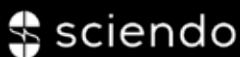


In Focus

An Archeology of the Metaverse: Virtual Worlds and Optical Devices



ÀNGEL QUINTANA, University of Girona, Spain ; email: angel.quintana@udg.edu
ALAN SALVADÓ-ROMERO, Pompeu Fabra University, Spain; email: alan.salvado@upf.edu
DANIEL PÉREZ-PAMIES, University of Girona, Spain; email: daniel.perez@udg.edu

ABSTRACT

The following article comes as a result of a Spanish Ministry R&D funded project entitled “Virtual Worlds in Early Cinema: Devices, Aesthetics and Audiences”. Our starting hypothesis is that some of the central ideas that define the metaverse’s virtual imaginary can be found in some of the visual devices and apparatuses from the 17th to the early 20th centuries. The article contextualizes and details how the desire for immersion, three-dimensional images, observation of replicas of our worlds, and living a non-narrative experience are contained in early optical devices such as magic lanterns, stereoscopic photography, panoramas, maréoramas or phantom rides. The main purpose is to illustrate that, despite the technological transformation, we ultimately are part of a long history where equivalences, parallelisms and returns arise between past and present times. The metaverse’s visual culture is no exception, and it gathers the imaginary of virtual worlds figured in some of the optical devices and visual spectacles of the past.

“The modernity of cinema entails cycles of both destruction and renewal. As an historian I defend preservation and memory against the sort of a giddy amnesia the myth of progress engenders. But nostalgia and despair about the future can be as blinding as ignoring our past.” (Gunning 2013)

INTRODUCTION

In the epistemological debates that have arisen nowadays involving the concepts of photorealism or augmented reality (Manovich 2001; Darley 2000; Massuet 2017), cybernetic realism amplifies and complements the classical cinema project, which is based on the ascription of the film image to the illusionist figurative realism that has permeated the history of Western representation (Quintana 2003: 87–115). During the first third of the 20th century, the

desire for verisimilitude in classical fiction transformed the story into a world’s double that operated according to the coherence of its own diegetic laws and ended up constituting itself as a perfectly autonomous entity whose specific weight resided in its referential value. More than a realism of what is represented, classical cinema produced “a realism of the representation in which the real world’s components operate as signs, as elements located within space, depending on what they represent for the development of certain effects of reality” (Quintana 2011: 106). This realism of the representation also sets the limits that define the simulation’s dream of the images emerging from the digital imaginary. The desire for realism lies not in replacing the real world’s coordinates but in making possible what has been dreamt

and creating a limited world that can possess its own plausible coherence. For this reason, both the real world's replication and the spectator's desire to identify with the classical fictional main characters perfectly match with some of the fundamental ideas of the metaverse: a virtual space that mimics the real one and in which users interact with each other. However, this cybernetic realism that shapes a world created as virtual alterity of the real world is not enough. It must be accompanied by an immersive realism that allows the spectator to have the possibility of accepting the illusion of fiction. Where and when does this journey toward immersion and culminating in the metaverse's realist paradigm begin? Is immersive realism an exclusive property of digital technology?

In a certain way, cinema was born to expand beyond itself because, deep down, the concept of virtuality was present in visual devices as early as the 17th century. For this reason, the hypothesis of the following article is that the idea of the metaverse, understood as a process of mediation between the physical world and the images, was embedded in many of the devices that allowed the immersion of the spectator in a certain visual experience. The "metaverse" officially appeared for the first time in Neal Stephenson's fiction novel *Snow Crash* (1992), where it is introduced as a virtual world in 3D inhabited by people's avatars, which interact with different types of experiences. However, we consider that the experience of entering virtual worlds was already manifested a century earlier in some visual spectacles, including both optical devices and early cinema. To understand and to analyze the functioning of such spectacles, as well as the aesthetic experiences associated with them, will help us to establish bridges between the past and the present. This approach will allow us to explain that the imaginary of the metaverse is not a novelty within visual culture but the materialization of certain interrelations with images, such as those showing visual spectacles like the panoramas at the end of the 18th century (Barnier

2017: 25). If every process of creating a new digital language involves a remediation of the old (Manovich 2001), the metaverse can be understood as the natural extension of a story that goes through two key events taking place in 1830. On the one hand, the advent of the daguerreotype as an essential element for capturing light at the very beginning of photographic practices. On the other hand, the emergence of the first experiments carried out by Charles Babbage and Lady Ada Lovelace in the field of analytical engine. According to Lev Manovich, New Media are nothing but the synthesis of these two historical trajectories that have to do with the creation of computers and the appearance of screens from which we envision the data generated by the machines. As Manovich states: "Cinema and its prehistory are the progenitors of new media such as computers. It is impossible to understand one without the other" (2001: 19).

Although it is evident that in the in-between from 1830 until the configuration of the metaverse concept there were developed new technological procedures – such as interactivity from the screen considered as an interface – the interrelation with virtual worlds is part of a longer history. Equivalences, parallels, returns and close situations between the past and any hypothetical future arise. Following David N. Rodowick, the history of nowadays' audiovisual, including the metaverse, could be seen as reflecting the "hybridization of the digital arts" (2007: 10). To understand this phenomenon, Rodowick considers that it is necessary to start by respecting the processes from which these practices emerge and the history they are part of (ibid., 98). On the other hand, André Gaudreault has not ceased to work in his research on early cinema considering the notion of "cultural series" (2008, 2013). Gaudreault explains how new technologies that have been developed around the digital image do nothing but continue pre-existing cultural series. Starting from these premises, the aim of the following article is twofold: on the one hand, to highlight both certain

visual devices and some early cinematographic works from the late 17th and early 20th centuries that anticipate the presence of an observer interacting with virtual worlds; and, on the other hand, to establish correspondences between the methodologies of these devices' use and those of the metaverse, prioritizing the processes of identification between the subject and the images related to it.

In order to achieve our goal, this article combines both media archaeology and the aesthetical analysis of some relevant film studies. Structurally, the text is divided into two parts in which the main axes that unite the metaverse with the experimentations carried out during cinema and early cinema's antecedents are addressed. In other words, we propose the study of immersive strategies in virtual worlds according to certain visual devices from the past, and their contemporary processes of reuse and reappropriation.

Processes of reusing visual devices related to the metaverse, alongside anachronisms associated with them, bring us closer to the idea of "surviving images" presented by art historian Aby Warburg and recovered by French theorist Georges Didi-Huberman in order to deal with formal continuities and discontinuities within art history (Didi-Huberman 2002). For Warburg, the true consideration of images lies in their phantasmagorical nature, which allows them to redisplay the pathos of their essential gestures. The project of assembling and grouping images from different periods in the so-called *Atlas Mnemosyne*, based on certain diachronic visual motifs, allows us to think about them from new systems of relationship. Based on a re-reading of Warburg's ideas, Vicente J. Benet considers that "the history of cinema has been the history of images that have survived different vicissitudes" (2015: 24). And precisely this survival becomes evident in the archaeology of the metaverse.

THEORIES OF THE VIRTUAL

In order to better understand the configuration of the virtual universes as the basis for

creation of the metaverse, it is necessary to point out two aspects: firstly, theoretical reflection on the concept of virtual and, secondly, establishment of a genealogy based on evidence. These will allow us to verify how the virtual is not only a present issue but something that comes from the past and that places us within a modernity of cinema that generates continuous cycles of development and destruction (Gunning 2013).

The popular meaning of the "virtual" concept, along with the idea of virtual reality, differs from its true definition in the field of philosophy and its subsequent adoption within computer science. The word "virtual" comes from the Latin *virtus*, meaning "strength," "courage," "virtue." Whereas in philosophy virtuality is understood as something illusory and imaginary, its etymological root has more to do with the concept of the possible. In the philosophical sense, the virtual exists in potentiality, like a tree contained in a seed. However, unlike the potential (supposed to be in the future), the virtual is already present within a real form, albeit hidden, underground and not evident. In this sense, as Pierre Lévy points out, "the virtual is not opposed to the real, but to the actual as two different forms of being" (1995: 11). In making this assertion, Lévy starts from the point raised by Gilles Deleuze, who defined the virtual as a latent phantasmagoric real. The possible is identical to the real: it only lacks existence (Deleuze 1968: 170).

In the field of computer science, the concept of virtual reality is envisioned as the existence of simulated and controlled worlds generated by a certain digital system. For example, in video games, contexts of exchange and communication between users are performed in real time (Darley 2000). Representations of real or imaginary environments are carried out by simulating the three dimensions – width, height and depth – and are executed by an individual manipulating the interface of the artificial environment or using the keyboard or the mouse. In the metaverse, interaction with virtual images offers to the viewer the

experience of being immersed in a space that is not physical but simulated. The users have the impression of being in such an environment, navigating, performing an identification with their avatars and manipulating all the objects shown within it.

Jean Baudrillard considered that the virtual had transcended the relationship established with the computer medium in order to install itself in the social world, affecting human relationships. In the mid-1990s, the French philosopher announced that reality had been exterminated through the execution of a *perfect crime* that opened the doors to the apogee of the virtual. Reality for Baudrillard is a permanently staged world in which the images' proliferation does nothing but create an authentic *trompe l'oeil*. This generation of new experiences was understood as the manifestation of a hyperreality that supplanted the sensitive processes (Baudrillard 1995). On the other hand, although the arts throughout the 20th century tried to eradicate the myth of the mimetic image with the development of the anti-mimetic avant-gardes, the scientific and technical culture of 20th-century images – cinema, television, video – has “been of a growing realism that has ended up crystallizing in this Virtual Reality, where traditional realism reached its culmination, while initiating an inevitable decadence that has to give way to new creative possibilities” (Català 2005: 73).

IMMERSIVE DEVICES AND STEREOSCOPIC VISIONS

The sense of immersion in the visual space can already be found in the 17th century. The first magic lantern shows, described and theorized by the Jesuit Athanasius Kircher, promoted certain projection systems that attempted to create virtual worlds by combining painted images, visual effects, ambient sounds, music and a narrator's speech (Mannoni 2000). In 1674, Claude François-Millet de Charles wrote a treatise in which he proposed to improve the magic lantern by introducing relief effects (Zone 2007: 54). Nevertheless, it was

not until the 19th century that the appearances of different attempts at stereoscopic projections, which aimed to simulate the immersion of the spectator, began to multiply. One of the most famous immersive shows were the *phantasmagorias* that invoked specters from the illusion created by projecting painted images on a smoke-screen. Phantasmagorias, perfected by physics professor and adventurer Étienne Gaspard Robert, also known as Robertson, started a new stage in the public reception of projected moving images. Robertson introduced technical innovations such as the use of light source, motor effects and the combination of rear and front projections. However, most importantly, he went beyond the representation of animated figures with optical tricks to become the art of enacting ghosts (Díaz Cuyás 2001).

Simultaneously, between 1830 and 1860, visual devices such as the *Mondo nuovo* were popularized, allowing the individual view of photographs in stereoscopic relief. The viewer was supposed to look through two lenses at an engraving placed inside an optical box, creating a depth of field effect. As Carlo Alberto Zotti points out, thanks to the *Mondo nuovo*, the eye was recognized as a direct channel for experiencing the world (2003: 28). As a result of its success, the London Stereoscopic Company sold more than a million views in relief in 1862. In the United Kingdom, France, Germany and Central Europe the works of Charles Wheatstone, David Brewster, Joseph d'Almeida and Louis Ducos du Hauron appeared, and they were oriented toward the creation of devices that enabled the view of stereoscopic photographs. The stereoscope was born after them, trying to find a total equivalence between the stereoscopic image and the object represented, seeking an effect not only of resemblance but also of an immediate tangibility (Crary 1990: 162). In all the European countries, patents of devices trying to enhance this relief arose. Such was the case of Alfred Molteni, who in 1890 built in France a projection lantern with two lenses, thus recreating the effect of a

three-dimensional image (Barnier, Kitsopanidou 2015: 67).

The popularization of these immersive experiences occurred from 1880 onwards, thanks to the spread of a new chemical process known as the *dry plate* or *gelatin process*. It allowed the practice of photography to spread to amateurs – who were able to take stereoscopic photographs themselves – thanks to the large-scale commercialization of photographic products. However, the main event that made it possible to increase the number of amateur stereoscopic photographers was the commercialization, starting in 1893, of a new camera called *Vérascope* by French inventor Jules Richard. It was a small-format camera through which the observer could look with the left and right eye at the plates that were introduced inside it, creating a three-dimensionality illusion (Barnier, Kitsopanidou 2015: 129). This invention introduced a new model of glass plates (4.5 × 10.7 cm) that were printed by contact with other glass plates of the same size, resulting in a series of stereoscopic images of 4 × 4 centimeters each. From 1900 onwards, Jules Richard marketed other cameras and viewfinders in the same spirit of simplicity, economy and quality, such as the *Glyphoscope* camera (1905) and the *Taxiphote* multi-image viewer (1900). On the one hand, the set of devices associated with stereoscopy (defined by binocular perception and individual experience) prefigured the entering devices to the metaverse, such as eyeglasses or helmets. On the other hand, today's legacy of stereoscopic photography is a prescient example of the desire for virtualization that accompanied photographic practices in the early 20th century. Furthermore, it demonstrates how this desire was joined by another will: to expand the photographic medium beyond its own limits.

VIRTUAL TOURS AND VISUAL ATTRACTION

Following the example of stereoscopy, we can find another similar visual immersive spectacle: the *maréorama*. Presented at

the Universal Exhibition of Paris in 1900, it combined observation from a ship and a cinematographic device. By using canvases on which images of maritime landscapes were projected, visitors could virtually travel from Marseilles to Istanbul. Changes in the landscape, lighting, ventilation effects and sound effects – the ship's siren and the noise of the propellers – were produced during the show in order to generate a certain degree of illusionism. Immersing the spectator inside a grandiose set happens to be not new but dates to the end of the 18th century, when panoramas were installed in the main European cities. In these shows, the spectator entered an enclosure crowned by a 360-degree canvas that offered an experience in front of what was represented (Comment 1993). Some variations were produced around their technique, such as *cosmoramas*, *dioramas*, *cycloramas* or *mobile panoramas* (Michaux 1999). Although many of these contraptions were key to the creation of certain theatrical sets – most of them designed from the suffix “-orama” – they responded to the growing tourist interest associated with the development of means of transport and the aesthetic taste for moving landscapes (Salvadó 2023). Thus, halfway between the visual spectacle and the geographical curiosity of discovering the world, 19th-century spectators were offered to be transported in large virtual tours (Oettermann 1997: 32).

Another prefiguration related to entering virtual worlds comes from the identification between the gaze associated with the means of transportation and the cinematographic device. At the beginning of the 20th century, George C. Hale created the so-called *Hale's Tour*, a show consisting of an evolution of early film genres, such as railroad views and phantom rides, where cinematographic images of landscapes were projected inside a static train car. The cabin became literally a movie theater, pushing to the limit the overlapping of two viewing devices: the train and the cinema (Kirby 1997). The projection of moving images was combined with a set of sensory-motor sensations. The aim was to

make the traveler-spectator feel the journey experience within the immobility of the room, such as in the amusement parks that appeared simultaneously at the same time (Quintana 2011: 29).

Hale's Tours, maréoramas and panoramas created aesthetic proposals to which cinema is no stranger, and which find their roots in the desire to virtualize the traveler's experience. Therefore, a particular kind of audience is created, an audience seeking a correlation between the virtual experience offered by this type of spectacle and the new real perceptual experiences associated with both modernity and urbanity. The apparition of new means of transport created a new relationship with time and space. This was reflected in early cinema films' attempts to show new forms of visual attraction (Gunning 1986), as well as in new ways of experiencing time closer to reality. An observer of the world was demanded, rather than a cinematographic spectator. These approaches are manifested in the filmic experience carried out by G. W. Bitzer for the American Mutoscope & Biograph Company: *New York Subway* (1905). The future David W. Griffith's director of photography filmed the New York Subway route between 14th and 42nd Street, placing a camera on a track. That same year, Bitzer also filmed *Across the Brooklyn Bridge* (1905), in which he placed the camera at the front of the subway that crossed the mythical bridge linking Manhattan and Brooklyn. Both films, rather than claiming the viewer's attraction, present a dilatation of time in order to live a sensory experience. The traveler-spectators of that moment had no avatar acting as their alter ego, but they lived the on-screen immersive experience as if relating their world (the real one) to a metaverse. This type of virtual journey proliferated in different filmographies in the early years of the 20th century, as noted by the fact that on the other side of the Atlantic, in Barcelona, photographer and pioneer in filmmaking Ricard Baños filmed *Barcelona en tranvía* (1908). Baños also placed the viewer in front of the means of locomotion and offered a trip from the Ramblas

promenade in Barcelona to the upper part of the city. Virtual journeys of early cinema illustrate a type of cinematographic experience fostered in the visual attraction of the gaze rather than in the classical narrative integration (ibid., 1986). They certified the proximity to the metaverse's imaginary regarding the experience of extraordinary sensations from unheard points of view.

We find it paradoxical that the driving idea behind the conception of the virtual during the emergence of cinema was the dream of creating possible images capable of overcoming death and creating parallel life systems, a factor that implies both resurgence of the mimetic and catharsis (Bazin 2005; Debray 1992). This thought has been accompanied throughout history by the creation of spaces of virtuality where the spectator does not overcome death but transits through other possible worlds different from the actual one. Immersive practices prior to the widespread use of 3D cinema techniques allow us to understand the relationship that visual media have established with the virtual. Although the first 3D projection was carried out from a film shot by Edwin S. Porter – author of *The Great Train Robbery* (1903) – and was shown to an audience of professionals and representatives of the corporate press on June 10th, 1915 at the Astor Theater in New York (Barnier, Kitsopanidou 2015: 34–35), generally, when thinking about three-dimensionality in cinema it is usually associated with the projection attempts that were developed around 1952 and the resurrection processes it experienced around 2009, when its use became widespread in commercial theaters.

Based on the immersive premise, although incorporating an ironic and humorous dimension, we also find in early cinema a couple of filmic proposals. They are revolutionary for their way of integrating the spectator in relation to the images: *How It Feels To Be Run Over* (Cecil H. Hepworth, 1900) and *The Big Swallow* (James Williamson, 1901). The first one, less than a minute long, offers the visual impres-

sion of a roadkill. Consisting of two scenes, it places us in the middle of a dusty road where, from a distance and in depth of field, we observe the approach of a first vehicle that disappears from our field of vision into the right of the shot. Then, a second vehicle also appears in the distance and, this time, it approaches the camera straightforwardly, that is to say: direct to the spectator. The vehicle ends up occupying the entire shot, leaving it completely dark, to end up overprinting the caption: “!!!! Oh! will be pleased.” Hepworth’s short film plays with points of view, turning what initially appears to be an objective shot into a subjective one, breaking with the illusion of a post-filmic space that is literally dismantled by the car itself. As happened with virtual travel, modernity, speed and means of transportation are at the center of this short film, although in this case the fluid continuity between the figurative space of observation and the action developed on screen becomes the unexpected gag at the end of the piece. The experience recreated by Hepworth not only dialogues with the legend of the Lumière brothers’ projection (Sirois-Trahan 2004), where the spectators fled the room with the vision of the train approaching the camera, but also connects with contemporary 3D and virtual reality experiences, where the effect of reality arises from throwing objects toward the spectator (Barnier, Kitsopanidou 2015).

On the other hand, *The Big Swallow*, which is built under a similar immersive irony, recreates the impression of being swallowed by someone. The one-minute film begins with the image of a gentleman (dressed in a hat and carrying a cane) who, from the back of a room, throws angry glances at the camera as he begins to get upset, allegedly, by the fact of being watched. The man approaches the camera, as happened with the vehicle from *How It Feels To Be Run Over*, until we reach a very close close-up of the character’s mouth, which, in an unexpected gesture, opens completely to turn the field of vision into black, producing the effect of entering into his throat. Breaking again the post-filmic

space, the next shot shows us the cameraman and his camera being swallowed by the darkness of the gentleman’s mouth. Finally, we return to the subjective point of view in which we observe his mouth in a very close close-up and how it gradually moves away to a medium shot. Once again, the display of visual attraction is the pretext for establishing a game of continuities between the spectator and the screen that, beyond meta-discursive approaches, prefigures the interaction between the real world of the observer and the virtual world of fiction. As in the virtual travel genre, the classic status of spectator is not enough to frame a visual experience based on the simulation of extraordinary experiences, thus anticipating the user model of the metaverse. For this reason, an important part of the corpus of the so-called cinema of attractions – those moving images that are not integrated into the narrative and whose simple display satisfies the viewer’s gaze (Gunning 1986) – rather than forming cinematographic spectators, prepares the ground for the post-cinematographic.

THE MEDIUM’S REUSE

The transition between virtual worlds was created between the late 19th and the early 20th centuries and nowadays technologies are not limited to cataloguing devices that serve to know the precedents located in the past. It also helps to think about the way in which technologies are being reused in contemporary society. If we take as a case study a device such as the magic lantern, one of the most interesting thoughts carried out by historians lies in the concept of medium “reuse” (Dellmann, Kessler 2020). It is true that magic lantern glass plates are part of a bygone era. In the 19th century, they became essential both for the dissemination of images and for the creation of immersive spectacles. Nowadays a very important part of the plates that survived in Europe are searchable and accessible on the Internet thanks to the project of digitalization of thousands of them, carried out at the University of Trier (Germany) and known under the title of *The Lucerna Data-*

base.¹ However, beyond the use of these media at a given time, it is necessary to ask whether the magic lantern died, or whether it evolved thanks to the emergence of photography toward other devices such as slide projectors, or whether its didactic use is present in digital PowerPoint presentations, or even whether the current GIFs that create mechanical movements in social networks are nothing more than an extension of the mechanical movements that were created for the plates and for the projection shows.

Following this thinking through the territory of mass visual spectacle, we can ask ourselves if the artistic mapping actions taking place in many cities are nothing else but an extension of the shows that were performed with lanterns, with various lenses, and that were projected on large building façades in the 19th century. We can even ask ourselves if the current LED screens installed to display advertisements on the outsides of the central buildings of the large metropolises – such as Times Square in New York and Piccadilly Circus in London – are nothing but an extension of the screens on which magic lantern plates were displayed during election periods. Thus, for example, in the presidential campaigns in the United States between 1880 and 1890, both Democrats and Republicans used powerful media to generate an authentic political spectacle around images (Musser 2016; Girona, Quintana, 2013). Republicans, for instance, used the stereopticon, a modern system of lantern plates' projection, which made it possible to show large-scale images on the great buildings of New York. Of course, we could assume a process of reuse of the magic lantern from many other different aspects, but we can also use the lantern's example to place ourselves in the debate on cultural series. In this case, the idea of projecting large images to attract the public, modifying urban planning or creat-

ing virtual images on the city's landscape, is part of something older, dating back to the late 19th century. It is true that the passage from the Stereopticon to LED screens is substantial, but some aspects of the medium remain, allowing us to think and know better the images, beyond the official discourses based on data and works that classical historiography came to articulate around the birth of cinema.

If we move these theoretical approaches to some of the devices that we have analyzed above, we will realize that, for example, the *Mondo nuovo* represents visual devices that have disappeared in the stream of time owing to their technological obsolescence, but that, because of their proposal of individual consumption of three-dimensional images of worlds far from reality, they are reused and reinterpreted in the methodology of operation of the metaverse. The operation by which the observer isolates himself from his surroundings and visually immerses himself in another reality survives two centuries later. Rather than affirming that the *Mondo nuovo* is a predecessor of the metaverse, we should point out how the latter reuses a technique of observation and mediation with images from the 19th century to adapt it to a new technological paradigm of the 21st century.

On the other hand, in the corpus of what we understand as cinema of attractions in the period of early cinema, patterns of spectator behavior emerge in relation to images that move away from the traditionally more narrative arts. In the devices that reproduce virtual journeys, where the spectator's enjoyment arises from the experimentation of movement and visual impact, we identify a form that also survives in the metaverse's conception, conceived as a technological environment of simulation rather than one of narration. Once again, and from a historiographic perspective, the methodology of media reuse establishes a new bridge between past and present that certifies the cycle of intermedial demise and rebirth that has led to the metaverse. For this reason, it is necessary to think,

1 The website <http://lucerna.exeter.ac.uk/> contains the study of the plates, the definition of their uses and information on their circulation in the exhibition circuits and shows from the époque.

analyze and question the metaverse as the result of changes and transformations that already took place at the beginning of the 20th century.

CONCLUSIONS

Media archaeology is a key discipline in order to comprehend the origin of many of the ideas that have shaped media technology. When trying to understand our contemporary visual culture, we must attend to those optical devices that emerged from the 17th century onwards such as the magic lantern, the *Mondo nuovo* and the panoramas from the end of the 18th century. To consolidate this bridge with archaeology, we get to conclude that the concept of the metaverse exists thanks to the reuse of ideas that were already present in the past. Thus, we can establish a connection between GIFs and old lantern plates, the Stereopticon used for stereoscopic photography and the Google glasses, or the public lantern projections that led to phantasmagoria and the mapping projections in nowadays urban landscapes. Even the panorama, which disappeared at the beginning of the 20th century, has found new forms in the 21st century as demonstrated by attractions such as “Everest 448” by Yadegar Asisi, consisting of a 4D panorama installed in the city of Leipzig. Furthermore, other examples would link theme park attractions to the old phantom rides.

On the other hand, if we place ourselves in the territory of ideas, we will see that the myths derived from virtual reality, included in the imaginary of the metaverse, have their origin in some myths of antiquity such as the Promethean myth of giving life to the human without divine intervention, or the desire of mimesis, which runs through the whole history of art. In the end, what comes into play is the idea of representing a world understood as an illusion. As E. H. Gombrich (1977) observed, the cultural

laws of each epoch impose their specific forms of constructing reality, and the language of the visible world is codified by each epoch's technological devices to end up generating a representation of reality. Consequently, we can consider immersive realism as the 21st-century update of the old desire to copy possible worlds close to the current world.

At the same time, the journey through some of the virtual worlds prior to the emergence of digital technology reveals how in the immersive realism of early cinema the image conception corresponds to that of the simulacrum. If, as David N. Rodowick points out, the image emerging from a digital capture – immediately transcoded and converted into discrete and modifiable units – no longer creates causality, nor photographic contingency, but only an illusion (Rodowick 2007: 10), the transition between the image as a trace or index of reality and the image as a simulacrum seems already inscribed in some of the proposals of the period under analysis. This question invites us to think about the concept of the metaverse beyond digital technology, opening a wide range of possibilities as to what and how the images with which we mediate in this space of interaction should be. Images that, undoubtedly, are characterized by their complexity, as Josep Maria Català points out: “the multimedia image is a complex image composed of different deployable and articulable layers[;] it is also provided with an exterior – the map or interface that articulates its content – and an interior, the content or contents that arise from the deployment or articulation of the different layers” (2005: 113). As if in the face of the spectacular effects that refer to a revaluation of mimesis to the point of analogue with the world, other images emerge that end up showing another nature formed by data and signs. Welcome to the desert of the real. Welcome to the metaverse.

- * Funded by European Union-NextGenerationEU, Ministry of Universities and Recovery, Transformation and Resilience Plan, through a call from Pompeu Fabra University (Barcelona).
- * This publication is part of the PRE2019-087535 grant, financed by the Spanish Ministry MCIN/AEI/10.13039/501100011033 and by ESF invest in your future.

BIBLIOGRAPHY

- Barnier, Martin; Kitsopanidou, Kira** 2015. *Le cinéma 3-D. Histoire, économie, technique, esthétique*. Paris: Armand Colin.
- Barnier, Martin** 2017. 'Du Panorama à l'Atmos 3-D, deux siècles d'immersion'. In Antony Fiant, Roxane Hamery, Jean-Baptiste Massuet (eds.), *Point de vue et point d'écoute au cinéma. Approches techniques*. Rennes: PUR, 25–38.
- Baudrillard, Jean** 1995. *Le crime parfait*. Paris: Galilée.
- Bazin, André** 2005. *What Is Cinema?* Los Angeles: University of California Press.
- Benet, Vicente J.** 2015. 'Mutaciones del cine. La historia cultural de las imágenes supervivientes'. *Nuevo texto crítico* 4, 51, 15–26.
- Català, Josep Maria** 2005. *La imagen compleja. La fenomenología de las imágenes en la era de la cultura visual*. Barcelona: Servei de Publicacions de la Universitat Autònoma de Barcelona.
- Comment, Bernard** 1993. *Le XIX^e siècle des panoramas*. Paris: Adam Biro.
- Crary, Jonathan** 1990. *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*. Cambridge: MIT Press.
- Darley, Andrew** 2000. *Visual Digital Culture: Surface Play and Spectacle in New Media Genres*. New York: Routledge.
- Debray, Régis** 1992. *Vie et mort de l'image. Une histoire du regard en Occident*. Paris: Gallimard.
- Dellmann, Sarah; Kessler, Frank** (eds.) 2020. *A Million Pictures: Magic Lantern Slides in the History of Learning*. Barnet: John Libbey & Co.
- Deleuze, Gilles** 1968. *Différence et répétition*. Paris: Presses Universitaires de France.
- Didi-Huberman, Georges** 2002. *L'image survivante. Histoire de l'art et temps de fantômes selon Aby Warburg*. Paris: Éditions de Minuit.
- Díaz Cuyás, José** 2001. 'Notas sobre la fantasmagoría'. *Archivos de la Filmoteca*, 39.
- Gaudreault, André** 2008. *Cinéma et attraction. Pour une nouvelle histoire du cinématographe*. Paris: CNRS.
- Gaudreault, André; Marion, Philippe** 2013. *La fin du cinéma? Un média en crise à l'ère du numérique*. Paris: Armand Colin.
- Girona, Ramon; Quintana, Àngel** 2013. 'Constructed news: events and rituals of political life'. *Barcelona, Research, Art, Creation*, 2, 1, 81–99.
- Gombrich, Ernst Hans** 1977. *Art and Illusion. A Study in the Psychology of Pictorial Representation*. New York: Phaidon.
- Gunning, Tom** 1986. 'The cinema of attraction[s]: early film, its spectator and the avant-garde'. *Wide Angle*, 8, 63–70.
- Gunning, Tom** 2013. 'Let's start over: why cinema hasn't yet been invented'. In André Gaudreault, Philippe Marion (eds.), *La fin du cinéma. Un média en crise à l'ère du numérique*. Paris: Armand Colin, 192–193.
- Kirby, Lynn** 1997. *Parallel Tracks: The Railroad and Silent Cinema*. Durham: Duke University Press.
- Lévy, Pierre** 1995. *Qu'est-ce que le virtuel?* Paris: Éditions La Découverte.
- Manovich, Lev** 2001. *The Language of New Media*. Cambridge: MIT Press.
- Mannoni, Laurent** 2000. *The Great Art of Light and Shadow: Archaeology of the Cinema*. Exeter: University of Exeter Press.
- Massuet, Jean-Baptiste** 2017. *Le dessin animé au pays du film: Quand l'animation graphique rencontre le cinéma en prises de vues réelles*. Rennes: PUR.
- Michaux, Emmanuelle** 1999. *Du panorama pictural au cinéma circulaire: origines et histoires d'un autre cinéma. 1785–1998*. Paris: L'Harmattan.
- Musser, Charles** 2016. *Politicking and Emergent Media: US Presidential Elections of 1890s*. Los Angeles: University of California Press.
- Oettermann, Stephan** 1997. *The Panorama: History of a Mass Medium*. New York: Zone Books.
- Quintana, Àngel** 2003. *Fábulas de lo visible*. Barcelona: Acanalado.
- Quintana, Àngel** 2011. *Después del cine. Imagen y realidad en la era digital*. Barcelona: Acanalado.
- Rodowick, D. N.** 2007. *The Virtual Life of Film*. Cambridge: Harvard University Press.
- Salvadó, Alan** 2023. 'Adentrarse virtualmente en un paisaje en la era pre-digital: de los viajes pintorescos del siglo XIX al recorrido inmersivo de *Los sueños de Akira Kurosawa* (1990)'. *L'Atalante, Revista de Estudios Cinematográficos*, 35.
- Sirois-Trahan, Jean-Pierre** 2004. 'Mythes et limites du train-qui-fonce-sur-les-spectateurs'. In Veronica Innocenti, Valentina Re (eds.), *Limina. Le soglie del film – Film's thresholds*. Udine: Forum, 203–221.
- Zone, Ray** 2007. *Stereoscopic Cinema and the Origins of 3-D Film, 1838–1952*. Lexington: University Press of Kentucky.
- Zotti, Carlo Alberto** 2003. 'Il viaggio ottico: dal mondo nuovo alle vedute Lumière'. In Àngel Quintana, Jordi Pons (eds.), *Imatge i viatge. De les vistes òptiques al cinema*. Girona: Museu del Cinema, Universitat de Girona, 27–48.