

# Psychedelics, Meditation, the Visual Field, the “Mystical”

## Some Observations over Fifty Years

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*Appearances, now or henceforth, indicate what you are  
You necessary film, continue to envelop the soul,  
About my body for me, and your body for you . . . .  
We fathom you not, we love you . . . .*

Walt Whitman, “Crossing Brooklyn Ferry”

Over the last half-century I’ve been fascinated with, and profoundly changed by psychedelic medicines. They can stun and terrify the novice—and still, at times, stun and terrify me. They may catalyze Kierkegaard’s existential confrontation: the “fear and trembling” before the Infinite, the *Mysterium Tremendum*, before the God. They may mimic madness, with some early researchers describing them as “psychotomimetic.” Or they may yield, as Aldous Huxley and Huston Smith reported in the 1960s, profoundly rewarding religio-mystical states of awareness. Experimentation over the last seventy years, both scientific and lay, reveals that these medicines, when taken in the right way, can reliably catalyze awe, joy, connectedness, and an unutterable sense of peace—experiences with a potential for deep healing. Some of the earliest research with LSD-25, at the time still legal, induced remarkable remissions of severe alcoholism. Even Bill Wilson, the founder of Alcoholics Anonymous, tried LSD, later writing, “I am certain that the LSD experience has helped me very much.” He realized it could provide a “spiritual” experience, filling the void too often filled by addiction, but was discouraged by associates from encouraging its use as part of the AA model. <https://www.inverse.com/mind-body/alcoholics-anonymous-ld-bill-wilson> Here we see the awkward convergence of science and the spiritual that has plagued psychedelic research from the beginning. For lack of any better terms, I’ll use the words “mystical” and “mystery” to point toward such experiences.

Despite the positive outcomes of many early studies, by the mid-1960s and for fifty years thereafter, to continue such work was to fear arrest—and the potential loss of job, income, career, assets, home, family, children, and even freedom. A number of my friends were jailed for involvement with marijuana and psychedelics—one serving a full five years behind bars. (As soon as my first child was born in 1979, I abruptly terminated my foray into growing psilocybin mushrooms, for which I'd relied on Dennis and Terence McKenna's *Magic Mushroom Grower's Guide*.) Further, we had scant assurances of the purity of medicines and rarely the good offices of medical professionals, indigenous medicine people, or elders seasoned in the transformative experiences opened by psychedelics. At last this is changing. Doors are unlocking.

Central to the psychedelic experience are radical alterations in visual experience. This can be profoundly unsettling as we are, above all, visual animals—omnivore predators with binocular vision. Dogs explore the world chiefly with the nose; we explore with the eyes. From birth on, the brain, over years of development, learns to see a three-dimensional world of shape, color, depth, and movement. Indeed, when persons blind at birth suddenly gain sight through cataract or other surgeries, they may be confused, shocked, and even terrified by a chaos of incomprehensible forms, colors, and motion—some even refusing to use their new eyes (Dillard 183). However, if normally sighted, we come to know and trust implicitly our constructed visual world. We accept it as “real,” as the world “out there”—yet it's a “percept”: a “mental representation of something . . . perceived by the senses rather than the physical stimulus that generates it.” (*Oxford Dictionary of Psychology*) Any transformation of this known and trusted world, with eyes open or closed, can be terrifying, alerting the body and brain to possible illness, disorder, even madness.

If I dilate the mind with as little as 1/8 of 1/1000 of a gram of the LSD-25 molecule, within thirty to ninety minutes vast realms beyond my ordinary experience open. Powerful, even painful energies may sweep through my body. I may tremble. Sounds may magnify. Visions filled with released unconscious material, pleasant and unpleasant, may sweep behind my closed eyes. With open eyes, I may find my accustomed visual field radically transformed. I may feel the “self” dissolving or lost. All this can trigger an acute stress response, my brain and body

shocked by these inexplicable non-ordinary experiences, this door opening into utterly strange terrain. My usual small self, my ego, my default mode network is not in Kansas anymore.

The greatest psychedelic terror I ever experienced occurred, ironically, at a drug-free workshop led by Timothy Leary. I was determined to demonstrate to the LSD sage my own mastery. Before arriving, I doubled my weekly dose of perhaps 250 micrograms. As the workshop began, the visual world around me turned liquid. Colors in the Oriental rug upon which I sat rose up in waves and broke like surf over my knees. Engulfed in panic, sure I'd gone mad, I saw myself spending the rest of my life in institutions. This also was Albert Hoffman's terror after ingesting 250 micrograms of LSD, his creation, in his lab in 1943—that he, the diligent and careful Swiss chemist, would never recover, had disgraced himself. Worst of all, his wife and children had lost him and must now fend for themselves.

However, if graced to move beyond terror into acceptance of these astonishing new realms, into appreciation, as Hoffman did by evening (and I say “graced” because I have no tricks or techniques by which I can insure this), I may feel myself in complete harmony with a cosmic network that is stunningly beautiful and right, that works itself out in ways quite beyond me—and that all is very well. Such experiences moved me, some of my friends, and many others in the heyday of 60s experimentation to dramatically change our lives for the better.

In an early exploration, undertaken in Oakland in the autumn of 1964, three of us sat on round meditation cushions, faced a wall, dropped acid, and began to meditate. We were eager to try the Leary approach, a fusion of Buddhist and psychedelic Enlightenment, but soon began seeing “snakes”—forms coiling and uncoiling in endless, roiling motion—and our imperturbable, silent sitting evaporated. Minutes later, looking into our palms, amazed, we saw into the flesh and witnessed blood flowing inside. Staring at a table top, the flat surface became three dimensional. Looking into and inside the wood we again saw flowing, spiraling movements. Admiring a red rose, we witnessed the petals in constant, gentle waving motion. We found ourselves in the kitchen, and I turned the faucet full force into the sink and all four gas stove burners up high. For timeless minutes, astonished, we beheld the ancient, twin miracles of fire and water coming into being, moment by flowing, eternal moment. What had been a few

hours earlier an ordinary and down-at-heels kitchen with its battered sink and stove was now warm, welcoming, and astonishingly alive, its spirit centered in the miracles of fire and water available at the touch of fingers.

What had happened? What were we seeing? For over fifty years I've wondered at the remarkable perturbations of the visual field catalyzed by psychedelics. I've come to believe they bring into conscious awareness some of the normally hidden—and orderly— processes of vision in ongoing operation. We witness the brain weaving together its percept of the world out there, a world created as light strikes the retinas, stimulates the optic nerves, and conveys information to the visual cortex and other parts of the brain. In psychedelic experience, then, we are not having hallucinations or experiencing chaotic disruptions to brain function. Rather, we are suddenly allowed to witness the brain in the very act of constructing its reflection of the world. Through some incomprehensible alchemy involving billions of neurons firing and synaptic interconnects triggering, I see an oak tree in the front yard. It's dark green leaves tremble in the breeze. A brown acorn falls. Dappled sunshine falls into the grass below the gnarled trunk, against which I decide to lean. Simultaneously, each of the other four senses is constructing its own reality—with sound, smell, taste, and touch all fusing to create my ongoing perception of the world. (And what is this “I” that “decides” to lean? That seems to have the free will to lean? Surely it is the arising of yet another vast network of neuronal connections. And is there something beyond even that? That is, perhaps, the deepest mystery.)

The metaphor of a mirror and its reflections is illustrative. If in an ordinary state of mind I observe the reflection of a mountain in an unruffled alpine lake, the reflection can be indistinguishable from the mountain itself—until the reflective surface is perturbed by wind, a fish jumping, or a stone thrown. Then the mountain ripples as the reflective surface ripples. Just so, I suspect that during the psychedelic experience I see the mind rippling—the activity of the visual cortex itself as it engages in the normally hidden project of transforming images cast by light upon the retina into visual experience that the ordinary mind experiences and interprets as outside the physical self.

As I became more accustomed to the extraordinary states induced by high dosages, I observed in the visual field systematic patterns of interlocking blood vessels—indeed beds of capillaries interwoven in a perfectly articulated three-dimensional network and infused with a pristine, transparent flowing fluid. Held by and within this field was the world “out there”—perhaps a living room, or a street, or a rose—shapes, surfaces, and colors embedded in three-dimensional space—all composing themselves, decomposing, and recomposing. Or when taking psychedelics in wilderness from a high crag, looking out over a mountain valley, I found the empty space above the miles of valley floor below was not empty. It was filled with the same network of capillaries suffused with flowing energy that I saw in the surface of my palm or on a tabletop.

At lower dosages these effects were much diminished, but still persisted as solid objects became fluid, pulsating and shimmering, giving a sense that whatever I beheld was breathing, that I was part and parcel of a living universe. I came to expect this form of psychedelic seeing, just as in normal vision I expect the color red to be red. Those early “hallucinations” of snakes or of seeing “into” my hand were misperceptions of the brain’s own processes. I was witnessing the ongoing stimulation and fatiguing of countless neurons in the process of seeing. I was a living mirror, and the world I experienced as out there a reflection constructed, miraculously, from my own flesh and blood.

The “mountain” slips through my iris on beams of light, lies upside down on both retinas, travels via the optic nerves, and suddenly, right now, in three dimensions *I see a mountain*. My first naive interpretation of this “seeing” was that it must be the rod and cone structure of the retinas, embedded in blood-suffused capillary beds, responding to light waves (or photons?) and forming two microscopic, two-dimensional cellular representations of the world out there—with this data then sent to the visual cortex, where it could in turn become a microscopic three-dimensional cellular representation—and then, somehow, apprehended. But nothing in my layman’s reading on vision supported such speculation. Was I then seeing something that arose throughout the whole brain itself? Or? I have no answer, but it seems, in any case, that in LSD experience I directly witness processes, usually hidden, by which brain creates the subjective

experience of seeing. However, from infancy on, we have necessarily learned to know the world perceived as “out there” as truly “out there”—for without that presumption the infant’s hand might not learn to reach the mother’s breast or the hunter’s arrow pierce the heart of the buffalo.

In ordinary activity, however, it is virtually impossible to hold awareness that the world we experience is a percept, a reflection within the mind itself, a product of blood and brain. As I write these words, I don’t think of the computer screen before me or my hands typing or my peripheral vision of the room as “mind stuff.” Even when I directly witness the world behaving in ways that, upon consideration, I know impossible, I nevertheless experience it as perfectly ordinary. Consider the remarkable willingness of the mind to accept as normal the visual experience of driving. At 75 miles-per-hour I witness the road pouring beneath me like a black river, while distant barns stand still, floating on an undulating ocean of earth, and fields close by grow larger and larger until they slip by and out of sight. The earth itself changes shape, shrinking, expanding, writhing, fluid—even though the farmer I see standing, carried past me on the flowing river of his field, feels his boots planted firmly on solid earth and the trees in his windbreak the same size today as they were yesterday.

As a child, fascinated by this phenomenon on vacations in the family Studebaker, I stared, transfixed, as telephone poles grew from small to large and the wires suspended between rose and fell like waves. I wondered how the entire solid, surrounding earth could be in constant flowing motion, at times when rounding a curve in seeming revolution like an immense 33 1/3 vinyl record. How could the sun and a few clouds simply trail along with our moving car, while everything closer was drifting past? As we overtook the car ahead of us, how could it grow larger and larger, inflating like a balloon? I remember asking my mother, receiving an answer I don’t remember, and then simply accepting this world as the world when driving. But wonder remained, and on family vacations I sank deeply into landscapes as they floated by.

My experience, however, was an unexpected consequence of the modern industrial world. Only with the arrival of rail in the mid-1800’s could humans, for the first time, sit quietly with bodies at apparent rest and clearly observe the visual effects of speed. There was surprise, even alarm. Queen Victoria at age 23 became the first British monarch to venture by train, going

with Prince Albert and the children every summer to Balmoral Castle in Scotland. She wrote that she was “quite charmed by this new way of travelling” (a day or a night on the train replaced two days jolting in a manure-bespattered horse-drawn coach over rutted, muddy roads), but she feared the standard speed of 43 mph was dangerous to the health. She refused to allow her royal coach to exceed 30 miles per hour, insisting that a special signal be affixed to the roof of her royal car so she could, if distressed, command the engineer to slow down. <http://the-history-girls.blogspot.com/2017/06/queen-victorias-first-railway-journey.html>

What concerned her about vertiginous speeds beyond 30? I find no record, but suspect she was discomfited to realize, as did Ralph Waldo Emerson on his first train ride, that the earth had suddenly become fluid, insubstantial, a chimera, not solid and reliable: “Matter is phenomenal...men and trees and barns whiz by you as fast as the leaves of a dictionary ... Trees, fields, hills, hitherto esteemed symbols of stability, do absolutely dance by you.” Emerson witnessed what he, in his fascination with Hinduism, knew as Maya—that the world arising before us moment by moment is a magic show, a rainbow, an illusion—or, in biological terms, the product of infinitely complex, intricate, and perhaps ultimately incomprehensible neuronal activity. But a century and a half later, as vehicles move us at high speed from infancy on, we forget that, before steam, no human had ever sat at ease in relative stillness and witnessed the landscape flowing like sweet syrup. For us it is ordinary, and it would become so for Emerson. Nine years later, on another train trip, wonder had faded. He found the landscape merely “dreamlike” and returned to reading a French novel (Sedgwick 42).

Now, after long involvement with the medicines and their transformations of the visual field, I see plain evidence of the radical Oneness insisted upon by mystical traditions East and West—that the road I perceive at 75 miles-per-hour *is me*. What I experience is not separate, an object out there. It is my own visual cortex bringing into awareness the experience of flowing blackness. The road itself, the hardened tar below me is perfectly real, but it’s not flowing, nor sinuous, nor changing its shape. If I stopped and stepped outside the car with a tape measure, I’d find the road reliably about 25 feet across. But in my mind it’s fluid—and, therefore, it’s my mind that’s fluid. Light hits the retinas and a road appears. Billions of neurons fire and relax,

the road moves, writhes, alters, does all the things that discomfited the Queen and shocked Emerson. I'm viewing my own mind in motion. The road is me! *I am It*. In Sanskrit: *Om So Hum*. And the tar stimulating my perceptions exists, solid, itself an enigmatic quantum reality outside my body and in rapid motion past me.

When I'm meditating in my living room, witnessing the American flag my neighbor flies across the street, I'm reminded of a famous Zen koan. Two monks argue over a waving temple flag. What, they demand of each other, is the essence of color, shape, and movement called "flag"? One insists: "The flag is moving;" the other counters: "The wind is moving." Are they asking if the force of the wind is causal? Or the fluidity and resistance of the cloth? Or both together? Or is this a Zen debate over free will, over how fully a man or woman is controlled by the winds of karma? Caught in a web of intellectual dualities, the monks puzzle themselves, attempting to capture "flag" with logic, with intellect, within word nets. Upon hearing this Hui-Neng, the Tang Dynasty Sixth Zen patriarch, remarks impatiently, "Not the wind, not the flag; mind is moving." Even as the monk's dispute, the moving flag appears to each, its flapping colored fabric being woven together within each of their minds—and stimulated by an object outside their minds reflecting light. Mu-mon, recounting this in the thirteenth century, observes: "If you understand this intimately, you will see the two monks there trying to buy iron and gaining gold" (Reps 143-144). The monks "see" the flag as an object, as outside themselves. Hui-Neng experiences it as subjective, mind-created, as a mystery beyond words—a knowing that Mu-mon recognizes as gold.

In the Zen tradition, Gautama Buddha's first acknowledgment of another's enlightenment occurs through vision. He holds up and twirls a flower before his listeners. The disciple Maha-Kashapa smiles. Gautama responds, "the true teaching . . . is not expressed by words, but especially transmitted beyond teaching. This teaching I have given to Maha-Kashapa" (Reps 121-122). Today the student might ask the Master, "What is enlightenment?" She might reply, "Open your eyes. Wide. Right now! Right here!" Then, in the way of Tang Dynasty Zen, she might pound the table, or offer a blow upside the head, or a cup of tea.

Aldous Huxley echoed these understandings. In describing his 1953 mescaline experience (an experience that inspired countless seekers in the 60s to hunt down sources for psychedelics), he tells how visual changes moved to the mystical—to a transfiguration of the seen world. Observing a simple nosegay of flowers,

I was seeing what Adam had seen on the morning of his creation—the miracle, moment by moment, of naked existence . . . a bunch of flowers shining with their own inner light and all but quivering under the pressure of the significance with which they were charged . . . a transience that was yet eternal life, a perpetual perishing that was at the same time pure Being, a bundle of minute, unique particulars in which, by some unspeakable and yet self-evident paradox, was to be seen the divine source of all existence.

This “seeing” awakens him to the meaning of another famous Zen koan. The student asks:

"What is the Dharma-Body of the Buddha?" ( . . . another way of saying Mind, Suchness, the Void, the Godhead.) . . . the Master answers, "The hedge at the bottom of the garden." . . . It had been, when I read it, only a vaguely pregnant piece of nonsense. Now it was all as clear as day, as evident as Euclid. Of course the Dharma-Body of the Buddha was the hedge at the bottom of the garden. At the same time, and no less obviously, it was these flowers, it was anything that I - or rather the blessed Not-I, released for a moment from my throttling embrace - cared to look at.

The Zen Master points wryly to the ever-present miracle from which we are routinely separated by briar patches of insistent anxieties, distractions, and confusions. Whatever we behold as it arises in our minds—a nosegay of flowers, a hedge, a flag, an oak tree, a mountain, a tarry road, a loving or angry friend, even a disheveled kitchen—is miracle. Their very existences outside of us are miracle. That we have a mind perceiving them right now in this flowing moment is miracle. Whatever we do—drink tea or love or explode in anger—is miracle. That you, dear Reader, are reading these words at this particular moment is miracle. All this exists for us only because the brain—this marvel of 100 billion neurons and exponentially vast interconnects—is weaving, always, the warp and woof of our experience. Within this miracle of creation (and indeed I find even the term “miracle” inadequate!) arises the sense of self that is joyful or sad, at peace or angry. Huxley, who for years had studied and written about the mystical experience without ever having one, tells us that “for the first time I understood, not on

the verbal level, not by inchoate hints or at a distance, but precisely and completely” the “Beatific Vision, Sat Chit Ananda, Being-Awareness-Bliss” (Huxley 17-19).

In my own daily meditation practice (which I never augment with psychedelics, only cocoa or caffeine), I find that as the mind begins quieting, as thoughts dissolve and attention moves from past or future into a standing wave of one-pointed absorption, perceptions of normally hidden visual processes may begin to emerge. I may notice fluidity in shapes and luminosity in colors. I may notice clear, flowing energies enfolding objects and filling the “vacant” space before me. I may observe the room in which I’m sitting as, yes indeed, my living room—but as also a wondrous bubble of mind energy arising moment by moment—a miracle of pure awareness that I am never separated from except by, as Huxley says, my ego’s “throttling embrace.” Such awareness is muted compared to high-dose LSD experience, but in a long Zen retreat it may step forward more distinctly, opening me to wonder. In one-pointed awareness, all the senses are alive and present and I feel gathered together, complete, and at peace. Gratitude follows. Being alive and aware is enough.

We do not, of course, have to rely on psychedelics to feel awe and wonder that each of us exists, alive and aware, within this vast cosmos—and move, perhaps, to a profound acceptance, the hallmark of mystical experience. Meditation, among many other spiritual practices, if pursued assiduously, can move us beyond our circumscribed small selves. Nor do we have to investigate psychedelics with an eye to the “spiritual.” We can be just plain curious, open the door, and step through, although best with full awareness of the hazards, a knowledgeable or at least responsible companion, and wise attention to one’s mind set and the physical setting of the venture. Indeed, perhaps the best preparation for psychedelic experience is what I call a “foundational” spiritual practice, one integrated into daily life and settled into the blood, bones, and marrow. Such grounding may not save me from fear and suffering, but it buoys, it holds, and it offers courage. Further, for those who have already an ongoing spiritual practice, the psychedelic experience can be a touchstone, a renewal, a reaffirmation that there is good reason to walk the long, arduous, and often dusty path of a regular discipline.

In my case, some fifty years ago, I had no particular interest in religion or spirituality, but was happy to try Leary's Buddhist approach and stepped over the threshold—into an explosive awakening—and, as it happened, onto an invaluable path that led away from bouts of serious depression and toxic drug abuse. I'd been living a fashionable, black turtle-neck Beatnik existentialism that saw the universe as absurd, ugly, random, and meaningless, what the Jungian psychologist James Hillman has described as, in modern and post-modern culture, the "repression of beauty" (Beckley 262). Suddenly this "repression" evaporated. A rose was, beyond doubt, beautiful. I found myself face to face with the glory of the earth, the human body, the companionship of friends, and the love of a beautiful girlfriend. I had had them before, but couldn't see them. Now we laughed together with child-like delight. I was starving and I was fed.

As the medicine left the body and insights become mere memory, I had to decide what to make of this truly "brave new world." I knew I didn't want to return to my despair. I wanted more food, and as Dennis McKenna has told many at the conclusion of an ayahuasca retreat, "The real work begins when you board the airplane." Leary pointed toward Buddhism, so my friends and I met Shunryu Suzuki Roshi at his small temple in San Francisco and began our refusal of hard drugs and a practice of Zen meditation, along with weekly voyages with LSD. We found that psychedelic exploration and Zen practice could complement and support each other.

It seems fitting that the raw alterations of the visual field in psychedelic experience should trigger what we can call mystical experience. The world is seen anew. Scales fall from the eyes. Our sense of ordinary self, our ego, our default mode network is upended—and whether our experience is Heaven or Hell, blissful or frightening or terrorizing—we are set face to face with what Rumi calls "The Great Mystery That Is." I know many who turned away and continued with lives of ordinary disappointment or satisfaction. I know many who were sparked to reassess and rebuild.

While at age 81 I'm no longer eager to visit the high-dose realms (not improperly called "heroic") offered by these medicines, I continue to experiment. I still experience, when stars

align, myself and the mountain as one, as a single standing wave in the river of time—an endlessly renewed miracle. And I'm grateful that we are, despite a misguided and destructive half-century of delay, entering a new age. At last, with much less risk and fear, others can walk these paths.

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