

## Could 'Cinéorama' and Immersive Viewing Have Changed Our Experience of Cinema Today?

### Introduction - Cinema Experience Today

Over the past century, the theatrical experience of cinema has progressed an incredible amount compared to its beginnings in the late 1800s and early 1900s. Cinema today is one of the largest media and entertainment industries in history. The UK film industry alone was estimated to be worth £4.6billion in 2011 (BBC news, 17/09/2012), and the products of the industry - the films themselves - are just as spectacular when compared to their ancestors.

When we go to the cinema now, we are taken in completely by the experience. The sights and sounds around us immerse our imaginations in a world completely separate to our own, created and sculpted by the film's creators to define a particular experience. Fast camera angle changes, flashing lights and lots of noise result in a fast, action oriented experience while calm music, soft light and calm dialogue result in a more relaxed experience - all of which are designed by the creators using effects that "must be simulated to read as 'real'" - though the use of CGI to fulfil this has its roots in trying to overcome the "faults of the photographic", making a considerable comment about the desires of cinema goers in terms of what they want out of their experience - something 'real'. [Lister, *n.d.*, p.313].

### Origins of Cinema and Cinematography

Before traditional cinema emerged, many technologies were developed for the displaying of optical imagery. The first notable instance of an optical imaging device was the pinhole camera invented in the early 1800s, in which light is shone through a small hole in a box, projecting a the image onto the opposite side of the box, though reversed The pinhole camera provided a cheap, accessible way for 19th century photographers to capture the world in print. [Vladimir Zivkovic, 2011].

Later came the 19th century Camera Obscura, which made use of much sharper lenses than its predecessors, and also used some of the same design principles as the pinhole camera [J. & B. Wilgus, 2004]. Many iterations of the Camera Obscura had existed at different times in history, but the 19th century version was what influenced later cinematography. The Camera Obscura would shine either still or moving images from an outside source through a pinhole, and project it onto a surface for participants to view. By doing so, moving images could be viewed on a relatively large surface compared to the pinhole camera, allowing for larger audiences and more diverse viewing experiences [Jack & Beverly Wilgus, 2004]

Additionally, Tom Gunning makes mention of the Magic Lantern in an interview in which he describes it as a medium for projecting and displaying still and moving images on glass slides in a way that "makes it have a kind of virtual quality ... a very strong visual perceptual quality". Gunning attributes the invention of the Magic Lantern to Christiaan Huygens in the 17th century, and was quickly adopted as a medium for entertainment [Gunning, 2005].

"There was an inherent fascination. Some people found them rather uncanny. It was a major form of visual media in the 19th Century, and it segued - almost seamlessly - into motion picture." [Gunning, 2005]

Once these foundations had been laid, the world of cinematography had been created and it wasn't long before inventors and entrepreneurs such as Thomas Edison, William Dickson, and the Lumiere brothers were developing new and better technologies for the capture and display of optical imagery. As with most new technologies, money was a major driving factor behind cinema, as it arose as a way to profitably provide a new medium for providing entertainment to the masses.

Although the technology was advancing, it was still the experience itself which mattered the most to the audience. The cameras and the projectors may have been getting better with time, but the experience remained relatively the same. Of course in and around 1910, the film was silent, or accompanied with piano music and sound effects produced by an employee of the cinema, as is the

cliché silent movie we perceive today. But some cinematographers wanted to enhance the spectacle, and create a viewing experience that was the same in principle, but much grander and thrilling for the audience.

### Immersive Viewing

The definition of "immerse" according to the Cambridge Online Dictionary (2013) is to "become completely involved in something" - in this case cinema or video. In relation to cinema, to be "immersed" is a relatively loose term, and one that is used openly in entertainment today. However, to truly be immersed in an experience, the viewer/participant must be "completely involved" in the experience, to the extent that it becomes their perceived reality for a short time, otherwise known as "virtual reality". Laurie McRobert describes immersive art, and thus entertainment, as "emerging technological art form that, in effect, immerses participants in virtual space in the same way as scuba divers immerse themselves in water to explore another world" [Laurie McRobert, 2007, p.3]. However, while many immersive art forms are still in a period of emergence today, immersive cinema has its roots way back at the beginning of the 20th Century, notably the Cinéorama by Raoul Grimoin-Sanson.

### Cinéorama

In 1900, an inventor and cinematographer by the name Raoul Grimoin-Sanson opened the first publicly available immersive viewing experience at the 1900 Paris World Fair, known and patented as the Cinéorama. This invention was fairly simple in design by today's standards, but ambitious in terms of scope and creativity at the end of the 19th century. The Cinéorama was a room in which 10 70" film projectors, showing hand-coloured slides instead of film, created a 360 degree panoramic image around a platform, on which the viewers stood. The footage shown at the Paris World Fair was of a balloon ride, filmed by attaching 10 cameras to the side of a balloon basket [Clarke and Doel, 2005].

The Cinéorama was, in effect, one of the first attempts to create an immersive viewing experience for a large audience. Although the idea of "immersion" today holds many similarities with virtual reality, the experience of Cinéorama for the audience appears to have been truly immersive for the time. The Paris World Fair in 1900 exhibited many forms of panoramic imagery, such as the massive Le Tour du Grande, and panoramas and dioramas of exotic places such as Madagascar and the Congo. But Cinéorama was the only exhibit to provide a 360 degree image, making it the most immersive exhibit of the fair.

However, it would be safe to assume that many of the patrons of the short-lived Cinéorama likely never experienced something akin to that of Raoul Grimoin-Sanson's virtual balloon ride outside of the 1900 Paris World Fair, because panoramic viewing experiences never became popular amongst the world of cinematography. In Clarke and Doel's words [2005], the Cinéorama "sounded the death knell of the panorama in an age of animated photography"[p.55].

In this capacity then, the Cinéorama truly defines the term "dead medium", as it suffered many major technical issues, and as a result was forced to close its doors after just 3 days of operation (Clarke and Doel make a comment about the lifespan being a myth, so it may have been slightly longer). The vast amount of heat produced by all of the technology cramped into a combined space under the platforms meant that much of it never functioned properly, and the rumour is that it was closed by police and safety officials for health and safety reasons - namely the enormous fire hazard the technology created, on top of which stood the platform that held the audience [Laurent Mannoni, *unknown*]. Adding to the justification of labelling the Cinéorama a "dead medium" is the fact that it was never directly replaced, as is the case with many dead media. It simply existed for 3 days, and then never made an appearance in other media that made it obsolete, other than those that later tried to imitated it after it was already dead. However, even with Cinéorama becoming dead so soon after its creation, the idea of panorama and immersion in photography and film had not yet completely dwindled.

Another notable mention of panorama and immersion as entertainment were the Hale's Tours between 1906 and 1911, a series of shows of early virtual reality in which a panorama of images were played to viewers to simulate a train journey using wind machines and a swaying seating area (created by staff members pushing on the carriage) within the fake train carriage in which viewers sat. By 1911, the show had appeared in over 500 locations across North America [Richard Abel, 2010, p.134]. The fact that this medium existed for so long and was, arguably, so successful means that there was definitely an audience for immersive experiences in this time period. Although there is no clear link between the Hale's Tours and Cinéorama, it could be argued that Cinéorama at least helped to ignite the idea of a panoramic viewing experience that would later inspire Hale's Tours inventors George C. Hale and William Keefe. Therefore Hale's Tours, along with other panoramic & immersive viewing experiences of the day, could be argued to be remediations of Cinéorama. [Philippe Gauthier, 2008]

However, panoramic, immersive & visual reality experiences appear to have been a niche market and as a result appeared mainly as amusement park attractions and not as a fully independent entertainment medium in and of itself. Clarke and Doel describe the decline in popularity of the Hale's Tours in a way that can be echoed when talking about the failure of panoramic and immersive viewing experiences by stating that "despite the hyperrealism of Hale's Tours, film itself was slowly becoming the central attraction." People were more interested in improving the films themselves, rather than immersive media.

Despite this being a largely immersive experience in 1900, Cinéorama may be considered to be a very basic immersive medium. Oliver Grau, author of 'Visual Art: Illusion to Immersion' [2003], conveys the idea of an immersive experience to be much more complex than that which Cinéorama offered, through use of a multitude of "illusion techniques";

"According to this program of illusion techniques, simulated stereophonic

sound, tactile and haptic impressions, and thermoreceptive and even kinaesthetic sensations will all combine in a way to convey to the observer the illusion of being in a complex structured space of a natural world, producing the most intense feeling of immersion possible."  
[Grau, 2003, p. 147]

In this respect, Cinéorama was not much more than a 360 degree panorama. The lack of other stimulants would mean that Cinéorama would likely not be considered immersive today, or if so only at a very basic level. But this can mostly be put down to both technology, and a century of experimentation and development in both traditional and immersive entertainment media. In spite of its relative simplicity, Cinéorama still had the capacity to make a real impact on the entertainment industry. The development and respectable popularity of other immersive media after 1900, such as the Hale's Tours, prove that there was a potential industry in the world of immersive entertainment, and possibly even that Cinéorama had at least some impact in the further development of the field. Coupled with this, the fact that the gaming industry in particular in the 21st century is moving ever closer to virtual reality systems [Venables, 2013], and that entertainment and technology industries are using the word "immersive" more and more to describe and sell their products shows that there still is a demand for immersive entertainment. A clear example of this is the Assassin's Creed IV: Black Flag - 101 Trailer from IGN [2013, 00:33].

So, the question arises; What if immersive theatre, specifically Cinéorama, didn't die out like it did? Although Cinéorama was a very short-lived attraction, it clearly had an influence on other inventors and cinematographers to pursue the idea of an immersive experience. Could the cinema experience have been more drastically altered by a higher popularity and interest in immersive entertainment, and what would it be like today if it was? And could Cinéorama be remediated within cinema today?

Traditional theatre, along with other performance entertainment, have recently begun to see incorporations of immersive ideas into their performances. Felix Barrett, a prominent figure in the world of theatre and founder of the Punchdrunk company has brought ideas of immersive

entertainment into his performances, creating a whole new type of theatre, having "huge influence of theatre and beyond" (Liz Hoggard, the Observer, 2013). His patrons are not sat in front of a stage to watch a performance, but are in fact part of a performance that happens all around them, in many locations around an area or building, that truly immerses the audience into believing and experiencing something for themselves.

Additionally, as mentioned previously, larger entertainment media such as gaming and television are much more keen to "immerse" their consumers in their products. Pauley.co.uk, a site that strives to become "the most trusted online portal for sharing insights and driving innovation in digital technology," describes the idea of immersive gaming as "been on the horizon for decades, but it's never quite happened," highlighting the fact that immersive entertainment has had a potential market for years, and even mentions that multiple major game producers "look set to support [virtual reality systems]" [anon, 2013]

The fact that TVs are becoming larger, with ever improving sound systems with "virtual surround" and other immersive attributes, shows that audiences definitely want an immersive viewing experience.

So why is cinema, fabled as the most immersive and entertaining of entertainment experiences, so similar to how it has always been? It's already clear from what Clarke and Doel said previously that the cinema and film making industry was more interested in improving the methods of film production in the early-mid 20th century, but that no longer needs to be the case. Film making has remained relatively the same for a century, ever since media like Cinéorama died out.

There have obviously been major advancements in recent years in the technology used in film production, but the methods had remained relatively the same until the emergence of CGI and virtual 3D. And although CGI may have changed the way in which many blockbuster movies are made, and 3D slightly changes the viewing experience to be slightly more immersive, the film industry is undoubtedly large enough today to make much larger advancements in immersive viewing *as well as* the other areas they already make investments and improvements. Simply by

looking at statistics on the film industry [*the-numbers.com*] it is clear that it would be easy in terms of cost for the film industry to at least begin incorporating methods of immersion into their film making, as the technologies for a truly immersive cinema experience either already exist or are not far from being reality. These statistics alone, the annual ticket sales and the top 10 distributors by gross income, show that the industry is more than large enough to begin expanding in new areas. An example is the technology used in planetariums and virtual dome environments, in which an image is projected onto a dome around the audience so that the "screen" area encompasses their entire field of view.

So why is cinema not taking advantage of all these immersive technologies? The answer must be a combination of both cost and tradition. Cinema developed as a method of storytelling, rather than a method of creating experiences. Tom Gunning describes the origins of cinema:

"The history of early cinema, like the history of cinema generally, has been written and theorised under the hegemony of narrative films. Early filmmakers -- have been studied primarily from the viewpoint of their contribution to film as a storytelling medium." [p.64]

The cinema experience is the way it is, simply because that's how it's always been, and the audience is happy with it like that - hence why the industry continues to grow despite the relative lack of change in experience compared to other entertainment industries and media.

The ways in which cinema could change now, but what if it didn't need to? What if the tradition was defined with immersive qualities embedded in it, or what if it wasn't defined at all?

If the world of cinema at its very beginning in the first decade or two of the 20th century did not restrict its efforts to improving just film making, and instead took inspiration from media such as Cinéorama, then the cinema experience may have evolved much differently. With the inclusion and adoption of panorama at an early stage, and incorporating other illusion techniques described by Grau, cinema may have taken a much different route.



Cinema would not have been an experience of sitting in a hall and watching a sequence of images (and later sound) play out in front of you on a screen hung from the ceiling. It could have been possible, and excitingly so, that cinema would have been an experience more akin to Felix Barrett's Punchdrunk immersive performances. However, this would cause problems for Cinemas in terms of cost. For each new film, staff would need to be hired/trained to perform the sequences needed to immerse the audience in the experience. Additionally, space would be a larger factor governing Cinemas' existence, due to the need for much larger spaces to perform and showcase movie experiences than is currently needed.

Perhaps then immersion does not necessarily need to be performance based, and so immersive theatre may not need to be considered as quite as theatrical as Punchdrunk's performances, but the thought of cinema being a digitally/technologically immersive experience to the same degree sparks the imagination. A company in London has, for example, created an experience that combines cinema with theatrical performances and other technologies to create what they themselves call "living, breathing experiences of the cinema" [[futurecinema.co.uk/about](http://futurecinema.co.uk/about)]. Future Cinema of London proves that an immersive cinema existence specifically has at least a small market of willing participants. Perhaps without the restrictions of tradition, experiences like these could have become commonplace. Furthermore, moving deeper into true immersive experiences, cinema could instead be an experience in which the audience feels a part of the film, or at least that they are somehow present and involved within the film.

At the most basic level, Cinéorama could be remediated as a 360 degree panoramic view that fills the peripheral vision of the audience. On top of that, other existing techniques could be present, such as seating areas that shake and move in response to the actions played in front of them. Temperature changes. Anything that could make the film scene more "real". Perhaps, after decades of innovation and improvement without the limitations of sticking to tradition, films could be more akin to a modern gaming experience, in which each audience member views and is part of

their own separate experience through use of virtual reality systems. The possibilities increase in correlation with improvements and innovations in technology. The cinema experience could have been very different to the one that we're familiar with if immersive ideals first introduced by media like Cinéorama played a larger part in the shaping of cinematography.

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