

Albert Hofmann

From Molecules to Mystery: Psychedelic Science, the Natural World, and Beyond

Born January 11, 1906 • Albert Hofmann was born in Baden, Switzerland. After receiving his doctorate in medicinal chemistry from the University of Zurich in 1929, he went on to a long and successful career as the director of research for the Department of Natural Products at Sandoz Pharmaceutical in Basel. Specializing in the isolation of the active principles of known medicinal plants, during the 1930s Hofmann became the world's leading authority on the study of *Claviceps purpurea* (ergot) and ergot alkaloids. Methodically creating variations of one particular ergot derivative, lysergic acid, in 1938 he synthesized the twenty-fifth in the series—lysergic acid diethylamide—which he identified as LSD-25. After animal testing yielded no significant findings, Hofmann put aside his examination of this particular compound. Five years later, however, he experienced what he later described as a “peculiar presentiment,” intuiting that there was more to LSD than he had initially suspected. In April of 1943, he resynthesized the compound, during which he inadvertently ingested a minute amount, precipitating a profound alteration of consciousness. Three days later, on April 19, he intentionally replicated the experience by ingesting 250 micrograms of LSD.

For the next three decades Hofmann played a pivotal role in the development of the nascent field of psychedelic research. Beyond his vital contributions to early LSD investigations, he also made another astounding discovery in the late 1950s, when he succeeded in isolating the active alkaloids of psychedelic mushrooms: psilocybin and psilocin. As the leading medicinal chemist of his day, his identification of these compounds from the legendary magic mushrooms was an extraordinary accomplishment, achieving a scientific breakthrough of far reaching implications.

Remaining vigorous and productive well into his ninth decade, Hofmann has had an inestimable impact on the development of psychedelic science and philosophy. Besides his many laboratory discoveries, he has

written numerous scientific articles and a variety of books, most notably *LSD: My Problem Child*; *The Road to Eleusis* (with R. Gordon Wasson and Carl A.P. Ruck); *The Botany and Chemistry of Hallucinogens* (with Richard Evans Schultes); and *Plants of the Gods: Origins of Hallucinogenic Use* (with Richard Evans Schultes).



AFTER I HAD DISCOVERED the activity of lysergic acid diethylamide, and even before we had started our research, I knew that this substance would be important to psychiatry. I participated in one of the first experiments and took a small dose in the laboratory. For me, it was a terrible experience. With all of the lab equipment and people running around asking questions and giving tests, it was a hell. I was in the world of Hieronymus Bosch, with these terrible machines and people with white coats all around. I couldn't understand what they were doing there or what was going on in the laboratory.

I felt that there must be another approach to LSD. I had the feeling in this experiment, that there was something in me under the influence of the LSD that was trying to be happy but could not. It was a feeling, as in a dream, which could not come up because of the disturbance caused by the terrible testing environment.

I realized that I needed to try it again in a very different setting. Together with a friend of mine, a German writer, I had another LSD session in my home. My wife had prepared our home for this session with beautiful flowers and fruits, and some incense. I did not take a large dose, only fifty micrograms. I had a nice experience that was not very deep, but just fundamentally aesthetic. In my mind I was away in North Africa, in Morocco. I had not been there before, but I had the feeling that it was Morocco. I saw the camels and all the Bedouins and a really fantastic landscape. It was like a fairy tale that I lived. And from this experience, I learned how important one's surroundings are. I learned that when working with substances like LSD, one must always pay attention to the set and the setting.

Do you believe it is possible to reestablish psychedelic research as a respectable scientific field?

There are many good signs. After years of silence, there have finally been some new investigations in Switzerland and Germany, and also in the United States. The European College for the Study of Consciousness had a meeting in Heidelberg, and there were many good presentations. In Heidelberg I enjoyed meeting with Rick Doblin, of the Multidisciplinary

Association for Psychedelic Studies, and professor David Nichols, of the Heffter Research Institute. Both of their organizations are doing fine work. Their approach appears to be quite different than that of some of their predecessors from several decades ago.

Are you referring to Timothy Leary?

Yes. I was visited by Timothy Leary when he was living in Switzerland many years ago. He was an intelligent man, and quite charming. I enjoyed our conversations very much. However, he also had a need for too much attention. He enjoyed being provocative, and that shifted the focus from what should have been the essential issue. It is unfortunate, but for many years these drugs became taboo. Hopefully, these problems from the 1960s will not be repeated.

What implications do psychedelic drugs have for the field of psychiatry?

Shortly after LSD was discovered, it was recognized as being of great value to psychoanalysis and psychiatry. It was not considered to be an escape. It was a very important discovery at that time, and for fifteen years it could be used legally in psychiatric treatment and for scientific study in humans. During this time, Delysid®, the name I gave to LSD, was used safely and was the subject of thousands of publications in the professional literature. Actually, I recently had visitors from the Albert Hofmann Foundation, to whom I gave all of the original documentation, which had been stored at the Sandoz Laboratories.¹ This early work was extensively documented, and shows how well research with LSD went until it became part of the drug scene in the 1960s. So, from originally being part of the therapeutic pharmacopeia, LSD became a street drug and inevitably it was made illegal. Because of this reputation, it became unavailable to the medical field. And the research, which had previously been very open, was stopped. Now it appears that this research may start again. The importance of such investigations appears to be recognized by the health authorities, and so it is my hope that finally the prohibition is coming to an end, and the medical field can return to the explorations that were forced to stop over thirty years ago.

What recommendations would you give to researchers now who want to work with these substances?

When Delysid® was distributed legally by Sandoz, it came with a little brochure that explained how it could be used. As an aid to psychoanalysis and psychotherapy, and also as a means for psychiatrists themselves to experience these extraordinary states of mind. It was specifically stated on this package insert that the psychiatrist who was interested in using Delysid® should first test it on himself.

So you felt that it was important that the psychiatrist have firsthand knowledge of the psychedelic experience?

Absolutely! Before it can be used in clinical work, it most definitely must be taken by the psychiatrist. In the very first reports and guidelines written for LSD, this was clearly stated. And this remains of utmost importance today.

Are there lessons we can learn from the past that we should be attentive to, so that such mistakes are not repeated in the future?

Yes. If it is possible to stop the improper use of psychedelics, then I think it would be possible to dispense them for medical use. But as long as they continue to be misused, and as long as people misunderstand psychedelics—using them as pleasure drugs and failing to appreciate the very deep psychic experiences they can induce—then their medical use will be held back. Their use on the streets has been a problem for more than thirty years, as the drugs are misunderstood and accidents can occur. This makes it difficult for the health authorities to change their policies and allow for medical use. And although it should be possible to convince the health authorities that in responsible hands psychedelics could be used safely in the medical field, their use on the streets continues to make it very hard for the health authorities to agree.

It appears that teenagers are once again becoming interested in LSD, MDMA, and related drugs. Currently there is the rave phenomenon, where young people take psychedelics and dance all night. Why are such experiences attractive to teenagers, and how should we respond to what they are doing?

A very deep problem of our time is that we no longer have a spiritual basis in our lives. The churches are no longer convincing with their dogma. Yet people need a deep spiritual foundation for their lives. In the past, this foundation was built on accepted religious creeds, which people believed in. But today such beliefs have less power. We cannot believe things which we know are not possible, that are not real. We must go on the basis of that which we know—that which everybody can experience. On this basis, one must find the entrance to the spiritual world. Because many young people are looking for meaningful experiences, they are looking for this thing which is the opposite of the material world. Not all young people are looking for money and power. Some are looking for a happiness and satisfaction born of the spiritual world. They are looking, but there are very few credible sanctioned paths. And, of course, one path that still delivers for young people is that of the psychedelic drugs.

Such young people have a need to open their eyes. The doors of perception must be opened. That means these young people must learn by

their own experience, to see the world as it was before human beings were on this planet. That is the real problem today, that people live in towns and cities where everything is dead. This material world, made by humans, has no real life. It will die and disappear.

I would advise young people to go out into the countryside, go to the meadow, go to the garden, go to the woods. Such places are of the world of nature, to which we fundamentally belong. It is the circle of life, of which we are an integral part. Young people must open their eyes and see the browns and greens of the earth, and the light which is the essence of nature. The young need to become aware of this circle of life, and realize that it is possible to experience the beauty and deep meaning, which is at the core of our relationship to nature.

When did you first acquire this visionary appreciation of nature?

When I was a young boy, I had many opportunities to walk through the countryside. I had profound visionary encounters with nature, and this was long before I conducted my initial experiments with LSD. Indeed, my first experiences with LSD were reminiscent of these early mystical encounters I had had as a child in nature. So, you see that it is quite possible to have these experiences without drugs. But many people are blocked, without an inborn faculty to realize beauty, and it is these people who may need a psychedelic in order to have a visionary experience of nature.

How do we reconcile this visionary experience with religion and with scientific truth?

It is important to have the experience directly. Aldous Huxley taught us not to simply believe the words, but to have the experience ourselves. This is why the different forms of religion are no longer adequate. They are simply words, words, words, without the direct experience of what it is the words represent. We are now at a phase of human development where we have accumulated an enormous amount of knowledge through scientific research in the material world. This is important knowledge, but it must be integrated. What science has brought to light is absolutely true. But this is only one part, only one side of our existence, that of the material world.

We have a body, and we know that matter gets older and changes. So therefore, since we have a body, we must die. On the other hand, the spiritual world is, of course, eternal—but only insofar as it exists in the moment. It is important that we realize this enormous difference between these two sides of our lives. The material world is the world of our body and it is where man has made all of these scientific and technological discoveries. But science and technology are based on natural laws, and the material world is only the manifestation of the spiritual world.

If we attempt to manifest something, we will have to make use of the material world. For you and I to speak with one another, we must have tongues, we must have air, and so forth. All of this is of the material world. If we were to read about spiritual things, it is only words. We must have the spiritual experience directly. And the experience occurs only by opening the mind and all of our senses. Those doors of perception must be cleansed. And if the experience does not come spontaneously, on its own, then we may make use of what Aldous Huxley called a "gratuitous grace." This may take the form of psychedelic drugs, or perhaps through disciplines like yoga or meditation. But what is of greatest importance, is that we have personal spiritual experience. Not words, not beliefs, but experience.

Projecting into the future, do you envision that there may be an accepted role within Euro-American culture for psychedelics?

Absolutely! I am convinced that the importance of psychedelics will be recognized. The pathway for this is through psychiatry, but not the psychoanalytic psychiatry of Freud, and not the limited scope of modern biological psychiatry. Rather, it will occur through the field of transpersonal psychiatry. This transpersonal view takes into account the material world *and* the spiritual world. It recognizes that we are simultaneously part of both worlds. What fits with the concept of transpersonal psychiatry is that we open our doors of perception. What transpersonal psychiatry tries to give us is a recipe for gaining entrance into the spiritual world. This fits exactly with the results of psychedelics. It stimulates your senses. It opens your perception for your own experience. How this phenomenon affects our existence in the material world can be understood through scientific research, and how we can integrate this knowledge with our spiritual selves can be achieved through the transpersonal path.

You have lived through two World Wars and a Cold War. When you look ahead into humanity's future, are you hopeful, or not?

I am hopeful for the long distant future, but for the near future I am terribly pessimistic. I believe that what is occurring in the material world is a reflection of the spiritual state of humankind. I fear that many terrible things will occur around the world, because humankind is in spiritual crisis. But I hope that over time humankind will finally learn what it needs to learn. I recently reread the compilation of lectures that Aldous Huxley gave in San Francisco in 1959, called *The Human Situation*. Everything that we are concerned with today, about the ego, consciousness, and the survival of humankind, can all be read in this book. I would like to recommend it.

What can we learn from the so-called primitive cultures who use psychedelic substances as part of their religious practices?

The most important thing is that they use psychedelics in a spiritual framework and we don't. We must learn from them, we must identify the right structures, we must find new uses. I could imagine that it may be possible to create meditation centers for psychedelic use in natural surroundings, where teachers could have experiences and train to become adepts. I perceive this as being possible, but first psychedelics will have to become available to medicine and psychiatry. And then it should be made available for such spiritual centers. Basically, all that we need to know we can learn from how the primitive people use psychedelics as sacraments, in a spiritual framework. We need such centers, but we also need the psychiatrists. These psychiatrists must become the shamans of our times. Then I think we will be ready to move towards this kind of psychopharmacopeia.

Back in the 1960s many people became frightened of LSD and other psychedelics, including many psychiatrists. Why did this happen?

They did not use psychedelics the right way, and they did not have the right conditions. So, they were not adequately prepared. Psychedelics enable a delicate and deep experience, if used in the right way. But remember, the more powerful the instrument, the more the chance of damage occurring if it is not used properly. Back in the 1960s, there were unfortunately many occasions where psychedelics were used in the wrong way, and consequently they caused injury. The great tragedy is that these valuable medicines were not always respected and not always understood. So, the psychedelics came to be feared, and were taken out of the hands of responsible investigators and psychiatrists. It was a great loss for medicine and psychiatry, and for humankind. Hopefully, it is not too late to learn from these mistakes, and to demonstrate the proper and respectful way psychedelics should be used.

NOTE

1. In the early 1950s, Sandoz began collecting LSD- and psilocybin-related articles as part of Albert Hofmann's work with these substances. For nearly thirty-five years, Sandoz gathered over four thousand documents: LSD and psilocybin journal articles from the late 1940s through the early 1980s, a few student theses, newspaper clippings, and other unique items. In the mid-1990s, the collection was given to the Albert Hofmann Foundation, and during the late 1990s, along with the Multidisciplinary Association for Psychedelic Studies and the Heffter Research Institute, they collaborated to create a digital index of the papers. In 2002, largely due to the efforts of representatives from the Erowid web site, a digital index of this entire collection was created. It can be found online at www.erowid.org/references/hofmann_collection.php.