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VIRTUAL (REALITY) LANDSCAPES
From Panorama to Immersive Digital Places

Abstract
This article explores the concept of virtual landscapes as immersive digital representations, tracing the evolution of landscape depictions from traditional framed panoramas and stereoscopic devices to contemporary Virtual Reality (VR) environments. It emphasises the shift from static visual representations to interactive and multi-sensory experiences. The philosophical implications of framing and immersiveness are examined, highlighting how VR dissolves traditional boundaries between viewer and image, transforming landscapes into dynamic, participatory spaces where technological immersion meets aesthetic appreciation and operativity. Case studies include ULTRA's *L'inganno dei sensi*, which presents a VR adaptation of the Mesdag Panorama; Daniel Steegmann Mangrané's *Phantom*, a digital recreation of the endangered Brazilian Mata Atlántica rainforest; and Patricia Liras' *Remember This Place*, which documents displaced Bedouin communities through immersive storytelling. These examples reveal how VR reshapes the role of landscape as a cultural medium.

Keywords
Landscape; immersiveness; virtual reality; frame; aesthetic experience.
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Landscape is an exhausted medium,
no longer viable as a mode of artistic expression.
Like life, landscape is boring; we must not say so.
W.J.T. Mitchell

The concept of a virtual landscape is broad and multifaceted, serving as a foundational element in the exploration of digital representations of places. A virtual landscape can be understood as the digital reconstruction or reinterpretation of a physical environment. For instance, satellite imagery[1] often alters the natural appearance of a location – such as its colours – in order to highlight specific types of data. A striking example is the depiction of the River Nile by the United States Geological Survey (USGS) (Fig. 1). Virtual Reality (VR) technology, combined with 3D modelling, enables the creation of

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[1] On this topic, see T. Morawski, M. Vegetti, a cura di, *Earthscapes. Le conseguenze della visione della Terra dallo spazio*, Roma: Donzelli, 2023. This work explores the transformative impact of aerial and satellite imagery on the representation and understanding of the Earth.

immersive representations of the landscape. These tools enhance the visualization of geographic data, significantly advancing the field of Geographic Information Science (GI-Science)[2]. Additionally, virtual landscapes play a prominent role in video games, where realistic environments are designed to enrich gameplay. Noteworthy examples include the digital reconstruction of Los Angeles in *GTA V* and San Francisco in the action-adventure game *Watch Dogs 2*[3].

Figure 1 - *River Nile, Sudan. United States Geological Survey (USGS), 2020. Public domain*

Notwithstanding the various ways in which virtual landscapes may be considered, this article focuses on describing immersive virtual landscapes, specifically those represented through environmental images generated by VR headsets[4]. The discussion centres on the interplay between rendering and inhabiting a place – as seen in video games – and

[2] M. Vetter, *Technical Potentials for the Visualization in Virtual Reality*, in D. Edler, C. Jenal, O. Kühne, eds., *Modern Approaches to the Visualization of Landscapes*, Wiesbaden: Springer VS, 2021: 307-317.

[3] D. Fontaine, *Landscape in Computer Games – The Examples of GTA V and Watch Dogs 2*, in *ibid.*: 293-306.

[4] This article was written in the framework of the research project "AN-ICON. An-Iconology: History, Theory, and Practices of Environmental Images". The project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme (grant agreement No. 834033 AN-ICON) and is hosted by the Department of Philosophy "Piero Martinetti" at the University of Milan (Project "Departments of Excellence 2023-2027" awarded by the Italian Ministry of University and Research).

experiencing landscapes as a form of visual art. This article argues that VR landscapes are best understood as standing at the intersection of these two dimensions, where technological immersion meets aesthetic appreciation and operativity.

Before entering the main discussion, three preliminary clarifications are necessary. Firstly, it is essential to define the scope of the term *virtual immersive environment*. At its core, VR refers to a digital environment which creates the sensation of being present in a real space, a concept often described in *presence studies* as 'being there'[5]. Through the combination of a headset display and stereoscopic lenses, VR images acquire depth, allowing for a three-dimensional experience. Additionally, these environments are often interactive, responding to the user's physical movements through software and motion-tracking technologies, even though the user's physical body remains external to the virtual scenario.

Secondly, understanding the landscapes represented in these environments requires an examination of the media and technologies which preceded immersive digital spaces. While VR headsets may seem to offer a novel experience, they are part of a continuum of visual and sensory techniques. Examining VR from a media-archaeological perspective involves exploring earlier devices, media, and methods that were precursors of the experiential dynamics found in today's immersive virtual environments. This approach highlights how past apparatuses 'spoke the same language' and laid the groundwork for contemporary VR technologies.

Thirdly, the concept of the *virtual* used here extends beyond the digital or computational realm. As Mikel Dufrenne already discusses in *L'oeil et l'oreille*, the virtual relates to a specifically human capacity to intuit the imperceptible, a phenomenon that accompanies aesthetic perception[6]. Dufrenne further associates the virtual with the workings of the imaginary – not as mere products of imagination but as dimensions of meaning embedded within the real. This imaginary operates as a transcendent force that reveals itself through sensory experiences, continuously generating new meanings and perspectives within reality. Building on this idea, media can be understood as conduits for a latent imaginary, actively shaping the meanings they convey. Drawing on Dufrenne's concept of an "imaginary immanent to the perceived", this framework embraces not only contemporary digital imagery but also traditional visual media. Such a perspective is crucial for exploring *the dimension of virtuality* embedded in the depiction and representation of landscapes which predates the emergence of VR headsets.

This conception of the virtual as an immanent dimension of meaning finds resonance in the analyses of media and perception by Anne Friedberg and Mark Hansen. In *The Virtual Window*, Friedberg explores how visual media reconfigure spatial percep-

[5] The field of *presence studies* is extensive, and this article highlights some foundational works in the discipline. Among these are W. Ijsselsteijn, G. Riva, *Being There: Concepts, Effects and Measurements of User Presence in Synthetic Environments*, Amsterdam: IOS Press, 2003, which explores key concepts and effects of presence in virtual environments. M. Slater, M. Usoh, "Representation Systems, Perceptual Position, and Presence in Immersive Virtual Environments", *Presence: Teleoperators and Virtual Environments*, 2 (1993): 221-233 examines how perceptual positioning impacts the sense of presence. Another significant contribution is F. Biocca, B. Delaney, "Immersive Virtual Reality Technology" *Communication in the Age of Virtual Reality*, Hillsdale (NJ): Lawrence Erlbaum Associates, 1995. Further foundational works include M. Lombard, T. Ditton, "At the Heart of It All: The Concept of Presence", *Journal of Computer-Mediated Communication*, 3, 2 (1997): . DOI 10.1111/j.1083-6101.1997.tb00072.x; M. Slater, S. Wilbur, "A Framework for Immersive Virtual Environments (FIVE): Speculations on the Role of Presence in Virtual Environments", *Presence*, 6 (1997): 603-616. DOI: 10.1162/pres.1997.6.6.603, that proposes a structured framework for understanding the role of presence in immersive technologies.

[6] M. Dufrenne, *L'oeil et l'oreille*, Montréal, L'Hexagone, 1987.

tion, extending the imaginary beyond physical constraints and historicising virtuality as a transformation in representation[7]. The convergence of these ideas underscores the notion that media do not merely mirror reality, but rather, they actively shape and mediate our perception of it. In this regard, the representation of landscapes, be it through painting, cinema, or screen-based environments, can be conceptualised as inherently virtual. This is not because these media simulate an external reality, but rather because they catalyse an imaginary that is intrinsic to our perception.

1. FRAMED/UNFRAMED

The concept of the *frame* can serve as a critical bridge in aesthetics between a theory of virtual reality and a theory of landscape. One of the often-cited characteristics of VR technology is its so-called 'unframedness'[8]. The headset display, along with the stereoscopic lenses that mediate the visualization of images, is positioned so close to the viewer's eyes that the hardware itself tends to disappears from perception. This creates an immersive and seemingly unmediated experience where the image occupies the observer's entire field of vision, blurring the traditional sense of a frame – the boundary device that has historically demarcated the distinction between the inside and outside of an image.

Conversely, the philosophical significance of the frame was thoroughly examined by Georg Simmel in the early 20th century, particularly in his seminal essay *The Picture Frame* (1902), but also in *The Philosophy of Landscape* (1913). In this latter essay, Simmel argues that the frame is essential to the 'birth' of the landscape as a distinct phenomenon. In his view, the landscape is not merely a portion of nature, but an act of perception performed by the subject. It becomes a self-contained entity, separate from, but still part of, the whole. The frame, both literal and conceptual, is what allows this transformation by isolating a segment of the infinite continuity of nature and imbuing it with its own identity:

> To conceive of a piece of ground and what is on it as a landscape means that one now conceives of a segment of nature itself as a separate unity, which estranges it from the concept of nature. This seems to me to be happening when someone shapes a field of apperception into the category of 'landscape': a self-contained perception intuited as a self-sufficient unity, which is nevertheless intermeshed with an infinite expansiveness and a continual flux[9].

A key theme in Simmel's philosophy emerges here: the interplay [*Wechselwirkung*] between the whole and its parts, a fundamental concept for understanding the idea of landscape. However, the focus here lies on the active role of the subject in 'cutting out' a portion of nature. According to Simmel, this action mirrors the process undertaken by a painter: "As far as landscape is concerned, however, a boundary, a way of being encompassed by a momentary or permanent field of vision, is quite essential"[10]. This

[7] A. Friedberg, *The Virtual Window: From Alberti to Microsoft*, Cambridge (MA): The MIT Press, 2006.

[8] On this topic see P. Conte, *Unframing Aesthetics*, Milan-Udine: Mimesis International, 2020; A.C. Dalmasso, "The Body as Virtual Frame: Performativity of the Image in Immersive Environments", *Cinéma & Cie. Film and Media Studies Journal*, 19, 32 (2019): 101-119; A. Pinotti, "Autopsia in 360°. Il *rigor mortis* dell'empatia nel fuori-cornice del virtuale", *Fata Morgana*, 39 (2019): 17-31.

[9] G. Simmel, *Philosophy of Landscape* [1913], in *Theory, Culture & Society*, Los Angeles-London-New Delhi-Singapore: Sage, 24 (7-8), 22.

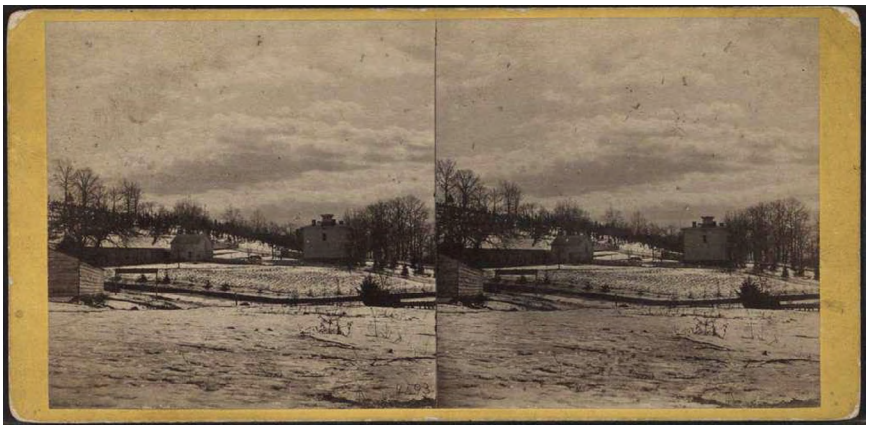
[10] *Ibid*., 21.

act introduces a creative dimension, enabling the comparison of creating a border for a landscape to an embryonic form of artistic expression. The analogy with the work of the artist is particularly compelling: framing a portion of nature grants it a degree of autonomy, transforming it into a *proto-picture*. In this process, nature is not merely observed but reimagined and composed into a distinct entity, much like a work of art. Framing, a concept central to Simmel's thought, underscores the transformation of nature into an image-like construct, bridging the natural and the representational horizon.

Transferring a landscape from perception to a medium of representation appears not only intuitive but almost intrinsic to the very concept of landscape itself, as Mitchell convincingly argues[11]. Painting of this genre, in particular, extends and refines the initial act of framing performed by the person contemplating the scene, but it is far from the only art form that adopts the landscape as a central motif. Reproductions of landscapes frequently appear in printed media, such as postcards and stamps, and become a recurring visual theme in the decoration of everyday objects, including vases, coins, tableware, and more.

In all these cases, the landscape adheres to Simmel's principle: it is clearly constrained, cut out, and framed. However, certain tools have sought to liberate the image from its frame, with the stereoscope being a prime example[12]. This device creates the illusion of three-dimensional (3D) depth from two-dimensional (2D) photograph by presenting slightly different pictures to each eye, mimicking the way human vision perceives depth in the real world. This subtle difference between the two pictures generates a convincing sense of spatial depth, making the flat image appear three-dimensional. At the turn of the 19th and 20th centuries, stereoscopic postcards (Fig. 2) gained widespread popularity, and landscapes emerged as one of their most frequently depicted subjects.

Figure 2 - Landscape and sky, High Bridge, *from Robert N. Dennis collection of stereoscopic views. Public domain via GetArchive. Original source: Robert N. Dennis collection of stereoscopic views. / United States. / States / New York / New York City / Stereoscopic views of the Bronx, New York, New York (1825-1925)*



[11] "Landscape is already artifice in the moment of its beholding, long before it becomes the subject of pictorial representation". W.J.T. Mitchell, ed., *Landscape and Power*, Chicago: University of Chicago Press, 1994, 14.

[12] Cfr. O. Grau, *Virtual Art. From Illusion to Immersion*, Cambridge-London: The MIT Press, 2003, 141-143.

In these instances, the stereoscope can be seen as an attempt to transform the subject of the landscape from a static representation to the dimension of an environment. The device conveys an impression that, despite the image's immobility, it gains depth and occupies much of the viewer's visual field[13]. This suggests an effort to unframe the image, making the experience closer to ordinary real-world perception and, in a sense, restoring the landscape to a more 'natural' dimension.

Another approach to achieving this sense of unframedness can be found in illusionistic landscape rooms. The desire to create immersive, enveloping experiences is evident even in ancient frescoed spaces, such as the Villa of the Mysteries in Pompeii[14], where the walls depicted elaborate scenes which blurred the boundaries between real and painted environments. Similarly, certain chamber tombs reproduced interior spaces on their walls, complete with painted windows offering views of imagined landscapes and life-sized human figures[15].

A notable example of an illusionistic room designed to immerse its viewers in a landscape is Paul Sandby's creation in 1793. After years of working as a military cartographer, Sandby crafted a private 'room of illusion' for Sir Nigel Bowyer at Drakelowe Hall. This project transformed the space into a panoramic environment where painted landscapes enveloped the viewer, creating the sensation of being within a continuous and unbroken visual field. Oliver Grau describes this unique artistic endeavour, underscoring its significance as an early experiment in immersive environmental art:

> Sandby covered three walls with a wild and romantic landscape *without framing elements*. Visitors found themselves under the canopy of a blue sky, painted on the arched ceiling, and mighty trees, several meters high. Between the trees, prospects of undulating countryside, crossed by cuttings, with wide clearings and grassy banks, stretched into to the distance[16].

This form of modern landscape painting, as seen in Sandby's work, has often been considered a precursor to the panorama. This, first devised by Robert Barker, was described as "a panoramic view depicted on a completely circular canvas in correct perspective"[17]. Its realization required an entirely new architectural framework (Fig. 3). The circular canvas and the surrounding structure aimed to immerse viewers, positioning them on a central platform to create the illusion of being surrounded by a real landscape. Notably, Barker's invention was more than an artistic novelty – it was also a 'scientific' device. By standardizing and formalizing a specific mode of vision, he established a calculated visual system that was officially patented in 1787.

[13] Jonathan Crary's work, *Techniques of the Observer: On Vision and Modernity in the 19th Century,* Cambridge (MA): The MIT Press, 1990 offers an important historical context for stereoscopic devices and their role in visual culture.

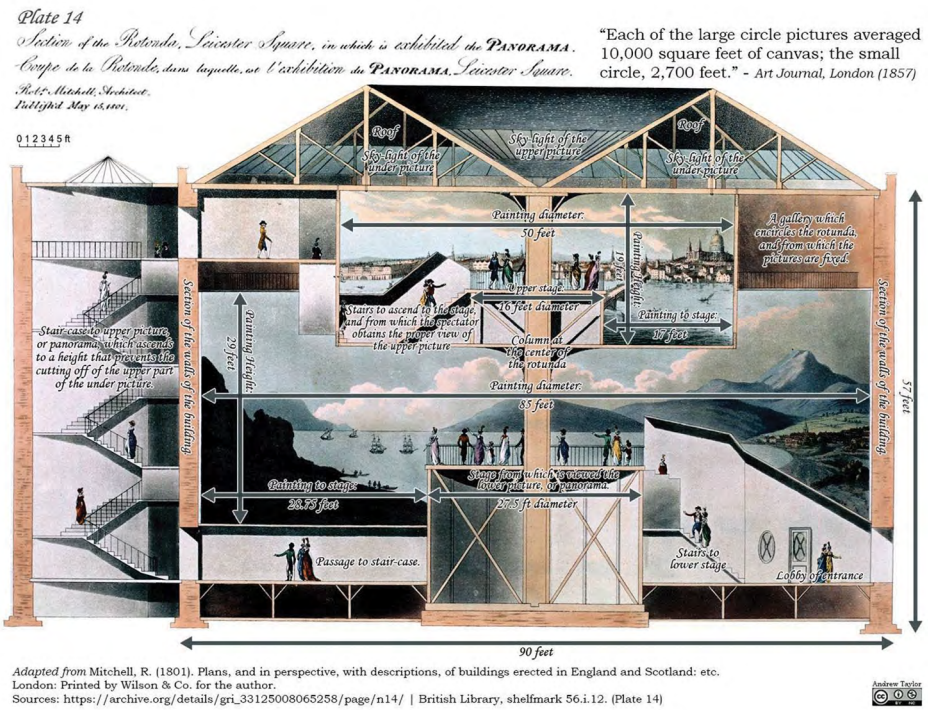
[14] Grau, *Virtual Art*, 25.

[15] A. Rossi, S. Gonizzi Barsanti, "Aumentare" la realtà: un obiettivo recente?", in S. Brusaporci *et al.*, a cura di, *IMG23. Atti del IV Convegno Internazionale e Interdisciplinare su Immagini e Immaginazione*, Publica. Sharing Knowledge, 2023: 535-542.

[16] Grau, *Virtual Art*, 54.

[17] *Ibid*., 56.

Figure 3 - *Robert Mitchell, Architect. Published May 15th, 1801. Adapted from Mitchell, R. (1801). Plans, and in perspective, with descriptions, of buildings erected in England and Scotland: etc. London: Printed by Wilson & Co. for the author. Sources: https://archive.org/details/gri_33125008065258/page/n14/ | British Library, shelfmark 56.i.12. (Plate 14). The rotunda was designed and built by Robert Mitchell for Robert Barker. This adaptation incorporates the architect's own description and key into the diagram. This 12/2019 adaptation shared under the Creative Commons 4.0 license*



Adapted from Mitchell, R. (1801). Plans, and in perspective, with descriptions, of buildings erected in England and Scotland: etc. London: Printed by Wilson & Co. for the author.
Sources: https://archive.org/details/gri_33125008065258/page/n14/ | British Library, shelfmark 56.i.12. (Plate 14)

Andrew Taylor

This innovation significantly altered the viewing experience. With the stereoscope, viewers project themselves into the image through their gaze; with the panorama, the image itself envelops and absorbs the viewer through its monumental dimensions. We need to imagine entering an enormous circular space. Another of Barker's most famous works, the *Panorama of London* from 1791, was displayed in a specially built structure called the "Rotunda", which had two floors and covered an area of 930 square meters. This illustrates not just the sense of immersion but even the feeling of being overwhelmed created by the circular image, leading to the idea that the panorama created a true 'artificial world'. In addition to its unframed quality, the panorama emphasizes another key characteristic: the immersive nature of this type of representation. The viewer is no longer just observing but becomes physically surrounded by the scene, heightening the illusion of presence within the landscape depicted.

2. AESTHETIC EXPERIENCE OF DEPICTIONS AND VIRTUAL REALITY LANDSCAPES

This 'being within the image' fosters a unique mode of interaction with pictures. The aesthetic experience in such settings suggests a state that oscillates between direct perception and image consciousness. This form of perception underpins the sense of immersiveness that certain types of images – such as the VR landscapes to be discussed below – are designed to evoke. Edmund Husserl at the beginning of the Twentieth century, elaborates on this phenomenon in his lectures on *Phantasy and Image*:

> The frequently mentioned deceptions like waxworks, panoramas, and so on, show that the transformation of an image phenomenon through the cessation of the imaginative function allows an ordinary perceptual apprehension to come forth, perhaps even a full perception furnished with normal belief. If we suddenly become conscious of the deception, image consciousness makes its appearance[18].

This insight suggests that certain visual experiences, such as those provided by panoramas, emulate aspects of ordinary perception, even though they remain images. What begins as the representation of an object in the image (*presentification*) shifts to the illusion of a tangible, external reality (*presentation*). The subject immersed in the panorama temporarily engages in a mode of perception imbued with belief, experiencing the depicted scene as though it were real. The content of the apprehension remains consistent, but the manner in which the subject interprets or *intends* the visual phenomenon changes, creating a momentary suspension of disbelief and deepened engagement[19].

Experiments in unframing the image and enhancing immersiveness raise significant questions when examined through the lens of contemporary digital technologies, particularly VR. What does it mean to experience a landscape in immersive environments? How do virtual landscapes differ from traditional picturing representations, and what kind of experiences do they provoke? Moreover, how does the immersive nature of virtual reality alter our engagement with the landscape, particularly when contemporary media devices present increasingly sophisticated and interactive images? These questions underscore the need to re-evaluate the evolution of the concept of the landscape within the context of virtual environments.

Immersion introduces new dimensions of interaction with landscape imagery. The landscape in VR, while still a product of a selective framing process, involves a significant shift. In Simmel's perspective, the act of framing carries specific aesthetic value, traditionally performed by the observer. In virtual environments, this creative operation is instead undertaken by software. Here, the designer curates and orchestrates a segment of a digital world, endowing it with autonomy and visual appeal. The resulting image invites viewers to engage with the landscape in novel ways, while still adhering to the underlying principles of selective framing.

However, the subjectivity intrinsic to virtual immersive landscape experiences introduces greater complexity. Much like the stereoscope or panorama, VR headsets challenge traditional boundaries of perception. By enveloping the viewer in an immersive environment, they blur the distinction between framed and unframed images, between

[18] E. Husserl, *Phantasy, Image Consciousness and Memory (1898-1925)*, translated by J.B. Brough, Dordrecht: Springer, 2005, 43.

[19] For a more comprehensive analysis of the aesthetic experience in immersive environments – both virtual and non-virtual – see F. Bandi, *Spazi virtuali. Esplorazioni estetiche tra ambienti elettronici e immersivi*, Pisa: ETS, 2024.

artistic representation and the perception of an actual environment. In this sense, the virtual landscape becomes more than a static image – it transforms into an experience which surrounds the viewer, reconfiguring our relationship with both the image and the space it represents. This interplay between technology, design, and the user's perception calls for a deeper understanding of how VR redefines the very notion of 'landscape'. Thanks to the different *degrees of freedom*[20] offered to the experiencer, the traditional, static and pictorial depiction seems to be deconstructed in favour of a simulated 'natural' experience. But actually, in the virtual realm the two accounts of the term seem to coexist: the landscape as a visual/pictorial construction (and deconstruction) and as an aesthetic object of contemplation[21]. At this threshold lies the potential imagery of VR landscape: the capability of fusing the subject's aesthetic appreciation and operativity, as described by Simmel, with the artificial horizon projected by the headset.

This shift aligns with Lev Manovich's broader argument that digital media turns images into interfaces, where meaning emerges through navigation rather than passive observation generating "navigable spaces" and the subject becomes an "explorer" [22]. In turn, Mark Hansen has emphasised the role of the body in constructing meaning within digital environments, suggesting that immersion in virtual landscapes is not merely about representation but about *participation*. He critiques classical visual theories that prioritize the eye, proposing instead that immersive media engage the entire sensorium, fostering a more affective and embodied interaction with space[23].

While acknowledging these perspectives, it is essential to attempt an inversion. The image we perceive when wearing a VR headset, in fact, does not exist in a fixed form. Rather, what truly exists is an infinite series of programming strings that are dynamically implemented, varying each time according to the user's bodily movements. If VR compels us into a more immersive and embodied relationship with the image – engaging not only movements of the limbs but also auditory stimuli – then it is equally true that vision remains the primary sense that allows us to feel present in a space other than where our feet are. This is because the experience itself *is shaped* through the interaction between visual and auditory stimuli (and in some cases also haptic ones) and kinaesthetic bodily movement. Therefore, users should not be considered mere 'participants', rather, they should be considered *co-creators*, if not *creators*, alongside the designer of the artificial environment[24]. Hence, the digital space within the headset is not a pre-existing entity but is instead constructed step by step – quite literally – by users.

This final point reconnects us with the central theme of this article: landscape. In the context of VR, the subjective and creative act that Simmel identified as fundamental to the very essence of the pictorial artifact appears to resurface. At the outset of this article, I cited Mitchell's claim that landscape is an exhausted medium. However, it can be argued that, with the advent of immersive and digital technologies, landscape has regained its potential as a dynamic and expressive medium. Far from being obsolete, it is once again capable of renegotiating the intricate and evolving cultural relationship between humans and nature. This renewed vitality will become evident in the case studies

[20] Certain VR experiences, depending on the design, provide three degrees of freedom (3-DoF), which permit the user to enjoy the experience by limiting their movement to head rotations, thereby effectively maintaining a stationary position in space. While others are structured according to six degrees of freedom (6-DoF), that allow the user to move freely within a circumscribed area with their feet or otherwise by teleporting.

[21] Mitchell, ed., *Landscape and Power*, 8.

[22] L. Manovich, *The Language of New Media*, Cambridge (MA): The MIT Press, 2001, 303-352.

[23] M. Hansen, *New Philosophy for New Media.* Cambridge (MA): The MIT Press, 2004.

[24] Bandi, *Spazi virtuali.*

that follow, where landscape emerges not only as a site of representation but also as a space of re-enactment, collective awareness and memory in the digital era.

3. CASE STUDIES

3.1. A Deception of Senses *by Ultra*

One of the most notable, and still surviving, examples of a panorama is that created by Hendrik Willem Mesdag known worldwide as the Panorama Mesdag. It is the largest circular painting in the world, measuring 36 meters in circumference. The cylindrical perspective creates the illusion of standing on an elevated dune overlooking the landscape of Scheveningen (The Hague) in 1881. This artwork was meticulously recreated through the use of a VR application, as part of the immersive experience entitled *L'inganno dei sensi* [A Deception of Senses] (Fig. 4), created by the Italian studio ULTRA in 2022. Entering the panorama marks one of the culminating stages of an immersive experience, itself part of a broader media-archaeological journey through prominent illusion devices, such as mirrors or kinetic artworks. Users can walk around the platform and observe the view from different vantage points, recreating the virtual landscape experience. In physical panoramas, the platform's balustrade, from which the audience contemplate the view, serves not just as a safety measure but as a *framing* device: it constrains the viewer to a circumscribed space, functioning as an apparatus that regulates the viewer's gaze. If the Panorama Mesdag were to be traversed as a physical object, the play of perspective would cease to exist. On the contrary, in ULTRA's digital reconstruction, users are invited to break the rules: they can cross over the balustrade and make their way along the beach. They gradually find themselves inhabiting a landscape that is increasingly distant from the original view, and which is also responsive and generative. In this way, the illusion is dispelled, and the actual 'dream' is realised: the image is turned into a traversable space in which the user can move freely and choose the perspective from which to observe. Ultimately, *L'inganno dei sensi* transforms the landscape from a distant, observed entity into an embodied, lived experience, inviting users to *inhabit* and *co-create* their own journey through the virtual landscape.

Figure 4 - *Still from* L'inganno dei sensi*, ULTRA, 2022. Courtesy of the artists*

3.2. Phantom (Kingdom of all the animals and all the beasts is my name) *by Daniel Steegmann Mangrané (2015)*

In the installation *Phantom (Kingdom of all the animals and all the beasts is my name)* (Fig. 5), Daniel Steegmann Mangrané creates a digital cast of the Brazilian Mata Atlántica rainforest using Unity 3D scanning, presenting it to visitors as a 360° image[25]. The 'ghost' in the title evokes the progressive disappearance of this tropical ecosystem, its essence captured and suspended in the ephemeral, intangible realm of virtual reality, offering a poignant reflection on environmental loss and preservation through digital media. The Spanish artist, known for his interdisciplinary approach, often explores the intersection of nature and technology in his work. *Phantom* is a notable example of this exploration, using advanced digital techniques to capture and represent the delicate and endangered ecosystems of the Atlantic Forest: it immerses viewers in a meticulously reconstructed digital environment, offering an intimate encounter with a landscape that is rapidly vanishing in the real world. By doing so, Mangrané not only preserves a fleeting natural beauty but also raises awareness about the degradation of the environment and the urgent need for conservation. The use of VR in this context serves as a powerful tool for both ecological education and awareness, allowing us to experience the profound loss of biodiversity.

Finally, the virtual rainforest in *Phantom* exists in a liminal space between presence and absence. Unlike a physical landscape, it cannot be touched, smelled, or truly inhabited, yet it retains an immersive, almost hyperreal quality. This duality mirrors the broader human experience of contemporary landscapes, where digital technologies increasingly shape our interactions with the natural world. Social media, satellite imagery, and virtual simulations often replace direct encounters with nature, making *Phantom* a powerful reflection on how landscapes today are as much digital constructs as they are physical spaces. Through this work, the artist underscores the evolving role of landscape: no longer merely a representation, the landscape becomes an interactive space for negotiation between reality and image, absence and presence, loss and preservation.

Figure 5 - *Still from* Phantom (Kingdom of all the animals and all the beasts is my name) *virtual reality environment, VR Headset, tracking system. Developed by ScanLab Projects, London Installation view at New Museum Triennial "Surround Audience", New York, 2015. Photography: Daniel Steegmann Mangrané. Courtesy of the artist*

[25] On this installation see L. Aspesi, F. Griccioli, "A Leaf-Shaped Animal Draws the Hand", in *Daniel Steegmann Mangrané. A Leaf-Shaped Animal Draws the Hand*, edited by L. Aspesi and F. Griccioli, Lausanne: Skira, 2020: 21-23.

3.3. Remember This Place: 31°20’46’’N 34°46’46’’E *by Patricia Liras (2023)*

A compelling example can be found in a recent project presented at Venice Immersive, one that holds particular significance due to its tragic contemporary relevance. Patricia Liras’ work, *Remember This Place: 31°20’46”N 34°46’46”E* (Figg. 6-7), employs VR to investigate a particular form of landscape. She aims to capture and document the emotional and historical significance of destroyed Palestinian homes. The narrative is centred on the numerous Bedouin communities which have repeatedly been forced to relocate and rebuild their settlements each time due to military occupation. Women’s voices weave a complex tapestry of tales, with the common theme being the instability of their dwellings, which mirrors the fragility of their lives.

Figures 6-7 - *Stills from* Remember This Place: 31°20’46’’N 34°46’46’’E*, Patricia Liras, 2023. Courtesy of the artist*

From an exchange of emails with the director and from materials she provided, it became evident that her initial concept was to digitise dwellings, particularly the inside spaces. However, as her investigation progressed, it became apparent that, in Bedouin culture and history, 'dwelling' was more closely aligned with the relationship between the body and the landscape. This perspective challenges conventional Western notions of home – an idea likely familiar to the intended audience, predominantly a Western observer, who may conceive of home as a fixed, enclosed space – emphasizing instead a more fluid and embodied experience of place. In light of this, the director collaborated with artist and photographer Roba Fraowna to explore the body's relationship to the landscape in different locations in the desert (Fig. 8).

Figure 8 - *Roba Fraowna,* Watertank*, 2023. Courtesy of the artist*

In this VR work the landscape takes on a central role, functioning as one of the protagonists in the narrative, as it symbolises the communities' historic relationship with the land, their semi-nomadic culture and lifestyle. Although many of these communities are currently urbanised or semi-urbanised, they maintain close ties to the land and a rich body of traditions reflecting this history.

The 'natural' environment is depicted as undergoing transformation over time and space. Throughout the VR experience, users are presented with a mutation of the landscape, from a state of naturalness to one that becomes colonized by external forces. Entire territories (and ecosystems) are being altered in a manner that debilitates the Bedouin population which has historically inhabited the area.

Finally, the inclusion of coordinates in the title – rendered as illegible – suggests both the precision of geographical mapping and the simultaneous inaccessibility of these locations. This paradox underscores the precarious status of these sites: they exist

in people *memory* and in digital form, but their physical presence is unstable or, in the worst cases, has been erased. In this sense, the VR project constructs a 'virtual topology' of lives, mapping out stories that are rooted in specific places but remain threatened by geopolitical forces. By crafting a virtual space where the past can be re-experienced and the present critically examined, in *Remember This Place: 31°20'46"N 34°46'46"E* the act of mapping in VR thus becomes a gesture of preservation, reinforcing the power of immersive digital landscapes to document histories that might otherwise be lost.

4. CONCLUSION

The case studies analysed in this article illustrate how landscapes in VR environments are not merely simulations of physical places, but dynamic arenas where aesthetic experience, technological mediation, and cultural memory converge. From the re-enactment of unrealized projects to the documentation of disappearing ecosystems and contested territories, these immersive worlds serve to reaffirm the landscape as an operative and reflective medium in the digital age.

Contrary to the notion that it is a form that is both residual and obsolete, landscape in VR has been shown to revive its critical potential: a cultural medium capable of negotiating the tensions between representation and presence, memory and erasure, autonomy and control. Moreover, the specificity of the medium (which allows for the integration of sound, movement and spatial disorientation, facilitated by the ability to involve the perceiving body) allows for the exposure and reconfiguration of the mechanisms by which images construct space and its meaning.

Finally, the resulting concept of landscape at stake is not static but dynamic, with the capacity to be performed, felt, and engaged with. In this sense, VR landscapes do not merely depict worlds: they create operative spaces of negotiation, where the aesthetic, the imaginary, the real and the political intersect.