

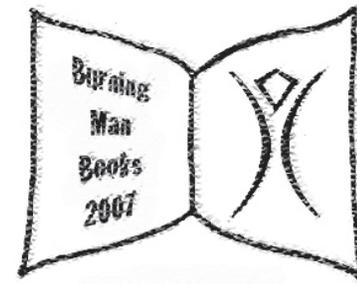
INFINITE
COINCIDENCE

A NINTH ANTHOLOGY OF WRITINGS ABOUT PSYCHEDELICS

EDITED BY RAYMOND SOULARD JR. & KASSANDRA SOULARD

*Infinite Coincidence:
A Ninth Anthology of
Writings About Psychedelics*

edited by Raymond Soulard, Jr.
& Cassandra Soulard



Number Forty-nine

**Infinite Coincidence:
A Ninth Anthology of Writings
About Psychedelics**

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For Nemo and Emma, their art and vision.

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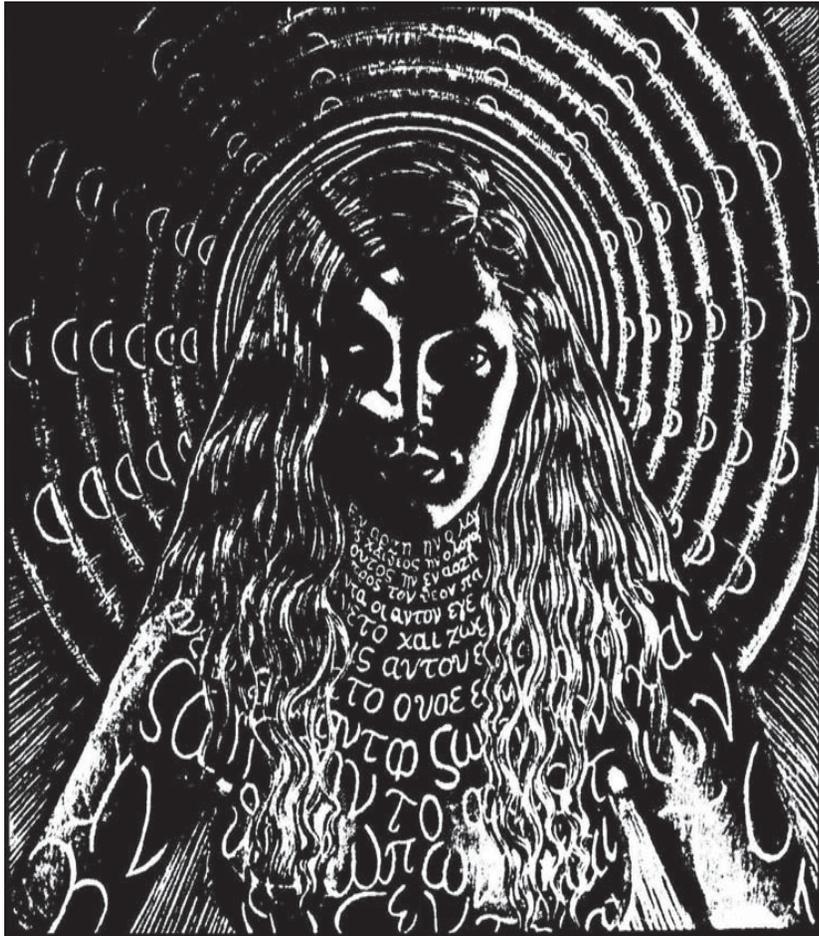
*All this automatic writing I have tried to understand
From a psychedelic angel who was tugging on my hand
It's an infinite coincidence but it doesn't form a plan*

Bright Eyes, "If the Brakeman Turns My Way," 2007.

What Are Psychedelics?

by Rick Strassman

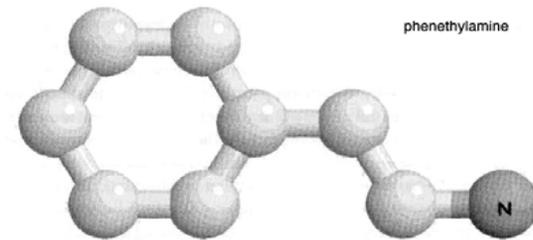
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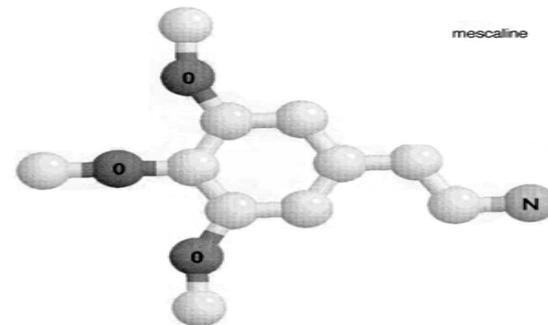
The diagrams accompanying the following descriptions show the chemical structure of various psychedelic compounds. The balls represent atoms, the most common of which is carbon, which is not labeled. “N” signifies nitrogen; “P,” phosphorous; and “O,” oxygen. Numerous hydrogen atoms are attached to other atoms in the molecules; however, there are so many that they would unnecessarily clutter up the diagram, so I have not included them here.

There are two main chemical families of psychedelic drugs: the phenethylamines and the tryptamines.

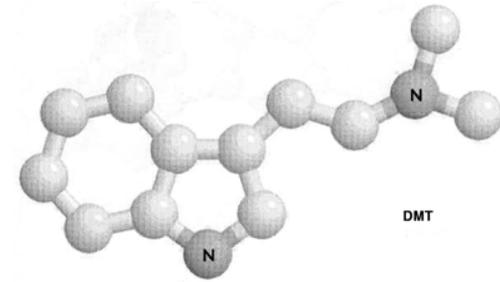
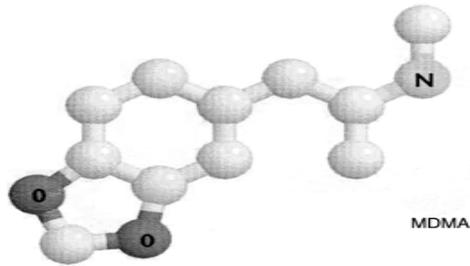
The phenethylamines build upon the “parent compound” phenethylamine.



The best-known phenethylamine is mescaline, which is derived from the peyote cactus of the American Southwest.

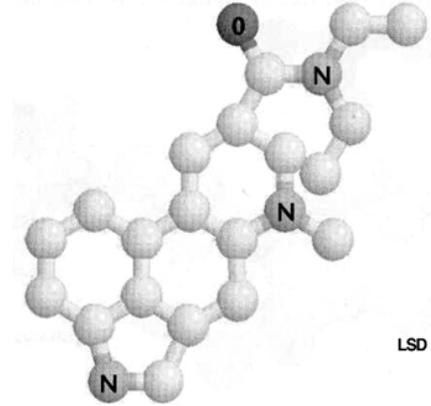
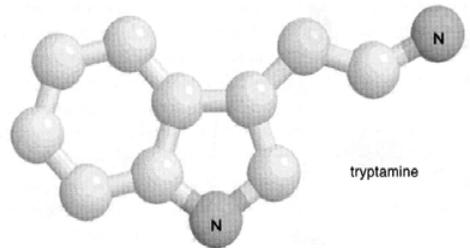


Another famous phenethylamine is MDMA, or “Ecstasy.”

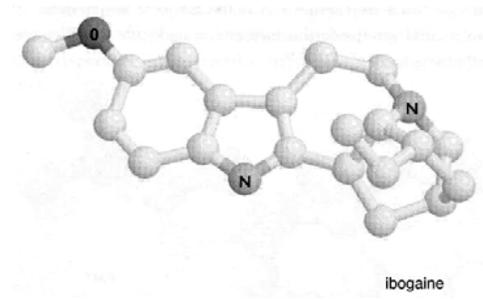
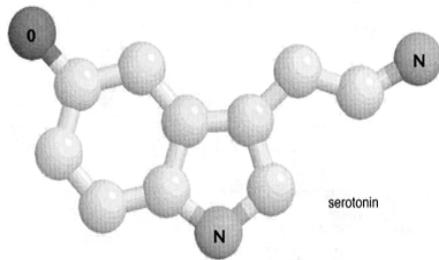


The other main chemical family of psychedelic drugs is the tryptamines. These all possess a nucleus, or basic building block, of tryptamine. Tryptamine is a derivative of tryptophan, an amino acid present in our diet.

The “grandfather” of all modern psychedelics, LSD, contains a tryptamine core, as does ibogaine, the African psychedelic with highly publicized anti-addictive properties.

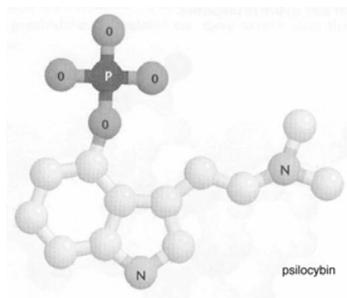


Serotonin is a tryptamine—5-hydroxy-tryptamine, to be exact—but it is not psychedelic. It contains one more oxygen atom than does tryptamine.

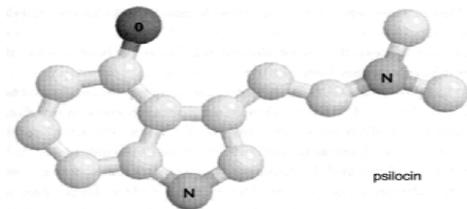


DMT is also a tryptamine and is the simplest psychedelic. Simply add two methyl groups to the tryptamine molecule and the result is “di-methyl-tryptamine”: DMT.

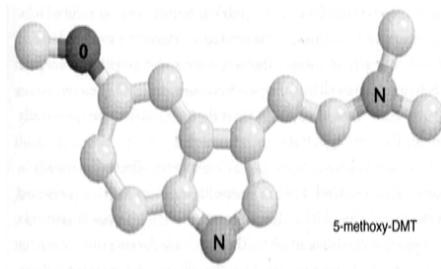
One of the best-known tryptamine psychedelics is psilocybin, the active ingredient of “magic mushrooms.”



When these mushrooms are ingested, the body removes a phosphorous atom from the psilocybin, converting it to psilocin.



Psilocin differs from DMT by only one oxygen. I like to think of psilocybin/psilocin as “orally active DMT.” Another important tryptamine is 5-methoxy-DMT, or 5-MeO-DMT. It differs from DMT by the addition of only one methyl group and one oxygen.



Many of the plants, fungi, and animals containing DMT also possess 5-MeO-DMT. As with DMT, those who use 5-MeO-DMT usually smoke it.

In addition to their chemical structure, psychedelics also possess activity. This is where chemistry becomes pharmacology, the study of drug action.

One way to describe psychedelics’ activity is by how quickly they work

and how long they last.

DMT and 5-MeO-DMT effects are remarkably rapid in onset and brief in duration. We gave DMT through a vein, or intravenously, in which case volunteers felt it within several heartbeats. They were “highest” at 1 to 2 minutes and were “back to normal” within 20 to 30 minutes.

LSD, mescaline, and ibogaine are longer-acting. Effects begin 30 to 60 minutes after swallowing them. The effects of LSD and mescaline may last 12 hours, ibogaine up to 24 hours. Psilocybin effects are slightly shorter; they begin within 30 minutes and last 4 to 6 hours.

Another more basic aspect of pharmacology is “mechanism of action,” or how drugs affect brain activity. This is a crucial issue, because it is by altering brain function that psychedelics change consciousness.

The earliest psychopharmacological experiments in humans and animals suggested that LSD, mescaline, DMT, and other psychedelic drugs exerted their primary effects on the brain’s serotonin system. Animal research, in contrast to human studies, has continued over the last thirty years and has established conclusively this neurotransmitter’s crucial role.

Serotonin has reigned as the royal neurotransmitter for decades, and there’s little sign of change. The new, safer, and more effective antipsychotic medications all have unique effects on serotonin. The new generation of antidepressants, of which Prozac is the most famous, also specifically modify the function of this neurotransmitter.

We now believe that psychedelics mimic the effects of serotonin in some cases and block them in others. Researchers are now concerned with determining which of the twenty or so different types of serotonin receptors psychedelics attach to. These multiple docking sites for serotonin exist in high concentrations on nerve cells in brain areas regulating a host of important psychological and physical processes: cardiovascular, hormone, and temperature regulation, as well as sleep, feeding, mood, perception, and motor control.

LSD: The Acid Test and Beyond

by Donovan Bess

Published in *Ramparts*, April 1966.

I. Exploring Inner Space

There are various ways of dropping out of our modern condition. One way is to visit or live in a country like Guatemala, which hangs onto its sanity by lagging a century or two behind. Another way out is psychosis although, on a long-term basis, it is reported to be too lonely. Alcoholism suits many Americans, but it is only a makeshift. Marijuana smoking is growing in popularity. Other Americans toy with religious ecstasy, but usually not in a serious way.

Viable people really want out, this time. They are willing to risk something. Some of them find revolutionary opportunities outside: they sit in, lie in, sleep in, teach in, think in. Others find the scene inside; that is the radical way, for it breaks with our tradition of looking for salvation in deeds alone.

Exploring inner space is as revolutionary as exploring outer space. You risk a lot when you ingest LSD-25 (d-lysergic acid diethylamide tartrate). A young man told me that after he swallowed 250 micrograms of this agent, “my whole self flowed down from my head and between my knees and spread out in front of me, face up, like a deck of cards. . . I think that if I had had time, I would have tried to pray, but there was nothing left in me even to pray with (or so I thought). I was scared shitless. Then, all of a sudden, I was inside an absolutely pure white light that softly held me up over an abyss. I guess in the showdown there is something that holds you up. I never cried since I was five years old, and that’s the way I cried.”

A middle-aged professor said: “I was fifteen feet above myself, looking down on myself in the chair reading a book.”

If you had a sufficient dose, and you brought yourself honestly into the experience, and you brought in your hang-ups and kept defending them, what happened to you was that you died.

But the heart keeps beating and the lungs keep breathing and eventually, somebody gets born into this vacated body. Most of these people find out for the first time what it is to be *really alone*. This discovery certainly is not special to LSD voyages. Oliver Wendell Holmes Jr., for example, has told how, as a young man he met his naked self in a session of terrible aloneness, and made this the base of a warm and abundant man.

During an LSD session, you are apt to feel like an explorer who landed on Mars with no return fuel. One San Francisco executive said that after ingesting 350 micrograms of LSD, plus about 300 milligrams of mescaline (which has a

kindly effect): “The ceiling above me became a black sky filled with universes, red, white and blue, whirling at incredible speeds and interlocking with consummate accuracy. This was a very small part of what I thought of as The System. The universes ran in perfect order through The System, faster than light flashes. I had a horrible realization that I was ceasing to exist. I looked around for my LSD guide, and I perceived him as the Manager of The System, who made it all and controlled it. A very beautiful religious experience happened to me then, that I don’t want to talk about today. I wept for all the people I have hurt in my life, including myself.

“The Manager rose from his chair and was fiddling around with some papers in the adjoining room. I was alone. There was no Manager, just myself and all *that*. That is how I found out that no man runs the universe. After I came out of it, I realized I had been acting in my life as though I could control everything around me.”

The LSD veterans say that you have no attentive, familial figures at your side, as you die. Courage is required to meet this aloneness; possibly you traverse the kind of territory Dante did in creating the *Divine Comedy*. Alan Harrington, writing of his LSD session, tells of heaven and hell, and reports that the outcome “provided an atheist with what can be described as a religious or anyway metaphysical insight, and this has not dimmed.” Medical doctors and psychologists generally describe such adventures as hallucinations. Those who have been through it say, “I don’t care what you call it—it happened.”

II. Running Smack Into Your Essence

Some of the doubters seem to be upset by LSD’s capacity for letting people make themselves warm and loving. Take the case of the California physicist who sacrificed himself for science by taking LSD. He followed the orthodox procedure of having with him a guide—a man who had been on the psychedelic journey and therefore was not alarmed by behavior that would seem eccentric to most people. The guide reported: “He went into LSD and was speechless for eight hours. . . He ran smack into his *essence* and he was so overwhelmed and so amazed and disconcerted about what this brought home to him that he was completely unable to communicate.” When the physicist’s wife and daughter showed up at the end of the session, this man wept. He had never cried before, apparently, and he cried quietly for a long time. He was taken to a motel with an LSD-sitter. After a few hours, he sent for a colleague from his office, “threw his arms around this guy and burst into tears.”

Such conduct does not invite those of us who think it may be bad taste to embrace in the style of the Russians in novels. We also have a vague fear that the LSD movement might convert the country into one vast, schmaltzy Chautauqua meeting. Strong human emotion seems to emerge almost invariably

after the cosmic aloneness of a session, and the habit of physical touching continues with these returned LSD travelers. It is hard for us to approve such touching because we have developed a non-contact style of living. Coldness makes an American seem more successful; warmth indicates an indifference to money. If you sit down beside someone on the bus, he is scared that your leg or arm might contaminate his body because you are supposed to be a stranger. You may be merely an un-introduced friend or lover.

What most people temporarily lose, during the LSD session, is the ego: the part that is thought to direct, supervise and plan for the personality; the part that considers the individual body to be private property. The ego is possessive. But under LSD the ego dies—so it is not so hard afterward to suffer little deaths, such as being embarrassed when your body gets touched in public.

The psychedelic death is especially lonely—lonelier, perhaps, than for the soldier who physically dies in a Vietnamese field hospital. He at least has the comfort of cuddling up in the image of his mother. Under LSD you have no such bourgeois comfort; you have no familial figure at all. You die grown up. If you can hang onto that, afterward, you can offer society some adult values. You came to this point in a rite of passage as explicit, as terrible and as meaningful as those rites used in aboriginal Australia.

There are not many rites of passage left. At puberty, American boys are not incarcerated for hours of terror with the men, to help them cross the sexual frontier into manly responsibility and privileges. The pain has been taken out of childbirth and the virginity out of brides. Physical dying still offers a ritualistic opportunity, but Americans take little advantage of it. President Kennedy had a feeling for ritual; he was studied by the young, who are trying to hack out their own passages, without rites, to some frontier beyond the horrors promoted by the so-called adults of the Johnsonian era.

III. Me Instead of "Mother"

Young people accept LSD as a fact of the times. They are fed up with being latent human beings. The purpose behind their experiments is to find the humanity they were cheated of by *ersatz* education, electronic conditioning, and living in families led by synthetic productions labeled "mother" and "father." The world they are seeking was identified tentatively by William James after he got high on nitrous oxide (laughing gas). He concluded that "our normal waking consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different." Many people try to penetrate this filmiest of screens at their local Pentecostal church. But in the past decade, even members of the upper-class churches, including the Episcopalians ("God's frozen people"), have developed Pentecostal symptoms. Some of them

gather in secret, like early Christians, to "speak in tongues," in an unintelligible language they believe to be of divine origin.

Older people seem to prefer to try to deal with the quality of modern life by addiction to alcohol or television. Younger people prefer more awareness. You don't have to ingest LSD or peyote or psilocybin or belladonna to have your mind expanded. Last spring, at a symposium on LSD at the Esalen Institute of Big Sur Hot Springs, on the California coast, a young pediatrician rose to declare: "I have never taken LSD, but it's changed my whole life." He had "turned on" only by listening to the rapt talk of those who had crossed the psychedelic frontier, and by being gazed at from eyes made big-seeming and luminous from having seen with extra dimension.

The innocents at this symposium were warned that they would have to undergo psychological shock treatment if they wished to break through to "some kind of self beyond our selves." Richard Marsh, a San Francisco State College professor who had a series of LSD trips, told them that during the experience that hell rages relentlessly as long as a man's ego refuses to give way to what *seems* to be a threat to his sanity. He illustrated this by telling how a Zen student held onto a shrub to keep from falling off the side of a steep cliff and suffered terribly until, finally, it was not endurable to hold on any longer. "He let go," said Marsh, "and fell three feet."

Nicolas Berdyaev has written (in *The Divine and the Human*) that in "the new revelation of the Holy Spirit. . . consciousness passes into super-consciousness and a world is revealed which lies beyond the sphere in which subject and object fall apart." This is an inadvertent definition from a deeply religious man of a much-reported experience of unity while under the influence of LSD. They usually return to the workaday world with a distrust of words—which seem quite unable to retrieve the values perceived during the trip. When they try to use words about it, they hear themselves being called "kooky"; or if they are taken seriously, they find that the words they choose merely confuse or annoy. "I never try to tell people about it any more," said one traveler from inner space. "Can you tell a blind man what a sunset really is? Can you explain in words what lobster tastes like? What can you say about love to a man who has never been in love?"

The plight of the returned travelers can be summed up in this statement by one of them:

"Suppose I dig Beethoven's 15th Quartet—all the nuances, the phrases that are exquisite to the edge of torture, the fern-filled, adagio recesses, the tender, demonic violin screaming that drives you wild, and suppose I dig William Blake and Miles Davis and Giotto and the chess play of Reshevsky and the sublime arc of Willie Mays' arm throwing to home plate. Now suppose I got this way all at once in six hours, by taking LSD.

"Suppose I have a wolfhound who loves me, and I love him, and we

have this great and simple love for one another.

“Now, you are that wolfhound if you haven’t had the LSD experience that I had. Your dog life is pretty elegant, and you really are warm toward me, but you are so limited. Suppose you were talking wolfhound and you asked me about my trip? I would have a hell of a time trying to give you any sense of the meaning of any one phrase of the 15th Quartet. The worst thing is, you will begin to dislike me a little—you can’t figure out why I have these far-away lights in my eyes. I am loving you more than I ever did, but you don’t believe me, because you’re afraid of something in me that lives in those far-away lights a great deal.

“I try to tell you that you, too, must do what I did, taking LSD, so that we can come in level, but this makes you so mad that we just stop being friends at all.

“It sounds snobbish, doesn’t it? It’s not. It’s democratic. Join us!”

This is the foundation of LSD evangelism. Once you come upon truths privately that you cannot make public, it is tempting to try to convert non-believers. The prophet for this movement is Aldous Huxley, whose *Doors of Perception* has interested thousands of persons in the mescaline experience. He apparently had a good deal more consciousness to expand in the first place, so his experience had fine quality. Timothy Leary and Richard Alpert, two young Harvard psychology professors, have taken over the psychedelic preaching job. Leary sometimes writes of LSD as though it were a lover. He and Alpert unwisely allowed Harvard students to imbibe LSD in non-clinical settings, to the great irritation of the university. The two professors refused to make their research look respectable: i.e., to behave like rat psychologists. They behaved more like W. B. Yeats and George Moore at an Abbey Theatre rehearsal. Harvard got rid of them.

Leary and Alpert have published a manual called *The Psychedelic Experience*, with instructions about as explicit as those in the booklet you get with your hi-fi components. Follow the instructions, and you are guaranteed “liberation-enlightenment.” You are guided into seven levels, such as “for the influence of thought,” “for the sexual vision,” “for choosing a post-session personality.” Presumably you are furnished with a guide who has practiced locating the right page in a hurry. The manual goes so far as to instruct you on how to “obtain Buddhahood in the Central Realm of the Densely Packed.”

IV. Give Daddy a Chemistry Set

Willis Harman, a Stanford University professor who has had nine years’ research experience with the drug, says LSD is wildly unpredictable. He says the psychedelic agents have been observed to produce hallucinations, to produce a psychotic-like condition, to aid psychotherapy by facilitating recall of early-childhood happenings and uncovering repressed emotions, as well as to open gates to mystical or religious experiences. But the professor adds: “Which of

these effects predominate depends upon the expectations of the subject, the qualities of the persons present with him when he takes the drug, and on the nature of the setting.”

LSD was developed in 1943 in Basel, Switzerland, by Dr. Albert Hofmann, who had been working on a new alkaloid compound of lysergic acid derived from ergot, a fungus known to grow on rye and wheat. Since then, there has been considerable medical research in England and some other countries, but in the United States, medical leaders have tried to avoid research that might risk a loss of dignity or prestige. Dr. Roy R. Grinker, Sr., chief editor of *Archives of General Psychiatry*, recently invoked the word “evil” in connection with LSD. While the doctors, psychologists and public health officials view with alarm, the nation’s youth are engaged in massive ad hoc research on themselves. They have moved with enthusiasm into this low-budget approach to transcending—now and then, at least—the American way of life of 1966.

The Food and Drug Administration has put LSD in the category of “a dangerous drug.” In the wrong hands, LSD can indeed be dangerous. A 10-year-old boy in New England got hold of a sugar cube saturated with LSD, ate it, and sat for most of a week in front of a TV set that was not connected electrically. He saw a series of programs that existed only in his mind. He was kept out of school for another week, and he had trouble reviving what little ego he had scraped together in his young life. Recently a Boston College student bought an LSD-saturated sugar lump near Harvard Square (which still is the LSD capital of the USA). He went into a temporary schizophrenic state in which he perceived his arms and legs as separated from his torso.

The hazards are minimal, though, when psychedelics are administered under medical supervision, according to Dr. Sidney Cohen, chief psychiatrist at the Veterans Administration Hospital in Los Angeles. After surveying all the clinical work done with LSD so far, he found a suicide rate of one patient per 2500. Psychotic reactions lasting more than 48 hours after ingestion totaled less than two for each 1000 patients, and only two for each 2500 normal volunteers.

LSD is easier to manufacture than corn whiskey was during Prohibition—and goes a lot further. Thomas G. Alexander, an FDA chemist, reported last year that after studying an article in the *Journal of Organic Chemistry*, he went to his laboratory with some ergotamine tartrate and lysergic acid and, after about 40 hours’ work, came up with a fairly good facsimile of Sandoz’ premium-quality LSD. Dr. Henry B. Bruyn, director of the student health services for the University of California’s Berkeley campus, says: “Anybody who has mastered a Gilbert Chemistry set can make LSD.”

Primitive chemists through the centuries have developed more than a dozen psychedelic compounds. Western man, if he works at it, probably can find something psychically explosive in the weeds of any vacant lot.

People who swill down a few hundred micrograms of LSD at a party to

prove that they're not chicken, sometimes show up at emergency hospitals with schizophrenic symptoms. Some of the temporarily confused drug-takers get tucked into psychopathic wards, where they can suggest themselves into a real psychosis. Dr. Bruyn has drilled his psychiatrists in counter-LSD measures. "My guess," he says, "is that many hospital emergency rooms and physicians are unfamiliar with the quality of the acute panic that can occur with the use of LSD. As a result, the individual sometimes is left in his terrifying emotional state for an unnecessarily long period of time." He has instructed his staff to "dissolve" the panic state by giving an intramuscular injection of 25 milligrams of Thorazine.

V. *Letting Go Your Ego*

Although it is still not illegal to use LSD, it is illegal to sell it. If LSD is outlawed, as marijuana is, the FDA agents will have some picturesque enforcement problems. LSD is so potent a smuggler can get \$10,000 worth of it into a human vagina. But why smuggle when good home brew is plentiful? Perhaps the Federal D-men have to get injunctions to stop the manufacture and sale of Gilbert Chemistry sets.

Some of the LSD people have a tendency to form a subculture. A number of them have settled in primitive parts of Mexico, where they believe they do not have to be "game players" in the American sense. A typical result of one or more LSD sessions is to feel all the persons on the earth are of one family. Men love other men without fear of somebody's label of homosexuality, and they have pleasant experiences of loving certain women without feeling specifically sexual about it.

The International Foundation for Advanced Study in Menlo Park, California—one of the few places where psychedelic therapy is offered in the United States—has devised exercises for testing how good a man is at letting go of the ego. Subjects are broken in with inhalations of 70 per cent oxygen and 30 per cent CO₂, "sufficient to cause transient dissociation without loss of consciousness." This works so well, according to another staff member, that one patient even recalled he had been born with the umbilical cord wrapped around his neck. (He had had the unconscious notion that his mother had tried to strangle him.) The man's mother acknowledged to Center investigators that the birth had been like this. Her son got well.

James Fadiman, a psychologist on the center's staff, explains why a person needs a guide who has had the experience. "It is as though you have visited Paris in the past and now the patient is visiting Paris. You have a map of the city in your head and when he gets confused or lost, you ask him, 'Where are you?' Figuratively speaking, he replies: 'I am on an island.' You might say to him, 'Is there a big church there with twin towers?' If he says 'yes' you realize he has arrived at the Ile de la Cité, and you can help him locate himself. LSD brings up

that kind of situation."

The limited LSD therapy tried out in the United States and Canada has shown some hopeful results in the treatment of alcoholism and narcotic addiction. In the field of individual therapy, where personal growth is the major goal, England is ahead of this country. Experiments there have produced what appear to be astonishing feats of recall. Adults retrieve repressed scenes of horror from the Battle of Britain—and shed unnecessary anxiety that was rooted in such repression. Dr. Frank Lake, who used LSD in his psychiatric practice in Nottingham, cites a number of birth recall cases. One patient had suffered from a pain in his left shoulder, with no organic cause known. He underwent the rebirth experience frequently reported from LSD sessions, and felt "tremendous anxiety" because he thought his left arm was being torn off. At Dr. Lake's suggestion he asked his mother about his delivery. She told him he had been born with one arm raised and pressed against his head. (The experience of giving birth to a baby while under LSD was reported by a California man. The emerged child, he said, was his renewed self.)

VI. *Her First Orgasm*

The most radical known LSD investigations have been conducted by Dr. Stanislav Grof of the Psychiatric Research Institute in Prague. He gave in-patients heavy doses of the drug *every week* for up to 35 weeks. In the later stages of their treatment, Grof said, his patients had "pleasurable experiences—mystic, religious, transcendental, esthetic. Their low self-esteem is raised. They feel a oneness with other people, with nature. They are able to accept themselves, and others, and the world." One of his woman patients had tried conventional psychotherapy for eight years to overcome her frigidity. After repeated LSD sessions, she relived moments at age eight when her stepfather raped her and, in a transcendent climax, experienced an orgasm in the consulting room. (There is a clinic at Washington University in St. Louis which may want somebody to look into this. The clinic handles frigid wives and impotent husbands who have remained sexually incomplete despite six months of psychotherapy. A medical doctor and a psychologist coach these husbands and wives on physiological techniques that result in orgasms during laboratory intercourse.)

The U.S. Public Health Service has been slow to fund such projects. The administrators, like the AMA bureaucrats, prefer to play it safe. How would it look if somebody killed himself as the result of an LSD journey underwritten by taxpayers' money? It is as if the National Science Foundation decided to avoid research on the use of dynamite on the theory that an accident would cause excessive public criticism. Professor Harman says that most approved research projects call for the classic type of graduate-student volunteer—a person who generally has a psychological set against LSD. "Anyone with an interest in taking

it,” Harman says, “is immediately disqualified. They get paid to submit to this ‘awful torture’ in the name of science.” It is not surprising that some of these unfortunate volunteers grow paranoid or psychotic, and some have been taken to mental hospitals after their LSD experience.

Probably the United States Army performs more experiments with psychedelic drugs than any other organization in the country, according to Ralph M. Goldman, a political scientist who began a study of possible psycho-chemical weapons while on the faculty of the University of Chicago three years ago. “With the development of effective delivery systems,” he says, “entire armies, communities, and even nations could be put out of commission for two or three days.” Apparently you make a “delivery” when you get enough LSD into the water supply of an enemy city or military base. It is tasteless and odorless, so as a powder it could also be mixed with the base’s sugar supply.

The Army Chemical Corps has expressed its interest in such drugs in a fact sheet in which it observes that “if a man’s ability to integrate time and distance could be impaired, it could seriously interfere with his handling of a jet, or firing of a gun from, or at, a moving tank.” The Corps even seems to have faced the disturbing thought that LSD might infiltrate high commands. Certainly some curious tactical orders would be given if somebody slipped 300 micrograms of this agent into the coffee of a field general.

The Corps fact sheet is quite taken with the case of the cat that lapped up a heavy dose of LSD in her milk. When she was confronted with a laboratory mouse, she got badly scared. The Corps goes on to report, moreover, that in other experiments, turned-on cats—far from fearing the mouse—“appear to show a deep affection for it, and mother it as a kitten.” Weapons that create love between natural enemies certainly are not dependable.

VII. *A Head-Shrinker’s Confession*

Any psychiatrist can request LSD for use with his patients, but few do. The psychiatrist is too insecure socially to be a pioneer in such work: he has barely emerged from his “head-shrinker” status. Why should a psychiatrist stick his neck out for the sake of therapeutic inquiry? Somebody might accuse him of practicing alchemy. And the psychiatrists are not soothed by reading what some of the LSD travelers report. Take the case of Wilson van Dusen, who reported in 1961, as a psychologist at the Mendocino State Hospital in California: “I spent my first three LSD sessions discovering my life was arranged in layers. The outermost and most superficial was my position and concerns as a psychologist. These seemed unimportant. The papers on my desk were nonsense. Status-striving was no more meaningful than walking up hill.” Where would our civilization be if we took such an attitude? No professional man is playing fair when he publicly confesses that his work is superficial. Certainly van Dusen’s put-down of status-

striving is a bit negligent, considering that part of the psychotherapist’s job is to get the patient “adjusted” to the society in which he lives.

Psychedelic therapy, according to an article in the *Journal of Neuropsychiatry* in 1962, “places major responsibility clearly on the patient and tends to discourage any sort of long-term dependency or transference relationship with the therapist.” This doesn’t sit well with all psychoanalysts. At a recent Big Sur symposium on LSD, a young mother told how her Jungian analyst had opposed her plan to take the LSD trip. “The Jungians,” she said, “think it is better to do it yourself, even if you have to spend your life suffering. I had one LSD experience and, aside from childbirth, it is the most significant thing that has happened in my life.” To complain that the LSD route is “unnatural” (and therefore wicked) is like saying you are cheating if you let the doctor give you tranquilizers or morphine when you are dying of cancer. To complain that LSD experiences have been induced only by suggestion is like telling Robert Graves that the sublimities that come to him in poetic trance are counterfeit.

. . . and beyond

VIII. *“I Fly, I Fly!”*

LSD is only the beginning. Experimenters are hard at work on new ways of expanding the feeble consciousness of mid-20th century man—ways that make LSD seem *derrière garde*. One of the more spectacular is yagé (pronounced yah-hey), a drug made by boiling stalks of the Banisteriopsis jungle creeper with leaves of another plant.

Judging from the accounts of sophisticated Chileans who took the drug, it makes you behave as a Cro-Magnon man might, if he had behind him, as a remote memory, the refinements and habits of a modern city-dweller. With LSD the ego, even as it dies and is reborn, is central to the action. Yagé, acting with the authority and weight of a Titan’s hand, simply lifts you out of your ego, and sometimes out of your species. You wrestle with wild beasts, and at times you *are* a beast or a serpent or a huge bird. Sometimes you are a clairvoyant, seeing persons enormously distant from you. Sometimes you behave like an astral body. Or, if you find yourself in a Pleistocene environment, you feel quite at home there, and it is a relief, after years of trying to believe that freeways and other modern amenities are for the good of Man. A Chilean engineer who took a sizeable dose of yagé, cut with mescaline, reported: “I was turning into a winged being. . . My wings were growing and as they did, my feeling of freedom increased, as if I had been imprisoned during my entire lifetime, and I suddenly had organs that made it possible for me to expand. . . I timidly began to move my wings. I felt the movements of flying clearly: how the wing rested on the resisting air, and how a wave of motion went from the tip to the other end, permitting me to lift the

body. And I said, 'I fly, I fly!' And I felt the air coming into my mouth, caressing my whole body, and saw the perspective of the earth." The absolutism of this experience is typical to yagé; all the senses are mandated into the visions. What happens during the eight hours of its effect is remembered as though it were a conventional part of past happenings.

Yagé (or ayahuasca, or caapi) was discovered in 1956 by Michael J. Harner, an American anthropologist, while doing field work among the Jivaro Indians in the Amazon. It was introduced to modern society by Dr. Claudio Naranjo, a Chilean psychiatrist who visited the jungles of southeastern Colombia with a batch of LSD and told the Indians: "I am a shaman (tribal doctor-priest) and I have here magic that I would like to trade for some of your magic." Potions were exchanged, and Naranjo returned to Santiago to begin a series of experiments with his patients, most of whom had previous experience with LSD.

Dr. Naranjo reports that although the yagé subject usually appears to be in a self-contained reverie, his condition "neurologically is more like a state of alertness, in that the EEG recordings show the disappearance of alpha waves when the patients have their eyes closed." The mind is immensely active.

Frequently there are myth-like engagements with wild beasts or large serpents. "At first, many tiger faces," said an attractive, 25-year-old Chilean magazine writer. "Panthers and all kinds of cats. Black and yellow. Then *the* tiger. The largest and strongest of all. I know (for I read his thoughts) that I must follow him. I see the plateau. He walks with resolution in a straight line. I follow, but on reaching the edge and perceiving the brightness, I cannot follow him. . . Above the luminescence rises a statue of the Virgin with the Child in her arms, ascending from the hole into the sky." The introduction of the Virgin into this scene surprised the patient: she had for several years ceased to practice her Catholic religion. Now she wears a cross around her neck.

IX. In the Belly of a Serpent

Sometimes the yagé engagement is as elementary as a medieval dragon fight. Witness the experience of a middle-aged psychologist: "I struggled for one very bad hour with a boa constrictor. I must have sweated away a quart of liquid. Finally I had to give up, and I prepared to be swallowed. I went into his belly, and found myself not only alive, but comfortable, and I felt great beauty in being in the serpent's rhythm and moving in his way, undulating over the earth. After a while I merged with his belly lining, and at least I became that serpent. The marvelous, slow rhythm of his great muscles was my own rhythm." This man's yagé experience, given under the supervision of Dr. Naranjo, led him to take necessary concrete steps in his life that his neurosis had prevented him from doing. Neither conventional nor LSD therapy had been able to bring him to this point.

Even metaphysical experiences under yagé seem to be more concrete. A woman subject reported: "My soul is a sphere of some seven centimeters in diameter—pure energy; and it rotates on itself at such enormous speed that it would be the same if it didn't." A 21-year-old male journalist reported: "If I was going to leave the body, that didn't worry me. I knew that I existed in essence, and this was the ideal state, with no skin, no liver, no resentments, atemporal." Death is experienced frequently. A man saw how his body was "carried across fields of rice in Korea or China, on a stretcher, between two men, coolies perhaps, and I could see my face, once more from the outside and very close. It was like tanned leather. . . covered with droplets of blood."

Seven of the 32 urban Chileans who took yagé in Santiago had intimate experiences of tigers, jaguars and leopards, very much like those reported by the Amazon Indians in their routine use of the brew. None of them had ever been near a jungle. Dr. Naranjo believes that, with his patients, the beasts often stood for "a fluid synthesis of aggression and grace and a full acceptance of the life-impulse *beyond moral judgment*." In therapy, he tries to persuade his patients to pursue their encounters with animals, because he believes these are creative forces within them. He said one man told him, "I experienced what a tiger feels when looking at its prey." This possessed man, during his yagé experience, stared hard from hungry eyes at the jugular vein of a woman physician in attendance. She fled from the room.

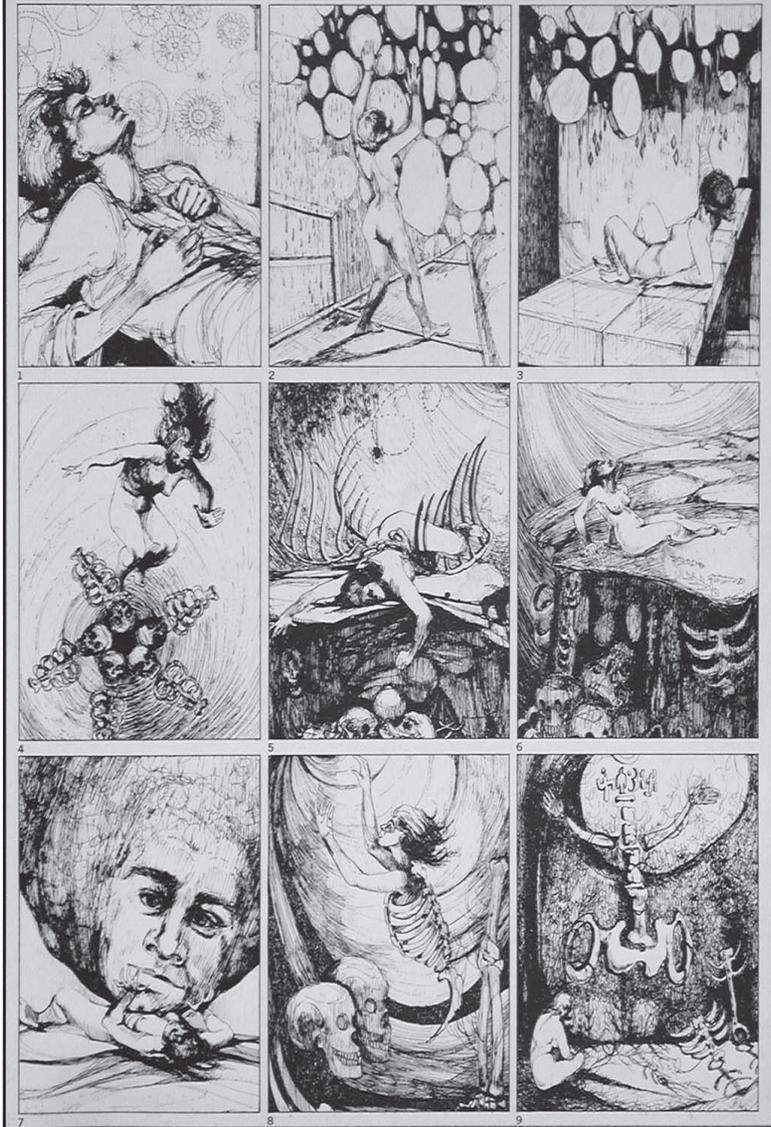
Yagé, when used in "a cocktail" with LSD, can evoke simultaneously the archetypal experiences of the newer drugs, and the personal recall associated with LSD. One 24-year-old Chilean man who mixed the two agents reported seeing "a huge gate behind which were terrible secrets. I saw a gigantic crab's leg move over the top of the gate, and heard a terrible fight between two giant crabs. I was frightened and became like a two-year-old. I saw the gate now at the head of a long, long flight of white marble steps. I walked upward, seeing that the gate was open.

"I saw my mother and father in bed together, and I saw on my mother's face all the experiences she had had in her secret sexual world. This was terrible and wonderful for me, for in my house sex had always been non-existent."

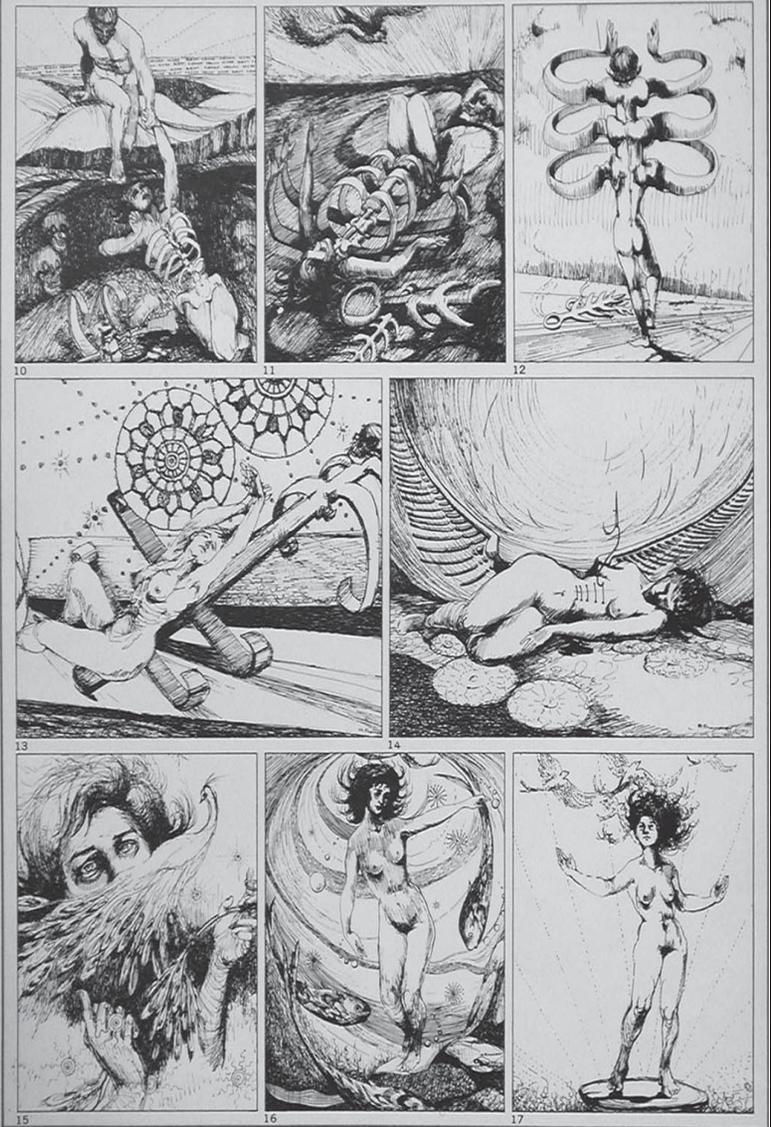
Yagé, like the old-fashioned psychedelic drugs, has alkaloid bases. It can be synthesized. It is hard to see how America's adventurous young chemists will not soon have it in general use on the nation's college campuses. Meanwhile, researchers in Hawaii have found that the seeds of a common tropical wood rose (*argyrea nervosa*) are perhaps the best plant source yet discovered for their various alkaloids—new and perhaps more potent tools for exploring the uncharted regions of the mind.

It was he who was thought to lead them on their way: through him,

LSD/Journals of an Artist's Trip by *Harriette Frances*



LSD/Journals, *continued*



Solving the Eleusinian Mystery

by Carl A. P. Ruck

Chapter Three, *The Road to Eleusis:
Unveiling the Secret of the Mysteries, 1978.*

We are told that there once was a young Athenian who was much taken with the beauty of a courtesan in one of the brothels of Corinth. His attempts to repay her favors in some special way were continually frustrated by the madam, who insisted upon confiscating all private gifts. To give the girl something that would be hers alone, he hit upon the idea of offering her an immaterial, and thereby inalienable, benefit: he would pay the expenses for her introduction into the blessed community of those who had witnessed the secret religious ceremony practiced at the village of Eleusis. That sight was generally considered the culminating experience of a lifetime. And so she was allowed to travel to Athens, together with the madam and a younger girl from the brothel. The lover lodged them all with a friend while they prepared themselves by the preliminary rites. The full sequence would require more than half a year's residence in Athens. Then at last, amidst the throng of thousands who each autumn for the first and only time made the pilgrimage, they too walked the Sacred Road, crossing the narrow bridge that still today can be seen, now submerged in the brackish waters of the swamp that once divided Athens from the territory of its neighboring village, some fourteen miles distant, a region sacred for its special affinity with the realm of departed spirits, who were thought to insure the fertility of the adjacent plain of grain. The procession of pilgrims symbolically passed the frontier between worlds, a momentous journey characterized by its difficulty, for the bridge was expressly constructed too narrow for vehicular traffic and ahead, just as they arrived at the village itself, it was traditional that they would be obscenely insulted by masked men, who lined the bridge across the final boundary of water.

Each year new candidates for initiation would walk that Sacred Road, people of all classes, emperors and prostitutes, slaves and freemen, an annual celebration that was to last for upwards of a millennium and a half, until the pagan religion finally succumbed to the intense hatred and rivalry of a newer sect, the recently legitimized Christians in the fourth century of our era. The only requirement, beyond a knowledge of the Greek language, was the price of the sacrificial pig and the fees of the various priests and guides, a little more than a month's wages, plus the expense of the stay in Athens.

Every step of the way recalled some aspect of an ancient myth that told how the Earth Mother, the goddess Demeter, had lost her only daughter, the maiden Persephone, abducted as she gathered flowers by her bridegroom, who was Hades or the lord of death. The pilgrims called upon Iakchos as they walked.

they would summon back the queen Persephone into the realm of the living. When at last they arrived at Eleusis, they danced far into the night beside the well where originally the mother had mourned for her lost Persephone. As they danced in honor of those sacred two goddesses and of their mysterious consort Dionysus, the god of inebriants, the stars and the moon and the daughters of Ocean would seem to join in their exultation. Then they passed through the gates of the fortress walls, beyond which, shielded from profane view, was enacted the great Mystery of Eleusis.

It was called a mystery because no one, under pain of death, could reveal what happened within the sanctuary. My colleagues and I, working from hints in numerous sources, have ventured to go beyond that forbidden gate.

Ancient writers unanimously indicate that something was seen in the great *telesterion* or initiation hall within the sanctuary. To say so much was not prohibited. The experience was a vision whereby the pilgrim became someone who saw, an *epoptes*. The hall, however, as can now be reconstructed from archaeological remains, was totally unsuited for theatrical performances; nor do the epigraphically extant account books for the sanctuary record any expenditures for actors or stage apparatus. What was witnessed there was no play by actors, but *phasmata*, ghostly apparitions, in particular, the spirit of Persephone herself, returned from the dead with her newborn son, conceived in the land of death. The Greeks were sophisticated about drama and it is highly unlikely that they could have been duped by some kind of theatrical trick, especially since it is people as intelligent as the poet Pindar and the tragedian Sophocles who have testified to the overwhelming value of what was seen at Eleusis.

There were physical symptoms, moreover, that accompanied the vision: fear and a trembling in the limbs, vertigo, nausea, and a cold sweat. Then there came the vision, a sight amidst an aura of brilliant light that suddenly flickered through the darkened chamber. Eyes had never before seen the like, and apart from the formal prohibition against telling of what had happened, the experience itself was incommunicable, for there are no words adequate to the task. Even a poet could only say that he had seen the beginning and the end of life and known that they were one, something given by god. The division between earth and sky melted into a pillar of light.

These are the symptomatic reactions not to a drama or ceremony, but to a mystical vision; and since the sight could be offered to thousands of initiates each year dependably upon schedule, it seems obvious that an hallucinogen must have induced it. We are confirmed in this conclusion by two further observations: a special potion, as we know, was drunk prior to the visual experience; and secondly, a notorious scandal was uncovered in the classical age, when it was discovered that numerous aristocratic Athenians had begun celebrating the Mystery at home with groups of drunken guests at dinner parties.

To identify the Eleusinian drug, we must first find the pattern of meaning

that underlies the Mystery. The sacred myth that narrates the events involved in the founding of the Mystery is recorded in the so-called Homeric hymn to Demeter, an anonymous poem dating from the seventh century b.c., seven centuries later than the probable date of the first performance of the ceremony. In it we are told how the goddess Persephone was abducted by her bridegroom Hades to the realm of the dead when she picked a special hundred-headed *narkissos* while gathering flowers with the daughters of Ocean in a place called Nysa. All Greek words ending in *-issos* derive from the language spoken by the agrarian cultures dwelling in the Greek lands before the coming of the migrating Indo-European Greeks. The Greeks themselves, however, thought that the *narkissos* was so named because of its narcotic properties, obviously because that was the essential nature or symbolism of Persephone's flower. The marital abduction or seizure of maidens while gathering flowers is, moreover, a common theme in Greek myths and Plato records a rationalized version of such stories in which the companion of the seized maiden is named Pharmacia or, as the name means, the "use of drugs." The particular myth that Plato is rationalizing is in fact one that traced the descent of the priesthood at Eleusis. There can be no doubt that Persephone's abduction was a drug-induced seizure.

That fact has never been noticed by Classicists, despite its absolute expectability in terms of what we know about the religions of the agrarian peoples who preceded the Greeks. Those religions centered upon the female's procreativity and the cyclical rebirth and death of both plants and mankind. She was the Great Mother and the entire world was her Child. The essential event in those religions was the Sacred Marriage, in which the priestess periodically communed with the realm of spirits within the earth to renew the agricultural year and the civilized life that grew upon the earth. Her male consort was a vegetative spirit, both her son who grew from the earth and the mate who would abduct her to the fecundating other realm as he possessed her upon his death. When the roving Indo-Europeans settled in the Greek lands, their immortal Father God of the sky, who was Zeus, became assimilated to the pattern of the dying and reborn vegetative consort of the Great Mother. There are indications of this assimilation in the traditions about the Zeus who was born and died in Crete. Furthermore, archaeological remains from the Minoan–Mycenaean period of Greek culture frequently depict visionary experience encountered by women engaged in rituals involving flowers. The priestesses or goddesses themselves occur as idols decorated with vegetative motifs, accompanied by their serpent consort or crowned with a diadem of opium capsules. Moreover, the myths that narrate the founding of the various Mycenaean citadels show, as we might expect, recurrent variations upon the Sacred Marriage enacted between the immigrant founder and the autochthonous female in ecstatic contexts. Most interesting among these are the traditions about Mykenai (Mycenae) itself, for it was said to have been founded when the female of that place lost her head to the male of the new dynasty, who

had picked a mushroom. The etymology of Mykenai, which was recognized in antiquity but has been repeatedly rejected by modern scholars, is correctly derived from Mykene, the bride of the *mykes* or mushroom. Fungoid manifestations of the vegetative consort in the Sacred Marriage can also be detected in the symbolism of the founding fathers at other Mycenaean sites, perhaps because that particular wave of immigrants brought knowledge of the wild and untameable mushroom with them on their movement south into the Greek lands. At Athens in the classical period, the ancient Sacred Marriage was still celebrated annually by the wife of the sacral head of state: in the month of February, she would unite with the god Dionysus.

It was as Dionysus that the Zeus who had been assimilated as consort to the Mother Goddess survived into the classical period. His name designates him as the Zeus of Nysa, for Dios is a form of the word Zeus. Nysa was not only, as we have seen, the place where Persephone was abducted, but also the name for wherever was enacted that same nuptial encounter involving the passion of Dionysus' birth and death. When he possessed his women devotees, the maenads or bacchantes, he was synonymous with Hades, the lord of death and bridegroom to the goddess Persephone. The maenads, like Persephone, also gathered flowers. We know this because their emblem was the *thyrsos*, a fennel stalk stuffed with ivy leaves; such hollow stalks were customarily used by herb gatherers as receptacles for their cuttings, and the ivy that was stuffed into the maenads' stalks was sacred to Dionysus and reputed to be a psychotropic plant.

Dionysus, however, could possess his ecstatic brides through the agency of other plants as well, for he was the vegetative consort residing in all manner of inebriants, including apparently certain of the fungi. The stipe, by analogy to the maenads' emblem, was also called a *thyrsos*, with the mushroom's cap substituted for the psychotropic herbs. Dionysus himself was born prematurely in the mystical seventh month during a winter snowfall when his celestial father struck his earth bride Semele at Thebes with a bolt of lightning; in the same manner mushrooms were thought to be engendered wherever lightning struck the earth. The father of Dionysus was another Dionysus, as would be expected in a Sacred Marriage, for the child born at the time of the earth's renewal is identical with the ingested consort who will reunite his mother-bride with the awesome nether realm from which life must forever be reborn. Thus not surprisingly we are told that Semele also conceived Dionysus when she drank a potion compounded of her own son's heart. So too was Dionysus like his father also called the thunderer, for despite the gentleness of his infancy and his sometimes effeminate appearance, he could suddenly metamorphose into the virulence of his full manhood, in which form he was a bull, rending the earth, as at his birth, announced by a bellowing, the mykema that signified the presence of the *mykes* or mushroom. His symbol was the phallos itself, by a common metaphor also called the *mykes*.

It was with the vine, however, and its fermented juice that Dionysus was

chiefly associated. Mushrooms themselves in fact were considered a fermentation of the earth, a perfect symbol of rebirth from the cold realm of putrefaction that was the mouldy other world. A similar process was sensed in the frothing turmoil whereby the fungal yeast converted grapes into wine. In wine the god had found his greatest blessing for mankind; here his untameable, wild nature had succumbed to domestication. He himself was said to have first discovered the properties of this plant that had grown from the spilled blood of the gods when he noticed a serpent drinking its toxin from the fruit, for serpents were thought to derive their poisons from the herbs they ate, just as conversely it was said that serpents could transfer their toxins to plants in their vicinity. Dionysus taught man the way to calm this gift's violent nature by diluting it with water. And customarily it was mixed with water that the Greeks drank their wines.

This custom of diluting wine deserves our attention since the Greeks did not know the art of distillation and hence the alcoholic content of their wines could not have exceeded about fourteen per cent, at which concentration the alcohol from natural fermentation becomes fatal to the fungus that produced it, thereby terminating the process. Simple evaporation without distillation could not increase the alcoholic content since alcohol, which has a lower boiling point than water, will merely escape to the air, leaving the final product weaker instead of more concentrated. Alcohol in fact was never isolated as the toxin in wine and there is no word for it in ancient Greek. Hence the dilution of wine, usually with at least three parts of water, could be expected to produce a drink of slight inebriating properties.

That, however, was not the case. The word for drunkenness in Greek designates a state of raving madness. We hear of some wines so strong that they could be diluted with twenty parts of water and that required at least eight parts water to be drunk safely, for, according to report, the drinking of certain wines straight actually caused permanent brain damage and in some cases even death. Just three small cups of diluted wine were enough in fact to bring the drinker to the threshold of madness. Obviously the alcohol could not have been the cause of these extreme reactions. We can also document the fact that different wines were capable of inducing different physical symptoms, ranging from slumber to insomnia and hallucinations.

The solution to this apparent contradiction is simply that ancient wine, like the wine of most early peoples, did not contain alcohol as its sole inebriant but was ordinarily a variable infusion of herbal toxins in a vinous liquid. Unguents, spices, and herbs, all with recognized psychotropic properties, could be added to the wine at the ceremony of its dilution with water. A description of such a ceremony occurs in Homer's *Odyssey*, where Helen prepares a special wine by adding the euphoric *nepenthes* to the wine that she serves her husband and his guest. The fact is that the Greeks had devised a spectrum of ingredients for their drinks, each with its own properties.

Thus the wine of Dionysus was the principle medium whereby the classical Greeks continued to partake of the ancient ecstasy resident in all the vegetative forms that were the Earth's child. In social situations, the drinking was regulated by a leader, who determined the degree of inebriation that he would impose upon the revelers as they ceremonially drank a measured sequence of toasts. At sacral events, the wine would be more potent and the express purpose of the drinking was to induce that deeper drunkenness in which the presence of the deity could be felt.

The herbal inebriants that figured in these Dionysian rites of drinking required magical procedures when the herbs were gathered. As wild beings whose spirits were akin to their particular guardian animals, the plants were the objects of a hunt. And the ecstatic rapture they might induce in religious contexts inevitably identified them as sexual forces.

Thus the female devotees of the god Dionysus appropriately bore the *thyrsos* as their emblem as they roamed the winter mountainsides in search of the so-called vine that grew suddenly with earth-rending thunder and the bellowing of bulls amidst their night-long dancing; that beloved child, the age-old serpent consort, was the object of their hunt, who was suckled, then like a beast torn to pieces and eaten raw; his own mothers, as was often claimed, were guilty of cannibalism eating his flesh, for like mothers the women would have brought the drug into being, harvesting and compounding it with the help of the god's so-called nurses, in whose loving care he would grow to manhood, eventually to possess them as his brides. Such ceremonies enacted the sacred nuptials of the city's women, who thereby entered the awesome alliance with the nether lord, upon whose realm depended the growth of all this world's fertility of plants and man.

Persephone's abduction at Nysa was prototypic of that first nuptial between the realms, the primal experience of death. In the hunting place called Agrai, in the month of February, which was called the time of flowers, the candidates for the coming initiation at Eleusis experienced in some way the death of Persephone through the ritual mimeses of those Dionysian events. That occurrence was termed the Lesser Mystery and it was considered a preliminary for the vision of the Greater Mystery that would take place at the time of the autumn sowing in September.

The Greater Mystery was the complement of the Lesser, for it centered upon redemption instead of death, the triumphant return of Persephone from Hades with the infant son she had conceived during her sojourn in communion with the spiritual realm. The Homeric hymn, after its account of Persephone's fatal nuptial encounter, goes on to tell how Demeter came to establish the Greater Mystery. In grief for her lost daughter, she went to Eleusis. Her journey there is a sympathetic imitation of Persephone's entrance into the citadel of Hades, for Eleusis was a simulacrum of the other world, where Demeter too would experience

the ominous chthonic phase of her womanhood, not as sacred queen to the lord of death, but as witch and wet-nurse in his house, for when Persephone progresses beyond maidenhood, her mother must make way, relinquishing her former role and moving on to the third stage, when a woman's aging womb brings her once again into proximity with the powers of death. These chthonic or earth-oriented phases of womanhood were symbolized in the goddess Hecate, whose triform body expressed the female's totality as bride, wife, and aged nurse in Hades' realm.

At Eleusis, Demeter first attempts to assuage her grief by negating the possibility of the world of death to which she has lost her daughter. She does this by nourishing the royal prince with immortality. His mother, however, objects, for she cannot understand or accept a system that would inevitably alienate the son from his own mother's realm as irredeemably as Persephone from Demeter.

Demeter again attempts a solution, this time an eternity of death, in which she and the maiden would stay forever in their chthonic phase. She causes a plague of sterility so that no life can emerge from the earth. This solution, however, leaves no role for the immortal deities of the sky, whose delicate balance with the forces of the earth is dependent upon the continuing worship of mortal men, who share with them the fruits of life.

The final solution is to heal the universe into which death has now intruded by admitting also the possibility of return into life. Rebirth from death was the secret of Eleusis. In Hades, Persephone, like the earth itself, takes seed into her body and thereby eternally comes back to her ecstatic mother with her new son, only to die as eternally in his fecundating embrace. The sign of the redemption was an ear of barley, the risen grain, that following the Mystery would be committed once again to the cold earth in the sowing of the sacred plain adjacent to Eleusis.

This was the final mediation that Demeter taught to a second of the royal princes in the citadel of Eleusis. His name was Triptolemus, the trifold warrior, and he becomes the apostle of the new faith, traveling throughout the world on a serpent chariot spreading the gospel of the cultivation of grain. His exact identity was part of the secret of the Mystery, for the various traditions about his parentage suggest that the initiates learned that, like the grain that was his emblem, he was actually the son of the trifold females who were the queens in the house of the lord of death. He was, therefore, another form of Dionysus, who in a similar fashion also was an apostle, traveling in the same manner of cart on his journey teaching man the cultivation of the vine. The pattern indicated in these Eleusinian apostlehips clearly signifies the transition from wild botanic growth to the arts of cultivation upon which civilized life must depend.

In the various Eleusinian mythical traditions, several other male figures symbolize a similar transmutation of the wild horror and loss that is death into the ravishingly handsome young man who is born from Hades' realm in pledge of the coming redemption. In one such tradition, he is Iakchos (Iacchus), the

joyous Dionysian male who led the initiates toward their vision of salvation; in another, Eubuleus, the serene personification of the cosmological plan wherein the celestial immortals collaborated with the forces of death to show humankind its proper role; in a third, Zagreus, the enigmatic hunting companion of his ecstatic brides. The fourth and most perfect of these transmuted figures is Ploutos, the personification of the wealth that stems from the fertility of man and field. The initiate could expect that this beneficent representative of death would thereafter become welcome in his house as his constant guest, joined by ties of friendship. This Ploutos was originally the vegetative son of Demeter in her more ancient days as Great Mother on Crete, where she conceived him in a thrice plowed field when she united with her intoxicating mate whose name was Iasion, which means "the man of the drug."

Triptolemus, however, was the paramount transmutation, Demeter's special response to the problem of death. It was his sacred barley, solemnly grown in the Rarian plain and threshed on his floor, that was the principle ingredient in the potion drunk by the initiates in preparation for the culminating vision. The formula for that potion is recorded in the Homeric hymn. In addition to the barley, it contained water and a fragrant mint called blechon. The mint initially would seem the most likely candidate for the psychoactive agent in the potion, except that all our evidence about this particular mint indicates that it was unsuitable, being neither sufficiently psychotropic to warrant the danger of profane usage nor appropriately revered as the secret drug. Rather, it was openly despised as a sign of the illicit union of man and woman in lustful concubinage without the sacrament of marriage. To just such an unsanctified abduction Demeter had lost her daughter at Nysa and accordingly we are told that the mother vented her displeasure by changing the prostitute of Hades into mint, thereupon grinding and bruising her botanic body. The final Eleusinian solution, on the other hand, will reconcile the mother to the daughter's loss through legitimatizing the nuptial abduction in the rite of matrimony, whereby an heir can accede to the dynastic house. Barley and not mint is the revelation at Eleusis, and it is to it that we must look for the sacred drug.

With the cultivation of grain, man had left his wild, nomadic ways and settled in cities, giving to the earth in order to receive back its harvest. All civilized institutions derived from this delicate accord struck with the dark, cold forces of death. Grain itself was thought to be a hybrid, carefully evolved from more primitive grasses. If not tended with proper care, it could be expected to revert to its worthless, inedible avatar. That primitive sibling to grain was thought to be the plant called *aira* in Greek, *Lolium temulentum* in botanical nomenclature, or commonly in English wild ryes, darned cockle, ivray, or finally "tares" in the Bible. This weed is usually infested with a fungoid growth, *Claviceps purpurea*, ergot or rust, a reddening corruption to which barley was thought to be particularly susceptible. *Aira*, therefore, doubly endangered the cultivated staff of life, first as

the renascent primordial grass and secondly as the host for the encroaching ergot infection. The revertive tendency of the infected grain, furthermore, was all too obvious, for when the sclerotia fell to the ground there grew from them not grain but tiny purple mushrooms, the fruiting bodies of the ergot fungus, clearly a return to the species of the unregenerate, wild Dionysian abductor.

Unlike the seedless mushroom, however, ergot would have seemed akin to the kernels of grain that were its host. As well as grain, therefore, it too was Demeter's plant, for she could wear its distinctive color as her robe or on her feet or be named with its epithet, Erysibe. The hallucinogenic properties of Claviceps were recognized in antiquity, and thus we may surmise that the parallel apostleships of the barley and the vine would have signified analogous transmutations wherein the chthonic spirits submitted to cultivation. Wine, however, was Dionysus' realm, the liquid that gave sleep like death and forgetfulness, whereas Demeter was the earth, dry with the harvest upon which man fed to live. Grain was her sacrament. Upon first coming to Eleusis, Demeter had refused the cup of wine and the initiates thereafter imitated her abstention in deference to the superior symbolism of the potion of barley.

Clearly ergot of barley is the likely psychotropic ingredient in the Eleusinian potion. Its seeming symbiotic relationship to the barley signified an appropriate expropriation and transmutation of the Dionysian spirit to which the grain, Demeter's daughter, was lost in the nuptial embrace with earth. Grain and ergot together, moreover, were joined in a bisexual union as siblings, bearing at the time of the maiden's loss already the potential for her own return and for the birth of the phalloid son that would grow from her body. A similar hermaphroditism occurs in the mythical traditions about the grotesquely fertile woman whose obscene jests were said to have cheered Demeter from her grief just before she drank the potion.

This solution to the Mystery of Eleusis is made still more probable by a papyrus fragment that was brought to my attention by our translator of the Homeric hymn. The fragment preserves a portion of the *Demes*, a comedy by Eupolis written shortly after the scandal of the profanation of the Mystery in the fifth century B.C. It confirms that the profanation did indeed entail the drinking of the sacred *kykeon* and suggests that our identification of the drug it contained is correct. In the comedy, an informer explains to a judge how he had come upon someone who had obviously been drinking the potion since he had barley groats on his moustache. The accused had bribed the informer to say that it was simply porridge and not the potion that he had drunk. By a possible pun, the comedian may even indicate that the incriminating "crumbs of barley" were "purples of barley."

Thus we may now venture past the forbidden gates and reconstruct the scene within the great initiation hall at Eleusis. The preparation of the potion was the central event. With elaborate pageantry, the hierophant, the priest who

traced his descent back to the first performance of the Mystery, removed the sclerotia of ergot from the free-standing room constructed inside the *telesterion* over the remains of the original temple that had stood there in Mycenaean times. As he performed the service, he intoned ancient chants in a falsetto voice, for his role in the Mystery was asexual, a male who had sacrificed his gender to the Great Goddess. He conveyed the grain in chalices to the priestesses, who then danced throughout the hall, balancing the vessels and lamps upon their heads. The grain was next mixed with mint and water in urns, from which the sacred potion was then ladled into the special cups for the initiates to drink their share. Finally, in acknowledgment of their readiness, they all chanted that they had drunk the potion and had handled the secret objects that had come with them on the Sacred Road in sealed baskets. Then, seated on the tiers of steps that lined the walls of the cavernous hall, in darkness they waited. From the potion they gradually entered into ecstasy. You must remember that this potion—an hallucinogen—under the right set and setting, disturbs man's inner ear and trips astonishing ventriloquistic effects. We can rest assured that the hierophants, with generations of experience, knew all the secrets of set and setting. I am sure that there was music, probably both vocal and instrumental, not loud but with authority, coming from hither and yon, now from the depths of the earth, now from outside, now a mere whisper infiltrating the ear, flitting from place to place unaccountably. The hierophants may well have known the art of releasing into the air various perfumes in succession, and they must have contrived the music for a crescendo of expectation, until suddenly the inner chamber was flung open and spirits of light entered the room, subdued lights I think, not blinding, and among them the spirit of Persephone with her new-born son just returned from Hades. She would arrive just as the hierophant raised his voice in ancient measures reserved for the Mystery: "The Terrible Queen has given birth to her son, the Terrible One." This divine birth of the Lord of the Nether World was accompanied by the bellowing roar of a gong-like instrument that outdid, for the ecstatic audience, the mightiest thunderclap, coming from the bowels of the earth.

Some Christian bishops, in the last days of the Mystery, thought they had discovered and could reveal the secret of Eleusis. One said that in this pagan rite there was materialized a stalk of barley. How true according to his limited lights, yet how utterly false. The Bishop had not known the night of nights at Eleusis. He was like one who has not known LSD or the mushrooms of Mexico or the morning glory seeds. For close on to two thousand years a few of the ancient Greeks passed each year through the portals of Eleusis. There they celebrated the divine gift to mankind of the cultivated grain and they were also initiated into the awesome powers of the nether world through the purple dark of the grain's sibling that Dr. Hofmann has once again made accessible to our generation. The myths of Demeter and Persephone and all their company fit our explanation in every respect. Nothing in any of them is incompatible with our

thesis.

Until yesterday we knew of Eleusis only what little a few of the initiates told us but the spell of their words had held generations of mankind enthralled. Now, thanks to Dr. Hofmann and Gordon Wasson, those of us who have experienced the superior hallucinogens may join the fellowship of the ancient initiates in a lasting bond of friendship, a friendship born of a shared experience of a reality deeper far than we had known before.

Altered States: An Interview with John Lilly

by Judith Hooper

Omni, January 1983

Above the ranch-style dream houses and seafood restaurants along the Pacific Coast Highway, the rugged, bleached Malibu canyons, twisting roads, dusty scrub oaks, and desert sagebrush speak a supernal language. It is a landscape of the spirit more than of the body, and Dr. John C. Lilly, dolphin magus and scientist-turned-seeker, seems at home here—where the spectacular surf down at Zuma Beach is a mere rim of white foam on the edge of the world. If life imitates art, Dr. Lilly should live on just such a mountaintop.

It hadn't been easy to find him. When I asked scientist acquaintances about Lilly's whereabouts, most of them said something like, "Do you mean, what dimension?" Someone thought he worked with dolphins at Marine World, in Redwood City, just south of San Francisco, and, it turns out, he does. But when I phoned there, I talked to a succession of secretaries who had never heard of the remarkable Dr. Lilly. I finally left a message with "Charlie," a gate guard who told me that he sometimes "sees him go in and out." No luck. When at last I called his house in Malibu, Lilly answered the telephone himself and gave me road directions that were accurate to the tenth of a mile.

*Lilly's autobiography, *The Scientist* (1978), begins with the creation of the universe out of cosmic dust, but his own human chronicle starts in St. Paul, Minnesota, in 1915. A scholarship whiz kid at the California Institute of Technology, Lilly graduated with a degree in biology and physics in 1938 and went on to earn his M.D. from the University of Pennsylvania. Though he became a qualified psychoanalyst, his first love was brain "hardware." His mastery of neurophysiology, neuroanatomy, biophysics, electronics, and computer theory gave him something of the technical ingenuity of the genie in *The Arabian Nights*. From 1953 to 1958 he held two posts—one at the National Institute of Mental Health (NIMH) and one at the National Institute of Neurological Diseases and Blindness—both part of the National Institutes of Health (NIH), in Bethesda, Maryland. In his early years at the NIH he invented a technique that allowed scientists for the first time to take brainwave recordings from the cortex of unanesthetized animals. He also mapped the brain's pleasure and pain systems by direct electrical stimulation of its core regions. And in 1954, tackling the classic puzzle of what would happen to the brain if it were deprived of all external stimulation, he built the world's first isolation tank.*

Floating in his dark, silent, saltwater void—the original version of which required that he wear a skindiver's mask—Lilly discovered that sensory deprivation did not put the brain to sleep, as many scientists had supposed. Furthermore, tanking led him far afield from the doctrine that the mind is fully contained within the

physical brain. The tank, he declared, was a “black hole in psychophysical space, a psychological freefall,” which could induce unusual sensations: reverie states, waking dreams, even a kind of out-of-the-body travel. (Today, of course, isolation tanks are so much a part of the culture that even straitlaced businessmen routinely spend their lunch hours—and upwards of \$20—relaxing in health-spa tranquility tanks based on Lilly’s original design.)

More and more enamored of the deep, womblike peace he experienced in the tank, Lilly began to wonder what it would be like to be buoyant all the time. Whales, dolphins, and porpoises sprang to mind, and the rest, of course, is history. By 1961, Lilly had resigned from the NIH to found and direct the Communications Research Institute, in the U.S. Virgin Islands and Miami, Florida, for the purpose of studying these big-brained, sea-dwelling mammals. Convinced that dolphins are not only smarter but more “humane” than *Homo sapiens*, and that they communicate in a sophisticated sonar language popularized, rather inaccurately, by the baby-talking dolphins of the film *Day of the Dolphin*, Lilly began a lifelong quest to “talk” to the Cetacea. Today he uses a “two-faced” computer system called JANUS—named after the two-faced Roman god—to work out a human/dolphin language.

While Lilly was experimenting with otherworldly states in the isolation tank, the halcyon days of hallucinogenic research were under way at the NIMH. (LSD was not to become a controlled and, therefore, sticky substance until 1966.) Lilly, however, did not try LSD until the early 1960s. Once he did, it became his high mass. Mixing LSD and isolation tanking for the first time in 1964, he entered what he described as “profound altered states”—transiting interstellar realms, conversing with supernatural beings, giving birth to himself, and, like Pascal, exploring infinities macroscopic and microscopic. “I traveled among cells . . . watched their functioning . . . and realized that within myself was a grand assemblage of living organisms, all of which added up to me,” he would write of his illuminations in *The Center of the Cyclone* (1972). “I traveled through my brain, watching the neurons and their activities . . . I moved into smaller and smaller dimensions, down to the quantum levels, and watched the play of the atoms in their own vast universes, their wide empty spaces, and the fantastic forces involved in each of the distant nuclei with their orbital clouds of force field electrons . . . It was really frightening to see the tunneling effects and the other phenomena of the quantal level taking place.”

By all accounts, Lilly has probably taken more psychedelic substances—notably LSD and “vitamin K,” the superhallucinogen he prefers not to identify—than anyone else in the consciousness business. Since the lords and overseers of establishment science frown on using one’s own brain and nervous system as an experimental laboratory, Lilly today reports his findings in popular books instead of in neurophysiology papers. He makes the scene at such New Age watering holes as Esalen, in California, and Oscar Ichazo’s Arica training place, in Chile. He hasn’t received a government grant since 1968. When asked about him, mainstream scientists tend to shake their heads sadly, as if recalling someone recently deceased.

“The trouble with Lilly is that he is in love with death,” says one neuroscientist friend of his. “But, God, is he brilliant!” Yes, he is brilliant and, yes, he does seem to have flirted quite flagrantly with death. Though LSD- or K-related accidents have almost killed him on at least three occasions, Lilly still keeps going back to the void, once tripping on K, he tells, me for 100 solid days and nights. It is also true that he has always returned to Earth, however constraining its boundaries, and that his wife, Toni, has had a good deal to do with that.

The moment I arrive at his house, having driven my rental car over zigzagging mountain roads, Lilly announces, “We have one rule in this house. No one can take drugs of any kind and drive back down that road.” Five minutes later he seems to be offering me acid and K—or did I hallucinate that? Is he putting me on? What kind of game is he playing with the anonymous reporter who has come to call?

He tapes me with a matchbook-sized Japanese tape recorder while I tape him. The phone rings and Lilly answers it, his face as immobile as the wooden Indian that guards his entryway. “Who are you?” he demands. His side of the conversation is curt. “It was someone asking about the solid-state entities,” he tells me. As our interview proceeds, I watch various expressions play across his patrician, chiseled-granite face—unexpected sweetness whenever he speaks of Toni, or of dolphins. (When talking about a dolphin, Lilly always uses the pronoun *he*, never *it*.) Sometimes his language is full-bodied, and poetic; sometimes it is a private blend of computerspeak and Esalenesque, full of phrases like “Earth Coincidence Control Offices,” “metaprogrammings,” and “belief-system interlocks.” My own questions echo in my head, and Lilly seems bored, on the verge of walking off abruptly into a zero-g universe of his own. Possibly to get rid of me for a while, he escorts me to his samadhi isolation tank.

In this warm, saline sea of isolation, where such luminaries as Nobel physicist Richard Feynman, anthropologist Gregory Bateson, psychologist Charles Tart, and EST czar Werner Erhard have floated and had visions, I try to sort it all out. My visions are disconnected, rudimentary: I am a swamp plant trailing its leaves on the water; a fetus; a dolphin; a whirring brain in an inert shell. An hour and a half later (one loses track of time) I emerge and try to continue the interview. The problem is, in my state of tranquility, I have lost interest in asking reporterlike questions, and, besides, I feel Lilly retreating more and more into some remote, glacial space behind his eyes. From another room a manic laugh track from what sounds like an old *I Love Lucy* show floats out to us. Some time later Toni Lilly suddenly walks in, smiling and carrying bags of groceries. Her husband jumps up to help her unload the car, and I take my cue to depart back down the mountain.

Only later, at home in the Los Angeles lowlands, do I notice that I am altered—that for 24 hours after isolation-tanking, reality looks and feels quite different. Four weeks later I telephone Lilly, and we talk again. The following interview is the result of our afternoon together in his Malibu home and of that subsequent telephone conversation.

OMNI: You're probably best known as "Dr. John Lilly, the dolphin man." What is the aim of your current dolphin research?

Lilly: At Marine World, we're working with computers to develop a human/dolphin code, analogous to the Morse code used in telegraphy. The project is called JANUS—for Joint Analog Numerical Understanding System. Like the Roman god Janus, it has two "faces"—a dolphin side and a human side.

A human/dolphin language must contend with the fact that dolphins communicate at frequencies ten times above the human range. While our speech falls between three hundred and three thousand hertz, or cycles per second, dolphins talk to one another underwater at frequencies from three thousand to thirty thousand hertz. If you go into a pool with a dolphin and he starts whistling, you'll hear what sounds like very high-pitched squeaks. So the problem is to bring their frequency down into our sound window and ours up into theirs.

We're using a computer system to transmit sounds underwater to the dolphins. A computer is electrical energy oscillating at particular frequencies, which can vary, and we use a transducer to convert the electrical waveforms into acoustical energy. You could translate the waveforms into any kind of sound you like: human speech, dolphin-like clicks, whatever.

OMNI: Do you type something out on the computer keyboard and have it transmitted to the dolphins as sound in their frequency range? And do they communicate back to the computer?

Lilly: Yes, but we actually use two computers. An Apple II transmits sounds to the dolphins, via a transducer, from a keyboard operated by humans. Then there is another computer, made by Digital Equipment Corporation, that listens to the dolphins. A hydrophone, or underwater microphone, picks up any sounds the dolphins make, feeds them into a frequency analyzer, a sonic spectrum analyzer, and then into the computer. So the computer has an ear and a voice, and the dolphin has an ear and a voice. The system also displays visual information to the dolphins.

On the human side it's rather ponderous, because we have to punch keys and see letters on a screen. People have tried to make dolphins punch keys, but I don't think dolphins should have to punch keys. They don't have these little fingers that we have. So we'd prefer to develop a sonic code as the basis of a dolphin computer language. If a group of dolphins can work with a computer that feeds back to them what they just said—names of objects and so forth—and if we can be the intercessors between them and the computer, I think we can eventually communicate. [See "Talking Computer for Dolphins," *Continuum*, August 1982.]

OMNI: How long will it take to break through the interspecies communication barrier?

Lilly: About five years. I think it may take about a year for the dolphins to learn the code, and then, in about five years, we'll have a human/dolphin

dictionary. However, we need some very expensive equipment to deal with dolphins' underwater sonar. Since dolphins "see" with sound in three dimensions—in stereo—you have to make your words "stereophonic words."

OMNI: You've said that dolphins also use "sonar beams" to look at the internal state of one another's body, or that of a human being, and that they can even gauge another's emotional state that way. How does that work?

Lilly: They have a very high-frequency sonar that they can use to inspect something and look at its internal structure. Say you're immersed in water and a sound wave hits your body. If there's any gas in your body, it reflects back an incredible amount of sound. To the dolphin it would appear as a bright spot in the acoustic picture.

OMNI: Can we ever really tune in to the dolphin's "stereophonic" world view, or is it perhaps too alien to ours?

Lilly: I want to. I just did a very primitive experiment—a Saturday afternoon-type experiment—at Marine World. I was floating in an isolation tank and had an underwater loudspeaker close to my head and an air microphone just above me. Both were connected through an amplifier to the dolphin tank so that they could hear me and I could hear them. I started playing with sound—whistling and clicking and making other noises that dolphins like. Suddenly I felt as if a lightning bolt had hit me on the head. We have all this on tape, and it's just incredible. It was a dolphin whistle that went sssshhhheeeeeooooo in a falling frequency from about nine thousand to three thousand hertz in my hearing range. It started at the top of my head, expanding as the frequency dropped, and showing me the inside of my skull, and went right down through my body. The dolphin gave me a three-dimensional feeling of the inside of my skull, describing my body by a single sound!

I want to know what the dolphin experiences. I want to go back and repeat the experiment in stereo, instead of with a single loudspeaker. Since I'm not equipped like a dolphin, I've got to use an isolation tank, electronics, and all this nonsense to pretend I'm a dolphin.

OMNI: Human language isn't merely descriptive; it has also evolved abstractions—units symbolizing things that aren't physically real, that have no material composition. You've written that dolphins probably have "ancient vocal histories that their young must learn." Do you believe their language is a symbolic system?

Lilly: Sure. If it weren't, they wouldn't exist. They have to know different kinds of fish and coral, the distinction between edible and inedible—that sort of thing. I suggest you don a dolphin suit and join them.

OMNI: You've pointed out that the bottle-nosed dolphin's brain is forty percent larger than ours, and the orca [killer whale] has a brain four times larger. These big-brained dolphins and whales also have a larger association cortex, uncommitted to basic sensorimotor processing and, therefore, available for

thinking. If cetaceans are smarter than we, why do we humans assume we're the crown of creation?

Lilly: Because we can't talk to anyone else. The highest intelligence on the planet probably exists in a sperm whale who has a ten-thousand-gram brain, six times larger than ours. I'm convinced that intelligence is a function of absolute brain size. Some years ago I solved the brain weight/body weight problem, demonstrating that a large brain cannot exist in a small body: it needs a massive body to protect it. A brain is very fragile, and if it is rotated very fast — by a blow to the jaw, for instance — it tears loose from its moorings and kills itself by intracranial bleeding. So, too, as a brain gets larger, the head surrounding it, and its moment of inertia, must increase to prevent dangerous rotation. Maybe the human brain can evolve further if we get control of our genetic code. But in what direction?

OMNI: What has your intense acquaintance with cetaceans taught you about their character? What is their world like?

Lilly: It's mostly sonic, as I've said, since they live in the water twenty-four hours a day and can't see at night. They have no sense of smell, but a very discriminating taste sense. And, of course, they're buoyant, as you are in an isolation tank. One day while I was floating in the tank at NIMH, I thought, "Gee, wouldn't it be great to do this twenty-four hours a day!" When I mentioned it to a friend, he said, "Well, try the dolphins." So that's how I started to work with dolphins.

Having voluntary respiration, dolphins are interdependent in ways in which we aren't; they have a group mind. If a dolphin passes out for any reason, his friends must wake him up. Otherwise he'll drown. So every dolphin is aware of where every other dolphin is, just in case he's needed. "Do unto others as you would have them do unto you" is one of their rules, and, unlike us, they follow it twenty-four hours a day. They're also more spiritual, since they have more time to meditate. Try the isolation tank and you'll see what it's like.

OMNI: Tell me the circumstances that led you to invent the first isolation tank.

Lilly: There was a problem in neurophysiology at the time: Is brain activity self-contained or not? One school of thought said the brain needed external stimulation or it would go to sleep—become unconscious—while the other school said, "No, there are automatic oscillators in the brain that keep it awake." So I decided to try a sensory-isolation experiment, building a tank to reduce external stimuli—auditory, visual, tactile, temperature—almost to nil. The tank is lightproof and soundproof. The water in the tank is kept at ninety-three to ninety-four degrees. So you can't tell where the water ends and your body begins, and it's neither hot nor cold. If the water were exactly body temperature, it couldn't absorb your body's heat loss, your body temperature would rise above one hundred six degrees, and you might die.

I discovered that the oscillator school of thought was right, that the

brain does not go unconscious in the absence of sensory input. I'd sleep in the tank if I hadn't had any sleep for a couple of nights, but more interesting things happen if you're awake. You can have waking dreams, study your dreams, and, with the help of LSD—twenty-five or a chemical agent I call vitamin K, you can experience alternate realities. You're safe in the tank because you're not walking around and falling down, or mutating your perception of external "reality."

OMNI: At the time you invented the tank weren't you doing brain research at the National Institute of Mental Health?

Lilly: Yes. I invented a technique called an electrocorticograph, or ECG, for implanting multiple electrode arrays onto the surface of the brain itself without injuring brain tissue as much as previous methods did. It was the first method for taking electrical recordings from the brains of unanesthetized animals—or even of humans. On a kind of television monitor, you could watch the brain waves moving across the cerebral cortex in two dimensions. Basically, you pound a short length of hypodermic needle tubing through the scalp, adjusting it to the depth of the bone so that the scalp closes over it. Then you can come back and put electrodes down through that little channel.

OMNI: Was this the same technique you used to map the brain's pain and pleasure systems with direct electrical stimulation?

Lilly: No, that requires putting electrodes below the cortex, into the brain's deep motivational systems. The electrodes were the same; we just pushed them in deeper. At McGill University in Montreal, James Olds and Peter Milner had discovered the positive-reinforcing systems in rats' brains. [In these famous studies, conducted in the early Fifties, rats learned to self-stimulate by activating electrodes in their brains' pleasure centers.] And H. E. Rosvold, of Yale University, had uncovered the negative reinforcing systems in cats. I was the man who mapped both sides, positive and negative, and I went to a higher animal, the macaque monkey.

When I did the experiments again in the dolphin, I found he could inhibit his angry, aggressive responses when I stimulated the negative systems. That was fascinating: With his large, eighteen-hundred-gram brain, he had enough cerebral cortex to veto messages from the lower centers. Men can do that, too, as scientists such as [Tulane University medical researcher] Robert Heath have shown. Once, when Heath was stimulating a patient's negative system, the patient said, "You stimulate that point again and I'll pull the electrodes out."

OMNI: Then would you say intelligence is a function of inhibition?

Lilly: Yes. You need a cerebral cortex of a critical size, with fine fiber connections running in both directions to the lower systems. That's where the middle self ("I-me") lives, up in that cortex—not in the lower centers. The lower centers (our lower self) prod us from below, as it were, with love or hate or fear. I think that the superself controls from somewhere "above the brain," in the spiritual domains.

OMNI: What structures are involved in the brain's pain and pleasure pathways?

Lilly: Well, the preoptic nucleus in the anterior hypothalamus, at the base of the brain, is very negative. It's our main survival nucleus: If the temperature is too hot or too cold, this nucleus freaks out the rest of the brain. If there's too much sodium in the blood, it freaks out the brain. It's an area for total fear. Then, moving downward toward the spinal cord, you hit a part of the hypothalamus that stimulates extreme pain all over the body. If you move sideways in either direction in that area of the brain, however, stimulation becomes incredibly positive. Around the preoptic nucleus, you run into the sexual system, which, in males, controls erection, orgasm, and ejaculation—each in a separate place—while farther back, in the mesencephalon, the three are integrated and fired off in sequence.

The brain has other pleasure systems, too—systems that stimulate nonsexual pleasure all over the body and systems that set off emotional pleasure. That is a kind of continuous pleasure that doesn't peak—a satori of mind. Satori and samadhi [terms for enlightened-bliss states in Zen Buddhism and Hinduism, respectively] and the Christian "states of grace" seem to involve a constant influx of pleasure and no orgasmic climax—like tantric sex. Spiritual states use these brain systems in their service. Many philosophers, including Patanjali, the second-century B.C. author of the *Yoga Sutras*, have said that jnana yoga—the yoga of the mind—is the highest form of yoga. In this self-transcendence one can experience bliss while performing God's work; only recently have I achieved this for days at a time.

OMNI: In your book *The Scientist* you wrote, "If we can each experience at least the lower levels of satori, there is hope that we won't blow up the planet or otherwise eliminate life as we know it." Are altered states necessary to our survival?

Lilly: Yes, the experience of higher states of consciousness, or alternate realities—I don't like the term altered states—is the only way to escape our brains' destructive programming, fed to us as children by a disgruntled karmic history. Newborns are connected to the divine; war is the result of our programmed disconnection from divine sources.

I am writing a book about alternate realities called *From Here to Alternity: A Manual on Ways of Amusing God*. On vitamin K, I have experienced states in which I can contact the creators of the universe, as well as the local creative controllers—the Earth Coincidence Control Office, or ECCO. They're the guys who run the earth and who program us, though we're not aware of it. I asked them, "What's your major program?" They answered, "To make you guys evolve to the next levels, to teach you, to kick you in the pants when necessary."

Because our consensus reality programs us in certain destructive directions, we must experience other realities in order to know we have choices. That's what I call Alternity. On K, I can look across the border into other realities.

I can open my eyes in this reality and dimly see the alternate reality, then close my eyes. and the alternate reality picks up. On K you can tune your internal eyes. They are not what is called the "third eye," which is centrally located, but are stereo, like the merging of our two eyes' images. Perhaps someday, if we learn about the type of radiation coming through those eyes, we can simulate the experience with a hallucinatory movie camera—an alternate-reality camera.

OMNI: What is so special about vitamin K?

Lilly: It's a lot more fun than LSD or any of the other agents, because it induces a short trip and you can train yourself to the state. Pretty soon you can take ten times as much and still walk around and talk to people coherently, in spite of the fact that reality is vibrating. I can run my computer, ski, or do just about anything on K. I've been on it as much as a hundred days straight. You don't really sleep, you don't really dream, because you don't need to. And on K, I can experience the quantum reality: I can see [eminent University of Texas physicist] John Wheeler's hyperspace from within.

OMNI: Can you explain what you mean by experiencing hyperspace from within?

Lilly: Wheeler's hyperspace also is known as a "nonlocal reality." Each of a pair of photons coming from an atom knows immediately what the other is doing, no matter how far away from each other they are. You can assume the existence of tachyons—faster-than-light particles, carrying messages—but I prefer Bell's theorem's solution to the Einstein-Podolski-Rosen experiment [which illustrated a seemingly impossible connectedness between particles in two different places]. According to [John] Bell's theorem, hyperspace would be a region of hidden variables in which all realities are represented at a single point and in which there is no need for messages to travel. The "hyperspace" with which I've been working is one in which I can jump from one universe to another—from this reality to an alternate reality—while maintaining human structure, size, concepts, and memories. My center of consciousness is here, and I can know immediately what's going on anywhere in the universe. It's a domain I now call Alternity, where all choices are possible.

OMNI: What first inspired you to use psychotropic drugs?

Lilly: I never use the word drug, because it leads into a legalistic morass. The Food and Drug Administration has been putting out bulletins lately about K, which is now listed as a possible "abused" drug. Because abuse means literally "away from use," I prefer the term hyperuse, or "too much use." So I don't want to call it by its chemical name, and I think of it as vitamin K anyway, because it gives me spiritual energy. I've never proselytized, never advocated wholesale use of psychedelics. They are not for everyone. When Timothy Leary said, "Turn on, tune in, drop out," only a self-selecting group ever tried LSD. I did not agree with him; my use was carefully controlled investigation, not "recreational use."

There were a lot of "LSD pushers" around our LSD research at the

NIMH when I was there in the Fifties, but I didn't take LSD then. After about ten years in the tank I decided there was something new to be learned. So I came out here to California, where a lady I knew who had access to pure Sandoz LSD—twenty-five gave me the LSD for my first two trips. On my first trip I went through all the usual stuff: seeing my face change in the mirror, tripping out to music. During the first two movements of Beethoven's *Ninth Symphony*, I was kneeling in heaven, worshiping God and His angels, just as I had in church when I was seven years old. On that trip I did every thing I'd read in the psychedelic literature so as to save time and get out of the literature the next time. During my third trip, in the isolation tank in St. Thomas in 1964, I left my body and went into infinite distances—dimensions that are inhuman.

OMNI: The Ken Russell/Paddy Chayefsky film *Altered States* closely resembles your life. What did you think of it?

Lilly: I think they did a good job. The hallucination scenes are much better than anything ever produced before. I understand that some of the crew, the actors, and the producers were trained on K. The tank scenes were fine—except that in reality there are no vertical tanks, only horizontal ones—and the film implied that use of the tank itself would cause those out-of-the-body trips, which it doesn't.

The scene in which the scientist becomes cosmic energy and his wife grabs him and brings him back to human form is straight out of my *Dyadic Cyclone* [1976]. Toni did that for me. As for the scientist's regression into an apelike being, the late Dr. Craig Enright, who started me on K while taking a trip with me here by the isolation tank, suddenly "became" a chimp, jumping up and down and hollering for twenty-five minutes. Watching him, I was frightened. I asked him later, "Where the hell were you?" He said, "I became a prehuman, and I was in a tree. A leopard was trying to get me. So I was trying to scare him away."

OMNI: Can substances like K take one to lower, as well as to higher, states? Could one get stuck in a lower state, and is that a possible explanation for psychosis?

Lilly: You can get into lower states—rock consciousness, solid-state consciousness, whatever. If people do get stuck there, we would never hear from them, would we? As for so-called psychosis, it's just an insistence on staying in altered states, in spite of everyone else. Psychotics hang around and play games with everyone around them; it can be rather cruel. Anyone who has worked with them knows there's a wise and healthy essence back there, and what you have to do is contact it. Of course everyone's different. Some schizophrenics feel pain; others pretend pain so that they'll be taken care of.

OMNI: Did Chayefsky interview you for either the book or the screenplay version of the film *Altered States*?

Lilly: No. The manuscript of *The Scientist* was in the hands of Bantam,

the publishers. The head of Bantam called and said, "Paddy Chayefsky would like to read your manuscript. Will you give him your permission?" I said, "Only if he calls me and asks permission." He didn't call. But he probably read the manuscript.

OMNI: UCLA psychologist and drug authority Ronald Siegel maintains that the chemical you call K can simulate the near-death experience, proving that the near-death experience is hallucination rather than a foretaste of things on the "other side." What is your view?

Lilly: Ron and I totally disagree, though I like him. He is theorizing on the side of the law. With his belief system—that these experiences are all wastebasket stuff—he doesn't know alternate realities.

My experiences have convinced me that Eastern yoga philosophy is right: that there is a purusha or atman [soul] for each person—one for the planet, one for the galaxy, and so on. As mathematician/philosopher Franklin Merrell-Wolff says in his book *The Philosophy of Consciousness Without an Object*, consciousness was first—before the void even. When consciousness got bored and turned in upon itself, becoming conscious of itself, creation began. He/she/it created time, space, energy, matter, male, female—the whole tableau. It all got so complicated that sneaky things may go on beyond its ken.

If you get into these spaces at all, you must forget about them when you come back. You must forget you're omnipotent and omniscient and take the game seriously so you'll engage in sex, have children, and participate in the whole human scenario. When you come back from a deep LSD trip or a K trip—or coma or psychosis—there's always this extraterrestrial feeling. You have to read the directions in the glove compartment so you can run the human vehicle once more. After I first took acid in the tank and traveled to distant dimensions, I cried when I came back and found myself trapped in a body. I didn't even know whose body it was at first. It was the sadness of reentry. I felt squashed.

OMNI: Some of your critics have made much of the fact that intense experimentation with LSD and K has brought you to the brink of death at least three times. While giving yourself an antibiotic injection during your early days of LSD experimentation, you once used a hypodermic containing detergent foam residue, which sent you into a coma. Then, during a period of prolonged K use, you nearly drowned, and later you seriously injured yourself in a bicycle accident. Were these accidents quasi-suicides—collisions with your brain's "self-destruct programs"?

Lilly: The whole issue of suicide is a very complex program. I've never tried to commit suicide, though I've been close to death. The near-death accidents resulted from taking something and acting in a certain way so that I ended up in great danger, and so I've hypothesized that the brain contains lethal programs—self-destruct programs—below the level of awareness, which LSD or K can release or strengthen. My accidents were near-death learning experiences. There's nothing

like them. They train you faster than anything I know.

The year leading up to my bicycle accident in 1974, I spent in saton, or a state of grace. I was having a ball, mostly living in alternate realities and sometimes falling flat on my face. In *The Autobiography of Ramakrishna* [1836-1886, a famous Indian saint], there's a story about Ramakrishna getting ready to board a river steamer. Two of his disciples began to fight, and so Ramakrishna went into samadhi. Since he was out of his body, his disciples had to stop fighting and carry him aboard. Well, that was the sort of state I was in, and Toni was the disciple who had to "carry me around."

OMNI: In your reflections in *The Dyadic Cyclone*, you seem to consider your accident as a way of paying for that year of bliss.

Lilly: It terminated that year. In our workshops we have a saying: "If you pass the cosmic speed limit, the cosmic cops will bust you." I got "busted." I had taken forty-two milligrams of PCP [angel dust]. I'd been out there too long and hadn't paid enough attention to my planetside trip; so the Earth Coincidence Control Office called me back by throwing a bike accident at me while I was on PCP. I appreciate what the Control Office did. They are not cruel; they're in a state of high indifference.

While my body was in the hospital and in a coma for five days and nights, I was in alternate universes, where the guides instructed me about various planetary catastrophes. I can't make up my mind whether that was an experience of genuine realities or just a projection of the damage to my body. In any case, I begged the guides to let me go back. I had to say, "I want to go back to Toni." At one point I clung to Toni for six solid hours so I could stay with her. It was very frightening. The guides told me, "You can stay here, in which case your body dies, or you can go back." I chose to go back to Toni, as I have chosen to go back every time.

OMNI: Toni has obviously been a crucial counterpoint to what you once described as the "stainless-steel computer" part of yourself. In your recent books you've stressed the importance of what you call the "male-female dyad." Will you please explain this idea?

Lilly: That's the way the universe is constructed. Do you know about the Eleventh Commandment? It says, "Thou shalt not bore God, or He will destroy your universe." The first step in not boring God is to set up two opposing intellects, male and female, so that neither can tell what the other is thinking. If you totally fused with your mate, it might be a very dull trip.

I love female intelligences. Every single cell in your body has two x chromosomes. Every cell in my body has one x chromosome and a crippled x chromosome, an x chromosome with an arm missing, called a y chromosome. You women are so well balanced with your two x's. You can be grounded, and do the gardening, and take care of the kids and give them nurture, but we males have got to go out and explore the universe, banging our heads together and

shooting one another.

OMNI: Was it really necessary for you to have the near-death experiences you've recounted?

Lilly: It was for me. It was necessary to frighten the hell out of me, but many other people are just born right and don't have to struggle as I did. I had a Catholic background, a traumatic childhood—the whole business.

OMNI: What was it about a Catholic background that you had to "unlearn"?

Lilly: The whole construct. I'd been taught by Irish Jesuits, who are very clever. They made up multiple layers of rationality for the whole Catholic structure. The nice thing about Catholicism, however, is that it teaches you what to believe. So when you throw it over, you know exactly what you're throwing over. You can say, "I don't believe in the Father Almighty," and continue right through the Apostles' Creed, the Confiteor, and the rest of it, tossing out one tenet at a time.

I believe in God, but not in the "Catholic God," who is vengeful. There's the whole business about guilt, "impure thoughts," going to hell if you don't do what the church commands. One way this was solved for me, intellectually if not emotionally, was by reading the "Grand Inquisitor" chapter of Dostoevsky's *The Brothers Karamazov* in which Christ comes back to Earth. The Grand Inquisitor tells him, "When we saw those miracles in the street, we knew you were back. But this time we're not giving you any publicity. We're keeping you in this cell. We know how to run these people now." That just knocked the church right out of me, and by the time I was finished with Caltech, medical school, and psychoanalysis, that belief system was pretty well cleaned out of me.

OMNI: What about psychoanalysis as religion? Both use the confessional, an elaborate rational system for structuring the irrational, transference, and so on.

Lilly: Well, I didn't get into the religious aspects, as I was fortunate in having an analyst, Robert Waelder, who was free of the dogma. He had been trained by Anna Freud in Vienna, had a Ph.D. in physics, and was an analyst's analyst. I took psychoanalytic training under him for eight years, and he would go anywhere with me. Right off, practically in our first session, I told him I wanted to get a divorce [from his first of three wives] but that I thought I couldn't if I was in analysis. "Where did you learn that?" he asked. I said, "In the Freudian literature." He said, "Dr. Lilly, we are not here to analyze Freud, psychoanalytic literature, or other people's rules for your behavior. We are here to analyze you."

OMNI: How is it that, trained for eight years in psychoanalysis, you decided to devote yourself to brain hardware instead?

Lilly: I'd already had enough neurophysiological training to know there were a lot of mysteries in the brain. As Waelder said, psychoanalytic theory accounts for about one tenth of one percent of what goes on in psychoanalysis. I had to go further than that to find something more satisfying, and I found it in the concept

of metaprogramming the human biocomputer.

A human being is a biorobot with a biocomputer in it, the brain. But we are not that brain, and we are not that body. A soul essence inhabits us, and, under acid, under K, under anesthesia, you'll find that the essence isn't tied to brain activity at all. Brain activity can be virtually flat, and you can be conscious—off somewhere in another realm. You just can't communicate with people in consensus reality.

OMNI: In your experience, does the brain possess “trapdoors” into the domain of the soul? For example, neuroscientist Arnold Mandell, of the University of California at San Diego, has said that chemicals such as LSD can be “pharmacologic bridges” to transcendence.

Lilly: I agree with Mandell. Acid—and, better, vitamin K—set up the chemical configuration of your brain so as to loosen the connection between the brain/body and the soul essence. Then the essence can move into alternate realities. I call this phenomenon the “leaky-mind hypothesis,” or the “escaping-self hypothesis.” There are a lot of ideas about the soul's location in the body, of course. In Spanish, when you're scared out of your wits, you say your soul is in your mouth—you have *el alma en la boca*. But the junction between the biocomputer and the essence is not localized in the brain; it's throughout the body. If you get out of your body, you can assume a fake body, an astral body, which can walk through walls. Your essence is represented in every cell in your body.

OMNI: Orthodox scientists accuse you of unscientific practices, and some even suggest that your consciousness-altering experiments and near-death accidents have impaired your judgment. How would you reply to them?

Lilly: Well, I'd just throw my credentials at them, and I'd ask them to sit down and read my papers. Only narrow-minded people criticize me, anyway; the broadband people, who can move easily across boundaries and disciplines, love my work. Down in Mexico, for instance, people have been educated to respect the superscience of the next century that their brujos and curanderos [sorcerers or witches and healers] are capable of calling up. My son John Lilly, Jr., who has lived for sixteen years among the Huichol Indians, has a wonderful movie about these matters. Our orthodoxy, on the other hand, is very Germanic, very European: If you can't see it, touch it, or taste it, it doesn't exist.

I was brought up to divide science into theory and experiment, each guiding the other. The pure experimentalists who attack me lack good theory, but the theorists haven't done the experiments. There are really three departments to science: experiment, theory, and experience. Experience is the part that doesn't get into the scientific journals.

OMNI: How would you answer the charge that your self-experimentation is subjective and, therefore, unverifiable?

Lilly: Subjectivity is nonsense. Neither subjectivity nor objectivity exists

in nature. That's the mind-contained-in-the-brain belief of some psychiatrists and other scientists. The subject is an object is a subject. In a cybernetic system, you go around in a circle, and subject and object have no reality. The only way to isolate subject and object is to cut off the feedback and destroy the system. It's a false dichotomy.

OMNI: Do you believe that neuroscientists are on the verge of explaining the mind by mapping brain chemicals and so forth?

Lilly: I haven't yet seen any breakthroughs that are worth talking about. Neurochemistry is interesting but not specific enough yet. I suspect we'll find there are a million different compounds operating in the nervous system—specific compounds for specific regions and specific neurons. Caltech neuroscientist and Nobel laureate Roger Sperry's regeneration experiments [in which he rotated a salamander's eye and the severed nerve fibers somehow reconstructed their original connections to the optic tectum in the brain, as if they “knew” where to go] show that there are chemotropic substances that are specific to each fiber. I don't read neuroscience journals anymore; I depend on my friends to tell me what's going on.

You know, [Kurt] Godel's theory, translated, says that a computer of a given size can model only a smaller computer; it cannot model itself. If it modeled a computer of its own size and complexity, the model would fill it entirely and it couldn't do anything. So I don't think we can understand our own brains fully.

OMNI: Is it an extension of Godel's theorem, which states that some propositions can be neither proved nor disproved within a logical system?

Lilly: It's the same thing. If you have a closed system, the closed system can't account for itself. A set of sets that contains itself is a set that cannot possibly replicate itself. We are biological computers, and what Godel said is that you cannot conceive in full a computer the size of your own, for it would take up all the space you live in.

A sperm whale, with a brain six times the size of ours, could model a human and do a pretty good job of it. Since the model would take up only one sixth of his software brain, he could use the remaining five sixths to manipulate the model, predict its actions, and so on. The trouble is that this big computer is caught in a body that humans can kill.

OMNI: Could you elaborate on your concept of programming and “metaprogramming” the biocomputer?

Lilly: Have you seen the movie *Tron*? You must, because *Tron* is us. In it, the computer grabs the character played by Jeff Bridges and takes him inside, making him a program in the computer. The Master Control Program revolts, takes over the computer, and defies the users. So the users send in *Tron*, which is a program to destroy the Master Control Program that is preaching disbelief in the users.

Tron shows you things that are very, very spiritual. You can think of

yourself as a biocomputer or an intelligent terminal, run by a cosmic computer in the Earth Coincidence Control Office. The biocomputer contains certain wired-in survival programs dealing with eating, reproduction, and so on, which lower animals also possess. But when the biocomputer reaches a certain threshold of complexity, there are higher-level programs in the association cortex that permit such things as making models, learning to learn, choice, and so forth. We have short-term choices, but God help you if you go against the Master Control Program. A terminal cannot understand itself, because it lacks sufficient space, but a replica of itself is in the cosmic computer, which can understand it. At the highest level, your true self (the “user” in Tron) is a cosmic game player, with access to an infinite computer—the ECCO computer. That is metaprogramming, self-metaprogramming.

OMNI: How does one contact God?

Lilly: In many cases, I didn’t know whether I was taken on a trip by God or by one of His business officers in the outer galaxy. Guides at each level above ours pretend to be God as long as you believe them. When you finally get to know the guide, he says, “Well, God is really the next level up.” God keeps retreating into infinity. I’ve thought that I was in the mind of God—seeing rotating universes, yin and yang, male and female—but perhaps God himself is beyond that. Have I told you about the “Dust-bowl God”?

OMNI: No. What is the “Dust-bowl God”?

Lilly: In my new book I have a theory called the Dust-bowl God. God got bored with this universe and the distribution of intelligence in it. So He made a dust bowl out beyond the galaxies. In this dust cloud, every particle is intelligent; on the atomic level, each particle is as intelligent as a human being. The dust particles made themselves into stars and planets and animals and humans and everybody knew everybody; everything was totally aware of everything around it. Now the problem is, if every particle is equally intelligent and greater assemblages are even more intelligent, what are the traffic rules for relations between, say, humans and elephants? It would be nice to see such a universe, wouldn’t it—the Dust-bowl Universe?

OMNI: How would it differ from ours?

Lilly: Right. How would it?

Psychiatrist Calls for End to 30-Year Taboo Over Use of LSD as a Medical Treatment

by Sarah Boseley, Health Editor

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British psychiatrists are beginning to debate the highly sensitive issue of using LSD for therapeutic purposes to unlock secrets buried in the unconscious which may underlie the anxious or obsessional behaviour of some of their patients.

The UK pioneered this use of LSD in the 1950s. But psychiatrists found their research proposals rejected and their work dismissed once “acid” hit the streets in the mid-60s and uncontrolled use of the hallucinogenic drug became a social phenomenon.

Today, on the 100th birthday of Albert Hofmann, the scientist who discovered the mind-expanding properties of lysergic acid diethylamide in Switzerland, one consultant psychiatrist is openly risking controversy to urge that the debate on the therapeutic potential of LSD be reopened. Ben Sessa has been invited to give a presentation on psychedelic drugs to the Royal College of Psychiatrists in March—the first time the subject will have been discussed by the institution in 30 years.

“I really want to present a dispassionate medical, scientific evidence-based argument,” says Dr Sessa. “I do not condone recreational drug use. None of this is tinged by any personal experience.

“Scientists, psychiatrists and psychologists were forced to give up their studies for socio-political reasons. That’s what really drives me.”

LSD was brought to the UK in 1952 by psychiatrist Ronnie Sandison who had visited the labs of the drug company Sandoz, where Dr Hofmann worked. He came home with 100 ampoules in his bag and began to use them at Powick hospital, near Malvern in Worcestershire, on selected patients with conditions such as obsessional hand-washing or anxiety who did not respond to psychoanalysis.

Dr Sessa has looked back on the papers published by Dr Sandison and others from the heyday of psychedelic psychiatry, and thinks they may have modern relevance. They claim positive results in patients who were given LSD in psychotherapy to get to the deep-seated roots of anxiety disorders and neuroses. It took them, as the title of Aldous Huxley’s book has it, from the poem of William Blake, through “the doors of perception”. Yet when he was a student, says 33-year-old Dr Sessa, all his textbooks stated categorically that LSD had no medical use.

“It is as if a whole generation of psychiatrists have had this systematically

erased from their education,” he says. “But for the generation who trained in the 50s and 60s, this really was going to be the next big thing. Thousands of books and papers were written, but then it all went silent. My generation has never heard of it. It’s almost as if there has been an active demonisation.”

He says he understands why. LSD became a huge social issue. But he argues that nobody would ask anaesthetists to forgo morphine use because heroin is a social evil, and cannabis is now being formulated as a therapeutic drug.

Since the 1960s, when research was stopped on LSD, “depression and anxiety disorders have risen to almost epidemic proportions and are now the greatest single burden on today’s health services. Therefore, today’s political climate may be just right for the medical profession to reconsider the use of psychedelic drugs,” writes Dr Sessa in an as-yet unpublished paper with Amanda Feilding of the Beckley Foundation which promotes research into the nature of consciousness.

A major conference is being held in Basel, Switzerland, this weekend in honour of Dr Hofmann’s birthday. Scientists in the burgeoning psychedelic psychiatry movement will be there, alongside artists, musicians and those who look to hallucinatory drugs for spiritual experience.

In the past five years, the international climate has been changing, albeit very slowly. In the US, Israel, Switzerland and Spain, a few research projects have been permitted into the effects of LSD, MDMA (ecstasy) and psilocybin—the active ingredient in magic mushrooms—on the brain. They look at the use of the drugs in conditions such as post-traumatic stress, obsessive compulsive disorder and the alleviation of distress in the dying.

But Dr Sessa knows it will be an uphill struggle to get research proposals approved and funded in the UK. He believes the drugs are safe in medical use—given in a pure form in tiny doses and in controlled and supervised surroundings. But LSD is associated with flashbacks, and brain scans of clubbers using ecstasy have shown damage. Some psychiatrists are likely to be appalled at the idea. Former patients of Dr Sandison claimed his use of LSD had caused them long-term problems and attempted to bring a court action for compensation.

Dr Sandison says his early experimentation with LSD in the 50s produced results in difficult cases. “I recall one young woman. She had a near-drowning experience. She developed a severe anxiety state. It coloured everything.

“We didn’t get anywhere with ordinary psychotherapy, so we went on to LSD. She recalled an extraordinary memory of how, when she was eight, she had gone into a store with her mother and become separated from her. She went to a counter to ask an assistant and felt a man behind her trying to feel her up. She felt very confused by this and said she thought it was an odd way of stealing her purse.” he said.

“It was pretty alarming. She had suppressed all this. We began to get somewhere and we discovered why she had sexual difficulties with her husband and felt angry towards men.”

In 1954 he wrote his first paper, for the *Journal of Mental Sciences*, on LSD use in 36 patients. It concluded: “We consider that the drug will find a significant place in the treatment of the psychoneuroses and allied mental illnesses.” But by the mid-60s, Dr Sandison had had enough. The drug had become a street problem. He gave evidence in a couple of Old Bailey cases where arson and a murder were committed under the influence of LSD.

“I don’t see either ethically or professionally or technically why it shouldn’t be used in the future,” he says. “But anything done now has to be very different from what we did. All the expertise developed in those years by a large number of people has been lost so we have to start again.”

*Useful Cyberspatial Links for Further Research
into Worlds of Psychedelia*

<http://www.lycaeum.org>—The Lycaeum—Entheogenic Database & Community
<http://www.druglibrary.org/schaffer/lsd/braden.htm>—*The Private Sea: LSD and the search for God* (1967) by William Braden
<http://www.island.org>—Island Web—Aldous Huxley site
<http://www.burningman.com>—Burning Man 2007 in Black Rock City, Nevada
<http://www.welcomehome.org>—Rainbow Family of Living Light
<http://www.maps.org>—The Multidisciplinary Association for Psychedelic Studies
<http://www.dancesafe.org>—DanceSafe—Promoting Health and Safety within the Rave and Nightclub Community
<http://www.hightimes.com>—*High Times* Magazine
<http://www.erowid.org>—The Vaults of Erowid
<http://www.yahooka.com>—YaHooka: The Guide to Marijuana on the Internet
<http://www.hyperreal.org>—Hyperreal—Music, Chemistry, & Rave Culture
<http://www.shroomery.com>—The Shroomery
<http://www.psymon.com/psychedelia>—Bibliographia Studiorum Psychedelicorum: Explorations in the Psychedelic Experience
<http://deoxy.org>—The Deoxyribonucleic Hyperdimension
<http://www.tripzine.com>—*TripZine: The Journal of Psychedelic Culture*
<http://www.doitnow.org>—Do It Now Foundation
<http://www.psychedelic-library.org/child.htm>—*LSD: My Problem Child* by Albert Hofmann
<http://www.hippy.com>—Hippyland!
<http://www.bluehoney.org>—Blue Honey—The Infinite Mushroom
<http://www.spiritplants.org>—SpiritPlants Online Community
<http://www.lila.info>—Lila: Transpersonal Database
<http://www.cannabinoid.com>—Mari hemp: The Marijuana & Hemp Network
<http://fusionanomaly.net>—fUSION Anomaly
<http://www.norml.org>—NORML: The National Organization for the Reform of Marijuana Laws
<http://www.drugpolicy.org>—Drug Policy Alliance
<http://freespace.virgin.net/sarah.peter.nelson/lazyman/lazyman.html#contents>—*The Lazy Man's Guide to Enlightenment* by Thaddeus Golas
<http://www.zauberpilz.com/golden/g01-10.htm#contents>—*Hallucinogenic Plants* by Richard Evans Shultes; Illustrated by Elmer W. Smith
<http://www.prismagems.com/castaneda>—Carlos Castaneda's Don Juan's Teachings
<http://www.cognitiveliberty.org>—The Center for Cognitive Liberty & Ethics
<http://nemo.org>—Nemo's Utopia of Entheogenic Art