

THE
PSILOCYBIN
CONNECTION

PSYCHEDELICS,
the
TRANSFORMATION
OF CONSCIOUSNESS,
and
EVOLUTION ON THE PLANET

—*An Integral Approach*—

JAHAN KHAMSEHZADEH, PhD

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PREFACE

The Story of How Psilocybin Changed My Life

Like so many people that become focused on healing and self-growth, I had a rough childhood. My parents were both immigrants—my mother from Mexico and my father from Iran. They met in California while trying to learn English. After my sister and I were born, we moved to the Arizona desert. Because my parents came from non-English-speaking countries and lacked education, finding work was difficult for my parents and the financial stress was felt daily in my home. Starting at a young age, I felt alienated at school, made fun of constantly and bullied for being different. My shame ran deep. By high school I was clinically depressed and suicidal. I was also diagnosed with attention deficit disorder (ADD), and the neurodivergence made it difficult to concentrate in a normal school setting, leading even further to my feelings of alienation. Even though I had ADD, I was placed into a gifted education program that cultivated my skills of logic and imagination. Once a week in elementary and once a day in middle school, I went to a class with a more relaxed learning structure that focused on developing abstract thought. We played chess, painted, and had more advanced vocabulary exams. There was less risk of being picked on in these classrooms, and it provided some sense of a haven from an otherwise painful daily school life. I was curious and loved to learn, and though I chose to go to church as a child, I was an atheist by the time I became a teen. I saw no evidence of anything sacred in the world around me. Existence seemed bleak.

A month after graduating high school, I was given a handful of mushrooms while on my way to see my favorite band, Tool, play for the first time. I remember saying out loud that this was going to be the

best day of the whole year. Little did I know it was going to be the most significant day of my life.

Once Tool hit the stage, the mushrooms' effects began and my experience of time immediately dissolved. I was only conscious of the present moment, which was rushing toward a threshold that I perceived to be death. The movie *The Matrix* came to mind, and I felt like the character Neo about to be unplugged from the Matrix—I had no idea what was on the other side. For fifteen minutes I held back from crossing this line, and then, out of curiosity, I relaxed and let my being move forward. What occurred was an explosion in my consciousness to a degree I have never experienced since. I could feel every cell of my being rejoice in love and celebration. I felt eternal—that my consciousness existed before the Big Bang and would exist after death. There was a familiarity to this feeling, as if I had known it all along but had just forgotten. Then a voice—strong and not my own—arose in my consciousness to say my name: “Jahan.”

“Is this real?” I asked.

“Yes,” the voice replied, telepathically. Every wall I had built around my heart collapsed, and I broke into a gushing river of tears for the next ninety minutes.

I knew this was the voice of God—a recognition of something I thought was impossible. I realized that, beneath my awareness, this being was always seeing through my eyes and hearing through my ears, and it had been doing so my entire life. It was also simultaneously doing this within everyone else. God was with me. God was with all of us, all the time. It registered every experience in the cosmos and held each and every one of them with love.

I witnessed each instance of my life flash by, frame by frame, all leading to this one moment. I grasped that all the pain I experienced was necessary and precisely choreographed by a divine intelligence to bring me to this breakthrough so that I could dissolve into this union. At this level of relationship with God, I felt I knew everything, including the location of every atom in the universe. I was one with the larger mind, and yet still wholly an individual self. I felt the greatest contentment I

had ever known. At this moment during the mushroom journey I asked God, “What are we?”—*we* referring to us as human beings. I saw light arise from the ground and fill everybody in the arena, and I understood immediately what the all-encompassing being was trying to tell me—that we are love and light and that those qualities are one and the same. Light was wholly intelligent.

I was then taken through our solar system and realized that “outer space” was the same space right in front of me here on Earth. Just as our bodies need vessels to go out into outer space, light needs the vessels of our physical bodies, these “spacetime” ships, to explore our spatial and temporal dimensions. When these “biovessels” die, we simply move into another body. Eternal life of an individual soul, wholly connected through a central uniting being, without the possibility of death, is bliss.

I grasped that our identities are the creation of our imagination and that this world was in fact Heaven. This realization had profound implications for me. Up to this point, I had thought of existence as a miserable hell. Realizing the opposite was in fact true made me suddenly angry. I had been lied to my whole life. Everyone who had sent the wrong message did not have the awareness of what I was now being shown. They didn’t know that we are all already in God’s palace and the only thing that stops us from living this way is the shortcomings of our collective awareness. This ignorance struck me as deeply unsustainable. It seemed that there must come a time in our future when all humans would realize the essence of our existence and would treat the planet and each other as if we are in Heaven.

The greatest lesson this being taught me is that the most important values in existence are love and learning. Love is by far the most important, with learning being a distant second. Everything else—and this cannot be overstated—was so far behind these values that they seemed almost empty. Love is the most intelligent force in the cosmos, always pointing in the right direction. Learning helps us adapt, evolve, and move further in that direction. Both of these, ultimately, move toward unity. If a person orients their life with these two values, they will never have to worry about holding the complexity of everything else. Seeing

through the lens of these two values allows one to recognize what is important in each instant.

When the experience concluded, I climbed to the highest seat in the arena to look over the entire Tucson Convention Center. I knew that my life was transformed, and I felt privileged to have the awareness to take that in. I contemplated that experience almost daily for the next seven years. Two decades later I am still integrating what occurred and still find myself in awe. I had firsthand experience of how drastically and quickly life can be transformed with psychedelics. A month after this experience, I started college as a neuroscience major, with the hope of understanding the link between matter and consciousness. It was my goal to contribute to the academic efforts to create a scientific understanding of consciousness. Privately, I hoped to pursue research on psychedelics, though not much was happening in the field at this time because research on psychedelics was largely restricted.

During my first semester in Pima Community College I took two important classes with phenomenal professors that formed my orientation toward school. The first was a professor in a philosophy class titled “God, Mind, and Matter.” The textbooks we used were Ken Wilber’s *A Brief History of Everything* and Alex Grey’s *The Mission of Art*. The influence of those two books can be seen throughout this text. The other professor was a passionate physics teacher with a similar hunger for knowledge. I believed physics would give me a fundamental understanding of the universe, and I changed my major to focus on physics and mathematics for the next three years. However, a psilocybin journey three years into my major told me to leave physics and focus more directly on mysticism. This brought up tremendous fear since the path of studying physics seemed to hold more social and financial security. At the same time, my intuition said to trust the experience. Studying philosophy and psychology was the closest thing to understanding mysticism at my university, so I switched my major to philosophy and graduated with minors in both psychology and physics and a class short of a minor of mathematics from the University of Arizona.

A few months after graduating, I enrolled at John F. Kennedy University to work on my master's degree in consciousness and transformation and used all the math I had learned to support myself as a math tutor. During this time, I was introduced to psychotherapy and have been studying it since. After my master's, I started work on my doctorate in philosophy, cosmology, and consciousness at the California Institute of Integral Studies. While working on my dissertation, which became this book, I had a psychedelic experience during which I received direction to undergo three more multiyear trainings. I then trained for years within the Mazatec mushroom tradition as well as in Hakomi, a two-year mindfulness-based somatic-psychotherapy comprehensive training. For two years I assisted the Psychedelic-Assisted Psychotherapy Certificate Training at the California Institute of Integral Studies. I then began facilitating legal psilocybin mushroom ceremonies in Jamaica as part of the Atman Retreat team and became a mentor for the Center for Consciousness Medicine's comprehensive guide training. Currently I lead a monthly public group titled "Developing a Relationship with Sacred Mushrooms" with the San Francisco Psychedelic Society. Each day I am filled with gratitude for the psilocybin mushroom experience that first transformed my life, and I can see how everything since has been a ripple from that psychedelic experience. It has been my greatest resource during my difficulties and has allowed me to embrace both the darkness and light by deepening my trust with life.

I share my own psychedelic experiences with the belief that they may prove beneficial to the reader. I hope that these stories, in addition to the similar experiences of others that I explore in these pages, will enable the reader to see real-life examples of how psychedelic experiences can radically transform one's life. After two decades of researching the development and evolution of consciousness, I know of no approach to transformation more powerful and effective than those that use the assistance of psychedelics. This is not to say that psychedelics are a substitute for psychotherapy, meditation, or working within a community. In fact, I believe all these practices are synergistic and that psychedelics deeply enhance these practices. Psilocybin mushrooms and other psychedelics

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can be traumatizing without the right set and setting, which includes being with trustworthy experienced people and in a safe environment. Psychedelics can conjure deeply painful and frightful experiences, and the help of a therapist or guide, the awareness cultivated in meditation, and the support of friends and family are all essential resources for integration. I hope that those who are ready and want these experiences find the resources that they need. Movements toward decriminalization and legalization are currently underway. Several retreat centers exist and many more are already in the planning stage. The following work is one of the ways I am doing my part to carry psychedelics out of the shadows and into the light, so that they are seen as wholesome, healing, and perhaps humanity's greatest untapped resource for self-realization.

the subjective realization of unity allows one to see that they are not separate and in fact exist as part of a larger whole—within a family, a relationship, a community, the planet, and the universe. The deep sense of oneness that can arise in psychedelic states—the realization that we are part of a vast and singular network of consciousness—is an example of the pinnacle of human experience. In *Toward a Psychology of Being*, Abraham Maslow states, “The peak experience is felt as a self-validating, self-justifying moment which carries its own intrinsic value with it. That is to say it is an end in itself.”³⁰ He goes on to write:

Any person in a peak experience takes on temporarily many of the characteristics which I found in self-actualizing individuals. That is, for the time they become self-actualizers. We may think of it as a passing characterological change if we wish, and not just an emotional-cognitive-expressive state. Not only are these his happiest and most thrilling moments, but they are also moments of greatest maturity, individuation, fulfillment—in a word, his healthiest moments.³¹

From such peak experiences one acquires the sense of their own deeper identity and interconnectedness with everything. Following these states, one is often inspired to create art, transform society, heal others, and orient toward seeing beauty in the world. As evidenced in the experiences described earlier, even just one such direct experience can greatly transform one’s life, with the potential to heal depression and increase vitality and connection.

Science: Evidence of Transformation

The empirical, quantitative research on psilocybin is just as spectacular as the anecdotes in the previous section, providing ample evidence of

³⁰ Maslow, *Toward a Psychology of Being*, 74.

³¹ Maslow, 91.

objective and behavioral changes that accompany having such powerful and transformative experiences. Multiple studies—at Harvard, New York University, Johns Hopkins University School of Medicine, and the University of California, Los Angeles (UCLA)—repeatedly show that with the right set and setting about 70 percent of participants report sessions that qualify as a mystical experience.³² Many of those working in the field of psychedelics, myself included, believe that these experiences of unity can bring profound healing in one's life.³³

Though an increasing amount of research has been underway in the last two decades, there was already a wealth of accumulated scientific research by the 1970s. As Pollan notes, there were

more than a thousand scientific papers on psychedelic drug therapy before 1965, involving more than forty thousand research subjects. Beginning in the 1950s and continuing into the early 1970s, psychedelic compounds had been used to treat a variety of conditions—including alcoholism, depression, obsessive-compulsive disorder, and anxiety at the end of life—frequently with impressive results.³⁴

The results of these extensive experiments have been overwhelmingly positive, with seemingly no traumatic experience having been reported during the carefully structured experiments.³⁵

In the early 1960s, Harvard started the first known scientific experiments on psilocybin and psychology with Timothy Leary spearheading what came to be known as the Harvard Psilocybin Project. Neal Goldsmith, a psychotherapist and scholar of psychedelic history, writes in his

³² Pollan, *How to Change Your Mind*, 10.

³³ Grof, *Way of the Psychonaut*, vols. 1 and 2.

³⁴ Pollan, *How to Change Your Mind*, 44.

³⁵ Metzner, *Sacred Mushroom of Visions*.

book *Psychedelic Healing: The Promise of Entheogens for Psychotherapy and Spiritual Development*:

The first study in the Harvard Psilocybin Project was Leary's "remarkable people" study. Basically, they gave psilocybin to everybody, except undergrads: graduate students, psychologists, religious people, religion professors, mathematicians, chemists, artists, and musicians, in a comfortable setting (usually Leary's house). Results were published in 1963 in *The Journal of Nervous and Mental Disorders*, reporting that 70 percent had a pleasant or ecstatic time; 88 percent learned important insights; 62 percent changed their life for the better; and 90 percent desired to try it again.³⁶

Leary also created and directed the Concord Prison Study, under Harvard University's Center for Research in Personality, to study whether psilocybin trips affected the reincarceration rate of prisoners.

Afterward, Walter Pahnke, a Harvard graduate student, conducted the Harvard Good Friday Experiment to study if psilocybin stimulates subjective qualities that categorically fit into the definition of a classical mystical experience. The questionnaire used by Pahnke, and then again decades later by the team at Johns Hopkins, asked the participants to assign a number on the scale from 0 to 6 to the following criteria: unity (whether internal or external unity), transcendence of space and time, ineffability, sense of sacredness, noetic quality (intellectual insights), and positive mood.³⁷ As part of the experiment, graduate divinity students took psilocybin during a Good Friday church service; 67 percent of them reported experiences that met the criteria of a genuine mystical experience. Most participants reported that it was one of the most important experiences of their lives. This was verified in a twenty-five-year follow-up conducted by Rick Doblin, the founder of the Multidisciplinary Association for Psychedelic Studies

³⁶ Goldsmith, *Psychedelic Healing*.

³⁷ Griffiths et al. "Psilocybin Can Occasion Mystical-Type Experiences."

(MAPS).³⁸ He tracked down the participants, who still reported that they considered it to be one of the most spiritual moments of their lives.

In *Psychedelic Medicine: The Healing Powers of LSD, MDMA, Psilocybin, and Ayahuasca*, Richard Miller, who has been a psychotherapist for over fifty years and a former advisor on the President's Commission on Mental Health, interviewed Roland Griffiths, chief investigator of the psilocybin experiments at Johns Hopkins University. Griffiths is a psychopharmacologist and professor at Johns Hopkins in the departments of psychiatry and neuroscience and has been working on the cutting edge of neuroscience for over forty years. The psilocybin studies he conducts at Johns Hopkins University have now spanned two decades. In the interview, Griffiths focuses on the first Johns Hopkins psilocybin experiment, which began in 1999 and was published in 2006, which studied if psilocybin catalyzes mystical experiences. About this study, David Nichols, a researcher in Purdue University's Department of Medicinal Chemistry and Molecular Pharmacology, says,

It is the first well-designed, placebo-controlled clinical study in four decades to examine the psychological consequences of the effects of . . . psilocybin. In fact, one would be hard pressed to find a single study of psychedelics from any earlier that was as well done or as meaningful.³⁹

The study involved administering doses of psilocybin equivalent to about five dried grams of mushrooms to participants.⁴⁰ In discussing the experiment, Griffiths says:

What's most interesting to us is that under the right conditions—when participants are prepared well and feeling safe—they often have experiences that map onto naturally occurring mystical-type

³⁸ Doblin, "Note on Current Psilocybin Research Projects."

³⁹ Nichols in Miller, *Psychedelic Medicine*, 137.

⁴⁰ Griffiths in Miller, 144.

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experiences. These are experiences that have been reported by mystics and religious figures throughout the ages and have been carefully described throughout the literature of the psychology of religion—very prominently represented by William James in the early 1900s. There have been measures developed for rigorously assessing the phenomenological domains of these transcendent experiences.

The major feature of this experience, endorsed by about 70 percent of our volunteers, is the interconnectedness of all people and things—a sense of unity, that all is one. This is accompanied by a sense of sacredness or reverence, sometimes described as awe. Also, a sense that the experience is more real and true than everyday waking consciousness. The other qualities of the experience are a sense of open-heartedness—sometimes described as love, gratitude, or peacefulness—and a sense of transcendence of time and space, when past and future collapse into the present moment and that's all there is, the present moment. Space becomes boundless and time endless. And finally, a sense of ineffability. One of the first things people say after having this kind of experience is, “I can't possibly tell you what the experience was about. I can't put it into words because they just don't fit.”

The remarkable thing is, not only do people endorse that experience immediately after the session, but at a one- or two-month follow-up and more than a year follow-up, they continue to say the experience has positively changed their attitudes about themselves, their lives, and other people. They claim to be more prosocial, more generous, and more loving. People will also claim to make changes in their behavior in accordance with that; so, for instance, they may take up a meditation practice, eat more healthily, or exercise more regularly. Caretaking of self and others emerges from this experience. The experience, of course, is over at the end of the session. But the memory endures, and the principal features—this interconnectedness of all things, sacredness, the sense of the true value of it, a sense of heart opening, transcendence of time and space, and ineffability—this whole package comes together as the mystical experience.⁴¹

⁴¹ Griffiths in Miller, 144–45.

Griffiths goes on to say that a one-year follow-up interview with the participants' friends, family, and colleagues at work confirms the types of changes reported by the participants.⁴² In 2006, the same year the Johns Hopkins study was published, the University of Arizona also published research results of their experiment that studied if psilocybin works as a treatment for obsessive-compulsive disorder (OCD). All participants in the Arizona experiment experienced decreases of symptoms of OCD.⁴³

Bob Jesse, the person primarily responsible for initiating the research at John Hopkins and bringing together the John Hopkins team,⁴⁴ writes:

The findings, published in 2006, 2008, and 2011, confirm what the literature has long suggested: psilocybin, used under suitable conditions, frequently brings about experiences similar to mystical breakthroughs that occur spontaneously or through prolonged spiritual practice. People who had such experiences in the research setting more often than not attributed great significance to them, ranking them among the top experiences of their lives. Additionally, most of these individuals reported positive changes in mood, outlook, and behavior, which friends and family members tended to corroborate.⁴⁵

The Johns Hopkins study on the mystical experiences catalyzed by psilocybin opened the door for more research. Three more experiments—at UCLA, New York University, and another at Johns Hopkins—tested if the mystical states psilocybin creates can alleviate fear of death in terminally ill cancer patients.

After the first Johns Hopkins experiment, Charles Grob began to clinically research psilocybin at UCLA. Grob is a medical doctor who works as a professor of psychiatry at the UCLA School of Medicine and conducted the first government-approved psychobiological research

⁴² Griffiths in Miller, 146.

⁴³ Moreno et al., "Safety, Tolerability, and Efficacy of Psilocybin."

⁴⁴ Pollan, *How to Change Your Mind*.

⁴⁵ Jesse in Forte, *Entheogens and the Future of Religion*, xi.

study of MDMA, along with being the principal investigator of an international research project studying ayahuasca. The focus of this psilocybin study was to learn if psilocybin could treat anxiety in advanced cancer patients. Beginning in 2004, Grob administered psilocybin—at half the dosage Griffith used—to twelve individuals participating in a double-blind placebo-controlled study. At this moderate dose, no one reported a difficult experience. After treatment, Grob’s team helped with integration and remained in touch with participants for a six-month follow-up. “We saw some indices of anxiety improve over time, we saw some indication that mood improved, and overall there was an improved quality of life.”⁴⁶ The findings were published in the January 2011 issue of the *Archives of General Psychiatry*, which is considered to be the number one influential journal in the field of psychiatry.

This study led to two more experiments that focused on the treatment of anxiety with cancer patients: one at New York University (NYU) and the other at the Johns Hopkins School of Medicine. The results of these studies attracted enormous media attention. Thomas Roberts, professor emeritus at Northern Illinois University, in his book *The Psychedelic Future of the Mind: How Entheogens Are Enhancing Cognition, Boosting Intelligence, and Raising Values* says:

In a very real sense, the Hopkins study broke the ice for news media to publish other psychedelic findings. It was reported on in more than three hundred newspapers, national TV news broadcasts, websites, and magazines, and continues to be cited often in professional journals.⁴⁷

A December 2016 article in *Time* magazine also noted:

In two new studies released simultaneously by researchers at New York University and Johns Hopkins, doctors reveal that a single dose of psilocybin—a compound from magic mushrooms—can ease anxiety and

⁴⁶ Grob in Miller, *Psychedelic Medicine*, 156.

⁴⁷ T. Roberts, *Psychedelic Future of the Mind*, 8.

depression for up to six months. . . . The studies, both published in the *Journal of Psychopharmacology*, are accompanied by 11 editorials of support from leaders in psychiatry, including two past presidents of the American Psychiatric Association. “Our results represent the strongest evidence to date of a clinical benefit from psilocybin therapy, with the potential to transform care for patients with cancer-related psychological distress,” says NYU study author Dr. Stephen Ross, director of substance abuse services in the Department of Psychiatry at NYU Langone in a statement . . . “The results were remarkable: 60–80% of people in the study reported reductions in their depression and anxiety symptoms that lasted six months after the treatment. . . . Eighty-three percent of people reported increases in their well-being and life satisfaction, and 67% said the trial was one of the top five most meaningful experiences in their lives.”⁴⁸

Katherine MacLean, director of the Psychedelic Education and Continuing Care Program and a research scientist at the University of California, Davis, is a postdoctoral fellow and faculty member at Johns Hopkins University School of Medicine and worked with Griffith on his psilocybin experiments. Her role was to study if the psilocybin experiences correlated with increased personality development of the participants. She found that the greatest change in personality structure was what mainstream psychology categorizes as openness.⁴⁹ The quality of openness in personality correlates to intelligence, creativity, problem solving, sensitivity to one’s feelings and those of others, openness to new ideas, and flexibility when approaching new situations, all essential qualities that are useful in adapting to our swiftly evolving world. MacLean states, “We saw an increase in openness after the single psilocybin session with the highest dose. That increase in openness persisted for up to more than a year after the session in the people who had this classical mystical experience.”⁵⁰ The measurement of transformation is

⁴⁸ Sifferlin, “Just One Dose,” 2.

⁴⁹ MacLean in Miller, *Psychedelic Medicine*.

⁵⁰ MacLean in Miller, 146.

based on a self-reporting survey of two hundred questions that are used in the field of personality research in psychology. The finding is significant, MacLean points out, because research in personality development has traditionally shown that personality begins to solidify around the age of thirty.⁵¹ She concludes, “We saw increases in openness that were larger than you might expect, even over decades of life experience, if you extrapolate a growth curve that people might be on. So it seems fairly permanent in the people that we studied.”⁵²

Katherine MacLean’s findings are congruent with those of Robert Kegan, a developmental psychologist who taught at Harvard for forty years and served as educational chair for the Institute of Management and Leadership in Education. In their best seller *Stealing Fire: How Silicon Valley, the Navy SEALs, and Maverick Scientists Are Revolutionizing the Way We Live and Work*, Steven Kotler and Jamie Wheal do a great job of summarizing aspects of Kegan’s work and its relationship to psychedelic experiences:

Robert Kegan discovered that while some adults stay frozen in time, a select few achieved meaningful growth. Right around middle age, for example, Kegan noticed that some people moved beyond generally well-adjusted adulthood, or what he called “Self-Authoring,” into a different stage entirely: “Self-Transforming.”

Defined by heightened empathy, an expanded capacity to hold differing and even conflicting perspectives, and a general flexibility in how you think of yourself, self-transforming is the developmental stage associated with wisdom. While it usually takes three to five years for adults to move through a given stage of development, Kegan found that the further you go up that pyramid, the fewer people make it to the next stage. The move from self-authoring to self-transforming, for example? Fewer than 5 percent of us ever make that jump.

⁵¹ MacLean in Miller, 147.

⁵² MacLean in Miller, 147.

But in all of this developmental research, buried in the footnotes about those self-transcending 5 percenters, lay a curious fact. A disproportionate number of them had dabbled in ecstasis: often beginning with psychedelics and, after that, making meditation, martial arts, and other state-shifting practices a central part of their lives. Many of them described their frequent access to non-ordinary states as the “turbo-button” for their development.⁵³

These research results also correlate with the findings of integral philosopher Ken Wilber, who synthesized hundreds of models of development. Though Wilber focused on meditation as the primary method of consciousness development, he concludes that, with repeated experiences, altered states can become permanent traits.⁵⁴

In Europe, Amanda Feilding, a scientist and founder of the Beckley Foundation (a UK-based think tank focused on psychedelic research and drug policy reform), conducted an experiment to see if psilocybin works as medicine for treatment-resistant depression. The average volunteer in the study suffered from eighteen years of depression and had been unresponsive to every other form of treatment.⁵⁵ The experiment showed that 67 percent of participants had significant improvement after one week of treatment and 42 percent remained depression-free three months later.⁵⁶ This is one of the highest success rates ever recorded in comparison to traditional methods and is higher than ketamine treatment for depression.⁵⁷ The World Health Organization has identified depression as the leading cause of disability worldwide;⁵⁸ by definition people with treatment-resistant depression generally have not

⁵³ Kotler and Wheal, *Stealing Fire*, 92.

⁵⁴ Wilber, *Integral Psychology*; Wilber, *Integral Spirituality*.

⁵⁵ Feilding, “Psilocybin and Depression.”

⁵⁶ Feilding, 160.

⁵⁷ Feilding, 163.

⁵⁸ World Health Organization, “Depression.”

responded to traditional treatment, and the psilocybin treatment can bring hope to this growing global population. After the overwhelming success of the study, Amanda Feilding also went to Johns Hopkins to work with Roland Griffiths to see if psilocybin might aid in overcoming nicotine addiction. With just two high-dose experiences, 80 percent of participants were still abstaining from nicotine at their six-month follow-up, which is unprecedented.⁵⁹ Johns Hopkins is currently carrying out a similar study on alcohol addiction.⁶⁰

Some current ongoing studies are integrating a brain-imaging component. In 2016 Amanda Feilding, David Nichols, and Robin Carhart-Harris published fMRI brain scan images of participants under the influence of psilocybin and LSD. What they found was that psilocybin and LSD dissolve what is known as the default-mode network, which neuroscientists describe as the ego network in the brain.⁶¹ (The results of this study, along with a deeper dive into the neuroscience of psychedelics, is explored further in a section presenting the evolution of the brain in chapter 5.) When the results of the fMRIs were published, Judson Brewer, a former researcher at Yale who used fMRI to study the brains of experienced meditators and now is the director of research at the Center for Mindfulness at the University of Massachusetts Medical School, shared that “the brain scans of people that took psilocybin look like the brains of experienced meditators.”⁶² This perhaps makes more credible the possibility that psilocybin can catalyze genuine mystical experiences similar to those that some people arrive at through other, conventionally accepted spiritual practices.

In 2017 Roland Griffiths and Stephen Ross, who conducted the psilocybin experiments at Johns Hopkins and NYU, brought their clinical trial results to the FDA with the hopes of winning a Phase III approval to

⁵⁹ Feilding, “Psilocybin and Depression,” 162.

⁶⁰ Feilding, 163.

⁶¹ Pollan, *How to Change Your Mind*.

⁶² Pollan, 305.

continue their research on psilocybin as a treatment for anxiety in cancer patients. Impressed with their results, the FDA surprised Griffith and Ross by asking them to expand their focus and ambition: “To test whether psilocybin could be used to treat the much larger and more pressing problem of depression in the general population.”⁶³ A similar situation happened in Europe when psilocybin researchers were asked by the European Medicines Agency to enlarge their next experiment to include treatment-resistant depression, which afflicts more than 800,000 Europeans.⁶⁴ Like MDMA—which has now entered into the third and final phase of earning FDA approval as a treatment for PTSD and has wide nonpartisan support because of its focus on helping veterans—psilocybin is moving toward federal legalization. As Michael Pollan notes, one is hard-pressed to find anyone opposing further scientific research on psychedelics.⁶⁵ The stigma around psychedelics has dramatically transformed since the 1960s. We are now in a time when the government, medical institutions, and academic environment are now showing support.

In October 2018 the US Food and Drug Administration (FDA) gave psilocybin-assisted therapy the status of a breakthrough therapy, which means it provides a substantial improvement over available therapies. Also in the fall of that year the FDA approved Compass Pathways, a for-profit company, to begin experiments that focus on psilocybin-assisted therapy as a possible solution for treatment-resistant depression. They join the Usona Institute, a nonprofit organization that has also been approved to begin research on psilocybin to assist alleviating depression. “For the first time in U.S. history, a psychedelic drug is on the fast track to getting approved for treating depression by the federal government” states a 2018 article in *Rolling Stone*.⁶⁶ The proposed Compass Pathways study involves administering psilocybin to 216 patients in twelve to fifteen different research sites

⁶³ Pollan, 375.

⁶⁴ Pollan, 377.

⁶⁵ Pollan.

⁶⁶ Hartman, “Psilocybin Could Be Legal,” para 1.

across Europe and North America,⁶⁷ while the Usona trials will take place in five to seven different research sites across the United States. Compass Pathways was created by George Goldsmith, who started and worked in several companies in the fields of computer science, business, and medicine, and his spouse Ekaterina Malievskaia, a medical doctor focusing on internal medicine and public health. When their son began university, he developed severe depression, and in their search to understand depression they came across the research on psilocybin and its amazing therapeutic results. Malievskaia says, “It was interesting science but there was no pathway to patients.”⁶⁸ Compass Pathways is now backed by billionaire investors, and their financial support marks a stark contrast to the psychedelic research of the past. Most research on psychedelics has been carried out by nonprofit and academic organizations that raise money through public donations for research trials that cost millions of dollars or are limited to the budget allowed by a university. Shelby Hartman, in her November 2018 *Rolling Stone* article, states:

There’s consensus among the psychedelic community that Compass’ success with the FDA will make it easier for everyone else in the field to get approved for research. If Compass continues to succeed and gets psilocybin approved for depression, Doblin predicts it will be eligible for “off label” prescription, in which doctors will be able to prescribe it for any condition they see fit. That means all the psilocybin research conducted for academic purposes could be used to prescribe psilocybin for conditions like addiction to cigarettes or alcohol.⁶⁹

There has, however, been controversy surrounding Compass Pathways. They are the first large for-profit company working within the field of psychedelics and were granted a patent for their psilocybin formulation in addressing treatment-resistant depression in early 2020.

⁶⁷ Cheung, “COMPASS Pathways Receives FDA Approval.”

⁶⁸ Henriques, “Two Parents’ Fight,” para 6.

⁶⁹ Hartman, “Psilocybin Could Be Legal,” para 13.

Many who have been working in the field of psychedelics believe the medicine should remain open-source and patent free. There is a strong argument that it is unethical to patent and own the rights to the plants and fungi that grow on the planet. Still, the movements catalyzed by Compass Pathways and Usona bring psilocybin-assisted psychotherapy closer to legalization than previously projected.

As psilocybin and MDMA become legalized for their therapeutic uses, it will likely lessen the stigma attached to psychedelics and open unrealized pathways that make use of their benefits. These academic studies add a much-needed legitimacy to what individuals have already experienced for themselves and know to be true—that psilocybin and other psychedelic medicines transform lives.

Modern History

In 1936, Bras Pablo Reko, an Austrian-born Mexican ethnobotanist, challenged the prevailing academic understanding at the time that held that the sacred substance the Aztecs called *teonanácatl* (which translates into “the flesh of God”) and used in their practices was peyote.⁷⁰ Reko suggested the ancient Aztecs used mushrooms rather than peyote. He visited with the Indigenous people in the mountains of Oaxaca, in southern Mexico, to find if entheogenic mushrooms existed in their area. Not only did they confirm his intuition but revealed that sacred mushroom rituals still existed. Richard Evans Schultes, a Harvard ethnobotany student who later become director of the Botanical Museum of Harvard, joined Reko in his expedition to collect samples of these sacred mushrooms from a Mazatec village in Huautla de Jimenez.⁷¹ In 1939 Jean Bassett Johnson, an anthropologist from Mexico City, and his wife, Irmgard Weitlaner, were the first outsiders to attend a mushroom

⁷⁰ Riedlinger, “Wondrous Mushroom’ Legacy,” 30.

⁷¹ Forte, *Entheogens and the Future of Religion*, 131.