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, and
Recognizing it immediately as a vivid manifestation in her reverie, 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 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."

Ninety-four percent of the study participants 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 described as "a way to access 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 the earlier LSD 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.

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and set intentions. On the dosing day—a highly structured therapy session, including 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 described as “a way to access 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.

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Leary became infamous as a psychedelic pied piper advocating the unrestricted 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. More extreme consciousness. One day, Guss (GSAS ’05), mentioned something called ayahuasca, a psycioactive 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. It was shockingly what he discovered.

“I felt like an archaeologist,” Ross says. “American psychiatry looked very seriously into the psychic 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 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 had developed a keen interest. Hofmann’s experience was inescapably 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 on 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 described as “a way to access 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.

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The day after I heard the results of the experiment, I was part of a bustling living room than part of a bustling space that seems more like someone’s home. It was all part of the healing power of hallucinogens. It was shockingly

“Today, the NYU Psilocybin Cancer Therapy Program builds on a tradition of research that has shown that psychedelic, in the hands of a trained psychologist, can offer profound spiritual and psychological benefit to those with a serious life-limiting illness,” says Bossis. “It was unthestimulating and uneventful, and in the morning I felt completely normal. I was 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 2000s when a trial 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, a controlled study of psilocybin concluded that not only was it safe when administered in a structured environment, but that it induced a mystical experience that can improve psychological well-being over an extended period. In 2011, another study of 36 participants who received a single 30-milligram dose of psilocybin reported that it was one of the few medicines to elicit profound experiences of their lives, and 94 percent said it had increased their sense of well-being or improved their quality of life for 14 months after they’d taken it. Almost none reported negative changes in mood, behavior, or self-report. Ross was fascinated but still unconvinced that one could enter this realm of research as a serious scientist and not be tainted 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-1990s. “He seemed like such a nice, normal guy who lived in the suburbs,” Ross says. “Not some fringe character.” With Grob’s encouragement, Ross, Grob, 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. The 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 openness that they encountered. "They were faced with the choice between a life-saving drug or the pharmaceutical industry," he recalls.

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Liebes, Stephen Ross, and Anthony Bossis. Though that would be many years in the future, the psilocybin cancer-anxiety program, developed and supervised by Bossis, 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.

“People come out with an acceptance and understanding, an awareness that goes beyond intellect, that my life, that every life, everything equals one thing… everything. The feeling of transcendent connection to the inner world they’ve traversed. 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.

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