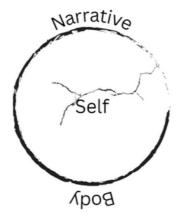


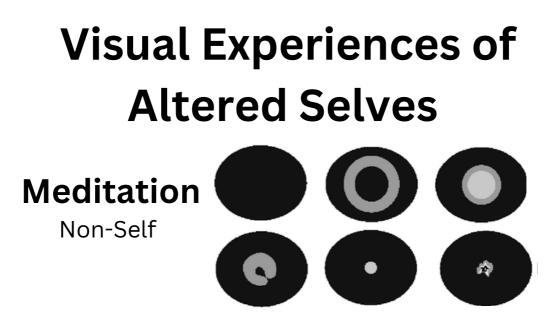
Who am I?

I am _____

What constitutes the "I"? The goal of my research project was to understand what the self is. How are we able to identify what is part of the self versus the other? Or, the self versus the environment? If the self is understood as an entity bounded by a narration (our life story) and by our perceived physical body limits, then I wanted to uncover the self by disrupting these boundaries. In other words, I wanted to explore altered senses of self. These selves were explored through discussions, casual interviews, literature reviews, and surfing forums and databases of diverse individuals, including long-term meditators and Buddhist practitioners (non-self), psychedelic users (ego-dissolution), survivors of near-death experiences (bodily challenge to self), and patients with schizophrenia (fragmented mental self) and autism (altered self versus other perception). The objective was to determine an underlying biological pattern in these altered senses of self, thereby enabling the application of a scientific method for future experimentation. Through this research then, I uncovered that visual processing was altered in these various states. What is it about altered visual experiences that may contribute to altered senses of self? I propose that visual motion perception is related to the experience of the self.

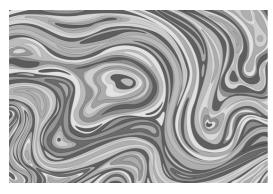


Moushumi Nath



Nicholson, Electronic Journal of Vedic Studies, 2002

Phosphenes: Phosphenes are light patterns that you can see despite the absence of light entering the eyes. Meditators, individuals deprived of visual stimulation for an extended period of time (prisoner's cinema), and psychedelic users all have reported phosphenes. Meditators additionally have improved visual perception. For example, they can better distinguish long from short lines; and are less susceptible to visual hallucinations.



Psychedelics Ego-Dissolution

Psychedelic Art: Psychedelic art gives us insight into the user experience: excessive and intensely contrasting colours, and wavy. Moreover, the strength of visual hallucinations strongly correlates with the extent of ego-dissolution.

Vecteezy



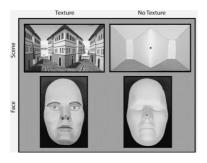


"Compie turned his head and grinned and pointed and there, ahead, all he could see, as wide as all the world, great, high, and unbelievably white in the sun, was the square top of Kilimanjaro. And then he knew that there was where he was going."

Ernest Hemingway. The Snows of Kilimanjaro inspired by Hemingway's near-death experience in WW1.

Near-Death Experiences (NDEs): NDEs are often associated with a bright light, and can be associated with out-of-body experiences, and a feeling of everything happening at once. Thus, there is visual and temporal element to NDEs.

Database base of NDE anecdotes: https://www.nderf.org/site_index.htm



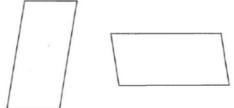
Schizophrenia

Fragmented Self

Fradkin and Silverstein, Biomarkers in Neuropsychiatry (2022)

Binocular depth inversion illusion: Subjects are presented with a concave face mask or scene. Yet, due to our prior knowledge of faces and environments, healthy individuals generally see the face and scene as convex. In other words, the nose in the face mask and the center building is protruding outwards towards us. Schizophrenia subjects however view these objects more accurately; they see them as concave, as they were constructed. Increased severity in psychosis is associated with increased resistance to this illusion.

Autism Altered Self vs Other



Shepard's Illusion: Individuals with autism (ASD) are less susceptible to this illusion in which two identical parallelograms are rotated 90 degrees to each other, making them appear as if of different sizes. ASD individuals still experience the illusion, but to a weaker extent than typical individuals. Moreover, the resistance to this illusion correlates with imagination, as measured by the Autism-Spectrum Quotient questionnaire. ASD is associated with deficits in imagination. Thus, the more restrictive the imagination, the weaker the illusion.

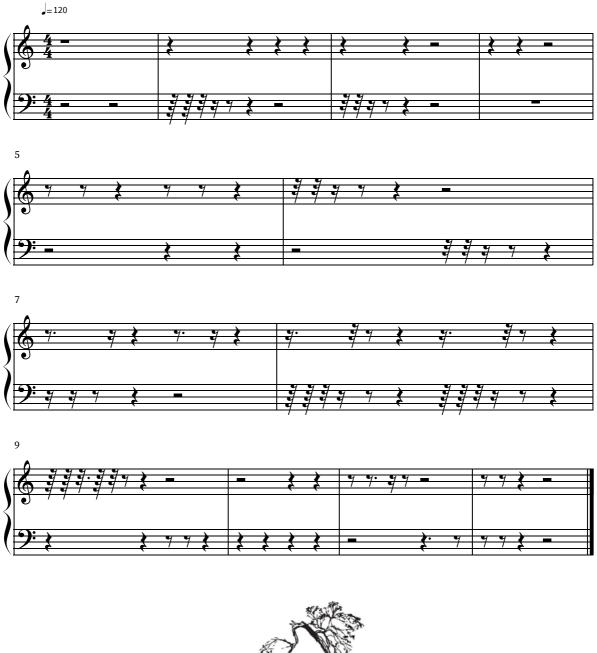
Chouinard et al., J Autism Dev Disor (2016)

Story

The common thread to these visual perceptions is a dynamic component; phosphenes, psychedelic-induced moving patterns, and the flow of light are occurring in the absence of appropriate stimuli and in a still environment. Likewise, illusions are founded on previously built schematics based on our interactions with our environments, yet applied in a 2D static image. Why does our brain see motion in what is seemingly stillness? How does visual motion relate to the building of a narrative, and of bodily boundaries?

This brings me to a hidden process underlying my journey at Building 21. My past determination of wanting to apply neuroscientific and sociology tools to understand the self were disrupted by my continued research into a series of questions that generated more questions. I did not expect to relate the self to vision and motion, yet in retrospect, this seems obvious. Our interaction with our environment is primarily dependent on sight, and interaction necessitates movement. The same way this research, which I kept in the format of PowerPoints and Word document notes, is hidden from you, the same way the future is hidden from both you and me. I am currently intrigued by the contrasts between motion and stillness, and how that relates to the self. How my understanding will evolve as my scientific-self aches to develop and conduct experiments remains a mystery. But one thing I've learnt here is to 'trust the process'.

Sound of Silence





An illustration of contrasts: music in silence; silence that moves you.