

# Business gets ready to trip: How psychedelic drugs may revolutionize mental health care

Silicon Valley legends. Billionaire financiers. Patent attorneys. They're all awakening to the massive potential of an industry preparing to emerge from darkness.

BY JEFFREY M. O'BRIEN

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**Bestselling author and podcast host Tim Ferriss has become the pied piper of psychedelics, donating \$3 million to fund research and raising a lot more from his network.**

PHOTOGRAPH BY DREW ANTHONY SMITH FOR FORTUNE



# I.

Tim Ferriss and I are hiking in Solitude. As in Solitude, Utah, 20 minutes or so outside Salt Lake City. It's Tuesday afternoon in the mountains, and we're crunching along on snowshoes over two-day-old packed powder. The path is single-file and despite a lack of humanity, we're having a tough time hearing each other because of the noise underfoot. So Ferriss proposes a system, as he is wont to do. He'll hold the recorder. I'll ask a question. And he'll answer directly into the microphone as we walk. Repeat as necessary. When we're done, we'll soak in the majesty of our surroundings and take a selfie. Okay, how about an introduction to break the ice?

"Let's see. This is Tim Ferriss speaking from the wilderness of Utah, looking out at the snow-covered expanse here in the stillness with my good friend, Mr. O'Brien," he says. We're not actually tight. I mean, we're getting along fine. But this is the first time we've met. "I'm a self-experimenter, I suppose entrepreneur, sometimes podcaster, and full-time professional dilettante, the author of books with questionable titles including *The 4-Hour Workweek* and *Tools of Titans*, and I'm currently heavily focused on trying to help find cures or treatments for intractable psychiatric conditions—predominantly through the study of psychedelic compounds."

Way to get to the point, Ferriss! But he's being a bit modest. The 42-year-old guru is the author of five bestselling books, and his interview-style podcast, *The Tim Ferriss Show*, is approaching half a billion downloads. He's also been a highly successful angel investor, with well-timed rounds in Uber, Twitter, Alibaba, Shopify, Duolingo, and Facebook, among many others. In person, he appears precisely as his fans would expect him to: fit, rested, ready to banter, caffeinated, and thoughtful. In a word, optimized.

Now Ferriss is applying his considerable talents to this new quest: He has become a sort of pied piper in the movement to advance psychedelics as a potential elixir for a murderers' row of psychiatric afflictions, including OCD and PTSD, opioid addiction, alcoholism, eating disorders, cluster headaches, and suicidal ideation. In characteristic fashion, he's identified what he believes is an epic efficiency hack for a global crisis. "I view the next five years as an absolutely golden window. There's an opportunity to use relatively small amounts of money to have billions of dollars of impact and to affect millions of lives," he says. "There just aren't that many opportunities that are so dramatically obvious."

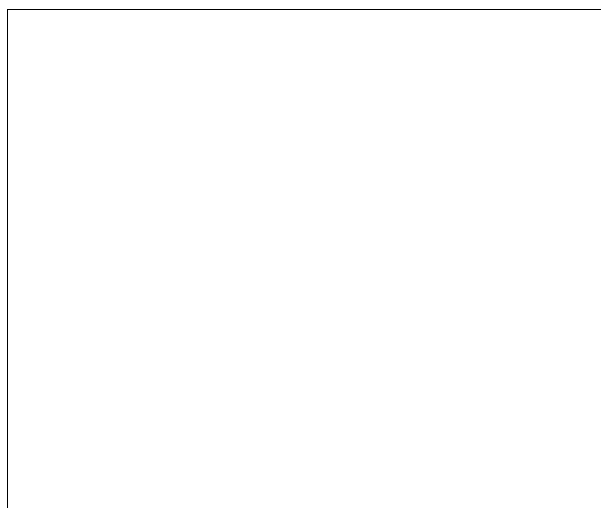
The need for a change in approach is clear. “Mental illness” is an absurdly large grab bag of disorders, but taken as a whole, it exacts an astronomical toll on society. The National Institute of Mental Health says nearly **one in five** U.S. adults lives with some form of it. According to the World Health Organization, **300 million people** worldwide have an anxiety disorder. And there’s a death by suicide **every 40 seconds**—that includes **20 veterans** a day, according to the U.S. Department of Veterans Affairs. Almost **21 million** Americans have at least one addiction, per the U.S. Surgeon General, and things are only getting worse. The Lancet Commission—a group of experts in psychiatry, public health, neuroscience, etc.—projects that the cost of mental disorders, currently on the rise in every country, will reach **\$16 trillion** by 2030, including lost productivity. The current standard of care clearly benefits some. Antidepressant medication sales in 2017 surpassed **\$14 billion**. But SSRI drugs—antidepressants that boost the level of serotonin in the brain—can take months to take hold; the first prescription is effective only about **30% of the time**. Up to 15% of **benzodiazepine users** become addicted, and adults on antidepressants are **2.5 times** as likely to attempt suicide.

Meanwhile, in various clinical trials, psychedelics are demonstrating both safety and efficacy across the terrain. Scientific papers have been popping up like, well, mushrooms after a good soaking, producing data to blow away conventional methods. Psilocybin, the psychoactive ingredient in magic mushrooms, has been shown to cause a rapid and sustained reduction in anxiety and depression in a group of patients with life-threatening cancer. When paired with counseling, it has improved the ability of some patients suffering from treatment-resistant depression to recognize and process emotion on people’s faces. That correlates to reducing anhedonia, or the inability to feel pleasure. The other psychedelic agent most commonly being studied, MDMA, commonly called ecstasy or molly, has in some scientific studies proved highly effective at treating patients with persistent PTSD. In one Phase II trial of **107 patients** who’d had PTSD for an average of over 17 years, **56%** no longer showed signs of the affliction after one session of MDMA-assisted therapy. Psychedelics are helping to break addictions, as well. A combination of psilocybin and cognitive therapy enabled **80%** of one study’s participants to **kick cigarettes** for at least six months. Compare that with the **35%** for the most effective available **smoking-cessation drug**, varenicline.

There’s plenty more data where all that comes from. So much so that the U.S. Federal Drug Administration has granted breakthrough therapy designation status to MDMA as a treatment for PTSD, and to psilocybin for treatment-

resistant depression. Both compounds have been cleared for fast-track review by the FDA and could find their way into hospitals and treatment clinics within a few years, if not sooner.

Ferriss says he's donated upwards of \$3 million to support the underlying science and has corralled millions more from wealthy friends. They've kicked in half of the \$17 million grant to create the [Johns Hopkins Center for Psychedelic & Consciousness Research](#), the first U.S. research center of its kind. The rest came from billionaire hedge fund magnate Steven A. Cohen and his wife, Alexandra, via their [foundation](#), which has donated millions to move the needle on Lyme disease research and intends to follow suit with psychedelics.



The money is meant to give researchers the security and freedom to explore how psychedelics work and to be ambitious in investigating the boundaries. Beyond money, Ferriss is using his platform to raise the profile of psychedelics-oriented researchers, doctors, entrepreneurs, and authors—on his podcast and at standing-room-only panels before audiences at the [Milken Institute Global Conference](#) and [SXSW](#).

He may currently be in Solitude—on a two-month sojourn from his beloved Austin that he planned with the goal of becoming a better skier—but Ferriss has plenty of company on his latest mission. Across science, culture, politics, and business, a diverse community of supporters is forming to push psychedelics out of the shadows and into the mainstream. They're acting toward similar ends but within the bounds of their own interests. You've got underground hippies and nurses pushing psychedelics across a whisper network, while offshore purveyors are offering cushy retreats for adventurers and bon vivants. There are mystical shamans, Silicon Valley legends, dueling patent attorneys, and financiers aiming



for IPOs. VCs are starting psychedelics funds. Activists are eyeing universal access, while nonprofits and philanthropists are urging caution.

The increasing acceptance of marijuana—now legal for medical use in all but a handful of states, and for recreational purposes in 11 states—is an obvious source of optimism. But there’s also a fear among some that a misstep will cause a tragedy that derails the movement. Given that advocating, handling, concocting, ingesting, distributing, and administering psychedelic substances remain crimes that can carry first-offense [trafficking penalties](#) of up to 40 years in prison and a \$5 million fine, there’s a lot of work ahead. What will it take to expand the consciousness of regulators, drugmakers, law enforcement officials, and voters about the benefits of psychedelics?

## II.

**Ferriss was drawn** to psychedelics by a history of family depression, friends lost to suicide and drug overdoses, and a perpetual search for meaning. He narrowly escaped suicide himself—a dramatic tale he recounts in a TED Talk—and despite runaway success, says he has often felt hopeless and a general sense of being lost. Which hardly makes him unique. “I know spectacularly, absurdly wealthy people who are completely miserable. I know spectacularly absurdly fit athletes who are completely miserable,” he says. “Everyone is fighting a battle we know nothing about.”

In his teenage years, Ferriss says that every summer he and some buddies would grab a handful of mushrooms and go for a long walk. Their only intentions were to enjoy their own company and be amazed. He soon noticed that after each trip, he’d feel a certain glow—a sense of being renewed, refreshed, and hopeful for a month or two. Then one summer he nearly got hit by a car while walking off a heavy dose. He stopped the ritual cold turkey.

A decade or so later, he found himself in a persistent funk. “It was like there was always a pebble, or a handful of pebbles, in my shoes,” he says. “And they were causing worse and worse symptoms.” He decided to try to evoke that glow again in a safer setting. He found a guide to facilitate a journey in a yurt and took a huge, seven-gram dose, followed by a two-gram booster. He describes it as equivalent to a decade of highly effective talk therapy. “I came out with a deeply

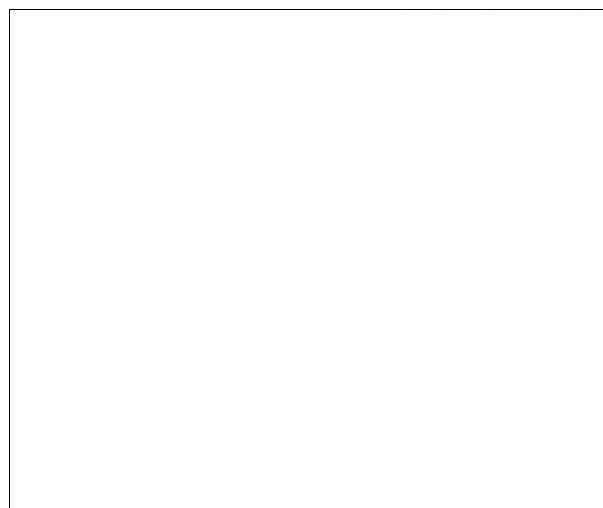
renewed interest in exploring this world,” he says. “I felt there was a possibility that you could walk into the experience and walk out a very different person.”

Ferriss’s career has been built on a series of curiosity-to-obsession cycles, and the interest in psychedelics fits the pattern. He found his way to Roland Griffiths, the director of the Johns Hopkins facility, who has been studying psychedelics for 20 years and has lately become a beneficiary of Ferriss’s largesse. Sitting together in the Baltimore center where almost 400 patients have taken more than 700 psychedelic journeys, the white-haired, bespectacled Griffiths and I discuss his own epiphany and fascination with consciousness. “I went into psychedelics as pretty much a skeptic. The level of unbridled enthusiasm among psychedelic proponents made me suspicious,” he says. “By no means did I think we would find what we have found.”

**Roland Griffiths, a researcher at Johns Hopkins, has been studying the effects of psychedelics on the mind for two decades.**

PHOTOGRAPH BY JARED SOARES FOR FORTUNE

For example: In the first research since the 1970s to administer psilocybin to psychedelic-naive participants, conducted at Griffiths’s lab, **67% rated** it among the top five most meaningful experiences of their lifetime; 79% said it increased their well-being or life satisfaction. Years later, Griffiths and team demonstrated that a single session produces large and sustained decreases in depression and anxiety in patients with life-threatening cancer. They’ve shown psilocybin’s effectiveness in curbing cigarette-smoking addiction and its overwhelming tendency to increase spirituality, empathy, and a general sense of connectedness to nature and other humans.



How does psilocybin work its magic? “We know psilocybin produces marked alterations in brain network connectivity during the time of drug action and, to a lesser extent, after it has left the body,” Griffiths says. Psilocybin and other





psychedelics also produce neuroplasticity, which increases psychological flexibility and openness. This often leads to psychological insights. A brain on psychedelics is also more interconnected. In a normal brain, visual regions talk primarily with each other, for example. When the brain is on psychedelics, communication happens more broadly. Psychedelics also decrease activity in the default mode network, a brain network implicated in a sense of self, or ego. A brain on psychedelics tends to be more childlike, playful, imaginative, and creative—and less judgmental. Think of taking psychedelics like rebooting a computer to clear out glitches, except when the computer restarts, it has a new outlook on life.

Griffiths has found that people who undergo a psychedelic session are often overcome with feelings of humility and love. “You see compassion, understanding, and a connectivity toward mutual caretaking. This sense that we’re all in this together,” he says. Psilocybin tends to increase spirituality or the belief in a higher power, but “it doesn’t have to be about religion. It’s really the golden rule.”

**“I went into psychedelics as pretty much a skeptic. The level of unbridled enthusiasm made me suspicious. By no means did I think we would find what we have found.”**

**ROLAND GRIFFITHS, DIRECTOR OF THE JOHNS HOPKINS CENTER FOR PSYCHEDELIC & CONSCIOUSNESS RESEARCH**

Ferriss and Griffiths first met at a San Francisco event where Griffiths was speaking. Ferriss approached. “I had no idea who he was. He said, ‘Gee, this is really interesting. I’d like to help out,’” says Griffiths, who is generally wary when approached by enthusiasts. Ferriss had a unique follow-through. “I remember saying, ‘Well, these studies are really quite complicated, and it’s not easy to raise money.’ And he said, in a really modest, understated way, ‘I may have some leads that could be helpful.’”

Ferriss is focusing on the science behind psychedelics because he believes a stronger scientific foundation will make it more difficult to push the medicine



back into the shadows. He considers the Hopkins center a model and is imploring his friends to put their money into many similar centers he hopes will be announced later this year.

I ask Ferriss for the pitch to a potential investor. It usually starts with a text: “I’ve spent the last handful of years looking for attractive targets in the psychedelics space that can knock over a lot of other dominoes,” Ferriss will write. “I’m pre-negotiating the documents so it’s as easy as possible to come in. Two conditions. One, a minimum of \$2 million, \$400,000 a year for five years, a tax-deductible donation. Two, it cannot be anonymous, because that would only reinforce the stigma we’re trying to remove. If you want to bend the arc of history, I think this is one of the best opportunities you will ever have.”

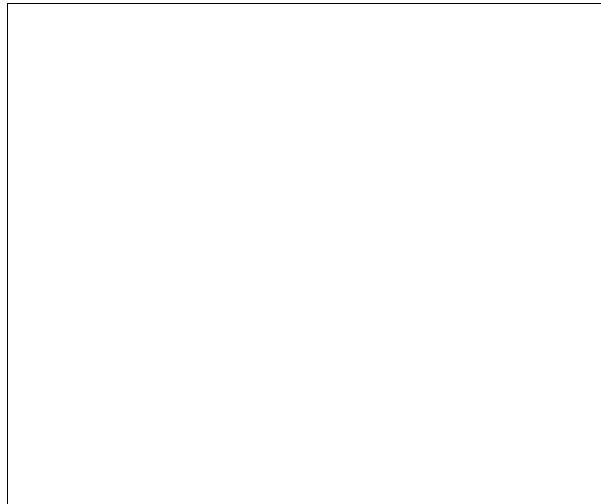
He says he often closes the donation without so much as a follow-up call.

### III.

**This seems like** a good time for me to come clean as something other than a disinterested narrator of this story. In the fall of 2018, I read Michael Pollan’s bestselling book *How to Change Your Mind*. It struck a chord. Around that time, I had been experiencing an unshakable ennui. A birthday with a really big number was approaching. The weather in the Bay Area was awful—gray and wet for weeks on end. The Groundhog Day nature of my daily routine was weighing on me. I briefly considered a psychedelic journey but didn’t know how to start. Plus, it felt risky.

At my annual physical exam my doctor diagnosed mild depression; we discussed an SSRI prescription. I completed a survey about my symptoms and waited to hear back. Then one morning while walking the dog, I got a call from an old friend. He said he’d been taking underground psychedelic journeys to cope with the tragic deaths of his nephew and a childhood friend. I asked if his guide might recommend someone near me. That’s how I found Matthew, a Bay Area transplant with an old-school Marin County guise—beads, perpetually bare feet, painted toenails, a soothing voice, and gentle disposition. Matthew and I come from similar backgrounds and are of similar age and immediately connected. We sat on a bench in his garden and discussed my malaise as well as, in the parlance of the community, my intentions. We took hikes and discussed death and spirituality, nature, family, and what to expect. I was nervous. I asked about the

medicine's provenance, dosing, duration, and safety, his training and experience. He answered with patience, but we both knew that taking the journey would require a leap of faith.



Matthew recommended I start with MDMA, a drug that promotes empathy, to “open the heart.” When the day came, we sat cross-legged before a makeshift altar in a therapist's space not far from my office. He made me agree to three terms: 1. For my own safety, I could not leave the room until he declared the journey complete. 2. He would not allow me to hurt myself or him. 3. He would not allow me to engage in any sexual activity with him. Those conditions seemed acceptable but somehow did little to calm my nerves. Just how open would my heart be?

He lit sage, said a short prayer, instructed me to consider the medicine carefully, and left the room. I swallowed the capsule hurriedly and waited for his return and for the journey to begin. My mushroom session proceeded similarly, except I chewed five grams of dried stems and caps. In each case, I began by lying flat on an air mattress, a blindfold over my eyes. Matthew played a soundtrack that eventually seemed to conduct the whole experience. I was largely unaware of his presence until he'd encourage me to drink water or ease me toward my intentions. But I leaned on him heavily during the integration sessions. All told, we spent about six hours together during each journey, plus about six to eight hours of counseling.

**“I came out with a deeply renewed interest in exploring this world.”**

**TIM FERRISS, WHO EQUATES ONE MUSHROOM TRIP TO A DECADE OF HIGHLY EFFECTIVE TALK THERAPY.**

I experienced moments of both serene spirituality and postapocalyptic bleakness. On MDMA, I vaulted into the tableau of a recurring childhood nightmare. But instead of my boyhood anxiety, I felt wonder and safety. I traveled back in time to visit my wife during our early days of dating and forward to peer into the adult eyes of my 10- and 13-year-old sons. I was waiting for an elevator; the doors opened, and there they were as twentysomethings. It took my breath away. All I could think of to say was, “What do you do?” When the elder opened his mouth, I raised my hand. “Don’t answer,” I said. “I can wait. You guys are going to be okay.” It’s all a father ever wants to know.

I emerged from the journey with two gifts, one short-lived and the other more enduring. When I fell under the influence, I began feeling music with my body rather than merely hearing it with my ears. My arms drifted upward and danced like charmed snakes. This persisted for a week. Whenever I listened to music, especially classical, my hands would float and dance. If I concentrated fully, my arms would elevate. On the first day I worried about brain damage. Then I embraced it. The effect eventually subsided. I miss it.

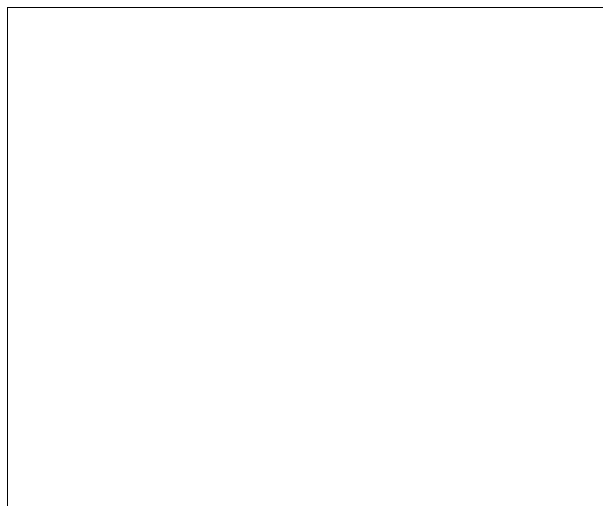
The other gift was a new voice. One of my intentions was to be more present, to soak in the now rather than constantly worrying over a future scenario. The medicine spoke with my voice, but in an octave and with a sense of compassion that I don’t typically employ. It repeated softly, “Be here.” Six months later, I still use it as a prompt. When I say those words aloud, I feel pins and needles in my shoulders.

The mushrooms were, as they say, next-level shit. My intentions here were more about coming to terms with mortality and finding avenues for growth. I died at least a dozen times. My body dissolved into water and seeped into soil. I became a seed, curled into the tightest ball, then a sunflower sprouting upright, reaching for energizing sunlight, until collapsing with the onset of winter. This scene repeated until I was spent. I finally screamed, “Not this time!” And with that I became a tree, drawing energy and strength from my powerful trunk. I felt rooted, and an overwhelming sensation of love. Then I was a human baby, with his entire life ahead of him. Eventually, I became a sea turtle, lazily navigating the ocean, and then a red-tailed hawk, soaring through the sky.

When I confronted my professional fears, the medicine told me, simply, to write. About what? It told me this story would be a good place to start. I have the chance to help people. I wept.

As the effects faded, I repeated a refrain that becomes increasingly lucid on my recording. Using my new voice, I'm offering myself instructions for navigating forward. Strong like a tree. Explore like a sea turtle. Soar like a hawk. Feel as a human.

#### IV.



**If you feel like the psychedelics train** might be headed for a cliff, you're not alone. This is the obligatory part of any story on the topic that traces the trail of psychedelics through the ages. There's evidence that magic mushrooms, for example, have been used for thousands of years, and many psychedelics are legal in Brazil, Jamaica, and the Netherlands, and on Native American reservations. But the relevant backstory comes from the psychedelics renaissance of the 1950s and '60s, when the focus was primarily on LSD, and a thousand papers were published on psychedelics' safety and efficacy.

This was a time of larger-than-life characters that included Albert Hofmann (the Swiss scientist who discovered LSD), Ram Dass (the healer and the author of *Be Here Now*), and the psychedelics poster child, Timothy Leary, he of the memorable mantra "Turn on, tune in, drop out." Long version short: Psychedelics became a rallying point for the counterculture in the anti-war movement. Soon after, President Richard Nixon categorized them, alongside heroin, as Schedule 1 substances with no acceptable medical use and a high potential for abuse. MDMA received similar treatment in the mid-'80s after flooding the rave scene, despite having been administered by thousands of therapists over the years. And psychedelics entered into a long, dark winter.



So here we are anew, with scientists signaling the remarkable potential of psychedelics. But this time the conversation has shifted toward medicine as the costs of mental illness have skyrocketed. Far from advocating a counterculture, advocates are now aiming for the mainstream. [The Multidisciplinary Association for Psychedelic Studies \(MAPS\)](#), founded by Rick Doblin in the '80s, is currently running a Phase III clinical trial—at a range of locations including the University of Wisconsin at Madison and Sheba Medical Center in Israel—to test the efficacy of MDMA on PTSD. “The interim analysis should come back around the first week of April,” Doblin tells me. “That’s the moment of truth for us.” He’s hopeful that an MDMA product will be on the market in 2022.

In anticipation, MAPS is training hundreds of facilitators—because the medicine alone is not enough. “We don’t use the word ‘guide,’ because it implies someone knows where the journey should go,” he says. “Think of it more like a midwife.” In 2019, the Israeli Ministry of Health [approved MDMA](#) as a compassionate treatment for PTSD. And the FDA recently approved compassionate use for [50 PTSD](#) patients. Doblin, 66, takes this as a good sign. He’s working with VA hospitals in hopes of administering MDMA to the more than 1 million veterans riddled with PTSD, which costs the VA on the order of \$17 billion a year. Ultimately, he envisions tens of thousands of psychedelics clinics.

MAPS has played a key role in lowering cultural resistance to psychedelics over the past three decades, and it continues to bang the drum. Doblin, who holds a Ph.D. in public policy from Harvard, just returned from the World Economic Forum in Davos, where MAPS hosted peripheral events to educate global business leaders on the power and economic potential of psychedelics. “Next year we’re hoping we’ll be invited to the main event,” he says. MAPS created videos of soldiers and cancer patients who have benefited from psychedelics. Politicians on both sides of the aisle have shown sympathy toward the cause, including Andrew Yang [on the left](#) and Iowa Representative Jeff Shipley [on the right](#).

Nevertheless, there’s palpable anxiety that the movement is one bad trip away from disaster—a headline-grabbing overdose perhaps. And there is no shortage of finger-pointing. I pay a visit to [Jennifer Mitchell](#), a neuroscientist at UC–San Francisco. She’s worried about the underground. “I recognize how important the underground community has been at continuing to shepherd these compounds in the Bay Area,” she says, sitting in the room where her team is facilitating studies on MDMA and psilocybin for various afflictions. “But I don’t want the whole thing derailed because of some narcissist who’s pretty sure he’s been called upon by the powers of the universe and the spirits of the wind to administer these

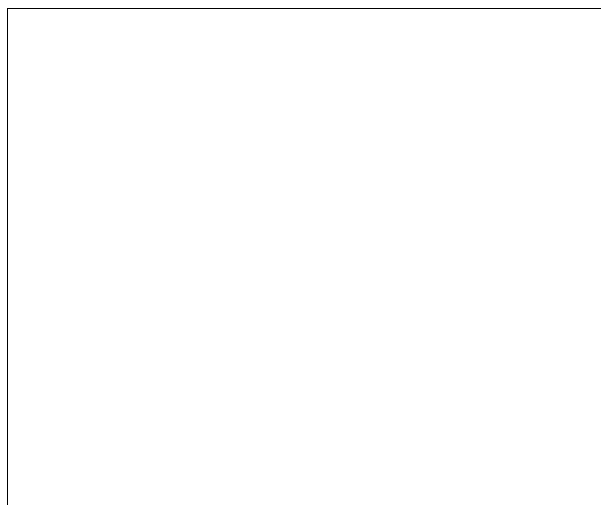
compounds in his living room on Saturday nights and something goes terribly wrong.”

Bestselling author and podcast host Tim Ferriss.

PHOTOGRAPH BY DREW ANTHONY SMITH FOR FORTUNE

Others warn against the specter of recreational legalization. The philanthropist Alexandra Cohen, whose foundation is funding the Johns Hopkins research center alongside Ferriss, speaks for many when she says, “My biggest fear is that psychedelics are legalized, something terrible happens, and then we’re back to where we started. It’s so important for that not to happen.”

Then there are the activists railing against anyone perceived as trying to confine access to psychedelics to the wealthy, connected, lucky, and entitled. Larry Norris is cofounder of [Decriminalize Nature](#), the organization that led the effort to decriminalize magic mushrooms, mescaline, ayahuasca, and iboga in Oakland last June, following Denver’s similar action a month prior. “Only a very small percentage of the population has access to clinical trials,” he says. The prospect of accidents doesn’t scare him. He’s worried about scientists improperly executing trials in the FDA spotlight. “Those trials aren’t inexpensive,” he says. “Wouldn’t it be great if the scientists could learn from what’s happening in the community?”



To spur universal access, Decriminalize Nature has created a legal template for other cities to follow. Norris says more than 100 have requested information packets, and he thinks 20 will decriminalize in 2020, including Santa Cruz, Calif., which passed the measure in late January. Berkeley and Chicago aren’t far behind. Statewide ballot initiatives in California and Oregon could soon follow.







**V.**

**The state of Hawaii has established** a medical working group to develop a plan ensuring that psilocybin services will become accessible and affordable therapeutic options for all residents 21 years of age and older. And David Nikzad couldn't be more excited.

Nikzad, 43, is the high-energy, jovial founder of a Hawaiian biotech company called **Orthogonal Thinker**. He's intent on unleashing a psychedelic extract he calls Psilly onto microdosers, consciousness explorers, and medical patients alike—for a dollar a dose! “I call it Project Crop Dust,” he says with a laugh while driving his Jeep along Oahu's North Shore. Nikzad fled the investing world a decade ago for Maui. He's squirrely about his net worth or where his money comes from except to say that he invested early in the online investment platform Betterment and bought pre-IPO shares of Airbnb on the secondary market. Now he's all-in on this effort. Orthogonal runs an “alkaloid accelerator” program for psychedelics startups while investing in cannabis, hemp, CBD, and unprocessed food businesses.

As a child, Nikzad was diagnosed with a variety of learning disorders. “I was given Ritalin, Adderall, Lexapro, everything,” he says. “By my teens, I had moved from 100 milligrams of Adderall a day to cocaine, and I had an overdose that should have killed me. From that point on I became a tinkerer trying to cure myself.”

He thinks his current regimen, which involves daily doses of Psilly and a diet free of processed foods, can help wean millions off never-ending prescriptions. (He has no medical or scientific training, calling himself a “kitchen chemist.”) Nikzad has been working with EI.ventures, a wholly owned subsidiary, and chemists including one who studied under Alexander Shulgin, the so-called godfather of psychedelics, on a highly precise method to extract pure psilocin, the psychoactive ingredient our bodies make when ingesting psilocybin. “We can be exact down to one-1,000th of a dose,” he says.



Nikzad says Orthogonal has raised \$5.5 million from individual and institutional donors as well as crowdfunding campaigns, but he's not out to make a lot of money. EI.ventures has a team of patent and IP lawyers filing paperwork to protect their product and process, but Nikzad would rather embrace an open-source model to enable a thousand fungi business models to bloom.

He picks me up in his jeep at 7 a.m., and we head for the vicinity of Mokuleia, to an area he asks me not to name. We're going on a hike—a preview of the type of corporate retreat he'd like to offer one day to boost team bonding or facilitate conflict resolution. "I'll give you the companies I'd love to host—Pepsi, [Pfizer](#), Facebook," he says with a guffaw. "Salesforce, Bill & Melinda Gates Foundation. Don't be surprised!"

Orthogonal's legal team stresses that the company is not in the business of manufacturing, producing, or distributing any Schedule 1 substances. And yet I find myself holding a Yeti mug of water mixed with a three-milligram dose, the equivalent of three grams of magic mushrooms, plus echinacea and turmeric—not an Orthogonal product, the lawyers insist. It's a formula that should leave me primed to soak in nature on a long hike.



We meander between mountains and the shoreline, making small talk as we go. The water in my mug tastes earthy. As I approach empty, maybe 30 minutes later, I begin to perceive patterns in the ground cover. Time slows. We pass through a cloud of gnats, and I recognize a mathematical matrix. I marvel at an albatross crossing the skyline and a family of humpbacks slapping tails and breaching near the horizon. A thousand shades of blue appear as the sea crashes on black lava. I grab a shady spot and swear to myself that I'll never leave.

The trip slowly wears off, and we return to Nikzad's home, where I shower and go for a walk to reflect. Along the way, I encounter a sea turtle, eyes blinking slowly

as it bathes in the sun. I sit nearby and listen as the tide laps the sand.

## VI.

**There's a parable making the rounds** in the psychedelics community. It was published on [the website for the Auryn Project](#), a nonprofit advocacy group. “We Will Call It Pala” is a poignant if maudlin story that’s worth reading in full, but here’s the gist: An entrepreneur starts a network of clinics treating patients with psychedelics. The business grows quickly and is eventually acquired by a pharma company. In the end, the founder is rich but despondent over what her company has become. The story is a pure reflection of the angst I encounter among the psychedelics community about the incursion of big business. And big business is definitely circling.

Look no further than Christian Angermayer, a German financier and the founder of [ATAI Life Sciences](#), which has raised \$150 million from the likes of wealthy VCs Peter Thiel and Steve Jurvetson. Angermayer acknowledges that he’s taken psychedelics—“Make sure you make it clear that it’s legal in the Caribbean,” he tells me—but not for any affliction. He tells me he is, and always has been, a happy person. Nevertheless, the experience was profound. “This was the single most meaningful, important thing I’ve ever done in my whole life,” he says.

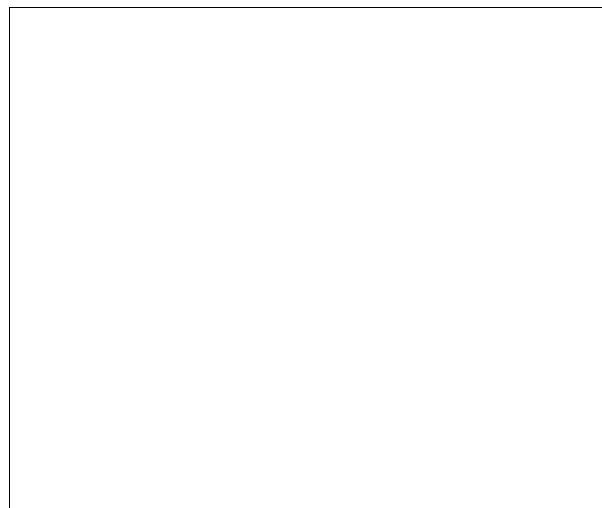
I contacted several pharma companies for this story to ask whether they have any interest or stake in psychedelics. Each told me, in so many words, no. But Angermayer rebuts that narrative. “We had amazing discussions with pharma CEOs and heads of business development at the JPMorgan conference,” he says, referring to the annual biotech investment convention in San Francisco in January. “They want to talk.” He says he expects ATAI to announce a partnership with a pharmaceutical company in the spring.

Many in the psychedelics community are wary of pharma’s typical prescription model, which they feel maximizes profits and dependency over healing. Psychedelics, by contrast, are the kind of thing you take maybe just once, or every few months. The same sources have mixed feelings about ATAI: Yes, the company is investing heavily and increasing the profile of psychedelics. But can ATAI’s investors be trusted?

Then there’s the issue of patents. ATAI and the ventures it’s backing have been aggressively trying to patent psychedelics-related intellectual property to

establish exclusivity. For this reason one source characterizes them as the Darth Vader of the psychedelics galaxy. I relay the sentiment to Angermayer, who isn't fazed. "We're trying to bring psychedelics into the medical world so it will be affordable to people because it will be paid for by the health care system," he says. "The only way to do that is with patents."

One of ATAI's primary investments, [Compass Pathways](#), has raised \$55 million. The company received a breakthrough therapy designation from the FDA in 2018 for the application of its synthesized psilocybin compound, Comp360, for treatment-resistant depression. In a video call, CEO George Goldsmith is measured, urging caution about hype and expressing the need to operate under full oversight of regulatory bodies. He hardly seems like a Sith Lord.



When I ask about the rationale for patenting something that grows freely out of wood chips, he has a ready answer. "Well, the synthesized psilocybin is the highest levels of purity, so it doesn't grow out of wood chips. The wood chips and the mushrooms are free," he says with a smile. "We have to incentivize investors to take huge amounts of risk. The phase of development that we're in is known as the valley of death. It's where most compounds fail. So that's why we've patented all the work that we've done to create this specific, highly pure form of psilocybin that we're using for our work in treatment-resistant depression."

For another perspective, I contact Carey Turnbull, who sits on the boards for the Heffter Research Institute and the Usona Institute, both nonprofits founded to promote psychedelics research. In November, Usona received its own FDA breakthrough therapy designation for psilocybin for the treatment of a major depressive disorder. Usona gives its product to qualified researchers, much the way the Bill & Melinda Gates Foundation gives away the polio vaccine. Turnbull

agrees to talk on the condition that I make it clear that he's speaking for himself, not on behalf of any institution.

A serial entrepreneur from the energy world, Turnbull has been highly involved in fostering psychedelics research, sponsoring studies at Johns Hopkins, Yale, and NYU. Lately he's found himself embroiled in a battle over Compass's patent filings. He personally retained a patent attorney to ensure that industry actors continue to have the freedom to operate. And he claims Compass has persistently tried to own intellectual property that it has no rights to.

The company's first patent filing, in October 2018, had 27 claims of novelty. Turnbull's attorney considered all of them specious and suggested that he hire chemists and psychiatrists to review them. Their consensus: "He seems to be attempting to patent Albert Hofmann's means of making psilocybin," Turnbull says. Hofmann famously discovered LSD, but he also was the first to identify psilocybin and to invent a way to make it synthetically in a laboratory. "So we go to the U.S. Patent and Trademark Office and say, 'Look, he's attempting to patent prior art or inherent properties.' Compass simply withdrew all 27 points."

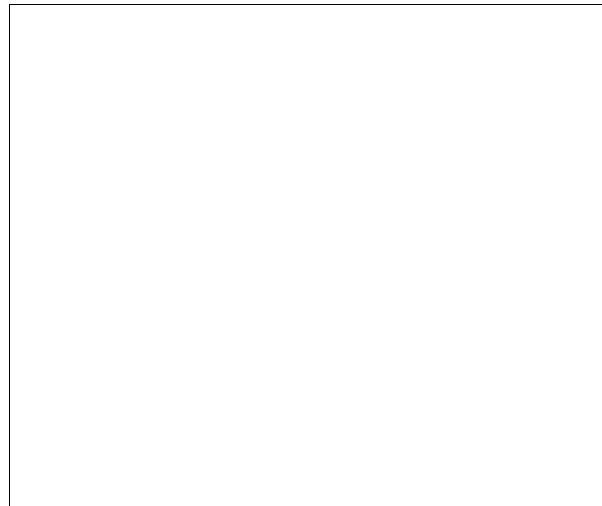
Compass resubmitted an application with 10 points of novelty. The chemists reiterated their case, and Turnbull objected to the USPTO. Compass again withdrew. Finally, Compass filed a single point, which was approved on Dec. 31, 2019. As *Fortune* went to press, Turnbull's lawyer was preparing another objection.

I pored over the USPTO website and a host of documents provided to me by Turnbull. They all substantiate his characterization of events. I also read a document from the European Patent Office, which rejected all 27 claims of novelty, citing prior art by Hofmann, the pharmaceutical firm Sandoz, and others.

Turnbull assures me he's not anti-capitalist but insists Compass is trying to block competition. "You can see they're hanging on by their fingernails," he says. "I don't object to Compass having patents or making profit. I object to their claiming ownership of IP that exists in the public commons rather than contributing to the public commons. Compass has shown almost no creativity. Their pitch sheet says, essentially, we're going to establish exclusivity and make billions. But they're entering a field that has been extensively researched by others."



And that's not all that's bugging Turnbull. He explains that making psilocybin for prescription medicine, as both Compass and Usona must do for clinical trials, is highly complex. Only a few labs have the licenses and skill sets to do so. Usona approached one of the labs, Onyx, to make pharmaceutical grade psilocybin. "They said, 'Oh, Compass made us guarantee we won't do that for anyone else,'" Turnbull recalls. "At first I thought it might be a misunderstanding. But George [Goldsmith] confirmed it." Turnbull shows me an email thread that confirms the situation with Onyx.



Goldsmith is dismissive of Turnbull's narrative. "We don't comment on the specifics of our patent prosecution, but there's always back and forth. That's the way the patent process works," he says. "The idea is you build on what others have done."

As for locking up access to Onyx, Goldsmith says: "Our manufacturing contracts are exclusive, in line with standard industry practice."

## VII.

**Around the time I begin wondering** if there's a movie to be made about all the drama in the psychedelics movement, a potential star drops out of central casting onto the sidewalk beneath my office. Her name is Maria Florencia Bollini, but everyone just calls her Flor. An Argentinian trained as a high priestess in the African shamanic tradition, she's clad in a full-length cashmere coat, Gucci sunglasses and heels, and a wide-brimmed fedora, and sipping yerba maté. If we were somewhere other than sleepy downtown Mill Valley, I'd look for flashbulbs.

Flor, who is 39, talks a thousand miles an hour, waving her hands and barreling through topics that range from the ways that females can achieve orgasm (four, she says) to the molecular makeup of 5-MeO-DMT, a.k.a. the “God Molecule.” But mainly she wants to discuss how her network of healers is going to save us all from ourselves.

She’s aiming to turn the world of psychedelics on its head with a company called **Nana**—from a word, used in parts of Africa, meaning wise healer or priestess—that intends to replace status quo methods of delivering mental health care with what she describes as a system of “transformative medicine.” Flor explains that Nana is primarily a technology play. She says that she and her team are creating a sort of “Nana in a box”—an online platform to enable the build-out of a loose network of healing centers around the globe.

The company is creating a prototype center as a proof of concept, she tells me, but the real IP comes in teaching healers how to administer psychedelics and integrate the experience through counseling. Flor is insistent that the healers will be exclusively women because, let’s face it, they’re the more nurturing, empathetic, and compassionate gender. The clinics will start with whatever’s legal, including cannabis and ketamine, and expand as more psychedelics become permissible.

**Maria Florencia Bollini, a.k.a. Flor, is using her experience as an African shaman as the foundation for her new psychedelics startup, Nana.**

PHOTOGRAPH BY MAGGIE SHANNON FOR FORTUNE

The company will provide everything needed to get started or to transition existing clinics into Nana clinics. That includes training—“Imagine it like the Wonder Woman academy!”—as well as an online platform and app that offers 24/7 support, patient assessment, a template for psychospiritual integration, a user manual for the body (brain neurochemistry, mindfulness, etc.), and more. The revenue plan centers on monthly subscriptions. Pricing hasn’t been set but, she says, “We’re trying to make it as accessible as possible.”

Flor honed her methods, she says, by conducting thousands of journeys herself. She tells me that she was once among the world’s most expensive guides, working with movie stars and industry titans. Further, she claims to have helped clients beat sex, porn, gambling, and drug addictions, as well as eating disorders, depression, PTSD, and alcoholism. She tells me she’s been trained in the use of a range of psychedelics, but her professional focus has always been on the God Molecule. She calls it the most effective and efficient psychedelic, producing a









highly intense journey that lasts only about 20 minutes, versus hours for psilocybin.

“The idea is we take what I’ve learned, weave it all together with some adaptive reasoning, and create an integrated experience to help people radically transform lives within six months,” she says.

The inspiration for Nana came from Flor’s own ayahuasca sessions. The medicine, she says, instructed her to start the company. Around then, her head of strategy and business development, Seth Teicher, was on a similar path. Teicher was on the founding team of the online travel company Atlas Obscura and a digital surgery company called Activ Surgical as well as a principal at GreatPoint Ventures, where he focused on health care and enterprise software. He found his way to Nana after navigating through his own personal hell.

In 2018 he contracted neurological Lyme disease and grew sick to the point of incapacitation. He descended into hopelessness and despair—until he did a massive dose of ketamine. It gave him the will to fight until, through a series of serendipitous events, he met a Stanford professor who was testing an off-label drug on Lyme victims. He got a prescription, and it worked. As he healed, he began reflecting on how the ketamine experience sent him on a path to health. He wondered if he could start a TripAdvisor for psychedelics. A mutual friend introduced him to Flor. “She laid out a vision for how to treat the whole person,” he says through tears. “I was like, ‘This woman is the truth.’”

The duo then recruited one of the inventors of ride-hailing, Jahan Khanna, to be Nana’s head of product. Khanna cofounded Sidecar before Uber and Lyft existed and later became Uber’s head of innovation. He draws a parallel between the friction involved in my underground psychedelic journey and his experience. “It reminds me so much of taking a gypsy cab before Uber. Before ride-sharing existed, you could always get random people to give you rides,” he says. “You should be able to have one of these experiences without the fear, or wondering, ‘Where does this substance come from?’”



Flor has recruited an advisory panel that includes MAPS founder Doblin and Bjarke Ingels, the celebrity architect behind Two World Trade Center and Google's HQ, among many others. When I ask her about fundraising, she tells me she has commitments for upwards of \$1 million on her admittedly aggressive terms. "We're building an entire industry here," she says, "and this is a chance to come in at the beginning."

She says she's turned down money for various reasons. For example, she shows me a \$2 million offer she rejected because she didn't like the terms. She says she excused herself from a call with Jason Camm, the chief medical officer at Thiel Capital, when he wouldn't say whether he'd ever had a psychedelic experience. (Camm didn't return requests for comment.) She met with Angermayer, whom she says she liked, but they couldn't find common ground. "He wanted to take the whole round," she says. "I said, 'No, we're doing this on our terms.'"

Angermayer acknowledges that he discussed the possibility of an investment in Nana, but spins the outcome a bit differently. "It's not like I said, 'Hey, we want the whole round!' But I can't do small tickets, because it doesn't move the needle. I said, 'If we were to do this at all, we would need to take the whole round.'"

I speak with two investors who have taken early stakes in Nana. One tells me he can't believe the reception Flor is getting: "I was on one call with a super-high-net-worth individual who wouldn't even let her get through the pitch. He was, like, 'Send me the wiring instructions.'"

## VIII.

**Tim Ferriss is back home** in Austin, albeit temporarily. He's preparing to jet off to Costa Rica to hike the jungle and maybe do some surfing. Before he takes off, we have one more conversation. He calls the two-month Utah experiment a success. He picked up some new skills on the mountain while managing to avoid his inbox: 618,952 unread emails and counting. I tell him about the various people I've met—the cauldron of anecdotes, the intensity of emotions and ambition, and all the tension, real and perceived. He says it sounds like a telenovela. I have to agree.

We end up discussing Katharine McCormick, the American philanthropist who is almost single-handedly responsible for the birth control pill. In the 1950s, she donated the equivalent of \$20 million to spur research behind the oral

contraceptive, avoiding controversy by pushing it through the FDA as an aid for menstrual disorders. It strikes us as both inspiring and an apt analogy for the burgeoning world of psychedelics. Everyone is waiting for a latter-day Richard Nixon to impose institutional disapproval. We should really be looking for Katharine McCormick to hack the system for everyone's benefit.

“Two parallels that are striking: The first is that for a relatively small sum of money, she was able to completely bend the arc of history in a positive direction,” Ferriss says. “And if you look at the ripple effects, the list is infinite, right? Birth control, better education for women, better jobs for women. It's hard to wrap your head around all she accomplished with that amount of money. There are thousands of people in the U.S. who can easily do that now.”

Before we hang up, I tell him that many of my sources have expressed gratitude for my willingness to listen. Gratitude is, I've surmised, an enlightened habit that I should practice. So I thank Ferriss for welcoming me into his life for a short time, for sharing his passion, showing me around, and for our day together in Solitude. “Wow. That is so great to hear. You made my day,” he says. “I've had a really tough week.”

With a bit of prodding, he expounds. “A young friend unexpectedly died of cancer complications, and I was having trouble processing it. Until six years ago, I shut down nearly all of my emotions. My protective mechanism was always to feel nothing. I was numb,” he says. “I was surviving, but I wasn't really living. Now I want to feel it all. We're not here very long.”

No one escapes pain. Not even Tim Ferriss.

## **Three mind-blowing numbers behind the movement**

**80%**

Portion of cancer patients who experienced reduced anxiety and fear of death a minimum of six months after a single psilocybin treatment, according to one study.

**133**

Number of clinics in the U.S. legally providing ketamine treatments for depression and other psychiatric conditions. The total is growing fast.

**67%**

Portion of “drug-naive” patients in a study at Johns Hopkins who rated their first time using psilocybin among the top five most meaningful experiences of their lifetime. And 79% said it increased their well-being or life satisfaction.

## **Four psychedelics with the potential to go mainstream**

A growing body of evidence supports the use of psychedelic drugs to treat a range of conditions. Here are a handful edging closer to legalization:

### **Ketamine**

A.k.a. Special K

#### **What’s the trip like?**

Out-of-body experiences and hallucinations are common. It can be addictive and/or cause “k-holes,” dissociative experiences that can be frightening or temporarily disabling.

#### **How is it taken?**

Ketamine has long been legal as an anesthetic—typically used by veterinarians. But it’s also used in ketamine-infusion therapy for treatment-resistant depression. In March 2019, the FDA approved a modified nasal spray (brand name: Spravato) that uses a closely related drug, esketamine. Both the spray and the IV can only be legally administered in clinical settings.

#### **What’s it used for?**

Ketamine has been shown to rapidly reduce life-threatening thoughts or actions, treat depression, and relieve anxiety.

#### **Where is it being tested?**

Ketamine clinics have been multiplying rapidly. The clinics range from doctors’ offices to lavish wellness centers. Therapy regimens often require a handful of sessions and can cost upwards of \$1,000 each.

### **MDMA**

A.k.a. Ecstasy, molly

### **What's the trip like?**

It's a "heart opener," creating feelings of love and taking you to places where you feel love.

### **How is it taken?**

MDMA is usually taken in capsule form and swallowed but is sometimes snorted.

### **What's it used for?**

It's used to ease trauma and is especially effective for couples therapy. It helps men express their love, showing what they feel, and encourages sharing and talking. Because it causes a drop in serotonin levels, it typically requires 5-HTP supplements to aid recovery.

### **Where is it being tested?**

The Multidisciplinary Association for Psychedelic Studies (MAPS) is currently conducting Phase III clinical trials. Ten clinics have been granted expanded access by the FDA, meaning they can start providing treatment. MAPS hopes to introduce a series of MDMA clinics in 2022, pending final FDA approval.

## **Psilocybin**

A.k.a. the psychoactive component of magic mushrooms

### **What's the trip like?**

Taking a full dose, approximately three grams, can elicit a six-hour experience that seems akin to being overtaken by a super-intelligence. It typically creates a profound connection with nature. Afterglow can last for up to three months.

### **How is it taken?**

Typically by chewing dry mushroom stems and caps. But researchers are working on synthetic compounds.

### **What's it used for?**

It's a long-lasting antidepressant. It has also been shown to kick addictions and increase empathy.

### **Where is it being tested?**

Magic mushrooms are easily grown or even commonly found in wood chips or on cow patties, for example. Psilocybin is legal in many countries and is now

decriminalized in Denver, Oakland, and Santa Cruz, Calif. Underground guides are relatively common. Compass Pathways and Usona are conducting Phase II clinical trials with synthesized versions.

## 5-MeO-DMT

A.k.a. The God Molecule; The Toad

### What's the trip like?

Depending on the dosage, it's like a rocket ship into unconditional love. The peak experience lasts only about five minutes, and within 20 minutes you're back to reality.

### How is it taken?

It's usually vaporized, but it can also be snorted.

### What's it used for?

It's an anti-inflammatory and creates neurogenesis. It's been credited with beating addictions, enabling infertile couples to conceive, creating greater self-awareness, and lessening anxiety and depression. It's considered the most powerful and efficient psychedelic because of its short duration.

### Where is it being tested?

The psychedelics nonprofit Usona Institute is engaged in early discovery work. It has launched a 5-MeO-DMT manufacturing program that will enable controlled first-in-human clinical trials "in the years to come."

*Jeffrey O'Brien (@jeffreymbrien) is cofounder of the Bay Area storytelling studio, [StoryTK](#).*

**Correction:** *An earlier version of this article mistakenly identified Esketamine (brand name: Spravato) and ketamine as the same drug; in fact they are chemically related but different drugs.*

*A version of this article appears in the March 2020 issue of Fortune with the headline "Business Get Ready to Trip."*

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