

Trip to the Doctor

Once taboo, psychedelics are making an enlightening medical comeback

by Jennifer Bleyer

Photographs by Matthew Septimus



Patients in the NYU Psilocybin Cancer Anxiety Study begin their hallucinatory experience wearing eyeshades and headphones as doctors encourage them to bear witness to an inner world.

On a spring day in 2010, “Sandra,” then a 63-year-old ice-skating instructor with short graying hair and an impish smile, received her diagnosis: ovarian cancer, stage 1C. The rock-hard tumor growing inside her abdomen was surgically removed almost immediately. She spent the next several months soldiering through exhausting rounds of chemotherapy. Oddly, it was only once she was in remission that the worst began.

Sandra found herself crippled with anxiety. An online support group for ovarian cancer patients exacerbated her worry as other women warned that it was not a question of if but when her cancer would return. She ate compulsively, which compounded her fear—the stomach pains she got once from scarfing down an entire bag of Halloween candy felt like a sure sign that the cancer was back. In the days leading up to her regular oncology appointments, she nearly hyperventilated with terror.

On one such visit to the NYU Cancer Institute last spring, Sandra mentioned her anxiety to a nurse practitioner who told her about an unusual research project happening at the university. It was a study to assess the potential of psilocybin—a psychoactive compound found naturally in a wide variety of mushrooms—to alleviate psychological distress in cancer patients. Once in her college days, Sandra had tried mescaline, a psychedelic found in peyote and other cacti, and experienced a bad trip. She had felt trapped in a waking nightmare that didn’t end for nearly 24 hours, until someone gave her some Thorazine to force her to sleep. The idea of taking a similar drug made her nervous, but her anxiety was so crushing she had little to lose.

That was how she came to be lying on a couch a few months later in a warm, silent room at the Bluestone Center for Clinical Research, a drug trial facility within NYU’s College of Dentistry. Wearing eyeshades and headphones, Sandra sensed herself being launched into a dark, infinite void. It was terrifying. She felt as if she was trapped in the hold of a ship, tossing violently in a storm. A panicked thought crossed her mind: *Am I breathing?* She forced herself to moan as she exhaled just to make sure that she wasn’t suffocating.

Soon, Sandra saw her own body. There was a black mass beneath her rib cage. She steeled herself and confronted the mass,

recognizing it immediately as a vivid manifestation of her own fear. Her fury boiled over. She yelled, "Get out! I won't be eaten alive!" In an instant, the black mass was gone.

"Then I started thinking about my family," she remembers. "I was just overwhelmed with love. Totally bathed in love. It wasn't just my love for my children and my husband and my dearest friends—it was their love for me. It was all part of the same thing. I felt timelessness, that I was part of an eternal existence. It was the most magical, wonderful experience I've ever had in my life."

"I felt timelessness, that I was part of an eternal existence," says former patient Sandra.

Even months after the psilocybin's immediate afterglow had worn off, Sandra felt more patient, calm, and centered than ever before. And somehow, her fear of a cancer recurrence had disappeared completely.

The only thing that Stephen Ross learned about psychedelic drugs during his training as a psychiatrist was that they were highly dangerous. A particularly bad taboo enveloped LSD because it was known to trigger psychosis. Yet Ross, a trim 42-year-old associate professor of psychiatry, child and adolescent psychiatry, and oral

medicine at NYU, and the director of the Division of Alcoholism and Drug Abuse at Bellevue Hospital, found it curious that in his many years of treating addicts, he had never seen one who was addicted to psychedelics.

In 2006, Ross was working under the supervision of Jeffrey Guss, a clinical assistant professor of psychiatry who had a long-standing interest in spirituality and consciousness. One day, Guss (GSAS '05) mentioned something called ayahuasca, a psychoactive brew derived from an Amazonian plant that was rumored to cure addiction. Ross had never heard of it,

but their conversation piqued his interest and he started researching beliefs about the healing power of hallucinogens. He was shocked by what he discovered.

"I felt like an archaeologist," Ross says. "American psychiatry looked very seriously into the therapeutic applicability of hallucinogen treatment models for a quarter century. There were tens of thousands of research participants in the United States, and my field of addiction and alcohol was the most studied indication. And here it was, completely buried and suppressed."

Indigenous cultures had used psychedelics for millennia as sources of divination and ritual healing. By all

accounts, however, their entry into modern psychiatry didn't begin until April 19, 1943, when a Swiss biochemist named Albert Hofmann at Sandoz Laboratories ingested a tiny amount of a chemical he had synthesized called d-lysergic acid diethylamide, or LSD, which the company was developing as a potential circulatory and respiratory stimulant. Hofmann's experience was indescribably powerful and surreal—he was certain he had become psychotic. He went on to report it to the scientific community, which developed a keen interest.

By the 1950s, Sandoz was manufacturing LSD for use in experiments across Europe and North America. More than a thousand clinical reports about psychedelic research appeared in scholarly journals from the 1950s through the early '70s, and as Ross discovered, tens of thousands of subjects ingested LSD and other hallucinogens to examine its effects on alcoholism, depression, schizophrenia, autism, and death anxiety. In 1958, the American Psychiatric Association held a conference highlighting LSD psychotherapy, which was thought to offer unprecedented access to the unconscious. *Time* and *Life* magazines covered the drug regularly and enthusiastically. Even the CIA developed an interest in the drug, testing its capabilities for mind control on unwitting subjects as part of a covert operation called Project MKUltra.

As psychedelic research proliferated, another avenue developed that would change the course of history. In 1960, two psychologists based at Harvard, Timothy Leary and Richard Alpert (now known as Ram Dass), initiated the Harvard Psilocybin Project to test its mental and emotional effects, but their study had little of the rigor of others. Leary and Alpert dispensed the drug freely to cultural celebrities and undergraduates in scenes that more closely resembled parties than medical trials. And, of course, they took it as well. It wasn't long before local authorities, and Harvard's administration, caught wind of their recklessness and halted the project. Leary and Alpert were eventually fired.

Leary became infamous as a psychedelic pied piper advocating the unfettered use of LSD to expand consciousness. The drug fueled the youth movements of the 1960s and

became synonymous with everything that culturally earth-shattering era came to represent.

Yet alongside promises of awakening came apocryphal stories of young people jumping off buildings and burning their retinas by staring at the sun. In 1969, the Manson family's grisly murders and the stabbing death of a fan at a Rolling Stones concert were both linked to LSD. Whatever therapeutic potential psychedelics held faded beside their perceived danger. Drug panic culminated in the passage of the Controlled Substances Act of 1970, which established the federal five-tiered schedule of drug classifications; psychedelics, including LSD and psilocybin, were categorized as Schedule I, meaning that they had a high potential for abuse and no accepted medical use. The door on psychedelic research effectively slammed shut.

As surprised as Ross was to unearth this chapter in American psychiatry, he was intrigued to learn that research had quietly begun again. It started as a trickle in the early 1990s, when a psychiatrist at the University of New Mexico got federal approval to examine the effects of dimethyltryptamine, or DMT, a powerful psychedelic that occurs throughout the botanical world, on hundreds of volunteers. Soon, other scientists were granted licenses for human subject studies of Schedule I drugs, including psilocybin and MDMA, the club drug better known as Ecstasy.

Interesting results began to emerge. At the Johns Hopkins University School of Medicine, for instance, a controlled study of psilocybin concluded that not only was it safe when administered in a structured environment, but that it reliably induces a mystical experience that can improve psychological well-being over an extended period of time. More than three-quarters of subjects who received a single 30 milligram dose of psilocybin reported that it was one of the top five most meaningful experiences of their lives, and 94 percent said it had increased their sense of well-being or life satisfaction 14 months after they'd taken it once. Almost none reported negative changes in mood, behavior, or self-regard.

Ross was fascinated but still unconvinced that one could enter this



In an act nodding to indigenous cultures that use psychedelics, patients in the NYU study are presented their psilocybin pill in a ceramic chalice.

realm of research as a serious scientist and not be tarred as a freak. He sought out Charles Grob, the head of child and adolescent psychiatry at Harbor-UCLA Medical Center, who had started conducting psychedelic research in the mid '90s. "He seemed like such a nice, normal guy who lived in the suburbs," Ross says. "Not some fringe character."

With Grob's encouragement, Ross, Guss, and another colleague, Anthony Bossis (GSAS '91), a clinical assistant professor of psychiatry and a palliative care expert, joined together to propose a double-blind, placebo-controlled study of psilocybin treatment for anxiety in late-stage cancer patients. In early 2007, they received an investigational drug license from the Food and Drug Administration and the Drug Enforcement Administration, as well as approvals from NYU's Institutional Review Board and Oncology Protocol Review and Monitoring Committee. Although they were met with some skepticism, Ross was struck by the degree of open-mindedness they encountered given the controversial nature of the drug involved. "I would often [hear] chuckles and laughs and, 'I was a child of the '60s. I get it,'" he says.

Today, the NYU Psilocybin Cancer Anxiety Study is conducted in a serene space that seems more like someone's living room than part of a bustling research clinic. There's a couch strewn

with ethnic-printed pillows, shelves stocked with oversize books of Tibetan art, framed landscape photographs, warm pools of lamplight, Buddha figurines, and, on dosing days, fresh fruit and flowers.

Notwithstanding the lovely room, psilocybin does present risks. Although it is not known to induce addiction, overdose, or withdrawal symptoms, some research has suggested it can bring about prolonged psychosis in people with a personal or family history of major mental illness, so such patients are carefully screened out of the study. In the session itself, there may be some physical side effects, such as nausea, dizziness, and tremors, but the more pronounced hazards are psychological. Periods of transient anxiety can occur as patients navigate the challenging psychological material related to cancer. More extreme reactions, such as paranoia and panic, can occur, but are rare and safeguarded against through careful preparation and a highly structured therapy session, much of which is influenced by the rituals of indigenous cultures that utilize psychedelic medicines.

Subjects start with a series of meetings with a male-female therapist dyad to build trust, establish familiarity, and set intentions. On the dosing day—there is one for placebo and one for the real thing, set seven weeks apart—a small container of psilocybin synthesized in a government-monitored laboratory and weighed daily according to strict DEA regulations is taken from an 800-pound

PHOTO © MARTIN BONJALANI



Ninety-four percent of patients in one study said just one dose of psilocybin, a psychoactive compound found in a variety of mushrooms, had increased their sense of well-being even 14 months after they'd taken it.



The NYU Psilocybin Cancer Anxiety Study team (from left): Jeffrey Guss, Gabrielle Agin-Liebes, Stephen Ross, and Anthony Bossis.

safe. Twenty milligrams of powder, an amount precisely judged to increase the likelihood of a mystical experience, are measured and pressed into a pill, which subjects swallow from a ceramic chalice.

The drug starts to take hold after about half an hour and the subjects are encouraged to put on eyeshades and headphones, lie down, and ride the waves of music on a carefully curated playlist. The therapists sit quietly nearby. There's often sobbing and sometimes laughter. After a few hours, subjects usually remove their eyeshades and start bearing witness to the inner world they've traversed.

"People come out with an acceptance of the cycles of life," Bossis says. "We're born, we live, we find meaning, we love, we die, and it's all part of something perfect and fine. The emergent themes are love, and transcending the body and this existence. In oncology, we're pretty good at advancing life and targeting chemotherapies, but we're not so good at addressing deep emotional distress about mortality. So to see someone cultivate a sense of acceptance and meaning, something that we all hope to cultivate over a 90-year life, in six hours? It's profound."

After the dosing day, patients receive another six hours of psychotherapy, and therapists often suggest ways for them to stay connected to the experience with meditation and mindfulness exercises. Ross says that some participants' anxiety abated for only a few months, while for some it lasted two or three years. Almost everyone said they wished they could do it again.

The biggest mystery of all is how it works. Advanced neuroimaging studies have recently shown that the drug suppresses activity in the part of the brain associated with self-awareness, hence the feeling of transcendent connection to everything.

NYU's study results will be published in another year or so after 32 people have participated (there have been 23 so far), and Ross is cautiously excited about what could happen next. Should his data indeed show a correlation between a single dose of psilocybin and decreased cancer-related anxiety, he explains, those results combined with data from similar studies at UCLA and Hopkins may be enough to move forward on a Phase III drug trial, which would involve up to 400 subjects at multiple sites around the country. Such a study would be extremely costly and time-consuming, but if it proves the drug's effectiveness, psilocybin could be rescheduled under the Controlled Substances Act.

"That would be historic," Ross says.

Some researchers imagine scenarios beyond that, wherein psilocybin is shown to effectively counter a range of psychiatric ailments and issues, and eligible patients visit special clinics around the country for treatment sessions. Though that would be many years in the future, the psilocybin cancer-anxiety study has already spawned the country's only psychedelic psychotherapy training program, developed and supervised by Jeffrey Guss. By this spring, 14 state-licensed clinicians will have been trained in the methodology of psilocybin therapy, and they're often left awestruck watching

people transcend their most primal fears.

Such was the case with Patrick. One of the study's earliest participants, Patrick was a successful, vibrant media professional who was 51 when diagnosed with cholangiocarcinoma, a malignant cancer in the bile duct. The odds were against him, yet he approached his treatment with extraordinary determination and courage. After a secondary metastasis showed up in his lungs in 2008, he joined the NYU study.

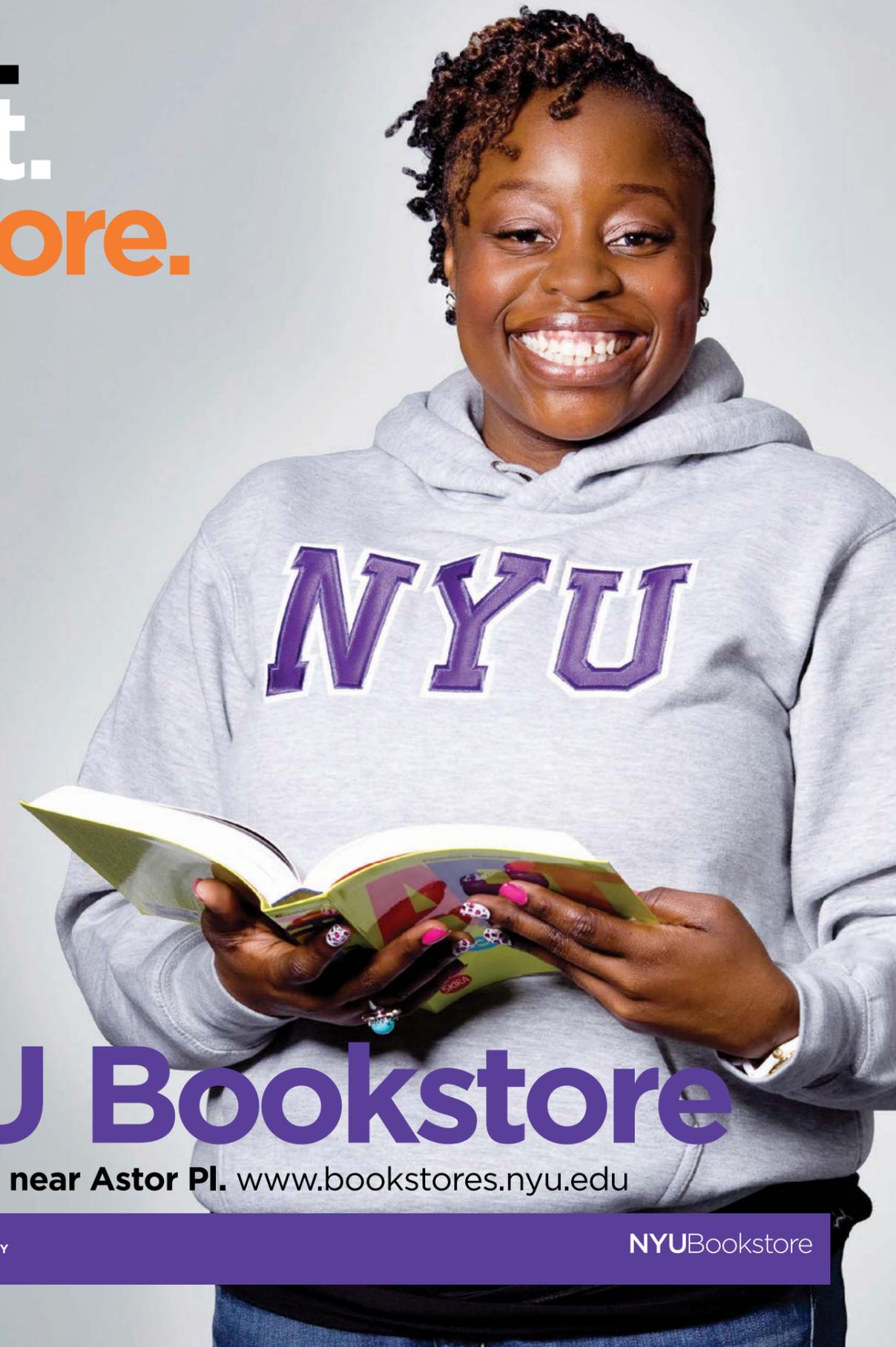
Bossis was one of Patrick's two therapists, and he grows emotional recalling the transformation he witnessed in his patient. "He was lying down saying profound things about life, love, and the place he was going," Bossis recalls. "He's experiencing infinite consciousness and crying, and you're right there watching this, and he walks out a different person. It was my proudest day as a psychologist, and I've been in the field a while."

In the euphoric days afterward, Patrick described having gone on a journey led by his sister-in-law, who had died of cancer years earlier at 43. "The culminating scene was of him approaching this razor point on the edge of the universe," says his wife, Lisa. "He knew he could look over the edge and see what the gods see. The wind was blowing and there was tremendous light, and he thought, I'm not going to look there because I need to go back and see Lisa."

Patrick lived another two years, during which his psilocybin journey remained vivid and laid the foundation for deeply spiritual experiences that he and Lisa shared in his final months. It altered his understanding not just of his cancer, but the nature of reality itself. He said it was the second most important event of his life, after meeting his wife. Patrick died last May, leaving behind a journal in which he wrote:

"Everything that happened, anything and everything was centered on love. I was told to not worry about the cancer. It's minor in the scheme of things, simply an imperfection of your humanity and that the more important matter, the real work to be done is before you. Again, love... Undoubtedly, my life has changed in ways I may never fully comprehend. But I now have an understanding, an awareness that goes beyond intellect, that my life, that every life, and all that is the universe equals one thing... love." ■

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