path for experimental applications of virtual reality in the context of immersive art. Her work and writing indicated her efforts to create immersive experiences that would allow a viewer to embody their inner world while simultaneously challenging the biases embedded in the medium of immersive art. There was a strong influence of poetry and philosophy in her works, especially of Gaston Bachelard's writings on space.

f
l
e
s

The title of this paper is borrowed from a chapter in 'The Poetics of Space' by Gaston Bachelard where he wrote extensively on the space that constitutes human consciousness. Bachelard begins the chapter with the concept of daydreaming. He calls a daydream "the original contemplation". It creates an inner space that is so vivid and truthful to our own imagination and it is so unlike any other that it feels 'immense'. How do we visualise 'immense'? Bachelard answers that with phenomenology (see appendix 1). "...since immense is not an object, a phenomenology of immense would refer us directly to our imagining consciousness" (Bachelard, 2014). It is in our most natural, uninhibited state of consciousness, we find our inner world to be truly immense.

We are shaped by our memories, imagination and ethnocentric contexts along with varying mental and emotional capacities. These moments of contemplation are not very different from experiences in virtual, immersive spaces. It is no surprise that we turned to creation in art and culture from an early age of human civilisation. As Bachelard puts it, "works of art are the by-products of this existentialism of the imagining being". Poets have historically, extensively dealt with the notion of vastness within a human body.

inner immensity in poetry

Bachelard highlights one of the images that are often seen in poetry on the subject on inner immensity - trees. Whether seen singularly or within the context of forests, trees are intrinsically connected to the exploration of the inner world. As quoted by Bachelard, Rilke writes the following about the existence of immensity in a tree:

L'espace, hors de nous, gagne et traduit les choses:
Si tu veux Tcussir l'existence d'un arbre,
Investis-Ie d'espace interne,cet espace
Qui a son etre en toi.
Cerne-Ie de contraintes.
II est sans borne, et ne devient vraiment un arbre
Que s'il s'ordonne au sein de ton renoncement.

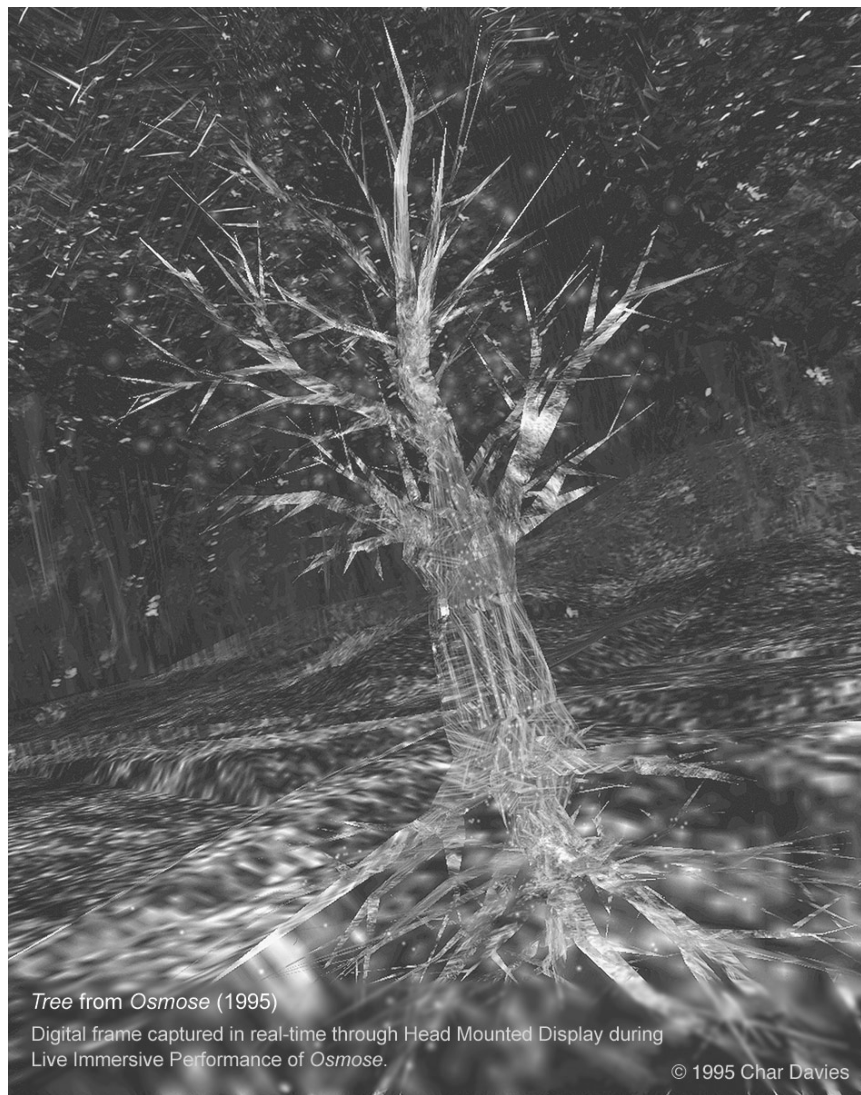
(Space, outside ourselves, invades and ravishes things:
If you want to achieve the existence of a tree,
Invest it with inner space, this space
That has its being in you. Surround it with compulsions,
It knows no bounds, and only really becomes a tree
If it takes its place in the heart of your renunciation.)

Here Rilke talks about the all-consuming nature of the outer world while simultaneously directing the reader to occupy the inner space with intention and control. Although both spaces consume what surrounds them, what is unique to the inner space is that it can be controlled by us. With imagination and conviction, it knows “no bounds” and therefore can mimic the expansive nature of a tree. “Against the accident of limits, the tree needs you to give it your superabundant images, nurtured in your intimate space, in “this space that has its being in you.””(Bachelard, 2014). The “tree” requires the inner space to thrive and become vast.

On the subject of poetry and inner immensity, another example Bachelard refers to is the word ‘vast’ as used by Baudelaire. He says that ‘vast’ was the most favoured word used by Baudelaire to refer to the “infinity of intimate space”. “...we should be struck by the fact that examples of its positive, objective use are rare compared with the instances when the word has more intimate resonances” (Bachelard, 2014). He then goes on to explore several of these instances and the connections between them. And it is evident that Baudelaire indeed used the word ‘vast’ regularly in the context of the immensity of inner spaces. “For Baudelaire, man’s poetic fate is to be the mirror of immensity; or even more exactly, immensity becomes conscious of itself, through man. Man for Baudelaire is a vast being” (Bachelard, 2014).

Using phenomenology, he further claims that for Baudelaire, this word has a vocal value. It is a word that does not solely add a visual dimension to the context, but also an auditory one when pronounced. “For it is a word that brings calm and unity; it opens up unlimited space. It also teaches us to breathe with the air that rests on the horizon, far from the walls of the chimerical prisons that are the cause of our anguish” (Bachelard, 2014). It’s almost as if the word ‘vast’ has a multisensory dimension to it that Bachelard has made tangible by writing about it. How is it that one word is attached to several meanings concerning several senses?

Image 2: Tree from Osmose by Char Davies (1995)



senses
self

Senses can have both narrow and wide meanings in our lives. The narrow meaning refers to the five senses distinguished by Aristotle (Goody, 2002). The five are sight, sound, smell, taste and touch. These are the ones that come immediately to mind when we talk about the term 'senses'. But the singular 'sense' can refer to several other meanings, some to do with physiology and psychology of a person. For example in physiology, sense of proprioception allows us to know the position of our body in space and the position of our limbs in relation to the other parts of our body. This is a crucial sense that works without our active awareness. And in psychology, our sense of perception plays a role in the way we observe the exterior world and process that information inwards. When considered carefully, our perception can strongly influence the basic five senses.

"The senses are the means of communication, operating at both a physiological and at a cultural level" (Goody, 2002). Senses allow our inner world to open a window into the outer world. An intricate network of biological connections helps us better understand the vastness within. It also reaches out to the vastness within others and the world outside. And like most other aspects of our lives, sociocultural elements affect our understanding of our senses as well. While most of the western world actively talks about the five senses, other cultures have shown the scope to identify as many as seventeen senses (Murray and Sixsmith, 1999).

the senses in VR

Virtual Reality (VR) is a relatively new technology that heavily employs perception bending tactics to create experiences that can be both entertaining and illuminating. The success of a VR experience depends on its capacity to affect the human sensory system. When it entered the consumer market with the gaming industry, VR was developed almost entirely around the sense of vision. Since most games were using new computer graphics, it was instinctive for most developers to create designs that were focused more on vision than any of the other sensory inputs. It is evident in the rapid growth of head-mounted displays for virtual reality. The ocular centric nature of VR can be attributed to its origins in the West (Murray and Sixsmith, 1999). Murray and Sixsmith present an example in 'The Corporeal Body in VR of the different sensory properties of blood and its cultural nuances across the world. The visual characteristic is deemed important in North America while it's the haptic dimension that is crucial in South India and in Japan, the odour of blood outweighs the rest (Murray and Sixsmith, 1999). "The point we want to make here is that if VR had been developed within a different cultural context, different aspects of our sensorial world might have been a more prominent feature of VR experience" (Murray and Sixsmith, 1999). So, what are these different aspects that are overlooked?

A certain level of sensory deprivation in the 'real' or physical world is required to allow a user to successfully engage in a VR experience. "The eyes, possibly the ears, the hands, and even the body, are enveloped by VR peripherals. Reminiscent of procedures associated with sensory deprivation, it is, in fact, a substitution of sensory information"(Murray and Sixsmith, 1999).



Naturally, our body experiences moments like those by finding our senses enveloped in them. The manipulation of imagination and perception help to create such immersion. Subjective individual memory and context play a crucial role here but generally speaking this is connected to proprioception (sense of position) and kinesthesia (sense of movement) which in turn contributes to our sense of body-ownership and creates a sense of self. To expand on that further, borrowing from Botvinick's statement in 'Probing the Neural Basis of Body Ownership' - a combination of visual, tactile, and proprioceptive information about the body is considered self-specifying information.

When translated into virtual reality, these different layers of information can create complex, compelling and often unique experiences. Technology is still unable to influence stimuli that effectively works on all of our senses. It is more feasible, and therefore more popular to focus on the visual layer, motion tracking and haptic feedback to create believable experiences of embodiment in VR. Our sense of embodiment acts as the central key here and all the other senses feed it to create a holistic virtual encounter.

immersive art+ embodiment

The traditional definition of 'embodiment' is the physical manifestation of an idea or thought. Early writings on the phenomenology of embodiment started by distinguishing between two aspects of the body - an animated object that is purely physical and a lived object that relies on personal experience (Jensen and Moran, 2014). Edmund Husserl, the 'father of phenomenology', stated that the lived body was the living centre of human experience. "Animals, human beings (our fellow-men as well as ourselves) are-always in terms of the naturalistic attitude- animated bodies, each with its localized sensibility; all consciousness is founded upon the body, localized upon it, and co-ordinated with it in time" (Schuetz, 1953). When thought objectively, the basis of all of our natural existence can be quantified and studied. Phenomenological thinking dictates otherwise. A lived, 'embodied' experience is an immensely subjective and temporal topic which makes it a difficult notion to describe succinctly. It takes into consideration the physical implications of living while accounting for the impact of self-perception.

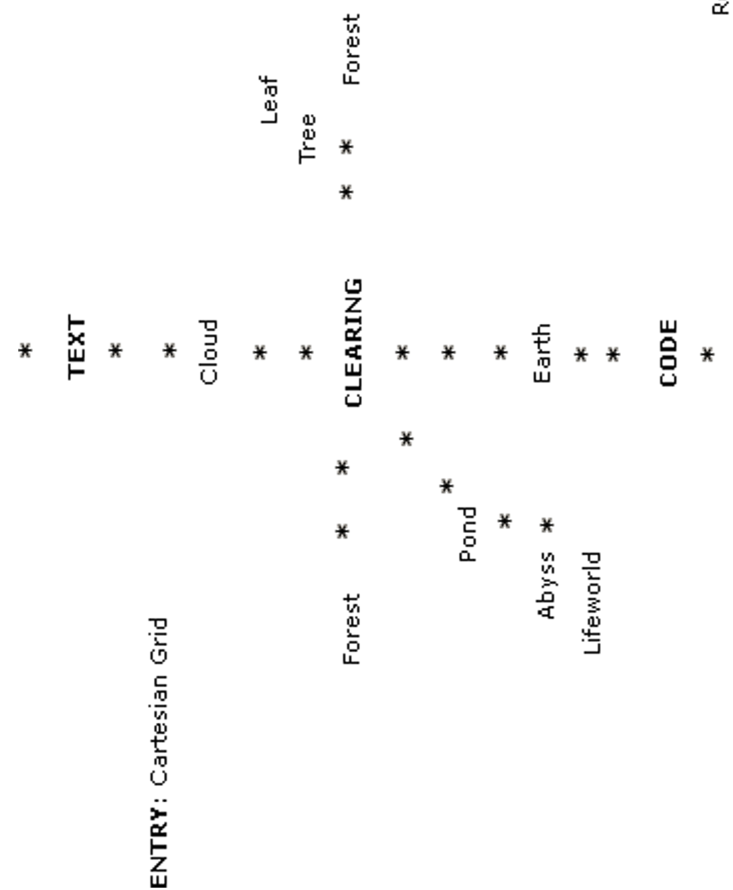
In 1995, Char Davies created an immersive, interactive, virtual experience called 'Osmose'. "Osmose is a space for exploring the perceptual interplay between self and world, i.e. a place for facilitating awareness of one's own self as consciousness embodied in enveloping space" (Davies, 1995). She used the virtual space to create an embodied experience that expands the participant's perception by instigating a dialogue between their inner and outer worlds.

the world of
Osmose

The core experience is that of the immersant (Davies' preferred term for the viewer), accessed through a head-mounted display and a motion capture vest with breathing and balance sensors. "A secondary aspect of OSMOSE is the audience's vicarious witnessing of each immersant's journey in real-time, via stereoscopic video projection and headphones." (Davies, 1995).

The intricately built virtual world of Osmose has about a dozen worlds within the experience. While most of the worlds are based on nature, two “function as a substratum and superstratum parenthesizing the work” (Davies, 1995) - one based on custom code written to create the artwork and one based on writings by Davies and writers of philosophy and poetry. All of these worlds are connected. They reflect the inner world impacted by memories and imagination of nature. The experience ends with a Lifeworld which symbolises life itself to gently bring the immersant back into physical reality (Davies, 1995).

Image 3: Spatial Structure of Osmose (2004)



'Osmose' was driven by Davies' desire to repair the dominating and alienating effects of the Cartesian split between mind and body, subject and object in our lives (Davies, 1995). This can be seen in the audiovisual aesthetics of the piece. The visual aesthetic of 'Osmose' is semi-representative, with the use of semi-transparent and ambiguous shapes that create layered imagery that fluctuates between abstract and figurative. She skillfully designs space for exploration based on individual perceptions of the objects and space. The transitions between worlds are made to occur with temporal and spatial complexity. "All of these elements work together to loosen the mind's rational hold, dissolving the subject/object dichotomy, and in a dream-like way shifting the immersant's mode of experience from the everyday bias of eyesight to one that resonates deeper within the body" (Davies, 1995). Furthermore, the sound is "spatialized and interactive in real-time, responding to changes in the immersant's location, direction and speed" (Davies, 1995). The sound composition uses both male and female voices implying a human presence.

This human presence is central to the success of 'Osmose'. An interactive and intuitive user interface allows the immersant to explore the space. User inputs of breath and balance calibrate the immersant's position and trajectory. Davies' experiences as a scuba diver are the source of inspiration for this interface. Changing one's centre of balance changes direction, inhaling causes upward floating, while exhaling allows the immersant to fall.

Breathing as a means to exist is what we naturally do, replicating that survival instinct instigates a deep-state of embodied presence in a virtual world. These techniques reassert phenomenological ideas of embodiment which are based on the subjective experiences of a body. The breathing patterns and central balance of each immersant allow for a distinct, unique experience in 'Osmose'. Davies also states that these tools are not meant to control the user, but to provide a mode of coexisting with the elements of the space. And similar to meditation, one is able to widen their perception of the world and self by focusing on the breath and controlling their centre of balance (Davies, 1995). "In addition, after becoming accustomed to the work's breath and balance interface, and the experience of seeing and floating through things, most participants "relinquish desire for 'active doing' in favor of contemplative 'being'" (Lovejoy, 2004). Staying true to her motivations of creating a non-Cartesian world, she successfully manages to heal the mind and body split with this interface. While the content (audiovisual material) steer the immersant into perceiving certain ideas about this world, the technical aspects (user-interface) allows the body to be present and interact actively with the physical immersion.

Davies set a precedent in the world of VR and immersive art. Her work with VR challenged dominant Western cultural values. By using semi-representative, subjective content that is intrinsically human, she allows for a culturally ambiguous interpretation of the piece. Furthermore, the lack of a virtual body made space for a feminist understanding of embodiment in virtual reality. "Feminist cultural critics have written about the ways in which the body of white, Western males are inscribed upon and within the technological apparatus and narratives of virtual environments" (Murray and Sixsmith, 1999). Even without a body, 'Osmose' demonstrates that successful embodiment doesn't necessarily rely on the design or existence of a virtual body. Her use of motion capture technology focussing on body and breath rather than the commonly accepted focus on visuals and hand-held controllers was unprecedented. "Clearly, this VR application has very different implications for experiences of embodiment, which are instantiated through the tactile-kinesthetic body, rather than the purely visual one" (Murray and Sixsmith, 1999). And this takes us back to the embodiment of senses in virtual reality.

Image 4: An Immersant In Osmose, Seen Through The Shadow Silhouette Screen (2004)

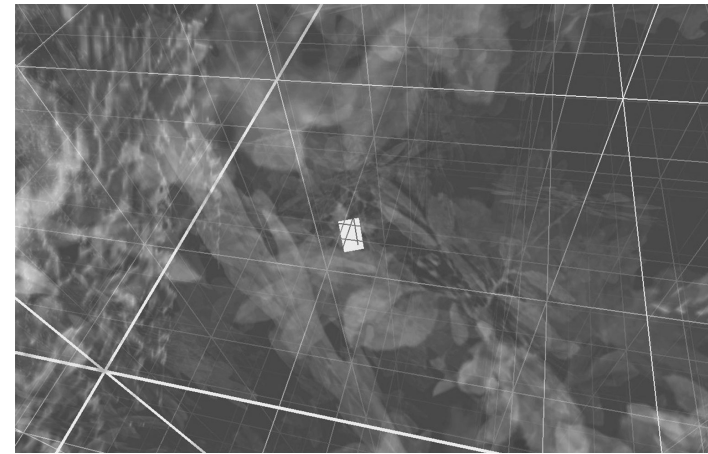
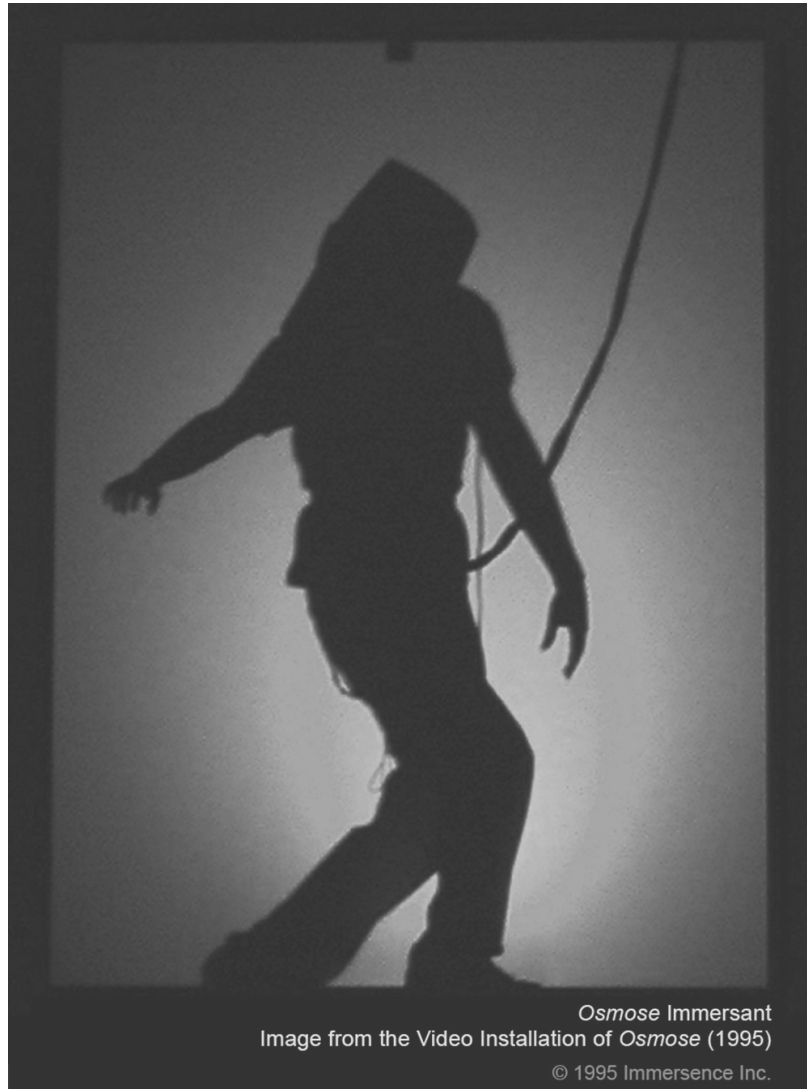


Image 5: Forest Grid from Osmose (1995)

immersion beyond vision

As seen with 'Osmose', there are unexplored areas of perception and sensation that could be experimented with in immersive art. Murray and Sixsmith talk about sensorial structures that allow phenomena to occur in several spaces within our body boundaries. The associations between body and world highlight these different spaces (Murray and Sixsmith, 1999). "At times, these spaces shout out their existence: for example, Goin and Goin (1981) talk of how, at the dentist, we "suddenly become all mouth"" (Murray and Sixsmith, 1999). Even if we simply imagine losing our breath while running up a hill, we become "all lungs" during that phenomena. Phenomenology of embodiment relies on these spaces and their interactions with the world outside. "A sense of presence, of being there in virtual environments is, perhaps, the ultimate aim of VR research" (Murray and Sixsmith, 1999).

For a convincing virtual embodiment, Murray and Sixsmith emphasise the lack of obtrusive technological interfaces in the physical/real world. Davies managed this by creating an interface that is inconspicuous to the user's experience. Thus the interface should act as an extension of the user, rather than a tool. "In so far as we take technologies into our experiencing by perceiving through them, the technology becomes embodied" (Murray and Sixsmith, 1999).

Hand-held controllers have been a popular way to implement the notion of an extension of a user in VR. The term 'haptics' is at the centre of making these extensions work. Haptics is defined as the simulation of touch via force, vibration and motion. In 2020, a group of researchers conducted a study where they worked with the idea of a virtual environment for people who were blind or had low-vision. They created a novel walking cane that acted as a controller which "employs a lightweight three-axis brake mechanism to provide large-scale shape of virtual objects" (Siu et al., 2020). In the real world, visually impaired individuals typically use walking canes to navigate through daily life. The cane acts as an extension of their body and further expands their body boundaries. They also used spatial audio and textural vibrations on contact in the experiment. They found that participants mainly used the "kinesthetic force feedback" to navigate through the virtual environment while the tactile feedback paired with "spatial audio conveyed more information about the local surface properties and geometry of materials" (Siu et al., 2020). It is apparent that the physicality of an experience radically affects the virtual perception of the immersed user.

So, the inclusion of our entire sensorial architecture in an immersive experience contributes to an embodiment in the virtual environment. "The more it is possible to enter the whole sensorium in VR, the more it is possible to feel embodied within it" (Murray and Sixsmith, 1999). Technological sophistication can sometimes lead to disbelief in a VR experience. This often happens when technology fails to replicate the tactile nature of objects. Incorporating physical stimuli adds another plane of reality to a virtual experience hence creating a mixed reality experience. One such experience is 'Insider'.

the tactility of Insider

Insider was created in 2019 by a team of artists of which I was part, led by Cristina Maldonado, a Czech-based Mexican artist. It is a mixed reality, interactive performance piece for one audience at a time. On the virtual plane, we use an immersive, 360-degree video that plays on a head-mounted display. Simultaneously, a tactile dramaturgy is followed in the physical space using objects and human interaction with performers. It usually involves interaction with another audience member as well. During an in-depth interview with Cristina in December 2020, she talked about her perspective on tactile interactions in mixed reality art (see Appendix 2).

As the originator of 'Insider', the central conceptions of this work come from Cristina's art practise. Her initial work in body movement has dictated the way she interacts with the human body, especially concerning objects. She says that physical material is the axis of her creative process. Going on to work in contemporary dance, she started exploring how imagery can affect the way one sees their inner world. And when she entered the world of visual and installation art, she made a conscious decision as an artist with this statement, "I wanted my presence to have the same hierarchy as the object". She began exploring what she refers to as "magic" that could be created when an object and a body are part of the same system. This can be seen in the physical dramaturgy of 'Insider'. Throughout the experience, the audience member goes through moments of interaction with objects while the visual narrative and performer's spoken and touch-based instructions provide a system for both the body and object to communicate. Cristina states that there would be no 'Insider' without touch. It forms an integral element of the work that grounds the audience in the physical reality while the immersive video in the headset pulls them into virtual reality.

In 'The Feeling of Being', Mathew Ratcliffe emphasises the value of the tactile sensation in awareness of oneself in the world. He argues that when one experiences a desire for an object, one also feels a distinct bodily sensation, and he posits that these two sensations can be distinguished. But when the tactile dimension is considered, these experiences cannot be separated. Ratcliffe suggests an example of a hand touching a snowball. He states that one's hand serves as a "vehicle of perception" through which the

the tactility of insider



Image 6: Documentation Of Insider At CED Brno (8Th October 2020)

snow is felt, rather than being the “object of perception”. When the snow is held on for a longer period, the “object of perception” shifts to the hand. “The feeling is not experienced as changing location; it is and always was in the hand” (Ratcliffe, 2005). A change in potency and quality of the tactile sensation causes our “object of perception” to shift along with our sense of self in the world.

In the virtual world, this sense of self-location is often dealt with using the idea of embodiment. During the conversation, Cristina mentions that in ‘Insider’, embodiment was the dramaturgy and not the goal. The intention was not to embody the other (virtual) person but to recognise oneself in the presence of another. The differences between the participant’s physical self and embodied (virtual) self provide a strong perception of a self in the world.

So, a mixed reality experience can create embodied experiences of the human body and mind in the virtual space while engaging with it on a tactile level. Similar to Davies’ non-Cartesian goals, organic/physical stimuli combine with virtual reality to blend the boundaries between the user’s perception of virtual and real.

world
of
sex

The relationship between virtual and real worlds in mixed reality art is not different from the relationship between one's inner and outer space. We are the manifestations of our lived experiences, constantly reacting and interacting with the space outside. In the 'Poetics of Space', Bachelard shines a light on the animated and constant dialogue between one's inner and outer space. He quotes Tristan Tzara:

Le marché du soleil est entré dans la chambre
Et la chambre dans la tête bourdonnante.

(The market of the sun has come into my room
And the room into my buzzing head.)

Tzara was a prominent figure in the surrealist movement and wrote experimental poetry with an early interest in symbolism. These lines appear in his 'Où boivent les loups' (Where Wolves Drink, 1932). He paints a vivid image with just two lines. He establishes that the room is his and his emotional state of mind. When sunlight enters his room, it doesn't just add light to the room. It crosses the boundaries between himself and his room by entering his inner space. And with it, the room enters his inner space as well. There is a blurring of boundaries in this case. "And the exaggerated nature of the image is thus proved to be active and communicable, this means that it started well: the sunny room is buzzing in the head of the dreamer" (Bachelard, 2014).

the nature of Ephémère

Char Davies is no stranger to the dialectics of inside and outside. In 1998, she presented her new work titled 'Ephémère'. The technical mechanism and audiovisual inspiration from nature behind 'Ephémère' were similar to those used in 'Osmose'. Conceptually, she was still interested in creating a work that allowed the immersant's self to interact with the virtual space that envelopes them via immersion. She attempted to build connections between the inner space of a human body with the space outside. "In Ephémère however, this iconographic repertoire is extended to include body organs, blood vessels and bones, suggesting a symbolic correspondence between the chthonic presences of the interior body and the subterranean earth" (Davies, 1998).

"Ephémère is structured spatially on a vertical axis, with three horizontal levels: forest landscape, subterranean earth, and interior body" (Davies, 2004). Time inside the experience also progresses all around the immersant. The progression is intentional by design, and it actively responds to the immersant's presence and actions in the space. The temporal progression is "in terms of emergence and withdrawal of form; flow and ebb of visibility and audibility; and diurnal/nocturnal and seasonal transformation, as well as germination and decay" (Davies, 1999).

There are two major themes in 'Ephémère' according to Davies. One is the fragile nature of human life caught in the stream of the ever-changing, fleeting organic life that surrounds it. Second is the symbolic harmony between Earth and the human body; wherein Earth acts as a "regenerative source". She found inspiration in the natural landscape she was surrounded by for long periods in rural parts of southern Quebec, Canada. "Over the time I have spent on this land, its roots and rocks, seeds and streams, bloomings and witherings, have become numinous, as present in my imagination as in actuality. Wandering among their physical manifestations provides me with a much needed antidote to working with virtual-reality technology" (Davies, 1999). It sounds like her own account of time spent in that natural/outer space provided her with an experience similar to the themes she explored in 'Ephémère'. As time passed her by, she noticed the flowing, unstoppable current that affected the space around her, and while being immersed in this physical reality, she discovered harmony with it by drawing its imagery into her creative processes.



Image 7: Forest Stream from Ephémère (1998)

Image 8: Winter Stream from Ephémère (1998)



shared vs solo immersion

Davies paid close attention to the user interface and experience in her immersive works. By design, the immersant experiences 'Osmose' and 'Ephémère' in physical isolation. When the purpose of the immersive architecture is to induce a sense of embodied-self attached to the vastness within and the vast space that envelopes it, being alone in the experience can be beneficial. "It (immensity) is attached to a sort of expansion of being that life curbs and caution arrests, but which starts again when we are alone" (Bachelard, 2014).

In contrast, shared immersive experiences instigate a human to human connection that is often more peripheral when the purpose is to recognise one's inner world. In 2018, Rebecca Fribourg, Ferran Argelaguet, Ludovic Hoyet and Anatole Lecuyer wrote a paper titled, 'Studying the Sense of Embodiment in VR Shared Experiences' wherein they experimented with two participants sharing virtual and physical space playing a game of 'whack-a-mole'. The study especially focuses on the sense of embodiment in such an experience. The results of the study showed them that users were more engaged and efficient during competitive tasks while also experiencing strong feelings of embodiment. (Fribourg, Argelaguet, Hoyet and Lecuyer, 2018). They deem their results to "lead the way for VR applications designers to identify the important features to consider in order to develop multi-user VE (virtual environment)".

During the discussion with Cristina Maldonado, we also discussed the shared immersive experiences in 'Insider'. It is rooted in her previous work where she created mediated situations for one to be with another person, so as to understand what their presence

shared vs solo immersion

brings to one's identity and self. In 'Insider' this concept translated into how much we could challenge the audience member's feeling of presence in reality. Doing so with the presence of a familiar/unfamiliar other in the framing of a mixed reality art experience, elevated our interest in the audience's reactions. Cristina suggests that interaction with another person - which is the last proposition of the dramaturgy - is a moment to engage with "the most interesting object" in the room.

Therefore, the feeling of embodiment is possible in shared immersions however, it does not achieve an understanding of self and world detached from the perception of others. The presence of another person in the space (virtual or physical) grounds the immersed user in the physicality of the other's existence.



conclusion

The boundaries between our inner and outer worlds are thus malleable. Immersive art and mixed reality experiences allow us to explore these boundaries in a mediated way using artistic tools and philosophical content. It is the viewer's imagination and distinct memories that help to enhance the embodied and immersive experience.

'Osmose' and 'Ephemere' were described as "psychically innovating" by immersants who saw them (Davies, 2004). Davies' work was seminal in the world of immersive art supported by research and her strong philosophical standpoint, "While our habitual perceptions may lead to the forgetting of being, the paradoxical qualities of immersion in a virtual environment—if constructed so as not to reinforce conventional assumptions and behaviour—can be used to open doors of perception" (Davies, 1999). When our previously held understandings of the virtual space are questioned, we tend to start perceiving and thinking of new ideas.

conclusion

The inclusion of tactile, olfactory and other stimuli are part of these new, unexplored ideas. 'Insider' connects to its audience regardless of technological sophistication. People leave the space feeling overwhelmed by the gravity of the mixed reality experience they did not foresee. They are often enthralled by the physicality of the work rather than the virtuality.

"It would seem, then, that it is through their "immensity" that these two kinds of space - the space of intimacy and world space - blend. When human solitude deepens, then the two immensities touch and become identical" (Bachelard, 2014). Human isolation can produce evocative, profound moments of self-reflection and realisation. The feeling of blending with the outer world when physically alone is relatable today after almost a year of dealing with COVID19. It has forced us inside our homes, many of us are physically isolated from social contact. It has invoked a newfound desire in our inner spaces to connect with the outer world. We are questioning the systems that brought this upon us in the first place. It is necessary to implore the inner (virtual) space while associating with the outer (physical) space.

references
bibliography
images
appendix

references

- Bachelard, G., 2014. *The Poetics Of Space*, edn, rev, New York, NY, USA: Penguin Books Ltd, pp.201-246.
- Davies, C., 1999. *Ephémère: Landscape, Earth, Body, and Time in Immersive Virtual Space*. In: R. Ascott, ed., *In Reframing Consciousness*. [online] Exeter, England; Portland, OR, USA: Intellect Ltd, pp.196-201. Available at: <https://monoskop.org/images/8/8a/Ascott_Roy_ed_Reframing_Consciousness_Art_Mind_and_Technology.pdf> [Accessed 21 November 2020].
- Davies, C., 1995. *Osmose: Notes on Being in Immersive Virtual Space*. In: 6th International Symposium on Electronic Art [ISEA95]. [online] Montreal, Quebec, Canada: International Symposium on Electronic Art, pp.51-56. Available at: <https://isea-archives.siggraph.org/wp-content/uploads/1995/03/ISEA95_proceedings.pdf> [Accessed 22 November 2020].
- Davies, C., 2004. *Virtual Space*. In: F. Penz, G. Radick and R. Howell, ed., *In Space: In Science, Art and Society*. Cambridge, England: Cambridge University Press, pp. 69-104.
- Fribourg, R., Argelaguet, F., Hoyet, L. and Lecuyer, A., 2018. *Studying the Sense of Embodiment in VR Shared Experiences*. In: 2018 IEEE Conference on Virtual Reality and 3D User Interfaces (VR). [online] Institute of Electrical and Electronics Engineers, pp.273-280. Available at: <<https://ieeexplore.ieee.org/document/8448293>> [Accessed 21 November 2020].
- Goody, J., 2002. *The Anthropology of the Senses and Sensations*. *La Ricerca Folklorica*, (45), p.17.
- Jensen, R. and Moran, D., 2014. *The Phenomenology Of Embodied Subjectivity*. Dordrecht: Springer.
- Murray, Craig D., and Sixsmith, J. (1999), "The Corporeal Body in Virtual Reality." *Ethos*, vol. 27, no. 3, 1999, pp. 315–343. JSTOR, www.jstor.org/stable/640592. Accessed 21 Nov. 2020.
- Lovejoy, M., 2004. *Digital Currents: Art In The Electronic Age*. New York, NY, US: Routledge, Taylor & Francis Group, pp.206-209.
- Ratcliffe, M., 2005. *The Feeling of Being*. *Journal of Consciousness Studies*, 12(8-9), pp.47-53.
- Schuetz, A., 1953. *Edmund Husserl's Ideas, Volume II. Philosophy and Phenomenological Research*, 13(3), p.394.
- Singh, K., 2020. *Discussion With Cristina Maldonado*. [video] Available at: <<https://drive.google.com/file/d/1ymDhdQppYUZ7yq0xv7Ty1XNlb6QzILA3/view?usp=sharing>> [Accessed 12 December 2020].
- Siu, A., Sinclair, M., Kovacs, R., Ofek, E., Holz, C. and Cutrell, E., 2020. *Virtual Reality Without Vision: A Haptic and Auditory White Cane to Navigate Complex Virtual Worlds*. In: CHI '20: CHI Conference on Human Factors in Computing Systems. [online] New York, NY, United States: Association for Computing Machinery, pp.1-13. Available at: <<https://dlacm.org/doi/10.1145/3313831.3376353>> [Accessed 21 November 2020].

references

Smith, David Woodruff (2003). 'Phenomenology', The Stanford Encyclopedia of Philosophy (8th edn.), Edward N. Zalta (ed.), Metaphysics Research Lab: Stanford University. Available at: <<https://plato.stanford.edu/archives/sum2018/entries/phenomenology/>> [Accessed 27 December 2020]

bibliography

Bachelard, G., 2014. The Poetics Of Space, edn, rev, New York, NY, USA: Penguin Books Ltd, pp.201-246.

Bermúdez, J, 2018, 'First Person Awareness of Agency. Teorema: Revista Internacional De Filosofía', 37 (3), pp. 21-38.

Davies, C., 1995. Osmose: Notes on Being in Immersive Virtual Space. In: 6th International Symposium on Electronic Art (ISEA95). [online] Montreal, Quebec, Canada: International Symposium on Electronic Art, pp.51-56. Available at: <https://isea-archives.siggraph.org/wp-content/uploads/1995/03/ISEA95_proceedings.pdf> [Accessed 22 November 2020].

Davies, C., 1999. Ephémère: Landscape, Earth, Body, and Time in Immersive Virtual Space. In: R. Ascott, ed., In Reframing Consciousness. [online] Exeter, England; Portland, OR, USA: Intellect Ltd, pp.196-201. Available at: <https://monoskop.org/images/8/8a/Ascott_Roy_ed_Reframing_Consciousness_Art_Mind_and_Technology.pdf> [Accessed 21 November 2020].

Davies, C., 2003. Rethinking VR: Key Concepts and Concerns. In: Hal Thwaites, ed., Hybrid Reality: Art, Technology and the Human Factor. Montreal, Canada: International Society on Virtual Systems and Multimedia, pp. 253 - 262.

Davies, C., 2004. Virtual Space. In: F. Penz, G. Radick and R. Howell, ed., In Space: In Science, Art and Society. Cambridge, England: Cambridge University Press, pp. 69-104.

Davies, C., 2005. Landscapes Of Ephemeral Embrace : A Painter's Exploration Of Immersive Virtual Space As A Medium For Transforming Perception. Ph.D. University of Plymouth, Available at: <<http://hdl.handle.net/10026.1/353>> [Accessed 13 January 2021]

Fribourg, R., Argelaguet, F., Hoyet, L. and Lecuyer, A., 2018. Studying the Sense of Embodiment in VR Shared Experiences. In: 2018 IEEE Conference on Virtual Reality and 3D User Interfaces (VR). [online] Institute of Electrical and Electronics Engineers, pp.273-280. Available at: <<https://ieeexplore.ieee.org/document/8448293>> [Accessed 21 November 2020].

Goody, J., 2002. The Anthropology of the Senses and Sensations. La Ricerca Folklorica, (45), p.17.

Jensen, R. and Moran, D., 2014. The Phenomenology Of Embodied Subjectivity. Dordrecht: Springer.

Logan, R., 2019. Understanding Humans: The Extensions of Digital Media. Information, 10(10), p.304.

Lopes, P., You, S., Ion, A. and Baudisch, P., 2018. Adding Force Feedback to Mixed Reality Experiences and Games using Electrical Muscle Stimulation. In: CHI '18: CHI Conference on Human Factors in Computing Systems. [online] New York NY United States: Association for Computing Machinery, pp.1-13. Available at: <<https://dl.acm.org/doi/10.1145/3173574.3174020>> [Accessed 21 November 2020].

bibliography

Lovejoy, M., 2004. Digital Currents: Art In The Electronic Age. New York, NY, US: Routledge, Taylor & Francis Group, pp.206-209.

McRobert, L., 2007. Char Davies's Immersive Virtual Art And The Essence Of Spatiality. Toronto, ON, Canada: University of Toronto Press, Scholarly Publishing Division, pp.3-10.

Murray, Craig D., and Sixsmith, J. (1999), "The Corporeal Body in Virtual Reality." *Ethos*, vol. 27, no. 3, 1999, pp. 315–343. JSTOR, www.jstor.org/stable/640592. Accessed 21 Nov. 2020.

Naimark, M., 2018. 3) Other Senses (Touch, Smell, Taste, Mind). [Blog] VR / AR Fundamentals, Available at: <https://michaelnaimark.medium.com/vr-ar-fundamentals-3-other-senses-haptic-smell-taste-mind-e6d101d752da> [Accessed 21 November 2020].

Nelson, C., 2009. From Sfumato to Transarchitectures and Osmose: Leonardo da Vinci's Virtual Reality. *Leonardo*, 42(3), pp.259-264.

Porras Garcia, B., Ferrer Garcia, M., Olszewska, A., Yilmaz, L., González Ibañez, C., Gracia Blanes, M., Gültekin, G., Serrano Troncoso, E. and Gutiérrez Maldonado, J., 2019. Is This My Own Body? Changing the Perceptual and Affective Body Image Experience among College Students Using a New Virtual Reality Embodiment-Based Technique. *Journal of Clinical Medicine*, 8(7), p.925.

Ratcliffe, M., 2005. The Feeling of Being. *Journal of Consciousness Studies*, 12(8-9), pp.43-60.

Schuetz, A., 1953. Edmund Husserl's Ideas, Volume II. *Philosophy and Phenomenological Research*, 13(3), p.394.

Singh, K., 2020. Discussion With Cristina Maldonado. [video] Available at: <https://drive.google.com/file/d/1ymDhdQppYUZ7yq0xv7Ty1XNlb6QzILA3/view?usp=sharing> [Accessed 12 December 2020].

Siu, A., Sinclair, M., Kovacs, R., Ofek, E., Holz, C. and Cutrell, E., 2020. Virtual Reality Without Vision: A Haptic and Auditory White Cane to Navigate Complex Virtual Worlds. In: CHI '20: CHI Conference on Human Factors in Computing Systems. [online] New York, NY, United States: Association for Computing Machinery, pp.1–13. Available at: <https://dl.acm.org/doi/10.1145/3313831.3376353> [Accessed 21 November 2020].

Smith, David Woodruff (2003). 'Phenomenology', *The Stanford Encyclopedia of Philosophy* (8th edn.), Edward N. Zalta (ed.), Metaphysics Research Lab: Stanford University. Available at: <https://plato.stanford.edu/archives/sum2018/entries/phenomenology/> [Accessed 27 December 2020]
Taylor, C., 1994. In the Interest of Art: The Aesthetics of Space. *Art Education*, 47(2), p.46.

image list

Image 1: Kahlo, F., 1945. Without Hope. [Oil on canvas on masonite].

Image 2: Davies, C., 1995. Tree From Osmose. [image] Available at: <http://www.immersence.com/osmose/> [Accessed 17 January 2021].

Image 3: Davies, C., 2004. Spatial Structure Of Osmose. [image] Available at: <http://www.immersence.com/publications/char/2004-CD-Space.html> [Accessed 23 November 2020].

Image 4: Davies, C., 2004. An Immersant In Osmose, Seen Through The Shadow Silhouette Screen. [image] Available at: <http://www.immersence.com/publications/char/2004-CD-Space.html> [Accessed 23 November 2020].

Image 5: Davies, C., 1995. Forest Grid, From Osmose. [image] Available at: <http://www.immersence.com/osmose/> [Accessed 17 January 2021].

Image 6: Hanko, D., 2020. Documentation Of Insider At CED Brno (8Th October 2020). [image] Available at: <https://jasuteren.cz/archiv/insider-projekt> [Accessed 17 January 2021].

Image 7: Davies, C., 1998. Forest Stream From Ephémère (1998). [image] Available at: <http://www.immersence.com/ephemere/> [Accessed 17 January 2021].

Image 8: Davies, C., 1998. Winter Stream From Ephémère (1998). [image] Available at: <http://www.immersence.com/ephemere/> [Accessed 17 January 2021].

Image 9: Hanko, D., 2020. Documentation Of Insider At CED Brno (8Th October 2020). [image] Available at: <https://jasuteren.cz/archiv/insider-projekt> [Accessed 17 January 2021].

appendix

1. "Phenomenology studies the structure of various types of experience ranging from perception, thought, memory, imagination, emotion, desire, and volition to bodily awareness, embodied action, and social activity, including linguistic activity" (Smith, 2018).
2. This discussion occurred on 5th December 2020 in Prague, Czech Republic. It was video recorded and later transcribed in portions for the purposes of this paper. (Singh, 2020).