#21 – Psychedelics & Mystical Experiences: Why Medicine Is Uncomfortable Talking About Them Transcript

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Introduction to Mystical Experiences

[music] Welcome to the trip lab kitchen table conversations about integrative medicine and psychedelics. [music] I'm your host and attending physician Dr. Mariela Wood.

Welcome back to another episode of the trip lab. Today we are jumping back into psychedelics and specifically talking about mystical experiences and why medicine is uncomfortable talking about them even though they do appear regularly. We often focus on the neuroscience and clinical implications in psychedelic research and for good reason. That is the point. But there is an interesting phenomenon that continues to surface in the data even though it isn't usually the primary object of the study. And that is mystical type experiences that people report even in our tightly controlled research settings. And of course outside of medicine we do hear about these experiences all the time. But I think it's worth talking about this and bringing these two worlds together. It is tricky because mystical experiences don't currently fit neatly into our neuroscientific frameworks. We do understand some of what's happening in the brain. And we'll definitely talk about that in this episode, but these experiences don't map cleanly into fixing a discrete pathophysiology. And because they do sit uncomfortably close to religion, spirituality, and meaning, medicine has historically tried to keep them at arms length. So today, we're not going to make a decision whether these mystical experiences are metaphysically real. We're not endorsing any belief systems, and we're not turning psychedelics into spiritual shortcuts. We're going to ask a few different questions.

Why does medicine struggle to talk about these type of experiences that do appear to matter so much clinically? What do people actually report during these experiences? And what does the neuroscience tell us about why they occur? We'll also look at strikingly similar experiences throughout history long before we actually had a field of pharmarmacology and what happens when medicine reflexively pathizes meaning instead of learning how to work with it.

What Counts as a Mystical Experience

Because whether or not medicine likes the language, patients aren't just reporting symptom reduction. They're describing changes in identity, perspective, and their relationship to the suffering. And ignoring that, or at least pushing it to the side or not studying it as rigorously just leaves us without a framework to understand it responsibly.

So today, we're going to jump into that a little bit. We're going to explore mystical type experiences through multiple lens. Neuroscience, history, clinical research, and medical culture itself. So, first of course, let's start with what is a mystical experience? When researchers talk about mystical type experiences, they're not using the term loosely or poetically. They actually are referring to a fairly consistent cluster of subjective features that show up across psychedelic studies, across cultures, and even across time. In fact, we actually do have standardized tools to measure this. Most commonly, the mystical experience questionnaire, which was originally inspired by the work of William James. So, across these studies, people tend to report several core elements. A sense of unity or interconnectedness, often described as feeling merged with other people, nature, or the universe itself. A transcendence of time and space, where the usual sense of past, present, and future just goes away. A loss or softening of the ego or the narrative of the self. A profound sense of meaning or insight, sometimes described as knowetic, as if something deeply true was understood rather than reasoned through. and often an element of ineffibility, the sense that the experience is difficult or impossible to fully put into words. What I think is striking is not just the content of these experiences, but how similar they are, even when the individual substances and settings are very different. Now, from a medical perspective, this immediately raises questions. Are these experiences hallucinations, delusions?

Are they simply just byproducts of altered neurochemistry? This is important to note because in psychiatry a key distinction is not whether the experience is unusual but whether it is disorganizing or integrating.

In clinical trials, mystical type experiences are typically associated with greater psychological coherence, improved mood, reduced rigidity, and improved functioning, not fragmentation or loss of reality. Which brings us to the actual neuroscience. From what we understand so far, these experiences tend to occur alongside specific reproducible brain regions. So, decreased activity in the default mode network, which we've talked about a lot on here, increased global connectivity between brain regions that don't normally communicate as freely, and a loosening of the brain's predictive filters. So, basically, the brain becomes less focused on maintaining a tight self-reerential narrative and more open to novel associations, perspectives, and meanings.

Neuroscience of Ego Dissolution

But that doesn't tell us what the experience means. And importantly, these experiences are not inherently mystical because of the drug. They are mystical because of how the mind behaves when the sense of self is altered. This is why similar descriptions appear in meditation, fasting, sensory deprivation, near-death experiences, and religious rituals long before we actually studied psychedelics in a lab.

So when we actually look at the neuroiming studies using functional MRI and EEGs, we see a set of fairly reproducible brain level changes associated with our classic psychedelics like psilocybin, LSD, and IASA. One of the most consistent findings that I want to touch a little bit deeper on is that reduced activity and connectivity in the default mode network. So this network is heavily involved in what we call self-reerential thinking. So, our internal narrative and what allows us to understand ourselves as a personal eye over time. It's what allows us to position ourselves in a timeline and reflect back to memories and think about ourselves in the future. And it's also what allows us to have personal likes or dislikes and is thought to be the physical network location of the Freudian ego. So, when you take a psychedelic, the DMN quiets down. there's less activity happening and less connectivity between it and other brain networks. When this happens, the brain becomes less anchored to that ongoing story of self. Also, while this is happening, we see increased global connectivity. So, brain regions that don't normally communicate as freely begin exchanging information. The brain becomes less hierarchical and more integrated. Some researchers describe this as a temporary flattening of the brain's usual command structure.

Another important concept here is what we call neural entropy. Under psychedelics, the brain appears to move into a more flexible and less constrained state. So, prior beliefs, especially rigid or maladaptive ones, seem to carry less weight and matter less because our focus on ourselves has diminished temporarily. From a purely mechanistic standpoint, this helps explain several core features of mystical experiences. Why the sense of self can dissolve. Why time and space feel less linear, why new meanings and insights feel suddenly accessible, and why experiences can feel deeply novel yet profoundly familiar at the same time. But here's the critical limitation of what we know about the neuroscience. It can describe correlates but not conclusions. We can say that decreased DMN activity is associated with ego dissolution. We can also say that increased connectivity correlates with feelings of unity. What we can't say is whether the meaning people derive from these experiences is true, symbolic, or purely constructed. Neuroscience is simply not equipped to answer that question, at least at this time. And in my opinion, it doesn't need to be right now. Medicine already accepts this distinction in other domains. We don't invalidate grief because we can map it to limbic activation. We don't dismiss love because oxytocin is involved. And we don't deny pain simply because it lacks a clear structural lesion.

Similarly, identifying the neural mechanisms associated with mystical experiences does not explain them away either. It just simply tells us how the brain enters a stage where these experiences can reliably occur. And this is where psychedelics become especially interesting. Not because they generate something artificial or a quote unquote hallucination, but because they reveal a latent capacity of the human mind. Like we said earlier, that same phenomenology appears in deep meditation, fasting, prolonged prayer, sensory deprivation, and near-death experiences. Psychedelics just offer a reproducible way to study the state in real time. But let's pause on the neuroscience just for a second here and take a little detour back in time. Because these experiences did not just start now with what we're studying.

Mystical States Across History and Religion

They began many years ago and have been recorded throughout history and connected to many religions. Actually, what I think is fascinating is that across time, language, and continents, human beings described strikingly similar experiences. Even before there was a shared scientific vocabulary, people described the same core features.

A dissolution of the ordinary sense of self, a feeling of unity or interconnectedness, transcendence of time, and a deep sense of meaning that felt known rather than reasoned. The metaphor has changed across these stories. There's different gods in the different religions. The cosmologies changed, but the experience itself remained surprisingly consistent, which I think suggests that what we're seeing may not be the spread of a single belief system, but a recurring human experience that different cultures learned to interpret in different ways. And we don't just see this in the descriptions of mystical states, but also in the religious narratives themselves.

Across traditions that developed independently, remarkably similar stories emerge, suggesting a shared symbolic response to overwhelming experience rather than a simple borrowing.

For example, we see the story of a great flood appearing in the Hebrew Bible with Noah, in the epic of Gilgamesh, in the Hindu tradition of Manu. We also see creation stories, death and rebirth motifs, divine encounters, and revelations that repeat across cultures with different characters, but a similar emotional and psychological contour. So, were these because of psychedelics?

Maybe, maybe not. But we are actually seeing some concrete examples of how psychedelics may have played a role in these religious experiences. My personal favorite brings us back to ancient Greece and the Ulysian mysteries. Many people consider the first quote unquote religion. Initiates to this society, religion, whatever you want to call it, including figures like Cicero and Marcus Aurelius, participated in this ceremony, this initiation ceremony, and they were sworn to secrecy. But what we do know after the ceremony, many reported losing their fear of death and gaining a profound sense of meaning and continuity afterwards. Scholars have long speculated that the ceremonial drink that they drank during the ceremony may have contained urgot contaminated barley and urgot is what LSD or acid was initially derived from.

So we think that they were actually drinking LSD infused wine. Next we have a more well-known story. So this is Moses in the burning bush that comes from the Bible. This comes from the book of Exodus. So Moses encounters this burning bush and hears a voice that calls him by name, commands his attention, and delivers messages that essentially change his his identity and life's purpose. And some scholars have speculated that this burning bush may not have been purely metaphorical.

One theory suggested the bush could have been a plant containing psychoactive compounds such as the acacia species, which are native to the region and contain DMT. So he may have been inhaling DMT to have this experience.

Then we have more welldocumented examples of psychedelics embedded directly into religious life and these come from the Mesoamerican mushroom traditions particularly among the Aztec Maya and likely other cultures. So we actually have archaeological evidence and writing that all point to the ceremonial use of psilocybin containing mushrooms in these religious rituals.

From these writings, we see that mushrooms were used in ceremonies in a structured ritual context and they reported visions, encounters with deities, moral instruction, prophecy, and deep emotional transformation. We also see stone mushroom effiges dating back to more than 2,000 years, suggesting that these practices were actually central to religious life.

Another example, a little bit more modern, is the ceremonial use of peyote within the Native American church. So peyote is a cactus containing masculine and has been used for thousands of years in indigenous spiritual practices across North America. In the Native American church, peyote is consumed during highly structured overnight ceremonies that also involve prayer, music, communal support, and moral reflection. Participants often describe visions, encounters with guiding presences, emotional catharsis, ego dissolution, and enduring changes in perspective or behavior after the experience. Okay, last I will end this little detour back through time to a more

recent study that I think is unbelievably fascinating. So, just this past year, researchers at John's Hopkins and NYU invited around 30 religious leaders, including priests, rabbis, pastors, and ministers from different faith traditions to participate in a guided highdosese mushroom trip. They wanted to explore the sacred and spiritual implications that psychedelics could have on people whose lives already revolve around questions our meaning, transcendence and the divine. So what they found and again the participants were priests, rabbis and pastors.

Medicine, Psychiatry, and the Problem of Meaning

They described their psilocybin experience among one of the most spiritually significant experience of their lives compared to and for some reporting exceeding the most meaningful moments they've encountered through prayer, ritual, or years of religious practice.

What is also interesting is that the experiences seem to interact with each religious leader's existing belief systems. So it did not disrupt their faith, but instead it fostered greater openness, humility, and a less rigid sense of how the sacred can be encountered. Some also described insights and imagery that didn't fit neatly into their theological frameworks, but noted that it still felt coherent, meaningful, and spiritually authentic. So I personally think that this suggests that mystical type experiences may be a core human capacity, one that psychedelics can reliably evoke but do not exclusively define. And I think that makes them worth taking seriously. So looking at all these examples from history to current and peeking into the neuroscience that we mentioned in the beginning, even seeing religious leaders being open to talking about psychedelics, why are we still struggling in the medical community? Why does medicine struggle so much with experiences that humans have encountered, integrated, and interpreted for thousands of years?

I think part of the answer lies in the historical foundations of Western medicine. So as medicine evolved into a more scientific discipline, it intentionally separated itself from religion, mysticism, and metaphysical explanations of illnesses. This separation was certainly necessary at the time so they could develop rigorous methods, standardized diagnostics, and reproducible treatments. But in doing so, it also created a framework in which experiences that could not easily be observed, measured, or falsified became increasingly suspect. Within this model, subjective experience was tolerated primarily as data, something to be reported, but not as a legitimate site of knowledge in its own right. So meaning, belief, and interpretation were often relegated to the periphery, kind of a secondary thing rather than interweaving it into our clinical diagnostics. I think reductionism further reinforce this discomfort.

Modern medicine is trained to identify discrete mechanisms and causal pathways. So a receptor, a lesion, a disregulated pathway that can be targeted and corrected. And mystical experiences do not conform neatly into this approach.

They don't have a single brain region or follow predictable dose response curves or resolve through suppression. Instead, they involve global changes in perception, identity, and interpretation. I think there's also a deeper cultural tension at play here, too.

Mystical experiences sit at the intersection of neuroscience, psychology, spirituality, and philosophy. Domains that I think medicine has historically tried to keep separate. So engaging with these experiences raises concerns about the therapeutic boundaries, religious neutrality, and scientific legitimacy. So in order to avoid all that or overstepping professional roles, medicine has often responded by minimizing or at least reframing these experiences side effects rather than the central features of healing. Psychiatry in particular has had to navigate this terrain very cautiously because many elements of mystical experiences, so altered perception, auditory quote unquote hallucinations, disillusion of the ordinary sense of self do overlap superficially with symptoms seen in psychotic disorders like schizophrenia. So without careful attention to context, intentionality and integration, it can be difficult to distinguish experiences that are disorganizing like schizophrenia from those that are deeply integrating. So as a result, psychiatry is often defaulted to a protective stance prioritizing symptom containment over interpretive engagement. I do want to bring us back though to the early days of psychiatry when there was a genuine interest in the context of psychotic experiences, not just their suppression. So Carl Jung in particular spent years studying schizophrenia and psychosis across cultures. What struck him was not simply the presence of delusions or hallucinations, but the remarkable similarity in the stories that people told even across countries,

languages, or belief systems. Patients who had never met one another and who came from entirely different cultural backgrounds described the same symbols, themes, and narratives. So, you begin to wonder whether these experiences were drawing from something deeper than individual pathology.

Prayer, Spirituality, and Clinical Outcomes

This is what he eventually later conceptualized as his archetypes and the collective unconscious. What is even more fascinating is that Jung didn't just study these states from the outside. He also documented periods of his own life where he intentionally entered altered psychological states, states that by modern standards might look uncomfortably close to psychosis.

He described vivid visions, encounters with these symbolic figures, and intense inner experiences that he was able to move in and out of deliberately.

And that word deliberately is key here because by our modern definition, schizophrenia is not a voluntary or controlled state. It is persistent, disorganizing, and functionally impairing. Jung's experiences and the mystical type experiences reported in psychedelic research do not meet this criteria. They are timelmited, often coherent, and frequently followed by increased insight, integration, and improved functioning.

So, psychedelic experiences are not schizophrenia, and schizophrenia is not a mystical experience as far as we know so far. But the fact that they share certain features, I think it's pretty interesting and worth taking seriously because it suggests that what medicine is labeled as purely pathological in some contexts may in others reflect a broader human capacity for altered meaning making. So the difference I think is not just in the experience but the duration of it, the context and how we can control it and integrate it. So just a little sprinkle of maybe the overlap between psychedelics and schizophrenia. again ending with psychedelics do not induce a schizophrenic state. But we'll put that on pause for now and jump back into our actual mystical experiences in modern medicine. So let's get back into the data. Let's look at some actual studies that have been done around spiritual and religious experiences in medicine. One of the earliest and most well-known attempts to study spirituality in a biomedical framework comes from research on intercessory prayer. These studies were designed to answer a very specific question. Can prayer affect health outcomes even when patients don't know they're being prayed for? In several of these trials, patients were randomly assigned to receive remote prayer from strangers, often in religious groups without any contact with the patient and without the patients awareness. The idea was to eliminate any placebo effects, expectation or changes in behavior. So essentially isolating prayer as the intervention. Some early studies actually did show modest benefits, particularly in cardiac care settings. They reported fewer complications or better clinical course scores among patients who were prayed for. But more studies were done, trials became larger, and the results did become a little bit mixed. The most famous example is a large randomized trial of patients undergoing coronary artery bypass surgery. This one did not show that prayer itself improved outcomes when patients were unsure if they were being prayed for. Interestingly though, and I think this is often overlooked, the group that was told with certainty that they were being prayed for actually had worse outcomes, which raises questions about expectation, pressure, and anxiety rather than the actual prayer itself. I think the key here is that these studies highlight that meaning, expectation, and belief can influence physiology and outcomes in complex ways, sometimes beneficially and sometimes not. Beyond prayer, there's a much larger body of evidence looking at spirituality and religion as patient characteristics rather than interventions. So, we have observational studies across multiple populations that have repeatedly shown associations between self-reported spiritual or religious beliefs and better outcomes in areas like depression, substance use recovery, coping with chronic illness, and even mortality. These findings aren't exactly straightforward. We often see spirituality overlapping with social support, community belonging, and health behaviors. But I think the associations are consistent enough that we can't ignore them. I think more compelling clinically are the studies where spirituality is integrating into care in a way that aligns with the patients already existing belief system. So for example, in psychotherapy research, spiritual or religious adapted CBT or cognitive behavioral therapy has been shown to outperform standard approaches for patients who already identify as religious or spiritual.

Psychedelic Therapy and Lasting Change

And this brings us back to the psychedelic research. In our psychedelic trials, mystical type or spiritually significant

experiences consistently correlate with better outcomes. In studies looking at psilocybin for cancer related anxiety and depression, participants frequently reported increase in spiritual well-being, meaning and life satisfaction that persists for months.

And analyses from these trials suggested the intensity of the subjective or mystical experience actually predicts the degree of sustained symptom improvement. We also see similar patterns in psychedelic assisted smoking sessation in other addiction studies where the depth of insight, perceived meaning, and transformative experiences are closely linked to long-term behavior change. So, if we're starting to see that these mystical type experiences actually do impact the long-term effects of the psychedelics, I think understanding this has practical implications for how psychedelic treatments can be designed and delivered. And this doesn't mean that we need to abandon our scientific rigor or even adopt a spiritual language in medicine. But I think we do need to refine our clinical lens here because subjective experience, especially if it does reliably predict outcomes, can be a part of a therapeutic mechanism. Psychedelics don't force us to choose between biology and meaning. They ask us to hold both at once. And when we do that well, when we evaluate experiences based on their impact, integration, and durability rather than how strange they are, we move closer to a model of care that reflects how healing actually happens for many patients. But overall, I think this is very interesting and I think it begs the question, if the mind has capabilities we're only beginning to map and understand in clinical research, what else are we missing about the mind? how it heals and how we understand our places in the world. Thanks for listening to the trip lab. If you liked this episode, please subscribe and share so we can get the conversation started about integrative medicine and psychedelics to destigmatize it and fully explore what this could mean in the >> [music] [music]