



MAPS

Bulletin of the Multidisciplinary Association for Psychedelic Studies Volume XI, Number 2

“In the future, it [MDMA/Ecstasy] will be called Despair.” So speculated Jerry Frankenheim, Ph.D., a National Institute on Drug Abuse (NIDA) official, in closing NIDA’s July 19-20, 2001 scientific conference on MDMA (Ecstasy). It causes “what look like holes in different little areas [of the brain]”. So explained a well-intentioned physician describing a graphically manipulated and misleading 3D brain scan of an Ecstasy user, as shown by Oprah Winfrey to her millions of viewers on September 28, 2001. “It’s like living with an Alzheimer’s patient.” So lamented a mother to Oprah about her Ecstasy-using seventeen-year-old son’s memory problems. In Illinois, simple possession of 15 doses will now get you a mandatory minimum four years with no parole.

In the future that MAPS is working hard to create, MDMA-assisted psychotherapy will become a regulated treatment for despair, not its cause. Fear, grief, guilt, sadness and despair are all emotions that can, in some circumstances, be worked through effectively with the aid of psychedelic psychotherapy. MAPS is currently funding the world’s only government-approved study of the therapeutic use of MDMA. The research is taking place in Madrid, Spain and is in the early stages with three subjects treated. This dose-response study evaluates the use of MDMA-assisted psychotherapy in women survivors of sexual assault who suffer from chronic posttraumatic stress disorder (PTSD). (<http://www.maps.org/research/mdma/spain/mdmaspain.html>)

MAPS has been seeking for several years to sponsor MDMA/PTSD research at Ben-Gurion University of the Negev, Israel. (<http://maps.org/research/mdma/israel/index.html>) The proposed protocol is an effort to expand the

Letter from Rick Doblin, Ph.D., MAPS President

exploration of MDMA-assisted psychotherapy’s healing potential to include patients with PTSD due to terrorism and war. The most recent opportunity for MAPS to discuss the MDMA/PTSD research project with Israeli Ministry of Health officials took place in Israel at the International Society of Addiction Medicine Conference, held in Tel Aviv from Sept. 9-11. Dr. John Halpern (p. 8), Dr. Evgeny Krupitsky (<http://www.maps.org/research/ketamine/ketrussia.html>), and myself attended the conference for MAPS.

On Sept. 9, I learned that regulatory approval in Israel would come after the FDA had approved an MDMA/PTSD protocol, but not before. On Sept. 11, Prof. Benny Shanon (p. 48) joined Dr. Halpern and me for lunch. During our conversation, Prof. Shanon informed us that several days before, a friend of his had been killed in a suicide bombing at a train station. After lunch, I walked by a beachside restaurant with a TV tuned to CNN, and watched with horror the events that have shaken our foundations. Stranded in Israel for several more days, I had time to reflect on MAPS’ mission, the reason I found myself far away from my wife and children in Boston at such a difficult time. I emerged out of that period of reflection with a renewed commitment to MAPS and its work. Struggling to help people access and use psychedelic tools to facilitate insight, acceptance, inspiration and healing seems at first a weak and feeble counterbalance to virulent hatreds and wholesale slaughter. Yet in the long run, trying to integrate psychedelics into legal contexts can lead to transformation through personal healing and cultural change.

On October 1, MAPS and Dr. Michael Mithoefer submitted our MDMA/PTSD protocol to the FDA. (<http://www.maps.org/research/mdma/index.html#fdamdmapped>) MAPS has finally completed its two year, \$70,000 MDMA literature review project (<http://www.maps.org/research/mdma/protocol/litreview.html>) and a \$10,000 MDMA/PTSD protocol development process. By the time you read this, the FDA will have given its initial response to the protocol.

In the future, MDMA need not be called Despair. If MAPS members continue their generous support so that we can fund sufficient research and educational projects, and if the FDA continues to place science over drug war politics, then MDMA, other psychedelic drugs and marijuana will in the future be called...FDA-approved!

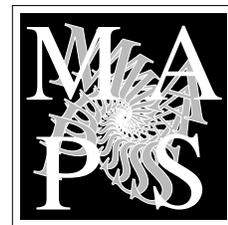
- Rick Doblin, Ph.D., MAPS President

Fall 2001

- 1 **Letter from Rick Doblin, Ph.D., MAPS President**
- 3 **MDMA-Assisted Psychotherapy in the Treatment of Posttraumatic Stress Disorder (PTSD): Protocol Submitted to FDA on October 1, 2001**
By Michael Mithoefer, M.D.
-
- 5 **Preliminary Report - Chronic Cannabis Use in the Compassionate Investigational New Drug Program: An Examination of Benefits and Adverse Effects of Legal Clinical Cannabis**
By Ethan Russo, Mary Lynn Mathre, Al Byrne, Robert Velin, Paul J. Bach, and Juan Sanchez-Ramos
-
- 6 **MAPS Medical Marijuana Production Facility: A Progress Report**
By Rick Doblin, Ph.D.
-
- 8 **Research at Harvard Medical School**
By John H. Halpern, M.D.
-
- 10 **Interview with Dr. John Halpern**
By Valerie L. Mojeiko
-
- 12 **A Dissertation On The Constructive (Therapeutic and Religious) Use of Psychedelics: A Request for Support**
By Hans C. Ossebaard
-
- 14 **Working with Difficult Psychedelic Experiences**
By Brandy Doyle
-
- 18 **Holotropic Breathwork with Dr. Stanislav Grof**
By Valerie L. Mojeiko
-
- 22 **Stanislav Grof interviews Dr. Albert Hofmann Esalen Institute, Big Sur, California, 1984**
By Dr. Stanislav Grof
-
- 36 **The Highest Art: the Art of Combining Traditional Consciousness Techniques with Advancing Consciousness Technologies in Sacred Psychedelic Practice**
By Brother Andrew H.
-
- 43 **Meditation and Psychedelics**
By Vanja Palmers
-
- 45 **Time**
By Dr. Roy Mathew
-
- 48 **Being Outside the Dominion of Time**
By Benny Shanon
-
- 53 **Bulletin Announcements**
- 54 **MAPS Membership Pages**
- Back Cover* **In Memoriam: John C. Lilly**

MAPS (Multidisciplinary Association for Psychedelic Studies) is a membership-based organization working to assist psychedelic researchers around the world design, obtain governmental approval, fund, conduct and report on psychedelic research in humans. Founded in 1986, MAPS is an IRS approved 501 (c)(3) non-profit corporation funded by tax-deductible donations. MAPS has previously funded basic scientific research into the safety of MDMA (3,4-methylene-dioxymethamphetamine, Ecstasy) and has opened a Drug Master File for MDMA at the U.S. Food and Drug Administration. MAPS is now focused primarily on assisting scientists to conduct human studies to generate essential information about the risks and psychotherapeutic benefits of MDMA, other psychedelics, and marijuana, with the goal of eventually gaining government approval for their medical uses. Interested parties wishing to copy any portion of this publication are encouraged* to do so and are kindly requested to credit MAPS including name and address. The MAPS Bulletin is produced by a small group of dedicated staff and volunteers. Your participation, financial or otherwise, is welcome.

©2001 Multidisciplinary Association for Psychedelic Studies, Inc. (MAPS)
2105 Robinson Avenue,
Sarasota, FL 34232
Phone: 941-924-6277
Toll-Free: 888-868-MAPS
Fax: 941-924-6265
E-mail: info@maps.org
Web: www.maps.org



Edited by Rick Doblin and Maggie Hall
Layout/Design by Mercedes Paulino

MDMA-Assisted Psychotherapy in the Treatment of Posttraumatic Stress Disorder (PTSD): Protocol Submitted to FDA on October 1, 2001

By Michael Mithoefer, M.D. (mmithoefer@home.com)

I am a psychiatrist in practice in the Charleston, South Carolina area, and am Clinical Assistant Professor of Psychiatry at the Medical University of South Carolina. I'm Board Certified in Psychiatry and was also board certified in Internal Medicine and Emergency Medicine. I'm also a Grof Certified Holotropic Breathwork Facilitator. A large part of my clinical practice consists of treating patients with posttraumatic stress disorder (PTSD).

On October 1, 2001, I submitted an Investigational New Drug Application (IND) to the U.S. Food and Drug Administration requesting permission to conduct a MAPS-sponsored study of MDMA-assisted psychotherapy for the treatment of PTSD. We are proposing a Phase 2 pilot study of twenty patients with chronic PTSD who have not responded to at least one attempt at therapy with a serotonin selective reuptake inhibitor (SSRI) such as Prozac or Zoloft, the only kind of medicine approved by the FDA in the treatment of PTSD. Phase 2 is the first level at which a drug is given to people with a diagnosed disorder to study the possible therapeutic effect. When this study is eventually approved in some form, it will become the first FDA-approved study of the therapeutic use of MDMA ever conducted.

“when this study is eventually approved in some form, it will become the first fda-approved study of the therapeutic use of mdma ever conducted.”

The treatment phase of the study, as we are proposing it, will consist of two MDMA sessions 3-4 weeks apart, using a single dose of 125 mg for each session. A male-female therapist team will be with the subjects continuously for the 6-8 hours of the session. The therapeutic method will be based on the model developed by Stanislav Grof, M.D., for LSD psychotherapy and Holotropic Breathwork, and recommended for MDMA-assisted therapy by Ralph Metzner, Ph.D., and George Greer, M.D., and Requa Tolbert, MSN.

In this model, particular attention is paid to set and setting. This will involve adequately preparing the subjects and helping them form clear intentions for the sessions, developing a strong therapeutic alliance, and providing a nurturing physical environment with appropriate music to support the MDMA-assisted psychotherapy session. In addition to the two MDMA sessions, there will be a total of twelve 90-minute sessions with the therapists. The first two of these will be devoted to preparation before

the drug sessions. The remaining ten will be to provide support and integration after the sessions.

This will be a “double blind” study in which 12 of the subjects will receive MDMA and 8 will receive an inactive

“the reason for having a placebo group is to help us distinguish the effects of the intensive therapy sessions alone from the effects of the mdma in conjunction with the therapy.”

placebo. Neither the investigators nor the subjects will know which has been administered. The nature of the treatment and follow-up sessions will be the same for each group. The reason for having a placebo group is to help us distinguish the effects of the intensive therapy sessions alone from the effects of the MDMA in conjunction with the therapy. After 3 months, if the subjects who received placebo are still having PTSD symptoms, they will have the option of having two MDMA-psychotherapy sessions and subsequent follow-up sessions.

At the beginning of the study and at several points after the MDMA-assisted psychotherapy sessions, independent raters will administer psychological rating scales to measure any changes in PTSD symptoms. Neuropsychological testing will also be done at the outset and the completion of the study. Careful medical monitoring will be performed throughout the study period. We recognize that in this small pilot study, we will not be able to prove the presence or absence of a statistically significant therapeutic effect from the MDMA. What we hope to do is to show a strong likelihood of efficacy so we can then apply for a larger Phase 3, trial which would be more definitive.

My fellow investigators on the application are, Mark Wagner, Ph.D. and Annie Mithoefer, BSN. Mark is Associate Professor of Neurology at The Medical University of South Carolina and Director of the Neuropsychology Section. He also has an extensive research background and many publications related to neuropsychology. Much of his clinical work has involved assessment of patient response to pharmacological agents. Annie is a registered nurse and is a Grof Certified Holotropic Breathwork Fa-

ilitator. She and I have had years of experience facilitating Holotropic Breathwork groups together and will be co-therapists for all the MDMA sessions. Matt Baggott, BA and Ilsa Jerome, Ph.D. have spent vast amounts of

time writing a literature review and several other sections that are part of our FDA application. I'm very grateful to have the opportunity

to collaborate with all of them.

Another aspect of this process that's been tremendously exciting and gratifying is the level of support we've received from MAPS and from many people who believe strongly in the importance of this kind of work. Rick Doblin's enthusiasm, encyclopedic knowledge of the issues involved and confidence that MAPS can raise the money for the study, are what allowed me to realize this could be accomplished in the first place. Since then we've received an amazing flow of invaluable advice and encouragement from many experienced clinicians and researchers from across the U.S. and Europe. All their generous help has brought us to this point with the application. Accompanying the application will be letters of support from: Charles Grob, M.D., Chief of Child Psychiatry at UCLA and principal investigator in one of the phase 1 MDMA trials in the U.S., Euphrosyne Gouzoulis-Mayfrank, M.D., one of the leading world authorities on the neuropsychological effects of MDMA, and Franz Vollenweider, M.D., Ph.D., Head of Behavioral Pharmacology at the Psychiatric University Hospital in Zurich, who has done very sophisticated prospective studies using PET scans and psychological testing before and after MDMA. In addition to his letter of support, he is allowing us to include his data, which shows no evidence of adverse effects from MDMA at the doses we will be using.

Now we're eagerly awaiting a response from the FDA, and hope to get started with the study in the near future.

“...we've received an amazing flow of invaluable advice and encouragement from many experienced clinicians and researchers from across the u.s. and europe.”

Preliminary Report Chronic Cannabis Use in the Compassionate Investigational New Drug Program: An Examination of Benefits and Adverse Effects of Legal Clinical Cannabis

By Ethan Russo (erusso@blackfoot.net), Mary Lynn Mathre, Al Byrne, Robert Velin, Paul J. Bach, and Juan Sanchez-Ramos

The Missoula Chronic Clinical Cannabis Use Study was proposed to investigate the therapeutic benefits and adverse effects of prolonged use of “medical marijuana” in a cohort of seriously ill patients approved through the Compassionate IND (Investigational New Drug Program) of the Food and Drug Administration (FDA) for legal use of cannabis obtained from the National Institute on Drug Abuse (NIDA), under the supervision of a study physician. The aim was to study the overall health status of 4 of the 7 surviving patients in the program.

“preliminary results demonstrate clinical effectiveness in these patients in treating glaucoma, chronic musculo-skeletal pain, spasm and nausea, and spasticity of multiple sclerosis.”

Unfortunately, its first patient, Robert Randall, passed away of complication of AIDS during the course of the study. The program began in 1976 when Randall successfully won a legal case demonstrating the medical necessity of cannabis to treat his progressive glaucoma.

This project provides a unique and important opportunity to scrutinize long-term effects of cannabis on patients who have used a known dosage of a standardized, heat-sterilized quality-controlled supply of low-grade marijuana from 10 to 19 years. Preliminary results demonstrate clinical effectiveness in these patients in treating glaucoma, chronic musculo-skeletal pain, spasm and nausea, and spasticity of multiple sclerosis. All 4 patients are stable with respect to their chronic conditions, and are taking many fewer standard pharmaceuticals than they were previously. Mild changes in pulmonary function were observed in 2 patients, while no significant attributable sequelae were noted in any other physiological system examined in the study, which included: MRI scans of the brain, pulmonary function tests (spirometry), chest X-ray, neuropsychological tests, hormone and immunological assays, electroencephalography (EEG), P300 testing (a computerized EEG test of memory), and neurological history and clinical examination. These results would support the provision of clinical cannabis to a greater number of patients in need. We believe that cannabis can be a safe and effective medicine with various suggested improvements in the existing Compassionate IND program.

This study was supported by the generous assistance of MAPS, John Gilmore, Preston Parish in memory of W. Erastus Upjohn, and the Zimmer Family Foundation. It is dedicated to the memory of Bob Randall.

MAPS Medical Marijuana Production Facility: A Progress Report

By Rick Doblin, Ph.D. (rick@maps.org)



Inspectors from the Massachusetts Department of Public Health visited University of Massachusetts/Amherst (UMass Amherst) in early August to look at the facility where UMass Amherst Professor Lyle Craker, with a grant from MAPS, is proposing to create a DEA-licensed medical marijuana production facility to grow marijuana for use in FDA-approved clinical research projects. The inspectors asked a series of reasonable questions and seemed generally sympathetic. Prof. Craker and MAPS have submitted a written response to the questions and await a response from the Massachusetts Department of Public Health.

“professor lyle craker, with a grant from maps, is proposing to create a dea-licensed medical marijuana production facility to grow marijuana for use in fda-approved clinical research projects.”

The questions asked were the following:

1. From where will we obtain seeds?
2. Who will fund the research?
3. Who will dry the material? Other processing steps? Where?
4. How will the material be transported?
5. Overall purpose of production? The big picture? The part UMass plays?

Our answers are as follows:

1. From where will we obtain seeds?

Once we have legal permission for the growing operation, we will explore importing them from a licensed supplier in either the Netherlands, England or Canada, all of which have legal medical marijuana growing operations. We will also try to see if we could obtain them from the University of Mississippi, where NIDA’s supply is grown. However, they probably have seeds of too low a quality (though perhaps their low quality product is due to production methods rather than poor quality seeds). I don’t see any point in trying to resolve this issue further until we have permission but can do so if necessary.

2. Who will fund the research?

MAPS, in the form of a grant to UMass Amherst.

3. Who will dry the material? Other processing steps? Where?

The material will be dried at UMass Amherst. We will try not to have to produce the

material into standardized joints of uniform weight, but will simply try to provide it to patients as buds in weighed containers to use in vaporizers or for self-rolling. The material produced at the U. of Mississippi is shipped to Research Triangle Institute for rolling into joints, which we could also do if necessary. This is an issue for the specific researchers to negotiate with FDA. One of the advantages of the use of marijuana as medicine is that patients can self-titrate, and one of the advantages of the use of vaporizers is the reduction in particulate matter.

It therefore may be possible to negotiate with FDA to provide marijuana for use in vaporizers. This is an issue that does not need to be resolved at this time but must be resolved by negotiation between researchers and FDA. We will do whatever is required. Perhaps FDA may even negotiate different arrangements with different researchers. If more information is required at this point, we can get more specific.

4. How will the material be transported?

In accordance with standard DEA procedures for shipping Schedule 1 drugs intended for FDA-approved research. This usually means FedEx with DEA Form 222.

5. Overall purpose of production? The big picture? The part UMass Amherst plays?

The major purpose of production is to develop high-quality material for FDA-approved research. MAPS has received Orphan Drug designation from FDA for the use of marijuana for AIDS wasting disease. The long-term goal is to develop marijuana in plant form as an FDA-approved medicine, not just for AIDS wasting patients, but also for other indications. No material will be supplied to patients outside of FDA- and DEA-approved protocols. This means that no Massachusetts patients will be supplied marijuana unless they are part of FDA-approved research protocols. This is NOT an attempt to produce material for Massachusetts patients in the event that a Massachusetts State medical marijuana initiative passes, unless the Massachusetts Department of Public Health works something out with FDA.

Another purpose of production is to facilitate re-

search at UMass Amherst into the production of marijuana for medical purposes. This can include research into different growing techniques, genetic research, or anything else that Professor Craker is interested in studying.

NIDA-produced marijuana is low-quality and is not easily obtainable, thus even privately funded research is

“nida has refused to supply its marijuana to some fda-approved researchers, even though the researchers were going to pay nida for the costs of the marijuana and the studies were going to be privately funded.”

restricted only to protocols approved by FDA and also by a special Public Health Service (PHS) review process.

Privately-funded researchers interested in studying any other Schedule 1 drug, such as MDMA, LSD, DMT and psilocybin, do not need to go through this PHS review since NIDA does not retain a monopoly on the supply of these

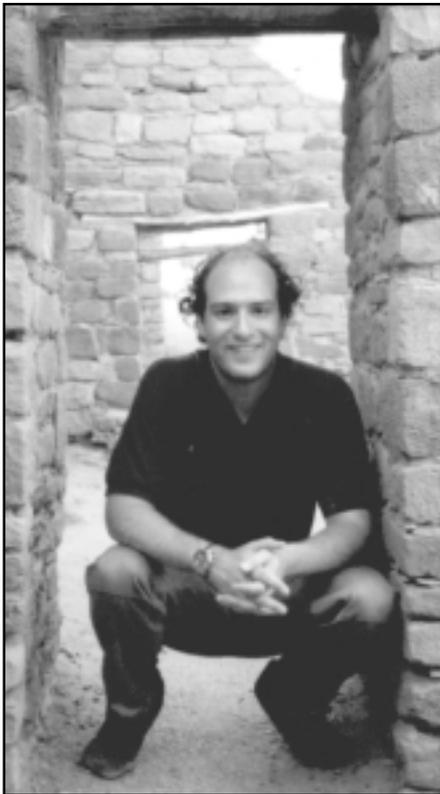
drugs. NIDA only has a monopoly on the supply of marijuana for FDA-approved research. NIDA has refused to supply its marijuana to some FDA-approved researchers, even though the researchers were going to pay NIDA for the costs of the marijuana and the studies were going to be privately funded. Some researchers have been discouraged from even applying to FDA for permission to conduct research with marijuana in plant form.

If initial pilot studies are promising and large-scale trials are approved, and especially if FDA ever approves the use of marijuana for prescription use, the amount that is needed to be produced will increase over the initial estimate of 25 pounds per year. If that occurs, MAPS and UMass Amherst will negotiate a contract to produce whatever amounts are required. Perhaps UMass Amherst would prefer to continue to grow smaller quantities for research purposes only and have any larger quantities produced by a private company, perhaps with some link to UMass Amherst. We will explore all these options together at the appropriate time, though these discussions would probably not be needed for at least several years after production begins to take place.

Now we wait for the next round of questions from the Massachusetts Department of Public Health. If we do manage to obtain approval from the Massachusetts Department of Public Health, negotiations will begin in earnest with DEA. The Washington, DC law firm, Covington & Burling, will likely assist MAPS and UMass Amherst on a pro bono basis in those negotiations.

Research at Harvard Medical School

By John H. Halpern, M.D.
 Alcohol and Drug Abuse Research Center
 McLean Hospital, Harvard Medical School
 (john_halpern@hms.harvard.edu)



In 1999 I published a paper reviewing the medical literature on whether or not hallucinogens cause long-term brain damage with functional consequences (Halpern JH, Pope HG Jr. Do Hallucinogens Cause Residual Neuropsychological Toxicity? *Drug and Alcohol Dependence*, 53:247-256, 1999). For many MAPS members, I am sure it comes as no surprise that the upshot of this review is that very little research actually has been done concerning this question and that most of the existing work is filled with a variety of methodological flaws — leaving the question essentially unanswered.

Serious design flaws continue to this day: many studies of residual effects from MDMA abuse, for example, include users with a history of dependence on other compounds already known to have CNS (central nervous system) toxicity. Moreover, all neurocognitive evaluations have been performed with the assumption that the test subjects' reports of drug use are accurate. With a substantial fraction of street MDMA not containing any MDMA at all, it is difficult to be certain that any of the adverse effects reported in this population are actually the result of MDMA. Clearly, before specifically condemning MDMA or a classical hallucinogen as a cause of brain damage, it is important to determine whether these agents are truly neurotoxic, or

whether neuropsychological deficits reported in users are actually the result of other substances used on the street, or are perhaps due to unrelated confounding variables.

Returning to our question, then: do hallucinogens cause residual neuropsychological toxicity? For many people, this question is not as interesting to answer (or read about) as, say, a clinical study in which subjects are actually provided hallucinogens to assess risks

“...the study I am completing on neurocognition is quite exciting and the information we are gaining about life-long hallucinogen use should offer a considerable improvement on previous studies.”

and benefits. But, actually, the study I am completing on neurocognition is quite exciting and the information we are gaining about life-long hallucinogen use should offer a considerable improvement on previous studies. Specifically, it happens that while mescaline and its principal natural source, peyote (*lophophora williamsii*), are Schedule 1 substances, peyote is the legal sacrament for some 300,000 American citizens who count themselves members of the Native American

Church (NAC). Here, then, is a population with legitimate access to a known hallucinogen while the tenets of the religion clearly frown on the use of drugs of abuse and alcohol. Literally, when peyote is consumed as part of the expression of the faith of the Native American Church, peyote is not a drug being ingested: it is the non-drug, sacramental use of peyote.

For several years now our research team has been administering a large battery of neurocognitive tests to Native Americans who either are life-long members of the NAC (never having problems with drugs or alcohol), or Native Americans who are in good sobriety now but have a history of heavy alcoholism (never having problems with other drugs and are not NAC members), or Native Americans who are not NAC members nor ever had problems with drugs or alcohol. A total of 210 individuals are being recruited (70 in each cell) and then are tested by a psychologist who is unaware of their group assignment. Tests of executive cortical functioning (i.e. processes such as decision-making, categorizing, etc.), visuospatial functioning, IQ, memory, and other types of standardized word games and puzzles are administered over three hours. Ultimately, the study should provide answers to lingering questions of brain toxicity from extended hallucinogen use as well as reconfirming the lasting impact that alcohol has upon cognition.

I have been steadily building a research career to study the effects (positive and negative) of hallucinogens in man for 8 years now. Mostly, I have tried to keep “under the radar” of the public eye because, while the need for education is great, I believe the greatest impact of this research will be in doing this work, reporting it, and letting the facts speak for themselves. “Talk less...do more.” There are a number of “experts” out there lecturing and writing, but few are or ever have been engaged in active research projects in the United States dealing with the direct effects of hallucinogens in people. It certainly would be nice to have more colleagues working in this area, and eventually that should happen.

“I am deeply thankful to maps for its donation of \$10,000, which is critically assisting us with ancillary and supportive expenses....”

In the meantime, it is the dedicated support from MAPS and the Heffter Research Institute and the National Institute on Drug Abuse (NIDA) that is making it possible for me to patiently, cautiously, methodically forge ahead a research career in this sometimes controversial area with sufficient rigor that the results should generally be accepted as scientifically sound and unbiased. I am deeply thankful to MAPS for its donation of \$10,000, which is critically assisting us with ancillary and supportive expenses that could not otherwise be paid for from my other funding sources. I am also grateful to NIDA for funding research in this controversial area. The United States has a tremendous shortage of qualified research doctors, so things move slowly these days because not enough people are going to medical school and then jumping through the years and years of hoops necessary for a medical research career with hallucinogens. This is a difficult path and it is humbling. There really is a tremendous amount of work to be done.

“...many studies of residual effects from mdma abuse, for example, include users with a history of dependence on other compounds already known to have cns toxicity.”

Interview with Dr. John Halpern

By Valerie Mojeiko
(valerie_mojeiko@yahoo.com)



As a researcher, you want to report the facts,” said Dr. John Halpern as we sat on his patio during a chilly desert evening in Farmington, New Mexico. “Here we have peyote, the natural source for mescaline and it is listed as a Schedule I substance of abuse. I do not believe that members of the Native American Church (NAC) are using a Schedule I substance. Literally, this is an example of the non-drug sacramental use of peyote. We need to respect these people’s culture.”

A reporter once called Halpern “the antidote to Timothy Leary.” He earned this name because his current study involving NAC members is assessing the safety of peyote. His findings may reopen the doors that were shut in the 1960s after Leary’s famed psilocybin experiments. Hopefully, after Halpern has undone some of the fear and misconceptions that currently surround psychedelics, future research into the therapeutic uses of psychedelics will become commonplace once again. “This is something that should have been done a long time ago,” he said. “It is something that may lead us to some important medical discoveries (about the therapeutic uses of psychedelics). Having a study that accurately addresses, ‘Does this cause cognitive brain damage?’ makes people feel a little more comfortable in eventually doing clinical evaluations again, which are definitely controversial.”

I had the pleasure of visiting the doctor this summer in the unfurnished house where he stays while doing his research. He leaves his Boston home to live and work in this house for weeks at a time and has been coming out here since 1997. It is only a half-hour drive from here to the Navajo (Diné) reservation, where most of his test subjects live. Specifically, Halpern is investigating whether cognitive brain damage can be found in Navajo peyote-users by comparing them with Navajo who do not use peyote but have had alcoholism in the past and with Navajo who are lifetime abstainers from all substances. Halpern describes the study and answers any questions the participants may have before asking any questions. If they pass the screening questions, an informed consent form is reviewed and signed, and then he interviews the subjects about personal and family health and education as well as administering a few brief multiple choice tests. If the subjects are not excluded from the study after completing this interview, they are then invited to return for a second three hour session of neuropsychological tests of memory, intelligence, attention, discrimination, and so on. The category of each test subject is not revealed to Andrea Sherwood (the psychologist who conducts these neuropsychological tests) in order to avoid potential bias against members of any one group.

By studying NAC members use of peyote as opposed to, say, college students’ use of LSD, a major methodological flaw found in most psychedelic studies is avoided: “Most people who have used hallucinogens hundreds of times are actually

“dr. halpern is investigating whether cognitive brain damage can be found in navajo peyote-users by comparing them with navajo who do not use peyote but have had alcoholism in the past and with navajo who are lifetime abstainers from all substances.”

poly-drug users,” said Halpern. “Peyote is not a drug for these people. Their religion strongly discourages the use of illegal substances or alcohol.”

In the afternoon, the time of day when the sun takes control of the desert, we visited a flea market in the town of Shiprock, on the Navajo reservation just outside of Farmington. The vendors sell blue corn mush, medicinal herbal smokes, and copious amounts of beautiful hand-beaded jewelry. We are the only white people there. I try to imagine how it could have been possible for this white doctor to convince hundreds of Navajo to come to his house in Farmington and tell him about their personal, spiritual life. “These are people who hate research,” Halpern explained. “It automatically makes them feel like they are going to be put under a microscope. It is a huge hurdle to make them feel comfortable. For two years, I came out here just for informational meetings. I wanted people to know that I was going to keep coming back.”

Halpern relates a particular story to us that illustrates one of the obstacles he faced in working with the Navajo, “One time early on there was an annual meeting of the NAC that I attended with 200 members in the audience. I presented to them what I was hoping to do, and an elder got up and spoke for 20 minutes in Navajo. I had no idea what he was saying; he just spoke to the crowd. Then he turned to me and said in English, ‘1492!’ Then he went back to speaking in Navajo. I quietly said to myself, ‘Boy, I sure have a lot to atone for!’ It’s probably why no one has ever done a study like this before, and will never do so again.”

A major benefit of this study for Halpern was being able to work with the Navajo people. “I know that 20 years from now, if I were broke and walking around on Navajo Nation, someone would recognize me and ask, ‘Do you need a meal or a shelter?’ We (Americans) are a culture of takers. These are a people who have a culture of sharing. (Being around the Navajo culture) was a big part of (the experience).”

Halpern first became interested in psychedelic research when his parents hosted a professor from British Columbia. “He was telling me about how he came across the NAC in Canada in the 1950s,” explained Halpern, “and how [peyote] helped them recover from alcoholism. I wound up doing a literature search and looking for articles. I was fascinated that hallucinogens could be used to treat alcoholism.”

In his last year of medical school, Halpern did a sub-

internship with Dr. Rick Strassman, who was doing a study on DMT. DMT is a short acting psychedelic that is also manufactured in minute amounts in the body. Strassman’s study explored the effect of DMT on humans in a controlled hospital setting. “I was helping him while DMT was administered to the volunteers,” said Halpern. “I was really impressed by the fact that there seems to be a real therapeutic potential there that should

“we need to respect these people’s culture.”

be investigated. I was blown away by that work.”

While working with Strassman, Halpern also pored over articles in the library of the University of New Mexico. This eventually led to his first literature review called, “The Use of Hallucinogens in the Treatment of Addiction.” (Halpern JH. *Addiction Research*, 1994).

“In my last year of psychiatric residency at Harvard (97-98), I also started a 3-year fellowship in addiction research with Dr. Jack Mendelson and Dr. Harrison G. Pope, Jr., and I have continued to collaborate with them to this day,” continued Halpern. “Our facility, the Alcohol and Drug Abuse Research Center at McLean Hospital (the principal psychiatry teaching hospital of Harvard Medical School) has a long history of properly conducting research with Schedule I substances. This has been a great home for my continued training and for my work.”

Halpern hopes to do more research with the Navajo in the future. “I have all of these friends now who are important to me on a personal level, but I also know that it is essential to keep working at building bridges across the many cultural divides for any further work to come about. One day, I hope to do a prospective treatment study of peyote for alcoholism. I would be working very closely with Navajo people on this study. Right now it is being used as an informal treatment. There are constantly people who stop drinking alcohol after participating in the peyote meetings of the Native American Church.”

“I am not interested in seeing peyote taken from the Native Americans and processed and turned into some commercial medication. It is sacred to them and should be honored that way. When I speak with Native American Church members about peyote, they tell me, ‘This is good medicine for me, doc.’ And I tell them, ‘I believe you.’ These people genuinely try to say what they mean and mean what they say. Peyote is their medicine - their sacrament - and it’s been saving lives for thousands of years.”

A Dissertation On The Constructive (Therapeutic and Religious) Use of Psychedelics: A Request for Support

By Hans C. Ossebaard (intox@wanadoo.nl)
INTOX- Research & Consultancy on Drug Issues
Utrecht, The Netherlands

Regular funding for off-mainstream research is hard to find, even in The Netherlands. After ten years of studying, lecturing about and researching drug use, I've decided to compose a thesis (dissertation) from published and unpublished research material at the 365-year old Utrecht University. Some additional study, however, is needed to complete this enterprise, which is focused on understanding drug use not as pathological, criminal or otherwise deviant behavior, but as a functional, constructive, meaningful drive. For this additional work I will need about \$3000 in order to cover traveling costs, pharmacological analyses of ayahuasca tea (DMT/harmaline alkaloids) and small compensations for respondents. All other expenses are covered by private money.

The thesis starts out in Chapter 1, with a discussion of motivational science and the exploration of altered states of consciousness (ASC). It is argued that the omnipresent health concept of 'risk' is only one aspect of the meaning of drug use for the user, very much like it is one aspect of driving for the driver. To understand the significance of drug use, one has to move to other meaningful aspects. Critical issues of methodology in drug research are discussed from the viewpoint that most of our knowledge of, for instance, addiction, is in fact constructed by the way social science operates in an anti-drug context. These and other issues provide a theoretical framework that relates the themes to be treated in the following chapters.

“several settings have been studied where people deliberately sought to explore altered states of consciousness for therapeutic reasons, for spiritual/religious reasons and for recreational reasons.”

Several settings have been studied where people deliberately sought to explore altered states of consciousness for therapeutic reasons, for spiritual/religious reasons and for recreational reasons. Chapter 2 deals with hallucinogenic drugs and the therapy of the Dutch psychiatrist Bastiaans, who treated many patients who were traumatized by the Second World War, mostly resistance fighters and concentration camp survivors, who would now be diagnosed with post traumatic stress disorder (PTSD). The small survey indicates that severe, chronic symptoms and complaints have been palliated or cured in his 'psycholitic' therapy. As of today, a majority of our respondents indicate partial to complete recovery from the traumas and related symptoms from which they suffered upon entering LSD (and/or ketamine and/or psilocybin) assisted treatment. They were and are positively satisfied

with their treatment [See: Ossebaard, H.C. & Maalsté, N. (1999). The Bastiaans method of drug-assisted therapy. *Bulletin of the Multidisciplinary Association for Psychedelic Studies* 9(2), p. 3-9; <http://www.maps.org/news-letters/v09n2/09203maa.html>]. Further study will enlighten this important area of human suffering and the role of drugs, be they licit or illicit, in its alleviation. A series of 10-20 additional in-depth interviews will be done in 2001/2002 with the elderly respondents who are willing to participate.

Chapter 3 is about DMT and contemporary ritual. The Santo Daime church is a 'new age' religion rooted in ancient Amazonian shamanism. The ritual use of a natural psychoactive preparation called 'ayahuasca tea' (containing the indole psychedelic substance DMT - dimethyltryptamine - and an indole alkaloid, harmaline) is an essential feature of this religion. The drink has traditionally been used for medical and religious reasons without any acknowledged risks to public health. The modern use of ayahuasca as a sacrament of Santo Daime in the United States and Europe has involved thousands of persons seeking religious, spiritual truth and mental well-being without any reported serious problems. For this reason its ritual use is no longer illicit in The Netherlands, according to a recent legal verdict (May, 2001). The research for this chapter will be conducted in collaboration with the Dutch ethnopharmacological foundation 'Friends of the Forest' and the Dutch branch of the Santo Daime church. In 2001/02 we aim to study adult, consensual and motivated Santo Daime congregants who will complete a translated version of Strassman's Hallucinogenic Rating Scale. Pharmacological samples of the preparation will also be taken. We hope to be able to show the specific spiritual meaning of intoxication in a religious setting and the moderating motivational variables, and to compare them internationally.

Chapter 4 comprises the 'cyberdelic experience'. Altered states of consciousness may be achieved not only by the use of psychoactive substances but also by involvement in a range of intensifying experiences. Illustrations of the latter are dancing or meditation. Rhythmic (audio)visual stimulation is another method of proven

effectiveness with regard to ASC. In the 2nd Century AD, the Greek astronomer Ptolemy described how during an experiment, the rays of sunlight falling through a rotating spoked wheel were forming patterns of color and light that induced euphoria in a bystander. The 19th Century French psychologist Pierre Janet discovered the calming effect of flickering light on his hysteric patients. In correspondence with cultural and technological changes, human aspirations for ASC find new routes. Brainwave

synchronizers are examples of today's non-drug technologies. They are said to induce a relaxation response by entraining alpha brain-wave (8-13 Hz) activity, even in the long-term. These and other claims galvanized their therapeutical and recreational use. The latter was reinforced due to the similarities between subjective experiences with 'digital drugs' and drug-induced experience. The present study investigates the major assertions with regard to stress reduction in a double blind quasi-experiment. The results show that immediate relaxation effects are attained though not in the longer term [See: Ossebaard, H.C. (2000). Stress reduction by technology. An experimental study into the effects of brain machines on burnout and state anxiety. *Applied Psychophysiology and Biofeedback* 25(2), p.93-102].

The last chapter will be a summary and concluding discussion of the psychological and cultural meaning of ASC, the pursuit of which may be an inherent human motivation. In the summer of 2002 most of the additional work (on LSD and DMT) will be done if I can find some financial support. Later next year, I will try to publish the results for a wider audience. Thus, I hope to contribute to a climate of freedom and understanding with regard to the issue of drug use. If anyone is interested and able to support this project financially this would be most welcome. I'd be happy to answer questions about my project and can be reached through e-mail at: intox@wanadoo.nl

[EDITOR'S NOTE: 100% of any donations to MAPS for Hans Ossebaard's research will be allocated directly to him. MAPS has recently donated \$500 for additional follow-up research with Dr. Bastiaan's patients, for Chapter 2 of the study.]

“the drink has traditionally been used for medical and religious reasons without any acknowledged risks to public health.”

working with difficult psychedelic experiences

maps
leaves
the labs,
heads
for the
concert
grounds

by brandy
doyle
(brandy@maps.org)

Holding the hand of a screaming man tied to a table in a medical tent, I realized that the situation felt less like psychedelic therapy than it did like a psychedelic Civil War hospital.

On Labor Day weekend, I went to the Hookahville music festival near Columbus, Ohio, with a group of volunteers interested in learning how to help people undergoing difficult psychedelic experiences. We were accompanied by MAPS president Rick Doblin, who helped to organize the project and enlist our team, and by an experienced underground psychedelic therapist, who led a training session for our group.

Hookahville is a three-day camping event celebrating the Ohio band Ekoostik Hookah, and featuring other bands (this year Little Feat and The Wailers also played). Like most big music fests, Hookahville draws thousands of young people, many of whom enjoy their music under the influence of LSD, psilocybin, MDMA, and other psychoactive substances. With over ten thousand people camped out at Buckeye Lake (an old Grateful Dead venue), more than a few end up overwhelmed, disoriented, and occasionally panicked.

Working under the supervision of Hookahville's medical staff, we created the Serenity Tent, a safe space for those in altered states. Over the weekend, we worked with about twenty-five individuals, most of whom were under the influence of MDMA, LSD, or psilocybin, often in combination and/or in combination with alcohol or marijuana. By the time they reached our facilities, people were often extremely disoriented, frightened, or agitated. They were sometimes unaware of their surroundings or unable to communicate. Some wandered in, others were brought kicking and screaming by the medical team, some were introduced by concerned friends, and others we found lost and incoherent on the concert grounds.

Our group, composed of volunteers from MAPS, DanceSafe, and Students for a Sensible Drug Policy, tried to help each person in a way most suited to their needs. Often this simply meant providing a quiet place away from the music and crowds, reassuring people and inviting them to feel safe in their surroundings. We helped people face the issues that troubled them, guiding them in a supportive but direct manner. We also encouraged people to use art supplies to express non-verbally some of what was taking place internally.

MAPS also arranged for DanceSafe to conduct on-site pill testing at the venue, identifying adulterants in pills sold as MDMA and providing harm reduction information to concertgoers. We facilitated communication between the DanceSafe team and

“...more than a few end up overwhelmed, disoriented, and occasionally panicked.”

the medics so that the medical staff would be aware of the ecstasy adulterants being ingested.

Everyone we counseled eventually calmed down without requiring a visit to the emergency room or the aid of tranquilizers. We were also able to help some people work on larger problems in their lives, problems that contributed to their having a difficult psychedelic experience in the first place. Helping people face their fears and concerns probably reduced longer-term psychological issues.

According to the medical unit, we reduced the average time individuals were held for observation and relieved pressure on their medical facilities. It also seems likely that more at-risk concertgoers received medical evaluation than would have otherwise; many people seemed to trust our group more than the medical or security teams, and accepted attention from the medics at our recommendation.

At least six people came to the tent under the influence of ecstasy but none suffered from overheating, serious dehydration, or other physical problems. This may be due, in part, to DanceSafe's efforts to identify fake pills sold as ecstasy. Our staff even heard a report that dealers threw out an entire bottle of pills after discovering that the pills contained not MDMA but DXM, a dissociative which is more harmful than MDMA and can cause dehydration and heat stroke, especially in combination with MDMA and/or alcohol.

The most rewarding work was that of helping people face deeper issues in their lives. One woman who came to us under the influence of LSD arrived in our tent yelling and talking incessantly. Over several hours of gently guiding her to work with her feelings, we learned that she was considering a divorce from an abusive husband, and she feared that she would lose custody of her children. She was shouting without pause to avoid facing her own thoughts, forcing her attention outward. Eventually, as she grew to feel safe with us and in her own thoughts, she was able to let go of her denial, and by the end of the evening she lay in a fetal position, sobbing unrestrainedly. It was a powerful expe-

"...we hope that the success of our pilot program will encourage event promoters to consider funding similar programs themselves."

rience for everyone there to see her begin to accept her grief and fear, the first step in coping with her difficult future.

Earlier in the weekend, a young man under the influence of ecstasy came to the tent, feeling fine but wishing to talk about other problems in his life. He had been experiencing panic attacks for two years, particularly when smoking marijuana. The panic attacks dated back to a traumatic experience with LSD,

and he worked with our volunteers to understand why he had these experiences, and how to work with and learn from the panic rather than try to suppress it.

We also were able to use our knowledge of psychedelics to assist the medical team. In one case, the medics restrained a young man under the influence of datura, a disorienting and potentially harmful botanical psychedelic. Before the medics were able to get information back from the Poison Control Center, a therapist with our group was able to tell them the duration and physiological effects of the drug. Minutes later, the Poison Control Center reported the same information. We spent about four hours with this person, calming him and helping him achieve a more normal consciousness in



THE SERENITY TENT AT HOOKAHVILLE XVI NEAR COLUMBUS, OHIO, LABOR DAY WEEKEND.

a shorter time than was anticipated. We also humanized his treatment. Though he was restrained by the medics, tied to a cot by his hands and feet, he was able to be with his friends, who brought a guitar and sang him a song.



JENNIFER LANDIS, STUDENTS FOR SENSIBLE DRUG POLICY;
MATT MAZZUCKELLI, SSDP; RICK DOBLIN, MAPS PRESIDENT;
AND SANDRA KARPETAS, HIGHER KNOWLEDGE NETWORK.

a small step in the right direction

From our perspective, the Hookahville project was very successful in furthering our educational mission. By helping to reduce harms related to psychedelic use, MAPS is acknowledging the risks as well as the benefits of psychedelics. This came through in some local media attention the project received, a large article on the front page of the feature section in the Sunday *Sarasota Herald-Tribune* on September 9, 2001. The story, headlined “Psychedelic Studies,” focused on our project at Hookahville and on the personalities of the MAPS volunteers from Sarasota who participated. [read online at <http://maps.org/media/hookahville.html>]

Hookahville was also an opportunity for us to increase awareness of psychedelic therapy and its potential benefits. We were able to teach, and learn, about the

“In response to our society’s harmful system for educating young people about drugs, maps is initiating the rites of passage project.”

theory and practice of “sitting” for those in altered states. It was amazing to participate in the work of simply “being there” for people and allowing them to open up to their experiences.

During the weekend, we also met and strategized with national board members from Students for a Sensible Drug Policy, the heads of local DanceSafe chapters, and other young people who are working on legal,

cultural, and health issues regarding psychedelics. Hopefully, this networking will strengthen all of the groups involved and facilitate more collaborative work.

Though MAPS is unlikely to fund projects similar to the “Serenity Tent” in the future, we hope that the success of our pilot program will encourage event promoters to consider funding similar programs themselves. Not only did our presence make Hookahville a safer and friendlier venue, we saved the management considerable time, resources, and police interaction.

the bigger perspective

It was an interesting experience, and a testament to the necessity of a new model for psychedelic use in our culture. Most of those we helped made it to our tent because they were making poor and uninformed choices. For example, a number of individuals reported ingesting MDMA, psilocybin, marijuana, and a six-pack of cheap beer. I found that my training in coping with psychedelic crises didn’t wholly prepare me for the “let’s get fucked up” attitude I saw around me.

As long as psychedelics are illegal, the contexts in which they are available will continue to be limited. The tools for understanding and working with psychedelic experiences will be limited. For many people, using psychedelics is, like other illegal activities, associated more strongly with self-destruction than self-awareness. Unfortunately, sometimes even those who choose to take psychedelics absorb this attitude, which affects their choices and their understanding of themselves. Criminalization limits the possible interpretations of psychedelic experience, leaving users to a recreational model that does not speak to the emotional or spiritual issues that can arise, or to the process of integrating psychedelic experience into the rest of one’s life.

This was vividly illustrated for me as I sat with a sixteen-year old boy during his first psychedelic experience, a mushroom trip. The medical staff had found him standing rigidly near the stage, oblivious to his surroundings. We stayed with him for hours, sitting with him as he lay quietly in our tent. At the end of the night, he told us he had a beautiful experience, and would consequently repeat it the following evening. We saw him early that afternoon, just hours after he left our tent, and he reported that he had taken LSD for the first time.



MAPS PREZ RICK DOBLIN AND SPECIAL PROJECTS DIRECTOR BRANDY DOYLE WORK WITH AN INDIVIDUAL UNDER THE INFLUENCE OF DATURA.

What a shame! Without a cultural context with which to make sense of his experience, without guidance to help make responsible choices, this young man has sought to explore psychedelics in the only way he's found: haphazardly. Probably he has never had an open, honest dialogue about psychedelics with his parents or his doctor, his teacher, religious leader, or therapist. In a sense, the young people who find themselves in a tent like a psychedelic Civil War hospital really are war victims, casualties of the Drug War that prevents open communication and responsibility regarding psychedelics.

a better model for youthful exploration

In response to our society's harmful system for educating young people about drugs, MAPS is initiating the Rites of Passage project. In Ohio, we worked with people experimenting with psychedelics as young as 14 and 15 years old. Because those who explore with psychedelics are most often young people, we hope to open dialogues between young people and their parents about the potential value and risks of psychedelic use. This Rites of Passage project is an attempt to find new ways to integrate psychedelics and marijuana into our culture.

Over the coming months, MAPS will be collecting stories of families who value psychedelics for a Rites of Passage section of our website. We are trying to find parents who have introduced their children to psychedelics or marijuana, or children who have introduced their parents to these substances. We're especially seeking stories told from both generations, in which parents and children can each write about their experiences from their own unique perspectives, with their stories posted together in a family narrative. We want to learn what sort of drug education parents have given their

a note of appreciation from someone helped at hookahville:

Hey Rick.

I'm sure you don't know my name, but I very distinctly remember you. I'm just writing to say thanks a TON for everything you did for me at Hookahville. I was the one all fucked up on Datura mid-day Saturday. You were there for me, and I just wanted to say thank you. I think you and Brandy helped to save my life. I can't thank you enough. I am forever indebted to you. I really don't remember a lot about those couple of hours that I was going through that, but you really helped out. I'm sure it was embarrassing for you (I KNOW it was for me!) and it took a lot of guts to do that. Thank GOD you guys were there. Let me know the next time you guys are in town so I can thank you guys in person. It seems the paramedics didn't know what to do, so I'm glad you guys did. I'm very appreciative.

Thanks again, man.

Anonymous

children, or children have given their parents, and how that education was received, believed, and used.

By presenting stories of supportive, responsible use, MAPS hopes to give families a better range of alternatives for talking and thinking about psychedelics and marijuana. With the help of our members, we hope to move the use of psychedelics beyond music fests and emergency tents, and into the realm of scientific research and cultural support.

Holotropic Breathwork with Dr. Stanislav Grof

By Valerie L. Mojeiko

(valerie_mojeiko@yahoo.com)

Interview by: Jagdeep Davies, Brandy Doyle & Valerie Mojeiko

Special Thanks to: John Buchanan and Sidney Cox

Holotropic Breathwork, our group facilitator told us, does not begin at a retreat, but is part of a process, a journey that is already underway. Our journey began at 2:00 a.m. on a Friday morning at the dorms of New College in Sarasota, Florida. That was when my fellow students, Brandy and Jag, and I embarked on our trip to Atlanta where we would enter another realm of consciousness with the guidance of psychedelic pioneer Dr. Stanislav Grof.

Holotropic Breathwork was developed by Dr. Grof as a non-drug alternative to reaching altered states of consciousness. When doing Holotropic Breathwork, one breathes in such a way as to flood the body with oxygen. A buildup of oxygen in the blood in combination with evocative music and a special set and setting causes the breather to experience a sort of mild trip. Types of experience usually fall into one or more of several categories - sensory, biographic, perinatal, and yogic sleep states. Holotropic Breathwork incorporates techniques from modern consciousness research, anthropology, various depth

psychologies, transpersonal psychology, Eastern spiritual practices, and mystical traditions of the world to form a profound approach to self-exploration and healing. The name Holotropic literally means “moving toward wholeness.”

Our journey brought us to Stanislav Grof's final U.S. breathwork workshop, as he will soon retire from facilitating Holotropic Breathwork after having passed on the skills needed to conduct workshops to the many facilitators. The workshop was held April 20-22, 2001, in a secluded hotel just outside of Atlanta, Georgia.

As Brandy, Jag, and I wandered through the hallways on the morning of our arrival, we could identify the other Breathwork participants by their oversized smiles and inviting eyes. Besides these two similarities, the crowd was surprisingly heterogeneous. The approximately six hundred people in attendance broke into more intimate groups of twenty each for

the therapeutic breathing and sharing sessions. The group of twenty that Brandy and I worked with contained everyone from a junior high school student who came with his dad, to a grandmother from San Francisco with purple hair and toenails, to a mid-30s couple who own an organic farm.

We looked like six hundred overgrown children having a mid-morning slumber party on the day of the breathing sessions. After filling one of the hotel's large banquet halls with blankets, pillows, and soft things, the first set of breathers lay down in their nests while the sitters sat beside them. There would be two identical three-hour sessions and each 'sitter-breather pair' would switch roles in the afternoon. The role of the sitter is to assist the breather in a way that does not interfere with or interrupt the process.

Dr. Grof prepared the breathers for their journeys and sent them off with the simple phrase, “Now link your breaths together.” Tribal music boomed in the background as the breathers took off, and it was

“a buildup of oxygen in the blood in combination with evocative music and a special set and setting causes the breather to experience a sort of mild trip.” – v.mojeiko

soon punctuated with screams, moans, and laughter from across the spectrum of emotions. The sitters stood vigil while their partners journeyed into the space inside of their own minds. Dr. Grof and his fellow facilitators watched over the room, occasionally stopping to answer questions or perform focused energy work on any breathers who were experiencing physical tension.

My personal experience at the workshop left me feeling very calm. While breathing, I lost consciousness several times and fell into a yogic sleep state. I was disappointed that I wasn't aware of my thoughts like I had been in my previous experience with Holotropic Breathwork, when I had been barraged with rapid flashes of inspiration. Dr. Grof addressed this concern during his speech that night though, when he told us that the most powerful healing occurs in yogic sleep states.

My sitting session, however, was incredible. I sat for Brandy, who was very calm and didn't require much maintenance as a breather except for occasionally asking for water. This allowed me to disperse my attention throughout the room. I watched several people get up off of the floor and begin dancing. Others appeared to be reliving birth experiences. The thing that touched me the most was an elderly woman on the far side of the room. Towards the end of the session, she began screeching and sobbing above all of the other noise. "No don't leave me! Why do you have to go?" I watched Dr. Grof kneel at her side to comfort her. She continued crying as everyone began trickling out of the room for lunch and mandala drawing. Tears came to my eyes as her screams penetrated my ears. I began sobbing uncontrollably just as she was; I was feeling her pain become my own. I glanced across the room and saw that other people were experiencing the same effect. After Brandy was finished breathing we left the room so that she could draw her mandala. Dr. Grof stayed at the woman's side.

After witnessing the incredible gentleness and compassion with which he worked on the individual level, the three of us had the opportunity to speak with Dr. Grof the following morning, and learn about his larger perspective on his career. Here is what he had to say.

.....

MAPS: Is this your last Breathwork workshop?

Grof: It's very likely. I was planning to do more reading and writing, but I am still planning to do the retreats in

"I believe that with the right kind of imagery, we could not just portray these altered states but induce them."

- dr. grof

Napa Valley. We also do one in Switzerland.

MAPS: So how do you feel about doing one of your last Breathwork weekends? What were some of the highlights?

Grof: The very wonderful feeling about it is that so many people have been trained and will continue to work. That part is very encouraging. Obviously, whenever a big era is ending, there is always some sadness involved, a bit of nostalgia.

MAPS: Was there anything special about this weekend?

Grof: Besides being the last one, it was certainly one of the larger groups. I really like the energy of the large groups.

MAPS: What are your plans for the future, outside of Breathwork?

Grof: Christina and I did the virtual reality consulting for a movie called Brainstorm in 1982. It is a very interesting screenplay about two scientists who develop a helmet. When someone has an experience, the helmet can record

"It would be a major turning point if the power of the media could be used in a positive way to dissipate the negative attitudes of their audiences." - dr. grof

it, and another person can wear the helmet and relive the experience. One of the two scientists is working late in the laboratory, has a heart attack and records it. In the morning the other scientist comes in and sees her dead, and the tape is still rolling. They realized they had recorded the death experience.

The director of the movie found us because he wanted to use the best special effects to portray the death experience. We were very excited about it, and we helped

design the special effects. I believe that with the right kind of imagery, we could not just portray these altered states but induce them. I wrote a science fiction novel that I would like to turn into a screenplay so that I could portray transformative and psychedelic experiences. My most immediate focus is really on science fiction feature movies. There is not really a great interest in academic books among American audiences. Movies reach all levels and have more cultural impact. The critical interface is really the media. The media still has a defensive attitude toward spiritual issues. It would be a major turning point if the power of the media could be used in a positive way to dissipate the negative attitudes of their audiences.

MAPS: How has your perspective on non-ordinary states changed over the years?

Grof: I think that the significance of non-ordinary states was increasing as I was getting more deeply involved. Initially, there was the sense that they were anomalies. I was trying to explain it in the context of the existing theories.

Then I saw that there was a major challenge, and that to explain what people were experiencing would require some kind of radical revision to psychology and psychiatry. The concept of spiritual emergency came from it. Then I realized that it was not just a challenge for psychology and psychiatry, but for the whole philosophy of Western science. It would radically change the whole worldview of science.

I think the last realization was that non-ordinary states would not only have major planetary significance, but I started seeing it as something, maybe the only thing, that could avert the global crisis. If enough people could experience the kind of psychospiritual change that we see individually, it could really make a difference in the world. Even if people did not study ecology, or would just focus on inner transformation during their sessions,

automatically they would move to worldviews that include greater ecological sensitivity, a reduction of hostility, an increase of tolerance to racial, political, and cultural differences. It just automatically generates the kind of transformation that would make a difference in

“then I saw that there was a major challenge, and that to explain what people were experiencing would require some kind of radical revision to psychology and psychiatry.”

– dr. grof

the world. The understanding and respect for cycles, could help people see the need for renewable energy, the need not to create waste and to emulate nature by operating in cycles rather than this linear binge—the bigger the better and so on.

MAPS: What do you see in the future of psychedelic research?

Grof: The situation is much better than when psychedelics first came. One reason is that the concept of psychotherapy at the time was lying on the couch and free-associating. When there were strong emotions involved it was called acting out and it was something that should not happen. The kinds of things that were happening in psychedelic sessions were seen as pathologies. Psychedelic states were called experimental psychoses. In that kind of situation it was very difficult to convey the message that those sorts of things could be therapeutic. The second reason was that the experiences that we were having and seeing were not supposed to happen, they were considered impossible. The medical community dismissed it as nonsense.

Today there is a very different situation. There is a great popularity of experiential therapies used to work with intense emotions. For people involved in these types of therapies, moving to psychedelics would not be a very big step. Also beneficial is the development of the new paradigm of thinking, the philosophical implications of quantum interruptions of physics, the Chaos Theory and so on. We have a completely different way of approaching these experiences, a way to bridge to science, not mainstream science, but science.

“there is a great popularity of experiential therapies used to work with intense emotions.” – dr. grof

MAPS: Do you think that more people are feeling the need for rituals in their lives?

Grof: Throughout history all cultures absolutely independently have developed rituals, which obviously reflects a very deep need in human beings. I think we are paying a toll for having lost the rituals. Christina went to a conference in New York, convened by the NY state legislature. They were very concerned about the young generation - sex and drugs and criminality. One man noticed that there were many ritualistic elements in the behavior of gangs. For example in some African tribes, when a boy comes of age they will send him out with a spear and when he comes back he will return with a lion. This is what makes him a man. In these NY gangs, if you want to be a member, they give you a gun and you have to shoot somebody. If you are a girl, you have to have sex with all the men in the group. He also noticed that when somebody is killed in a street fight, there are very elaborate rituals. Since they are missing meaningful rituals, they develop their own. He had this idea that we should create some rites of passage for the younger generation.

MAPS: Can you share a special psychedelic experience of your own?

Grof: Well there's so many. . .

.....

After thinking about our interview with Dr. Grof, I realized that as young adults, we have been introduced to mind-altering substances by our peers. We have also watched our peers get arrested for possessing or selling some of those substances. Altered states of consciousness, for many young people in America, are rarely associated with growing up or enlightenment as they are in many more "primitive" cultures, and are too often associated with sirens, drug-sniffing dogs, and the threat of jail. Drug-using youth are labeled as "the wrong crowd" by parents, teachers, and the other kids. Once a member of this group, it is only natural for the child to engage in other socially unacceptable behaviors - stealing, fighting, or skipping school. By being exposed to a legal route of altered consciousness such as Breathwork, perhaps these youth could explore themselves without the negative stereotype. While many parents and/or advocates of the War on Drugs may cringe when they hear the words "altered" and "consciousness" in the same sentence, few could find the phrase "breathing exercises" objectionable. The three of us are fortunate to have experienced

altered consciousness in such a loving and non-judgmental environment during the time in our lives when we are passing from youth to adulthood. Perhaps the solution to our culture's missing rites of passage can be found in Holotropic Breathwork. Maybe someday soon our culture will embrace a ritual such as Holotropic Breathwork and it will be just as common as getting a driver's license for young people like Brandy, Jag, and I to go through a session upon entering adulthood.

Our journey took us to explore a new realm of consciousness. For Stanislav Grof, the process of working with non-ordinary states of consciousness began over forty years ago. Stanislav Grof, M.D., was born and educated in Czechoslovakia. Grof's early research in the clinical uses of psychoactive drugs was conducted at the Psychiatric Research Institute in Prague, where he was Principal Investigator of a program systematically exploring the heuristic and therapeutic potential of LSD and

"throughout history all cultures absolutely independently have developed rituals, which obviously reflects a very deep need in human beings." - dr. grof

other psychedelic substances. He came to the United States in 1967 to complete a fellowship at Johns Hopkins University. He went on to become Chief of Psychiatric Research at the Maryland Psychiatric Research Center, Assistant Professor of Psychiatry at the Henry Phipps Clinic of Johns Hopkins University, and Scholar-in-Residence at the Esalen Institute in California where he developed the Holotropic Breathwork technique. He has since founded the International Transpersonal Association where he has organized large international conferences and held countless workshops. Grof has published over 100 articles in professional journals and authored several books, including *LSD Psychotherapy*, the new edition of which is now available from MAPS. Additional information about Holotropic Breathwork and upcoming workshops can be found at the Grof Transpersonal Training and Holotropic Breathwork website: <http://www.dnai.com/~gtr/>

Stanislav Grof interviews Dr. Albert Hofmann

Esalen Institute, Big Sur, California, 1984.

Editor's note: This remarkable dialogue from 1984 has never been published. We're printing it now in part to provide historical context for a new effort, in which MAPS is participating, to restart LSD psychotherapy research in the United States. In addition, this dialogue addresses and helps clarify the idealist view of the potential value of psychedelics, when used properly, to help "engender ecological sensitivity, reverence for life, and capacity for peaceful cooperation with other people and other species," qualities that are desperately needed in these times of terrorism and war.

Grof: It is a great pleasure and an honor for me this morning to welcome and introduce Dr. Albert Hofmann, to the extent to which he needs introduction at all. As you all know, he became world famous for his discovery of a compound that is probably the most controversial substance ever developed by man, diethylamide of lysergic acid, or LSD-25. When LSD made its entry into the world of science, it became an overnight sensation because of its remarkable effects and also its unprecedented potency. It seemed to hold tremendous promise in the research of the nature and etiology of schizophrenia, as an extraordinary therapeutic agent, as a very unconventional tool for training of mental health professionals, and as a source of inspiration for artists.

Dr. Hofmann's discovery of LSD generated a powerful wave of interest in brain chemistry and, together with the development of tranquilizers, was directly responsible for what has been called the "golden age of psychopharmacology." And then his prodigious child became a "problem child". This extraordinarily promising chapter in psychology and psychiatry was drastically interrupted by unsupervised mass self-experimentation and the ensuing repressive administrative, legislative, and political measures, as well as the chromosome scare and the abuse by the military and secret police. But I firmly believe that this chapter is far from being closed. Whether or not LSD research and therapy as such will return into modern society, the discoveries that psychedelics made possible have profound revolutionary implications for our understanding of the psyche, human nature, and the nature of reality. And these new insights are here to stay as an important part of the emerging scientific world view of the future.

Before we start this interview, I would like to add a little personal note. Dr. Hofmann's discovery of LSD and his work, in general, have had a profound impact on my own professional and personal life, for which I am immensely grateful. My first LSD session in 1956, when I was a beginning psychiatrist, was a critical landmark and turning point for me and since then my life has never been the same. So this interview gives me the opportunity to express my deep appreciation and gratitude to Dr. Hofmann for the influence he has had on my life.

What I would like to ask you first has something to do with the way people tend to qualify your discovery of the psychedelic effects of LSD. It is usually referred to as a pure accident, implying that there was nothing more involved in this entire matter than your fortuitous intoxication. But I know from you that the history was somewhat more complex



than that. Can you clarify this for us?

Hofmann: Yes, it is true that my discovery of LSD was a chance discovery, but it was the outcome of planned experiments and these experiments took place in the framework of systematic pharmaceutical, chemical research. It could better be described as serendipity. That means that you look for something, you have a certain plan, and then you find something else, different, that may nevertheless be useful.

And that is exactly what happened with LSD. I had developed a method for the synthesis of lysergic acid amides in the context of a systematic study, the purpose of which was to synthesize natural ergot alkaloids. At that

“...the discoveries that psychedelics made possible have profound revolutionary implications for our understanding of the psyche, human nature, and the nature of reality.” - S.G.

time, in the 1930s, a new ergot alkaloid had been discovered which is named ergometrine, or ergonovine. It is the real active principle of ergot. The presence of this alkaloid in ergot is the reason why it has been used in obstetrics to stop uterine bleeding and as an oxytocic. And this substance turned out to be an amide of lysergic acid.

Until the late 1930s, it had not been possible to prepare such substances in the laboratory. I discovered a technical procedure that made it possible and was able to achieve partial synthesis of ergonovine; I then also used this procedure to prepare other lysergamides. First came the modifications of ergonovine and one of these modifi-

cations, methergine, a homologue of ergonovine, is today the leading medicament in obstetrics to stop postpartum bleeding. I also used this procedure to prepare not so close derivatives of ergonovine, more different than methergine. And one of these compounds was LSD-25, lysergic acid diethylamide. The plan, the intention I had, was to prepare an analeptic, a circulatory and breathing stimulant.

“I got into a dreamlike condition, in which all of my surrounding was transforming. My experience of reality had changed and it was rather agreeable.” - A.H.

Grof: Was there some indication in the early animal experiments that LSD could be an activating agent?

Hofmann: No, I made LSD because it is an analog of coramine, which is diethylamide of nicotinic acid. Because of the structural relationship between LSD and the ring of the nicotinic acid, I hoped to get an analeptic. But our pharmacologist concluded that lysergic acid diethylamide did not have any clinically interesting properties and suggested that it be dropped out of research. That happened in the year 1938. But all along, I had a strange feeling that we should again test this substance on a broader scale. Then, five years later, in 1943, I finally decided to synthesize another sample of LSD. At the end of the synthesis, something very strange happened. I got into a dreamlike condition, in which all of my surrounding was transforming. My experience of reality had changed and it was rather agreeable. In any case, I left the laboratory, went home, lay down and enjoyed a nice dreamlike state which then passed away.

Grof: Did you immediately suspect that this was an intoxication from the drug you were working with?

Hofmann: I had the suspicion that it was caused by something from the laboratory, but I believed that it could have been caused by the solvent I had used at that time. I had used dichlorethylene, something like chloroform, in the very final state of preparation. So, the next day in the laboratory, I tried the solvent and nothing

happened. Then I considered the possibility that it might have been the substance I had prepared. But it did not make any sense. I knew I was very careful and my work was very clean. And, of course, I did not taste anything.

But I was open to the fact that, maybe, some trace of the substance had in some way passed into my body. That, maybe, a drop of the solution had come onto my fingertips and, when I rubbed my eyes, it got into the conjunctival sacs. But, if this compound was the reason for this strange experience I had, then it had to be very, very active. That was clear from the very beginning because I had not ingested anything. I was puzzled and decided to conduct some experiments to clear up this thing, to find out what was the reason for that extraordinary condition I had experienced.

Being a cautious man, I started this experiment with only 0.25 milligrams (the ergot alkaloids are usually administered in milligram dosages). That is an extremely low dose and I expected it would not have any activity. I thought I would increase very cautiously the quantity of LSD in subsequent experiments to see if any of the dosages were active. It turned out that when I ingested this quarter of a milligram, I had taken a very strong, a very high dosage of a very, very active compound. I got into a strange state of consciousness. Everything in my surroundings changed - the colors, the forms, and also the feeling of my ego had changed. It was very strange! And I became very anxious that I had taken too much and I asked my assistant to accompany me home. At that time we had no car available and we went home by bicycle.

Grof: Many people who have taken LSD, particularly in such a high dose, have a lot of respect for that ride. They realize what it is to ride a bicycle in that kind of a condition.

Hofmann: During this trip home on the bicycle - it was about four kilometers - I had the feeling that I could not move from the spot. I was cycling, cycling, but the time seemed to stand still. In my report afterward, I mentioned this trip on the bicycle to show that LSD affected the experience of time, as an example of the distortion of the sense of time. Then the bicycle trip became a characteristic aspect of the LSD discovery. As we arrived home, I was in a very, very bad condition. It was such a strange reality, such a strange new universe which I had entered, that I believed I had now become insane. I asked my assistant to

call the doctor. When the doctor arrived, I told him that I was dying. I had the feeling that my body had absolutely no feeling any more. He tested me and shook his head, because everything was OK.

Then, my condition became worse and worse. When I was lying on my couch, I had the feeling that I had already died. I believed, I had a sense that I was out of my body. It was a terrifying experience! The doctor did not give me anything, but I drank a lot of milk, as an unspecific detoxicant. After about six hours, the experience of the outer world started to change. I had the feeling of coming back from a very strange land, home to our everyday reality.

And it was a very, very happy feeling and a very

“I was cycling, cycling, but the time seemed to stand still.” - A.H.

beautiful experience. After some time, with my eyes closed, I began to enjoy this wonderful play of colors and forms, which it really was a pleasure to observe. Then I went to sleep and the next day I was fine. I felt quite fresh, like a newborn. It was an April day and I went out into the garden. It had been raining during the night. I had the feeling that I saw the earth and the beauty of nature as it had been when it was created, at the first day of creation. It was a beautiful experience! I was reborn, seeing nature in quite a new light.

Grof: We have seen this kind of sequence, the death-rebirth process, very regularly in psychedelic sessions. Many people link this experience to the memory of their biological birth. I wanted to ask you, if during the time when it was happening, it was just an encounter with death or if you also had the feeling that you were involved in a biological birthing process?

Hofmann: No, the first phase was a very terrifying experience, because I did not know if I would recover. First, I had the feeling that I was insane and then I had the feeling I was dying. But then, when I was coming back, I had of course the feeling of rebirth.

Grof: When did you become aware that this drug could be of significance to psychiatry?

Hofmann: Immediately! I knew immediately that this drug would have importance for psychiatry! But, at that time, I would never have believed that this substance

could be used in the drug scene, just for pleasure. For me it was a deep and mystical experience and not just an everyday pleasurable one. I never had the idea that it could be used as a pleasure drug. And then, soon after my experience, LSD came into the hands of psychiatrists. The son of my boss at that time, Dr. Werner Stoll, who was working at the Burghoeltzli Psychiatric Institute in Zurich, conducted the initial experiments with LSD.

First, we checked it in our laboratory, because the head of the Chemical Department, Professor Stoll, and the head of the Pharmacology Department, Professor Rothlin, said that what I was telling them was not possible. They told me: “You must have made a mistake when you measured the dosage. It is impossible that such

a low dosage could have an effect.” And Professor Rothlin then made an experiment with two of his assistants. They took only one fifth of what I had taken, 50 micrograms, to check it out. And even then, they had a full-blown experience!

Grof: So, this was, in a nutshell, the story of the discovery of LSD. And then we come to the next important chapter of your psychedelic research, the isolation and identification of the active principles of the magic mushrooms of the Mazatec Indians in Mexico. How long after the discovery of the psychedelic effects of LSD did Gordon Wasson contact you?

Hofmann: For the first ten years, LSD was my “wonder child”, we had a positive reaction from everywhere in the world. Around two thousand publications about it appeared in scientific journals and everything was fine. Then, at the beginning of the 1960s, here in the United States, LSD became a drug of abuse. In a short time, this wave of popular use swept the country and it became “drug number one”. It was then used without caution

“The reason for our success was that we used our own team for testing the fractions and did not rely on animal experiments.” - A.H.

and people were not prepared and informed about its deep effects. And then all kinds of things happened, which caused LSD to become an infamous drug. It was a troublesome time! Telephones, panic, and alarm! This had happened, that had happened.... it was a breakdown. Instead of a “wonder child”, LSD suddenly became my “problem child”.

I saw in the newspaper a notice that an American amateur mycologist and ethnologist, Gordon Wasson, and his wife had discovered mushrooms which were used in a ritual way by the Indians. These mushrooms seemed to contain a hallucinogen that produced an LSD-like effect. Of course, I did not know who these ethnologists were, but I certainly was interested in investigating these mushrooms. Then, I got a letter from Professor Heim, a French mycologist from the Sorbonne in Paris. Mr. Wasson and his wife, who had discovered this very old Mexican mushroom cult and had published information about the ritual use of these mushrooms, had sent him some samples. They had asked him if he could examine the mushrooms and make a precise botanical investigation.

Professor Heim tried to isolate the active principle from the mushrooms, but did not succeed. Gordon Wasson had also initiated chemical studies of the mushrooms in the United States, at the University of Delaware, but this work had not brought any positive results either. And so Professor Heim, who knew about the work we had done with LSD in Basel, asked me in his letter if I would be interested in taking on this research. So, in this way, LSD attracted the mushrooms to come into my laboratory.

“We explained to Maria Sabina that we had isolated the spirit of the mushrooms and that it was now in these little pills. She was fascinated and agreed to make a ceremony for us.”

- A.H.

“..I saw the earth and the beauty of nature as it had been when it was created, at the first day of creation. It was a beautiful experience! I was reborn, seeing nature in quite a new light.” - A.H.

At first, we had only 200 or 300 grams of these mushrooms. We tested them in animals, since we had some experience with LSD and we knew what kind of pharmacological activity could be expected from such psychoactive principles. We did not find anything and our pharmacologist suggested that the mushrooms probably were not active at all, that they were the wrong mushrooms, or that they had lost their activity when they had been dried in Paris. In any case, to clear the problem, I decided to make a self-experiment. I took a dosage

that was mentioned in the prescriptions in the old chronicles - 2.4 grams of dried mushrooms - and I had a full-blown LSD experience.

And it was very strange. I took it in the laboratory and I had to go home, because I had again taken a dosage that was rather high. At home, everything looked Mexican - the rooms and surroundings - although I had never been in Mexico before. I thought that I must have imagined all that, because I knew that the mushrooms had come from Mexico. For example, I had a colleague, a doctor who supervised me for this experiment. When he checked my blood pressure, I saw him as an Aztec. He had a German face, but for me he became an Aztec priest and I had the feeling he would open my chest and take out my heart. It was really an absolutely Mexican experience!

After a few hours, I came back from the Mexican landscape and I knew that we had not used the right tests. The work with animals would not have taken us anywhere; we had to test the activity (of the various amounts) in humans. And from then on, my colleagues and I tested personally all the extracts we made from the mushrooms. We extracted them with different solvents and used fractionating procedures to isolate the active principles.

Grof: How many steps did it take you from the beginning to the end to identify chemically the active principles?

Hofmann: We had about five or six steps. Finally, we ended up with a very small quantity, several milligrams of concentrated material that was still amorphous. And we could use it to make a paper chromatogram. It turned out that the substance was concentrated in four phases. We cut the paper chromatogram and four of my colleagues

and I ate these fractions. When one turned out to be active, then we could make some tests with this fraction, crystallize it, get the color reaction specific for it, and so on. Finally, we were able to isolate the active principles and it turned out to be two substances, which I named psilocybin and psilocin because they had been isolated from *Psilocybe mexicana*. Most of these magic mushrooms used by the Indians belong to the genus *Psilocybe*.

Then, when we had these substances, we sent them for pharmacological testing. It turned out that they were about a hundred times less active than LSD, but still very active. It means that about 5 to 10 milligrams is the active

dose. Later I received a letter from Professor Moore in Delaware, who congratulated us for solving the problem of the mushrooms. He and his team had worked for more than a year trying to isolate the active principles from these mushrooms and were not able to do it. They had tested all their extracts in animals, all kinds of animals, even fish, but were not able to find a lead. The

reason for our success was that we used our own team for testing the fractions and did not rely on animal experiments. Professor Moore then sent me the rest of these mushrooms; after all this work, he still had about 12 kilograms left.

Grof: What was the overall time that it took you to identify the active alkaloids?

Hofmann: About half a year. Having chemically identified these substances, we were then able to synthesize them in the laboratory. We were able to use the basic materials we had on hand from the LSD research, namely derivatives of tryptamine which could now be used for the synthesis of psilocybin, and psilocin. Gordon Wasson, who was a banker by profession and an amateur mycologist, was very impressed by the results. He did not know what active principles meant; for him it was the mushrooms that were the active agent. He came to Basel to visit us and I showed him these active principles in a pure crystalline form. It turned out that only about 0.5%

of the mushrooms represents the active principles. Instead of 5 grams of the mushrooms you can take 25 milligrams of psilocybin. Gordon was quite fascinated to see these crystals and then he said: "Oh, by the way, there is another magic drug the Indians use which has not yet been studied scientifically. It is called ololiuqui.

Grof: And so began another important chapter of your research.

Hofmann: Yes. I went with Gordon Wasson to Mexico to study the other magic plant materials, ololiuqui (morning

glory seeds) and *Salvia divinorum*, a new *Salvia* species that the Indians also used like the mushrooms. We visited Maria Sabina, the curandera or the shaman woman who had given the mushrooms to the Wassons. They were probably the first white people who ever ingested the mushrooms during the sacred ceremony. It was already late summer or beginning of fall and there were no more mushrooms. We explained to

Maria Sabina that we had isolated the spirit of the mushrooms and that it was now in these little pills. She was fascinated and agreed to make a ceremony for us.

To participate in the ceremony, you always have to have a reason. The mushroom ceremony is a consultation, like going to a doctor or a psychiatrist if you have some problems. Gordon told Maria Sabina: "I left New York three weeks ago and my daughter had to go to the hospital to have a child. I don't know what happened with her. Can the mushroom tell me what happened with my daughter?" So that was the reason they made a ceremony for us. It involved Maria Sabina, her daughters, and other shaman colleagues and it was a beautiful ceremony.

Grof: I understand that, on this occasion, Maria Sabina gave you the official "seal of approval," that after having taken the pills, she actually confirmed that their effects were identical to those of the magic mushrooms.

Hofmann: Yes. I gave her for the ceremony tablets of the synthetic psilocybin. I knew that she used a certain

"I started with the lysergic acid amides - methergine and LSD - and LSD attracted the mushrooms. The mushrooms then brought the ololiuqui and the work with ololiuqui took me back to lysergic acid amides. My magic circle!" - A.H.

number of mushrooms and I assessed the corresponding quantity of tablets. We used them and it was really a full-blown wonderful ceremony which

lasted until the morning. When we left, Maria Sabina told us that these tablets really contained the spirit of the mushrooms. I gave her a bottle of them and she said: "I can now also perform the ceremonies during the times when we have no more mushrooms."

Grof: How did you now move from your mushroom research to the work with ololiuqui?

Hofmann: I got the supply of ololiuqui, seeds of a certain morning glory family, from Gordon Wasson. Gordon got them from a Zapotec Indian who had collected them for him. These seeds, like the mushrooms, were used in ceremonies for a kind of magic healing and for divination. We were able to isolate the active principles responsible for the effect of these seeds and I was quite astonished to find out that these seeds contained as the active principles monoamid and hydroxyethylamid of lysergic acid and a bit of ergonovine. These were derivatives of lysergic acid which I had on my shelf through my studies with LSD. I initially could not believe that this was possible, because the lysergic acid derivatives I had worked with before were produced by a fungus.

Grof: And the morning glory seeds come from flowering plants that belong botanically to an entirely different category.

Hofmann: Yes, these plants belong to two very different stages of evolution in the plant kingdom, which are quite remote from each other. And it is absolutely unusual to find the same chemical products in quite different stages of plant evolution.

Grof: I have heard that, at the beginning, your colleagues actually accused you, saying that you must have contaminated your samples from the ololiuqui research with the products of your LSD work that you kept in your laboratory. Knowing how meticulous your work is, that

"...this possibility to change reality, which exists in everyone, represents the real freedom of every human individual. He has an enormous possibility to change his world view." - A.H.

was quite an outrageous accusation!

Hofmann: That is true. I gave the first report on this work in 1960, at the International Conference on Natural

Products in Sydney. When I presented my results, my colleagues shook their heads and said: "It is impossible that you find the same active principles in a quite different section of the plant kingdom. You are working with all kinds of lysergic acid derivatives; you must have mixed up something and that is the reason." But finally, of course, they checked it and confirmed our results.

That was the closing of a kind of magic circle. I started with the lysergic acid amides - methergine and LSD - and LSD attracted the mushrooms. The mushrooms then brought the ololiuqui and the work with ololiuqui took me back to lysergic acid amides. My magic circle!

Grof: Have you actually tried the ololiuqui yourself?

Hofmann: Yes, I did. But, of course, it is about ten times less active; to get a good effect, you need one to two milligrams.

Grof: And what was that experience like?

Hofmann: The experience had some strong narcotic effect, but at the same time there was a very strange sense of voidness. In this Void, everything loses its meaning. It is a very mystical experience.

Grof: Usually, when you read the psychedelic literature there is a distinction being made between the so-called natural psychedelics, such as psilocybin, psilocin, mescaline, harmaline, or ibogaine, which are produced by various plants (and this applies even more to psychedelic plants themselves) and synthetic psychedelics that are artificially produced in the laboratory. And LSD, which is semi-synthetic and thus a substance that was produced in the laboratory, is usually included among the latter. I understand that you have a very different feeling about it.

Hofmann: Yes. When I discovered lysergic acid amides in ololiuqui, I realized that LSD is really just a small

chemical modification of a very old sacred drug of Mexico. LSD belongs, therefore, by its chemical structure and by its activity, in the group of the magic plants of Mesoamerica. It does not occur in nature as such, but it represents just a small chemical variation of natural material. Therefore, it belongs to this group as a chemical and also, of course, because of its effect and its spiritual potential. The use of LSD in the drug scene can thus be seen as a profanation of a sacred substance.

And this profanation is the reason that LSD has not had beneficial effects in the drug scene. In many instances, it actually produced terrifying and deleterious effects instead of beneficial effects, because of misuse, because it was a profanation. It should have been subjected to the same taboos and the same reverence the Indians had toward these substances. If that approach had been transferred to LSD, LSD would never have had such a bad reputation.

Grof: Let me move to another subject. Can you tell us something about the attempts to isolate the active alkaloids from *Salvia divinorum*?

Hofmann: Yes. When I was in Mexico, we also encountered another plant that the Indians used ritually, like *ololiuqui* or like the mushrooms. It was a member of the *Salvia* species which had not been botanically identified. After a long trip into Sierra Mazateca, we finally found a curandera who conducted a ceremony with this plant and we had the opportunity to have an experience with it. Gordon Wasson, my wife, and myself ingested the juice of fresh leaves and experienced some effects, but it was very mild. It was a clear-cut effect, but different from the mushrooms.

Grof: Have you attempted the isolation and chemical identification of the active principle from *Salvia divinorum*?

Hofmann: I took the leaves and made extracts from them by pressing out the juice. I took this extract to Basel to my laboratory and wanted to chemically analyze it, but it was no longer active. It seems that the active principle is very easily destroyed and the problem of chemical analysis is

not yet solved. But we were able to establish the botanical identity of this plant. It was determined at the Botanical Department at Harvard that it was a new species of *Salvia* and it got the name *Salvia divinorum*. It is a wrong name, bad Latin; it should be actually *Salvia divinorum*. They do not know very good Latin, these botanists. I was not very happy with the name because *Salvia divinorum* means “*Salvia* of the ghosts”, whereas *Salvia divinorum*, the correct name, means “*Salvia* of the priests”, But it is now in the botanical literature under the name *Salvia divinorum*.

Grof: Was it Dr. Richard Schultes at Harvard who identified the plant?

Hofmann: No, it was done in the same Institute, but by two other botanists; they were the ones who gave it the name.

Grof: Was this the end of your research of psychedelic substances? Have you been interested since then in any other psychedelic plants? And have you made any more attempts at identifying some of their active principles?

Hofmann: No. No more.

Grof: Was this work interrupted because of the political and administrative problems at Sandoz caused by the unsupervised use? Do you think you would have otherwise continued in this work? And would you have liked to carry on?

Hofmann: Yes, I have already said that the abuse and misuse in the drug scene brought many troubles to our company. Then came the legal restrictions from the health authorities in nearly all countries and, of course, management of our company was no longer interested in pursuing this avenue of research.

Grof: I would like to ask you now about another project, your work with Gordon Wasson concerning the Mysteries of Eleusis. In your book *The Road to Eleusis*, you suggest the possibility that it was a psychedelic cult that actually existed and practiced for almost 2000 years, from

“When I discovered lysergic acid amides in *ololiuqui*, I realized that LSD is really just a small chemical modification of a very old sacred drug of Mexico.” - A.H.

1400 BC to 400 AD. And even then people did not just lose interest in it, but it was terminated by an edict of the Christian emperor Theodosius who prohibited and suppressed all pagan ceremonies.

Hofmann: In professional circles of Greek scholars, it is absolutely clear that the ancient Greeks used some psychoactive substance in their cult. There exist many references to a sacred beverage, kykeon, that was administered to the initiates after preparations which took one week. After the adepts got this potion, they had, all together, powerful mystic experiences that they were not allowed to talk about and describe exactly. I had worked

“What could possibly have been so powerful and interesting that it kept the attention of the ancient world for almost two thousand years without interruption?” - S.G.

about twenty years ago with the Greek scholar, Professor Kerenyi, on this problem.

The interesting question is: what were really the ingredients of this kykeon, this sacred potion? We had studied many plants that Professor Kerenyi had suggested as possible candidates, but they were not at all psychedelic. Then came Gordon Wasson with his hypothesis; naturally, it involved mushrooms, because he saw mushrooms everywhere! He asked me, if the men in Greek antiquity had the possibility to prepare a psychedelic potion from ergot. He came to this idea, because the Mysteries of Eleusis were founded by the Goddess Demeter and Demeter is the goddess of grain and ergot (Mutterkorn). That gave him the idea that ergot could be involved in the preparation of kykeon.

I had all the materials at hand because, as part of our studies of ergot, we had collected all the literature and also many samples of ergot from all around the world. This included the ergot that was growing in the Mediterranean basin, in Greece, and so on. One or two of these wild ergots growing on grasses can also be found in rye fields or in barley fields. Rye did not exist in antiquity, but barley did, and in barley fields you can find certain wild ergots.

We had found and analyzed all this ergot before Gordon asked me his question and in one species growing on wild grass (*Paspalum*) we had found exactly the same components as in *ololiuqui*. Its main components were

lysergic acid amide, lysergic acid hydroxyethylamide, and also lysergic acid propanolamide (ergonovine). Therefore, I had no difficulty answering Gordon's question: Man in antiquity had the possibility to prepare a psychedelic potion from ergot. He had to just collect the ergot, grind it, and put it into the kykeon.

Gordon, pursuing the problem of kykeon, addressed not only me, as a chemist, but also a Greek scholar Professor Carl Ruck at Harvard, who was a specialist on the role of medicinal plants in Greek mythology and Greek history. Professor Ruck was able to direct Gordon to some allusions in the *Hymn to Demeter* that provided support for his hypothesis. These passages mentioned

that, indeed, there was some kind of ergot which was used to make this kykeon psychedelic. And the three of us then co-authored a book, which explored this evidence.

Grof: That was the book *The Road to Eleusis*?

Hofmann: Yes, that was *The Road to Eleusis*, which was published here in the United States and also came out in some other languages, such as Spanish and German.

Grof: You describe in this book that you actually did a self-experiment with one of the natural ergot alkaloids to test this hypothesis, to see if it was psychedelic. Was it ergonovine?

Hofmann: Yes, we had found active principles in this ergot which grows in Greece. It contained lysergic acid amide and hydroxyethylamide, about which it was already known that they were psychedelic. But it was not known if ergonovine had some psychedelic effects and I was interested to find out. Ergonovine had been used already for many decades in obstetrics without any reports that it had been psychedelic. But the dosage which is injected to women in childbirth, is only 0.5 mg and 0.25 mg. I tested it up to 2 mg and, in that dosage, it had clearly psychedelic effects. It had not been discovered earlier, because when it is administered, women are just at the end of the process of delivery. They are thus in a state in which they are not very good observers and, in addition, the dosage is too low to produce psychedelic effects. Methergine and ergonovine also produce psyche-

delic effects but in higher doses.

Grof: It is a very interesting hypothesis, because it gives a plausible answer to the intriguing question: What was it that was being offered at Eleusis? What could

possibly have been so powerful and interesting that it kept the attention of the ancient world for almost two thousand years without interruption? And that it attracted so many exceptional and illustrious people? Also the fact that it was such a strongly guarded secret - the punishment for revealing the secret of the mysteries was death - suggests that something quite extraordinary, something extremely important was happening there.

Hofmann: It was a very important spiritual center for nearly 2000 years. All we have to do is to look at all the famous people, who for thousands of years in the world of antiquity, in the Roman and Greek world, were introduced to the Mysteries of Eleusis. For us it was a very interesting problem to find out what the initiates really ingested. There were two families in Eleusis who knew the secret of the kykeon, two generations of families who conserved the secret.

Grof: One often hears that the use of psychedelic materials is alien to the Western culture, that it is something that is practiced in pre-literate human groups, in "primitive" societies. The enormous effect that the death/rebirth mysteries of various kinds must have had on the Greek culture, which is generally considered the cradle of European civilization, must be the best kept secret in human history. Many of the great figures of antiquity, such as philosophers Plato, Aristotle, and Epictetus, the playwright Euripides, military leader Alkibiades, Roman statesman and lawyer Cicero, and others were initiates of these mysteries, whether it was the Eleusinian variety or some other forms - the Dionysian rites, the mysteries of Attis and Adonis, Mithraic or Korybantic mysteries, and the Orphic cult.

Hofmann: It shows again that in old times, and also in our time among the Indian tribes, psychedelic substances

“The enormous effect that the death/rebirth mysteries of various kinds must have had on the Greek culture, which is generally considered the cradle of European civilization, must be the best kept secret in human history.” - S.G.

were considered sacred and they were used with the right attitude and in a ritual and spiritual context. What a difference if we compare it with the careless and irresponsible use of LSD in the

streets and in the discotheques of New York City and everywhere in the West. It is a tragic misunderstanding of the nature and the meaning of these kinds of substances.

Grof: I would now like to move away from these cultural and historical explorations and go back to chemistry. Although pharmacology is not your primary interest, I would like to ask you a question about the mechanism of the action of LSD. There does not seem to be unanimity as to why LSD is psychoactive and there are several competing hypotheses about it. Do you have any ideas in this regard?

Hofmann: We have done some research that is related to this question. We labeled LSD with radioactive carbon, C14. That makes it possible to follow its metabolic fate in the organism. Strangely enough, we found, of course in animals, that 90% of the LSD is excreted very quickly and only 10% of it goes into the brain. And in the brain it goes into the hypothalamus and that is where the emotional functions are located. This corresponds also to the fact that it is primarily the emotional sphere that is stimulated by LSD. The rational spheres are rather inhibited.

And, of course, it is not LSD that produces these deep psychic changes. The action of LSD can be understood only in terms of its interaction with the chemical processes in the brain which underlie the psychic functions. Since LSD is a substance, its action can be described only in terms of interaction with other substances and with the structures in the brain, the receptors, and so on.

One of the popular hypotheses was, for example, the 'serotonin hypothesis' of the British researchers Woolley and Shaw. It was found that LSD is a very specific and strong inhibitor of serotonin in some biological systems. And since serotonin plays a very important role in the chemistry of neurophysiological functions in the brain, this was seen as the mechanism underlying its psychologi-

cal effects.

Since this antagonism between LSD and serotonin was very strong and specific, our pharmacologist was very interested to find out, if there are serotonin antagonists without hallucinogenic effect. This was not only an interesting theoretical question, but a matter of some practical interest, because serotonin is involved in the mechanism of migraine headaches and in certain information processes. A serotonin antagonist without psychedelic effects could be used as a medicament.

Grof: This was the reason why 2-brominated LSD, a strong serotonin antagonist without psychedelic effects, was so important?

Hofmann: We made all kinds of LSD derivatives. Also among them was the 2-brominated LSD, which turned out to have strong anti-serotonin effect, but without any psychedelic effects. After that finding, the 'serotonin hypothesis' could not be sustained any more. Another problem was that the serotonin antagonism is not studied

“We can study material processes and various processes at the energetic level, that is what we can do as natural scientists. And then there comes something quite different, the psychic experience, which remains a mystery.” - A.H.

in the brain, but on peripheral biological preparations.

Grof: Then there is, of course, the complex question of the blood/brain barrier; which of the substances that show peripheral antagonism are actually allowed to enter the brain?

Hofmann: Yes. LSD also has effects on other transmitters, such as dopamine and adrenaline and it is very complicated. For this reason, LSD was a very useful and influential tool in brain research and has remained that until this very day.

Grof: I am very interested in one particular hypothesis concerning the effects of LSD. It was formulated by Dr. Harold Abramson and his team in New York City. On

the basis of some animal experiments, particularly with the Siamese fighting fish (*Betta splendens*), they came to the conclusion that the most relevant aspect of the LSD effect involves the enzymatic transfer of oxygen on the subcellular level. For me this was interesting, because it could account for the similarity between the LSD effects and the experiences associated with the process of dying. And there might also be connections to the effects of the holotropic breathwork that my wife Christina and I have developed. Unfortunately, it seems that this research remained limited to that one paper; I have not seen any additional supportive evidence for this hypothesis.

Hofmann: There was another hypothesis, where the emphasis was, I believe, on the effect of LSD on the degradation of adrenaline and noradrenaline leading to abnormal oxidation products (Hoffer and Osmond's adrenochrome and adrenolutine hypothesis). But none of this has been confirmed and the question of the effective mechanisms of LSD is still open. In addition, it is important to realize that there is an enormous leap from

chemistry to psychological experience. There are limits to what this basic chemical background can tell us about consciousness.

Grof: If I understand you correctly, you feel, very much like I do myself, that even if we could explain all the biochemical and neurophysiological changes in the neurons, we are still confronted with this quantum leap

from biochemical and electrical processes to consciousness that seems unbridgeable.

Hofmann: Yes, it is the basic problem of reality. We can study various psychic functions and also the more primitive sensory functions, such as seeing, hearing, and so on, which constitute our image of our everyday world. They have a material side and the psychic side. And that is a gap which you cannot explain. We can follow the metabolism in the brain, we can measure the biochemical and neurophysiological changes, electric potentials, and so on. These are material and energetic processes. But matter and electric current are quite a different thing, quite a different level, than the psychic experience. Even our seeing and other sensory functions already involve the same problem. We must realize that there is a gap which

probably can never be overcome or be explained. We can study material processes and various processes at the energetic level, that is what we can do as natural scientists. And then there comes something quite different, the psychic experience, which remains a mystery.

Grof: There seem to be two radically different approaches to the problem of brain/consciousness relationship as it manifests in psychedelic sessions. The first one is the traditional scientific approach that explains the spectrum of the LSD experience as a release of information that is stored in the repositories of our brain. It suggests that the entire process is contained inside of our cranium and the experiences are created by combinations and interactions of engrams that have accumulated in our memory banks in this lifetime.

A radical alternative to this monistic materialistic view was suggested by Aldous Huxley. After some personal experiences with LSD and mescaline, he started seeing the brain more like a “reducing valve,” that normally protects us against a vast cosmic input of information, which would otherwise flood and overload our everyday consciousness. In this view, the function of the brain is to reduce all the available information and lock us into a limited experience of the world. In this view, LSD frees us from this restriction and opens us to a much larger experience.

Hofmann: I agree with this model of Huxley’s that in psychedelic sessions the function of the brain is opened. In general, we have limited capacity to transform all the stimuli which we receive from the outer world in the form of optical, acoustic, and tactile stimuli, and so on. We have a limited capacity to transfer this information so that it can come into consciousness. Under the influence of psychedelic substances, the valve is opened and an enormous input of outer stimuli can now come in and stimulate our brain. This then gives rise to this overwhelming experience.

Grof: Have you actually personally met Aldous Huxley?

Hofmann: Yes, I have met him two times and we had very good, very important discussions. He gave me his book

Island, which had come out just before he died. In it he describes an old culture on an island, which is trying to make a synthesis between its own spiritual tradition and modern technology brought in by an American. This culture used ritually something called moksha medicine and moksha was a mushroom that brought enlightenment. Moksha was given only three times in the lifetime of each individual. The first time it was during the initiation in a puberty rite, the second time in the middle of life, and the third time at death, in the final stage of life. And when Aldous gave me his book, he wrote: “To Dr. Albert Hofmann, the original discoverer of the moksha

“Because, what is sacred if not the consciousness of the human being, and something which activates it must be handled with reverence and with extreme caution.” - A.H.

medicine.” I am very proud to have this book, *Island*; it is a beautiful book.

Grof: It is interesting that Aldous Huxley actually used LSD to ease his tran-

sition at the time of his death.

Hofmann: Yes, after he had died, his widow sent me a copy of a paper. When he was in the process of dying (he was unable to talk because of his cancer of the tongue), he wrote on it: “0.1 milligrams of LSD, subcutaneously.” So his wife gave him the injection of the moksha medicine.

Grof: There is a beautiful description of this situation in her book which is called *This Timeless Moment*.

Hofmann: Yes, *This Timeless Moment*, by Laura Huxley.

Grof: I would like to ask you now something very personal. You must have been asked this question a number of times before, I am sure. You have had during your lifetime quite a few psychedelic experiences, some of which you described to us today. It began with the LSD experiences associated with the discovery of LSD, then the experiences during the work on the isolation of the active principles from the magic mushrooms and ololiuqui, the experience in the mushroom ritual with Maria Sabina, the sessions you described in *LSD, My Problem Child*, and some others. What influence have all these experiences had on you, on your way of being in the world, on your values, on your personal philosophy, and on your scientific world view?

Hofmann: They have changed my life, insofar as they provided me with a new concept about what reality is. Reality became for me a problem after my experience with LSD. Before, I had believed there was only one reality, the reality of everyday life. Just one true reality and the rest was imagination and was not real. But under the influence of LSD, I entered into realities which were as real and even more real than the one of everyday. And I thought about the nature of reality and I got some deeper insights.

I analyzed the mechanisms involved in the production of the normal world view that we call the “everyday reality.” What are the factors that constitute it? What is inside and what is outside? What comes from the outside in and what is just inside? I use for this process the metaphor of the sender and the receiver. The productive sender is the outer world, the external reality including our own body. The receiver is our deep self, the conscious ego, which then transforms the outer stimuli into a psychological experience.

It was very helpful for me to see what is really, objectively, outside; something that you cannot change, something that is the same for everybody. And what is produced by me, homemade, what is myself, that which I can change. What is my spiritual inside that can be changed. This possibility to change reality, which exists in everyone, represents the real freedom of every human individual. He has an enormous possibility to change his world view. It helped me enormously in my life to realize

what really exists on the outside and what is homemade by me.

Grof: You have a tremendous awareness and sensitivity in regard to

ecological issues, for example, the industrial pollution of water and air, the destruction of nature, the dying of the European forests, and so on. Would you attribute this to your psychedelic sessions, in which you experienced oneness with nature and

“They [psychedelics] are spiritual tools. If they are properly used, they open spiritual awareness. They also engender ecological sensitivity, reverence for life, and capacity for peaceful cooperation with other people and other species. I think, in the kind of world we have today, transformation of humanity in this direction might well be our only real hope for survival. I believe that it is essential for our planetary future to develop tools that can change the consciousness which has created the crisis that we are in.” - S.G.

the interconnectedness of creation? Do you think that these experiences somehow opened you to this greater ecological awareness, to a sharper sense of what we are doing to nature?

Hofmann: Yes, through my LSD experience and my new picture of reality, I became aware of the wonder of creation, the magnificence of nature and of the animal and plant kingdom. I became very sensitive to what will happen to all this and all of us. I have published and lectured about the main environmental problems we have in Europe and at home in this regard.

Grof: The discovery of LSD has been such an important part of your life and you have also personally experienced what a positive impact this substance can have on us if it is properly used. I would like to ask you: what was your reaction to what happened in the 1960s in the United States?

Hofmann: Well, I was very sorry, really sorry. As I said, I

would have never suspected LSD could be misused in such a way. Now I have the feeling that the situation has improved, because you never read in the newspapers about accidents with LSD any more, as it happened in the 1960s practically every day. People who use LSD today know how to use it. Therefore, I hope that the health authorities will get the insight that LSD, if it is used properly, is not a dangerous drug. We actually should not refer to it as drug; this word has a very bad connotation. We should use another name. Psychedelic substances, if they are used in proper ways, are very helpful for mankind.

Grof: You wrote a book entitled *LSD, My Problem Child*. I heard you say, at the conference, that you hope you might see the day when your problem child will become a desired child again.

Hofmann: I myself will not probably see this day, but it will definitely happen sometime in the future, I am sure. The truth will finally come out and the truth is: If LSD is used in the right way, it is a very important and very useful agent. LSD is no longer playing a bad role in the drug scene and psychiatrists are again trying to submit their proposals for research with this substance to the health authorities. I hope that LSD will again become available in the normal way, for the medical profession. Then it could play the role it really should, a beneficial role.

Grof: Do you have a vision for the future concerning this, an idea of how you would like LSD to be used?

Hofmann: We have a kind of model for it in Eleusis and also in the so-called primitive societies where psychedelic substances are used. LSD should be treated as a sacred drug and receive corresponding preparation, preparation of quite a different kind than other psychotropic agents. It is one kind of thing if you have a pain-relieving substance or some euphoriant and (another to) have an agent that engages the very essence of human beings, their consciousness. Our very essence is Absolute Consciousness; without an I, without the consciousness of every individual, nothing really exists. And this very center, this core of the human being is influenced by these kinds of substances. Therefore, excuse me for repeating myself, these are sacred substances. Because, what is sacred if not the consciousness of the human being, and something which activates it must be handled with reverence and

with extreme caution.

Grof: Many of us who have experienced psychedelics feel very much, like you do, that they are sacred tools and that, if they are properly used, they open spiritual awareness. They also engender ecological sensitivity, reverence for life, and capacity for peaceful cooperation with other people and other species. I think, in the kind of world we have today, transformation of humanity in this direction might well be our only real hope for survival. I believe that it is essential for our planetary future to develop tools that can change the consciousness which has created the crisis that we are in.

Hofmann: That certainly would be a major step in the right direction. We need a new concept of reality and a new set of values for things to change in a positive direction. LSD could help to generate such a new concept.

Grof: I would like to thank you for giving up your time of leisure on this beautiful day and for coming here to be with us and share your life experiences. I really appreciate it very much and, I am sure, so does everyone else in this room.

Hofmann: Thank you for inviting me to Esalen. I really enjoy this very beautiful landscape. It is so wonderful to be here and to experience the atmosphere in this institute with old friends and colleagues. It has been a great experience for me. Thank you, too.

"Psychedelic substances, if they are used in proper ways, are very helpful for mankind."

The Highest Art

The Art of Combining Traditional Consciousness Techniques with
Advancing Consciousness Technologies in Sacred Psychedelic Practice

By Brother Andrew H...

*La gloria di colui che tutto move
per l'universo penetra, e risplende
in una parte più e meno altrove.
Nel ciel che più de la sua luce prende
fu' o, e vidi cose che ridire
ne sa ne puo chi di la su discende...*

-Saint Dante

The last twenty years of the last millennium I've lived largely in Catholic monasteries secretly using the sacred psychedelic, LSD-25, as part of my private spiritual practice. One could also say that as part of my sacred psychedelic practice, I used the monastic spiritual traditions. Either way, the fact is, the combination brings to light the best in both, and in truth, that best is the same in each one.

Now, as I look at that picture of the interior of the church that the monks themselves built at the monastery of Our Lady of the Holy Spirit, and I reflect on some of the more than one hundred-fifty beautiful, planned, sacred, psychedelic sessions that I enjoyed in and around that church and the monk mind-field, I'd like to order up a whole googplex of sacred "flashbacks".

I arrived at the monastery in 1980, at the end of a two week fast, no food and minimal water. Before eating, I took some of the sacred psychedelic and surveyed the situation. Among other things, I realized that Trappist monasticism warranted some in-depth spiritual exploration and psychedelic evaluation, giving it the acid test. I wanted to see and hear everything so I got high for everything except work. As I worked primarily in the stained glass studio, I think that was prudent.

Chanting in choir is a duty that is remarkably elevating, to say the least, and would leave me wishing it would go on for hours. I usually timed my psychedelic sessions to start in the evening, so that I would still be high, but not too high, when I got to my choir stall at 4:00 AM. Lectio Divina, a type of solitary reading aimed at inspiration that we did from 5:30 AM to 6:30 AM, is a practice peculiar to Benedictine monasticism. Applying this in sacred psychedelic practice, during the early central phase of a session, is a matter of focusing one's eyes and consciousness on sacred scripture and reading aloud or to oneself. This will definitely broaden one's scope as one penetrates the hidden mystical meaning of "The Word". This technique is one of the greatest gifts of the Benedictine tradition. Praying the rosary, a discursive type of meditation that was optional and took place at various times, is kind of a tight discipline for a psychedelic mind, especially when done with a group of monks and visitors, but staying with it paid off in mind-blowing revelations into the mysteries. There is all this and so much more, up to and including the beauty of participation in the liturgical ritual of the Mass,

which at a monastery proceeds at a pace which is slow and punctuated with meditative pauses, and is rather attuned to reflection.

Of course, some of my sessions were not all that smooth and easy - especially at the beginning of the early eighties when I was trying to get a handle on preparation and timing. Sometimes things would get awkward and occasionally somewhat difficult.

I remember one time especially. It was Christmas Eve, 1983. I always got "high" on the High Holidays, so I prepared for Midnight Mass by cleaning up and going to confession (very helpful) and fasting for the day, etc. About two hours before midnight, I took two hundred fifty micrograms. Well, when I walked into the church at midnight I was feeling very awkward indeed. I was thinking that I had taken too much, or too much too late, or something. It was intense, and an extra large crowd of visitors had come to celebrate with the monks. Oh no, all this fidgeting and the amplified rustling sounds of strange synthetic materials, little whisperings. Wait, "Remember the teachings". Meditate, breathe, breathe. Ugh, the smells of perfumes mixing in the air...breathe?

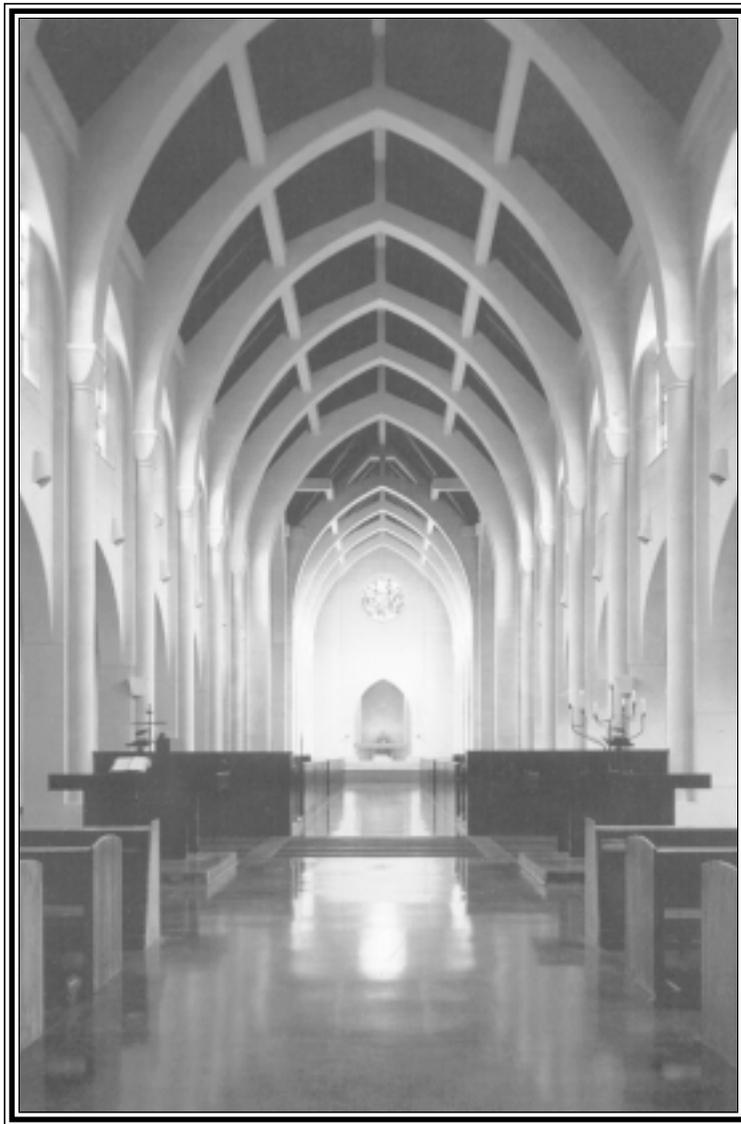
Midnight Mass at a monastery is usually long and very beautiful, and after what seemed like a very, very long time it was finally time to receive communion. At last, thank God, it's almost over. Feeling very uncomfortable and self-conscious, I bowed my head - like monks are supposed to do anyhow - got in line feeling kind of stiff and mechanical, moved along towards...Father Joachim.

I was gazing down at his sandals when I heard him saying, "Brother Andrew, Body of Christ". As I looked up, he was holding up the consecrated bread as though he was showing it to me. He had this gentle smile, and his face was absolutely beaming with joy, and love and camaraderie. His eyes, his eyes were twinkling, really twinkling,

and in that instant, even before he placed the consecrated host in my hand, in the twinkling of an eye, everything was transformed. Transfused with a special kind of light that seemed to softly light up the air and even seemed to light up the light itself. And suddenly...it was Christmas! And a glorious and blessed one at that. Thank you again, venerable Father Joachim, for that gift, wherever you are. And that, in truth, is what happened. Yes. And it went on and on, and anyone who knew Father Joachim knows that he did things like that.

Incidentally, the late (saint) Father Joachim was guestmaster at the Ab-

bey of Our Lady of Gethsemane in Kentucky when the late (saint) Thomas Merton entered the novitiate there. It was Merton's written work, particularly *Ascent to Truth* and *Seeds of Contemplation*, that led me to check out the Trappists. And now, after reading all of his (fifty plus) published books, some of his unpublished work, and listening to many of his unedited taped conferences, I can safely say that not only was he a mystic, but also that he was definitely curious about LSD-25, that he was open to its possibilities, and, I suspect, that he probably "experimented" with it. I think that is to his credit. I think he was a saint.



OUR LADY OF THE HOLY SPIRIT

Now at this point a few things should be made perfectly clear:

1) I don't consider secret psychedelic practice any more reprehensible than the secret practice of Christianity by the early Christians living under a reign of persecution. What is reprehensible is persecution - especially in a country like ours where freedom of worship was constitutionally guaranteed in the Bill of Rights from the beginning.

2) I don't refer to sacred psychedelics as "drugs", and I don't refer to the Body and Blood of Christ as "Bread and Booze". And I know it's not right (generally) to consider either in the context of substance abuse.

3) Please note that though I was conducting these sessions right "under the noses" of the monks, I did manage to conduct myself responsibly and (contrary to a lot of sensational media coverage regarding psychedelics) never once did I "freak out" or "flip out" or have to be talked down, tranquilized, hospitalized, or whatever.

If you've read this far, you may be asking, who is this guy? Who is this person? Well, I like asking myself that same question. "Who am I?" Matter of fact that's one of my favorite questions. "Who am I?" Now, with all due respect to Saint Salvador Dali, I will answer like this:

The three best things that can happen to a person in this life are:

1) To hit the jackpot in prayer, i.e., to be elevated to the supernatural vision of the essence of being.

2) To be a pioneer in the ultimate frontier of art- high art- the sacred art of getting high, and in truth, turning towards the essence of being.

3) To be known as Brother Andrew H..., a.k.a. Mahatma.

Fortunately these three things have happened to me and I am grateful. Among the maxims on Lord Naoshige's wall there was this one: "Matters of great concern should be treated lightly." That's from the *Hagakure*. The Book of the Samurai.

Now it is the second of the "three best things" that is the theme of this here little disquisition - the high art of combining traditional consciousness techniques with advancing consciousness technologies in sacred psyche-

delic practice, to the proximate end that, in this life, the best minds will be inclined to turn and strive towards

absolute unitude. "You propose a high and mighty art indeed," one may say. Yes, even the venerable saint Socrates only speculated that there "might be such an art" and what it might be like, in the cave parable in *The*

Republic.

As meditation -- controlling one's mind -- is integral to the life of a person on a psychedelic journey as it is to a person on a monastic journey, and since I was on the path where these two converge, I quickly realized how inept I was at this "vague" thing called meditation. The very thing that seems to distinguish Eastern traditions from Western traditions is actually alive and ongoing (though almost hidden from the mainstream) in some Western monastic orders. But, the fact is, the teaching of meditation in both the East and the West has been pretty much an inefficient, trial and error sort of thing, taking a long time. Most people who bother to start end up dropping it anyway, even if they have charismatic teachers and read the best books on the subject.

This is where the marriage of meditation and electroencephalograph (EEG) monitoring technology comes in. Anyone who really wants to learn how to meditate can go to someplace like the Anna Wise Center in Marin County, and with their technology -they use the Mind Mirror III - and their knowledge of meditative brainwave patterns, one can learn or improve more in ten days than in ten years elsewhere. That may be an exaggeration, but it is only a slight one. The point is, that with the use of EEG monitoring, one can learn to meditate quickly, easily, and enjoy the process of learning it at the same time. Just verifying the fact that one is meditating can be quite validating. One can also learn how to deepen one's meditations, and further on one can learn how to use these mind machines to help others. On one level that's what this marriage of technology and meditation is all about.

Picture if you will, some progressive novice master speaking to a novice monk at their weekly "conference" sometime in the near future. "Hmm, Brother Ellipsis, looking at these printouts of your brain rhythm patterns

"I usually timed my psychedelic sessions to start in the evening, so that I would still be high, but not too high, when I got to my choir stall at 4:00 AM."

from last week, it is evident that the depth of your “meditatio” has increased considerably. It seems that just that element of “relaxing your tongue”, and thereby disconnecting the thoughts and giving the thinking mind a rest, has reduced beta rhythms. What I see here looks real good. Might want to practice that this week too. Maybe see more improvement in controlling the mind. OK. Then, if you’re ready, now let’s get hooked up to this new little portable unit here and give it a go...but first, as usual, let us begin with a prayer.

“Father,
May our words
And the “meditatio” of
our hearts
Be acceptable
In your sight. [...Psalm 19]
We ask this
In the spirit of truth
And in the name of your
son
Jesus, the anointed one.
Amen.”

OK, now we come to one of the high points of this article, and this here is my attempt to rescue psychedelics from the limbo to which they have been temporarily (and rightfully so) consigned by the general public. What follows is a contribution to the psychedelic transpersonal community.

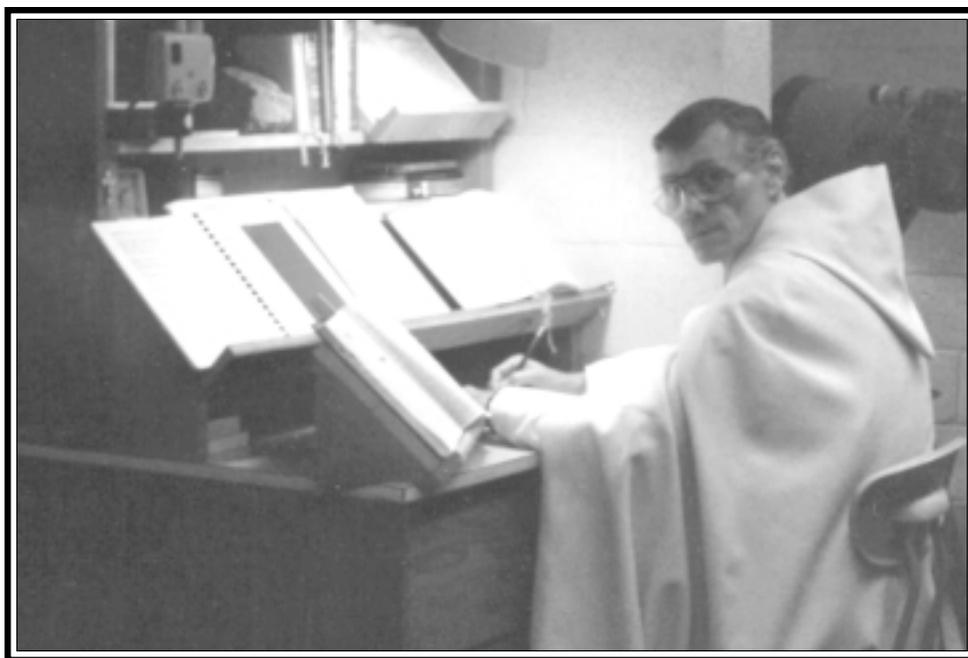
We know that “set”, as in “set and setting”, is one of the important factors in the context of a psychedelic session. We know that brain activity is altered by external stimuli. We have technologies that can quickly and easily activate specific brain states. It is therefore reasonable to suggest that we learn to apply, like salve, the appropriate technologies to psychedelic sessions. During the preparation, for example, one can establish a healthy meditation brain wave pattern using binaural beat technology. In the entry phase, sustain that pattern. In the central phase, maintain and perhaps imprint, not a doctrine but a known, non-verbal optimal performance brain rhythm pattern. In the

re-entry phase, maintain and support that pattern. In the immediate post-session follow-up, reinforce, etc.

...From before the beginning.....

...Until after the end.....

...The skillful, loving application of the salve of certain known good binaural mind rhythm combinations can, in truth, definitely, nonverbally, help improve and sometimes even beatify a psychedelic session in a good setting.



BROTHER ANDREW H...

“I don’t consider secret psychedelic practice any more reprehensible than the secret practice of Christianity by the early Christians living under a reign of persecution.”

Also, in the context of set and setting, there’s this fundamental thing about music. All psychedelic people know how very important the selection of music is to a session, but only some realize that all music drives brainwaves. One may want to go back and carefully check out (via EEG monitoring) exactly what brainwave states some of that music is (probably unwittingly) generating, especially if one, or anyone around one, is having difficult “trips”. Seriously! Now, we have access to readily available metamusic - music that is artistically and technologically designed with certain complex binaural frequency

patterns imbedded in the music in order to generate, activate, or access specific brain states — the implications and possibilities here are really big, especially if one is seriously considering a safe design (protocol) for a psychedelic (research) session.

What is being suggested here is establishing a fair degree of external control of the “action potential” of the internal electrochemical signaling system of rapidly firing neurons. In effect, both filing a flight plan and adding a guidance system that can help enable one to navigate into appropriate mind states. From here one can handle arising content like a proverbial Zen master - and even better. Considering that all one is adding are some appropriately designed recordings of precision sound frequencies to a stereo system with good speaker separation, or headphones, it is a fairly easy thing to do. This can be positively beneficial in a psychedelic session especially during that phase when the cognitive faculties lose dominance. Then, even advanced meditators may find that relaxing into the comforting support of a good recorded meditative brainwave net may be the best Bon Voyage thing to do.

Flashback. One time when I was really high (I find myself saying that a lot) meditating, in a crowd at Gusman Philharmonic Hall in Miami, before a Brahms double-header, this guy came in all spastic, legs wobbling, head bobbing, arms flopping about, and sat down and continued bobbling around in his seat — right in my field of vision. “Uh-oh,” I thought, “this guy’s gonna be entirely too distracting.” But when the concert began, something amazing happened. Sometime within the first few minutes of the first movement, his movement settled down. His body came to rest, and he was still. At first, my mind began to glide with the music. Now I usually don’t have to try hard to discipline my thinking mind if I’m sitting, listening in a symphonic mind-field. But I had to think about this. This is physical! What’s going on here? Let’s see. Observe. There’s one distinct set of sound waves extending from the violin section of the orchestra all the way to my left ear and on to my olivary nuclei...and another somewhat separate set extending from the viola/cello section to my right ear and olivary nuclei. The combination was making one single overriding pulsing pattern that was lighting up a whole higher network throughout my entire brain (looking into one’s

own mind-brain is resting in the Buddha mind). Wow, neural communication! To the max! Making for smooth sailing in my mind and, what’s more, actual physical therapeutic neural control in his formerly spasming body, enabling him to sit perfectly still. The implications were as clear as the waves of sound in front of my eyes... focusing...sound waves...stimulating therapeutic neural communications. Aha! It was so obvious. Beautiful.

Naturally, I checked some of this stuff out back in the laboratory about an hour away from the monastery. It was anecdotal work, but somebody had to do it. It was very interesting looking at a color monitor and seeing, in real time, the motion of a compressed spectral array of my baseline brainwave pattern. After meditation, I was able to glance up at the monitor and see both hemispheres perfectly synchronized.

And later, I was amazed to see how swiftly psychedelic consciousness responds to binaural frequencies, and to photic (strobe) entrainment too. And wow! Yes!

“...one can establish a healthy meditation brain wave pattern using binaural beat technology.”

Vestibular stuff! And further...more...hmmm... yes...this is real...good.

One could design a session that would be so nice, so smooth, that one could become accustomed to being...so...yes. It’s a whole new psychedelic ball game now, but the ideas are the same as ever. Just as in meditation, LEARN TO CONTROL ONE’S OWN MIND, brainwaves if you will. (Unless of course one is leaving that up to someone or something else). And the ancient message is the same. THE ESSENCE IS LOVE...THAT’S TRUE.

Now we have these new tools along with the old tools that can, in truth, if we use them wisely, help us to transcend, maybe even actually know (and this is supremely important) absolute unitude...which is the one...prerequisite...for subsequent true self-transformation.

If one is already a psychedelic person and wants to check some of these ideas out, for starters one can call up, or dot com, the Monroe Institute in Faber, Virginia, for binaural stuff; or the Anna Wise Center in Larkspur, California, for the marriage of mediation and technology stuff; or Jeff Labno at Tools for Wellness in Chatsworth, California, for one stop shopping for the whole array of mind tools. And if you do try this stuff at home, please, be

responsible. These are some powerful combinations. There are three things that are not in the books yet that happen sometimes that make the re-entry phase very important.

1) Some people get so high, so smoothly, and get so accustomed to the brightness and clarity and seeing into the mysteries, that they don't want to come down...and when they do, they start to be disappointed.

2) Some people have gotten so high that they actually thought that they would never come down, but they did. And they were disappointed, too, to find out that all phases of consciousness, no matter how transformative, are transient in this life. Such is life itself.

3) The more spiritually mature sometimes get so high that when they come down they immediately start getting themselves together so that when it happens again they can stay there longer. In the meantime, if they love their neighbors as themselves, they set about to share this with them.

Yes, all three of these things have happened to me. That is why I suggest this: Please, be responsible and remember that the re-entry phase is real important here. For what it's worth, I recommend prolonging the session as long as possible through meditation, which is real easy for a psychedelic mind supported by recorded binaural meditation rhythms. Just relax into it.

Meanwhile, back at the monastery, it was a warm early summer evening in 1986, and the time was ripe for another secret sacred psychedelic session. That day, while in the library, I had found a little paperback book entitled, *The Road to Eleusis: Unveiling the Secret of the Mysteries*, which I read while I was going about the monastic horarium and making my usual "preparations." After Compline (night prayer) I took a "power nap" and 'round midnight I got up, dosed (about 500 micrograms) and laid back down for a smooth lift-off. I knew it was going to be a big one when I heard those electric buzzing beeping sounds moving around in my auditory system. When I hear that I know it's really coming on. It was about an hour later when, totally unintentionally, my mind suddenly went transpersonal...through the floor and the walls down and directly into Dom Armand's (the abbot then) sleeping mind/brain. He woke up startled at the sudden brightness. Oops, I thought, I'm outta here. As quickly as my mind had slipped out of my body...it was back. Whew! That was a close one. Don't want to blow my cover, got to get my trip together.

The church...just one floor down and a few steps over and I'd be in the back of the church. I can negotiate that! For further silence and solitude, I went into the Confessional and sat to meditate in the dark of the confessional,, in the dark of the church, in the dark of the night. When I finally settled my breathing into a good rhythm, that book, *The Road to Eleusis*, came to my mind. What was that weird hermaphrodite thing that had been mentioned? From the depths of that thought something subtle started. Gradually, I became aware that each cell in my entire body was orgasmically connected with each and all the surrounding cells. My whole electric cellular being was...yes...yes...yes...yi! It continued like that for about an hour and then, very gradually, it subsided and was gone. Then, sitting there in the stillness, a new episode began. My bladder was tense. I had to go to the bathroom. It seemed so far away...and what if I run into a monk? I'm too high for that! But I had to go so I began making my way slowly through the bright darkness, through the thick molecular air, along the full length of the nave of the church, along the aisle behind the choir stalls, on the abbot's side, slowly, softly, toward the door that leads to the east side of the cloister garden. I was stopping every six or seven steps, listening. "Now, the ears of my ears awake..." Crickets. The shrill sound of male cicadas, sirens twenty-three miles away in downtown Conyers. Then, through the door and along the east cloister garth, stopping, listening. Somebody flushed a toilet back over in the guest house. Some monk just turned off a faucet on the second floor, on the south side of the cloister, walked to his room, and closed the door. Silence. Past the chapter room, through the next door into the south wing of the cloister and down to the first landing, listening. . . I can hear for twenty-five miles now. One last check, stopping in front of the bulletin board, seven steps away from the Grand Parlor (which adjoins the lavatory). Almost there, I listen...all's quiet...ahh. All the monks are sound asleep. Just seven or eight steps and I'll be...and from out of nowhere, whoosh, whoosh, whoosh, the sound of robes whooshing, and from around the corner of the Grand Parlor, the five hundred microgram beam from the face of...superconscious Father Joachim...walking. How did he do that? I can hear forever! He just walked on by, head bowed, beaming and smiling to himself. Of course, he didn't say a word, as monks don't speak during the Grand Silence of the night. I was speechless...mind blown, wondering: How did he do that? He looks as high as I am.

He's not high on acid. No, he can't be, but...almost forgot where I was going.

'Took me years to come up with an explanation. It could have been that he was "hiding", just around the corner of the doorway, in a corner, praying...I'd inadvertently discovered venerable Father Francis Xavier "hiding" in different places, praying along the way, when I was going one place or another to do something. Those venerable old ones have some amazing ways. But still, though many years have passed, sometimes I wonder, since I could hear for twenty-five miles, how did he just appear like that? How did he get so high?

Looking over the years now, it's no big wonder that with the secret psychedelic life that I was living, even with all the many years in monasteries, I never became a thoroughbred monk. Now, I am just a self-professed hermit monk, not associated with any particular Order, living in the high (of course) desert, peacefully, in silence, and solitude. I still venture into "the world" occasionally. I like some of the music I hear, and some of the ideas floating around, and some of the things I see being done to make it a better world. As a matter of fact, try this on for size. An awakened mind-brain rhythm pattern being generated binaurally between musical acts at a festival, with all that big stereo equipment already set up and psychedelically sensitized audiences of thousands. Alleluia! Let 'em all try on an awakened mind and see, in truth, how nice it really is. Certainly with that help the best minds will be strengthened, and then they won't need any of those politicians or spiritual hucksters out to "save the world". They'll be able to just go on and do it themselves...and a lot more than that, too.

These generations could possibly turn out to be the most illuminated of all time...and not only "save the world", but ILLUMINATE ALL LIFE, and transform all existence. A bit much you think? What about the Second Coming? Be all that as it may, please allow this exercise to stand as an illustration of the high art of appropriating science to the sacred and combining them so as to bring out the best that is within. Now that's real art. That is high art.

Please remember, the first best thing that can happen to someone in this life is to be elevated to the supernatural vision of the essence of being. Well, when that happens, and in truth it does happen from time to time, one might call it a masterpiece. Sometime, somewhere, when you least expect it, that masterpiece might well be you.

Definitely you in all your glory in God's infinite majesty. And your Self will be the inspiration that all works of art are meant to be.

And with that, I'm just gonna go outside now and watch the early dawn Venus rise...and Jupiter is up there...and Saturn (the home planet of Dante's contemplatives), now between the horns of Taurus, the bull.

So please, if you will,
Let us, in the spirit of truth,
Pray for one another,
The highest prayer:
That we
May be one

With the Father,
In unitude,
Enjoyment,
And beatitude
In the essence
Of love.

Who am I?
Bro. Andrew H...
Thank you.

Amen.
Selah

Meditation and Psychedelics

By Vanja Palmers
(vanja@bluewin.ch)

Both meditation and psychedelics are close to my heart. I'm grateful to both of them for having shown me that true essence of the heart, which is the heart of everyone and everything, our ultimate belonging and source of meaning.

For starters, psychedelics began disrupting my, up until then, fairly smooth and protected life - enough to be able to ask, for the first time, a deep and urgent question. This kind of questioning goes far beyond words and concepts and leaves nothing untouched. We think we know about ourselves and the world. It is incredibly freeing and quite confusing. Next, meditation harmonized it all again, so that I could live with a measure of integrity and ease. Then, after many years of rigorous formal practice and complete abstinence, psychedelics have once again inspired

“psychedelics can help us to clear our mind and make visible the nature of consciousness.”

my 'beginner's mind', getting me out of the habits and ruts that seem to be part of the package deal of life and which, though necessary and comforting, stand in the way of our fresh, direct experience. Now, I haven't traveled the psychedelic path much for about two years. It looks like everything has its time, life comes in cycles.

This is how it was for me, and it does not seem to be so unusual. The dramatic rise of interest in Yoga, meditation and eastern religion in the 60s and 70s was closely related to the psychedelic movement. A poll conducted by the Buddhist magazine "Tricycle" shows that 83% of the 1,454 respondents had some firsthand experience with psychedelics.

During the 80s and 90s many of the spiritual, once young ex-hippie communities had become middle-aged meditation centers with relatively few newcomers under the age of 30. The next generation seemed less interested in meditation, alternative lifestyles - and also in psychedelics.

On my recent trip through the States, during which I visited a number of meditation centers across the country, I noticed many young faces again. Being accompanied by my twenty-year-old daughter, I had easy and quick access to them and I was not surprised to learn that most of them have had some contact with mind-altering plants and chemicals.

So what is the relationship between psychedelics and meditation? One way to approach such a question is to first look at the meaning of the words independently. "Meditation" has roots in the Latin "meditari", which in turn has roots in the indo-Germanic "med", having something to do with "measuring, walking, staking out". We could define it as the act of exploring, walking in, measuring, staking out the sphere of our consciousness. "Psychedelic" is based on the Greek words "psyche" and "delos", the first meaning "breath, the seat of consciousness", the second "clear, visible". Psychedelics can help us to clear our mind and make visible the nature of consciousness.

So from the etymological point of view, through very different lineages, they are pointing in the same direction, the investigation of our inner being. This process is also known as 'practice' and the linguistic relationship of the two words mirrors the actual experience of many people: Very different means to investigate a very similar subject: Ourselves, the meaning of existence, the Ultimate.

Viewed from yet another angle, the difference might not be as big as it seems: neurologists have discovered that physical exhaustion, prolonged fasting and other austerities (such as the Buddha underwent before his Great Enlightenment) as well as wound fever (such as Ignatius of Loyola, the founder of the Jesuit order, as well as many other Christian Saints, suffered from at the time of their spiritual awakening) produce changes in the brain that are virtually indistin-

guishable from the changes produced by the intake of psychedelics.

At this point it might be useful to make a distinction between the virtue or goal of practice, the loving, beneficent and constant awareness of this never-ending process of exploration, and the methods that aim at getting us there. The former is universal, true and necessary for everyone. Dogen refers to this when he states that “Zazen has nothing to do with sitting or standing or laying down” - and St. Paul when he admonishes us to “pray at all times”. When it comes to the methods, we have a choice, and all of them work sometimes and sometimes they don’t. Some work better for some people than for others, and all of them have their relative strengths and weaknesses.

Traditional mainstream Buddhist training does not include the use of mind-altering substances. With very few possible exceptions, they are simply not mentioned in the sutras and other texts. Some think that they are dealt with in the precept that states “a disciple of the Buddha does not intoxicate mind or body of self or others”. Others think differently: the same poll mentioned above found that almost 60% of the responding Buddhist

practitioners felt that psychedelics and Buddhism do mix and that they would consider taking psychedelics in a sacred context (in the “under 20” category this percentage was 90%). The traditional understanding of intoxicants refers to all mental and physical phenomena that foster confusion through fanning our likes and dislikes. And as the Buddha never fails to point out, ultimately everybody has to decide for themselves what is what.

While it is true that the setting and the techniques used at traditional Buddhist retreats are not geared toward the use of psychedelics, it is quite obvious that skills in meditation, the practice of being at peace within one’s body and mind, even in uncomfortable places, can be of great help in the course of a psychedelic session. Not only from this point of view, one could say that the practice of meditation is available to more people than the practice of psychedelics.

Are there any dangers involved with the use of psychedelics? Yes, there are. They are very powerful sacraments, or medicine, and they have to be approached with the utmost respect, preferably under the guidance of an experienced friend. The fears most commonly voiced are damage to body and brain as well as dangerous

behavior and addiction. The classic psychedelics, unlike substances such as heroin, cocaine, and alcohol, have virtually no organic toxicity in the quantities in which they are ingested. Their addictive risk is too small to be measured when used in ceremonial settings. Psychedelic traditions from the Vedic dawn to Eleusis to the Native American Church have succeeded in creating ritual contexts in which hazardous acting-out is virtually unknown.

But what of the dramatic changes which psychedelics can have on our psyche and spirit, our heart/mind, our consciousness? Of course this effect is the very reason for taking them in the first place. Is it ultimately helpful or harmful? A moment after his great awakening, a Zen master exclaimed “...my life is completely ruined...”. As we get closer to the life force itself - not just our ideas about it - our categories and points of view are put into perspective, and their relative nature becomes obvious. And it is from this perspective that we must judge the value of any given experience.

Buddha recommends to view our life “as a dream, a flash in the darkness, a star in the morning dawn, a bubble in a stream, an illusion of the senses”. The aim of practice is to wake up from that dream. One ques-

tion often asked after a deep experience is: Was it a genuine awakening, or was it just another dream within a dream, another illusion within an illusion? Personally, I don’t worry too much about this. A primary religious experience is the seed for a spiritual life, no more and no less. No matter how genuine the encounter with the Ultimate might be, it does not guarantee a genuine spiritual life. The experience may be authentic, but what counts is our daily life - and how authentic it is depends on how we live, its quality, what we do with it. Will we be able to muster up the necessary determination and patience to let the light which we glimpsed for a moment, be it through meditation or psychedelics, gradually penetrate our whole being? Will we allow the experience of oneness and belonging - whether or not it wasn’t really real - to inspire and transform our lives? This is our challenge and our hope, individually and as a species.

Vanja Palmers has practiced Zen for thirty years and has received Dharma transmission from his teacher Kobun Chino Roshi. He lives with his family in Switzerland and is the head of a meditation and animal rights center.

“the traditional understanding of intoxicants refers to all mental and physical phenomena that foster confusion through fanning our likes and dislikes. and as the buddha never fails to point out, ultimately everybody has to decide for themselves what is what.”

T I M E

By Dr. Roy Mathew, Professor of Psychiatry and
Associate Professor of Radiology
Duke University Medical School
(Mathe008@mc.duke.edu)

**“since time is
the axis for
perceptual reality,
transcendence of
perceptual reality
would seem to
involve alteration in
time perception. thus,
the effects of
the purportedly
consciousness-
altering drugs on
time perception
should be of interest.”**

Since very early days, time has bedazzled and intrigued humans. More than 1500 years ago, Indians identified time as the basis for mundane reality. They equated the creation of time as the first step in the creation of the universe. This age-old belief received scientific confirmation in Einstein’s theory of relativity. Einstein also added support to the concept that time and the mundane reality are both non-substantial. Time, Einstein showed, was relative and therefore, the mundane world with time as its basis also had to be ephemeral. Change in the flow of time triggers drastic changes in matter and its formations. The flow of time is subject to influence by such factors as gravity, and it does not flow at the same rate in different parts of the universe. Even here on Mother Earth, atomic clocks have been shown to tick at different rates on mountaintops and in supersonic jets.

The mathematical concept of time has a better scientific basis and is preferred by the purists. Nevertheless, for most people, time means a personal experience of time. Humans experience time both subjectively and objectively. The swing of the pendulum, the movement of the clock’s hands, and the sunrise and the sunset are some of the perceptual indices of the passage of time. We also have an inner sense of time; even in the absence of perceptual cues, we are aware of the flow of time. A number of bodily functions, of which one is barely aware and over which one has minimal volitional control, are time-based. Most, if not all, biological phenomena are cyclic (cycles per unit of time). Breathing and heartbeat are good examples of this. While some biological functions have long cycles (menstrual cycle, for example), others (like pulse) are much shorter. Many endocrine and autonomic functions have diurnal cycles.

The electroencephalogram (EEG) that provides information about levels of brain activity is also cyclic. The crests and troughs that characterize EEG readings form the objective basis for dividing the human experience into three broad categories: wakefulness, dream sleep and dreamless sleep. In fact, the entire human life is contained within these three chapters. The ancient Sanskrit word “aum” is derived from three letters, one representing each of these three phases. Aum, which is closely related to the Latin “omni”, means “everything”. Both “Omni” and “Aum” have strong religious and spiritual connotations.

Time perception is different during these three phases. It is strongest during wakefulness, somewhat weak during the dream phase, and almost absent during the dreamless phase. If time, a created element, is not substantial, the waking experience built around it should also be phantas-

mal. By the same token, dreamless sleep (where time is felt minimally) should be the most “real” of the three, with the dream phase falling in between. According to the eighth century Indian philosopher Samkara, “In the dream state where there is no object, mind on its own creates everything; and it also creates everything seen when awake as well. There is little difference between the two states. Everything we see is a creation of the mind.” “During dreamless sleep when there is no object at all, no pleasure or pain, consciousness shines in its own glory.”

From the very early days, humans were not totally satisfied with the mundane experience and the associated reality. Intuitively, they questioned its validity and explored ways and means for achieving more satisfying states of mind. Among the many routes they found, the use of drugs was the earliest and the most widely used. The ancients came across a number of vegetal derivatives with marked effects on the quality of the conscious experience. In 1500 BC, the Aryan hordes that came over the Himalayas to the Indo-Gangetic planes brought with them the mythical drug, soma. According to the Rig Veda, their ancient anthology of hymns, soma catalyzed communion between humans and gods. “We have drunk the soma; we have become immortal; we have gone to the light; we have found the gods. What can hatred and the malice of mortals do to us now?” The botanical identity of soma is a matter of controversy, although R. Gordon Wasson of the Botanical Museum of Harvard University identified it as *Amanita muscaria*.

Elsewhere in the world, other consciousness-altering drugs gained popularity and acceptance. The Aztecs used Mexican mushrooms while the Huichol turned to peyote. Other South Americans found ayahuasca effective while African tribes in Gabon and the Congo found ibogaine (*Tabernaemontana iboga*) useful. The Indian hemp (*cannabis sativa*) is one of the earliest and probably, the single most popular consciousness-altering drug. Evidence suggestive of its earliest use comes from the island of Taiwan over 10,000 years ago. It was used in India,

even prior to 1500 BC, before the Aryans arrived. Evidence suggestive of its use by other ancient civilizations including the Egyptians, Babylonians, Assyrians, Scythians, Greeks, and probably, Hebrews, can be found.

Since time is the axis for perceptual reality, transcendence of perceptual reality would seem to involve alteration in time perception. Thus, the effects of the purport-

“...crests and troughs that characterize EEG readings form the objective basis for dividing the human experience into three broad categories – wakefulness, dream sleep and dreamless sleep...the ancient sanskrit word 'aum' is derived from three letters, one representing each of these three phases.”

edly consciousness-altering drugs on time perception should be of interest. Unfortunately, such research is not easy. Of the 150 or so such drugs known to Western science, very little pharmacological information is available on most. Many of these plants contain chemi-

cals other than the substance responsible for the consciousness-altering effects, and these effects too have to be taken into account. Several of these plant extracts are too toxic to be administered to human volunteers. Identification, isolation, and purification of the active ingredient are by no means easy and have not been carried out in many cases. Animal studies are obviously easier; however, animals will have difficulty communicating altered consciousness to the experimenter. Animals do not seem to care for many drugs used for consciousness alteration in humans, such as peyote and psilocybin, which would suggest brain mechanisms unique to humans.

Although there is not a great deal of scientific information in this area, the effects of some these drugs on time perception are known. Peyote cactus, LSD and marijuana all produce significant distortions of time. The available few studies vary substantially in sophistication.

The effects marijuana and its active ingredient tetrahydrocannabinol (THC) on time perception have received more scientific attention. Marijuana was found to slow both the subjective and objective perception of time. Many studies demonstrated altered time sense and the underproduction of time estimations. In one study, 28 daily marijuana users displayed greater time underproduction than 32 normal controls which indicated that the

marijuana-induced time distortion may persist beyond the acute phase of intoxication.

Dr. William H. Wilson and I attempted to track the neurological basis for the marijuana-induced alteration in time perception. Using positron emission tomography, we identified the cerebellum as the brain region responsible for mediating this effect. The relationship between altered cerebellar activity and impaired time sense is in keeping with several previous reports that linked the cerebellum to an internal timing system.

Other investigators showed that the cerebellum was involved in the temporal sequencing of motor activity. In human subjects, cerebellar lesions were associated with impairment in rhythmic tapping, a time-dependent task. Patients with cerebellar atrophy were found to be deficient at judging the relative duration of time intervals. Traditionally, the cerebellum has been associated with maintaining balance and coordination of movements. It may indeed also be responsible for the timing function essential both for balance and coordination.

This finding needs confirmation. Studies on the effects of other consciousness-altering drugs on time perception should be conducted. We have started projects on the effects of ketamine and mescaline.

Change in time perception is accompanied by a number of other phenomena including distorted sensory perception and an altered sense of self (depersonalization). Time transcendence, regardless of how it is brought about, often ushers in a very unique sense of well being, usually referred to as joy or bliss. Ancient Indians called it "ananda". Unlike the mundane pleasure that contrasts with pain, ananda is unimodal with no antipode. It is totally ineffable: it has to be experienced. Ananda has two other accompaniments: "Sat" or truth and "Chit" or illumination. Together, sat, chit, and ananda (Sacchitananda) stand for divinity.

The desire to overcome mundane reality is just as strong today as it was in the early days. With the giant

strides in biochemistry and pharmacology, newer or more refined drugs have made their appearance. LSD, mescaline, and THC are good examples. Newer drugs

including MDMA (Ecstasy) have entered the scene and are gaining popularity, especially among adolescents. All regulatory agents and agencies are concerned about their ever-increasing appeal.

As was noted previously, a number of these drugs suffer from serious toxicity problems. In substance abuse clinics across the country we tell our patients, espe-

cially adolescents, about the bad effects of certain drugs in hopes that it will deter them from engaging in their use. That would seem to be a feeble approach to quell and contain the consuming passion for consciousness alteration that spans our entire human history. Unfortunately, at a time when physicists and mathematicians are actively engaged in the study of time, in neurosciences, we seem to have minimal interest in time perception and seem obsessed in demonstrating how drugs which alter time perception are "bad for us".

"...at a time when physicists and mathematicians are actively engaged in the study of time, in neurosciences, we seem to have minimal interest in time perception and seem obsessed in demonstrating how drugs which alter time perception are 'bad for us'."

"the desire to overcome mundane reality is just as strong today as it was in the early days."

• Mathew RJ: *The True Path. Western Science and the Quest for Yoga.* Cambridge, Massachusetts, Perseus, 2001.

• Mathew RJ: *Spirituality and the Brain.* North Carolina Medical Journal. 59: 154-160, 1998.

• Mathew RJ, Wilson WH, Turkington TG, Coleman RE: *Cerebellar activity and disturbed time sense after THC.* Brain Research 797:183-189, 1998.

• Mathew RJ, Wilson WH, Chiu NY, Turkington TG, DeGrado TR, Coleman RE: *Regional cerebral blood flow and depersonalization after tetrahydrocannabinol administration.* Acta Psychiatrica Scandinavica 100: 67-75, 1999.

being outside the dominion of time

By Benny Shanon, Department of Psychology
The Hebrew University
Jerusalem, Israel (msshanon@mscc.huji.ac.il)



As explained in previous contributions to the MAPS Bulletin (Shanon, 1997a, 1998a and 2000a; see also Shanon, 1997b, 1998b and 2000b), for almost a decade now I have been engaged in the systematic phenomenological investigation of the special psychological state induced by the Amazonian psychotropic brew Ayahuasca (for

“perhaps the most marked, and the most common, modification in the temporal experience encountered with ayahuasca has to do with changes in the rate of time’s flow....it is as if in brief moments a person can accommodate what are experienced as long stretches of time.”

general background information, readers are referred to the previous publications cited above). My investigation is based, on the one hand, on extensive firsthand experiences with the brew (at this point, I have partaken of it more than 130 times) and, on the other hand, on interviews conducted with almost 200 individuals. Amongst my informants were indigenous and non-indigenous persons from various places in Brazil and Peru as well as foreigners (that is, persons residing outside of South America). These individuals differed in the levels of their experience with Ayahuasca and with respect to the contexts in which they partook of the brew. My investigation examines all aspects of the Ayahuasca experience - general atmosphere and feelings, hallucinations in all perceptual modalities, ideations, spiritual and mystical experiences, modifications in people’s overall state of consciousness, transformations of personal identity as well as non-ordinary overt behaviors and performances. A full report of the investigation is presented in a forthcoming book titled *The Antipodes of the Mind: Charting the Phenomenology of the Ayahuasca Experience*. In this short communication I discuss one aspect of the Ayahuasca phenomenology that has to do with radical modifications in the experience of temporality.

The study of temporality is of special significance because, as noted by many thinkers—philosophers and psychologists alike (see Kant, 1781/1953; James, 1890/1950; Bergson, 1944, 1950; Heidegger, 1962; and Merleau-Ponty, 1962; as well as

Shanon, 1993 and Shanon, 1998), temporality is perhaps the most fundamental constituent of human cognition. Thus, any modification in temporality is of significant cognitive import, empirical as well as theoretical. Various such modifications are encountered with Ayahuasca. Like other psychotropic agents (for reports related to other such agents, see Mayhew, 1961; Watts, 1962), Ayahuasca can induce marked changes in the experience of time. Here I would like to consider those changes that are so radical as to induce a feeling that is altogether outside the dominion of time; for further details and a more extensive theoretical discussion, the reader is referred to Shanon (2001).

Changes in the rate of time's flow

Perhaps the most marked, and the most common, modification in the temporal experience encountered with Ayahuasca has to do with changes in the rate of time's flow. Specifically, time may be experienced to run faster or slower than it normally does. The prevalent experience is that in what objectively (that is, as measured by the clock) is a short period of time, much can be experienced. The contrast is especially appreciated when drinkers of Ayahuasca consult the watch and discover that even though so much has happened to them experientially, in reality very little time has passed. What we have here may be conceived of in terms of two frames of reference. In the ordinary frame of time hardly any time

were in the ordinary frame of reference, the Israelites were in a non-ordinary one. When only a moment passed in the ordinary frame (and hence, it seemed that the sun did not move), an extended duration was experienced in the non-ordinary frame, thus enabling the Israelites sufficient time to fight their enemies. The similarity between this account and the phenomenon encountered with Ayahuasca is striking. I shall further note that the Maharal's proposal probably presents the first employment of the conceptual distinctions which, at the beginning of the 20th century, became the core of Einstein's special theory of relativity.

Interestingly, similar observations are found in the fantasy tales of C.S. Lewis in his *The Lion, the Witch and the Wardrobe* (Lewis, 1950) in which he recounts the

"In especially strong visions, drinkers may feel totally immersed in these scenarios and even act in them and engage in interaction with the objects, people and creatures that they encounter in them."

has passed, whereas in the other, non-ordinary frame one seems to have traversed a very long duration. In other words, it is as if in brief moments a person can accommodate what are experienced as long stretches of time. In general, it seems to me that the more powerful the Ayahuasca inebriation is, the more pronounced is the discrepancy between the two frames of temporality. Theoretically, in the limit, experiences of timelessness associated with unbounded duration may be experienced. In this sense, the Ayahuasca drinker will find him/herself to be, in effect, outside of the dominion of time.

The state of affairs noted here is, I think, exactly that recounted in the Bible in conjunction with the war the Israelites had with the Amorites (Joshua 10: 12-13):

Then spake Joshua to the Lord in the day when the Lord delivered up the Amorites before the children of Israel, and he said in the sight of Israel, Sun, stand thou still upon Gibeon; and thou, Moon, in the valley of Ajalon. And the sun stood still, and the moon stayed, until the people had avenged themselves upon their enemies.

Impressively, the Maharal of Prague, the Jewish rabbinical sage of the 16th century famous for his Golem, explained this event by means of the coupling of two distinct frames of references. Specifically, the Maharal (see Mallin, 1979) proposes that whereas the Amorites

adventures of children who passed through a wardrobe and entered into magical lands. The children's adventures in these other lands lasted hours, days, perhaps even longer; yet, as far as the ordinary world was concerned hardly any time elapsed at all. Thus, when the children returned to the wardrobe and into their house, they realized that the adult members of their family thought that they were absent for only a moment or two.

The meeting of two frames of reference

Another non-ordinary pattern involving the contrast between two frames of time has to do with non-ordinary anchoring of temporal reference. Normally, we are situated in the present: The past is gone, not to be retrieved, the future is not yet and still unknown and we, human beings, are confined to the now. This holds both the definition of our own being and that of whatever we perceive. Thus, if now—Tuesday, 13:15—I am in my home in Jerusalem, what I perceive through the open window is taking place now—that is, Tuesday, 13:15—as well. This seems to be trivial, but with Ayahuasca people may encounter patterns that violate this scheme. It is quite common for drinkers of the brew to feel that they are here, in the now, observing states of affairs happening in other places, at other times. For instance, once I found myself looking through the hut in which an Ayahuasca session was held and saw a scenario which I interpreted as

taking place in ancient Egypt.

Even more powerful are cases in which Ayahuasca drinkers feel that they cross the boundary and enter into the scenes of their visions. In such cases, drinkers feel not only that they have seen or witnessed scenarios taking place in other times, but that they have actually been present in such scenarios. Experiences of this kind involve both non-ordinary space-travel and what may be regarded as time-travel. In especially strong visions, drinkers may feel totally immersed in these scenarios and even act in them and engage in interaction with the objects, people and creatures that they encounter in them. Transformations of identity may be experienced as well. Since these experiences involve various facets which extend beyond the topic of temporality, I shall not discuss them any further here.

The realm of the eternal

Still more radical is the experience in which one feels that one is situated in a point of reference where one can observe everything that has ever happened as well as everything that will ever happen. This point of reference defines the eternal, with respect to which all events have an equal temporal status. In a certain sense, they are all there and one only has to look at them. From the perspective of the eternal, the temporal may, in a fashion, be reduced to the spatial. This, note, is reminiscent of the view presented by Spinoza (1670/1989, 1985) with regards to both determinism and the nature of time.

Experiences of this kind are described by Alex Polari (1984), a Brazilian intellectual who is currently a leader of the Church of Santo Daime, a syncretic religion that uses Ayahuasca (referred to as Daime) as a sacrament. The following are insights Polari gained during the course of his own firsthand experience with the brew:

The Daime, simply, delivers us to all the Times. Overcoming the difficulties of our consciousness, which still has to establish differences between what was, what is and that which will be. (p. 70)

In conjunction with this, a useful analogy is to be found in Mayhew's discussion of the non-standard experience of time he had with mescaline (Mayhew, 1961):

“..mozart was said to have been able to grasp an entire symphony in an instant.”

When we read something, we are aware of one word coming after another. But when we detach our minds from the sense of the words and look at the page as a whole, this impression fades, and we are aware that the words all exist together at the same time. (p. 298)

Knowledge and the realm of meaning

I would approach Mayhew's observations from a somewhat different perspective, focusing not on the written words but on the content they express. The book is there - everything described in it is in front of the reader at the same time, now. The story that the book narrates progresses in a certain sequence in time. Yet, we the readers (especially if we have already read the book or heard the narrative) can open the book and read it in any order we wish. One can start by reading an episode that took place in the middle of the sequence, then turn to an episode towards the end of the book, and later to one at the very beginning.

Related to this is the epistemic status of the knowledge readers have of the narrative recounted in the book. A book takes time to read. It is also the case that if enacted, all the episodes in it would take time. However, the information contained in the book is all there at once. And so is the knowledge readers familiar with the book have. Actually, this pattern is quite general. Think of a body of information you know well: a novel, a scientific theory, a piece of music. I ask you to think what it means, to appreciate what it conveys, to assess your understanding of it. How much time did it take you to do so? A few moments, I presume. At any rate, much less than the time it would actually take to read the novel, to retrace the theory, to listen to the musical piece. One's appreciation is, in a way, instantaneous. And the more knowledgeable or competent one is, the stronger the effect. For example, Mozart was said to have been able to grasp an entire symphony in an instant (Ghiselin, 1952). But in truth, all of us know this feeling: When one knows something well, the grasping of this knowledge (as distinct from specific demonstrations of it) seems to require little or almost no time.

Taking a more general perspective still, we note that, by its very essence, semantics transcends time. We can all

appreciate this when reading literary texts of past generations, inspecting old photographs, or looking at works of art from ancient civilizations. The child or the young enamored couples that appear in them are long, long dead. Yet for the reader or the viewer the persons in question are forever children, adolescents or young adults. Babyhood, adolescence and adulthood are not just moments in biographical chronology, they are also chapters in a story. It is the story of human life, that which we all enact in the course of our own individual lives. The particular manifestations of this story evolve in time, but the basic patterns of the script transcend the contingencies of the temporal. These pertain to the domain of eternal meanings.

With Ayahuasca, similar appreciations are gained on a much larger time scale - that of human history.

“the past is gone, not to be retrieved, the future is not yet and still unknown and we, human beings, are confined to the now.”

There are periods of peace and periods of war, times of success and times of failure. Kings reign and exercise great power but eventually they die. Likewise, entire civilizations rise and fall. In grand Ayahuasca visions one may be privy to a special perspective, by which one observes such historical events with the detachment of distance (which does not mean lack of empathy). With this, one savors a little bit of the taste of the eternal and appreciates the perennial meanings of life and Existence. As the Biblical sage Ecclesiastes (Kohelet in Hebrew) said “There is nothing new under the sun.” (1:9) In line with all this is another insight reported by Polari (1984):

I understood that this truth is absolutely immune to any historicity....A truth that is not relative nor relativized by anything, which entered and syntonized within a dimension of eternal permanency....Above and beyond a finite consciousness depending on matter and ending with it. (p. 61)

In the European civilization, the locus classicus for linking atemporality and semantics is Plato. According to Plato, meanings and regularities in the world are due to the Ideas. The Ideas are abstract entities that embody all true knowledge - everything that is not affected by time

and change. Thus, the realm of the Ideas both specifies meaning and transcends time. Several informants with academic education explicitly told me that with Ayahuasca they felt they contemplated the “Platonic spheres”. Observations along similar lines were also made by Huxley (1971) in conjunction with his experiences with mescaline.

Interestingly, the association between atemporality and meaning is also encountered in Amerindian mythologies. Overing (1985a, 1985b) reports that in the cosmology of the Piaroa, a tribe from the Orinoco basin of Venezuela, in the world of the Gods’ relationships between beings is defined in a manner that defies ordinary logical and temporal relationships. Overing explains this by noting that in this world relationships pertain to the world of meaning. Analyzing the cosmology and metaphysics of the Piaroa, Overing also noted that the world of the shaman, and that of the Gods, is outside of time. Indeed, instead of being defined by linear temporal contiguity, this world is defined by relationships of meaning. Overing (1985a) further reports that according to the Piaroa there is a realm which is before time in which the special powers of the Gods are guarded in boxes of crystal. Inter alia, these powers include rationality and the words of songs. It shall be noted that the knowledge pertaining to this realm is directly associated with plant-induced hallucinatory experiences (in this case, however, not Ayahuasca).

Nirvana-like experiences

Usually, the experience of eternity associated with Ayahuasca does not entail the abolition of movement. Phenomenologically, time ceases to be relevant, but motion, progression and change remain. Specifically, the scenes one observes from the perspective of the eternal do manifest motion, progression and change. Much rarer with Ayahuasca is the experience of cessation, in which atemporality is coupled with stillness. In this case, people do not feel that other realms are revealed to them. As pointed out by mystics in many traditions (for pertinent information and discussion, see Forman 1990, 1998), being in this state, one feels immersed in the very ground of all Being. There, neither language nor reflection apply, and hence no semantics.

Concluding remarks

Our survey presented various states of mind experienced as being outside of the dominion of time. The very encounter of such states counters the general statement with which this paper opened, namely, that human psychology is grounded in time. This also contrasts with my own basic view of cognition. Indeed, for me, the discovery of the atemporal was intellectually most unsettling. Throughout my professional career as a cognitive psychologist and a philosopher of psychology, I have come to maintain that human cognition is embedded in time and that all cognitive performance is achieved through action temporally unfolding in the real world. This, I have argued (see Shanon, 1993), is not merely a technical constraint but rather it is an essential, most fundamental, feature of human cognition. Theoretically, one could perhaps envision intelligent systems that operate in a different fashion, but these would be radically different from the human one. Ayahuasca revealed a totally different picture to me: It presented me with a cognitive mode which, in a fashion, defines a world outside time. The question as to how to reconcile these new discoveries with my general view of cognition perplexed me quite a bit.

Full discussion of this question is outside the scope of this paper. Here, let me confine myself to a brief summary statement.

It could be suggested that human beings have the ability to operate, and exist, in two different states. Metaphorically, these may be conceived in terms of the shifting of gears. The first state is the ordinary one, and it is fully grounded in time. The other, non-ordinary state consists of the freeing of the mind from the ordinary temporal constraints. That such freeing is possible is a major feat of the human psyche. The study of the dynamics of the shift between the two states is, I think, a cognitive-psychological topic of great interest. A theoretical framework that shall account for it will encompass both ordinary consciousness and non-ordinary consciousness and view them as specific cases obtained by means of variations in a common, general structure. Thus, the enterprise in question is, in essence, the development of what may be regarded as a general theory of consciousness.

Theoretically, the main moral of the present discussion is the linking of atemporality and semantics: The realm of atemporality is the realm of meaning. In essence, the underlying principle governing the experiences of

atemporality is the following: The more meaningful something is to us, the less bound by time it becomes. It seems to me that in one way or another, all of us are familiar with this pattern. One does not have to be in non-ordinary states of consciousness in order to appreciate this, but, obviously, in such states—as with Ayahuasca—the effects are by far more radical and their impact much more striking.

Finally, let me underline the fact that in this discussion, I have not alluded to any considerations of paranormality. In this, I radically differ from many, perhaps most, of experienced Ayahuasca drinkers. In the various contexts of Ayahuasca use phenomena like those cited here are usually conceived either in terms of time travel (it is said that Ayahuasca allows one to actually go to the past or even the future) or in terms of visits to other non-physical worlds. Thus, in both the indigenous Amerindian context and in the modern syncretic religious sects employing Ayahuasca, the brew is said to bring its drinkers to other, separate realities. In the doctrines of all the modern Brazilian religious sects that use Ayahuasca as a sacrament these are referred to as “the astral”; often, the notion of reincarnation is invoked as well. I have had those experiences which are characterized as pertaining to the astral and I think I know what the protagonists of

“the realm of atemporality is the realm of meaning. In essence, the underlying principle governing the experiences of atemporality is the following – the more meaningful something is to us, the less bound by time it becomes.”

spiritualism are referring to. Yet, I do not subscribe to the parapsychological, supernaturalistic view. Instead, I would propose that what is referred to as the astral be conceived of as the realm of meaning.

References

- Bergson, H. L. (1944). *Creative Evolution*. New York: The Modern Library.
- Bergson, H. L. (1950). *Time and Free Will*. New York: Macmillan.
- Forman, R. (Ed.) (1990). *The Problem of Pure Consciousness: Mysticism and Philosophy*. Oxford: Oxford University Press.
- Forman, R. (1998). What Does Mysticism Have to Teach Us About Consciousness. *Journal of Consciousness Studies*, 5, 185-201.
- Ghiselin, B. (1952). *The Creative Process*. Berkeley: University of California Press.
- Heidegger, M. (1962). *Being and Time*. New York: Harper & Row.
- Huxley, A. (1971). *The Doors of Perception and Heaven and Hell*. Harmondsworth: Penguin Books.
- James, W. (1890/1950). *The Principles of Psychology*. New York: Holt, Rinehart and Winston.
- Kant, I. (1781/1953). *Critique of Pure Reason*. New York: Macmillan.
- Lewis, C. S. (1950). *The Lion, the Witch and the Wardrobe*. Bungay, UK: Puffin Books.
- Mallin, S. (Ed. and Trans.) (1979). R. Yehuda Leove ben Bezael (The Maharal of Prague)'s *Book of Divine Power: Introductions [Second Revised Edition]*. Jerusalem: Ber Aryeh International-Gavriel Beer Books.
- Mayhew, C. (1961). Untitled chapter. In D. Ebin (Ed.), *The Drug Experience* (pp. 293-300). New York: Evergreen Black Cat.
- Merleau-Ponty, M. (1962). *The Phenomenology of Perception*. London: Routledge and Kegan Paul.
- Overing, J. (1985a). There is no end of evil: The guilty innocents and their fallible God. In D. Parkin (Ed.), *The Anthropology of Evil* (pp. 244-278). London: Basil Blackwell.
- Overing, J. (1985b). Today I Shall Call Him "Mummy": Multiple Worlds and Classificatory Confusion. In J. Overing (Ed.), *Reason and Morality* (pp. 152-179). London: Routledge.
- Polari, A. (1984). *O Livro das Mirações*. Rio de Janeiro: Editora Record.
- Shanon, B. (1993). *The Representational and the Presentational: An Essay on Cognition and the Study of Mind*. London: Harvester-Wheatsheaf.
- Shanon, B. (1997a). A cognitive-psychological study of Ayahuasca. *MAPS Newsletter*, Vol. 7 #3, 13-15.
- Shanon, B. (1997b). Cognitive psychology and the study of Ayahuasca. *Yearbook of Ethnomedicine and the Study of Consciousness*, 6, 77-94.
- Shanon, B. (1998a). Ayahuasca visions: A comparative cognitive investigation. *Yearbook of Ethnomedicine and the Study of Consciousness*, 7, 227-250.
- Shanon, B. (1998b). Ideas and reflections associated with Ayahuasca visions. *MAPS Newsletter*, Vol.8 #3, 18-21.
- Shanon, B. (1998c). The intrinsic temporality of human cognition. *Behavioral and Brain Sciences*, 21, 650-651.
- Shanon, B. (2000a). Ayahuasca and creativity. *MAPS Newsletter*, Vol.10 #3, 18-19.
- Shanon, B. (2000b). Ayahuasca, mind and consciousness. In *Science and the Primacy of Consciousness* (R. Amoroso, R. Antunes, C. Coelho, M. Farias, A. Leite, & P. Soares, Eds.). Ordina, CA: The Noetic Press.
- Shanon, B. (2001). Altered Temporality. *J of Consciousness Studies*, 9, 18-31.
- Spinoza, B. (1985). *Short Treatise on God, Man, and his Well-Being*. In E. Curley (Ed.), *The Collected Works of Spinoza*. Princeton, NJ: Princeton University Press.
- Watts, A. (1962). *The Joyous Cosmology: Adventures in the Chemistry of Consciousness*. New York: Pantheon Books.

Bulletin Announcements

- MAPS is extremely proud to announce the publication of **Sherana Harriette Frances'** new book, *Drawing It Out: Befriending the Unconscious (A Contemporary Woman's Psychedelic Journey)*, with introduction by Stanislav Grof, MD, and Prologue/Epilogue by Tanya Wilkinson, PhD.

The incredibly powerful drawings in this book reveal the inner workings of Ms. Frances' psyche after undergoing LSD psychotherapy in the early 60s. Sherana's works have been used in countless training sessions and seminars since then by Stanislav Grof and others and have been exhibited internationally. They are now available with a complete narration by the artist. Cost \$19.95. Advance orders taken: orders@maps.org

- Congratulations to **Jon Frederick**, moderator of the MAPS Forum, who has completed his dissertation and passed his oral exam. His dissertation, "EEG Coherence and Amplitude Effects of Rhythmic Auditory and Visual Stimulation with an emphasis in Computational Methods," can be browsed (in Adobe Acrobat format) at: <http://web.utk.edu/~smiile/diss/frederick-diss.pdf>

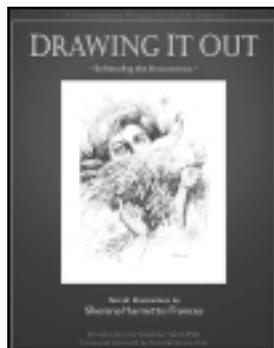
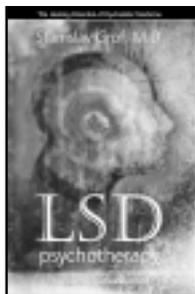
Jon has moved to Houston, Texas, where he will be working as a post-doctoral fellow in the center for computational Biomedicine, University of Texas-Houston Health Sciences Center. Jon has agreed to continue to work as the Editor of the MAPS Forum, a position he has held for the past four years.

- MAPS donated \$1,000 toward the cost of creating the book *Ibogaine: Proceedings of the First International Conference* (KRALper and SD Glick, Eds., Academic Press, San Diego, California 2001). Information about the book can be accessed at: <http://www1.fatbrain.com/asp/bookinfo/bookinfo.asp?theisbn=0120532069&cvm=m>

- A scientific paper about ketamine by **Dr. Evgeny Krupitsky, Dr. John Krystal, et. al.**, has been published in the on-line edition of *Neuropsychopharmacology* and will also appear soon in the print version. The article is entitled: "Attenuation of Ketamine Effects by Nimodipine Pretreatment in Recovering Ethanol Dependent Men: Psychopharmacologic Implications of the Interaction of NMDA and L-Type Calcium Channel Antagonists" and can be found at: <http://www.acnp.org/citations/Npp080701161>.



2105 Robinson Avenue
 Sarasota, FL 34232
 phone: 941-924-6277
 fax: 941-924-6265
 toll-free: 888-868-6277
 e-mail: info@maps.org
 Web: www.maps.org
 Secure website transactions



YES, I would like to join MAPS and receive the quarterly Bulletin!

- Basic Member \$35**
- Basic Plus Member \$50**
- Supporting Member \$100**
- Patron \$250 or more**
- Student/Low-income \$20**

- Donation is included for a Gift Membership: \$ _____**
- Payment is included for the book(s) I have ordered (see below)**
- * Members outside the U.S., please add \$15 per membership**

Basic Members: \$35

Basic members will receive the MAPS Bulletin, which appears on a quarterly basis.

Basic-Plus Members: \$50

Basic-Plus members will receive the quarterly MAPS Bulletin and their choice of one of the books MAPS has published.

Supporting Members: \$100

Supporting members will receive the MAPS Bulletin plus their choice of one of the books MAPS has published.

Patrons: \$250 or more

Patron members will receive the MAPS Bulletin plus their choice of one of the books MAPS has published. Patrons may also request copies of back issues and research updates on matters of personal interest.

*** Outside the U.S. please add \$15 to cover additional postage.**

Name and address:

NAME _____ EMAIL ADDRESS _____

ADDRESS _____

CITY _____ STATE OR COUNTRY _____ POSTAL CODE _____

TOTAL \$ _____ enclosed. Donations to MAPS are tax-deductible.

- Enclosed is my check or money order payable to MAPS**
- Please charge my credit card:** **Mastercard** **Visa** **Amex**

CARD NUMBER _____ EXPIRATION DATE _____

SIGNATURE _____ PHONE NUMBER _____

.....
A V A I L A B L E F R O M M A P S

1. **The Secret Chief: Conversations with a Pioneer of the Underground Psychedelic Therapy Movement, Myron Stolaroff** – 144 pp: **\$10/\$14*** (special price for current & new MAPS members). **\$13.95/\$19.95*** (non-member orders).
2. **Ketamine: Dreams and Realities**, paperback; **Karl Jansen MD, PhD** - 355 pp: **\$17.95/\$23.95***
3. **LSD Psychotherapy**, paperback; **Stanislav Grof, MD** - 352 pp: **\$15.95/\$21.95***
4. **Drawing It Out: Befriending the Unconscious**, paperback; **Sherana Harriette Frances** - 128 pp: **\$22.95/28.95***
5. **Ecstasy – Dance, Trance and Transformation**, **Nicholas Saunders** – 281 pp: **\$18/\$24***
6. **Complete set of MAPS Bulletin back issues: 1988–2001** – 1200 pp: **\$125/\$165***

*** Second price is for orders from outside the U.S. Please do not send checks on foreign banks.**

MAPS IS A MEMBERSHIP-BASED organization working to assist psychedelic researchers around the world design, obtain governmental approval, fund, conduct and report on psychedelic research in humans.

Founded in 1986, MAPS is an IRS approved 501 (c)(3) non-profit corporation funded by tax-deductible donations from 1,800 members.

MAPS' founder and President Rick Doblin earned his Ph.D. in Public Policy from the Kennedy School of Government at Harvard University. Doblin was also in Stan and Christina Grof's first training group to receive certification as a Holotropic Breathwork practitioner.

Maggie Hall is the Director of Operations and the MAPS Bulletin Editor. She earned a B.A. in Fine Art, from New College in Sarasota, Florida. Working with MAPS affords the opportunity to network with people from all walks of life, and to help coordinate the global research efforts that MAPS facilitates.

Nicole Tavernier is the Director of Organizational Development at MAPS. She has a background in various fields of business and is currently working on her degree in Business Administration.

Mercedes Paulino, MAPS' Minister of Information, is continuing to fulfill her duty to infiltrate the Earth's sum of information and subvert the epidemic of parasitic simulacra engineered to pilage the precious ambrosia of human spirit and dreams...you may have heard this one before, but it's true!

Brandy Doyle graduated from New College of Florida with a joint concentration in anthropology and British-American literature. She is deeply concerned with the way that government, media, and corporate interests shape our choices and our understanding of ourselves, and in the case of the Drug War, control consciousness itself.

MAPS has previously funded basic scientific research in both humans and animals into the safety of MDMA (3,4-methylenedioxymethamphetamine, Ecstasy) and has opened a Drug Master File for MDMA at the U.S. Food and Drug Administration. MAPS is now focused primarily on assisting scientists to conduct human studies to generate essential information about the risks and psychotherapeutic benefits of MDMA, other psychedelics, and marijuana, with the goal of eventually gaining governmental approval for their medical uses.

ALBERT EINSTEIN WROTE: **"Imagination is more important than knowledge."** If you can even faintly imagine a cultural reintegration of the use of psychedelics and the states of mind they engender, please join MAPS in supporting the expansion of scientific knowledge in this area. Progress is possible with the support of individuals who care enough to take individual and collective action. In addition to supporting research, your contributions will return to you the following benefits:

The MAPS Bulletin

Each Bulletin will report on MAPS research in progress. In addition to reporting on research both in the United States and abroad, the Bulletin can include feature articles, reports on conferences, book reviews, Heffter Research Institute updates, and the Hofmann Report. Issues raised in letters, calls and e-mail from MAPS members may also be addressed, as may political developments that affect psychedelic research and usage.



Rick Doblin, Ph.D.
MAPS President



Maggie Hall
Director of Operations



Nicole Tavernier
Director of Organizational
Development



Mercedes Paulino
Director of Electronic Media



Brandy Doyle
Director of Special Projects

"They [psychedelics] are spiritual tools. If they are properly used, they open spiritual awareness. They also engender ecological sensitivity, reverence for life, and capacity for peaceful cooperation with other people and other species. I think, in the kind of world we have today, transformation of humanity in this direction might well be our only real hope for survival. I believe that it is essential for our planetary future to develop tools that can change the consciousness which has created the crisis that we are in." - Dr. Stan Grof



Tribute to John C. Lilly and Oscar Janiger

Oscar Janiger, MD

1918 - August 14, 2001

Oscar Janiger was a pioneer LSD researcher. He studied LSD's potential for enhancing creativity, and he co-founded the Albert Hofmann Foundation. www.hofmann.org

Dr. Oscar Janiger's Pioneering LSD Research:
A Forty Year Follow-Up:
<http://www.maps.org/news-letters/v09n1/09107jan.html>

Visit the Oz Janiger Page on the MAPS site:
<http://maps.org/news/oz>

John Cunningham Lilly, MD

January 6, 1915 - September 30, 2001

John C. Lilly was a pioneer LSD researcher, inventor of the sensory isolation flotation tank (inspired the movie *Altered States*), leading dolphin researcher (inspired the movie *Day of the Dolphin*), and authored *Programming and Metaprogramming in the Human Biocomputer*, *The Center of the Cyclone*, *The Mind of the Dolphin*, and *The Scientist*.

John Lilly Page on MAPS website:
<http://maps.org/news/lilly>

For the John C. Lilly website, visit:
<http://www.johnclilly.com/>