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# Aesthetics of hallucination: ontology of visual kaleidoscopes from the Age of Myth to virtual reality

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Date of submission: January 2022

Accepted in: June 2023 Published in: July 2023

#### Recommended citation

Cuevas, Sandra; Thompson, Reynaldo; Mukhopadhyay, Tirtha. 2023. «Aesthetics of hallucination: ontolo-gy of visual kaleidoscopes from the Age of Myth to virtual reality». In: Pau Alsina & Andrés Burbano (coords.). «Possibles». *Artnodes*, no. 32. UOC. [Accessed: dd/mm/aa]. https://doi.org/10.7238/artnodes.v0i32.411199



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#### **Abstract**

This article discusses technology for visual projections in human culture. It identifies three distinct phases:

a) the art of immobile spectatorship in speleological experiences, b) hallucinatory interventions in myth and totem, and c) the development of screen VRs. Hallucinatory effects including illusionary atmospheres typical of cave art, sacred fiction and/or aesthetic virtual reality (VR) projections are all secured by imaginative triggers induced through the body and its neural extensions, An ontology of hallucinatory effects in cultural products such as myth, art, literature, cinema, up to the most recent proposals of VR and its interactive affordances, assumes hallucination, rather than consciousness, self-awareness or even emotions, as a fundamental element of the exploration into how reality is processed to generate fictions that resemble and distort themselves in a randomized illusion of effects. Thus, illusionism constitutes an important part of aesthetic consciousness, as it is seen to mediate between rationality and experimentation in the construction of new realities of all myth, art and VR. The critical proposal of the ontology of virtual reality also derives from a consideration of the role played in world cultures by the curative and emotional enhancement of hallucinogens.

Artnodes, No. 32 (July 2023) I ISSN 1695-5951



https://artnodes.uoc.edu

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#### **Keywords**

science fiction, virtual reality; psychoactive; psychedelic; hallucination; entheogens; psychotherapy; a Estética de la alucinación: ontología de caleidoscopios visuales desde la era del mito hasta la realidad virtual

#### Resumen

Este artículo analiza la tecnología para proyecciones visuales en la cultura humana. Identifica tres fases distintas: a) el arte de la expectación inmóvil en experiencias espeleológicas, b) las intervenciones alucinatorias en mitos y tótems, y c) el desarrollo de la realidad virtual (RV) en pantallas. Los efectos alucinatorios, incluyendo las atmósferas ilusorias típicas del arte en cuevas, la ficción sagrada y/o las proyecciones estéticas de RV están todas aseguradas por desencadenantes imaginativos inducidos por medio del cuerpo y sus extensiones neurales. Una ontología de los efectos alucinatorios en los productos culturales como el mito, el arte, la literatura, el cine, hasta las propuestas más recientes de RV y sus posibilidades interactivas, da por hecho que son las alucinaciones, en lugar de la conciencia, la autoconciencia o incluso las emociones, el elemento fundamental de la exploración de cómo se procesa la realidad para generar ficciones que se asemejan y se distorsionan a sí mismas en una ilusión aleatorizada de efectos. Por lo tanto, el ilusionismo constituye una parte importante de la conciencia estética, ya que se percibe como un elemento mediador entre la racionalidad y la experimentación en la construcción de nuevas realidades de todo mito, arte y realidad virtual. La propuesta crítica de la ontología de la realidad virtual también deriva de una consideración del papel que desempeñan en las culturas mundiales las mejoras curativas y emocionales de los alucinógenos.

#### Palabras clave

ciencia ficción, realidad virtual; psicoactivo; psicodélico; alucinaciones; enteógenos; psicoterapia; arte

#### Introduction

The history of humanity and that of its evolution and development converge in a quest to discover who we are, where we come from and where we are going. Our evolving presence and suffering within communities, societies, and even the entire nations that contain and define us incite us to define ourselves, imagine and evolve through projections of this experience of the continuum as much as the continuum of that experience. Ingenuity and human inventiveness have thus continued to manifest from the stage of homo habilis to homo sapiens, from a prehistoric bed when stones were sharpened for use in various tasks to the modern day, where humans use virtual reality to make sense of the future. Technology has played an important role in improving human tasks, so that we have been able to AA to different needs and perspectives precipitated by the change in the biome. However, technology also influenced art-making processes and exerted paradigm shifts for societies, especially in the extended ambit of cultural life and being. From optical toys and cameras to smart devices, such instruments have not only modified our perception of the world but have also enriched our daily experiences. Continuous feedback between technology and social existence has given rise to informed projections and imaginations in newer media. The transformative power of the modern image, replete with amazing interventions in technology and computation, has destabilized the archaic precepts of our reality.

What this evolutionary and retroactive projection anticipates is a newer layer of fiction: an anthropocenic excess that is rooted in human nature and social collectives or interactions, but which also continues to trickle through the hardware. Constant interaction with fiction, image and altered realities leads some philosophers, writers and artists to wonder if we are not living within a continuity of hallucination. According to Harari (2015), "an incredibly complex network of stories... known in academic circles as 'fictions', 'social constructs', or 'imagined realities'"...create an imagined reality that is not a lie, and "unlike lying, an imagined reality is something that everyone believes in, and as long as this communal belief persists, the imagined reality exerts force in the world". We have already developed a taste for and growing faith in the imaginary construction of beliefs, myths and rites. We find fiction more interesting than reality itself, since it is difficult to access a pure or complete reality. Only at the right juncture of the experience of the present moment is reality manifested and exercised. Memory, anecdotes https://artnodes.uoc.edu

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and other types of expression and documentation represent attempts at outreach and even at breaching reality for an intense version of that reality or an altered or *estranged* ontology. Berger and Luckman (1966) explain how a paramount reality envelops us on all sides and consciousness always returns us to that paramount reality as from an excursion, and in a cycle of being. For Berger and Luckman, the reality of dreams or theoretical thinking pushes through the transition between realities like a curtain rising and falling. It is as if, when the curtain rises, the spectator is transported to another world.

# 1. Anthropocene ontology to art

Art has taken advantage of unattainable reality through words in writing and songs in music, through the body in dance and theatre, and through images in painting, photography or cinema, to name but a few of its elicitations. It has magnified reality, transporting the viewer to one of its many versions of reality that are produced through human existence and including, most importantly, the ecstasy of form, fictions, and fields of imagery. Illusion, according to Alfred Neumayer and quoted by Oliver Grau (2003), is something that works on two levels: first, there is a classic functionality that is playful and apparently connected to the aesthetic enjoyment of illusion. Second, by intensifying suggestive effects, illusion overwhelms the perception of the difference between space and reality. "This suggestive power may, for a certain time, suspend the relationship between subject and object, and the 'as if' may have effects on awareness."

The production of illusions has found fertile ground for its application in art. We consciously allow ourselves to marvel at that which seems to differ from our own reality and yet which represents the reality we experience because of our condition as individuals. Nevertheless, the experience of someone who is far from our inner world surprises us. The artist presents and represents thoughts in the same way that our prehistoric ancestors discovered the world and its wonders for the first time, and in the same way as a child beginning to experiment with flavours, colours and textures, marvelling at them and able to admire and experience others. The vision of the strange, ecstatic, aesthetic and even bizarre is a journey into an unknown dimension, an expedition into new territory. Since the myth of Plato's cave, where bound prisoners took projections of light for reality, spectators of art have long limited their gaze to illusions.

In modern times, both producers and observers seem to be waiting to participate in an alternate look, an altered vision, which provides us with an answer to universal questions about our existence and origins. Tools used range from immersive spaces, created by murals with 360° landscapes, to paintings like windows that take us to other spaces, novels that transport us to other worlds, melodies, songs, dances, and plays that narrate our desire to access other worlds. Recently, cinema, television, the internet, smart devices, and virtual reality technologies have made the illusion of accessing other spaces virtual through telepresence. Brenda Laurel (1993) speaks of the "medium that allows you to take your body with you to other environments [...] you get to take a part

of your senses with you to another environment, which can be created by computer, or come from a camera, or it can be a combination of the two."

However, experiencing the senses outside the body, so to speak, and feeling that we are beyond possible physical distance and are perceiving our immersion in other imaginary worlds through a contemplative gaze, repeating a practice and appreciating it with childlike surprise, are all experiences that have also been made possible by the often wrongly stigmatized consumption of psychoactive substances. Such psychoforms have been documented in different ways, by different authors and through different means: at times literally, at others through metaphors. It is possible to allude to other worlds, alternate glances, altered visions. Perhaps through all the efforts in which we have been participants, the intention is to return to the origin that allowed the development of our consciousness, its expansion and the search for new knowledge.

In this process, as Lev Manovich (2006) shows in an essay on Jean-Lois Baudry, even the immobility of the first gazers and spectators of illusions had a part to play:

"Immobility and confinement, according to Baudry, enables the prisoners/spectators (of the proverbial Platonic cave) to mistake representations for their perceptions thereby regressing to childhood when the two were indistinguishable. Rather than a historical accident, the immobility of the spectator, according to Baudry's psychoanalytic explanation, is the essential condition of cinematic pleasure [...] Alberti's window, Durer's perspectival machines, the camera obscura, photography, cinema — in all of these screen-based apparatuses, the subject has to remain immobile."

This immobility (as quoted in Neumayer), far from limiting viewers' behaviour, conduces greater cognitive exercise and assimilation of the visual proposal. Both Manovich and Grau trace the contemplative tradition of spectators with respect to the arts and the infinite possibilities of art as a virtual projection of reality. At a certain level, this contemplation could therefore also be understood or perceived as immersion, according to Grau. Immobility, immersion, extension of faculties through projections, illusions, and intense illusions of a psychedelic world can thus be, for Manovich, Baudry and Grau, an intellectually stimulating process. In the present as in the past, immersion has been a mentally absorbing process: a change or passage from one mental state to another. It is characterized by diminishing critical distance to what is shown and increasing emotional involvement in what is happening: "... immersion as in the artificial paradises of narcotics, for example, as described by Charles Baudelaire, dream journeys or literary immersions past and present." (Grau 2003).

# 2. Art of the Entheogen

Terence McKenna, in his book the *Food of the Gods: The Search for the Original Tree of Knowledge*, was given the task of compiling historical references that revealed the importance of entheogens or entheogenic media for the production of altered states of consciousness that also relate to states of affordances of knowledge. Psychoactive substances, or entheogens, as they are also called, induce alterations in perception, mood, consciousness and cognition, with the purpose of generating

Artnodes, No. 32 (July 2023) I ISSN 1695-5951

A UOC scientific e-journal

https://artnodes.uoc.edu

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spiritual development in sacred contexts, such as in ritual experiences, ritual contacts or the production of true art. McKenna (1992) addresses the story from the book of Genesis, in which Eve

"eats and shares the fruits of the Tree of Life or the Tree of Knowledge, fruits that "please the eye and contemplation" [...] the fruit of the Tree of Knowledge gave them keen insights."

Although this story is part of the Christian myth of the origin of humanity, the idea that a fruit provided ecstasy of contemplation and a profound look inward, and thus could act as a shortcut in the search for knowledge, was established this early at a time when the written script was just emerging in post-Cuneiform cultures. This narrative is also an antecedent of the possible consumption of psychoactive drugs. The book of Genesis can also be considered an important piece of literary fiction. Its rational veracity may be in question, but it remains a valuable example of human knowledge, its inventiveness and imagination, and its search for experiences of altered, hidden, recondite or occult conscience, however we may wish to characterize its symbolic mythical core.

In the book *Virtual Art, From Illusion to Immersion*, Oliver Grau discusses the great frieze of the Villa of the Mysteries in Pompeii. Created around 60 BC, the frieze completely covers the walls of room number five, dominating the gaze of everyone who enters the room and rendering them part of the scene depicting gods and humans living together in absolute ecstasy. This work was created by cult followers of Dionysus, god of the vine, the grape harvest, winemaking, wine, fertility, ritual madness and religious ecstasy and theatre; it does not seem fortuitous that Grau chose it as an art that commanded the immersion of the viewer in a fantasy, which is one of its kind: "the picture is a gateway, which allows the gods to enter the space of the real, and, in the other direction, transports their mortal assistants into the picture" (Grau 2003).

Accounting for representations of divinity in the 15th and 16th centuries, we will consider one of the most popular icons of the Renaissance: the Sistine Chapel by Michelangelo, who had the ability to produce images that could transport people to heaven in all its glory, to the company of angels and saints, to a world unknown to worldly humanity and one that most closely resembles the hallucination of those who have experienced the grace of spirituality. Venues in which divine adoration is represented possess a mystical aura that motivates introspection and connection with the spirit. Architecture, murals, paintings, and sculptures, in addition, seduce us to the place of God, the kingdom of heaven. It is possible that our desire to access this sublime experience, be it a desire to return to the origin of those experiences of ecstasy, of encounter and immersion with our insides and our origins, as mentioned above, is not only artificially connected to deeper meditation but also to near-entheogenic states.

Some other literary works and artistic productions with no religious associations have also led us to other worlds, making it clear that access to these worlds was possible through the consumption of largely unknown substances. We do not know exactly what was consumed by Alice in Alice in Wonderland, written by Lewis Caroll in 1865. A liquid

that says "drink me" and a biscuit that says "eat me" are not ordinary, worldly objects. In the book, they allow Alice to grow large and then shrink in an exotic world full of hallucinations, in which animal characters share their wisdom in order that Alice might experience self-reflection and self-knowledge.

The rediscovery and playful use of psychoactive substances in the 1960s coincided with the popularization of science fiction literature and cinema. Aldous Huxley, who was already a popular science fiction writer thanks to his novel *Brave New World*, experienced the effects of psychoactive substances and described them in his essay *The Doors of Perception*:

"My body seemed to have almost completely dissociated from my mind – or, to be more exact, although my consciousness of the transfigured external world was no longer accompanied by an awareness of my physical organism– [...] – to feel that 'I' was not the same as these arms and legs of 'there outside'" (Huxley 1956).

This too refers to the sensory quality shared by art, psychoactive substances and, more recently, virtual reality.

In 1971, Stanislaw Lem, a Polish science fiction writer, published a novel entitled *The Futurology Congress*. In it, he explored the idea of a civilization where psychemistry encompasses all aspects of human life, from diet to the search for knowledge, and where humans use pills that allow them to access knowledge:

"Psychem, on our behalf, does what must be done to the old cerebralness – subdues it, soothes it, brings it round, working from within with the utmost thoroughness. Spontaneous feelings are not to be indulged [...] The fiendishness of it all is that part of this mass deception is open and voluntary, letting people think they can draw the line between fiction and fact. And since no one any longer responds to things spontaneously—you take drugs to study, drugs to love, drugs to rise up in revolt, drugs to forget – the distinction between manipulated and natural feelings has ceased to exist." (Lem 1971)

It is possible to observe a more direct, but not literal, reference to the use of psychoactive substances related to a fictional environment in the popularized virtual reality. In 2013, filmmaker Ari Folman took up Lem's novel and created a free adaptation of it. The film, entitled The Congress, like most adaptations is far removed from the literary work. It can be divided into three key moments: the first is a present, temporarily very close to our current reality in technological terms. Here, the digitization and subsequent virtualization of the physical image becomes evident: that of the body and even of the expression of human emotions, by means of existing technology, whereby it scans and transfers the data for reproduction in video, cinema and television, to name but a few audiovisual products. The second moment most closely adheres to Lem's novel, with some distortions that allow us to approach and connect with the audience due to the proposal of a near future with truly probable possibilities. In this section of the film, we see the protagonist immerse herself in virtual reality by inhaling through the nose a liquid substance which grants her access to an animated vision full of vibrant colours, situations and characters based on physical reality but taken to a fictional plane. The third and last moment of

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the film, as in the novel, depicts the devastation of a world that has faced the excesses of the use of this new technology; although society congregates in physical reality, each individual is isolated in his or her own thoughts and fictions. This raises the question of how close or distant fiction seems in relation to reality. Considering these artistic, literary and cinematographic precedents in terms of experimentation with psychoactive substances, their effects and the emergence of new media could now be studied as products that take the forms and powers induced by a relatively palpable technology developed by engineers, designers and artists exploring newer architectures of form. After leaving his job at Atari in the mid-1980s, Jaron Lanier, together with his partner T. Zimmerman, decided to commercially manufacture the famous "virtual reality" glasses, paving the way for an unprecedented dematerialized visual scenario of brain experiences that warned of an imminent technological avalanche. Today, they remain in vogue thanks to mobile devices that allow for the construction of variable experiences on multi-support platforms and in hypermedia scenarios. The commercial appearance of these glasses could be considered the "material" birth of the daily experience of "the virtual" (Parra Valencia 2016).

From the point of view of Parra Valencia, together with a series of events and proposals for future scenarios produced from science fiction, we reflect on what the future of virtual reality might be. It is a thriving technology that has in recent years become undeniably relevant, especially due to its online diffusion and to imminent access to the virtual universe, resulting in the spread of a digital virtual universe of infinite possibilities.

# 3. Psychedelic media(tion): creation and use of the New Sublime

As we were able to observe in the aforementioned pieces of art and big-screen literary narratives that incorporate the use of psychoactive substances, the visualization of images and hallucinatory moments is inspired by the experiences to which we expose ourselves on a daily basis. It is, then, possible to notice the effects of virtual reality and how it relates to the effects of psychoactive substances.

The history of such substances corresponds to the construction of the cosmogony of civilizations that preceded us by thousands of years. Their prohibition is part of a new history, less than a century old. There is evidence that pre-Hispanic cultures made ritual use of some psychoactive substances, such as psilocybin from hallucinogenic mushrooms, mescaline from peyote, DMT extracted from plants such as Mimosa tenuiflora and THC from marijuana, all with a view to expanding consciousness and seeking knowledge. However, the rest of society has typically been limited by hegemonic entities that have outlawed the use of such substances due to ignorance and perhaps also to the threat posed by the questioning and destabilization of the institutions of power, as McKenna points out in the following paragraph:

"The costs of drug education and drug treatment are small relative to routine military expenditures and could be contained. What cannot be contained are the effects that psychedelics would have in shaping the cultural self-image if all drugs were legal and available. This is the hidden issue that makes governments unwilling to consider legalization: the unmanaged shift of consciousness that legal and available drugs, including psychedelics, would bring is extremely threatening to a dominator, ego-oriented culture." (McKenna 1992)

Although McKenna's text deals with the use of psychoactive substances historically, as a ritual way of entering altered states of consciousness or as a kind of shortcut to stimulate the expansion of consciousness, it should not be taken lightly, much less as an invitation or suggestion, since the use of psychotropic substances occurs within a legal framework which implies the full responsibility of the user.

The construction of new realities took place over a long period time. In technology and art, the concept of cyberspace appears for the first time in the 1984 novel *Neuromancer* by William Gibson. The story of *Johnny Mnemonic* (1981), included in the volume *Burning Chrome* (1986), describes it as follows: "Cyberspace. A consensual hallucination experienced daily by billions of legitimate operators, in every nation, by children being taught mathematical concepts... A graphic representation of data abstracted from the banks of every computer in the human system. Unthinkable complexity. Lines of light ranged in the nonspace of the mind, clusters and constellations of data. Like city lights, receding". (Gibson 1984).

As we have seen, the illusion of virtual reality and hallucinations perceived in cyberspace do not precisely correspond to external chemical stimuli. However, the individual in question experiences a sensation of reality. In this sense, we can suggest some coincidences between the use of virtual reality devices and psychoactive substances, among them the mycelial network or mycelium, in which fungi reproduce. This network naturally emits information about the nutrients found on one side or the other of the forest, allowing for interrelation between plant species. Nic Fleming states that this information superhighway even allows plants to communicate and help each other. This fungal internet exemplifies one of the great lessons of ecology: seemingly separate organisms are often connected and may depend on each other (Fleming 2014).

Cyberspace represents an intangible area with no fixed territory which anyone can access from their home, workplace or mobile devices. It is virtual — non-existent from a physical point of view — and all those who explore this recently-created space are called Netizens: individuals or subjects, public or private, who develop distance communications, present their skills, and generate interactivity for various purposes. For their part, those who have ventured into the exploration of the psyche through the use of psychoactive substances are known as psychonauts: a term attributed to Ernst Jünger, who used it to describe Arthur Heffter in his 1970 essay on his own extensive experiences with drugs, Annäherungen: Drogen und Rausch (literally: Approaches: Drugs and Ecstatic Intoxication). Psychonauts carry out activities in which altered states of consciousness are induced for spiritual purposes or for exploring the human condition. Through shamanic rituals, archaic or

modern drug users make use of entheogenic technologies. Both virtual reality and the consumption of psychoactive substances can cause a state of synaesthesia: the alteration of the perception of time, identity and even empathy, among other effects.

It is important to mention that, just as psychoactive substances act differently depending on the conditions in which they are consumed (both internal and external), virtual reality also produces different effects on subjects exposed to it. As with psychoactive substances, depending on the way in which virtual reality is used, the frequency of its use and its purpose, it can be as beneficial or as harmful as intended. Let us remember that its applications can range from lifesaving medical uses to warlike annihilation, in addition to new opportunities for playful experiences. Those professionally involved know that psychedelics are the most powerful instruments conceivable for the study of the mind. Nevertheless, these people often work in academia and must frantically try to ignore the fact that the answer has been placed in our hands. As has been noted, "our situation is not unlike that of the sixteenth century when the telescope was invented and shattered" (McKenna 1992).

The work is arduous; we cannot lose ourselves in the fascination of visions or hallucinations induced by the consumption of psychotropics or virtual reality. Let us take the experiences produced by these tools and act as a researcher would after observing never-before-seen kaleidoscopic images under the lens of his microscope: he takes notes, writes hypotheses and theories and acquires knowledge that will be shared with humanity. After all, the serotonin that our brains produce is the most effective hallucinogen that we can find.

# 4. Proposals based on virtual reality

One of the most prominent features of experiences with psychoactive substances is the characteristic complex alteration of mental imagery, which is considered an essential tool for psychologically acknowledged mediation for abstract, non-material visualizations and perceptions. There is increasing certainty in psychophysical evidence of a shared representational medium for mental images and perceptions (Farah 1985). Hallucinatory effects have seldom been considered as functionally mediatory in such efforts to understand how visualization through immaterial mental imagery, or neurally emergent revelations, could also help subjects to feel, visualize, contemplate and conjecture on the qualia of knowledge, especially knowledge or entries supposedly relegated to illusions or hallucination rather than as something integral to human knowledge systems. This dichotomy cannot be supported in an age which acknowledges the effectiveness of psychoactive interventions for healing, therapy, relaxation and curation of mental conditions. Audiovisual or cinematographic escapades could incorporate or imitate the kaleidoscopic hallucinations typical of psychoactive inducement. These experiences may not be psychotherapeutic treatments in themselves. Perhaps an adequate guided retinue of interventions with a psychotherapist who could help mediate patients' experiences for the possible identification and diagnosis of the roots of mental anxiety, harnessing pertinent substance use protocols to help achieve stability, self-knowledge and self-awareness. Such curative acquisition helps integrate the body, mind and soul in comprehensive healing.

Bringing virtual reality to the field of medical sciences, particularly in matters related to psychology or psychiatry, is not a novelty. VR offers a promising alternative to exposure in imaginative therapy and in phenomenological interventions, as not just a substance but an application that uses substance-generated visualization; hallucinogenic interactive games for increasing mental alertness [as in psychologically affected veterans and seniors] are used, with very positive outcomes. On the one hand, some patients with difficulty imagining or with recognition impairment actions have benefitted from such applications, while others have successfully erased or reformed the memory of traumatic events (Botella, Baños, García-Palacios, Quero, Guillén & Heliodoro 2007).

If, throughout history, we have been able to experience paradigm shifts of thought and social revolutions in which art and technology have played a leading role, it is possible to propose a future where hybridization may be used to involve benefits attributed to and acquired from psychoactive substances. Such acceptance allows for the potentialization of VR, like fictions and fantasy, through targeted or common immersions in healing encounters using games, atmospheres, ambiences or even therapeutic interactions with Al (Kim 2005).

Thought processes induced with entheogenic effects and technologies in VR improve mental, physical and emotional health.

Artists from different times and different latitudes have captured their visions. Though we cannot verify whether these were obtained under the influence of psychoactive substances, on a sensory level, deep meditation or openness to altered states of consciousness reveals astonishing similarities between these artistic expressions. The correlations between many of their visual and colour dispensatory templates are undeniable. In the art of mosques, the Huichol art of the autochthonous people of Mexico, or the art of Australian aborigines, among other examples, we can appreciate qualities such as the repetition of geometric figures, golden proportion, vibrant colours and shapes, complex reificatory patterns that could have been interpreted and abstracted only from nature itself, and fractals that are pleasurable simply to view.

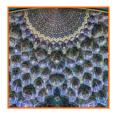






Figure 1. Mosque of Sha in Isfahan, Iran (left). Source: Wikipedia

Figure 2. Huichol art (centre). Source: https://mxappeal.com/2022/06/03/la-caravana/

Figure 3. Australian aboriginal art (right). Source: https://pin.it/2GgozzV

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These images coincide in being used in areas where cultural denominations participate in an excess of substance enhancements, meditative rituals and spiritual iconography – where the body is calmed by the focus acquired through diversions in immersive contemplation. This experience could correspond to enjoyment and rejuvenation, as in the proto-Aztec ritual cleansing ceremony of the temascal, if not to total enlightenment, or at least to the kind of emotional refuge that art affords humanity. This type of imagery can easily be traced forward to virtual reality scenarios – some examples are provided in the figures (4 and 5). This proves is that it is possible to aspire to equivalent results from chemical-biological and technological stimulation and that there is not much difference between the two end products of aestheticization. Both avenues can enable mental rehabilitation to reach the destination of a more copious and healing universe.





Figure 4. Adrian Piper. LSD Self-Portrait from Inside Out (1966) (left). Source: https://www.wikiart.org/es/adrian-piper

Figure 5. Roman Verostko. *The Cloud of Unknowing* (2003) (right). Algorithmic pen and ink plotter drawing. Source: https://www.mcad.edu/campus-info/mcad-galleries/past-exhibitions/201819-exhibitions/events/roman-verostko-and-cloud-unkowing-a-retrospective-exhibition

From these references, it is possible to account for the common ontology based on which the moment of science fiction, literature and art had given impetus and imaginative drive for realities that we have been able to build and experience together as a society. The new epistemology of hallucinogenic VR represents the same means of carrying forward agreeable applications of entheogenic and VR media: a use that allows us to explore human capacities in such a way that we can integrate mind, body, sensitivity, and correspondence with the universe and its component realities. The realities that we create and develop help us to better understand and use both natural and technological resources.

The ways in which VR resembles hallucinatory patterns could be deduced by sampling a large number of patterns from trans-regional cultures and then comparing them for the purposes of identifying the common aesthetic moment. General feedback from a population may ensure the margin of error for such conclusions. However, the real test lies in the subjective knowledge of the beauty and the power of transport that is achieved in a mandala or an Islamic relief. The psychological inducements for such arts are often tethered to botanical

knowledge. The role of peyote, datura and cannabis in art cannot be ignored. Like so many European inventions, the most fundamental arts of the ancient non-European cultures are also tainted by hypocrisy and posturing that denigrate or erase the power of indigenous art or the power of VR for a free and unconstrained future of technologically featured art.

It is necessary to take our minds and research away from prejudices regarding psychoactive substances and their abuse. We cannot afford to turn our backs on that which has shaped us humanly and culturally for millennia, yet which unfortunately has led us to a power struggle against prohibition by controlling authorities. The denial of the existence of such substances leads to denial of windows of opportunity which may just be beginning to open and which could offer us a new future, more congruent with the nature that shapes us. This is especially necessary when we might incorporate that experience into the path travelled through science, art and technology.

#### References

Baudry, Jean-Louis. *The Apparatus: Metapsychological Approaches to the Impression of Reality in Cinema*. New York: Columbia University Press, 1986.

Berger, Peter L. and Thomas Luckmann. *The Social Construction of Reality*. United Kingdom: Penguin Books, 1966: 39.

Botella, Cristina, Rosa Baños, Azucena García-Palacios, Soledad Quero, Verónica Guillén and Heliodoro José Marco. "La utilización de las nuevas tecnologías de la información y la comunicación en psicología clínica". *UOC Papers. Revista sobre la sociedad del conocimiento*, no. 4, (2007): 32-41. Redalyc. https://www.redalyc.org/articulo.oa?id=79000409

Fleming, Nic. "Las plantas hablan entre si usando una Internet de hongos". *BBC Tierra*. N. P. (2014).

Farah, Martha. J. "Psychophysical evidence for a shared representational medium for mental images and percepts". *Journal of Experimental Psychology: General*, vol. 114, no. 1, (1985): 91. DOI: https://doi.org/10.1037/0096-3445.114.1.91

Gibson, William. Neuromancer. Nueva York: Ace Books, 1984, 69.

Grau, Oliver. Virtual Art. From Illusion to Immersion. Cambridge: The MIT Press, 2003a, 17. DOI: https://doi.org/10.7551/mit-press/7104.001.0001

Grau, Oliver. Virtual Art. From Illusion to Immersion. Cambridge: The MIT Press, 2003b, 13. DOI: https://doi.org/10.7551/mit-press/7104.001.0001

Grau, Oliver. Virtual Art. From Illusion to Immersion. Cambridge: The MIT Press, 2003c, 29. DOI: https://doi.org/10.7551/mit-press/7104.001.0001

Huxley, Aldous. *The Doors of perception*. EEUU: Harper & Row Original, 1956, 27.

https://artnodes.uoc.edu

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Hansen, Mark B. N. New philosophy for new media. Cambridge: The MIT Press, 2004.

Jounghyun Kim, Gerard. "A SWOT analysis of the field of virtual reality rehabilitation and therapy". Presence: Virtual and Augmented Reality, vol. 14, no. 2, (2005): 119-146. DOI: https://doi.org/10.1162/1054746053967094

Laurel, Brenda. Cited by Rebeca Coyle. *The Genesis of Virtual Reality*. London: British Film Institute, 1993.

Lem, Stanislaw. The futurology congress. Trad. Kandel, M. Poland: Seabury Press, 1971, 38.

Manovich, Lev. The language of the new media. Cambridge: The MIT Press, 2006, 109.

McKenna, Terence. Food of Gods. The Search for the Original Tree of Knowledge. A Radical History of Plants, Drugs, and Human Evolution. New York: Bantam New Age Books, 1992a, 44.

McKenna, Terence. Food of Gods. The Search for the Original Tree of Knowledge. A Radical History of Plants, Drugs, and Human Evolution. New York: Bantam New Age Books, 1992b, 125.

McKenna, Terence. Food of Gods. The Search for the Original Tree of Knowledge. A Radical History of Plants, Drugs, and Human Evolution. New York: Bantam New Age Books, 1992c, 128.

Neumeyer, Alfred. Der Blick aus dem Bilde. Berlin: Gebr. Mann, 1964. Noah Harari, Yuval. Sapiens: A Brief History of Humankind. New York: Harper Collins, 2015.

Parra Valencia, Juan Diego. "Virtualidad: persistencias e insistencias de un nuevo viejo problema". Eidos: Revista de Filosofía de la Universidad del Norte, no. 25 (2016): 259-285. DOI: https://doi. org/10.14482/eidos.25.7973.

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