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Creativity and Higher States of Consciousness

Abstract

Dream reality and artist-created virtual reality, combined with the reality we perceive as physical, form three realities of human experience. Taking this into account, primary senses seem incomplete without extrasensory senses, which allow access to higher states of consciousness. Artists sometimes use those states as the source of creativity, inspiration, and ideas.

The real-time neurofeedback shows brainwave activity in the theta frequency range in a creativity-related Hypnagogic state. Alpha and delta frequencies are also creativity-related. Alpha is observed during the inspiration stage of creative thinking, while theta occurs during transcendental meditation and deep sleep. Neurofeedback is also used to create works of art. Higher states of consciousness-inducing techniques include dream machines, mind machines, binaural beats, hallucinogenic drugs, and most advantageous – float tanks. Holistic methods like meditation, hypnotherapy, and energy healing are also helpful. Meditation seems to be the most effective, with the ability to control lucid dreaming and out-of-body experiences to an extent.

The generation of creative ideas is a phenomenon that defies scientific explanation. The author's experiences in higher states of consciousness in art, meditation, and energy healing, make him confident that higher states of consciousness are legitimate sources of creativity and essential to the overall health of body, mind, and soul.

Key words: *creativity, higher states of consciousness, lucid dreaming, meditation, neurofeedback.*

Three Realities of Human Experience

The human race produces countless imaginary worlds told, written, sung, painted, filmed, built, performed... They can be entirely fantasy worlds or just variations of the physical world, be populated with fictional or real characters, use new rules of physics or the existing ones. Nevertheless, they all feel real to us. I prefer classifying them under the umbrella term virtual reality. The urge to express oneself goes back to the beginnings of human history. Bones were carved, cave walls painted, songs sung, stories told, myths forged... all paving the first paths of virtual reality. With dream reality and virtual reality, the reality perceived as physical rounds what I refer to as three realities of human experience. We all live, dream, and create.

Nonphysicality is an attribute of dream reality, and sometimes of virtual reality, which makes it easier not to define them as real. Yet, both realities occupy a large portion of our lives. As babies, we spend somewhere between 12 to 17 hours each day sleeping, but gradually drop to 6 to 9 hours when we reach adult age. As babies, we spend as much as half of our sleep dreaming, while as adults it comes down to only about two hours each night.

It's difficult to determine how much time we spend in virtual reality, but the use of television and the internet can provide some indication. Estimates suggest that in recent years adults in the United States spent an average of little over three hours watching television and using the internet each day. The use of the internet across all devices is even greater globally – approximately six to seven hours each day. It means we spend as much time indulging in virtual worlds as on sleep necessary for physiological and psychological functions of our body.

Our relationship with virtual worlds is constantly explored through various media. The science fiction film *The Matrix* (1999) by Wachowskis and the television series *Star Trek: The Next Generation* (1987-1994) can serve as examples. In *The Matrix* people live in the virtual world emulated by sentient machines, unconscious of the physical reality, treating the virtual world as their reality. When characters become aware of both realities they start reshaping them both. On the other hand, the characters in *Star Trek* enjoy emulated virtual worlds created by a machine called holodeck, which combines the technology of holography, replication, quantum teleportation, tractor beams, and force fields. They are conscious of virtual reality, even though it's indistinguishable from the physical reality. In both cases, virtual worlds achieve a symbiotic relationship with the physical world.

The attribute "real" seems to be reserved for the physical world only. But is it really "real" or is it just a different way we perceive or rather prioritize reality? We experience the sense of touch as a physical sensation, but it's just an illusion. Electro-static repulsion between electrons prevents physical touching. While there are other quantum mechanics issues at play and various definitions of touching to take into account, it's our brain that interprets touching as a physical sensation.

While physicality isn't associated with virtual worlds of film, video, and animation, there are instances where they superbly transmute into the physical world. Immersive lands *Star Trek: The Experience* (1998-2008) in Las Vegas Hilton and *Star Wars: Galaxy's Edge* (2019-) in Disneyland Park and Disney's Hollywood Studios are fine examples of virtual reality turning into physical reality, where virtual characters, locations, and events come to life. Visionary animator Walt Disney was the pioneer of making it on the large scale through Disneyland theme parks. They became the permanent living place of many virtual worlds, including Toontown, a themed land where toon characters "live" and interact with visitors.

We perceive the physical world through the primary senses of sight, hearing, touch, smell, and taste. Taking the triad of human reality experience into account, primary senses seem incomplete without nonphysical extrasensory senses or clair senses, which allow access to higher states of consciousness. They are either regarded as enhancements of the primary senses or new supplementary senses, and include common ones like empathy and clairvoyance, and more advanced ones like remote viewing and astral projection for instance. Sight and hearing have their extrasensory counterparts that artists use as inspiration in their work. Clairvoyance provides dreamlike visions and is used by visual artists like painters and film directors, while clairaudience enables hearing music, sounds, and words without an external source, and is used by musicians and writers.

Synesthesia can be seen as a middle ground between primary senses and extrasensory senses, a bridge between physical and nonphysical realities. It's a neurological condition in which one sensory input triggers the other unrelated one, allowing synesthetes to see images while listening to the music for instance. Ramachandran and Hubbard connect synesthesia to creativity by implying its connection to the evolution of abstraction in humans, which is supported by a study that showed it's seven times more common in creative people than general population.

The interaction between the physical world and the nonphysical dream world is scientifically quite an unexplored area. Not much is known, let alone utilized practically, except to a degree in the field of art and energy medicine. Both can produce results in physical reality by obtaining information from higher states of consciousness in nonphysical reality. I don't use the term "altered states" but rather "higher states of consciousness", because I don't see them as an alteration of human existence but as an integral part of it.

My personal experience with art, meditation, and energy healing, along with experimentation with most of the techniques and methods for reaching higher states of consciousness, lead me to believe they are legitimate sources of creativity and essential to the overall health of body, mind, and soul. Certain supporting tools are at the disposal of those who have difficulties achieving the state or lack the patience. I've dealt with the latter in my early explorations of higher states of consciousness. The tools include dream machines, mind machines, binaural beats, float tanks, and hallucinogenic drugs. Most of the methods and techniques I mention are relatively simple and don't require any experience.

Hypnagogic State: The Path to Creativity

Despite a lot of scientific research, science has yet to provide a conclusive answer to why we sleep. Current theories concentrate on brain development, the body's energy conservation (metabolism is greatly reduced), and the body's self-repair (immune function, muscle growth, tissue repair). Sleep is also connected to circadian rhythms – a response to darkness and lightness innate to most living creatures on Earth, including animals, plants, and microbes.

Sleep deprivation causes problems with coordination and attention, making one forgetful, depressive and agitated, have hallucinations, and prone to various diseases. Our body sends us signs when we ought to go to sleep until they start shutting down. This is quite evident in children – at a certain point, they just collapse into sleep. Interestingly, artists are known to use sleep deprivation to connect with higher states of consciousness for creative reasons. What they enter is a hypnagogic state.

It's a state we're in right before falling asleep when the brain waves are in the frequency range of 4 to 8 Hz (cycles per second), known as theta. Budzynski mentions there is a large amount of anecdotal data about hypnagogic images springing from the unconscious. He considers theta state important in promoting creative associations and notes how some creative people have the ability to "mine the hypnagogic gold of creativity".¹ As Hutchinson noted, "all recognized geniuses have insisted that their ideas and creative energies have flowed from that deep pool of wisdom that has been called the unconscious".²

Theta is preceded by relaxed state of alpha in the range of 8 to 12 Hz, followed by deep sleep delta in the range of 0.5 to 4 Hz. The research has shown the relationship between alpha brain waves and creativity as well. For instance, electroencephalograph (EEG) readings indicated higher alpha activity during the inspiration stage of the creative thinking, when free association, analogical cognition, and uninhibited thinking is taking place.

The experiences in a hypnagogic state can be impressionable thanks to vivid imagery, sounds, and feelings. So much, in fact, they were used throughout history. Shamans and oracles entered these states of higher consciousness to foretell the future. The ancient Greek and Roman empires were known for relying on oracles, while Alexander the Great consulted them for guidance during his conquests. In more recent history, composer Ludwig van Beethoven, novelist Mary Shelley, and painter Salvador Dali took short naps to boost creativity. Even inventor Thomas Edison said he was "flooded" by creative images after his naps.

Their habits were conscious routes to reaching the alpha state. According to the research by Oudiette and Lacaux, key to success lies in accomplishing the right balance of two factors – falling asleep quickly and not too deeply. They found a "creative sweet spot" in a medium level of alpha and a low level of delta range. Edison mastered it by using a simple yet effective technique involving holding

1 Budzynski, Thomas, *The Clinical Guide to Sound and Light*, <http://www.octavius.com/wp-content/uploads/2011/09/theclinicalguidetosoundandlight.pdf> Accessed: 25 March 2022.

2 Hutchison, Michael, *The Book of Floating: Exploring the Private Sea*, William Morrow & Co (1985), pp. 61

a metal ball in his hand. If he fell asleep, the sound of the dropped ball would instantly wake him up, allowing him to make notes of experiences in the hypnagogic state. This can be accomplished by simply setting an alarm clock. With the trial and error method, the alarm can be set more accurately. One has to reach a relaxed state quickly, though, which can be done by minimizing sensory distractions and taking advantage of certain techniques and methods mentioned below.

Float Tank: The Ultimate Sensory Deprivation

The float tanks are sensory deprivation tanks developed by neuropsychiatrist John C. Lilly in 1954 to explore the effect of the absence of external stimuli on the human body and mind. Nowadays float tanks are primarily used for relaxation and meditation, but also for treating various health issues.

The tanks are filled with water saturated with Epsom salts, which gives the body buoyancy, thus providing the feeling of weightlessness. We've all floated in a mother's womb for the first nine months, so it comes as no surprise floating tanks make some people feel comfortable like a baby in the womb. The sense of touch is greatly diminished by equalizing the air and water temperature with the skin temperature. The smell and taste sensations are negligible, while sight and hearing are eliminated by the very nature of the tanks' enclosed design.

When entering theta state it's really easy to fall asleep, but the float tank does seem ideal for keeping the right balance between hypnagogic state and staying awake. Dozing on and off is often inevitable, but theta always seems to be around the corner. The research has shown prominent raise in theta levels in float tanks, as evident in a study by Stern and Taylor.

Hutchinson offers several explanations of how floating works. Besides the anti-gravity effect, which reduces physical stress in the body, he also mentions simultaneous stimulation of theta brain waves and preservation of wakefulness, a decrease of stress-related neurochemicals, and an increase in communication among the reptile brain, limbic system, and neocortex. He argues that floating is the most efficient way to gain access to the contents of the right hemisphere of the brain, the one responsible for intuitive, nonlinear, and imagistic processing of information.

There are no external stimuli to influence and distort the artistic process. The artist is left to his or her own subconscious well of creativity. Indeed, several studies on the restriction of external stimuli have shown that floating may positively affect the creative process and performance. I believe the float tanks can serve as a perfect tool for the purest path to artistic creation. The inner self would be the virtual canvas to paint on and transfer into physical reality through art.

I've found the most interesting creative explorations of the float tanks in the film *Altered States* (1980) by Ken Russell, and the art installation *Giant Psycho Tank* (2000) by Carsten Höller. The film had a premise that a sensory deprivation tank can make a person regress into a primordial state and eventually into pure energy. The installation, on the other hand, wasn't as abstract and took a

more literal form. The visitors were invited to float in the sensory deprivation pool to experience the sensory deprivation by themselves.

My first experience with floating was done for my doctoral thesis research, to explore the idea of presenting films without sensory distractions. I've spent an hour in a dreamy hypnagogic state, impressed by the tank's ability to purge the noise of the physical world and calm my overly analytical mind. Sensory deprivation enabled my body to stop spending time and energy on processing vast amounts of information derived through the senses, thus effortlessly bringing brainwaves into alpha and theta frequency range. I was left with nothing but my consciousness, observing expressionistic images and scenes that appeared spontaneously in my mind. Afterward, I felt recharged, relaxed, rejuvenated, and looked a bit younger, with a clear mind and enhanced senses.

After sharing my impressions with a colleague, he explained I had achieved a higher state of consciousness in an hour for what took him over a decade to master through meditation. This corresponds with a Zen meditation study by Kasamatsu and Hirai. The EEG measurements showed more changes in subjects with longer Zen training, especially in theta range, while control subjects without Zen training didn't exhibit EEG changes at all. The floating didn't turn me into a primordial ooze or pure energy, but it enabled my creative essence to dominate the physical reality. The outcome was experiencing an experimental oneiric film in my mind.

Dream Machine: The Seductive Power of Flickering

Even without sensory restricting features of a float tank, a dream machine can help achieve the alpha state by creating a hypnotic flicker effect. The effect of flickering lights was brought out to attention with EEG experiments by neurophysiologist William Grey Walter in 1953. The experiments showed that people who look at the flickering light in the alpha frequency range with their eyes closed start to see visions, hallucinations, or waking dreams.

A dream machine is a simple rotating cylinder with slits cut out and a strong light bulb positioned in the center. It can be easily made with a record player, a light bulb, and a piece of cardboard. Rotation produces flickering light that must be looked at in the darkness with eyes closed. The flickering occurs at the frequency range of around 8-13 Hz, matching the alpha frequency range. This kinetic light sculpture was invented by multimedia artist Brion Gysin and was described as "the first art object to be seen with the eyes closed". The 1961 patent declared it produced "artistic visual sensations".

Its simple design and promising premise attracted artists like musicians Iggy Pop and Kurt Cobain, and writers Aldous Huxley and Margaret Atwood. "it's very relaxing and aids lateral think-jumps," Atwood commented.³ Mathematician and astronomer Ptolemy was attracted by flickering effect as

3 Hillier, David, *I Tried the App That 'Makes You Trip' – and It Was Surprisingly Good*, Vice, 29 March 2021, <https://www.vice.com/en/article/g5b497/i-tried-luminate-app-that-makes-you-trip-review> Accessed: 25 March 2022.

long ago as 200 A.D. He experienced patterns and colors in his eyes, and a feeling of euphoria by looking at sunlight flickering through the spokes of a spinning wheel. More recently, Budzynski's study of the flickering effect produced by mind machine showed that it appeared to enhance hypnotic induction, create drowsy, hypnagogic-like states, and, at times, vivid holographic images. Richardson and McAndrew went so far to claim that of all the procedures to induce hypnagogic state, the easiest, safest and potentially most precise in its effects is photic stimulation.

I've experienced mind machine only in a form of a simulation video through Flicker Flicker website, and I've found it surprisingly effective. I've watched the flickering video in a completely dark room with no auditory distractions. With the eyelids closed, bright white flickering light was seen as calming reddish-orange light. The flickering was made only of flashes of light, but a couple of minutes later static images started appearing. They had geometric and organic shapes, so harmonious I wondered if they had any relation to sacred geometry the ancient cultures used to express the structure of the universe.

Soon the images became animated and looked like enhanced versions of phosphene images. Phosphenes appear without light, though. Usually, they are activated by mechanical or magnetic stimulation, but meditation and hallucinogenic drugs can trigger them as well. The effect of mind machine-induced images was mesmerizing, and I could feel I was diving into the alpha state. At this time, the usual vivid imagery associated with the alpha state started appearing.

Since the light was always flickering, there was no darkness nor cinematic scenes associated with the dreamlike theta state. It was a unique experience nevertheless, but not recommended for people with nervous system disorders like photosensitive epilepsy. In my experience, the simulated dream machine felt closest to flicker films by directors Peter Kubelka and Takahiko Iimura. It's a form of experimental film that appeared around the same time as the invention of the dream machine. Flicker film uses the frames as the smallest unit of film to explore the temporal and structural nature of the medium, "marking and inscribing time on the bodies, psyches, and nervous systems of their viewers".⁴ Dream machine is far from simulating a flicker film. It's a hypnotic, graphically animated artwork that manifests differently for every single viewer. It brings them into a higher state of consciousness on a very basic level.

Binaural Beats Phenomenon

Eventually, the dream machine concept was ported into goggles and upgraded with sound, giving birth to the mind machine. It evolved even further, by turning into a smartphone application that takes advantage of its built-in torch. This concept isn't innovative as it may sound, considering that combinations of rhythmic sound and flickering light were used by the ancients to induce trance.

⁴ Lippit, A. M., 2012, *Ex-Cinema: From Theory of Experimental Film and Video*, University of California Press (2012), pp. 33

Unlike dream machine, mind machine can be used only by one person at a time. The flickering light is provided by goggles and must be experienced with the eyes closed, while the sound is delivered by a pair of headphones. The device usually provides programmed sessions, audio-visual controls, and a connection to the internet for additional content. It can also be adjusted to target a specific brainwave frequency range. A group experience of dream machine can be observed in nightclub settings. The clubs usually combine strobe lights with music for the same effect – to make clubbing a hypnotic experience.

Mind machines can take advantage of the binaural beat phenomenon. It occurs when two or more tones are recorded at slightly different frequencies and played through stereo headphones. Consequently, each ear hears a different sound, and while the brain tries to make up the difference it activates a specific brainwave frequency range. For instance, when 408 Hz sound is played to the left ear and 400 Hz sound to the right ear, the perceived binaural beat will be 8 Hz. A study by Jirakittayakorn and Wongsawat suggests a 6-Hz binaural beat on a 250 Hz carrier tone could be used for inducing a meditative state within a short time.

Curiously, teenagers are discovering binaural beats through the internet. Considering they can induce higher states of consciousness without hallucinogenic drugs, they use them as digital drugs to get high. I haven't experienced a mind machine, but I've used binaural sounds to great effect. Inspired by the concept of the binaural beat I've shortened the time of reaching alpha and theta states during meditation. I imagined hearing binaural sounds pulsating on the left and the right side until they synchronize and cancel each other out to effectively bring me into the desired state.

While there are many types and purposes of meditation, two are of interest for stimulating creativity: the simple ones used for creative visualization and complex ones for reaching higher states of consciousness. By visualizing during meditation, one can focus on a certain art project, interact with images, sounds, ideas, and feelings that occur, or passively absorb them. Interestingly, by using an EEG neuroheadset to monitor my brain activity during meditation, I've found one doesn't necessarily need to feel a hypnagogic state to achieve an effective meditation.

Higher states of consciousness transcend the limits of the human mind and offer experiences in different realities with virtually unlimited sources of inspiration. Traditional transcendental meditation programs or modern ones like Monroe Institute's Gateway programs can be effective in stabilizing consciousness during sleep. I use the latter to various degrees of success. Notably, transcendental meditation EEG readings showed simultaneous theta-alpha and delta activity during non-REM sleep. Reaching higher states of consciousness requires a lot of practice, a deep desire, and an open mind, considering it involves nonphysical realities and a basic understanding of the energy body.

The Energy Body

The energy body is often referred to as a soul, spirit, aura, and astral body. Physicist and spiritual healer Barbara Ann Brennan uses the term Human Energy Field and references many supporting laboratory measurements (electrostatic, magnetic, electromagnetic, sonic, thermal, and visual). She finds that they are “consistent with normal physiological processes of the body and go beyond them to provide a vehicle for psychosomatic functioning.”⁵ The concept of the energy body has been around for a while. It’s present in Indian Prana and Chinese ch’i, meaning it goes back at least three thousand years according to written history. Regardless of potential spiritual connotations, it’s not the question of faith, but experience, through one can get to know his or her own energy body, and as a result, start perceiving beyond the physical world.

One of the most impressionable energy body experiences often occurs during deep meditation and sleep. It’s an unusual but enlightening phenomenon called out-of-body experience. The energy body temporarily retreats to the nonphysical dream world, leaving the physical body in autopilot mode, so to speak. The dream world provides an abundance of inspiration. Almost everybody can learn to have conscious and controllable out-of-body experiences, as Monroe Institute’s a half a century worth of research documents. Its Hemi-Sync technology and Gateway program were even researched by the U.S. Department of the Army for practical military application. The resulting Gateway Process report is fascinating, to say the least.⁶

I believe many artists spontaneously drift out-of-body, in short intervals at least, whether they are in the conscious act of creation or a hypnagogic state. For example, a painter I know experimented with a dream machine to get creative ideas but got out-of-body experience instead. His friends had a hard time waking him up because he was so absorbed by the experience he didn’t wish to return. That’s why there are certain protocols to learn and follow before embarking on this unusual quest for creativity.

Besides training to activate a specific signal to return to the physical body on demand, explorers of hypnagogic creativity who’d rather steer clear of out-of-body experience can try the grounding method. It’s the process of strengthening or re-establishing the connection with Earth. Direct physical contact with Earth’s electrons equalizes our electric potential with Earth’s because its surface is electrically conductive. It eliminates the perturbation of electrons induced on our bodies from electric fields in our environment. As the physicist Richard Feynman explained it: “when the body potential is the same as the Earth’s electric potential (and thus grounded), it becomes an extension of the Earth’s gigantic electric system.”⁷

5 Brennan, Barbara Ann, *Hands of Light: A Guide to Healing Through the Human Energy Field*, Bantam (1988), pp. 31-34.

6 McDonnell, W. M., *Analysis and Assessment of Getaway Process*, CIA, 9 June 2003, <https://www.cia.gov/readingroom/docs/CIA-RDP96-00788R001700210016-5.pdf> Accessed: 4 April 2022.

7 Chevalier, G., Sinatra, S. T., Oschman, J. L., Sokal, K., and Sokal, P., *Earthing: Health Implications of Reconnecting the Human Body to the Earth’s Surface Electrons*, *Journal of Environmental and Public Health*, 12 January 2012, <https://www.hindawi.com/journals/jep/2012/291541/> Accessed: 10.4.2022.

Being barefoot transfers electrons from the ground into our electrically conductive bodies, but the modern lifestyle makes grounding difficult thanks to paved sidewalks and rubber sole footwear (neither are electrically conductive). Grounding can be achieved by the following method nevertheless:

One should have eyes closed, stand or sit in a straight position, with feet spread slightly. Breathing should be deep and from the belly/diaphragm. Pressing the feet with a light force on the ground or the floor might help, along with visualizing a straight stream of light going through the lower part of the body and continuing deeper and deeper into the ground until it anchors in the center of Earth. Tingles, goosebumps, warmth, chill, or some other unusual sensations may accompany the experience, along with body swinging, pulling, or pushing. These are all signs of successful grounding. I could describe it as the feeling of being a tethered balloon, lightly swinging in the breeze but not flying away. Any method or technique used to reach a hypnagogic state can be used at this time. When finished, one should mentally ease the strength of grounding and slowly lift foot by foot, being careful not to lose balance.

Chakras and Pineal Gland's Relation to Creativity

Stimulating creativity in higher states of consciousness requires some practice, clear intent, and focus on the specific art project. Besides techniques mentioned earlier, holistic practices like guided meditation, hypnotherapy, and energy healing can be quite helpful. Compared to self-guided meditation the guided meditation might be more successful in providing a focus on the art project. Hypnotherapy brings our mind to a state of hypnotic susceptibility, which can be used to open or spark latent creativity or remove a creative block. Energy healing can remove energy blocks to enable the flow of creative energy, or stimulate creativity-related chakras.

Chakras act as bridges between the physical body and the energy body. They are energy centers shaped as vortexes that help regulate emotional, mental, spiritual, and physical processes of the body. There are seven main chakras: root chakra, sacral chakra, solar plexus chakra, heart chakra, throat chakra, third eye chakra, and crown chakra. Five are positioned along the spine on the front and the back of the body, while the other two are on the top of the head and the base of the spine.

They are the starting point of every energy healing session and from my experience as an energy healer, keeping them open and flowing drastically changes our mental and physical health. Three chakras are associated with creativity: sacral chakra and third eye chakra, plus secondary palm chakras. Chakras respond well to certain sounds and colors, which can be used to stimulate them. Regarding the sound, traditional Tibetan singing bowls or more practical binaural beats can be used. Color can be visualized in the chakra area and physical cloth/paper samples can be laid down on the area for better focus. For instance, an orange sample for sacral chakra should be placed on the lower abdomen just below the belly button, while the third eye chakra area between the eyebrows

should be the location of a violet or purple sample. After visualizing the color, one should try sensing it internally, not just with vision but with touch, smell, sound or emotion too.

When I have chakras open and flowing during meditation, I have a sensation of a tickling vortex of air in the area, accompanied by slight pressure. For instance, I sense sacral chakra as a tactile spinning orb of orange plasma and third eye chakra like a purple nebula in outer space. After sensing or visualizing chakras, one can bring up the same sensations in palm chakras before starting the creative work, to get the creativity flowing.

The third eye chakra, also known as the mind's eye or the inner eye, is probably of the greatest importance since, besides creativity, it's associated with intuition, imagination, and extrasensory perception. The third eye chakra's function is related to the pine cone-shaped pineal gland, located between two hemispheres near the center of the brain. This gland is poorly understood, but its main function seems to be the production of melatonin, a hormone that regulates reproduction, aging, and sleep. Some amphibians, reptiles, and fish still have the external third eye called the pineal eye.

It's regarded as the place of the soul, the root of spirituality, the source of extrasensory abilities, and the gateway to higher consciousness. This might be echoed in the gland's production of hallucinogenic neurotransmitter dimethyltryptamine (DMT) and spiritual practices of ancient religions. I've noticed when the pineal gland becomes calcified it's extremely difficult to reach higher states of consciousness. It has to be brought back to its original state with energy healing and a proper diet to become functional. Curiously, the father of modern western philosophy, René Descartes, called the pineal gland "the principal seat of the soul".

The first historical representations of the third eye and the pineal gland can be found in Indian, ancient Egyptian, Sumerian, and New World religions. It's one of the iconographical attributes of Shiva and Buddha in Hinduism and Buddhism. In ancient Egyptian iconography, it's depicted as the eye of Ra and Horus and it closely resembles a lateral view of the pineal gland inside the human brain. Sumerians on the other hand depicted it symbolically as the pine cone in divinities' reaching hands. Even though Eastern Old World and Western New World cultures evolved independently, religious art of ancient Americas' peoples like Mayas, Toltecs, Olmecs, and Aztecs also featured the third eye, usually as a circled dot, an eye, or a pine cone.

While the function of natural-producing DMT in the human body is still unknown, DMT is a powerful psychedelic substance. Its consumption brings higher awareness and spiritual experiences. Interestingly, it's the main ingredient of Ayahuasca, a brew used for inducing spiritual experiences in South American shaman ceremonies. Shamans use Ayahuasca to find a patient's cause of illness on the energy level, which is what energy healers do without psychedelic substances or drugs.

I believe using drugs and chemicals to reach higher consciousness is utterly unnecessary because they might change the psychophysical nature of the person and skew the experience. Besides, it's entirely unnecessary, considering all it takes is getting into a hypnagogic state. Nevertheless, some

artists experiment with hallucinogenic drugs to achieve higher states of consciousness. As art often imitates life, films sometimes take an advantage of this practice. *Fear and Loathing in Las Vegas* (1998) by Terry Gilliam and *Requiem for a Dream* (2000) by Darren Aronofsky are fine examples of dreamlike films based on the characters' use of hallucinogenic drugs.

Enter the Void (2009) by Gaspar Noé took it to a whole other level. It follows the soul of a drug dealer who got killed while high on DMT. Visually, the whole film feels like a psychedelic experience thanks to the director's dedication. Since graphic designers didn't have experience with hallucinogenic drugs, he had to provide visual references himself. "I drank a few times Ayahuasca, which is a drink full of DMT that is only legal in the Amazonian jungle, so you have to go there to take it. And when you drink it, you have visions that are far scarier or far more futuristic than any visions in altered states you can get from any other means," Noé confides in an interview, "[...] when I went there I was already thinking about this project, and I was thinking about images. It was almost like professional research."⁸

Ancient philosopher Aristotle didn't call the hand "a tool of tools" for no reason. The hands are locations of palm chakras – our powerful tools of energy healing and artistic expression. They are conveniently used to channel energy during healing sessions, a practice intuitively used by parents by laying a hand on their child's bruised knee or aching belly. Keeping energy free-flowing through palm chakras helps with creativity. Fine motor development is not the only reason we encourage children to draw pictures, model clay, and play with building blocks... By doing that we intuitively let them express themselves creatively. Unfortunately, the practice isn't encouraged in adulthood.

Teaching about film title sequences at the Academy of Dramatic Art in Zagreb, Croatia, I've noticed students missed using their hands to creatively express themselves. Instead of working exclusively with computers, as is the case in the digital age, they often chose to create graphics and animation by hand drawings or collages. Moreover, instead of creating a simple accompanying DVD or Blu-ray cover from a digital file, they tended to create a custom, more complex physical packaging. It was as if they subconsciously wanted to get away from using only a mouse and a keyboard and revert to their creative kindergarten age.

While palm chakras' energy flow can sometimes be opened by simply rubbing palms together, one can go even further and create an energy orb. It allows one to become more conscious of the creative energy and the energy body in general. It demonstrates that dealing with the nonphysical world can be tactile as well.

To start creating the energy orb, palms should be gently rubbed against each other for several seconds, followed by positioning them to face each other at about 12 inches distance (30 cm). Eyes should be closed and a few deep breaths should be taken. With every breath one should imagine

8 Lambie, Ryan, *Gaspar Noé Interview: Enter The Void, illegal substances and life after death*, Dan of Geek, 21 September 2010, <https://www.denofgeek.com/movies/gaspar-no%c3%a9-interview-enter-the-void-illegal-substances-and-life-after-death/> Accessed: 19.3.2022.

a stream of bright light coming through the top of the head, flowing down the neck, splitting into arms, and accumulating in the palms. The process should be taken slowly because rushing doesn't help. Some kind of energy buildup should be eventually felt in the palms, often feeling like sublime tingling, warmth, or a draft. Palms should be brought closer together very slowly until a slight resistance is felt as if they have reached an invisible barrier in the space between. While my 12-year-old son feels it as a ticklish and slippery ice-like surface, I feel it like a tingling liquid-filled balloon. Eyes can be opened at this point and hands can be used to slowly mold the energy into about 4 inches (10 cm) wide orb shape. Now, while the energy is concentrated, one can start doing creative things with their hands.

There are no bulging veins on the face, straining muscles in the arms, clenching hands, and certainly no fiery or electrifying bolts, as the energy orbs are usually depicted in films. These are just cinematic ways of presenting it to the viewers to achieve greater visual impact. It looks like the artists, especially in comic books and film, intuitively channel it into their works. The box office hit films *Doctor Strange* (2016) by Scott Derrickson and *Guardians of the Galaxy Vol. 2* (2017) by James Gunn quite accurately depicted the look and formation of energy orbs. The production team of *Doctor Strange* even hired a Buddhist monk as a consultant to achieve accuracy.

The Creative Guidance of Signs

Sometimes, to access the higher states of consciousness for artistic inspiration, the artist doesn't need to do anything but observe. After practicing various meditation methods and techniques for over a decade, I've come to realize that higher states of consciousness can linger in physical reality by manifesting as an intricate web of synchronized signs. They present guidance not just in a creative sense, but in a broader personal growth sense as well.

The signs are numerous, always have the perfect timing, and can take many forms and guises. They are ordinary and seemingly random, but quite relatable or impressionable enough to be noticed. One just needs to be perceptive, open-minded, and ready to act accordingly. The one I've experienced while teaching a broadcast design class for university students was definitely among the funniest.

It happened while a student was presenting her project – an opening title sequence for Croatian National Television show *Kucni ljubimci / The Pets* (1990-). She opted for a child-like hand-drawn animation style, evoking the feeling she had while watching the show as a child. But, a key ingredient was missing. An edgy and funny hook that can relate to an adult audience as well. Whatever her classmates and I suggested during brainstorming didn't feel right. I was ready to wrap up due to a collective creative block when out of nowhere a fly showed up and landed on the screen the title was projected on. Its landing spot was exactly on top of the logotype's letter "i"!

In almost two decades of lecturing in that very classroom, I had never experienced a fly sneaking in. The whole class was speechless for a few seconds... and then burst into laughter. It was perfect! Even

the animated dog in the title looked up at the fly the moment it landed. The student recreated the event for her project and got an A grade. While I was writing the preceding paragraphs, I wondered whether I should include this example at all. Then, right at the time I was typing the word fly, a real fly showed up and buzzed over my head for a few seconds. The sign was pretty clear, I've reacted accordingly and included it.

That was an example of how it usually works – subsequent signs confirming the first sign, to be able to eventually catch on to an idea, an inspiration, or a fragment of a creative puzzle that gives birth to the work of art. It corresponds with director James Cameron's view on the idea that won't go away: "It starts to resonate with things that are happening in your life or in the news or in another film that-- that you see and it starts to get more detailed, it starts to come into focus."⁹

The director David Lynch compares getting an idea to fishing: "I say a desire for an idea is like bait on a hook and lowering it into the water. [...] And then, you don't know when they're going to come or what will trigger them. But, lo-and-behold, on a lucky day, bingo! You'll catch a fish; you'll catch an idea. And like I say, you don't see the fish down there but when you bring it up out of the water, that's like the idea coming into the conscious mind."¹⁰

Besides the sense of vision, the signs often manifest through the sense of hearing. For instance, inspired by the low rumble of a stream he heard, composer Richard Wagner wrote the prelude to the opera *Das Rheingold* (1854). Likewise, the painting *Scream* (1893) was inspired by a piercing scream the painter Edvard Munch heard while walking with friends.

As the aforementioned examples illustrate, senses can also be experienced internally as subjective experiences in an ordinary wakeful state, without inducing a hypnagogic state. "The underlying idea [of a musical work] rises... grows", as composer Ludwig van Beethoven described it, "I hear and see the image in front of me from every angle, as if it had been cast."¹¹ It's a feeling of experiencing the creation of the art project and its final form before it even occurred, precognition of a sort. This was exactly the case with two of my short films while they were in development – experimental docufiction *Two Pink Lines* (2016) and animated *Hedgehog Spikiney* (2020).

During an ordinary day, while working on an unrelated project, a few final scenes from *Hedgehog Spikiney* appeared in my mind. They were accompanied by a clear sense of immersion in making the film, getting the feel and mood of it as a whole, and utterly enjoying working on it. It felt as if I was experiencing the filmmaking at this very moment, simultaneously with an absolute knowing the event had already happened. At the time, the short hadn't even been greenlit for production yet. After it finally did, the feeling of immersion and the mood of the film I had during the production, turned out to be the same as the internal signs I've experienced ahead of time. When the time for

9 Cameron, James, *Pursuing and Developing the Idea*, MasterClass, <https://www.masterclass.com/classes/james-cameron-teaches-filmmaking/chapters/pursuing-and-developing-the-idea#transcript> Accessed: 2 April 2022.

10 *Selected stories from David Lynch's MasterClass: Fishing for Ideas*, Guidebook, MasterClass, pp. 14.

11 Pritzker, S. R., and Runco, M. A., *Encyclopedia of Creativity: Volume 1*, Academic Press (Third Edition, 2020), pp. 5.

a film festival's Q & A session came, I could proudly exclaim: "the short turned out to be exactly like I've imagined it".

The experience was similar with *Two Pink Lines*. During my wife's pregnancy, I had a distinct feeling to do something creative with it. I spontaneously started making a home video of everyday events in the anticipation of the baby but had no clue what to do with it. The inspiration finally sprung during a routine prenatal care appointment. I was delighted by the amazing visual aesthetic of the ultrasound video and immediately knew I had to do a film revolving around it. A clear concept was born and the visuals appeared in my mind – it was going to be about prenatal depression seen from the perspective of the fetus!

Curiously, during the premiere of the title sequence of *Two Pink Lines* during my solo gallery exhibition, the sequence's evocative graphics and sound seemed to have provoked higher state of consciousness in a couple of viewers. Titles were created by scanning rubber models with a 4D ultrasound device and complimented with authentic womb sounds to get the look and feel of fetal typography. The screening took place in a darkened quiet room to minimize external stimuli and evoke the feeling of being inside the womb. A hyperactive preschool girl suddenly calmed down and hypnotically paid attention to the womb sounds as soon as the title sequence was screened. It seemed as if she entered the alpha or theta state by remembering the hypnotic sounds of the womb. Or perhaps she had a more extreme reaction, like the one my mother had. She was so disturbed by the sequence it had triggered her out-of-body experience.

This is the only time I've heard a title sequence, or a film for that matter, provoking an out-of-body experience. *Two Pink Lines* demonstrated synergy of human reality experience, unexpectedly triggering the higher state of consciousness in the audience. The involvement of the audience with artists flourished during Fluxus, the avant-garde art movement in the mid-20th century. Nowadays, a deeper and more personal artist-audience relationship is being explored by incorporating real-time neurofeedback during the creation of a work of art.

Neurofeedback: Communicating with the Creative Mind

Ever since the first human EEG data was produced in 1924, by measuring the current through electrodes attached to a patient's scalp, the real-time neurofeedback fascinated the scientists and the artists alike. Composer Alvin Lucier explored the ability to convert brainwaves into sounds by using his own alpha frequency range to control sounds in real-time in his work *Music for Solo Performer* (1965). Neurofeedback is often complemented with other real-time biofeedback data to create a work of art from the performer's physiological functions such as heart rate, breathing, and electrodermal activity. Artists like David Rosenboom, Pia Tikka, and Mariko Mori masterfully used biofeedback in their work.

Instead of a single performer, Rosenboom employed a group of performers to create biofeedback-generated music in his work *Brainwave Music* (1976). Enthralled by his biofeedback experiments, he envisioned “life will eventually be embodied in information-energy networks creating nonphysical art”.¹² In the installation *Wave UFO* (2003), Mori empowered visitors to animate computer graphics with their biofeedback. Beta, alpha, and theta states were represented with morphing orbs projected on the ceiling of a UFO-shaped sculpture, reacting to visitors’ ability to synchronize with each other. Tikka’s interactive film *Obsession* (2005) allowed viewers to unconsciously interact with it, by using their biofeedback to activate the computer-controlled montage based on the film clips’ emotional attributes. Thanks to multiple screens and rotating seats it was possible to cater to each viewer individually.

My experience with neurofeedback comes from consumer-grade Emotiv’s EEG neuroheadset, which allows control of software and compatible devices with emotions and thoughts. Due to limited applications available to me, I was only able to use it to control elements of a demo software application, and monitor my brain activity during various tasks, albeit quite successfully. Generally, I found neurofeedback devices fascinating, because they demonstrate the virtual and physical worlds can be manipulated by the mind alone. It speaks volumes about creative thinking and the need for nurturing the connection between virtual and physical worlds. It’s an evolutionary process.

Creativity-related alpha, theta, and delta brainwaves frequencies represent only biofeedback measurements of persons in higher states of consciousness. How the creative ideas in hypnagogic or wakeful states are generated is a phenomenon that defies scientific explanation. Neurofeedback research seems to be heading in the right direction, though. Currently, it’s venturing beyond mere read-outs of electrical activity in the brain. It’s already advanced to the level of translating images from a person’s mind onto a computer screen. It would fundamentally change the way the visual arts are created, by allowing the artist to create paintings, photographs, videos or even 3D printed sculptures directly from the mind.

Recording dream imagery might even become possible, taking creative inspiration from dreams to a whole new level. Astonishingly, dream recordings in the film *End of the World* (1991) by Wim Wenders were depicted almost exactly as the real visual reconstructions from the brain achieved two decades later. The neuroscientist Jack Gallant comments on the research with optimistic words: “Our results suggest that it may soon be possible to reconstruct a picture of a person’s visual experience from measurements of brain activity alone.”¹³

12 Dayal, Geeta, *David Rosenboom*, 4Columns, 31 May 2019, <https://4columns.org/dayal-geeta/david-rosenboom> Accessed: 23 March 2022.

13 Randerson, James, *Scary or sensational? A machine that can look into the mind*, The Guardian, 6 March 2008, <https://www.theguardian.com/science/2008/mar/06/medicalresearch> Accessed: 4 April 2022.

Creativity in Children

Children live in the present moment, immersed in an activity with undivided attention. In essence – it's mindfulness, a form of meditation rooted in Buddhism used to quiet the busy mind and reach higher states of consciousness. Children have a great imagination and a strong creative impulse. As the painter Pablo Picasso concluded: "Every child is an artist. The problem is to remain an artist once they grow up".

Pioneering biofeedback researchers Elmer and Alyce Green established theta is associated with "new and valid ideas or syntheses of ideas, not primarily by deduction, but springing by intuition from unconscious sources."¹⁴ I see no better example than in children's early drawings. They don't necessarily represent a depiction of the physical reality. They are stylized, to say the least, not just for underdeveloped motor skills but for the unadulterated view of the world(s). Let's not forget they just started experiencing the physical reality, and spent a lot of time in dream reality – the reality adults try to access for creativity and personal growth. It seems to be related to theta activity. It's observed in EEG readings of awake children, and almost never in awake adults.

While adults might not be able to see beyond the scribbles in the drawings, children don't have such perceptual limitations. To them, the drawings make perfect sense and often have a whole story embedded, as if they are transcribing a film into a single drawing. Exactly what the concept of a film poster is. Albeit not in realistic, but expressionistic style. Children's drawing style is reminiscent of the first known prehistoric artwork from half a million years ago – shells engraved with simple geometric shapes. Figurative art of cave paintings emerged some 40.000 years ago and ushered in an obsession with the realistic depiction of physical reality. It lasted until the beginning of the 20th century when expressionism as an artistic style finally emerged.

Witnessing children's creativity in a professional environment is always a treat. While creating the title sequence for the children's television show *Vikendica / The Vacation Home* for Croatian National Television in the early 1990s, I had an idea to make it interactive by letting young viewers co-create it by sending their drawings. To my knowledge, it was never done before and was logistically and technically a daunting task in the pre-internet era. I was amazed by the response and creativity. For instance, children imagined populating the tree crown in my sequence with wrapped gifts and musical notes and went so far to redesign the logo (my ego was hurt a bit, I must admit). I included many of their drawings in the subsequent variations of *Vikendica* title sequences, which I'm still quite fond of. Besides the creative accomplishment of making the title sequence interactive before interactivity was even a thing, it exposed me to children's creativity, long before I had a child on my own.

As children grow, they tend to conform to the physical view of the world, and their authentic creative essence diminishes in the process. Picasso was well aware of this issue: "It took me four

¹⁴ Hutchison, Michael, *The Book of Floating: Exploring the Private Sea*, William Morrow & Co (1985), pp. 56

years to paint like Raphael, but a lifetime to paint like a child". Children associated theta activity also changes with development. It declines proportionately as alpha activity increases until the age of ten or eleven when adults associated beta activity takes over.

Lucid Dreaming and Oneiric Films

Dreaming is often characterized by rapid eye movement (REM) during deep sleep when the brain waves are in the delta range. As with sleep, science has yet to provide a concrete answer to why we dream. Memory processing, reflection on experiences, and emotional balancing are some of the more prevalent theories. They are all valid, but there is more to take into account when dream reality is in question and that's where experience comes to play. After my experience with artistic practice and energy healing, I do not doubt that dreams are another level of reality and consciousness. There are numerous books, various workshops, and online courses that can help one master not just lucid dreaming, but any method or technique for reaching higher states of consciousness. Almost anyone can experience it and then decide for himself or herself. What it requires is an open mind, little patience, and a genuine desire for artistic and personal growth.

It may not come as surprise artists are known to use dreams as the source of creativity. The painter and poet William Blake, the painters Salvador Dali, Giorgio de Chirico, and Paul Klee used their dreams for artistic inspiration. Dali in particular claimed to be able to induce dreams too. Considering films have dreamlike quality like no other art form, directors drew creative inspiration from their dreams to produce the so-called oneiric films. Mauerhofer Munsterberg perhaps most eloquently summed it up by saying "while in sleep we ourselves produce our dreams, in the cinema, they are presented to us ready-made".¹⁵

The oneiric films can be surrealist or expressionist like *An Andalusian Dog* (1929) by Luis Buñuel and Salvador Dalí and Wiene's *The Cabinet of Dr. Caligari* (1920). They can evoke dreamlike feelings like *Wild Strawberries* (1957) by Ingmar Bergman, have dreamlike imagery like *The Fall* (2006) by Tarsem Singh, or have a combination of both as in *The City of Lost Children* (1995) by Jean-Pierre Jeunet and Marc Caro. Akira Kurosawa took the most literal approach by turning eight of his actual dreams into the film *Dreams* (1990). David Lynch may be the most consistent in the endeavor, with films like *Lost Highway* (1997), *Mulholland Dr.* (2001), *Inland Empire* (2006), and the television series *Twin Peaks* (1989-1991, 2017).

Filmmakers usually write down their dreams, while some go a step further and draw images they see in dreams. One such director made a painting of a river of light running through a glowing forest made of fiber optic trees. Three decades later he put them on film as the luminescent environment of the moon Pandora in *Avatar* (2009), the highest-grossing film of all time for a full decade. The director is James Cameron, and he made his dream images come alive in the box office hits

¹⁵ *Psychology of the Film Experience*, Penguin Film Review 8 (1949), pp. 106.

The Terminator (1984) and *Aliens* (1986) as well. “I get plenty of design ideas from dreams,” he explained, “I even get situational narrative ideas from dreams.”¹⁶

This commercially successful director has proved bringing dreams into film and merging the dream aesthetic with film grammar can provide box office success. The unconscious allure of dreams and films’ magnetic pull on the audience was understood way back in the early 1920s. Metro-Goldwyn-Mayer, one of the largest film studios, attempted to capitalize on the power of the unconscious mind. They unsuccessfully tried to hire the dream analysis specialist – the founder of psychoanalysis Sigmund Freud, as a consultant.

I’ve made a contribution to the world of oneiric films with *Two Pink Lines*, which uses sound and graphics to suggest a dreamlike perspective of the fetus. Natural womb sounds create an authentic auditory environment, while stylized video provides a dreamy atmosphere. The picture is black and white, high contrast, grainy and pulsating, and the frame edges are oval. The lack of color represents monochromatic dreams people often have, while soft oval-shaped edges indicate the fetus’ field of view with fluctuating light passing through. The eyes are almost completely formed in the fourth month of pregnancy and are ready to open in the seventh month when they can react to bright lights penetrating the uterus. Furthermore, in the third trimester fetuses probably dream because they show REM activity. The research has also shown that babies have a rich visual experience, and prefer high-contrast black and white patterns.

Dreams can be observed and manipulated during lucid dreaming – a state in which the dreamer is aware of dreaming. Lucid dreaming is spontaneous but can be trained to some extent. Christos points out several methods for enhancing the ability of lucid dreaming. One is to memorize the dream after waking up, engaging in some other activity for ten minutes, and then going back to sleep remembering dreaming will take place. The other is to use autosuggestion during the day by repeatedly saying the dreaming will be lucid. The other methods are variations on questioning oneself during the day if dreaming is taking place or not, and continuing questioning in a dream to eventually become lucid. Remembering the dream and its creative input is also an important step. One has to train waking up during the night (drinking a lot of water before going to sleep helps) and write or record the dream impressions (having a notebook near the bed or a phone with a recording application on standby will do great).

The method I use for lucid dreaming is immersing in the current art project throughout the day and focusing on it for five minutes before falling asleep, or using any other way of reaching higher states of consciousness. Besides focus, a true longing to experience lucid dreaming brings more reliable results. It can induce a dream about the art project, a seemingly unrelated dream with inspirational fragments, or complete cinematic sequences. As is the case with higher states of consciousness,

¹⁶ Weiss, Josh, *James Cameron explains how a stinging nightmare inspired the Xenomorph Queen climax in ‘Aliens’*, Syfy, 13 December 2021, <https://www.syfy.com/syfy-wire/james-cameron-aliens-xenomorph-queen-wasp-dream> Accessed: 9 March 2022.

they are perceived with extrasensory senses. If sight is in question, they are usually manifested as a three-dimensional holographic vision with the eyes closed, or as fragments superimposed over standard vision with the eyes opened. The experience is almost always accompanied by impressionable feelings and a sense of knowing, rather than verbal or written messages. Such lucid dreams can offer interaction with dream events and their inhabitants, to produce answers to the dreamer's questions. Specific, instead of general questions, accompanied with a mental demand for the answer seem to work better.

Interaction can go beyond conversing with dream inhabitants. For instance, two-way communication with the physical world can occur during lucid dreaming. A study demonstrated that dreamers can communicate with the researchers in real-time, using voluntary eye movements or facial muscle signals to answer simple yes-no questions. Along with many other people with heightened extrasensory senses, I've explored the dream world, interacted with its nonphysical inhabitants many times, consciously experienced out-of-body, and helped others achieve it. While these experiences are a great source of inspiration, they are anecdotal and require a deeper understanding, more attention, and adequate research from the scientific community.

Lucid dreaming is a fascinating subject that inspired quite a few imaginative films, with *The Matrix* being the most influential one. Other notable examples include *Waking Life* (2001) by Richard Linklater, where a man questions the purpose of the universe while in a lucid dream state, *The Cell* (2000) by Tarsem Singh which deals with entering into dreams of a comatose serial killer, *Strawberry Mansion* (2021) by Kentucker Audley and Albert Birney about a government dream tax auditor caught in client's dreams, while *Inception* (2010) revolves around dream-sharing technology used for corporate espionage. "The idea that you can be completely convinced while you're asleep that you're in a real situation [...]", Christopher Nolan, the director of *Inception* commented, "that to me suggests infinite potential for human creativity, an infinite mystery to the way the human mind works."¹⁷

While some believe dreams to be the brain's way of making sense of memories and thoughts, others regard them as another dimension of existence. From my experience, it appears to be both. Sometimes it's just a passive experimental film-like echo, but other times it's a truly interactive life-like experience that redefines life as we know it. Nonphysical dream inhabitants feel like real persons one can interact with and receive creative guidance from. The locations and the events can be bent to one's liking, or one can choose to be immersed in them as they progress. There are multiple layers of reality within the dream reality, and spacetime doesn't abide by the physics of the physical world in any of them. Basically, it's a "dream world" for artists! The methods and techniques of reaching a hypnagogic state and lucid dreaming, reflected in EEG measurements of alpha, theta, and delta states, seem to be only scratching, if not reaching, the surface of the dream world.

17 The Associated Press, *Idea for "Inception" appropriately began as a dream*, Denver Post <https://www.denverpost.com/2010/07/10/idea-for-inception-appropriately-began-as-a-dream/> Accessed: 3 July 2022.

I'd characterize consciously experienced dream world as an amalgamation of qualities of physical and virtual worlds. It's not surprising we long to create imaginary virtual worlds in so many forms, whether they were simple abstract Neanderthal cave paintings or the elaborate photo-realistic video games of today. This is evident in the current development of immersive mixed reality, in which digital creations blend and interact with the physical world in real-time. I see it as a subconscious longing to express our nonphysical selves, and we do it intuitively since the dawn of our species.

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Kreativnost i viša stanja svijesti

Sažetak

Stvarnost snova i umjetnošću stvorena virtualna stvarnost, u kombinaciji sa stvarnošću koju doživljavamo fizičkom, tvore tri stvarnosti ljudskog iskustva. Uzimajući to u obzir, osnovna osjetila djeluju nepotpuna bez ekstrazenzornih osjetila koja omogućuju pristup višim stanjima svijesti. Umjetnici nekada koriste ta stanja kao izvor kreativnosti, inspiracije i ideja.

U hipnagogičkom stanju, koje je povezano s kreativnošću, neurofeedback pokazuje aktivnost moždanih valova u rasponu theta frekvencija. Alfa i delta frekvencije također su povezane s kreativnošću. Alfa se javlja kod inspirativne faze kreativnog razmišljanja, dok se theta javlja tijekom transcendentalne meditacije i dubokog sna. Neurofeedback se također koristi i u kreaciji umjetničkih djela. Tehnike koje potiču viša stanja svijesti uključuju strojeve za snove, strojeve za um, binauralne ritmove, halucinogene droge, te najučinkovitije – tankove za plutanje. Holističke metode poput meditacije, hipnoterapije i energetskog iscjeljivanja također su korisne. Meditacija djeluje najučinkovitije, s obzirom da donekle omogućuje kontrolu lucidnih snova i izvantjelesnih iskustava.

Nastajanje kreativnih ideja fenomen je koji odolijeva znanstvenim objašnjenjima. Autor je na temelju vlastitih iskustava u višim stanjima svijesti u umjetnosti, meditaciji i energetskom iscjeljivanju, uvjeren da su ona legitimni izvori kreativnosti, te bitna za održavanje zdravlja tijela, uma i duše.

Ključne riječi: *kreativnost, viša stanja svijesti, lucidno sanjanje, meditacija, neurofeedback.*



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