

BRUNO RODRÍGUEZ ARMESTO

University of Sydney

The Infinite Screen: An exploration of the cinematic representation of virtual reality and dreaming

ABSTRACT

Since the invention of cinema media theorists have compared the moving image with the experience of dreaming. This essay will explore virtual reality (VR) as a form of new media to explore the applicability of psychoanalytic theory in the understanding and development of VR interfaces and media. The thesis consists of two parts. The first involves an examination of the representation of VR and dreaming in popular culture, primarily in cinema and on television. It will demonstrate that movie writers and directors have intuitively portrayed VR and dreaming in similar ways, both in terms of interfaces. The second part applies psychoanalytic theories regarding cinematic apparatus to VR as a medium. The argument will be made that Jean-Louis Baudry's comparison between cinema and dreaming was inadequate for the cinematic medium as argued by Noël Carroll amongst others but co-incidentally results in an ideal framework for the analysis of VR.

KEYWORDS

virtual reality,
dreaming,
psychoanalysis,
cinematic
interface,
moving image

THE STATUS OF VIRTUAL REALITY AND DREAMING

During Google's 2016 I/O conference, the internet giant announced a new feature for its operating system Android: *Google Daydream*. Daydream is a VR platform, composed of a VR headset, a VR controller and a new framework for hardware oriented towards experiencing VR. Mobile devices compatible with it are considered 'Daydream-ready' and offer the best experience according to the company for enjoying VR through a phone.¹

The selection of the name 'Daydream' for invoking VR can be interpreted as an intentional reference to the historic association between VR and dreaming, or an example of

Google's executives instinctively drawing the comparison between the two. Either way, it highlights the historical connection between dream and visual media, in this case VR, as well as technology's role in shaping this relationship.

There are many examples of the ties between the VR industry and its connection to sleep and dreaming: for example, Kortex is a sleep and stress-relief device that stimulates the back of the head to help the user relax or sleep while using a VR headset.² Many of the currently available VR experiences, including *Guided Meditation VR*, *mindZense Sleep*, *relax VR* and *Lumen* are focused on relaxation, meditation, sleep or enabling different forms of dream states.³ The daydream-ready videogame *Eclipse: Edge of Light*, highlighted as the main experience for the platform in Google Daydream's website, is described as an experience in 'a dreamscape world'.⁴ So too is the content of many of the products made by and for the ASMR (Autonomous Sensory Meridian Response) community, a form of visual and acoustic content aimed at delivering a tactile response and relaxation or sleeping, reflecting the fact that VR is one of the best channels currently available to enjoy this niche content.⁵

This anecdotal connection between VR and dreaming by both one of the biggest players in the business and the content creators exploring this new media form is a good illustration of how both concepts are interlinked. However, this circumstance is not novel as any visual media, especially cinema, has always been theoretically explored from the perspective of dreaming. What this paper will prove then is that VR goes beyond previous attempts at establishing a phenomenological connection between the two.

THE DREAM OF IMMEDIACY: THE RELATIONSHIP BETWEEN DREAMING AND THE MOVING IMAGE

Joseph Marie Lo Duca was one of the first theorists who explored the oneiric nature of cinema, in his case to delve into the eroticism of the moving image. In *Erotisme au cinema*, Lo Duca described the connection in the following terms: 'The cinema resembles the dream, with its colourless images like those of a film, and this in part explains the lesser erotic intensity of colour films, which in a sense escape the rules of the word of dreams'.⁶

This parallel between moving image and dreaming, minus its focus on colour, was expressed again by André Bazin, co-founder of the famous French film magazine *Cahiers du Cinema*, along with Lo Duca. In his 1957 essay *Eroticism in Cinema*, Bazin prefigured the subsequent trend amongst media scholars of using psychoanalytic theory for the exploration

of cinema as a medium with his famous statement: ‘The essential is still the basically dreamlike quality of cinema, of the moving image’.⁷

This idea gained momentum during the 1960s and 1970s when authors such as Laura Mulvey, Jean-Louis Baudry, and Christian Metz proposed psychoanalysis as a preferable tool to semiotics for the study and understanding of movies.⁸ By establishing a connection between the unconscious and the cinematic experience their essays have shaped the way that films are created, understood and experienced. Even if both film theory and psychoanalysis have evolved since that point in history, as a movement they succeeded in linking the dream with cinematic text and cinematic apparatus. It is important to note that Lo Duca, Bazin and Mulvey inspected the dreamlike qualities of film as the unconscious elements or the subtext of the filmic text while Metz and Baudry unified the cinematic experience by merging the cinematic language and interface, conveying the message with the medium and inquiring as to how this interface, by itself and through its relationship with the text, is connected to the experience of dreaming.

Historically there have been two major ways of exploring the relationship between dream and the moving image. The first is based on the analysis of how dreams and the subconscious have influenced films. This form of inquiry often focuses on the analysis of cinematic text and the revelation of the subtext, specifically how signifiers and symbols are used to convey a hidden meaning. This form of inquiry into the movie is more evident when applied to surrealist texts and authors including Buñuel, Dalí, Lynch and Jodorowsky, with films such as *Un Chien Andalou*, *Meshes of the Afternoon* or *Eraserhead*.⁹ The second is through the study of the medium rather than the message and how the cinematic interface, the screen, the smartphone, and the VR headset affect the oneiric elements of the media experienced through them.

This essay focuses on the latter interpretation of this relationship. Critics and academics have used psychoanalysis to study cinema for decades but the relationship between our own subconscious and the cinematic interface has often been neglected or at best taken for granted. As an example, Baudry developed a thesis that in order to be valid understands cinema as the experience of consuming cinematic content in the very specific context of the darkness of a cinema with a screen, a projector and a degree of restriction on movement. He ignored realities outside the theatre that existed within the audience’s reach such as television sets, computer screens and arcade machines. He could not of course include phenomena such as smartphones, tablets, wearables or VR headsets, devices where

his theory would in fact find a better application. Therefore, the goal of this paper is to inquire into whether new media and interfaces, especially VR, share or even expand the dreamlike qualities that we generally apply to cinema. In order to explore these questions, the similarities between dream and VR in current films are examined and an analysis is developed applying these insights to Baudry's thesis about dreaming and cinema and Noël Carroll's response.¹⁰

VIRTUAL DREAMS AND VARIABLE REALITIES

Jean Ricardou coined the term 'variable realities' to define elements of the narration that are supposedly "real", and then revealed to be 'virtual', or vice versa.¹¹ Variable realities have been used since the first days of cinema, with surrealism often playing with the boundaries between the real and virtual. Most of the available examples of variable realities, for example *The Wizard of Oz* and *Alice in Wonderland* are presented as hypo-diegetic realities embedded in the diegetic world of the text.¹² It is interesting from a theoretical standpoint then that Ricardou uses the term 'virtual' to define these hypo-diegetic realities. He is defining these dream experiences as virtual realities as they existed in 1967, well before the advent of VR.

In a second stage, one of the main sources of hypo-diegetic narratives within the industry focused on the theme of VR, still years before its mainstream availability. *World in a Wire*, *Total Recall* and *The Thirteenth Floor* all used VR to create puzzle narratives in which various levels of hypo-diegetic realities were blurred.¹³ VR, then, fulfilled the same function as dream in previous movies but usually with increased complexity. The use of variable realities in later movies centred on the act of dreaming as an imitation of these multi-layered virtual realities. Films like *Inception* and *Paprika* deal with the subject of dream and puzzle narratives but never establish a clear differentiation between what is virtual and real, often creating a sense of doubt about the outcome of the film just as did the movies based on VR from the previous examples.¹⁴

As an example, the lower levels of reality in *Total Recall* or *eXistenZ* are presented in the same way as they are in *Inception*.¹⁵ There is a mix of diegetic and hypo-diegetic elements. Lower levels of reality often include incredible aspects, bending landscapes, organic weapons or mutants; it is difficult to pinpoint exactly to which category they belong, and the ending leaves the question open as to whether this is real or virtual.

The similarity of the representation of dream and VR goes to such a degree that both phenomena are indistinguishable in *Vanilla Sky* which can fit perfectly in both categories

depending on the interpretation of the text.¹⁶ Whether the experience of the protagonist is a dream or a simulation, the narrative allows for both using exactly the same narrative devices. As Ricardou's definition hinted, from a narrative perspective dream is inherently virtual and the juxtaposition between them can be total.

However, the parallels in the representation of dream and VR go further as often the experience of immersing oneself into the alternate world of dreaming or VR achieved through devices, interfaces or technologies resemble each other. In the case of *Paprika*, the device to enter the subconscious world of dreams resembles a stylised version of existing VR dispositives, whereas the dream device in *Inception* adopts a form more akin to a gaming console to which their users can connect through the administration of chemicals.¹⁷ This constant depiction of the subconscious as a virtual reality accessible through hardware is also depicted in *The Cell*, also using a mix of advanced technology and biological processes.¹⁸

Movies exploring variable realities through dream often imitate VR. When VR is explored it is often through mechanisms that mirror the process of sleeping. In *eXistenZ* the characters usually look for comfortable spaces in which they prefer to use their VR devices. These devices again mix technology and biology in the form of video game console connected to the body through an umbilical cord. In *The Matrix* the characters sit in chairs before being 'plugged in'.¹⁹ In *The Thirteenth Floor*, the VR machine is shaped like a bed and requires the user to lie down and 'sleep' into the virtual reality.²⁰ In *Total Recall* and *Source Code*²³ the devices resemble pieces of medical equipment where the user is induced into a form of coma or trance. Even in one of the first iterations of this trope, *World on a Wire* had its characters sleep while entering a new simulated reality.²¹

This similarity with dream is often replicated in other ways. The characters in *The Matrix* seem asleep when they are 'plugged in', but also shake and writhe when they go through a particularly violent episode,²² just as someone sleeping would experience physical reactions when experiencing a nightmare. Not only does the virtual equal the oneiric but the physical body of the VR user is often the body of a sleeper.

VR is still in its early stages of development and it is difficult to predict how it will evolve. Moreover, it is currently used more as an interactive device than as a cinematic interface. Nevertheless, cinematographers seem to be intuitively drawing a relationship of equivalence between this technology and dream. This seems to indicate that if the pleasure obtained from cinema is in part through its dreamlike quality VR has the potential to generate more pleasurable experiences than current technology allows for.

JEAN LOUIS BAUDRY AND THE ONEIRIC NATURE OF THE CINEMATIC INTERFACE

Baudry's theory of cinematic apparatus can be summarised as follows: cinema has some characteristics shared with the experience of dreaming and this provides an explanation of the animating force behind cinema as the desire for, and regression to a primitive narcissism that in psychoanalysis is the act of dreaming. He draws a series of analogies between cinema and dream, inferring that their effects are also similar.²³ These characteristics were outlined by Carroll in his study as '...inhibition of movement; lack of reality testing; an imagistic medium; a dark room; projection; a screen; a more-than-real impression of reality; a tendency to efface the distinction between perception and representation'.²⁴

Very few of these characteristics are inherently cinematic. Only the fact of cinema being a medium based on images, the existence of a screen, and the blurring of distinction and representation are based purely on cinema as a message, independent from a device or platform. The inhibition of movement and lack of ability to test reality, the dark room, projection and the more-than-real impression of reality rely on the cinematic interface to various degrees. The last three elements (the screen as a parallel of the mother's skin while sleeping as a baby, the more-than-real impression of life and the tendency to make perception and representation indistinguishable) are discarded by Carroll due to their lack of definition and the absence of a solid psychoanalytical framework.²⁵ Consequently, this essay shall focus on where VR can add a new value.

As Carroll states, watching a movie does not really inhibit the viewer's movements, but limits them only to a certain degree.²⁶ In the same argument Carroll defines the 'phenomenological register of dream' as 'feeling motion when there is not'; that is, when there is a partial dissociation between the movement of the body and the movement inside the dream.²⁷

These conditions that, according to Carroll, are necessary for a medium to be comparable with sleep do not happen in ordinary cinema though they do happen in VR. In general terms VR requires some form of movement but the feedback experienced inside the simulation does not entirely respond to the input of the user. There is enough recorded evidence showing how the moving image displayed through a VR interface may trigger physical reactions when the physical reality of the body differs from the experience lived through VR. These jerks or involuntary movements resemble the phenomenon of sleep

myoclonus that often precede sleep, or are produced in response to extraordinarily intense dreams and nightmares.²⁸ This point is also applicable to the analogy between dreaming and dark rooms where the connection, according to Carroll, is not that darkness is required to dream but that the viewer is unaware of their physical condition.²⁹ This contrasts with a deeper perception of their situation in the virtual reality or dream.

This brings us to the lack of reality testing. Baudry defines reality testing as the inability of verification reality within the film. Based on the previous examples it is possible to hypothesise that even if VR still allows for reality testing the immersion which this technology enables, increased through new developments such as movement sensors and haptic controllers, makes it harder to test whether the virtual experience is real or not. We see examples of people falling down or adopting a foetal position,³⁰ although this does not mean they do not know it is virtual, highlighting the fact that it is not impossible nor even uncommon to mistake the simulation for reality.

In VR we are the centre of the experience. It no longer allows for interpersonal verification as a way of reality testing.³¹ Even in the event of a shared VR experience such as that of a multiplayer game offered by *The Void*, other participants are part of the same simulation as spectators in the dark of the cinema hall.³² If the predisposition of the viewer towards the moving image is based on following a regression to a primitive narcissistic state, it makes sense, then, that a non-shared experience such as VR reinforces this narcissistic element.

Much of the current VR research revolves around the fields of psychology and psychiatry given VR's 'unique ability to simulate complex, real situations and contexts'.³³ In this context VR is interpreted as a qualitative leap from previous media used to replicate the environment. As stated by Michael Heim's to define the early VR, 'we forget ourselves as we evolve into our fabricated worlds. With our faces up against it, the interface is hard to see'.³⁴

According to the research carried out by Nir and Tononi on the phenomenology of dreams, there are four main characteristics applicable to dreaming: during the dream the dreamer is fully conscious and has a vivid experience; these vivid hallucinations are experienced mainly through visual and auditory perceptions with tactile perceptions, smells and tastes being less common; the dreamers are completely disconnected from their environment but have reduced control and awareness, not always being able to tell whether they are experiencing a dream; and lastly dreams usually feature some degree of emotional involvement, with joy, surprise, anger, fear and anxiety being the most common.³⁵

All these characteristics are shared by both the phenomenological experience of dream and VR: VR is a vivid experience where the user is fully conscious and in which visual and auditory stimuli convey most of the information. Nonetheless tactile feedback and smells might, in some cases, play a role.³⁶ As analysed in this paper the VR experience is usually disconnected from the environment where it is experienced, and the user is not always fully aware of being in a simulation. Lastly, as proven by the research of Julia Diemer et al., the intensity of emotional responses makes VR a valuable platform for experimentation, mainly related to fear, anger, joy or relaxation.³⁷ In summary, Baudry's theory of the cinematic interface displayed a high level of intuition at describing aspects of the phenomenology of dream that have been validated scientifically later on, but its applicability is better applied to VR.

CONCLUSION

The relationship between cinema and dream is as old as the moving image itself. Early examples such as *The Wizard of Oz* and *Un Chien Andalou* show how some early cinematographers understood this connection intuitively, introducing 'variable realities' into their movies. This has been further explored by cinema and other media theorists and psychologists, most successfully through the application of psychoanalytic theory to cinematic text and interface. Jean-Louis Baudry proposed a framework for the comparison of dream and the enjoyment of cinema comparing the phenomenological characteristics of both. This framework has been widely challenged and its applicability to cinema questioned by media scholars and psychologists alike.

Nonetheless this theory regains most of its applicability when used to explain VR as a medium and interface as most of these characteristics are more applicable to VR than to dreaming. In fact, this equivalence between VR and dreaming has been common since the inception of cinema with movies representing sleep and VR experiences using the same resources and devices. This essay analysed several media texts including *The Matrix*, *Paprika*, *eXistenZ*, *Inception*, *The Wizard of Oz*, *The Cell*, *Source Code*, *The 13th Floor*, *Total Recall* and *World in a Wire* in which an equivalence between dreaming and VR can be drawn. Current research on the phenomenology of dreams and psychology and VR is aligned with these conclusions.

Ultimately VR has more potential than any other medium before it for simulating reality but in its journey towards telepresence the medium may find its own language for

looking at the phenomenology of dreaming. VR professionals and scholars might explore these avenues (psychoanalysis, neuroscience, dreaming or surrealism) and learn from the academic literature in those fields including research on cinematic apparatus. Its applicability will never be total, but it might help to provide the foundations for an expressive language that acknowledges both the uniqueness of VR and its limitations.

REFERENCES

¹ Adi Robertson, “Daydream is Google’s Android-powered VR platform,” *The Verge*, May 18, 2016, <http://www.theverge.com/2016/5/18/11683536/google-daydream-virtual-reality-announced-android-n-io-2016>.

² Fisher Wallace Labs, “Kortex, effective stress and sleep management,” *Indiegogo*, February 2016, https://www.indiegogo.com/projects/kortex-effective-stress-and-sleep-management-vr--2#./

³ Cubicle Ninjas, “Virtual Reality Meditation / VR Relaxation / VR Guided Meditation,” January, 6, 2017, <https://guidedmeditationvr.com/>.

mindZense, “mindZense Sleep VR meditation - Android Apps on Google Play,” *Google Play*, November, 6, 2016, <https://play.google.com/store/apps/details?id=com.minditorium.indiantemple&hl=en>.

Relax VR, “Relax VR - Rest, Relaxation & Meditation in Virtual Reality,” July, 8, 2016, <http://www.relaxvr.co/>.

Framestone VR Studio, “Lumen - Framestone VR Studio,” September, 21, 2016. <http://framestorevr.com/lumen/>.

⁴ White Elk LLC, “Eclipse: Edge of Light - Android Apps on Google Play,” *Google Play*, April, 17, 2017, <https://play.google.com/store/apps/details?id=com.WhiteElkLLC.EclipseEdgeOfLight&hl=en>.

⁵ Jamie Loftus, “The Unlikely Marriage of ASMR Videos and Virtual Reality,” September, 7, 2016, <https://www.inverse.com/article/20631-vr-asmr-marriage>.

⁶ Giuseppe M. Lo Duca, *Erotisme au cinema* (Paris: Jean-Jacques Pauvert, 1956), 171.

⁷ André Bazin, *What is Cinema? Vol. II* (Berkeley and Los Angeles: University of California Press, 1971), 171.

⁸ Laura Mulvey, *Visual pleasure and narrative cinema* (London: Palgrave Macmillan UK, 1989), 14-26.

Jean-Louis Baudry, “Ideological effects of the basic cinematographic apparatus,” *Film Quarterly*, no. 28 (1974): 39-47.

Christian Metz, *The Imaginary Signifier: Psychoanalysis and the Cinema* (Bloomington: Indiana University Press, 1982).

⁹ *Un chien Andalou*, directed by Luis Buñuel, (1929; Paris, France: Luis Buñuel and Pierre Braunberger), Digital copy.

Meshes of the Afternoon, directed by Maya Deren, (1943; Los Angeles, CA: Maya Deren), Digital copy.

Eraserhead, directed by David Lynch, (1977; United States: American Film Institute), Digital copy.

¹⁰ Noël Carroll, *From Mystifying Movies: Jean-Louis Baudry and "the Apparatus"* in Leo Braudy and Marshall Cohen *Film Theory and Criticism: Introductory Readings*, (Oxford: Oxford University Press, 1988), 708-724.

¹¹ Jean Ricardou, *Problemes du nouveau roman* (Paris: Éditions du Seuil, 1967), 23-43.

¹² *The Wizard of Oz*, directed by Victor Fleming et al., (1939; United States: Mervyn Leroy), Digital copy.

Alice in Wonderland, directed by Cecil Hepworth and Percy Stow, (1903; United States: Cecil M Hepworth), Digital copy.

¹³ *World in a Wire*, directed by Rainer Werner Fassbinder, (1973; West Germany: Westdeutscher Rundfunk), Digital copy.

Total Recall, directed by Paul Verhoeven, (1990; United States: Carolco Pictures), Digital Copy.

The Thirteenth Floor, directed by Josef Rusnak, (1999; United States: Columbia Pictures), Digital copy.

¹⁴ *Inception*, directed by Christopher Nolan, (2010; United States: Warner Bros., Legendary Pictures, Syncopy), Digital copy.

Paprika, directed by Satoshi Kon, (2006, Japan: Madhouse, Sony Pictures Entertainment), digital copy.

¹⁵ *eXistenZ*, directed by David Cronenberg, (1999; United States-Canada: Alliance Atlantis Communications, Canadian Television Fund, Harold Greenberg Fund), Digital copy. *Total Recall* (1990; United States: Carolco Pictures).

¹⁶ *Vanilla Sky*, directed by Cameron Crowe, (2001; United States: Paramount Pictures, Cruise/Wagner Productions, Vinyl Films), Digital copy.

¹⁷ *Paprika*, (2006, Japan: Madhouse, Sony Pictures Entertainment).

Inception, (2010; United States: Warner Bros., Legendary Pictures, Syncopy).

¹⁸ *The Cell*, directed by Tarsem Singh, (2000; United States-Germany: New Line Cinema, Caro-McLeod, Radical Media), Digital copy.

¹⁹ *The Matrix*, directed by Lilly Wachowski and Lana Wachowski, (1999; United States: Warner Bros., Village Roadshow Pictures), Digital copy.

²⁰ *The Thirteenth Floor*, (1999; United States: Columbia Pictures).

²¹ *World in a Wire*, (1973; West Germany: Westdeutscher Rundfunk).

²² *The Matrix*, (1999; United States: Warner Bros., Village Roadshow Pictures)

²³ Baudry, "Ideological effects of the basic cinematographic apparatus," 39-47.

²⁴ Carroll, "From Mystifying Movies," 712.

²⁵ Ibid., 716.

²⁶ Ibid.

²⁷ Ibid., 717.

²⁸ TrueTube Media TV, "Man's reaction to virtual reality rollercoaster prank is quite extreme!!!" *YouTube*, April, 27, 2014, <https://www.youtube.com/watch?v=l3V8zeSljUU>.

IGN, "How Scary is the Paranormal Activity VR Game?" *YouTube*, April, 15, 2016, <https://www.youtube.com/watch?v=Qsna1ChGt0E>.

²⁹ Carroll, "From Mystifying Movies," 718.

³⁰ TrueTube Media TV, "Man's reaction to virtual reality rollercoaster prank is quite extreme!!!"

IGN, "How Scary is the Paranormal Activity VR Game?"

³¹ Carroll, "From Mystifying Movies," 718.

³² THE VOID, LLC, "THE VOID", August, 20, 2017, <https://www.thevoid.com/>.

³³ Barbara O. Rothbaum, ‘Using virtual reality to help our patients in the real world,’ *Depress Anxiety* 26 (2009): 209–211.

D. Opris et al., ‘Virtual reality exposure therapy in anxiety disorders: a quantitative meta-analysis,’ *Depress Anxiety* 29 (2012): 85–93.

Julia Diemer et al., ‘The impact of perception and presence on emotional reactions: a review of research in virtual reality,’ *Frontiers in Psychology* 6 (2015): 26.

³⁴ Michael Heim, *The Metaphysics of Virtual Reality* (New York: Oxford University Press, 1993), 79.

³⁵ Yuval Nir and Giulio Tononi, ‘Dreaming and the brain: from phenomenology to neurophysiology,’ *Trends in Cognitive Sciences* 14 (2010): 88.

³⁶ Robert Stone, ‘Haptic feedback: A brief history from telepresence to virtual reality,’ *Haptic Human-Computer Interaction: First International Workshop Glasgow, UK, August 31- September 1, 2000 Proceedings* (2001): 1-16.

FEELREAL, ‘Feelreal VR mask’, September, 15, 2017, <http://feelreal.com/>.

³⁷ Julia Diemer et al., ‘The impact of perception and presence on emotional reactions: a review of research in virtual reality,’ *Frontiers in Psychology* 6 (2015): 26.

CONTRIBUTOR DETAILS

Bruno Rodríguez is a Master’s student in the University of Sydney’s Master of Digital Communication and Culture.

CONTACT: bruno.r.armesto@gmail.com

SUGGESTED CITATION

Rodríguez, Bruno. (2017), ‘The Infinite Screen: An exploration of the cinematic representation of virtual reality and dreaming’, *Peer Reviewed Proceedings of the 8th Annual Conference Popular Culture Association of Australia and New Zealand (PopCAANZ)*, Wellington, New Zealand, 10-11 July, 2017, P. Mountfort (ed), Sydney: PopCAANZ, pp. 45-55. Available from <http://popcaanz.com/conference-proceedings-2017/>.