

# MAPS

Bulletin of the Multidisciplinary Association for Psychedelic Studies

## **"A Tidal Wave of Ecstasy!"**

On March 21, 2001, this evocative phrase washed over me as I watched C-SPAN for all three hours of a U.S. Senate hearing on "The Use of the Drug Ecstasy." I imagined a gentle tidal wave of warm, wet water, with myself tumbling over and over joyously in the midst of it, finally landing, laughing and unbruised, in the arms of a lifeguard on a sunny, sandy beach.

Unfortunately, the tidal wave of ecstasy carried totally different connotations for the Senators. In the fall of 2000, Congress had passed a bill asking the U.S. Sentencing Commission to recommend an increase in the penalties for MDMA. Two days before the Senate hearing, several MDMA researchers, drug policy activists and I had fruitlessly testified before the Sentencing Commission about MDMA's risks and benefits, opposing the increase in penalties on scientific grounds (<http://www.maps.org/news>). The day before the Senate hearing, the Commission announced its decision. Dose for dose, Ecstasy would now be more heavily punished than heroin! In testimony presented to the Senators, ecstasy was linked with poison, abuse, death, brain damage, addiction, violence, damage to dopamine and serotonin brain cells, rotting flesh falling off the side of a user's face, holes in the brain, a high school cheerleader unable to make it to practice since she was in thrall to ecstasy and would "lie, cheat and steal" to buy more, and a generation of young people who thought MDMA was harmless even as it insidiously robbed them of their mental abilities and moral sensibilities.

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

How can MAPS move forward with MDMA psychotherapy research in this overheated environment? It's clear to anyone paying attention that MDMA isn't harmless. MDMA has its share of risks, even fatal ones, especially when it is taken in non-medical contexts. Yet the Senators saw only the risks, and portrayed the extreme cases as if they were the average experience. They also denied the existence of any benefits, even when users claimed to have benefited.

On the federal level, the FDA is a rare and rational agency that still prioritizes science over drug war politics. The FDA is more responsive to the needs of seriously ill patients than to the misguided crusade for a drug-free America. As the tidal wave of ecstasy gathers momentum, MAPS is seeking a safe harbor at the FDA for a pilot study of MDMA in the treatment of patients with chronic Post-Traumatic Stress Disorder (PTSD). The MAPS-supported protocol soon to be submitted to the FDA represents the culmination of almost two years of work conducted by a team of researchers. MAPS funded the creation of a complete digitized bibliography of the entire peer-reviewed scientific literature on MDMA, and also funded the writing of a comprehensive review of all the published data, as well as the latest unpublished data from on-going government-approved clinical trials. Finally, MAPS helped bring together an outstanding team of researchers to design the protocol, and gathered a group of experts to critique and improve the proposed protocol design.

Call me brain-damaged, but I believe that the protocol will, in some form, be approved this summer. FDA approval will be a watershed event in our 16-year effort to initiate MDMA psychotherapy research, starting when MDMA was first criminalized in 1985. FDA approval will mark the beginning of MAPS' \$5 million, 5-year plan to develop MDMA into a prescription medicine ([www.maps.org/research/mdmaplan.html](http://www.maps.org/research/mdmaplan.html)).

If MAPS' staff and membership continue to work together patiently and persistently, we should be able to show the Senators that MDMA, as well as other psychedelics and marijuana, can be successfully and beneficially integrated into our shared culture. Let's continue to work together to ride the tidal wave safely to shore!

*Rick Doblin, Ph.D.*  
MAPS President

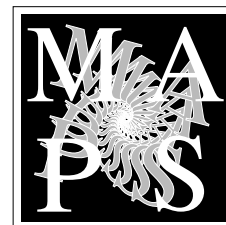
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MAPS (Multidisciplinary Association for Psychedelic Studies) is a membership-based organization working to assist psychedelic researchers around the world design, obtain governmental approval, fund, conduct and report on psychedelic research in humans. 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-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 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.

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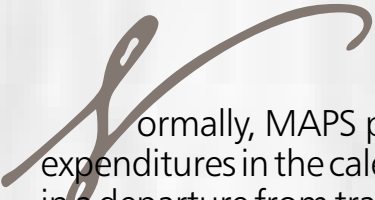
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# MAPS Annual Financial Report

## Fiscal Year 1999-2000

### June 1, 1999 - May 31, 2000

by Rick Doblin, Ph.D., MAPS President



Normally, MAPS publishes a detailed report of its annual income and expenditures in the calendar year's final issue of the Bulletin. Last December, in a departure from tradition, MAPS published a special issue of the Bulletin with the theme of Psychedelics and Creativity. We wanted to keep the special issue focused on that topic and decided to publish the annual financial report for FY 99-00 in the first issue of this year.

The increasingly heavy workload that MAPS' staff has undertaken has affected the timeliness of this issue of the Bulletin, and therefore of this annual financial report. MAPS' staff time has been devoted both to a growing number of substantive projects, and to an increasing amount of time spent communicating with members, the public, the media and governmental authorities. Subsequent issues of the Bulletin should resume being produced on our regular quarterly schedule.

#### Staff Time Spent on Media Relations

During the last year, there has been a sustained and substantial growth in the non-medical use of MDMA (Ecstasy), especially among young people. The resultant government crack-down (MAPS submitted testimony on 3/19/01 to the U.S. Sentencing Commission regarding the increase in penalties for the non-medical use of MDMA, <http://maps.org/news/>) has caused related media interest in MDMA to rise to a rather intense level. Since MAPS is the only organization in the United States actively working to conduct FDA-approved research into the therapeutic uses of MDMA, most journalists contact MAPS at some point in their research. Now that I have finally earned those three magic letters after my name, Ph.D., media people more frequently seem to take me seriously. Amusingly, the first person to ever call me "Doc" was Geraldo Rivera, on *Rivera Live*, during an MDMA-related segment of his show. The most high-profile exposure in which I've been called Doctor is in the *Rolling Stone* article (4/26/01) about MDMA, in which I'm called "Doctor X". I wouldn't call myself that, but I can live with it. The MAPS website (<http://www.maps.org/media/>) offers a chronological listing and electronic version of many of the media stories on MDMA and/or MAPS.

I feel that its important to allocate substantial time to speak to the media in order to help journalists present the public with a more balanced picture of MDMA. Fortunately, Dr. Charles Grob, an MDMA researcher at Harbor UCLA Medical Center who works closely with MAPS, is also willing to take time to talk with journalists. Public support for the medical uses of MDMA and other psychedelics is important to try to generate in order to create a supportive regulatory climate for MDMA research. In a related context, public support for the medical uses of marijuana has resulted in FDA-approved and NIH-funded research that otherwise might not have been approved or funded.

Yet no matter how much time Dr. Grob and I and other allied experts talk with reporters, the opportunities we have to discuss MDMA's therapeutic potential and to put forward reasonable risk estimates are only a drop in the bucket compared to the tens of millions of dollars of anti-ecstasy ads and other forms of "education" the federal government is funding. Fortunately, the websites that MAPS has helped support, Erowid, DanceSafe, and Alchemind, and also the MAPS website, have attracted tremendous attention and have substantial credibility. Media presentations about MDMA now frequently include at least some mention of MDMA's therapeutic potential and often question the dire

pronouncements of some government officials stating that even one dose of MDMA will result in serious and permanent brain damage.

In addition to the time it takes to respond to media, MAPS' wider visibility has resulted in a flood of e-mail. This is, unfortunately, all too common a challenge these days. As many people have experienced, it's difficult to keep one's head above the rising waters of e-mail.

Despite the struggles, it's a privilege and a joy to work at MAPS. The following report will explain in detail how MAPS allocated its financial resources in FY 1999-2000. From this report, MAPS members can see MAPS' strategy in action as well as ascertain our priorities. Comments of all types are invited.

### **MAPS Financial Overview**

Income and expenditures increased dramatically from FY 98-99 to FY 99-00. Income in FY 98-99 was \$308,743, while income in FY 99-00 was \$555,292. Expenditures in FY 98-99 amounted to \$280,194 while total expenditures for FY 99-00 were \$533,482.

### **Educational Overview**

Most of the growth in income and expenditures was due to the expansion of MAPS' educational efforts, both directly and through MAPS' support of the educational efforts of three other organizations; DanceSafe (dancesafe.org), Erowid (erowid.org) and Alchemind (alchemind.org). MAPS also began preparations to publish Dr. Karl Jansen's book about ketamine, helped fund Dr. Rick Strassman's efforts to write a book about DMT research, and supported to varying degrees several scientific conferences.

### **MDMA Overview**

In the area of research, MAPS participated in a historic milestone. A MAPS-supported study, to be conducted under the direction of Jose Carlos Bouso, Ph.D. candidate at the University de Autonoma de Madrid, Spain, became the world's first government-approved, placebo-controlled scientific study of the therapeutic use of MDMA. Patient recruitment has been slow and only one subject has been treated so far. The dose was 50 milligrams, well below the desired therapeutic level. Nevertheless, there were some promising effects and an absence of negative consequences. Major efforts are being made to recruit the additional 28 subjects.

In FY 99-00, MAPS' most expensive and top priority effort has been the sponsoring of a mammoth effort to review all the scientific literature on MDMA published in peer-reviewed journals, for submission to the FDA and to other regulatory agencies around the world. Matt Baggott has been leading the literature review team, with excellent full-time assistance from Ilsa Jerome in Boston and part-time assistance from Reid Stuart and Michael Bauer in San Francisco.

Associated with the MDMA literature review project has been an MDMA bibliography project, under the direction of Earth and Fire at Erowid (see page 19 for an update on this project.) We are creating an electronic database listing every study ever published, with digitized PDF copies to permit regulatory authorities, researchers and students to access the

basic data upon which our risk assessments are based.

Finally, MAPS has been coordinating the development of an MDMA-assisted psychotherapy protocol for submission to the FDA. The study, under the direction of Dr. Michael Mithoefer, Dr. Kathleen Brady, Annie Mithoefer R.N., and Mark Wagner, Ph.D., is designed as a preliminary pilot study. The study will gather basic information about the safety and efficacy of the use of two MDMA-assisted psychotherapy sessions in patients suffering from chronic Post-Traumatic Stress Disorder (PTSD). If approved, and I believe that some variation of what we submit to the FDA will be approved, the study will be the first scientific investigation of the use of MDMA in a patient population since MDMA was criminalized in 1985. The study will mark the start of MAPS' \$5 million, 5-year pharmaceutical drug development plan to transform MDMA into an FDA-approved prescription medicine. A Clinical Plan explaining the assumptions behind this estimate can be found on the MAPS website at: <http://www.maps.org/research/mdmaplan.html>.

### **Ketamine Overview**

MAPS helped Dr. Evgeny Krupitsky lay the groundwork in FY 99-00 for a conceptually exciting study of the use of ketamine-assisted psychotherapy in the treatment of heroin addicts. The study, designed in FY 99-00 and begun in FY 00-01, will test the effects of multiple (3) sessions of ketamine-assisted psychotherapy, as compared to one session of ketamine-assisted psychotherapy and two non-drug therapy sessions. This study moves us beyond the one dose/miracle cure approach into a more practical and realistic understanding of the profound but limited potential of psychedelic psychotherapy. (see page 13 for an update on this study.)

### **Psilocybin Overview**

In FY 99-00, MAPS purchased (from a DEA-licensed laboratory) the world's most expensive gram of psilocybin! MAPS is seeking to have the psilocybin approved by the FDA for use in a study that is already approved by the FDA. The study will evaluate the use of psilocybin in the treatment of patients with Obsessive-Compulsive Disorder (OCD) and will take place at the University of Arizona, Tucson, under the leadership of Dr. Francisco Moreno and Dr. Pedro Delgado. Once the psilocybin is determined to meet FDA standards, likely to occur soon, the first FDA-approved study of the therapeutic use of psilocybin in a patient population in over twenty-five years will begin. (see page 15 for an update on this study.)

### **Medical Marijuana Overview**

Regarding medical marijuana, MAPS started working in FY 99-00 to obtain permission from state (Massachusetts Department of Public Health) and federal (DEA) regulators to establish a small medical marijuana production facility. The purpose of the facility is to produce high-potency marijuana for use exclusively in FDA-approved protocols. MAPS received a grant of \$20,000 from Peter Lewis for this effort. Preliminary research and team-building took place in FY 99-00. The project is now steadily gathering momentum, though no formal application has yet been submitted.

MAPS, in association with CANORML, planned in FY 99-00

and initiated in FY 00-01 a study of the constituents of marijuana “smoke”, or more accurately marijuana “vapor.” The basic concept is that vaporizers heat the marijuana plant but don’t burn it, in a sense boiling out the cannabinoids and other materials. Due to the lack of combustion, the vaporizer may be a “safer” delivery system. (see page 20 for an update on this study.)

### Staff Overview

MAPS also experienced a major staff change in FY 99-00, in that Sylvia Thyssen moved to San Francisco to work for DanceSafe. Sylvia had been with MAPS since 1993, and adjusting to her departure was not easy. This year, Carla Higdon is departing. (see page 49 for her letter.)

The new team in Sarasota is composed of two full-time staff members, Maggie Hall and Nicole Tavernier. They work out of Arcturus, the home I designed and built at age 21, in the hopes that construction would help me get grounded after a series of difficult psychedelic experiences. Also in Sarasota is Mercedes Paulino, who works part-time out of her home, running the MAPS website and other information-related tasks. I’m still located in Boston.

### Detailed Income Report

The primary reason for the dramatic rise in MAPS’ income in FY 99-00 is that MAPS served as a fiscal sponsor for three other non-profit groups working on psychedelic-related educational activities, DanceSafe (dancesafe.org), Erowid (erowid.org) and Alchemind (alchemind.org). More than 25% of MAPS’ income and expenditures in FY 99-00 (\$155,285) were restricted donations for the educational activities of these three organizations. The organizational mission of these groups fell within the broad scope of MAPS’ own charter and mission, yet the specific projects these groups were developing were not being worked on by MAPS’ core staff. MAPS was the fiscal sponsor for these groups while their founders and staff worked toward establishing their organizations and obtaining IRS approval for their own non-profit status. In order to assist these groups as much as possible, MAPS chose not to take any fees for being a fiscal sponsor and passed through 100% of the donations that were restricted for use by these groups.

Income came primarily from about 1900 members, roughly the same number of members as last year. (MAPS’ goal is to increase membership to at least 2,500.) Nineteen individuals and one corporation gave \$1,000 or more, for a total of \$214,365, while nine foundations gave \$155,935. The remaining \$184,992 came from the rest of the membership, book sales, and income on investments.

The nine foundations that donated to MAPS in FY 99-00 include the Promind Foundation (\$93,286), Smart Family Foundation (\$22,000), Place Foundation (\$20,000), Low Wood Foundation (\$7,000), Angelica Foundation (\$4,000), Jewish Communal Fund (\$3,000), Zimmer Family Foundation (\$2,650), Tarcher Family Foundation (\$2,500), and the Odyssey Foundation (\$1,500). The individuals or corporations that donated \$1,000 or more include John Gilmore (\$78,480), Robert Barnhart (\$26,000), Ray Joseph Greenwell (\$25,000), Tim Butcher (\$24,400), Melisa Richardson (\$10,000), Paul Phillips (\$10,000), Anonymous (\$7,000), Betsy Gordon

(\$5,273), Andrew Stone (\$5,086), Ivan Kruglak (\$5,000), Jack Adams (\$3,000), Richard Wolfe (\$3,000), Marsha Rosenbaum (\$2,500), Julie Holland, who donated to MAPS’ Holland Fund for Therapeutic MDMA Research and to which she invites others to contribute (\$2,125), Anonymous (\$2,000), Mark Williams (\$1,500), Anonymous (\$1,000), Anonymous (\$1,000), Jamie Williams (\$1,000), and Perfect Fungi Europe (\$1,000).

### Expenditures

More than half of MAPS’ \$533,482 in total expenditures in FY 99-00, \$309,045, were devoted to various facets of its’ educational mission. A total of \$75,200 was spent on research projects. Staff expenditures totaled \$131,311, while office-related expenses amounted to \$17,925. These expenditures will be discussed in detail below in the section explaining each line item in the expense spreadsheet that accompanies this report.

### Balance/Net Assets

MAPS’ net assets were \$379,423 as of the close of FY 99-00 on May 31, 2000. As a non-profit organization, MAPS’ goal is to advance its mission, not to amass net assets. However, a reasonable amount of net assets empowers MAPS to achieve its goals. Net assets give a measure of stability to meet organizational expenses in the face of fluctuating contributions from membership. More importantly, net assets give MAPS the ability to commit to fund high-priority projects still in the development stages, should the projects be approved. As a result, researchers who work with MAPS are willing to invest their time and energy in the lengthy and time-consuming protocol development and approval process confident that if approval is eventually obtained, their research project will indeed be funded.

Of MAPS’ \$379,423 in net assets at the close of FY 99-00, \$40,000 is not available for use but represents the net present value of MAPS’ remainder interest in a home that MAPS will receive in its entirety in forty to fifty years. Roughly \$200,000 will be needed for the MDMA/PTSD research project MAPS is seeking to initiate in the United States, should it be approved (which I expect it will be). About \$100,000 will be needed for the medical marijuana production facility MAPS is trying to establish should lightning strike and DEA permission is actually granted for this project.

As a matter of fiscal strategy, MAPS will seek to raise new funds for all projects in development that do become approved. If new funds can be obtained for approved projects, MAPS can retain some net assets along with the ability to guarantee funding to additional pioneering studies in the development phase, should they also become approved. Of course, MAPS can only pledge to fund projects whose cost is lower than MAPS’ unallocated assets.

The major way I look at MAPS’ net assets is in comparison with the estimated cost of achieving MAPS’ primary goal, that being to obtain FDA approval for the medical use of MDMA as an adjunct to psychotherapy. Based on what I believe are reasonable financial assumptions, I’ve estimated that it will cost \$5 million and take 5 years to conduct sufficient research to demonstrate to the satisfaction of the FDA the safety and efficacy of MDMA-assisted psychotherapy in the treatment of

**Summary Chart**

	Research	Education	Staff	Office	
MDMA Literature Review	\$ 19,927.70				
MDMA Pill Analysis	\$ 14,000.00				
MDMA/PTSD Bouso/Spain	\$ 13,745.90				
MDMA Gamma/Switzerland	\$ 11,000.00				
Psilocybin/OCD Moreno/USA	\$ 10,527.00				
LSD Bastiaans/Holland	\$ 2,500.00				
Marijuana Russo/USA	\$ 2,000.00				
Ketamine Krupitsky/Russia	\$ 1,100.00				
Takiwasi/Peru	\$ 400.00				
Israel MDMA Conference		\$ 60,972.04			
DanceSafe		\$100,671.80			
Erowid		\$ 28,852.02			
Alchemind		\$ 25,760.80			
New Research Bibliography		\$ 2,200.00			
Albert Hofmann Bibliography		\$ 2,012.50			
Strassman DMT Book		\$ 18,000.00			
Jansen Ketamine Book		\$ 1,992.20			
Stolaroff/Shulgin Royalties		\$ 1,753.79			
Orenda Conference		\$ 10,000.00			
Psychedelic Elder's Conference		\$ 5,273.45			
Ibogaine Conference		\$ 1,000.00			
MAPS Forum		\$ 3,650.00			
Bulletin		\$ 23,875.59			
Postal		\$ 7,986.40			
Copies		\$ 1,616.97			
Phones		\$ 6,108.57			
Internet		\$ 2,959.61			
Books and Tapes		\$ 341.18			
MAPS Ads, Membership Drive		\$ 3,616.65			
Information		\$ 402.14			
Staff Travel			\$ 8,925.84		
Conference Fees			\$ 3,745.00		
Professional Services			\$ 5,023.09		
Salary, Benefits & Tax			\$113,616.83		
Office Supplies				\$ 3,025.47	
Office Rent				\$ 6,799.31	
Computer Equipment				\$ 3,948.46	
Office Equipment				\$ 2,817.10	
Fees -- Bank, etc.				\$ 1,335.15	
<b>Totals</b>					
<b>FY 99-00</b>	<b>\$533,482.56</b>	<b>\$75,200.60</b>	<b>\$309,045.71</b>	<b>\$131,310.76</b>	<b>\$17,925.49</b>
		Research	Education	Staff	Office
FY 98-99	\$280,194.75	\$ 42,318.34	\$107,119.12	\$116,459.12	\$ 14,298.17
FY 97-98	\$288,788.63	\$ 54,209.54	\$120,116.90	\$100,330.03	\$ 14,132.16
FY 96-97	\$250,832.61	\$ 90,660.51	\$ 73,316.03	\$ 73,464.75	\$ 13,391.32
FY 95-96	\$185,797.04	\$ 84,169.71	\$ 48,490.06	\$ 48,490.06	\$ 6,993.12
FY 94-95	\$133,152.19	\$ 48,680.13	\$ 42,199.87	\$ 42,199.87	\$ 7,060.51

patients suffering from Post-Traumatic Stress Disorder (PTSD). (see the Clinical Plan at: <http://www.maps.org/research/mdmaplan.html>.) From this perspective, MAPS' current net assets are sufficient only for the first steps of this clinical plan. However, I've always believed, and so far have had that belief confirmed, that funding can and will be obtained for all the successive steps in the research process, once the protocols are fully approved and ready to be implemented.

### Request for Feedback

As in previous years, MAPS' statement of income and expenses is published in the Bulletin along with a detailed explanation of the individual expense items. In this way, MAPS members can review exactly how their donations were allocated and what expenses were incurred. This report is an invitation for dialogue; MAPS members are encouraged to review this report and share with the staff any comments, suggestions or questions that they would like to offer. MAPS will continue to flourish only to the extent that the expenditures it makes correspond closely to the priorities of its members. As a result, we publish this detailed accounting and seek your input.

### Expenses For Research

#### MDMA-Related Projects

In FY 99-00, MAPS spent \$58,669 on expenditures related to MDMA research. Of that total, MAPS spent \$13,746 for protocol design, approval, and preliminary implementation expenses for the world's first and still only government-approved study of the therapeutic use of MDMA. The study, entirely funded by MAPS, is taking place in Madrid at the University de Autonoma de Madrid, Spain, under the direction of Jose Carlos Bouso, Ph.D. Candidate. The study is a dose-response pilot study designed to evaluate the effects of MDMA-assisted psychotherapy in the treatment of female survivors of sexual assault suffering from chronic Post-Traumatic Stress Disorder (PTSD). Subjects are required to have participated in at least one other treatment effort before enrolling in the MDMA study. One patient has been treated to date.

MAPS allocated \$19,923 in FY 99-00 for researchers and consultants to begin the process of reviewing all the scientific literature on MDMA. When MAPS initiated the review, it was intended to be used first as support for a protocol to be submitted to FDA by Charles Grob, M.D., Harbor-UCLA Medical Center. The protocol will be designed to evaluate the use of MDMA-assisted psychotherapy in the treatment of depression in end-stage cancer patients. Dr. Grob's protocol will likely be submitted to the FDA in Fall 2001. Promind Foundation made substantial contributions to the MDMA literature review project.

As it turns out, the literature review will first be submitted to the FDA in May 2001 in support of a protocol designed to study the use of MDMA-assisted psychotherapy in the treatment of patients suffering from chronic PTSD. This study will be conducted in Charleston, South Carolina, with Dr. Michael Mithoefer, a psychiatrist, and Annie Mithoefer, a registered nurse, working as the male/female co-therapist team. Dr. Mithoefer has been board certified in emergency medicine,

internal medicine and psychiatry. Both Michael and Annie Mithoefer have studied under Dr. Stan Grof and are certified Holotropic Breathwork practitioners. Co-investigators are Dr. Kathleen Brady and Mark Wagner, Ph.D.

This MDMA/PTSD protocol represents the culmination of almost two years of work conducted by MAPS-funded researchers. MAPS funded the assembling of a complete digitized bibliography of the entire scientific literature on MDMA published in peer-reviewed scientific journals (about 900 papers), the writing of a comprehensive review of the published data, as well as the latest unpublished data from ongoing government-approved clinical trials with MDMA, the bringing together of an outstanding team of researchers to design the protocol, and the gathering of a group of experts to critique the proposed protocol design prior to submission to FDA.

MAPS allocated \$11,000 in FY 99-00 to Alex Gamma, Ph.D., for his work writing several scientific papers based on MDMA research he conducted at the University of Zurich under the direction of Dr. Franz Vollenweider. For more information on these papers, see the MAPS website list of completed MDMA projects. Promind Foundation donated \$10,000 toward Dr. Gamma's project.

MAPS allocated \$14,000 for the analysis by a DEA-licensed lab of samples of Ecstasy pills sent in anonymously from around the country. It costs \$100 to analyze each pill, but is free to the people who send in the pills. The purpose of the pill analysis research project was to determine what Ecstasy pills actually contained. This was undertaken as harm reduction research, with the results made public on the DanceSafe website. The study revealed that a substantial percentage of Ecstasy pills contained absolutely no MDMA and often contained potentially dangerous adulterants. For more details, see <http://www.dancesafe.org/currentresults.html>

The costs of this program were funded by the Promind Foundation.

#### Psilocybin in the Treatment of Obsessive-Compulsive Disorder

MAPS purchased the world's most expensive gram of psilocybin in FY 99-00, at a cost of \$10,527. The drug is for an FDA-approved study of the use of psilocybin in the treatment of obsessive-compulsive disorder. The study will be conducted at the University of Arizona, directed by Dr. Francisco Moreno and Dr. Pedro Delgado. The protocol and informed consent for this study are on the MAPS website at <http://www.maps.org/news/1099news.html>

This study has not yet treated its first patient. In November 2000, FDA requested more analytical data from the DEA-licensed manufacturer of the psilocybin to ensure that the drug is safe for use in humans. In FY 00-01, MAPS paid \$1,750 for this additional analytical data, which has satisfied the insatiable FDA. When the first patient is treated, it will mark the first time in over twenty-five years that psilocybin has been given to a patient in the context of an FDA-approved study. This research project is yet another example of the need for patience in seeking approval for psychedelic research. The protocol was approved by the FDA in September, 1998. The two and a half years since then have been focused solely on



obtaining an FDA-approved supply of psilocybin. MAPS decided to have new supplies manufactured after it proved impossible to obtain any from the National Institute of Drug Abuse (NIDA) or the National Institute on Mental Health (NIMH).

### **Bastiaans LSD Follow-up**

In FY 99-00, MAPS paid the second installment of \$2,500 for costs associated with a follow-up study of Dutch psychiatrist Dr. Jan Bastiaans' patients, whom he treated for PTSD with LSD-assisted psychotherapy. The study was conducted by Dutch researchers Hans Ossebaard and Nicole Maalste. Many of Dr. Bastiaans' subjects were concentration camp survivors. This study provides promising anecdotal evidence suggesting that further research into the use of psychedelically-assisted psychotherapy in patients with PTSD should be conducted. For more information on the results of this study, see <http://www.maps.org/news-letters/v09n2/09203maa.html>

### **Marijuana in the Treatment of Migraines**

MAPS allocated \$2,000 to Dr. Ethan Russo, University of Montana, to support his efforts to conduct FDA-approved research into the use of marijuana in the treatment of migraine sufferers. Dr. Russo obtained both local Institutional Review Board (IRB) approval and FDA approval for his study. The \$2,000 that MAPS donated was for Dr. Russo's ultimately fruitless efforts to obtain from NIDA a legal source of FDA-approved marijuana for his study.

Marijuana is the only Schedule 1 drug for which NIDA has a monopoly on the supply that can be used in FDA-approved clinical trials. Unfortunately, NIDA is less than enthusiastic about facilitating research into the potential therapeutic benefits of smoking the marijuana plant. On May 21, 1999, NIDA and Health and Human Services (HHS) established a policy whereby research with marijuana became subjected to more reviews than any other drug in the United States. Research must now be approved, not only by the FDA and an IRB, but also by a special committee of the Public Health Service (PHS). This PHS committee rejected Dr. Russo's protocol even though all he and MAPS were seeking was the right to purchase low-quality marijuana at high prices from NIDA for an FDA-approved study. No government money was requested for the study. For the sorry history of the effort to research marijuana in the treatment of migraines, see <http://www.maps.org/mmj/mjrusso.html>

MAPS, Dr. Russo and the Marijuana Policy Project (MPP) tried to make the proverbial lemonade out of this lemon. On February 20, 2001, we submitted an Amicus Curiae brief to the U.S. Supreme Court in the Oakland Cannabis Buyer's Cooperative medical marijuana case (<http://www.maps.org/mmj/maps-mppbrief.html>). We have tried to turn our frustrating experience with NIDA to the advantage of medical marijuana patients by letting the U.S. Supreme Court know that for marijuana, the FDA drug development process is politically obstructed. The basic point of our brief is that these obstructions create a compelling case for the medical necessity defense for patients who run into conflict with the police over their use of marijuana as medicine.

Dr. Russo has decided to abandon his struggle to conduct FDA-approved research into marijuana's therapeutic poten-

tial in treating migraine patients. Instead, he has designed a basic safety study to evaluate the health of those few patients remaining alive who legally receive marijuana from NIDA as part of the Compassionate Investigational New Drug (IND) program, which in 1992 was closed by HHS to any additional patients. MAPS has pledged \$10,000 for this study. (see page 21 of this issue for more details about this study.)

### **Ketamine Research**

MAPS donated \$1,100 to Dr. Evgeny Krupitsky's ketamine research investigating the use of ketamine-assisted psychotherapy in the treatment of heroin addicts. The amount we donated in FY 99-00 year was minimal, since Dr. Krupitsky had completed his initial study in heroin addicts comparing the effects of a high-dose ketamine session to a low-dose/placebo ketamine session. In FY 99-00, Dr. Krupitsky mostly focused on data analysis and the design of a new study.

Dr. Krupitsky's initial study demonstrated statistically significant advantages in sobriety in patients receiving the high-dose ketamine session as compared to patients receiving the low dose/placebo session. As a result, Dr. Krupitsky requested funding to conduct a 5-year study comparing multiple (three) high doses of ketamine one month apart with a single high dose and two non-drug therapy sessions. This new protocol design is quite exciting since it moves beyond the one-dose/miracle cure model, popular in the 1960s, but not demonstrated to have long-lasting benefits. The new study explores the use of multiple psychedelic psychotherapy sessions integrated within an ongoing therapeutic relationship. MAPS and Heffter Research Institute have agreed to share equally in the costs of this study, budgeted at \$9,450 for each organization for each of the five years of the study. This study has been initiated in FY 00-01 (see page 13 of this issue for the latest update). The protocol is on the MAPS website at <http://www.maps.org/research/ketamine/kprotocol2.html>

### **Takiwasi**

Takiwasi is a drug treatment center in Peru that uses ayahuasca and other herbal medicines to treat patients with addictive disorders. MAPS donated \$400 to Takiwasi, which MAPS received as a restricted grant for that purpose. For more information on Takiwasi, see <http://www.maps.org/news-letters/v06n3/06324aya.html>

### **Expenses for Educational Purposes**

#### **MAPS MDMA Conference, Dead Sea, Israel, August 1999**

MAPS allocated \$60,972 for the costs of organizing a conference on MDMA at the Dead Sea, Israel. This sum includes the costs of the conference itself, which MAPS obtained from a small group of donors (Tim Butcher donated \$17,500), and the costs of the optional pre-conference tour, which was organized by MAPS and paid for by the tour participants.

MAPS' MDMA conference was attended by at least one representative from every team in the world that had obtained governmental permission to administer MDMA to human volunteers in the context of clinical research. The



purpose of this conference was twofold; to facilitate communication and collaboration between the world's MDMA researchers, and to educate representatives of the Israeli Ministry of Health as part of MAPS' efforts to start research in Israel into the use of MDMA in the treatment of Post-Traumatic Stress Disorder (PTSD). For more information on this conference, see

<http://www.maps.org/news-letters/v09n4/09402dob.html>

Due to the increased level of violence in the Middle East stemming from the failure of the peace talks, the need for new treatments for PTSD is greater than ever. However, MDMA psychotherapy research remains controversial in Israel. It now seems that the Israeli authorities are waiting until after the FDA approves MDMA psychotherapy research before permitting a MAPS-funded MDMA/PTSD study to take place in Israel. An April 2001 article on MDMA from the Israeli newspaper, Haaretz, which mentions MAPS' efforts to start MDMA/PTSD research in Israel, can be found on the MAPS website in the section on MAPS in the media.

### **DanceSafe**

MAPS received and disbursed \$100,672 to DanceSafe, a rave and dance culture harm reduction organization focused mostly on MDMA (Ecstasy) and other drugs used in the rave context. DanceSafe used some of its resources to create and maintain its website, which presents detailed and credible information about MDMA and other drugs. Dancesafe.org attracted a large number of visitors, in excess of the number of visitors to the various governmental websites established by NIDA and other agencies in order to provide their own version of drug education. DanceSafe also wrote, designed and published printed informational brochures to hand out at raves and in other venues.

DanceSafe's boldest harm reduction activity, which generated substantial media attention, was to pioneer the use of MDMA testing kits at raves, designed to determine whether pills sold as Ecstasy actually contained any MDMA. The test kits were used at raves by DanceSafe's local chapters, which were established around the country. DanceSafe also assumed responsibility for managing and funding the more sophisticated laboratory-based pill testing program that MAPS had initiated.

Sylvia Thyssen, who had worked at MAPS since 1993, moved to San Francisco at the end of FY 99-00 in order to work full-time for DanceSafe, moving out of the MAPS frying pan (with its relatively conservative research agenda) into the DanceSafe fire (with its more controversial harm-reduction agenda). MAPS continued to act as DanceSafe's fiscal sponsor in FY 00-01. Among others, Ray Joseph Greenwell donated \$25,000 for DanceSafe, John Gilmore donated \$20,000, and Paul Phillips donated \$10,000.

### **Erowid**

MAPS received and disbursed \$28,852 to Erowid.org, an educational website focused on providing information about psychoactive plants and drugs. Erowid is the most frequently visited psychoactive drug information site on the web. Erowid is currently (April 2001) getting an average of more than 20,000 unique visitors and more than 220,000 pages served a day. Erowid does not accept advertising on its site, which

could generate significant income, but prefers to provide information in a non-commercial, non-judgmental context. Erowid relies on donations to support staff costs. In FY 99-00, Promind Foundation donated \$27,263 to MAPS for Erowid. MAPS continued to act as Erowid's fiscal sponsor in FY 00-01.

Through a not completely coincidental turn of events, the creators of Erowid (Earth and Fire Erowid) and I all went to college together at New College of the University of South Florida, that bastion of academic experimentation that coupled rigorous academic standards with a fundamental belief in the value of facilitating each student's exercise of his or her own intellectual curiosities.

### **Alchemind**

MAPS received and disbursed \$25,761 in FY 99-00 to Alchemind, a non-profit educational organization founded and directed by attorney Richard Boire and Wrye Sententia. Alchemind publishes a journal that monitors and comments on legal issues related to the use of psychedelic plants and drugs for a full range of purposes including spiritual, therapeutic, creativity-enhancing, and recreational. Alchemind also maintains an informative website, at [alchemind.org](http://alchemind.org). Alchemind describes its mission as follows: "We seek to foster cognitive liberty; the right of each individual to think independently, to use the full spectrum of his or her mind, and to engage in multiple modes of thought and alternative states of consciousness."

Promind Foundation donated \$28,505 to MAPS for Alchemind in FY 99-00. (\$18,505 of Promind's donation was not disbursed to Alchemind until FY 00-01.) MAPS continued to act as fiscal sponsor for Alchemind in FY 00-01.

### **Web-Based Psychedelic Bibliography - New Research**

MAPS allocated \$2,200 in FY 99-00 to Matt Baggott for his work monitoring the scientific literature for human clinical research with psychedelics. Studies identified by Matt were added to the psychedelic bibliography (<http://www.maps.org/wwwpb/index.html>). In addition, Matt submitted comments on the findings of some of the more interesting studies to the MAPS Bulletin, the MAPS Forum, (an electronic discussion group to be discussed below), as well as to other researchers. This project was an adjunct to the MDMA literature review that Matt was coordinating for MAPS. This project was placed on hold in FY 00-01 in order to permit Matt to concentrate fully on the review of the scientific literature on MDMA.

Work on the web-based psychedelic bibliography was supported by a grant from Promind Foundation.

### **Albert Hofmann Foundation LSD/Psilocybin Bibliography**

MAPS allocated \$2,012 to the development of an on-line bibliography that will list all published articles on LSD and psilocybin. These funds were spent on development of customized software for the bibliography and on data-entry. The project was funded by a grant from the Promind Foundation. To access the bibliography, see <http://www.maps.org/wwwpb/index.html>

A collection of nearly all of the scientific peer-reviewed published articles on LSD and psilocybin is in the possession of the Albert Hofmann Foundation. The bibliography project

will expand substantially during FY 01-02 with the goal of creating a PDF file of each paper, linked to each bibliographic entry. A substantial number of volunteers will be needed to complete this project at an affordable cost. This project is being supported by the Promind Foundation. (For more information, see the article on page 19 in this Bulletin.)

### **DMT- The Spirit Molecule, by Dr. Rick Strassman**

In FY 99-00, MAPS received a series of restricted grants from Robert Barnhart totalling \$18,000. The purpose of these grants were to provide financial support for Dr. Rick Strassman so that he could focus on writing a book about his experiences conducting FDA-approved psychedelic research, primarily with DMT but also somewhat with psilocybin. Dr. Strassman's book, *DMT-The Spirit Molecule*, was published by Inner Traditions in 2001. The book is selling well and a second print run has already been initiated.

### **Ketamine: Dreams and Realities, by Dr. Karl Jansen**

MAPS allocated \$1,992 in FY 99-00 for the editing of Dr. Karl Jansen's book, *Ketamine: Dreams and Realities*. Jon Hanna was the editor and did a wonderfully thorough and insightful job; Mercedes Paulino compiled the exhaustive index (which nearly drove her back to her home planet). *Ketamine: Dreams and Realities* was published by MAPS in 2001. Dr. Jansen's book is being well received and is available from MAPS at <http://www.maps.org/kdreams/index.html>.

Emanuel Sferios, founder of DanceSafe, wrote the introduction to the book. Promind Foundation donated \$9,672 to MAPS in FY 99-00 to support the editing and printing costs of this book (The remaining portion of this donation was allocated to printing costs in FY 00-01).

### **LSD Psychotherapy, by Dr. Stan Grof**

In 2001, MAPS published a new paperback edition of Dr. Stan Grof's classic work, *LSD Psychotherapy*, with a new introduction by Dr. Andrew Weil and eight pages of new color plates. Though none of the expenses for printing this book (about \$15,000) or any of the donations to support the printing costs of this book (Promind Foundation- \$8,000 and John Buchanan- \$2,500) took place in FY 99-00, I'm mentioning this book anyway to call attention to its availability.

To order *LSD Psychotherapy* see  
<http://www.maps.org/lsdtherapy/index.html>.

### **The Secret Chief, by Myron Stolaroff, Ecstasy: Dance, Trance and Transformation, by Nicholas Saunders with Rick Doblin, with a bibliography by Sasha Shulglin**

MAPS paid royalties to Myron Stolaroff in FY 99-00 amounting to \$1,587.64. MAPS paid royalties to Sasha Shulglin amounting to \$166.15.

### **Orenda Institute Conference- Hollyhock, British Columbia, Canada**

Richard Yensen, Ph.D. and Dr. Donna Dryer, Orenda Institute, organized an invitational conference focused on the use of altered states of consciousness in religious and therapeutic contexts. MAPS allocated \$10,000 in FY 99-00 toward this conference, after receiving a restricted grant in

that amount from the Promind Foundation.

### **Psychedelic Elders Conference**

MAPS allocated \$5,273 in FY 99-00 for the organization of the interviews and transcripts gathered as part of the Psychedelic Elders conference which took place in November of 1998. MAPS received a restricted donation for this purpose by Betsy Gordon. The Elders conference, which was sponsored primarily by the Institute of Noetic Sciences (IONS), gathered together many of the early pioneers of psychedelic research, including Albert Hofmann on his last visit to the United States, Laura Huxley, Ram Dass, Stan Grof, Ralph Metzner, Myron Stolaroff, and others, including a few representatives of the younger generation of researchers. The conference focused on a discussion of how psychedelics had affected the Elders' views of reality and spirituality, and on suggestions for the successful integration of psychedelics into Western culture.

### **Ibogaine Conference**

MAPS allocated \$1,000 to the first international conference on ibogaine, organized by Dr. Ken Alper at New York University. The conference took place November 5-6, 1999. The clinical portion of the conference was focused primarily on the use of ibogaine in the treatment of addiction.

### **MAPS Forum**

MAPS spent \$3,600 in FY 99-00 on the MAPS Forum, an electronic discussion group available for free to MAPS members and non-members alike. This discussion group has about 1600 subscribers and generates some lively and substantive discussions. The Forum is skillfully moderated by Jon Frederick, Ph.D candidate at the University of Tennessee, Knoxville. (Jon is going to receive his Ph.D in June, 2001, with a dissertation focusing on the use of the EEG for brain wave analysis). The Forum is archived on the MAPS website at <http://www.cerebral.org/Maps/maillist.html>.

The MAPS Forum is funded by a grant from the Promind Foundation.

### **MAPS Bulletin**

MAPS spent \$23,876 on printing the MAPS Bulletin in FY 99-00. The Bulletin is MAPS' primary means of communications with its members. MAPS also sends the Bulletin for free as an educational tool to about 350 scientists, government officials, drug war prisoners, and academics. In addition, about 750 copies of the two color cover issues per year are sent to distributors for sale on newsstands. The \$23,876 that MAPS spent on the Bulletin in FY 99-00 was almost exactly the same as the \$23,497 spent in FY 98-99.

The costs of MAPS' Bulletin are rather high for an organization of MAPS' size. This is due primarily to the length of the Bulletins and to the extra expense of the two color cover issues. In this age of the Internet, with its instant and virtually cost-free communication, MAPS expenditures on its Bulletin need to be evaluated carefully.

I've come to the conclusion that hard-copy issues of the Bulletin are still important to MAPS' educational and community-building mission. The Bulletins act as a permanent

physical record of MAPS' activities, of the scientific research papers that are presented within the Bulletin, and of topics of interest to the MAPS community. It's more pleasurable to read hard copy than a computer screen, and the Bulletin provides MAPS members with the opportunity to show something tangible to their friends who may wish to learn more about MAPS and its agenda.

However, the use of the Bulletin to transmit information of a timely nature, or of an extremely detailed nature like a long protocol or literature review, is limited. This sort of information is more efficiently communicated through the MAPS website. I'd like to expand the use of the MAPS website for more timely and detailed content. I'd also like to expand the use of e-mail to send out occasional time-sensitive messages to MAPS members, so please consider sending your current e-mail address to the MAPS office at [info@maps.org](mailto:info@maps.org).

MAPS is going to experiment with focusing the next two color cover Bulletins on themes that speak to broader topics than just MAPS' pharmaceutical drug development efforts, which seek primarily to move psychedelics and marijuana through the FDA drug review and approval process. These upcoming issues will be similar to the recent *Psychedelics and Creativity* issue which was enthusiastically received and is turning out to be the first MAPS Bulletin that we have ever reprinted. The two non-color cover issues will continue to focus on articles more directly related to MAPS' projects, research reviews, general updates, interviews, conference reports, book reviews, and other such content.

## Organizational Expenses

### Postage

MAPS spent \$7,986 on postage in FY 99-00. This compares to \$8,761 in FY 98-99. MAPS is trying to use the internet for communications where possible in order to further reduce expenses for postage.

### Copies

MAPS spent \$1,617 on photocopies in FY 99-00, compared to \$2,858 in FY 98-99. This reduction probably represents savings due to our increased use of the internet to send information to people who request it.

### Phones

MAPS spent \$6,108 in FY 99-00 on telephone bills. This compares to \$7,262 in FY 98-99. This savings represents the continued decrease in the per-minute cost of long-distance calls.

### Internet

MAPS spent \$2,960 in FY 99-00 on internet connections. This compares to \$1,787 in FY 98-99. This increase reflects the added cost of high-speed internet connections, as well as the costs associated with the use of the secure server.

### Books and Tapes

MAPS spent \$341 in FY 99-00 on books and tapes for resale to MAPS members. This compares to \$1,539 in FY 98-99. This savings reflects the reductions in sales of *Ecstasy*,

*Dance, Trance and Transformation*, which we didn't publish ourselves but still sold through the Bulletin, as well several other items.

## MAPS Ads and Membership Drive

MAPS spent \$3,616 in FY 99-00 on ads and membership drive expenses such as small, limited mailings. This compares to \$9,158 in FY 98-99. This substantial decline reflects reductions in ads for *The Secret Chief*, the absence of ads for other MAPS books which didn't get published in FY 99-00, and the decision to focus on obtaining approval for one or more major research projects before going to the public seeking additional members.

### Information

MAPS spent \$402 in FY 99-00 on books, subscriptions, tapes and other sources of information. This compares to \$1,561 in FY 98-99. This decline is not due to the fact that we MAPS staff members knew more in FY 99-00 than in 98-99 (I wish). Perhaps it is due to the fact that I was completing my dissertation in FY 99-00 and expanded my ability to find information for free on the web.

## Staff Expenses

### Staff Travel

MAPS spent \$8,926 on staff travel in FY 99-00, compared to \$9,855 in FY 98-99. This slight reduction is probably due to the fact that I was completing my dissertation and didn't want to venture too far from my computer.

### Conference Fees

MAPS spent \$3,745 on conference fees in FY 99-00, compared to \$2,757 in FY 98-99. This increase is due to higher conference fees for the conferences that MAPS sent staff members to attend.

### Professional Services

MAPS spent \$5,023 on professional services in FY 99-00, as compared to \$3,712 in FY 98-99. This increase is due in part to MAPS' larger budget and the associated need for additional accounting services, as well additional costs associated with computer consultants to expand our software and to develop video content for the MAPS website.

### Salary, Benefits and Taxes

MAPS spent \$113,617 for three full-time staff in FY 99-00. This compares to \$100,134 in FY 98-99. This increase reflects raises in salaries and in the cost of health care benefits to Sylvia Thyssen and Carla Higdon. In addition, a small portion of this increase was due to the hiring of Maggie Hall near the end of FY 99-00, in order for her to receive training from Sylvia, many of whose responsibilities she assumed after Sylvia's departure.

Rick Doblin's salary remained at \$30,000 in both FY 98-99 and FY 99-00, with no health care benefits in either year. Sylvia Thyssen's salary increased in FY 99-00 to \$32,600, from \$28,600, with full health care benefits. Carla Higdon's salary increased in FY 99-00 to \$26,880, from \$22,880.

Both Sylvia Thyssen and Carla Higdon, though not Rick

Doblin, also received payments into a retirement account set up by MAPS for their benefit. A total of \$3,300 was placed into Carla's account, while a total of \$5,220 was placed into Sylvia's account, reflecting her seniority at MAPS.

As with most non-profit organizations, MAPS' salaries are lower than those for jobs in the private-sector with comparable skills and responsibilities. The lower salary is compensated for by the satisfaction of working on issues that have personal and social relevance. This wage disparity is also due to the fact that a large fraction of MAPS' income consists of restricted funds that go 100% to projects or other organizations, leaving less for organizational expenses than a quick glance at MAPS' FY 99-00 income of \$555,292 would suggest.

For FY 00-01, Rick Doblin's salary remained at \$30,000, without health care benefits. Sylvia Thyssen moved to SF and started working for DanceSafe as of the end of FY 99-00. Carla Higdon received a raise from \$26,880 to \$28,224. The amount going into her retirement account increased from \$3,300 to \$4,740. Health care benefits stayed the same. Maggie Hall was hired as the third full-time staff member at a salary of \$26,880, with retirement benefits of \$1,260 and full health care benefits. Mercedes Paulino was hired several months into FY 00-01 as a part-time staff member whose responsibilities included being in charge of MAPS' website at a salary of \$12.50 an hour, with full health-care benefits but no retirement contributions.

## Office Expenses

### Office Supplies

MAPS spent \$3,025 on office supplies in FY 99-00, compared to \$2,075 in FY 98-99.

### Office Rent

Office rent and power was \$6,799 in FY 99-00, compared to \$3,967 in FY 98-99. Office rent did not increase in Sarasota in FY 99-00. Rather, this increase reflects that fact that for about half of FY 98-99, the MAPS office was in Charlotte, NC, where the monthly rent was \$200 a month, while for the other half of FY 98-99, the MAPS office was in Sarasota, where the monthly rent was \$500. As a result, overall rent for FY 98-99 was lower than rent for FY 99-00. Rent for FY 00-01 has remained the same in Sarasota, at \$500 a month.

### Office Equipment

Office equipment expenditures in FY 99-00 were \$2,817, compared to \$685 in FY 98-99. This increase reflects the cost of setting up a new office in a new location.

### Computer Equipment

MAPS spent \$3,948 for computer equipment in FY 99-00, as compared to \$74.94 in FY 98-99. MAPS substantially upgraded its computer equipment in FY 99-00.

### Fees, Bank and Regulatory

Fees in FY 99-00 were \$1,335 in FY 99-00, as

compared to \$591 in FY 98-99. This increase is due to new registration fees with the State of Florida.

## Conclusion

MAPS had a successful and active year in FY 99-00, with a mix of educational and research projects. In terms of clinical research, much of what took place in FY 99-00 was laying the groundwork for research projects still to be approved.

Now that I have completed my dissertation, I feel a bit more wind in my sails. Simultaneously, the social breezes are shifting directions somewhat. With skill and patience, it's possible to create increasingly greater opportunities to advance MAPS' agenda. As the teamwork between MAPS' staff and our membership continues to develop and expand, MAPS becomes more effective. I'm reminded yet again of Theodore Hertzl's inspiring words, "If you will it, it is no dream."



# Ketamine-Assisted Psychotherapy (KPT) In The Treatment of Heroin Addiction: Multiple v Single KPT Sessions

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## Introduction

The number of registered and non-registered heroin addicts in Russia dramatically increases every year. Heroin addiction has a particularly high prevalence rate among Russian youth. During the last several years, the heroin addiction epidemic in Russia has become closely related to the HIV epidemic. Since methadone maintenance is prohibited in Russia by law, relapse prevention in heroin addicts is mostly limited to the use of naltrexone, antidepressants, and psychosocial treatment. Poor compliance with the above medications is a major problem, which makes it important to develop new treatment approaches based on combined pharmacological and psychotherapeutic interventions.

During the 1960s, psychedelic-assisted psychotherapy was demonstrated to be a promising approach to the treatment of addictions. However, studies of psychedelic psychotherapy were essentially stopped in the early 1970s due to political limitations resulting in part from adverse reactions associated with the non-medical uses of psychedelic drugs.

Ketamine is a government-approved registered drug used for general anesthesia. In small doses (1/10 to 1/6 of that usually used in surgery), it induces a profound psychedelic experience. It is safe, short acting, and has an approved medical use unlike other psychedelics which are criminalized and have no approved medical uses. The legal status of ketamine was one of the major reasons we chose to study the efficacy of ketamine-assisted psychotherapy (KPT) for alcoholism and heroin addiction. We have been doing studies of KPT since 1985. We have shown that a single KPT session is an effective method of treatment for alcoholism (Krupitsky, Grinenko, 1997) as well as for heroin addiction (Krupitsky et al, 1999).

We are currently exploring the question of whether increasing the number of KPT sessions will increase the efficacy of the treatment. That might be the case since many of the subjects who underwent psychedelic psychotherapy reported a specific "psychedelic afterglow" (positive psychological changes induced by the KPT session) which usually lasted up to several weeks after the session. Thus, multiple KPT sessions might have a cumulative effect that would generate longer-lasting positive psychological changes, thereby improving treatment outcomes. The study that we are currently conducting, with support from MAPS and Heffter Research Institute, is designed to test this hypothesis.

## Methods

At this point in time (mid-April, 2001), forty-one detoxified heroin addicts have voluntarily given their informed consent and have been included into the study. All subjects received one KPT session at the end of their detoxification treatment course in the psychiatric hospital. At both one and two months after the initial KPT session, all subjects were invited back for one day to the same hospital and randomly assigned to one of two groups, an experimental group and a control group. Patients randomized to the experimental group (20 so far) have received their second and third KPT sessions at one and two months after their first KPT session. Subjects randomized to the control group (19 subjects) have received regular drug counseling sessions instead of KPT

sessions, at one and two months after their first KPT session. The third KPT session was considered to be the end of the treatment program for the subjects in the experimental group while the second counseling session was considered to be the end of the treatment program for the subjects in the control group. We are evaluating all subjects participating in the study at 1, 3, 6, 9 and 12 months after completion of the treatment program. We are monitoring their abstinence from heroin with the use of urine drug tests and are also conducting psychological assessments measuring such variables as anxiety, depression, craving for heroin, anhedonia, and purpose in life. Two subjects who relapsed after the first KPT session had not been randomized to either group.

## Results

Two heroin addicts relapsed after the first KPT session, so that they were not randomized to either the experimental or control group.

In the experimental group (3 KPT), three subjects relapsed after the second KPT (without having a third KPT session), one relapsed after the third KPT session ("end of treatment"), one in two months after the third KPT session, and one in five months after the third KPT session. A total of six subjects have relapsed to date in the experimental group. Two subjects were abstinent one year after the last KPT session and thus finished their participation in the study. We continue to follow twelve subjects from the experimental group who are abstinent, with a period of abstinence of less than one year after the end of the treatment program.

In the control group (1KPT + 2 Counseling), six subjects relapsed after the first counseling session, one after the second counseling session ("end of treatment"), one within two months after the last counseling session, two in three months, one in five months, and one in eight months after the last counseling session. A total of twelve subjects have relapsed to date in the control group. We will continue to follow seven subjects of this group who are abstinent with a period of abstinence of less than one year after the end of the treatment program.

Thus, the preliminary data we have gathered so far provides some evidence that three KPT sessions work better than one KPT session followed by two drug counseling sessions. We will continue recruitment of new subjects into this study to at least double the number of subjects in each group since that is important from a statistical point of view.

It is important to note that KPT produced no severe adverse reactions in this study. The safety of KPT demonstrated in this study is also an important result.

## Acknowledgment

The authors are very grateful to the Multidisciplinary Association for Psychedelic Studies (MAPS) and to the Heffter Research Institute for the support of this study.

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# Progress Report: The Psilocybin/Obsessive-Compulsive Disorder (OCD) Study Obtains Final FDA Approval!

by Dr. Francisco Moreno (fmoreno@u.arizona.edu)

*On May 8, 2001, we learned that the FDA has approved the psilocybin for use in humans. This is the final approval we needed from FDA!*

## Update

Around April 20, 2001, we submitted additional analytical data to the FDA regarding the purity

of the one gram of psilocybin that MAPS arranged to be synthesized and purchased for our experiment. On May 8, 2001, we learned from the FDA that the psilocybin was approved for human use. We now have final approval from FDA to begin the study! All we need to do now prior to beginning formal recruitment of subjects for the study is to obtain our DEA Schedule 1 licenses to handle the psilocybin, and obtain a DEA certificate of confidentiality (to protect the privacy of our subjects, who are required to have had prior experience with psychedelics). Now that we have final FDA approval for the study, we should be able to obtain our DEA licenses and certificate of confidentiality within a month or two.

## History of the Protocol Approval Process

From late 1994 through the beginning of 1995, I treated, under Dr. Pedro Delgado's supervision, a patient who had difficult-to-treat Obsessive-Compulsive Disorder (OCD). Surprisingly, this patient reported that his symptoms had dramatically improved immediately after ingestion of dry psilocybin mushrooms (taken in a recreational context). After chronic exposure to these mushrooms, he noticed that his symptoms remained in remission even when he stopped using psilocybin.

After a brief discussion with Dr. Delgado, in which he indicated that he had heard of similar cases, we conducted a literature search and found minimal direct literature but several supportive reports. We wrote a case report and initiated contact with experienced hallucinogen researchers, including Dr. Rick Strassman, who was then in New Mexico and had expressed interest in collaborating in a prospective study to evaluate this phenomena under controlled circumstances. A number of other researchers including our supporters at MAPS were very enthusiastic about the plan and contributed ideas and feedback to the development of the current protocol.

Our initial task was to work closely with the University of Arizona Human Subjects Committee (HSC) in order to discuss the potential approval of our project. After repeated reviews

and a visit by Dr. Delgado and myself with the HSC, we were able to satisfy their concerns and suggestions by November 1997.

Earlier conversations with Dr. Strassman made it clear that obtaining permission from the FDA and the DEA would be the largest hurdles to overcome once the HSC had approved the protocol. In addition to FDA approval of our protocol for the use of an Investigational New Drug (IND), we need to obtain a DEA schedule I license that is psilocybin-specific. However, the DEA requires an FDA-sanctioned protocol with an approved IND in order to process the application for a DEA license.

Although our protocol design was finally approved by the FDA on September 17, 1998, the FDA placed our IND on clinical hold pending clarification of the source of the drug. Part of the delay in the FDA process is the result of our lack of experience at preparing all the material that is required by the FDA. They accepted our application without a formal protocol written in the format that pharmaceutical companies usually compose. Mistakenly, we had provided the FDA with data on psilocybin existing at NIDA even though NIDA had not yet decided to make that psilocybin available to us. We made the decision to pursue obtaining the drug from NIDA through our in-house collaborators but were unable to do so after about one year of trying. We attempted to import psilocybin from Switzerland but were also unable to arrange for that option.

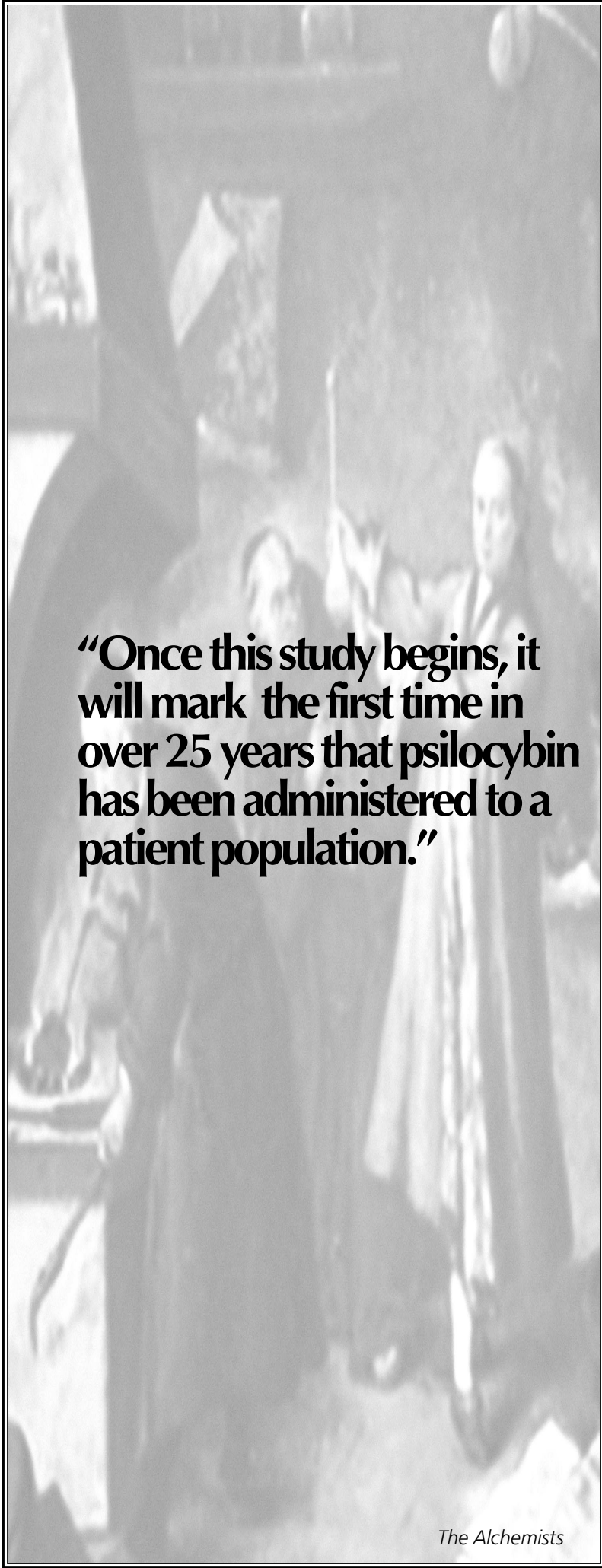


In October, 1999, Rick Doblin began searching for a potential non-governmental domestic source of psilocybin. He located Organix, a private company with the required DEA licenses and expertise in the synthesis of organic compounds, including psilocybin. He learned that Organix could synthesize our drug and provide the FDA with the required analytical data sufficient to characterize our drug source (the issue that resulted in the clinical hold FDA placed upon our protocol). A contract between MAPS and Organix for one gram of psilocybin was initially proposed for \$7,500, but this amount was increased to \$10,000 in a December 1999 contract after Organix had discussed directly with the FDA its needs for analytical data.

It then took almost six months to resolve lengthy discussions between Organix and the University of Arizona lawyers about what would be the safest legal process to obtain psilocybin from Organix. In May 2000, the University of Arizona received a grant of \$10,527 from MAPS so that the University could purchase the substance directly from Organix. Two more months went by before the University of Arizona submitted a purchase order to Organix on August 1, 2000. By the end of September 2000, Organix had completed the synthesis and had provided us with the analytical data initially agreed upon. We, in turn, submitted this information to the FDA. On November 29, 2000, the FDA informed us that additional analysis, interpretation, and a written description of the synthetic process was required. Organix agreed to provide this additional information at an extra cost of \$1,750 that MAPS agreed to pay directly to Organix. Organix subsequently provided us with the newly required data and we in turn resubmitted it to the FDA before April 20, 2001.

On May 8, 2001, we learned that the FDA has approved the psilocybin for use in humans. This is the final approval we needed from FDA! Now we will be able to obtain the necessary licenses from DEA. Once this study begins, it will mark the first time in over 25 years that psilocybin has been administered to a patient population in the context of a legal, FDA-approved protocol.

Partial funding for the operational cost of the study has been pledged by the Heffter Research Institute. Additional funding in the amount of \$25,000 will be needed in order to complete the implementation of the entire project. Donations to MAPS can be restricted for our use, with 100% of the donation allocated to our study.



**“Once this study begins, it will mark the first time in over 25 years that psilocybin has been administered to a patient population.”**

# The Effectiveness of Psilocybin-assisted Psychotherapy with Narcotic Addicts: A Request for Funding

By Reinhard Hauser, Ph.D. (reini@earthlink.net)

In association with MAPS, I am seeking funding to prepare a grant proposal to the Swiss Federal Office of Public Health / Swiss National Foundation (SFOPH/SNF) for a double-blind controlled study of the effectiveness of high dose and low dose psilocybin-enhanced psychotherapy with narcotic addicts. I'm a Swiss psychologist, psychotherapist and international trainer of a form of psychotherapy called process work. I am co-founder of process work training programs across Europe, a presenter at conferences and a group facilitator with experience in large group process, team building and conflict resolution. For the last ten years I have been living in Oregon while completing my Ph.D. and am planning to return to Zurich.

The project development is planned in Switzerland from July 2001 - July 2002. The Swiss have traditionally done psycholytic therapies, and therapists working with substances do so with permission of the Swiss Federal Office of Public Health. The fact that substance-assisted psychotherapies have been conducted in Switzerland increases the likelihood of getting the necessary permits (Ethics committee, SFOPH). To insure the scientific character of the study, protocol development and implementation will be done in collaboration with experts in the field. If a grant proposal is completed and subsequently accepted by the Swiss foundations - for which there is quite a good chance - a large Swiss grant will finance the actual implementation of the 3 year project, hopefully to take place from Fall 2002 - Fall 2005.

This is a unique opportunity for a large-scale treatment study in the field of applied psychedelic research to be successfully implemented due to a wonderful synergy in time and place of resources and researchers.

## Funding needs

For the year July 2001 - July 2002 - until the protocol is completed and the grant proposal accepted by BAG/SNF, I need to generate a funded position for myself for the development of the protocol. Scientific support has been promised so that there should be no delay in establishing the protocol. Preparation will include literature review, design of the methodology of the study, selection of assessment instruments, developing a manual for short term psilocybin-supported experiential psychotherapy, connecting with the collaborating institutions, team building and writing of the grant application. The funding needs for the one-year preparation period are \$65,000. We are hoping to leverage the \$65,000 required for the development of the protocol and grant application into a donation from Swiss federal institutions in excess of \$1 million for the implementation of the study.

## Preliminary design of the study

Part of the work during the development phase will be to design a manual-guided (standardized) psychotherapy program lasting six months for psilocybin-supported treatment of narcotic addiction - combining a powerful medicine with cutting edge experiential psychotherapy. A new therapy manual will be developed in close reference to international standard manuals. The manual will comprise a complete guide to typical in-session processes in psycholytic therapy and corresponding sets of possible therapist interventions. The therapy program will include 1) preparation, 2) psychedelic experience and 3) integration phase. Four therapists will treat 16 clients each in up to 30 individual non-drug sessions and in up to 4 repetitions of the psychedelic experience in two-day group sessions. Therapists, clients and raters will be blind to the dosage.

The protocol itself also needs to be designed in detail. The current conception is to enroll about 64 substance-dependent persons who would be randomly selected from a pool of clients who meet inclusion/exclusion criteria, then assigned in matched pairs to either high or low dose group. Outcome criteria would be drug use, craving, psychological problems and personality, life values, criminal activity, and social adaptation. Assessment instruments will include self, clinician and significant other ratings as well as physiological measures, urine analysis and possibly, SPECT, PET and / or fMRI for the study of the effect of therapy on craving. Follow-up evaluations at 6, 12 and 18 months are planned.

Today, Switzerland is a leader in the treatment of addiction. Risk reduction measures are effective and heroin maintenance projects show promising results (Uchtenhagen et al 1999). However, there has been little innovation in alternative treatment. I believe that it is important to invest in creative programs designed to motivate addicted persons toward life style changes including reduction of drug use. I share the confidence of my colleagues that the time is right for this study in Switzerland and expect to obtain government permits and funding with a protocol that meets today's methodological standards.

### Process Work

The model of process work is an innovative experiential approach to psychotherapy, dream and body work, conflict resolution and large group work developed by A. Mindell and colleagues over the past 20 years. Its elegant framework - based on the final perspective of Jung - organizes psychotherapy, shamanism, creativity, spirituality and politics/social action into a unified paradigm to personal development and global change.

Drawing on my background in an experiential psychotherapy which emphasizes the non-drug induced use of altered states of consciousness for therapeutic purposes, I explored its application in the treatment of addiction. This led me to study the altered states of consciousness that addicts are seeking through the use of drugs. My dissertation is on the topic:

"Altered states of consciousness as a complement in the treatment of addiction: effectiveness of a single process-oriented intervention - a quantitative and qualitative study".

I believe that an addiction may be, beyond its causal origins, a potentially purposeful behavior, a search for experiences which are missing in an addicts everyday life. The intervention I studied facilitates re-experiencing the drug state or "high" without drugs, with a sober attitude, and deepens the experience in an interactional process through body awareness, movement and relationship work until some deeply felt personal meanings emerge.

In this process, the client learns to separate the drug from the state and experiences the altered state without drugs. The method proposes an inner work practice which assists the addict to access the drug state and to unfold its effects. The idea is that the altered state carries a message which wants to be lived and integrated into the person's everyday life. The goal in the treatment of addiction is not the altered state per se but expansion of awareness and a reorientation toward what has been neglected, in short, toward a spiritual life.

I used an AB experimental design in my dissertation research in which an initial baseline session was compared to an intervention session (accessing the state) with 13 heroin dependent persons. On the SOC-13, a measure of health (Antonovsky 1987), the empirical results demonstrated effectiveness of the intervention with a significant increase of +7.4 from t1 to t2 from 49.23 to 56.62 (t-test  $p=.01$ ;  $r=.75$ ;

$p=0.003$ ; effect size  $d=0.85$ ). On the Experiencing scale, a measure of client involvement in process (Klein et al 1969), which is based on ratings of session transcripts and video tapes by trained raters, the increases were significant but in the lower ranges of the scale from 3.24 - 3.65 (t-test  $p=0.03$ ;  $r=0.57$ ,  $p=0.43$ ;  $d=0.68$ ). On the Process Index, an adaptation of the Experiencing scale to process work, the increases were not only statistically significant but measured a full stage increase to critical stage 4, the level where clients start to focus on inner experiencing in a meaningful way (from 2.95 - 4.03; t-test  $p=0.000$ ;  $r=0.58$ ,  $p=0.39$ ;  $d=2.27$ ).

The qualitative results are more difficult to summarize since every individual has a unique process which needs to accurately and precisely be followed in therapy. However, at the risk of simplification, the results illustrate a general tendency toward some core experiential states revolving around yearnings for self love, intimacy in relationships as well as expressing social and spiritual messages. In all cases, aggression in the form of a harsh inner critic, an abuser or a killer was found as a threat in the background pointing to the need for more conscious contact with and integration of that power. The aim is to refocus that inner critic to "kill off" addiction rather than oneself.

The results demonstrated *very significant in-session client progress on a measure of health and improved contact with one's self through entering and unfolding the altered state the person searches for* (at least originally) with the help of a drug. One of the limitations of the study is the lack of follow-up measurements which makes it impossible to draw any conclusions about how long this improved sense of well-being lasted. However, from psychotherapy process research we know that long-term outcomes build on small positive changes in each therapy session. Last but not least, accessing the drug state in a sober manner is just one experiential intervention from a large toolbox of options.

Not only are all of the various treatment modalities needed, I believe, but it is crucial to create innovative alternative methods in addiction treatment. To accomplish just that is the goal of the proposed study of the use of psilocybin-assisted psychotherapy in the treatment of addiction. To test the effectiveness of psilocybin-assisted psychotherapy in the treatment of addiction with state of the art methodology is the dream that drives the project. If you would like to join in this effort to work towards making psychedelics available as medicines to those who could benefit from them, please consider making a restricted donation to MAPS in support of this project..

Please feel welcome to let me know your ideas and suggestions at [reini@earthlink.net](mailto:reini@earthlink.net). For more information see my web page at <http://www.efn.org/~rhauser/>

# MAPS/EROWID Psychedelic Bibliography Projects

By Earth and Fire (info@erowid.org)

Erowid and MAPS have been collaborating on two large reference database projects recently. Erowid has been providing expertise and work developing and coordinating construction of an online MDMA Reference library and we've just begun working on doing a similar project with the Albert Hofmann Foundation's LSD and Psilocybin Library.

## MDMA Reference Project

We've been working with MAPS over the last eight months to produce a comprehensive MDMA Reference Database as part of MAPS' larger project of facilitating research into the potential therapeutic benefits of MDMA and an FDA Investigative New Drug (IND) application.

We completed the first draft of the MDMA Reference Database project at the end of January, 2001, but there were a number of loose ends (including missing articles, typos, and errors) which we have been working to clear up during March & April. With help from several volunteers, we are hoping to have each entry verified and some of the difficult-to-find papers added by the end of April 2001.

There will be additional follow up work as we develop better collaborative tools, improve the search capabilities and interface, continue to seek out the missing entries, and keep the collection up to date.

## Albert Hofmann Foundation Library

In 1996, the Albert Hofmann Foundation (AHF) received Albert Hofmann's collection of articles about LSD and Psilocybin. MAPS has been working for the past several years to create an online bibliography of the articles contained in this vast collection. In March, Erowid joined the project in order to evaluate whether the full texts from the collection can be digitized and included in an online database. Some of the core goals of the Albert Hofmann Foundation include preserving the early research, making it publicly accessible, and serving the interests of scholarly research. It has become clear that the best way to further those goals is to archive the work digitally and provide public access to it.

In the middle of March, four of us (Fire, Earth, Eric Oндler, and Michael Greene), spent a weekend in LA researching the Albert Hofmann Foundation's collection. Our goals were to get an understanding of the current state of the materials, determine whether it would be possible to digitize some or all

of the collection, and outline the steps, costs, and time necessary to complete the project.

The weekend was very successful. The AHF collection consists of 79 binders packed with copies of more than 4,000 journal articles, academic theses and miscellaneous writings on LSD; and 9 similar binders related to Psilocybin. The articles (over 20,000 pages worth!) seem to have been collected by Sandoz as a working reference library and don't appear to include any personal notes. With the exception of a dozen or so unique items, such as Sandoz Pharmaceuticals' shipping manifests and internal memos, most of the articles would theoretically be available through a high quality university library.

The collection itself appears to have been put together as a working reference library. The bulk of the collection is held into books with cellophane tape that is no longer sticky. Because of this original binding method many of the articles and papers have also begun to degrade.

After spending a day carefully going through the collection and consulting with Myron Stolaroff and other AHF members, it became clear that the primary value of the collection is in the information it contains and the research it represents. We made the decision to move ahead with plans to preserve the information by detaching the remaining tape, putting each article in its own plastic sleeve, then scanning and digitizing all of the articles that can easily be processed. A small number of the 'articles' are actually bound theses or booklets which will require evaluation on a case-by-case basis.

The first step in the process of creating a fully digitized, searchable database of these articles is to create a system for entering the references and verifying that the entries already in the MAPS / AHF Bibliography are correct. We've gotten a small start on this first step and should be able to have some more hands dig into the project in May. Over the summer, we're expecting to be able to coordinate volunteers to get the first stage of the project complete and get a large majority of the articles scanned and sleeved. The end date for having the entire collection available online, searchable, and viewable will hopefully be sometime in the last quarter of 2001.

We're looking forward to having this amazing resource available to the world.

# MAPS/NORML Study Shows Vaporizers Reduce Toxins in Marijuana Smoke

By Dale Gieringer, Ph.D.  
NORML California State Coordinator ([canorml@igc.apc.org](mailto:canorml@igc.apc.org))

*“...vaporizers offered the best prospects for smoke harm reduction.”*

Medical marijuana patients may be able to protect themselves from harmful toxins in marijuana smoke by inhaling their medicine using an electric vaporizer, according to initial results of a study by the Multidisciplinary Association for Psychedelic Studies (MAPS) and California NORML. Research expenditures to date are roughly \$50,000.

The study showed that it is possible to vaporize medically active tetrahydrocannabinol (THC) by heating marijuana to a temperature short of the point of combustion, thereby eliminating or substantially reducing potentially harmful smoke toxins that are normally present in marijuana smoke. Vaporizers may therefore substantially reduce what is widely regarded as the leading health concern associated with marijuana, namely respiratory harm due to smoking. In addition, many medical marijuana patients say they prefer vaporizers because they deliver smoother, less irritating medication.

MAPS and NORML sponsored the study in the hopes of helping medical marijuana patients and others reduce the health risks of smoking marijuana. A major obstacle to approval of natural cannabis by the Institute of Medicine (IOM) in its 1999 report, “Marijuana and Medicine,” was that smoking is an “unhealthy” delivery method. The IOM report failed to note the possibility of vaporization.

The MAPS-NORML study tested a device called the M1 Volatizer(R), an aromatherapy vaporizer developed by Alternative Delivery Systems, Inc. It consisted of an electric heating element in a chamber that radiates heat downwards over a sample of marijuana contained in a standard bowl. Output from the vaporizer was analyzed and compared to smoke produced by burning the sample.

The vaporizer produced THC at a temperature of 200° C. (392° F.) while completely eliminating three measured toxins - benzene, a known carcinogen, plus toluene and naphthalene. Temperatures of around 200 C. appear to be most efficient for vaporization. The potency of the cannabis in the study was on the order of 10% - 12%. Significant amounts of THC (around 5%-6%) begin to be released at 180 C., with slightly more (7% or 8%) at 200 C. Carbon monoxide and smoke tars were both qualitatively reduced by the vaporizer, but additional testing is needed to quantify the extent of the decrease.

The vaporizer study was undertaken as a follow-up to a previous MAPS-NORML marijuana smoking device study, which concluded that vaporizers offered the best prospects for smoke harm reduction: [www.maps.org/news-letters/v06n3/06359mj1.html](http://www.maps.org/news-letters/v06n3/06359mj1.html)

MAPS and NORML are currently seeking support for further research and development of vaporizers. Research is presently underway to explore the optimal temperature and conditions for vaporization. An additional \$85,000 is needed to provide accurate measurement of carbon monoxide and other toxins, such as polycyclic aromatic hydrocarbons. Further studies may be needed to explore alternative device designs and the effects of different consistencies, potencies and preparation methods of the samples of marijuana.



# MAPS: Missoula Chronic Cannabis Use Research Study

By Ethan Russo, M.D. (erusso@mtneuro.com)

MAPS is pleased to announce that funding has been secured for the Missoula Chronic Cannabis Use Research Study. This research project will examine the overall health status of six of the eight surviving federally-supplied medical marijuana patients. These patients receive their medication in canisters containing 300 cigarettes of regulated and federally-grown medical marijuana on a regular basis, according to their FDA-approved protocols.

Patients receive their medicine from the "Compassionate Use" Program of the National Institute of Drug Abuse (NIDA) under the medical supervision of their Investigational New Drug (IND) study physician. The Compassionate Use Program was closed by NIDA in 1992 to any new patients beyond the first fifteen (seven are now deceased).

Despite the obvious opportunity to generate data on the use of cannabis by these patients, and its possible sequelae, neither NIDA, other branches of the National Institutes of Health, nor the FDA has ever attempted to collect or analyze information from this cohort. The Missoula Chronic Cannabis Use Study provides a unique and important opportunity to amass and analyze the long-term effects of cannabis on patients who have used a known dosage of standardized, heat-sterilized quality-controlled supply of low-grade medical marijuana for 8-22 years. Six of the eight remaining legal patients have agreed to participate in this study. Two prefer to retain anonymity.

Each study patient will undergo the following tests:

- Pulmonary function tests
- Chest X-ray, P-A & lateral
- Neuropsychological tests
- Hormone and immunological serum assays
- Electroencephalography (EEG)
- P300 testing (a computerized EEG test of memory)
- Neurological examination

The study is being conducted in an effort to further scrutinize federal claims that the harmful sequelae of the chronic use of smoked cannabis for therapeutic purposes are far worse than the benefit derived.

The proposed study will be conducted at St. Patrick Hospital and the offices of Montana Neurobehavioral Specialists, Missoula, Montana. Institutional Review Board (IRB) approval for the study has been obtained. The study will be co-conducted by Ethan Russo, MD, and Mary Lynn Mathre, RN. The essence of the study is to evaluate the functional condition of these chronic cannabis patients. All physiological systems will be probed to some degree but concentration will be on pulmonary and neurological functions. Three subjects were fully evaluated from May 3 - May 6, 2001.

MAPS has pledged \$10,000 to this study, as has a private donor, while the Zimmer Family Foundation has pledged \$1050. The results of the study are to be distributed as widely as possible. Data will be presented at the International Cannabinoid Research Society meeting in Madrid, Spain, in June 2001, and at the Second National Clinical Conference on Cannabis Therapeutics to be held in Portland, Oregon, in the spring of 2002.

A full report of the results will be published in the *Journal of Cannabis Therapeutics*. Articles on the study will also be submitted to peer-reviewed journals of wide circulation.

This is designed as a one-time study. Replication is possible at a future time if the need or advisability of such replication is deemed appropriate, and if the patients agree to participate. When completed this study can serve as a baseline for future comparisons.

## Key Operating Personnel

Primary Investigators:

Ethan B. Russo, M.D. Dr. Russo is a practicing neurologist, board certified in neurology with special qualification in child neurology. Clinical Associate Professor at the Department of Medicine, University of Washington, and Adjunct Professor of Pharmacy at the University of Montana. He is the editor of *The Journal of Cannabis Therapeutics*.

Mary Lynn Mathre, RN, MSN, CARN, is the Addictions Consultant to the University of Virginia Health Sciences Center. She is the President of the Virginia Nurses Society on Addictions, and the Co-founder of Patients Out of Time.

Co-Investigators:

Juan Sanchez-Ramos, MD, PhD, is a neurologist and faculty member of the University of South Florida School of Medicine in Tampa, Florida.

Paul Bach, Ph.D., is a Montana Neurobehavioral Specialists Neuropsychologist.

Rob Velin, Ph.D., is a Montana Neurobehavioral Specialists Neuropsychologist.

Fund and Logistic Administrator:

Al Byrne, Lcdr., USN, (ret.), Co-founder Patients Out of Time.

A Report from The Society for Neuroscience Annual Meeting—New Orleans, LA, Nov. 4-8, 2000

# A Critique of a Controversial Study on THC Effects in Primates

by James Stewart Campbell, M.D. ([jimcampbell@ieee.org](mailto:jimcampbell@ieee.org))

## Introduction

At this huge meeting, where over 25,000 neuroscientists from all over the world gathered to trade information on all facets of brain research, there appeared only one study on the effect of delta-9-tetrahydrocannabinol (THC) in primates. There were no studies in humans. Two other studies in rats or mice showed interaction of THC with nicotine and opiates, but these animals were given a THC-per-weight dose approximately 1000 times that of primates, so the models must be viewed with that massive dose in mind, and thus are not reviewed in this report.

The primate study, funded by the U.S. National Institute for Drug Abuse (NIDA) and carried out by S.R. Goldberg, P. Munzar, and G. Tandra, was entitled "Self administration behavior maintained by delta-9-tetrahydrocannabinol, the psychoactive ingredient of marijuana in squirrel monkeys." It should be noted that the lead author, Dr. Goldberg, works at the Preclinical Pharmacology Section of NIDA in Baltimore, MD. Dr. Goldberg was present at the report at a poster session presentation on Sunday, November 5, and responded to my questions and provided a copy of the poster.

*"a small number of squirrel monkeys ...were first taught to self-administer intravenous cocaine."*

## The Study

In essence, a small number of squirrel monkeys (the number is not specified in the poster, but 4 animals are identified in graph labels) were first taught to self-administer intravenous cocaine by pressing a lever when a light came on (a fixed-ratio reinforcement schedule). This step was necessary because numerous attempts over the past 30 years to get any animal to self-administer THC have been unsuccessful. Training occurred in one-hour experimental "sessions" conducted daily on weekdays. Once accustomed to getting the cocaine, this response was "extincted" by not giving the cocaine after the lever press until the monkeys only pressed the lever a tenth as much as when the cocaine was given. Just how long this extinction took is not reported, but it was more than 3 sessions, according to graphical data. Then THC doses reportedly comparable to that received by smoking a reasonable amount of marijuana (1 to 8 micrograms per kg, I.V.) were given in response to a lever press, using a second-order reinforcement protocol. The monkeys quickly learned over 1 to 3 sessions to press the lever to get this "reward." In short, they seemed to like the effects, at least up to a point. Careful observation of the graphical data indicated that up to 4 ug/kg per dose, the animals pressed the lever more frequently. At 8 ug/kg doses, however, there was a distinct and highly significant reduction in lever presses to the level of half that found with 4 ug/kg. No explanation was given for this finding, and it was not mentioned in the study results or conclusions. The experiment also included sessions after pre-administration of SR141716A, a drug which seems to block the effects of THC, but not cocaine. On this regimen, the monkeys reduced their lever pressings to the extinction point in three days, recovering the lever press frequency to THC 2 to 3 sessions after the blocking agent was stopped. No effect of SR141716A was seen in sessions where cocaine was the test drug.



## Official Study Conclusions

The six conclusions reached by the study authors were as follows:

- 1) "The active principle in cannabis, THC, possesses strong reinforcing properties in experimental animals, in this case, non-human primates, as it does in human subjects."
- 2) "The findings further suggest that marijuana has as much potential for abuse as other drugs of abuse, such as cocaine and heroin."
- 3) "The selective reduction of THC but not cocaine self-administration by SR141716A indicates that this abuse potential is likely mediated by cannabinoid CB1 receptors in the brain."
- 4) "THC self-administration by squirrel monkeys was obtained using a range of doses in agreement with the total intake and the single doses self-administered by humans smoking marijuana cigarettes."
- 5) "The recent discovery of new therapeutic actions of marijuana has increased public debate on the legalization of smoked marijuana as a medication. The present findings of persistent, reliable self-administration behavior with marijuana's psychoactive ingredient, THC, should help to better inform this debate."
- 6) "This methodology provides an exciting opportunity to study neuropharmacological mechanisms underlying marijuana abuse and to develop drugs possessing therapeutic efficacy similar to or better than marijuana or THC but lacking the potential for abuse."

## The Conclusions as Seen by This Observer (JSC)

The above six conclusions as rewritten after careful study of the poster:

- 1) Once cage-raised, chair-restrained squirrel monkeys are habituated to self-administering intravenous cocaine as a "drug of entry", they tend to self-administer intravenous THC under similar conditions. Any extension of this conclusion to non-primates, or other primates, including humans, cannot be made by this study.
- 2) No conclusion as to the abuse potential of THC in squirrel monkeys or any other species can be drawn from this limited study. However, the finding that higher doses of THC reduce the self-administration rate in these monkeys indicates that there is a self-limiting "ceiling" to the self-administration of THC in this species.
- 3) SR141716A blocks the self-administration of THC in

***"Once cage-raised, chair-restrained squirrel monkeys are habituated to self-administering intravenous cocaine as a 'drug of entry', they tend to self-administer intravenous THC under similar conditions."***

squirrel monkeys previously habituated to cocaine self-administration. Where and how this action takes place cannot be drawn from this study.

- 4) Intravenous THC self-administration by squirrel monkeys habituated to cocaine seems to occur only at a dosage range similar to the dosage range of respiratory self-administration of THC-containing smoke in humans.
- 5) The present limited findings of self-administration behavior with marijuana's psychoactive ingredient, THC, may prove to be valuable concerning public debate on the legalization of smoked marijuana as a medication. But these findings should not be unduly extended or even be found to be reliable until verified in independent laboratory experiments.
- 6) This methodology may provide an opportunity to study neuropharmacological mechanisms underlying marijuana self-administration by cage-raised monkeys and to screen drugs possessing therapeutic efficacy similar to or better than marijuana or THC but lacking the potential for self-administration by these monkeys.

## Discussion

This particular study is important in that it shows how strongly the sponsor of a scientific study affects the conclusions drawn from the work. In this case, Drs. Goldberg, et. al, performed a fairly rigorous scientific investigation, then apparently embellished the report to satisfy NIDA official policy. This bias is shown from the first sentence of the poster, which reads: "Marijuana is among the most abused illicit drugs in the world." Note the NIDA-inspired keywords - "abused," "illicit," and even "drugs." The authors simply could not write "Marijuana is among the most used psychoactive agents in the world" without putting their funding, careers, and livelihood in jeopardy. This is the cloud under which NIDA scientists must function if they are to survive. When I brought this up to Dr. Goldberg at the meeting, he at first denied that he could lose his job because he was tenured. But he did not deny that he worked independently of outside influence. After all, tenure means little today when administrators can

***"...it shows how strongly the sponsor of a scientific study affects the conclusions drawn from the work."***

assign you to a small windowless office in the basement and deny funding for your work.

Accordingly, the authors' conclusions are grossly tainted by this bias, as exemplified by the two comparative sets of conclusions shown above. Extending the "strong reinforcing properties" of cannabis to humans in the first conclusion is an example. There weren't any humans in the study! How can this then be a scientific conclusion? What has been shown in

the study is that a handful of chronically bored and possibly depressed cage-raised and restrained squirrel monkeys that have been specially taught to self-administer IV cocaine will also self-administer IV THC. This is the first time any animal has been taught to self-administer THC under *any* conditions. To extend this very limited result to include human behavior is grossly unscientific.

Furthermore, any researcher worth his grant money should have noticed the ceiling effect of reasonable THC doses in these monkeys. These captive and drug-trained monkeys liked THC, but only in a very limited way. Why did they reduce lever pressing at the higher dose of THC? Were they “stoned” and passive or drifting off? This is not mentioned in the poster. Perhaps this is the well-known ceiling effect of THC (seen in humans) that was not recognized as a worthwhile finding, as it indicates that THC self-administration has intrinsic limits that are far short of the toxic dose of THC.

But why labor over the “NIDA-Speak” in the study poster at all? One seasoned neurophysiologist remarked that he always ignores the obvious propaganda-laced conclusions, and goes right to the graphs and technical data to find what really occurred in NIDA studies. That may be fine if one is a neuroscientist, but politicians may read only the conclusions and rush to legislate public policy with drastic results. Indeed, Dr. Goldberg proudly told me that the conclusions of this study had already been influential in the recent British debate in parliament where the conservatives had insisted on draconian penalties for simple marijuana possession. The “addictive” properties of THC shown by this study had been one of the main arguments for the increased penalties.

In conclusion, this interesting and provocative study includes some well carried out primate research into THC use, but the scientific data are sullied by untenable “conclusions” consisting almost entirely of NIDA propaganda. Discussion of this state of affairs brought out an appropriate quote from a Russian Neurophysiologist at the Meeting: “The American approach to the drug problem is like a doctor who treats a cough with a strong laxative. The treatment may stop the cough for a while, but it does nothing for the underlying problem.”

***“He always ignores the obvious propaganda-laced conclusions, and goes right to the graphs and technical data to find what really occurred in NIDA studies.”***

## Response to Critique of THC Study

By Dr. Steven Goldberg  
(sg97r@nih.gov)

I do appreciate the opportunity to review the critique by Dr. Campbell. There are inaccuracies and problems of interpretation in the critique, which I should note. The major findings in this poster were published in a leading peer-reviewed journal, *Nature Neuroscience*, the month of the Neuroscience Meeting (2000, volume 3, pages 1073-1074). It was a press release by *Nature Neuroscience* about the article that resulted in public debate in Great Britain just before the Meeting.

As Dr. Campbell suggests, these findings should not be “unduly extended” and, of course, need to be replicated by independent laboratory experiments, but our research does provide pre-clinical evidence of what has long been clear from clinical experience, that marijuana has abuse potential like other abused drugs and is a potential medical problem. The principal guide for the medical community in diagnosing psychiatric disorders is the

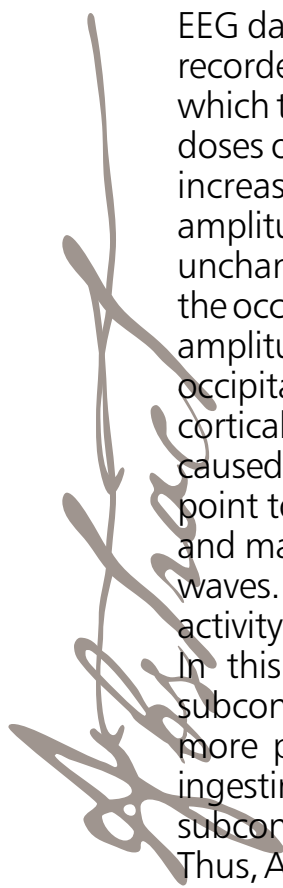
***“...our research does provide preclinical evidence of what has long been clear from clinical experience, that marijuana has abuse potential like other abused drugs...”***

fourth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-4, 2000) published by the American Psychiatric Association. It clearly describes marijuana (cannabis) as an abused drug capable of producing dependence and intoxication (pages 236 to 242). Marijuana is indeed illegal in the United States, Great Britain and much of the rest of the world. When I am writing about caffeine, I do refer to it being the most used psychoactive agent in the world, but marijuana is not caffeine and it is illegal.

Finally, the presence of a “ceiling effect” as the injection dose of THC was increased in our self-administration studies is exactly the same effect seen with other abused drugs such as cocaine or heroin under the same conditions. It is commonly referred to as an inverted u-shaped dose-response curve. However, the presence of an inverted u-shaped dose-response curve under controlled experimental conditions does not mean that a drug such as cocaine or heroine (or THC in marijuana) is free of toxicity and safe for human consumption.

# Effects of a Psychedelic, Tropical Tea, Ayahuasca, on the Electroencephalographic (EEG) Activity of the Human Brain During a Shamanistic Ritual

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EEG data from 12 volunteers participating in a workshop in Brazil were recorded under field conditions before and after a shamanistic ritual in which the psychoactive tea, *ayahuasca*, was consumed. Following three doses of the tea, the subjects showed strong and statistically significant increases of both EEG alpha (8-13Hz) and theta (4-8Hz) mean amplitudes compared to baseline while beta (13-20Hz) amplitudes were unchanged. The strongest increases of alpha activity were observed in the occipital lobes while alpha was unchanged in the frontal lobes. Theta amplitudes, on the other hand, were significantly increased in both occipital and frontal areas. Our data do not support previous findings of cortical activation with decreased alpha and increased beta activity caused by psychedelics (e.g. LSD, mescaline, psilocybin). They rather point to a similarity between the altered states produced by ayahuasca and marijuana which also stimulates the brain to produce more alpha waves. We suggest that these findings of increased EEG alpha and theta activity after drinking ayahuasca reflect an altered state of consciousness. In this state the subjects reported increased awareness of their subconscious processes. This is an altered state comparable to, however more profound than, the meditative state. Our results suggest that ingesting Ayahuasca may provide individuals with increased access to subconscious processes and feelings while in a wakeful, relaxed state. Thus, Ayahuasca has the potential to become a potent tool in the process of psychotherapy.

## Introduction

### Pharmacology

Ayahuasca is a beverage extracted from plants in the Amazonian rain forest. By boiling the bark of the vine *Banisteriopsis caapi* with the leaves of the plant *Psychotria viridis* a psychoactive brew is made. The *Psychotria viridis* contains the short-acting psychoactive agent dimethyltryptamine (DMT) which has a structural similarity to serotonin. When DMT binds to neuronal receptors in the brain it causes changes in cognition and state of consciousness. However, DMT is orally active only in the presence of MAO inhibitors, such as the beta-carbolines of the *Banisteriopsis* bark. Thus, the interaction between the DMT and beta-carbolines is the basis of the psychoactivity of ayahuasca (McKenna et al., 1984).

Ayahuasca has a long history of safe and beneficial use for spiritual and healing purposes among large numbers of indigenous people in South America (Metzner, R., 1999). Only recently has Western science become interested in studying ayahuasca scientifically. In 1993, the Hoasca Project, a multinational, biomedical study of the ayahuasca tea, took place in the Brazilian Amazon Basin and the tea's pharmacological, physiological and psychological effects on humans were studied (McKenna, D.J. et al., 1998; Callaway, J.C., et al., 1999; Grob, C.S., et al., 1996).

## Electroencephalography (EEG)

There is general consensus that rhythmical waves recorded from the surface of the scalp (the EEG) are summed synaptic potentials generated by the pyramidal cells in the cerebral cortex. The EEG represents responses of cortical neurons to rhythmic discharges from the thalamus. The frequency and amplitude of the EEG are determined by a complex arrangement of excitatory and inhibitory interconnections within the thalamus itself and between the thalamus and the cerebral cortex. The spontaneous fluctuations of the brain electrical activity (EEG), picked up on the scalp surface by electrodes, vary from moment to moment in both amplitude (voltage) and frequency (cycles per second). In order to interpret this complex signal, quantification, usually by a computer, is necessary.

## The Quantitative EEG (qEEG)

In order to assess the effects of a substance on brain functions, the quantitative EEG (qEEG) is useful. Usually mean amplitude or power within the major frequency bands is computed. Other variables such as right/left amplitude ratios and phase coherence between pairs of symmetrical EEG signals may be calculated. Ample evidence suggests that the qEEG is a valid measure of the functional state of the brain. Research has shown that there is a direct correlation between a person's level of conscious attention and his brain wave frequency. During the unconscious state of deep sleep, high amplitude, slow delta waves (0.5-4Hz) predominate the EEG. In the semi-conscious state between wakefulness and sleep (the drowsy, hypnagogic state) theta waves (4-8Hz) tend to prevail. During the awake, mentally relaxed state with eyes closed, alpha waves (8-13Hz) predominate the EEG in most people while the fast beta waves (13-30Hz), normally with smaller amplitudes, are observed during aroused, hyperattentive states of consciousness (Fig. 1).

Thus, the qEEG method can determine whether a person is conscious (alpha and beta waves), subconscious (theta waves) or unconscious (delta waves). The general rule is that the lower the EEG frequency the more unconscious the individual.

**Figure 1. States of Consciousness with Corresponding EEG Frequencies**

Unconscious		Conscious	
Deep Sleep	Drowsy/Dreamy	Inward Attention	Outward Attention
(Low arousal)		(High arousal)	
0.5Hz ← Delta → 4Hz	← Theta → 8Hz	← Alpha → 13Hz	← Beta → 30Hz (eeg v)

## EEG research of psychedelics

The majority of EEG studies done on psychedelics appeared in the scientific journals some 30 years ago, before these compounds were banned. Wikler (1954), Itil (1968) and Fink (1978) are all in agreement that psychedelics, regardless of the substance (LSD, mescaline, psilocybin), produce decreases in slow wave (alpha and theta) activity together with increases of fast (beta) activity. This low amplitude, desynchronized EEG pattern induced by psychedelics reflects an activation of the brain and is in opposition to the highly synchronized alpha pattern observed during deep relaxation. Fink (1978) found

that regardless of the nature of the drug administered, EEG synchronization (alpha/theta waves) was associated with euphoria, relaxation, and drowsiness; while EEG desynchronization was associated with anxiety, hallucinations, fantasies, and illusions. Don et al. (1998) found an increase of high frequency beta ('40Hz') with no significant change of alpha and theta activity in the EEG following the ingestion of ayahuasca. All the above studies indicate that most psychedelic compounds tend to suppress low EEG frequency activity (alpha and theta) and enhance beta activity reflecting an activation of the brain. However, other psychedelic-like compounds such as marijuana and MDMA (ecstasy) seem to have the opposite effect and increase alpha activity. In a recent, controlled placebo study, an increase of EEG alpha power, correlating with intense euphoria, was found after smoking marijuana (Lukas, et al., 1995).

Long-term effects of the use of psychedelics, using qEEG monitoring, have rarely been studied. However, in a recent study of 23 recreational MDMA users, Dafters et al. (1999) found that the use of MDMA was positively correlated with absolute power in the alpha (8-12Hz) and beta (12-20Hz) frequency bands. These findings were supported recently in another study by Gamma et al. (2000) who found global increases of theta, alpha and beta power in a group of regular MDMA users compared to a control group.

## Consciousness expanding properties of ayahuasca

The main psychoactive agent in ayahuasca (*Psychotria viridis*) is the short-acting compound dimethyltryptamine (DMT). The only published study of the qEEG effects of DMT was done on mice with implanted electrodes (Morley BJ, Bradley RJ, 1977). These authors found a dose-dependent hypersynchrony with increased power in the low frequency (delta/theta) range following the ingestion of DMT.

DMT, when applied intravenously in humans, almost instantaneously elicits visual hallucinations, bodily dissociations and extreme shifts in mood (Strassman et al., 1994). It is the mind-altering properties of ayahuasca which have been used for healing and spiritual purposes in shamanic ayahuasca rituals by indigenous people throughout South America for maybe a thousand years (Metzner, R. et al, 1999).

In many respects, the changes in consciousness induced by drinking ayahuasca are comparable to other states of deep relaxation and increased subconscious awareness, such as the meditative, the hypnotic and the hypnagogic states which are all characterized by increased theta activity in the EEG (Hoffmann E., 1998; Ray WJ, 1997; Budzynski TH, 1986). Thus we expected to see increased theta and possibly increased alpha activity following the intake of ayahuasca.

## Materials and Methods

### Subjects

Subjects were twelve normal volunteers, mostly Europeans, who attended a workshop of four ayahuasca rituals in Brazil, organized by an experienced Ayahuasceros, a native healer (YSB), working already for years with ayahuasca. Subjects included nine men and three women between the age of 29 and 59 years (mean = 44.7 years). Two subjects had never taken ayahuasca before while the remaining ten had



attended 12 to over a 100 ayahuasca rituals before. Most of the subjects had taken psychedelics as well as other drugs before (Table 1).

**Table 1. Demographic data of the subjects**

Gender	Age	Previous drugs used	Frequency of drug use	Number of ayahuasca rituals
M	59	Marihuana	Occasionally	25-30
M	48	Mushrooms, Ecstasy, cocaine, LSD, Amphetamines	Occasionally	30
F	50	Marihuana	Rarely	20
M	33	Marihuana, Cocaine, Ecstasy, Mushrooms, Herbal XTC	Frequently	None
M	33	Marihuana, Ibogaine	Rarely	16
M	30	Marihuana, Mushrooms	Occasionally	25
M	54	Marihuana, LSD, 2-CB, Mushrooms, Cocaine	Occasionally	28
F	47	Marihuana, LSD	Occasionally	>100
F	57	Marihuana, Mushrooms, Ecstasy, 2-CB, LSD	Occasionally	20-30
M	46	Marihuana, Mushrooms	Occasionally	15
M	50	Marihuana, LSD, Heroine, cocaine, Mushrooms, Amphetamines	Frequently	>100
M	29	None		None

At the time of the experiment none of the volunteers had any physical complaints. One male subject described himself as a first-class junkie, but refrained from drug-use, apart from marihuana and ayahuasca, since he started using ayahuasca in ritual settings. A second male subject suffered from decompensatio cordis and used prescription medication (digoxine, enalapril, and a diuretic). There was one male subject with a complicated psychiatric history, suffering from depressive symptoms in the past and was treated with serotonin uptake inhibitors. Most volunteers had a higher education or university degrees (law, medicine, psychology).

In order to screen for psychiatric symptoms, the subjects initially underwent a psychiatric interview and rated themselves on the SCL-90 Symptoms Checklist. All subjects had scores within the normal range. All volunteers signed an extensive Informed Consent Form explaining the effects and side effects of ayahuasca, as well as the EEG recording procedure. It should be noted, however, that the intention of the volunteers was to experience drinking ayahuasca under the guidance of (YSB). The monitoring of the qEEG was the scientific part of the workshop; the workshop was explicitly not organized to monitor the qEEG.

The EEG data reported here were all collected under field conditions, in the middle of the Brazilian jungle, using batteries as the power source for the equipment. Baseline EEG recordings were done, together with the psychological testing, in the village of Alto Paraiso, north of the capital Brasilia. The rituals were held a few days later in a remote area, only accessible by foot.

## Administration of ayahuasca

EEG recordings were done at two separate rituals led by YSB according to methods developed within the ethnopsychopharmacological society 'Friends of the Forest' in the Netherlands and based on Brazilian shamanistic tradition. Three doses of ayahuasca, 75 ml in total, were administered during the ritual with intervals of 1-1 1/2 hours. EEGs were taken one to two hours following the third dose of ayahuasca, 4-6 hours after the first dose. At this point all subjects appeared to be experiencing an altered state of consciousness.

## EEG equipment and electrodes

The PCEEG8<sup>1</sup>, an eight channel EEG brainmapping instrument from Khepri Electronics, was used for data acquisition. This battery-operated portable unit, which weighs only 8 ounces, works with a laptop PC and is very suitable for field work.

Using 128 samples per second, 12 bit A/D conversion, eight channels of EEG and one channel of EMG are fed, via fiber optic transmission cable, to the serial port of a Pentium 233, PC laptop. The signals are simultaneously stored on a disk and displayed on the computer screen. Later, data may be replayed from the hard disk, edited for artefacts, and analyzed for frequency, amplitude and a number of statistical parameters.

We used bipolar scalp recordings from eight different electrode locations using the international 10/20 system. Gold-plated electrodes were fastened to the head with elastic head bands, and EEG signals were obtained from right and left frontal, temporal, post-temporal and occipital lobes (F7, F8, T3, T4, T5, T6, O1, O2) with Cz on the top of the head as a common reference.

## Data collection, editing and analysis

Baseline recordings were done in a hotel room in the village of Alto Paraiso. The subjects laid down on a couch with closed eyes while their EEGs were recorded. Following a few minutes of rest, approximately 200 seconds of EEG signals were stored on disk for later analysis.

A few days later all the subjects had their EEGs recorded again during two separate ayahuasca rituals in the jungle. By the end of the ritual most people were lying down quietly absorbed in their inner subjective experiences. In order not to disturb the subjects and interfere with their state of consciousness, we did not want to take them to an adjacent room for the EEG measurements but decided to do the recordings in the very same spot in the Zendo (meditation hall) where they had been sitting or lying during the ritual. They did not even have to get up from their mattresses for the EEG. Thus we expected them to remain in an altered state of consciousness throughout the recordings. During the measurements the subjects were lying flat on their backs with closed eyes. The room was relatively quiet at that point, and all subjects seemed to be deeply relaxed and absorbed in their

inner experiences. Thus, very few muscle and eye movement artefacts were observed in the recordings. Also electrical noise interference with the recordings was at a minimum since all our equipment was battery operated.

After the rituals the EEG records were replayed, inspected visually, and edited for eye/head movements and muscle tension artefacts. Power spectral analyses were done of at least 100 seconds of artefact-free EEG epochs. For each of the 8 scalp sites, the mean amplitude in the theta (4-8Hz), alpha (8-13Hz), and beta (13-20Hz) frequency bands were computed using Fast Fourier Transform (FFT) analysis. Since it is sometimes difficult to differentiate between delta waves and eye movement artefacts, we chose not to analyse delta (0.5-4Hz) frequencies in order to avoid misinterpretations.

## Results

To assess the effects of ayahuasca on the resting EEG, mean theta, alpha and beta amplitudes following the ritual were compared to baseline values. Because the data could not be considered normally distributed, a non-parametric statistical test, the Wilcoxon Signed Ranks, two-tailed test, was used for comparative analysis.

We found considerable and statistically significant increases ( $p < .01$  or  $p < .05$ ) of mean alpha amplitudes after ayahuasca for the O1, O2 and T6 locations. For the left occipital lobe the increase of the group mean was an impressive 120%, statistically significant at  $p < 0.01$ . Smaller but statistically significant increases of mean theta amplitudes were found at F7, F8, T3, T5, O1 and O2 locations. Eleven out of 12 subjects showed substantial increases of theta activity. Thus, increases of alpha amplitudes were seen primarily in the occipital regions of the brain and in the left post-temporal area, while increases of theta amplitudes were observed in all parts of the brain, except for the right temporal and post-temporal areas. Only one subject who initially had a low amplitude, inhibited EEG with virtually no alpha, showed almost no changes of his EEG under the influence of ayahuasca.

## Discussion

We found large and statistically significant increases of both EEG alpha and theta mean amplitudes in a group of normal subjects following three doses of ayahuasca in a shamanistic ritual setting. To our knowledge this is the first study to demonstrate such profound EEG changes after the intake of ayahuasca. The only other published EEG study of ayahuasca (Don et al., 1998) found statistically significant increases only of high frequency (36-44Hz) beta, following the intake of ayahuasca. It's important to notice that these authors did their EEG recordings after only one dose of ayahuasca while we did our recordings following three doses of the tea. Also Don and collaborators took their subjects out of the ritual context to an adjacent room for EEG recordings and thus may have interfered with their altered states of consciousness. In addition, Don et al. found a trend toward decreases of alpha and theta power and an increase of 14-30Hz beta power. Thus, their subjects showed a somewhat activated EEG pattern which could be due to some apprehension following the intake of ayahuasca. On the contrary, our findings of increased alpha and theta amplitudes and unchanged beta activity point to the fact that our subjects were extremely relaxed and in an altered state of

consciousness during the EEG recordings by the end of the ritual. This was also confirmed by the subjects during questioning after the recordings.

One may speculate that the increase of theta waves during the ritual was due to drowsiness in the subjects. Theta waves tend to prevail in the EEG during drowsiness and light sleep, while alpha waves usually decrease. Alpha waves are indicators of conscious attention, and since nearly all of our subjects exhibited very high alpha levels during the recordings they could hardly be asleep or even drowsy. All subjects also stated afterwards that they had not been asleep but had been consciously absorbed in their inner subjective experiences.

Ayahuasca is thought by indigenous people to give the individual access to unconscious, spiritual and transpersonal realms of experience. The psychological state induced by ayahuasca can be compared to other altered states of heightened unconscious activity such as meditation, hypnosis, etc. A number of studies have shown that the presence of theta waves in the EEG reflects subconscious activity, and people with increased EEG theta levels usually have better access to their subconscious feelings, imagery and memories (Green E. & Green A., 1977; Budzynski, T.H., 1986; Cowan, J., 1993; White, N.E., 1999). During states of increased awareness of subconscious activity (e.g. meditation, hypnotic trance, hypnagogic imagery) theta activity usually increases considerably. The presence of alpha waves in these states is important since they reflect conscious attention. If alpha amplitudes drop down it is a sign that the individual is losing consciousness. This is what happens when a person falls asleep.

***"The psychological state induced by ayahuasca can be compared to other altered states."***

Budzynski (1986) says "In contrast to the waking or deep sleep states, there is a very special state of light sleep. Identified by an EEG pattern of theta frequencies (4-7Hz), this transitory condition has been referred to as the reverie state, the fringe of consciousness, the pre-conscious, and the twilight state.... During this rather brief period ... people often experience emergent, hallucinatory, dreamlike experiences that are more disjointed and brief than those dreams associated with rapid eye movement (REM) sleep... A number of illustrious individuals from the fields of science, music, literature and art have credited the imagery produced during the twilight state for creative solutions or inspiring thoughts." (Budzynski, 1986, pp. 429-30).

Ayahuasca seems to induce and expand the hypnagogic or twilight state (correlated with an increase of theta) and at the same time keeps the individual awake and conscious (correlated with an increase of alpha). These EEG changes are exactly the same as during deep meditation (Hoffmann, E. 1998). Thus, in some respects the ayahuasca-altered state is comparable to meditation and it is quite conceivable that ayahuasca facilitates meditation.

In an altered state of increased EEG theta and alpha activity the individual exhibits greater susceptibility and better conscious access to his unconscious realms of experience without interference from his critical, analytical mind which is silenced. This is exactly what happens in hypnosis and, we believe, during the altered state of consciousness induced by ayahuasca. However, in this latter state the individual is his

own hypnotist and therapist. He may have new profound insights into his own behavior patterns and may learn to integrate previously unconscious material at a higher level of consciousness. In neurological terms the individual learns to raise, for example, emotional conflicts from a limbic to a neocortical level where the problems can be processed, understood and integrated.

These speculations are supported by extensive studies of ketamine-assisted psychotherapy done in Russia. Ketamine is an anaesthetic used in surgery which in small doses induces a profound psychedelic experience lasting for about an hour. Krupitsky and Grinenko (1998) reported a 3-4 fold increase of the theta activity in all regions of the cortex following the ingestion of ketamine. These authors suggest that their findings of increased theta are "... evidence of limbic system activation during ketamine sessions, as well as evidence for the reinforcement of the limbic-cortex interaction. This fact can also be considered to a certain extent to be indirect evidence for the strengthening of the interactions between the conscious and subconscious levels of the mind during the KPT (Ketamine Psychedelic Therapy)", (Ibid. p. 60).

Our data do not support previous findings of cortical activation with decreased alpha and increased beta activity caused by psychedelics such as LSD, mescaline and psilocybin (Wikler A, 1954; Itil TM, 1968; Fink M, 1978). Neither can the hyperfrontality hypothesis with increased frontocortical activation (Vollenweider F.X., 1998) in psychedelic states be supported. The only significant EEG change we found in the frontal lobes was an increase of theta waves reflecting a state of deep relaxation and reverie. Thus, ayahuasca seems to have different effects on brain functions than the traditional psychedelics (LSD, mescaline, psilocybin). Our findings rather point to a similarity between the altered states produced by ayahuasca and marihuana which both appear to stimulate the brain to produce more alpha waves (Fink M, 1976, Lukas et al., 1995).

Ayahuasca has a long history of use for healing and spiritual purposes in shamanistic rituals in South America (Metzner, R., 1999). Psychological long-term effects of ayahuasca have been investigated recently by Grob et al., (1996) who compared a group of 15 long-term users with 15 controls with no prior use of ayahuasca. The assessment included psychiatric diagnostic interviews, personality and neuropsychological testing. The study reported considerable remission from certain psychopathology and substance abuse among the long-term users with no evidence of personality or cognitive disturbances. Overall assessment revealed a high functional status of ayahuasca users with no safety issues (Grob, C.S. et al., 1996; Grob C.S., 1999). If further studies support the notion that ayahuasca opens up people to their unconscious feelings and memories and gives them an opportunity to explore new psychological insights, ayahuasca might be used as a valuable adjunct to psychotherapy.

**"Ayahuasca  
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Info about the PCEEG8 hard and software may be obtained from Khepri Electronics, Nyvej 17, 3220 Tisvildeleje, Denmark.

# A Dissertation on Healing from the Gods

## Ayahuasca and the Curing of Disease States

By Maggi Quinlan  
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### Abstract

This dissertation opens the doorway to the recognition in the United States of the potential for the reversal of organic illness through the use of the entheogen ayahuasca, an agent known as a "Divine Intelligence". This sacred drink has been used for millennia by over seventy indigenous groups in the Upper Amazon and Orinoco basin for healing, shamanic journeys and divination. (Luna, 2000) It is also referred to as yage, caapi, daime, hoasca, natem, nishi, along with numerous other names.

The purpose of this work is to report the medical healing experienced through the use of ayahuasca. It is qualitative research utilizing narratives and participant observation, to collect the stories of five co-researchers plus myself. The data was gathered through two visits to Mapia, Brazil, the central home to the Church of Santo Daime. The first journey was a preliminary three week visit in 1996, followed by a return and three month stay at the beginning of 1999. All but one of the stories was collected in this environment.

In each of the accounts, the co-researcher was suffering from either a terminal or chronic illness. In four instances, the people came to Santo Daime because they had exhausted all other options within the allopathic system, and could go no further in their healing process. Two of those were facing imminent death. For the other two participants, one chose not to engage with the allopathic system beyond the point of diagnosis, and instead decided to work with ayahuasca from the beginning of the cancer. In the second instance, it was the Santo Daime that both showed the presence of the illnesses, and then facilitated the healing, which was validated through the biomedical system.

This work explores concepts of healing; what it means and how it is achieved. It explores and expands the concept of what creates disease. It is a record of the inner and outer journey through illness that each person experienced using ayahuasca as the catalyzing agent for the curing that each person reported. It investigates the potential for healing that does not currently exist in our allopathic system of medicine which "presupposes the direct organic combat of disease and of its symptoms through a neutralizing, opposing agent" (Groisman & Sell, 1995). Ayahuasca offers a potential to change that paradigm, and to expand our current medical options in treating terminal and chronic illness.

# BRAVE NEW WORK

## A Brave New Prescription for Creative Management: Perhaps the best prescription for boosting corporate creativity would be a prescription.

By Michael Schrage (schrage@media.mit.edu), *Fortune*

Editor's Note: The following article is about the possible use of psychedelics and other psychoactive drugs to stimulate business-oriented creativity. MAPS purchased the rights to reprint this article for \$100 from Fortune magazine, where the article originally appeared on April 30, 2001. MAPS is interested in funding the design and sponsoring a pilot study into psychedelics and creativity. Jeremy Tarcher has already donated \$2,500 to MAPS to help with the design process of such a study. We need to complete the work on the MDMA/PTSD protocol and get it submitted and approved by the FDA, then complete the work on the MDMA/cancer patient study and get it submitted to FDA. Then...perhaps in the fall, we can start in earnest on the design of a creativity study. This article from Fortune suggests that before long, this sort of research will become more socially accepted, at least by the titans of business who read Fortune.

**I**nspiration is elusive. Innovation is hard. Demand for technical and conceptual breakthroughs in global business is intensifying. Organizations are looking everywhere for the transforming insight. Perhaps the best prescription for boosting corporate creativity would be a prescription.

Think about it. Work-hard, play-hard executives seldom hesitate to go out for a few drinks to mull over a clever idea. In the right dose and in the right company, alcohol can reduce inhibitions and encourage unfettered debate. Even some teetotaling managers occasionally pop a Prozac to put themselves in a better mood to consider a business proposal. More conventionally, Fortune 1,000 companies commonly organize manager retreats and Outward Bound-like excursions explicitly designed to pump up the endorphins and promote an intensity of interaction that ordinarily wouldn't occur. It's a well-established business principle that changes of venue and changes in body chemistry frequently lead to refreshing changes in corporate perspective.

Why not the next logical step? Turn these everyday experiments in self-medication into more rigorously designed and disciplined initiatives for innovation. Think of such mediated medicated creativity as a form of creative managerial therapy best done under professional supervision.

Picture the Leary-Huxley Institute for Creative Business Visualization on one of the sunnier islands near Crete. Psychopharmacologists and board-certified neuropsychologists dispense small, precise dosages of psychoactive materials to visiting executive teams that want to push themselves beyond the boundaries of conventional business perception. The purpose would not be to get "high" but to enhance creativity. Skilled facilitators would ensure that the interactions focus on the business tasks at hand. At minimal medical risk, managers could discover what--if any--impact chemical stimulation might have on their creative acumen.

Perhaps a team of hedge fund managers might find investment inspiration in a myco-managed conversation in the hypothetical institute's Coleridge Room. Off in the Lennon Wing, fashion buyers and designers at a global clothing merchant could brainstorm in profoundly different ways. At the newly refurbished De Quincey Pavilion, computational chemistry researchers from--ironically--one of the world's largest pharmaceuticals companies could play with the asymmetrical geometries of a potentially therapeutic protein.

As outrageous as such a scenario might sound, the reality is that drugs like Rogaine and Viagra have become billion-dollar blockbuster even though their longer-term medicinal benefits remain in dispute. "Dysfunctions" of all kinds--physical, mental, emotional--have been medicalized. We don't think twice about prescribing statins for a man with a family history of early arteriosclerosis; we wouldn't think twice about prescribing a drug to prevent the early onset of Alzheimer's disease. The low-risk chemical enhancement of creativity seems at least as worthy a medical objective as the chemical preservation of a head of hair.

To the extent that market imperatives insist that individuals and institutions become ever more creative or fail, there will be growing societal pressure to view psychoactive drugs as a kind of value-added Prozac--a pill to enhance creativity rather than mood. No one is shocked to hear of an "artist"--a pop musician, a painter, a photographer, a film director, a writer--who credits experimentation with "consciousness-expanding" drugs as essential to her creative development. Indeed, global media conglomerates knowingly hire such people even as they disapprove of and disavow illegal drug use.

Consider the public reception if a world-class hedge fund manager or software developer or derivatives designer openly proclaimed that some of his best ideas came when he had had a little too much to drink, or when he had ingested a mushroom-laden meal in the Amazon, or when he had undertaken a therapy that required psychoactive drugs. Would we think less of such an innovator? If the art world is any indicator, the answer is an unambiguous no. And if that fund manager's peyote-driven portfolio consistently outperformed the market, even the most conservative investors would surely find a place in their hearts (and wallets) for the same answer.

As long as the debate around such drugs revolves around indulgence, addiction, illegality, and excess, their use will be concealed and constrained. But in a global economy, where different cultures have radically different standards about the medicinal and economic rationale for drug use, the odds are excellent that chemistry-driven creativity will cease to be a managerial taboo. Why? Because as long as it's legal and safe, managers will seek whatever creative competitive edge they can find. Even if they have to find it in a pill.

# Ska Pastora-

# Leaves of the Shepherdess

Conference at Breitenbush Hot Springs, Dec. 7-10, 2000

By Ian Soutar (soutar@horizon.bc.ca)



I was invited by MAPS to attend the 3rd World Conference on *Salvia divinorum* at Breitenbush Hot Springs in Oregon, Dec. 7-10, 2000. I was delighted to go and report on the conference, especially since Breitenbush is one of my favorite holiday spots for healing and relaxation. The hot spring resort specializes in organically grown vegetarian meals, yoga, and healing mineral pools. Breitenbush has been the center of environmental activism to preserve the Opal Creek watershed from logging. It is remotely located and there is no communication with the outside world beyond the radio channels available through the office for emergency use. Their usual "no drugs" policy at Breitenbush was waived in light of the fact that participants at the conference were to be given fresh *Salvia divinorum* leaves to chew if they felt so inclined.



From L to R: Ralph Metzner, Jonathan Ott, Rob Montgomery, Daniel Siebert, Kat Harrison, Dale Pendell, Breitenbush Staff, Bret Blosser

*Salvia Divinorum* (SD) is a member of the Sage family whose name means "Sage of the Diviner". The herb contains a very powerful visionary component called salvinorin-A. This diterpine substance attracted a lot of attention in the field of pharmacology in the mid-nineties because it was not an alkaloid. Alkaloids are a chemical family which has been regarded for a century or so as the only one likely to possess psychoactive members.

During the past two years I have been carrying out research (funded by MAPS) to see whether or not *Salvia divinorum* could enhance meditation when used in very low doses. (Editor's Note: See the MAPS Psychedelic Project List for details: <http://www.maps.org/research/salvia/sdmeditation.html> . See also Ian's article in the MAPS Bulletin, Vol. IX, #1, Spring 1999, page 36: <http://www.maps.org/news-letters/v09n1/09136sou.html>.)

We have found that one gram of dried leaves can be washed with hot water to remove the bitter components, pressed to remove most of the water and held under the tongue for twenty minutes or so, after which the remaining plant is spit out. The herb was found to greatly enhance people's ability to meditate. Our study is just starting up again after a period of inactivity. We are hoping to prove this meditation-enhancing effect in a scientific experiment. We are using a questionnaire designed by Dr. Rick Strassman, modified from a set of questions he used to evaluate DMT in another study.

Professionally, I am an electronic product inventor, specializing in the creation of medical, industrial and acoustical tools as well as toys. My newest work involves a rescue device for the Canadian Coast Guard to listen for people calling for help at sea. This interesting project can be seen at <http://www.rescueears.com>. As a psychedelic researcher I am an amateur ... motivated by the love of the herb and the desire to find a valuable use for *Salvia divinorum*. Amateur scientists are extremely important in astronomy as well as many other fields. Perhaps their importance in psychedelic research will grow if restrictive drug laws continue to hamper professional investigators.

### Conference Presenters

The presenters at the conference included Ralph Metzner, Kathleen (Kat) Harrison, Bret Blosser, Rob Montgomery, Jonathan Ott, Daniel Siebert and Dale Pendell. The conference lectures kept us busy from 9:30 AM until 9 or 10 PM each evening. I kept extensive notes on a palm pilot with keyboard and took a few pictures of each speaker. Every lecture was very interesting and I observed that most people in attendance were also keenly interested in each speaker. At the end of each day most attendees could be found relaxing in the hot pools, looking at the stars or snow falling, and discussing the conference and other related issues.

The organizers of the conference, Bret Blosser and Rob Montgomery said that the purposes of the conference were many:

- 1) To describe the use of the herb *Salvia divinorum* tradition.
- 2) To describe the modern techniques of SD usage, including the use of the very powerful active ingredient salvinorin-A. This extracted drug is one of the most powerful visionary agents ever discovered and can be quite hazardous emotionally for the user if it is taken without the respect that it deserves. Safety issues include the importance of a "sitter" to watch over the SD user who may become ambulatory and temporarily unaware of his or her surroundings. Simple emotional support is sometimes required if the person becomes agitated or fearful. *Salvia divinorum* is not a drug one tries for entertainment.

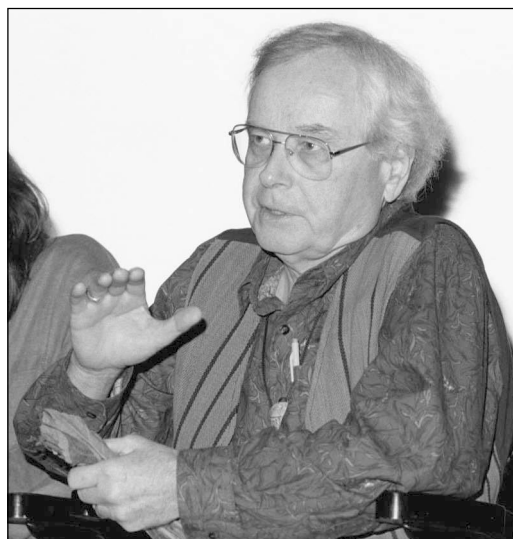
- 3) To describe the cultivation techniques of growing this rather delicate herb, easily destroyed by insects. Organic techniques were recommended for its cultivation and tobacco tea to keep away the insects.

- 4) To describe the process of divination both theoretically and experientially and to give the attendees the chance to try chewing a small number of leaves of *Salvia divinorum* in a peaceful setting. Attendees could choose to explore divination both with and without the use of the herb.

***"...he stated that answers to modern ecological and spiritual crises may be found by looking deep into the past -- to the ancient indigenous religions and shamanic practices of Pagan Europe."***

### Ralph Metzner

The first speaker was Ralph Metzner who has been exploring states of consciousness and transformational practices for over thirty years. He is a psychotherapist and professor at the California Institute of Integral Studies, where he teaches courses on altered states of consciousness, ecopsychology and ecological worldviews. In his presentation he stated that answers to modern ecological and spiritual crises may be found by looking deep into the past—to the ancient indigenous religions and shamanic practices of Pagan Europe. This little-understood tradition is the ancestral heritage of so many of European descent. It includes the god Odin and his relentless quest for knowledge; Freya, the goddess of sexuality, abundance, and seership; the shamans, warriors, and priestesses; and magical plants and incantations. The riches of this spiritual path are still abundantly available to all through the practices of divination.



Ralph Metzner

In his presentation he pointed out that western anthropology has chosen the term non-ordinary reality for these altered states of mind. Other terms sometimes used are Inner World or Other World,

or in traditional societies, the Spirit World. A shamanic practitioner walks between ordinary reality and non-ordinary reality ... or between the Spirit World and "consensus" reality. So-called witches were known in Europe as those who could walk between both worlds.

Crossing the boundaries between ordinary reality and non-



ordinary reality and back, and carrying new information, is the process of divination. Drumming is one means to experience these alternate worlds, as is drugs, breathing, dancing, praying, chanting and other techniques. Divination can be used for both acquiring information and for healing. Low doses of drugs are best for divination because we need to be conscious ... we need to be aware and have some memory of the experience. For divination purposes we use a mild sensory-enhancing effect. Entheogens amplify perceptions ... divination can be done with and without them, for the process of divination is independent of the drugs.

For divination the crucial thing is intention or question. The degree of dissociation from your surroundings is another important variable. Some drugs, including *Salvia divinorum*, Datura, as well as ketamines, are more dissociative than others, such as the classical tryptamines. The degree of dissociation in *Salvia divinorum* is dose dependent. Low doses are not so dissociative, hence better for divination. It takes some mental discipline and intentional ritual to use the herb effectively. Being in a questioning or receptive state is very significant. You ask a question and listen for the answer. Traditionally, in divination, as in healing, there is always a cost or sacrifice to be made, such as fasting or praying.

After his talk, Ralph promised that on that first evening he would conduct a class in divination and invited us to either use favorite herbs to amplify the experience or not. In any case he stressed the use of very low doses of herbs so that we had a full memory of the experience.

That evening we were led in one divination to go into the past - back to our birth, and back even further to the time of conception. It was a powerful experience with drumming, incense and chanting. We were led to the roots of the tree of life. Later we were led in a divination into the future by becoming a bird of our choice. The bird flew high and could see the future stretched out before us. This was a powerful experience for everyone. Later, when I talked to people, many had not done any drugs or herbs. The ritual was a powerful effect on its own.

After the divination I did a little exercise on my own. My wife had just recovered from major brain surgery. The good news is that she will be fine and have a normal life span. However, I was still traumatized at the conference from the remembrance of seeing her in intensive care on the edge of life and death. So I did a divination ritual of healing. I used a very small amount of SD about an hour before, by placing the dried reconstituted leaves under my tongue. After an hour there is little effect from this herb except an increased ability to visualize. The healing ritual was simple ... I held the memory of my wife in intensive care as clearly in my mind as possible and also held my attention as clearly as possible on the present (benign) outcome of good health for her. I shook with terror at the memory but soon felt the trauma melt away as it was neutralized by the present. It was a deep healing that released

me from that experience. This technique shows a positive use for *Salvia divinorum* or some other psychedelic that might form the basis for a research project. The visionary plant could help people overcome traumatic experiences by allowing them to re-live the experience with greater clarity and in the light of their present situation in the world.

### Kat Harrison

On the afternoon of the first day Kat Harrison gave a presentation including slides showing her work with the Mazatec peoples who use SD ritually in Mexico. She is an ethnobotanist, photographer, and artist who has traveled to Mexico for many years studying and practicing SD rituals with a family willing to share their experiences. In her talk she spoke of the following:

*Salvia divinorum* is a spirit to which (the Mazatec people) pray and ask for guidance, which they associate with a guiding spirit who is thought of as a shepherdess. The name of the conference ... "Ska Pastora, Leaves of the Shepherdess" is based on this concept. The native people are careful to honor ritual guardian spirits who are present in their SD rituals. These spirits serve to guide and protect them during the experience.

***"She asked for her load to be lightened. And she asked for the Shepherdess to be present....Kat saw the Shepherdess take away the burdens one by one."***

Vision-inducing mushrooms and SD are sometimes used by the same families, although mushrooms are available at a different time of the year. The leaves or mushrooms are always measured out in pairs. The SD rituals are often used for healing and are led by women or men, either alone or together. Kat finds it especially interesting to work with native midwives. Altars for SD and mushroom rituals often contain images of the Virgin of Guadalupe and other saints. The families are quite secretive of these rituals, possibly because of persecution by the Spaniards as early as 1600. The Spanish regarded the visionary plants as the work of the devil.

One example of such a healer, an 80-year-old curandero, looks at patients in the dark. Cloudy areas or dark areas mean that there is a problem in this area of the body. The therapist then tries to lighten up the dark areas with herbs rubbed on the body and other ritual practices including the use of SD by the healer, in order to gain insight into the cure. This traditional practice of using SD goes back hundreds of years. It has avoided attention until the early 70's and is now established around the world by cultivation. It cannot reproduce by seed, but rather by cuttings passed down through the generations.

Kat is very fond of the plant and sees all such plants as working spirits. She has acquired the native perceptions and

uses SD in the traditional way in her own life. Surprising information that comes to mind from nowhere can be remembered and be useful. She described that recently she needed healing and could feel that day-to-day responsibilities and stress were the cause of her illness. She did some SD leaves, incense and meditated while watching her cats. Ritual prayers for healing were carried out with candles. She asked for her load to be lightened. And she asked for the Shepherdess to be present. She is 20 feet tall and infinitely benevolent. Kat saw the Shepherdess take away the burdens one by one. She thanked her in many ways and suddenly found herself singing. La Pastora ... La Pastora ... the song goes around and around and was sung again and again. Other phrases came and the song became an invocation. Her stress was healed and she felt well again after the experience. Kat recommended growing tobacco near your *Salvia divinorum* and to use it in rituals. Ritual tobacco varieties are never sold because they are considered sacred. In a later lecture we learned that tobacco serves a very useful function in repelling the insects that tend to attack *Salvia divinorum* plants. A final recommendation for a healing ritual was to use SD to relive a past painful experience in a more positive way ... in effect, to change your history.

Bret Blosser

Bret is an anthropologist who has also studied the Mazatec peoples and their *Salvia divinorum* rituals. Recently he has become interested in tracing back the historical records of the Spanish to find references to SD that might enlighten us about its' past usage. It was a most intriguing lecture outlining the records found at the Archivo Nacional de la Nacion in Mexico City about a year and a half ago. The Mexican scholar Gonzalo Aguirre Beltran had published extracts from documents that mentioned pipiltzintzintli as a psychoactive plant used in healing in his groundbreaking study, *Medicine and Magic: the process of acculturation within the colonial structure* (1963). Bret located a few more documents from the library relating to pipiltzintzintli on his own. The lecture consisted mainly of quotes from Spanish authorities about native drug use in religious and healing rituals dating from the 1600's. The puzzle unfolds in such a way as to suggest that pipiltzintzintli is in fact *Salvia divinorum*. The evidence is based largely on Spanish Inquisition records of seizures of sacred herbs, and fines given to native people caught either growing such herbs or engaged in rituals felt to be demonic. These records state that pipiltzintzintli was pulled up by the roots (ruling out psilocybin mushrooms) and that they grew in areas of great rainfall and cool climates (typical for SD). The most interesting record mentioning pipiltzintzintli was from 1769 and was an edict condemning the use of rituals and specifically the use of this herb. Several arrests were made around this time, and the details suggested that *Salvia divinorum* was seized by the sheriff. Several records of investigations in the late 1600's also showed that herbs similar to *Salvia divinorum* could be associated with the name pipiltzintzintli.

The connection between demonic practices and visionary herbs that were established by the Spanish Christians may explain the peculiar dread that western cultures, particularly in the USA, have held for these herbs. Perhaps deep in our cultural memories in North America there is an association between visionary herbs and evil practices dating from early Christian prejudices of the 1600's. It is interesting to note that the modern Mexican families who have taught both Bret and Kat about the use of *Salvia divinorum* were deeply convinced that the herb was illegal. This demonstrates clearly that fear of a law can come down through the generations long after the law has ceased to exist. So also perhaps the fear of hallucinogens has come down to us in North America through the 400-year-old Spanish Inquisition beliefs and persecutions. The Inquisition would of course have been active in those parts of the US that were once part of Mexico. This is only a theory of course, but it helped me to understand the irrationality of modern drug laws.

**Jonathan Ott**

Jonathan is a well-known writer on the chemistry of a number of psychoactive herbs. His lecture was on *Salvia divinorum* Pharmacognosy. He began by describing a Mexican method of SD ingestion in which the leaves were rubbed between the hands until it became a juice. The history of our awareness of SD was traced back to research in 1938 but the exact identity of the plant was not known at this time. Wasson and Hoffman discovered the actual plant in 1958 and it was named *Salvia divinorum* in 1962. Hoffman took several gallons of the juice to Switzerland but was unable to find an active ingredient. He assumed that the ingredient was very unstable and had been lost. Various people tried to establish the active ingredient and to standardize the dose. However there was much confusion and the estimate ranged from 6 leaves to 150 leaves. This was due to the fact that SD is inactive when eaten and the transfer of the active ingredient only occurs as the herb is held in the mouth. Experiments by

***"Seeing through the eyes of an animal is a typical effect that is useful for divination."***

amateur scientists established this in a simple way ... the herb was made into a juice with a blender and the volunteers drank it quickly without holding it in the mouth. They then washed out their mouths with water. No matter how much they consumed in this way there was no effect. On the other hand, if the same volunteers held 2 to 6 chewed leaves in the mouth, the effects were very noticeable. It appears that the digestive process destroys the active ingredient.

The active ingredient named salvinorin-A was discovered in 1982 and is known to be so potent that 500 micrograms produces a profound effect. Daniel Siebert was the first person to consume the pure active ingredient in 1993.

## Amateur Research

The importance of amateur science in the study of pharmacologically active plants was discussed at length. While professional scientists evaluating possible psychoactive plants must work for years on animals, amateurs can simply try them out for themselves. Instantly they can determine if a plant looks promising. Double-blind testing can follow immediately with human volunteers. Jonathan pointed out that in the field of psychoactive herbs, animal tests mean nothing. A good example is catnip which appears to be a powerful plant to cats. In human testing catnip is only mildly active or inactive. Conversely many powerful drugs such as LSD can have little effect on some animals.

The issue of amateur research came up and Jonathan suggested the following as a guideline for researchers to follow ...

- 1) Consult the professional literature.
- 2) Consult the ethnographic studies that show the native usage. If the native people use a tea, do not grind the herb up and eat it. Thousands of years of experimentation may have led up to that tea technique in order to avoid an insoluble poison. He has observed many an amateur poisoning himself by not following a traditional method for herbal consumption.
- 3) Be careful and be conservative about dosage.
- 4) If we are looking for visionary effects, amateur self-experimentation can lead to the most significant results. Data on rats will not be of any use.
- 5) The psychonautic approach is the most efficient way to find an active ingredient. For example you find that there are five alkaloids in some plants. You can tell from their structure approximate dosage and through experimentation it is easy to find what is active.
- 6) You should make only one trial a day on yourself at the most. Otherwise the chemical may build up in your body if it is not quickly eliminated. The result will be an incorrect assessment of the correct dosage.

### Daniel Siebert

Daniel is an ethnobotanist, educator, and artist. He has been researching *Salvia divinorum* for over ten years and was the first person to work on the human pharmacology of salvinorin-A and to clearly identify this compound as the psychoactive principal of the plant. He has studied *Salvia divinorum* in its native habitat and has worked with it under the guidance of Mazatec shamans. His work appears in scientific journals and other publications. Mr. Siebert is the creator of the popular *Salvia Divinorum* Research and Information Center web site at <http://salvia.lycaenum.org/>. He is also the founder and moderator of Sagewise, a closed membership email-based discussion forum for *Salvia divinorum* researchers and professionals. He currently resides in Malibu, California, and is completing work on his book *Divine Sage*.

Daniel stated that his first experiment with salvinorin-A was too strong and that he would not repeat such a high dose. But, he has used the pure compound many, many times since then, and sees nothing wrong in using it (provided that the dosage is carefully measured). He owns an analytical balance that can measure sub-milligram doses. People who do not have access to this type of balance, should not experiment with the pure compound, because they would not be able to judge the dose accurately. One of my own friends consumed a large dose of a concentrate and said it was the most frightening experience

***“I found myself whistling the haunting musical theme that was chanted and it carried on into my dreams that night.”***

of his life. Everyone at the conference was in agreement that it was extremely undesirable to work with pure salvinorin-A without the proper equipment. It is simply too powerful and difficult to administer.

Daniel demonstrated a new way to consume *Salvia divinorum* by inhalation of the vapors given off by a 1/4 gram of dried leaves. The leaves were heated with a digitally-controlled heat gun at 520 degrees F. He uses a glass pipe with a screen on top and bottom. He recommends the technique for health reasons. In a demonstration he showed that after fully vaporizing the active ingredient there was a barely detectable smoke. Then he raised the temperature and a huge quantity of bad smelling smoke was released. He recommended 1/4 gram of dried leaves for this method and also warned that it can produce a very powerful result. Daniel has developed an extract that is designed for convenient sub-lingual use. This technique gives the user a great deal of control over dosage, and the effects come on over a 20 minute period. This very safe technique deserves the attention of researchers doing double-blind studies because it is very easy to concoct similar tasting extracts.

Daniel mentioned briefly the double-blind experiment with which I am involved - using fresh leaves held under the tongue. Daniel went on to describe medical and psychological effects he has observed in his years of experimentation with *Salvia divinorum*. It is a diuretic when consumed orally. Feeling nurtured and cared for is a commonly experienced phenomenon that is most often associated with oral ingestion. It was believed to relieve upset stomach, nausea and anemia, but Daniel's studies do not support these effects. Headaches can sometimes be relieved in low doses. Anthropological evidence suggests that swollen abdomens can be reduced. A small percentage (15%) experience sweating and some people feel hot or cold. Few other effects of a physical nature are observed. Many people find that very low doses are conducive to erotic contact. But he emphasized that this is only true for very low doses. Psychological effects include illusory movement or a compulsion to physically move. Space distortions are common. Sounds can become colors or shapes. Language distortions happen and you can completely misunderstand words. A feeling of being loved and cared for are common. *Salvia divinorum* in a safe, natural, outdoor environment can



be particularly rewarding. Some of the more unusual effects include people feeling they have become other people, other animals, or have moved in time to other eras. Seeing through the eyes of an animal is a typical effect that is useful for divination. A lot of people experience an underlying unity of consciousness.

### Dale Pendel

Dale has done a lot of experimental blending of traditional *Salvia divinorum* techniques with world religious traditions. We have lost our tradition of using sacred plants and Dale has been trying to regain this connection. There are published reports indicating that young Mexicans were obtaining dried *Salvia divinorum* leaves in Huatla de Jiménez and smoking them in 'joints' like marijuana for a mild high (Díaz, 1975; Ott, 1975). These reports predate Dale's work with smoked *Salvia divinorum*. At the time, *Salvia divinorum* was generally regarded as a very mild psychoactive herb, at best. It was also commonly believed that the leaves were inactive when dried, so many people were doubtful about the reports of Mexican *Salvia divinorum* smokers. Dale confirmed in his original experiments that the dried leaves were in fact active when smoked, and he was the first to report that smoked *Salvia divinorum* can produce very powerful visionary effects. He thus helped overturn the old notion that *Salvia divinorum* was merely a mild psychoactive herb. Even so he recommends the technique of

***"I realized I was mistaken in my belief that the 'magic was in the drug'. The magic is in the intention one holds in the mind while using a visionary herb."***

Dale and friends gave a concert that night called "Oracular Madness", which was a blend of poetry, chanting, music and slides shown by Kat Harrison. It was a very entertaining multimedia presentation that had a peculiar impact on myself. I found myself whistling the haunting musical theme that was chanted and it carried on into my dreams that night.

On the last day of the conference, Rob Montgomery led a discussion of cultivation techniques for those interested in growing SD. The plant grew well in neutral or slightly acidic or basic soil. It benefited from fertilization and lots of watering. Rooting of the plant was so easy that rooting hormone was not recommended. The flowers are apparently quite spectacular and have a beautiful aroma.

The plants are particularly susceptible to attack from aphids and white flies. Tobacco tea was discussed as the ideal organic insecticide. A handful of organic tobacco was used to make a gallon of tea which was either sprayed on the plants or small cuttings might be immersed in the liquid. Newspapers soaked in the tea could be spread out over the soil to kill the larva stage of these pests. The plant was so easily infested with insects

that one organic vegetable grower at the conference uses *Salvia divinorum* as a decoy to keep the insects away from his vegetables.

The most dramatic thing about growing *Salvia divinorum* is the need for shade. You must choose a spot that is out of direct sunlight. Under a tree and beside a fence might be an ideal spot. A place so dark that few plants could even survive there was often found to be ideal for this plant. Some attendees at the conference said that hydroponic gardening methods were ideal for *Salvia divinorum*. This would be an interesting field for investigation, considering that the very low need for light would make hydroponic gardening very easy. The plant also requires a high level of relative humidity. Attendees from dry areas such as Arizona said that it was almost impossible to grow it outdoors in the dry heat. Hydroponic techniques would suit such areas of the world.

When I left the conference on Sunday I was impressed by how much I had learned and was humbled by my ignorance of the subject. The anthropological discussions and divination demonstrations showed me that when we bring "sacred herbs" into our culture we must also import the rituals and healing techniques that have evolved with their use. The herbs are simply tools for healing or divination, possessing little magic of their own. The dosage of this herb need only produce a marginal effect if combined with an appropriate setting and ritual. Through these techniques comes the feeling of protection and guidance that are necessary for benevolent results. I realized I was mistaken in my belief that the "magic was in the drug". The magic is in the intention one holds in the mind while using a visionary herb. After years of experimentation with psychedelics I am just beginning to get an understanding of their best uses through the study of traditional practices.

This visionary herb can easily become an integral part of modern life but there is a need to study the many centuries of traditional use in other cultures. Based on our current research and prevailing philosophies we will have to develop our own rituals to assist in the use of this herb. As our own careful and intentional ways to use *Salvia divinorum* evolve we will be able to tap its deep potential for healing and learning.

# The Literature of Psychedelics

By Bob Wallace

## new books

### *Ketamine: Dreams and Realities*

Covers many aspects of this strange dissociative psychedelic, starting with basic pharmacology, then from recreational use by psychonauts and ravers, to modeling the near-death experience, to problems of compulsive use. Learn about the "K-hole" and "koincidences", but also possible Olney's lesions. Bibliography, index. Karl L. R. Jansen; MAPS 0-9660019-3-1, 335 page paperback, 14.95



### *DMT: The Spirit Molecule*

DMT was first found in plants but later discovered in the human pineal gland. The author gave it to 60 volunteers (injected, often at high doses) and studied their experiences. This very readable book combines scientific research (and its political problems) with speculations on the neurochemical and spiritual reasons DMT is found in the human pineal. Chapter notes. Recommended. Rick Strassman; Inner Traditions 0-89281-927-8, 377 page paperback, 16.95

### *Tomorrow Never Knows: Rock and Psychedelics in the 1960's*

Yes, much of 60's music was about psychedelics. This book, both academic and personal, describes the connection. From early Beatles and blues, through Sergeant Pepper and Purple Haze, to Bob Dylan and Charles Manson, it explores the musical evolution and cultural shift, and the role played by psychedelics. Notes and index. Nick Bromell 2001; Univ. Chicago Press 0-226-07553-2, 210 page hardcover, 21.95

### *The Apples of Apollo: Pagan and Christian Mysteries of the Eucharist*

Essays to uncover the original food of the sacramental communion. Wine, Ixion-mistletoe, Soma-Amanita, Paul at Corinth, Perseus at Mycenae, Manichaeism, secrets in ancient arts and artifacts, the Mystery at Eleusis, the Druidic "wicker man" burning, the Grail; an entheobotanical excursion. References, index. Carl A.P. Ruck, Blaise Daniel Staples, Clark Heinrich 2001; Carolina Academic Press 0-89089-924-X, 286 page paperback, 26.95

### *Psychology of the Future: Lessons from Modern Consciousness Research*

Accessible overview and summary of Grof's work on nonordinary states of consciousness. The potential of psychedelic states, maps of the psyche, mind disorders, spiritual emergencies, mind states and therapy, spirituality and religion, death and dying, the Cosmic Game, and the transpersonal perspective on humanity's survival. References, recommended. Stanislav Grof 2000; SUNY Press 0-7914-4622-0, 361 page paperback, 19.95

### *Dark Night, Early Dawn: Steps to a Deep Ecology of Mind Philosophy and Personal Experience of Extraordinary States of Consciousness.*

Deep ecology of death and rebirth using psychedelic states, near-death episodes, and out-of-body states; leads to a theory of the field dynamics of the mind. Academic and appealing. Introduction and inspiration by Stan Grof. Notes, bibliography, index. Christopher Bache 2000; SUNY Press, also 0-7914-4606-9, 373 page paperback, 23.95

### *Transfigurations*

This second book of Alex Grey's paintings continues from Sacred Mirrors with his works from the 1990's. Not seen at press time, but sure it will be wonderful! Alex Grey 2001; Inner Traditions 0-89281-851-4, 144 page hardcover, 39.95

### *The Other Side of the Haight*

Novel about a 60's Haight-Ashbury commune. Well-known author was a student of Leary and Alpert at Harvard and has done legal psychedelic research. He tells the story of a girl who comes to the Haight and learns about free love and LSD, and we hear of the famous Be-In and the CIA's brothel; a story at times comic, tragic, and bizarre, but based on historical facts and personal experience. James Fadiman 2001; Ten Speed Press (Ingram) 0-89087-984-2, 247 page hardcover, 25.95

### *Smart Pills: Compounds That Increase the Capacity for Mental Work in Humans*

Short reports, mostly on the use of 2C-D, some on 2/5-ethoxy variants of this and 2C-T-2 (PIHKAL "tweeties") for learning and other cognitive work. Advanced notes from the field. Hosteen Nez & Lazar 1990 (2nd edition); self-published [no isbn]; 50 page paperback, 3.95

*Into The Void: Exploring Consciousness, Hyperspace, and Beyond Using Brain Technology, Psychedelics, and Altered-Mind States*

Personal advanced mind research using traditional psychedelics, dissociatives, and even anticholinergics such as diphenhydramine, with brain machines and other technologies. Few can navigate the extreme realms of the mind; fewer still can write about it and help us understand it. Bibliography, web sites.

Zoe7 2001; ZON Worldwide Media [no isbn]; 304 page large paperback, 36.95

*Drug War: Covert Money, Power, & Policy*

Extensive history of U.S. drug policy from the 1700's to the present. Exposes that much of drug prohibition is based on politics, patriarchy, and (often deliberate) misinformation. Follows up author's Shamanism and the Drug Propaganda (page 26), which covered drug use and prohibition in ancient times. Bibliography, notes, index.

Dan Russell 2000; Kaylx.com (Homestead) 0-9650253-4-9, 685 page paperback, 34.95

*Psychonavigation: Techniques for Travel Beyond Time*

The author's experiences of travel outside the body, using visions and dream wandering, based on his encounters with shamans from different cultures (see next book). One can psychonavigate both to distant realms and sources of inner wisdom. He says Beethoven, Jung, and Einstein used similar techniques.

John Perkins 2000; Inner Traditions 0-89281-800-X, ??? page paperback, 12.95

*Herbs of the Northern Shaman: A Guide to Mind-Altering Plants of the Northern Hemisphere*

Lists 65 plants; some get several pages and pictures, some just a paragraph. The main hallucinogens are fly agaric, psilocybin mushrooms, morning glory, peyote, Phalaris grasses, and Syrian Rue; many Solanaceae and others are included as well. Bibliography, glossary, index.

Steve Andrews 2000; Loompanics 1-55950-211-8, 115 page large paperback, 14.95

*Getting Off*

Novel set in 1969, as the characters and society deal with new ideas about sex, drugs, music, politics, protests, and communal living and loving. From Berkeley to Woodstock, rioting to psychedelic religion, captures some of the flavor of the times.

Joshua Tal 1989/2000; 1st Books Library, 248 page paperback, 18.95

*Cleansing the Doors of Perception: The Religious Significance of Entheogenic Plants and Chemicals*

Wise words of religious scholar Huston Smith (author of *Forgotten Truth*) about the value of entheogens. Explains why "drug" induced spiritual experiences are valid, gives historical and modern examples, discusses how entheogenic experiences relate to spiritual metaphysics and meaning. Notes, references, index. Recommended.

Huston Smith 2000; Tarcher/Putnam (Ingram) 1-58542-034-4, 190 pages hardcover, 22.95

*In Search of the Ultimate High: Spiritual Experiences Through Psychoactives*

Great book on using entheogens in spiritual practice. Introduction describes entheogen religions (NAC, Santo Daime, others); use in Western religious practice; shamanism; personal entheogen practices; rave spirituality; spiritual and practical guidelines. Glossary, resources, annotated bibliography, notes, index. Recommended.

Nicholas & Anja Saunders, Michelle Pauli 2000; Random House UK (Trafalgar Square) 0-7126-7087-4, 272 page paperback, 19.95

*Stairways to Heaven*

*Drugs in American Religious History*

From indigenous Native American use of peyote and tobacco to the recent psychedelic churches, the author (a professor of religious studies) describes the use of entheogens, wine, and other drugs in North American religious practices. Ends with a chapter on the social issues of the religious use of illegal drugs. Readable yet well-researched, with chapter notes, bibliography, and index. Robert C. Fuller 2000; Westview Press (Ingram) 0-8133-6612-7, 246 page hardcover, 25.95

*Soma*

*The Divine Hallucinogen*

This radical but well-researched book says Soma was the sacred lotus, *Nelumbo nucifera*, and some *Nymphaea* (water lily) species. It also traces Soma back to Greco-egyptian, Islamic, European, and Chinese alchemy, as the elixir of immortality. Important for the scholar, but also very readable. Notes, bibliography, index.

David L. Spess 2000; Inner Traditions 0-89281-731-3, 205 page hardcover, 29.95

*Illuminatus*

Some pithy text by Terence McKenna with incredibly psychedelic organic paintings by fantasy artist Robert Venosa. Stunning detail and color. A fitting tribute, with a great portrait of Terence in a mushroom wave. 150+ plates, biographical notes.

Robert Venosa & Terence McKenna 2000; Craftsman House (PTT) 90-5703-272-4, 240 page large hardcover, 49.95

*Tripping: An Anthology of True-Life Psychedelic Adventures*

Trip reports from 50 people, young and old, of experiences from the sublime to the terrifying. Starts with author's perspective, cultural history, and basics of the psychedelic experience. Notes, bibliography, resources, index. Recommended.

Charles Hayes (editor); Penguin/Putnam 0-14-019574-2, 512 page paperback, 17.95

*Ayahuasca Reader*

Encounters with the Amazon's Sacred Vine. Excellent collection of writings about ayahuasca, from many points of view: ayahuascaros, religious leaders, scientists, famous writers. Sections: mythologies of indigenous peoples, encounters by anthropologists, the ayahuasca religions, and literature of ayahuasca. Bibliography, index, notes on contributors. Recommended.

Luis Eduardo Luna & Steven F. White (editors); Synergetic Press 0-907791-32-8, 264 page paperback, 29.95

*Medicine Quest**In Search of Nature's Healing Secrets*

Use of ayahuasca and other Amazon plants and animals as medicine, by author of *Tales of a Shaman's Apprentice*. Well-written and wide-ranging. Shamanism chapter discusses ayahuasca healing. Bibliography and index. Mark J. Plotkin 2000; Penguin 0-670-86937-6, 240 page hardcover, 22.95

*Mushrooms and Mankind**The Impact of Mushrooms on Human Consciousness and Religion*

Good, brief introduction to the sacred Amanita as it relates to Christianity, the Vedas, and more esoteric traditions, with many photos of historical religious significance. Also includes appendix with author's personal experiences and recipe. List of recommended authors and index. James Authur 2000; The Book Tree 1-58509-151-0, 98 page paperback, 12.95

*The Book of E : All About Ecstasy*

History of MDMA, wide-ranging but with a focus on the British dance scene. Some tips on using Ecstasy, early therapeutic use, current neurotoxicity research, and other topics. More on British E culture and rave scenes. Bibliography, web sites. Push, & Mireille Silcott 2000; Omnibus Sales (Last Gasp) 0-7119-7519-1, 253 pg pb, 19.95

*The Delicious Grace of Moving One's Hand*

Collection of Leary's writings about psyber-sexuality and erotics. He talks of opening up to feminism, the mind-body connection, and later cybersex. The brain is the most important sexual organ, and Leary loved to explore it. Bibliography. Timothy Leary 1998; Thunder's Mouth (Last Gasp) 1-56025-181-6, 311 pg pb, 13.95

*The Politics of Self-Determination*

Based on Leary's pre-LSD work on personality, and early work *Changing My Mind Among Others*, this covers his ideas of personal freedom and human interaction. The Psychotron, survival anxiety, diagnosis of consciousness, cyberpunks, more. Timothy Leary (2000 edition); Ronin Publishing 1-57951-015-9, 100 pg pb, 10.95

*Narcotic and Hallucinogenic Cacti of the New World*

Additional notes on the ethnography, botany, and chemistry of 70 cactus species (not really "narcotic"). Notes, references, index. M.S. Smith 2000; Better Days [no isbn], 90 pg pb, 17.95

*Trout's Notes on Cultivation of Desmanthus for Rootbark Production*

Another plant family with tryptamines. Includes background on the plant, cultivation details with photos, also plans for a simple tryptamine volatizer. K. Trout 2000; Better Days [no isbn], 28 page pamphlet, 7.95

*Closet Cactus Care*

Growing *Trichocereus* species from seed, plant care, grafting technique. M.S. Smith 2000; Better Days [no isbn], 16 page pamphlet 4.95

**new editions***Pharmako/Poeia Index*

Very complete index to author's great *Pharmako/Poeia*, with illustrations, quotations, works cited, definitions. Dale Pendell 2000; self-published, 40 page paperback, 5.95

*Growing Gourmet and Medicinal Mushrooms*

Mushroom natural history, culturing methods, permaculture, grain and sawdust spawn, gourmet and medicinal mushrooms, design of grow rooms and farms, color plates, resource directory, bibliography, index. Details about visionary wood-chip species, such as *P. cyanescens* and *azurescens*. Paul Stamets 2000 (3rd edition); Ten Speed Press (Fungi Perfecti) 1-58008-175-4, 592 page paperback, 39.95

*Uppers, Downers, All Arounders**Physical and Mental Effects of Psychoactive Drugs*

Good text on recreational mind drugs; up to date, detailed, accurate, but some extra emphasis on possible problems (and solutions). Chapters on history, physiology, uppers, downers, all arounders (psychedelics and marijuana), inhalants, society, sports, love/sex, treatment, and dual diagnosis. Bibliography and index. Darryl S. Inaba & William E. Cohen 2000 (4th edition); CNS Productions 0-926544-26-8, 499 page paperback, 51.95

*Murder, Magic, and Medicine*

Plant (and animal) sources of many poisons, hallucinogens, and medicines. History and neuropharmacology. Some on older psychedelics: Amanita, Cannabis, Solanaceae, Ipomoea, Psilocybe, Peyotl, ayahuasca, snuffs, tobacco, nutmeg, Iboga. Nice illustrations. Bibliography and index. John Mann 2000 (2nd edition); Oxford Univ. Press 0-19-850744-5, 263 page paperback, 19.95

*A Primer of Drug Action: Concise, Nontechnical Guide to Actions, Uses, and Side Effects of Psychoactive Drugs*

Comprehensive, but readable, description of how many psychoactive drugs work, both recreational and psychotherapeutic, as well as associated neurotransmitters and receptors. Nice chapter on psychedelics, and section on MAO inhibition. Robert Julien 2001 (9th edition); W. H. Freeman 0-7167-5109-7, 630 page paperback, 58.95

*The Varieties of Psychedelic Experience**The Classic Guide to the Effects of LSD on the Human Psyche*

After 35 years, still one of the best books on how psychedelics affect people, and how to guide a session. Describes four possible levels of a psychedelic experience: delight of the senses and inner visions; personal self-analysis; mythic/psychic dramas; and the spiritual/mystical experience. Important early work, recommended. Notes.

Robert Masters & Jean Houston 1966/2000; Inner Traditions 0-89281-897-2, 335 page paperback, 16.95

### *Sorcery and Shamanism*

#### *Curanderos and Clients in Northern Peru*

Studies the lives and rituals of 12 shamans, who heal clients with San Pedro cactus and use a complex ritual mesa (altar) to balance forces of good and evil. Case histories and follow-ups of patients. Notes, references, and index. Good anthropology.

Donald Joralemon & Douglas Sharon 1993; Univ. of Utah 0-87480-640-2, 316 page paperback, 19.95

### *Sisters of the Extreme*

#### *Women Writing on the Drug Experience*

From Victorian opium use to psychedelics, stories of women's drug experiences. Laura Huxley, Margaret Mead, Anais Nin, Alice B. Toklas, Marlene Dobkin de Rios, Billie Holiday. Comments on ancient and non-Western cultures, women, and drugs. Illustrated; bibliography. Nice new edition with recent writings and updated preface. (title was: Shaman Woman, Mainline Lady)

Cynthia Palmer & Michael Horowitz 2000/1982 (editors); Inner Traditions 0-89281-757-7, 328 page paperback, 19.95

### *Haoma and Harmaline*

#### *The Botanical Identity of the Indo-Iranian Sacred Hallucinogen "Soma" and its Legacy in Religion, Language, and Middle Eastern Folklore*

Scholarly monograph on Peganum harmala (Syrian rue) and harmaline. Flattery covers history, ethnobotany, and evidence from rituals; Schwartz the linguistic evidence. Some practical aspects of harmala and a few other plants. References, word index, general index.

David S. Flattery & Martin Schwartz 1989; Univ. of California Press (author) 0-520-09627-4, 218 page paperback, 22.95

### *Psychedelic Resource List*

Excellent annotated listing of many sources for plants, seeds, spores, publications, organizations, and other resources having to do with the psychedelics. Expanded Internet section. Wider range than Psychedelic Sourcebook; for example, has Cannabis related listings. Highly recommended.

Jon Hanna 2000; Soma Graphics 0-9654383-0-9, 152 page large paperback, 19.95

### *Ayahuasca Analogs and Plant-Based Tryptamines*

Reports about ayahuasca analogs and DMT extraction using plants such as Phalaris, Desmanthus, Psychotria, Mimosa, and Acacia species, plus background on MAOI,s and their uses with other psychedelics. These notes from the field, garden, and kitchen are from The Entheogen Review, and complement reference works such as Ayahuasca Analogs and Trout's books.

DeKorne, Aardvark, & Trout 2000; The Entheogen Review [no isbn], 238 page paperback, 16.95

## new periodicals

### *The Entheogen Review*

David Aardvark (editor). One of the best periodicals; includes updates to the Psychedelic Resource List.

Vol IX, #2. Burning Man report, chapter from DMT: The Spirit Molecule, Terence McKenna talk part 2, Telluride mushroom festival report, Mirabilis Multiflora effects, Sources update, feedback, events, books, more. 5.95  
Vol IX, #3. Dan Merkur interview (see The Estatic Imagination, page 20), identifying active Trichocerei cacti with photos (Trout), Terence McKenna talk part 3, new Divinorum C isolated, Sources update, feedback, events, books, more. 5.95

### *Yearbook for Ethnomedicine*, Issues 6/7, 1997/98

Issue 6: Samorini on Bwiti rites; Shanon on ayahuasca; Beck on MDMA use.

Issue 7, Psychoactivity Conference papers: Schaefer, Deimel on peyote; Shanon, Ott on ayahuasca; Metzner on therapy/shamanism; Yensen & Dryer on therapy; Heinz on psilocybin; Adelaars on Netherlands rituals; Ott on artificial/natural substances.

Christian Ratsch & J. Baker (editors) 2000; VWB 3-86135-033-5, 389 page paperback, 29.95

### *Eleusis* (new series), Issue 3

A great journal of psychedelic plants and compounds. English and Italian.

Issue 3: alcoholic brews and folk medicine; Jason's Golden Fleece was Amanita muscaria; early Christians and mushroom/snail rituals; terogens, releasing the beast within; European Convolvulaceae; plants to make khadi; reviews. Giorgio Samorini & Jonathan Ott (editors); SISSC, 128 pg lg pp, 21.95

### *Ayahuasca Healing*

#### Shaman's Drum #55

Several articles on healing with ayahuasca: Peter Gorman encounters spirit doctors, Donald Topping heals liver cancer, Mark Plotkin searches for ayahuascaros (see Medicine Quest, above). Other articles on shamanism. Timothy White (editor) 2000; Shaman's Drum [no isbn], 80 page large paperback, 5.95

### *The Entheogen Review*, Vol VIII, #4.

4-acetoxy-DIPT primer, Amanita pantherina, Stipa robusta, column chromatography, Terence McKenna interview, Allchemical Arts and other conferences, Pharmaco Prohibita, Sources update, feedback, events, books, more. David Aardvark (editor); 4.95

### *The Entheogen Review*, Vol IX, #1.

Toxicologist conference, injection, political prisoners, talk by Terence McKenna, Ayahuasca conference, new exotic compounds, Catha edulis (Pendell), Salvia news, Kratom, Sources update, feedback, events, books, more. David Aardvark (editor); 11.95



*Journal of Cognitive Liberties*

Sharon O'Toole DuBois (editor). Focused on legal issues around psychedelic/entheogen use, with both essays on the topic and news of current legislation. Published by the Center for Cognitive Liberty and Ethics, part of the Alchemind Society. Very worthy of support. <http://www.alchemind.org>

*Journal of Cognitive Liberties, V1, #1*

Essays by Richard Glen Boire, Wrye Sententia, Jonathan Ott & Robert James Riley, Susan Bryce, Hakim Bey; interview with Dan Russell; the religious defense for entheogen users; entheogen law news. Sharon O,Toole DuBois (editor); 9.95

*Journal of Cognitive Liberties, V1, #2*

Essays by Richard Glen Boire, Scott J. Thompson, Ine Gevers; report on L.A. Rave Conference of California toxicologists; entheogen law news. Sharon O,Toole DuBois (editor); 9.95

*Journal of Cognitive Liberties, V1, #3*

Ecstasy and Synthetic Panics (Jenkins); history of U.S. drug laws; hair testing; media mind manipulation; electroshock; entheogen law news. Sharon O,Toole DuBois (editor); 9.95

## The Resonance Project

Questions of Consciousness, transcortical stimulation, paratheatrical research, 70 drug myths, busting psychedelic mythology, edible light; interviews with Dr. Dave Nichols, Dr. David Presti, R.U. Sirius, Stewart Lee Allen, Dale Pendell. James Kent (editor); Resonant Media, 4.95

All these are available from Mind Books, the author's company; of course most are available from other good sources as well.

## Mind Books

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Flashback Books now has a website where an online catalog can be accessed: <http://flashbackbooks.com>

Flashback Books is a mail-order bookseller dealing exclusively in rare, scarce and out-of-print books, periodicals and related materials on the history, science, and literature of drug experience, with an emphasis on psychedelic and other mind-altering plants and drugs, and the cultures and countercultures that evolved from their use.



# The Influence of Psychedelics on Remote Viewing

By Jean Millay, Ph.D. (jeanmillay@hotmail.com)

(A more complete discussion of this topic can be found in *Multidimensional Mind: Remote Viewing in Hyperspace*, by Jean Millay, Ph.D., with a forward by Stanley Krippner, Ph.D.)



In 1997, students at the University of Amsterdam in the Netherlands did research to establish whether or not the use of psychedelic substances could influence remote viewing. In this report, the test-subjects who were under the influence of cannabis chose the right target at an average rate that was only slightly above chance expectancy. Those who were under the influence of psilocybin achieved a rate of success of 58.3%, which was statistically significant. This was a small experiment with only 12 test-subjects.

The process of doing remote viewing, with or without psychedelics, requires an ability to focus attention and to be able to clear away any personal and/or emotional issues that would interfere with perception of external images and cause them to be skewed. I never use the term "extra-sensory perception" or "ESP" because it implies that there is an EXTRA sense somewhere that accounts for telepathy. This is counter-productive in attempting to understand how psi phenomena works. All our senses can be extended for use and interpretation of incoming information. One of the uses of psilocybin is that it can contribute to the extension of one's ability to focus attention very precisely on something or some problem until it is understood at a higher level. Another of the many uses of psilocybin is that it facilitates one's ability to access non-local spacetime (the hyperspace) which is where remote viewing can be done. Cannabis can be utilized in this manner, as well. However, the quality of the cannabis is important, and one needs to practice with it, to know and understand just how the process of remote viewing works best. It is also important to remember that the inexperienced users of psychedelics can find themselves in the middle of a major cosmic drama, and if so, this must be resolved first and foremost. No remote viewing should be attempted during such a session that is essential for the clearing of preconscious material. In my informal studies beginning nearly forty years ago, I have used LSD, mescaline, or psilocybin, if I had an urgent need to communicate with someone at a distance, when a telephone was not available. Each of these substances worked fairly well under such needy conditions. At other times, my colleagues and I would use one of these substances to try sending and receiving simple messages just to explore and to study the potentials of this direct mind-to-mind communication process. When we compared our responses afterward, we discovered how our memories and internal dialog could skew the results. After a time, I began to realize that what we learned about the process was now part of what we could use at any time. We no longer needed the boost that the strong psychedelics, mentioned above, provided. It was at that time, that I learned that cannabis could be used just as well. And even when that was not available, I could focus my attention with my own intention set to do so.

***"Those who were under the influence of psilocybin achieved a rate of success of 58.3%, which was statistically significant."***

Later, I conducted a formal study for my Ph.D.

dissertation with college students who formed eleven telepathic teams. These were couples (lovers or friends since childhood) who volunteered because they wanted to learn to improve their own communication with each other. In this first study we did not use psychedelics or cannabis. We used biofeedback to train the volunteers to synchronize their alpha brainwaves between right and left hemispheres, and later with each other. One semester was not enough time for some of the couples to learn EEG synch and some did not receive telepathic messages any better than chance. However, when all scores were counted at the end of the experiment, we found that those teams who had the best scores in paired EEG phase coherence were also those who had the best (better than chance) average scores in blind match telepathy. This trend was continued in a later study as well. (Both studies were statistically significant at  $p < .001$ .) It is important to notice that the brainwaves were not measured at the same time that the telepathy was tested. In one case, the electrodes interfered with concentration for telepathy, and in the other, the attempts to communicate telepathically interfered with the intent to synchronize brainwaves. So we cannot say that one is the "cause" of the other, but that both are related to the ability to focus attention in a precise way. (For details, see my book, *Multidimensional Mind: Remote Viewing in Hyperspace*, available at Amazon.com).

In the late 1970's, we conducted another study designed to examine the possible effects that smoking cannabis had on the EEG of volunteers. In this study we used the same equipment as we had used in the previous study (i.e., two Aquarius Electronics brainwave biofeedback analyzers with the phase comparator, designed by Tim Scully, Ph.D.). A good grade of cannabis was obtained so that each volunteer would be smoking the same material. In those days, the EEG biofeedback equipment was often used to judge the quality of mind-altering materials. If a person lost some voluntary control of his/her brainwaves (that she/he had previously learned) by using any substance, it was felt to be inferior. (Obviously, if that material was used too often, one would lose some aspect of thought, eventually.) If a person gained some ability to exert voluntary control over his/her brainwaves by using some substance, then that material had the potential of being "mind-expanding." This was the rule of thumb, at that time, and occasionally students at "Altered State College" would request the use of our equipment to test their own material.

***"I conducted a formal study for my Ph.D. dissertation with college students who formed eleven telepathic teams."***

Because of the intense interest in that

community in the actual effects of cannabis, volunteers requested that we do such a study since we had the equipment available. We began by establishing the base line of EEG frequency range for each individual. Then with biofeedback, we also recorded the initial alpha phase-coherent scores for each one, and for each team. Then we introduced a good grade of cannabis for each one to smoke, and took the EEG phase-coherent scores again at intervals. In each case, all volunteers recorded a dramatic increase in their individual interhemispheric alpha phase-coherent scores. However, some of the couples showed an increase in their interpersonal alpha phase-coherent scores and some couples showed a decrease from their baseline scores. Those couples, whose interpersonal alpha phase-coherent scores increased after smoking, described their experiences as being totally focused on each other, especially on touch. Those couples, whose interpersonal alpha phase-coherent scores had decreased after smoking, reported that they had "spaced out," that is they no longer focused on each other but enjoyed thinking about separate events, or creative ideas. (Their interhemispheric synch scores remained high, but their interpersonal synch scores decreased.)

One suggestion here is: since brainwave biofeedback can help people to increase their ability to increase alpha phase-coherence (along with their ability to focus attention), and if the ability to focus attention is relevant to increased accuracy in telepathy, then when one can learn to increase alpha phase-coherence with the use of a good quality of cannabis, a research study might very well be able to find that cannabis can increase the ability to do successful telepathy among those couples who already have established some rapport. We must remember, however, that clarity of mind is always a consistent requirement.

Additional research in this area needs to be done by those who can focus attention on the real issues of the multidimensional realms available to each of us. With or without psychedelics, telepathy and remote viewing are possible. Psychedelics have introduced millions of us to the concept of non-local spacetime and have opened the "doors of perception". The doors cannot be closed again!

***"With or without psychedelics, telepathy and remote viewing are possible..."***

# When It Was Cool To Be Kind

by Thomas B. Roberts, Ph.D.  
(TRoberts38@aol.com)  
Northern Illinois University

Just reading it gets you high —

Jim Fadiman has a cool 60's novel out, "The Other Side of Haight: A Novel". The story follows a teenage girl, "Shadow", and her friends who live in a house in the Haight. They provide a living sample of the people of that time and place without becoming the politically laden caricatures so common in 60's writings, videos, and movies. Optimistic, naive, caring, crazed, creative, loving, dutiful, experimental, egocentric and ego transcendent, hopeful and bummerful, and mostly young — their thoughts, relationships, feelings, and experiences give us multiple tastes and varied takes of a complex time when it was cool to be kind.

Set against this is Midnight Climax, a CIA sponsored whorehouse where unsuspecting clients were dosed with LSD. No, this isn't Fadiman's imagination, as Congressional Hearings divulged. Dr. Langwater, the chief villain, is a beautiful word-drawing of the disregard for humane values and citizens' rights that war-toned policies foster.

Add these two collections of different people to the heady cocktail of the 60's — Baby Boomers, the Vietnam War, women's equality, civil rights, LBJ and Nixon, rock music dance concerts, and more — and "The Other Side of Haight" emerges as a true chronicle of a lost reality, or maybe a lost chronicle of a true reality.

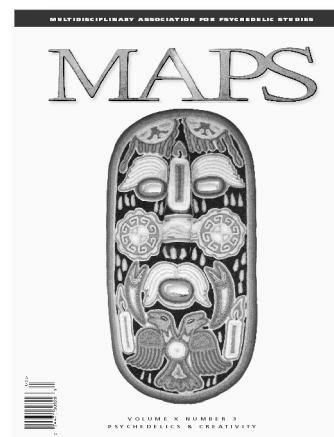
It might help you get in the mood, as it did for me, to focus for a time on the cover photo by Elaine Mayes. After you've put the book down (if you can) and before you start to read again, get lost for an indeterminate amount of time in the cover photo, then flow gently back into the words again.

Hopefully, I look forward to seeing a movie of this someday, and will assign my "Psychedelic Mindview" classes to see it as I am recommending the book to them now. It's right up there with "Electric Kool Aid Acid Test" as a novel-form record of the times.

One more thing: Do not smoke the marijuana-printed endpapers. They will not get you high, NOT get you high.

Just reading "The Other Side of Haight" gets you high.

## Attention MAPS Members! Sex, Spirit & Psychedelics



**Due to the positive reception of the "Creativity" issue of the MAPS Bulletin, we are following-up with another theme issue, which will focus on "Sex, Spirit, and Psychedelics." We are interested in receiving topical submissions, around 300-1000 words, from MAPS members.**

**Articles should be relevant to "Sex & Psychedelics," or "Spirit & Psychedelics," or all three areas. Please send all submissions via e-mail as attached Word or text files (preferred method) to [maggie@maps.org](mailto:maggie@maps.org).**

**Or, via snail-mail to  
MAPS, att. Maggie  
2105 Robinson Avenue  
Sarasota, FL 34232**

**Or via fax to (941) 924-6265.**

**Submissions must be received prior to July 1, 2001, for consideration.**

**We look forward to seeing what some of you have to say, thanks.**

**Sylvia Thyssen & Jon Hanna**

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In keeping with our policy of introducing MAPS readers to our advisors, we dedicate this issue of the Hofmann Report to Oscar Janiger, M.D., co-founder of The Albert Hofmann Foundation. The following report has been prepared by our President, Kathy Janiger:

Editor's Note: Since the preparation of this report, Kathy Janiger has passed away, on February 17, 2001. Kathy brought to our Foundation excellent management skills, and drawing from her Harvard Business School degree and corporate experience, contributed much insight to the operations and functioning of our Foundation. Much of her last months were devoted to nurturing and supporting her husband as he was recovering from serious heart surgery. Her sunny disposition, insights, and support will be sorely missed.

He experienced it first as the imagination of a child. As a seemingly automatic and unconscious shift to a new set of facts, emotions and sensations about the experience of his young life from the daily experiences of family and farm life. Then one day, he had a thought that maybe these shifts of his reality were coming from him. He conducted an experiment. A path home from a neighboring farm that crossed the field had, at times, seemed friendly. A place of no concern. And at others, full of threat and danger. A path to be sped along. On this particular day, as he could feel the threatening presences between him and home, he chose to walk slowly and encouraged himself to think of it as the hospitable environment he knew it at times to be. The imagined presences began to dissolve and he began to get perspective on what was to be a lifelong search into the nature of consciousness.

Dr. Oscar Janiger ("Oz") is best known in these pages as a pioneering researcher of LSD. His large scale (900 subjects) naturalistic study of the phenomenological effects of LSD in the 50's and 60's has been followed up with a project funded by MAPS and has been reported here as "An Attempt to Define the Nature of the LSD Experience as a Special State of Consciousness." MAPS' forty-year plus follow-up interview study of forty-five participants in the original study found that all but one of the respondents found taking LSD to be a positive experience. Many benefits were ascribed – openness, creativity, sensory enhancement, emotional richness, insight. One-third of the subjects reported long-term benefits of perceptive/cognitive and behavioral changes (such as a more positive outlook), overcoming shyness, catalyzing career or relationship changes creating permanent openings to spirituality, emotions and insights. In the same article describing the follow-up study, Oz describes his own experience with LSD:

"I've opened the door to some other extension of my mind or my sensory equipment or perceptual apparatus...[t]hat gave me access to a kind of world that was vastly enlarged, vastly expanded. My senses were made most acute. My mental capacity led me to think in terms of breaking away from familiar – what I call obligatory – reality, where I had to be a certain way."

It's easy to see how the study of LSD was undertaken by someone with a life-long interest in the nature of consciousness. But how did Oz find LSD in 1954 and what other paths has he gone down to find insight into the nature of reality and experience?

Before deciding on medical school, Oz pursued degrees in literature and biology, both of which later served him well in his study of human nature as a psychiatrist. But it was his love of plants that led him to an early awareness of the mind-altering plants used around the world for

perceptual and consciousness change and caused him to be lecturing to a class of medical school students about the uses of, and desires to change, consciousness. A student who had recently returned from Europe offered Oz the opportunity to experience for himself such a change with a new medicinal marvel, LSD 25. The experience of the drug gave direction to Oz's work as a medical researcher, possibilities to his work as a psychiatrist, and an outlet to his curiosity about his fundamental perceptions.

While researching LSD, Oz and Perry Bivens, the student who introduced him to LSD, began to look for other substances that might be hallucinogenic. Oz's knowledge of plants had made him aware of Ayahuasca and one of its active ingredients, DMT. In 1955, he and Perry converted an oral form of DMT into an injectible form and Oz became the first known subject to ingest DMT in the United States. He went on to do studies of DMT with people such as Alan Watts and Humphry Osmond.

***“...how did Oz find LSD in 1954 and what other paths has he gone down to find insight into the nature of reality and experience?”***

He also studied the hallucinogenic effects of tobacco and published a paper on the subject with Dr. Marlene De Rios. Peyote was another area of great interest that led ultimately to a study of the effects of peyote on human chromosomes. This study was funded by the National Institute of Mental Health and was performed among the Huichol Indians of Mexico who use peyote from birth. No evidence of chromosomal or organic disorders were found.

In his ongoing efforts to understand the influences on peoples' states of mind, he undertook a very early study on what later became known as Pre-Menstrual Syndrome (PMS). He conducted a cross-cultural study with Riffenburgh and Kersh that undertook to show that PMS was not a neurosis of the effete middle class as was the prevailing view of psychiatry at the time, but a somatic psychic condition that affected Nigerians, Hopis, Japanese and other cultures as well. Oz's research team even found evidence in the observations of the zookeeper at the Berlin Zoo that primates were similarly affected.

Another area where Oz chose to question the prevailing wisdom of the 1950's was to object to the prescribed therapy for homosexuals and to investigate the origins of the so-called "problem". He looked for a biological basis for homosexuality when the gay community was about to establish an identity, and published a paper with Margolese that ignited much controversy. In this century, biologically-based study of homosexuality is commonplace.

Always being inspired by his early studies of his uses of plants, Oz got involved with the scientific investigation of unconventional healing methods and became chairman of the Research Committee of The Holmes Center. Grants were given to fledgling researchers who have since become icons in their fields, such as Dr. Dean Ornish in cardiac care and Stephen LeBerge, Ph.D., in lucid dreaming.

His love of nature and his curiosity about consciousness also led him to study Cetaceans, primarily Dolphins. He is on the board of directors of the Delphys Foundation and has taken Olympic swimmers and Japanese athletes to the waters of the Bahamas. Here they studied the same pods of wild Dolphins year after year to see if any insights into the behavior of these big-brained mammals can give us a clue to their harmonious and ecologically friendly life. His forty-plus year friendship with Dr. John C. Lilly, the preeminent Dolphin researcher and fellow "Psychonaut," has led to many a fascinating conversation for all present.

Since the 1970's Oz has had thoughts of a repository for all the information amassed during LSD research. By 1989 he had gathered almost every recognized expert in the field onto the Board of Advisors of the Albert Hofmann Foundation. The foundation has a website, [www.hofmann.org](http://www.hofmann.org), and is a regular contributor to the MAPS Bulletin.

Oz is currently at work on a clinical text about Dissociative Disorder, a little understood state of consciousness sometimes compared to the experience of separating from the observer while under the effect of psychedelics. Many have briefly experienced this phenomenon naturally, with varying degrees of fear and wonder. But those stuck in a chronic or extreme state of dissociation seek treatment. Work on this has been set aside for the last year while Oz has been healing from a near-fatal open heart surgery necessitated by damage sustained seventy years ago from rheumatic fever, but controlled by a lifetime of exuberant athleticism and Norman Cousins's bromide, laughter. Recovery has been physically and emotionally challenging, but it has also led him in new directions such as writing short fiction and a screenplay that has been sold to Universal Studios.

Oz is grateful for the help and support of his friends throughout this difficult time.

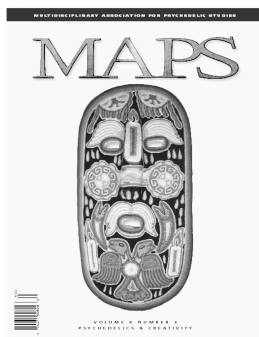
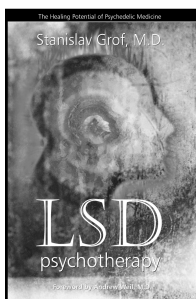
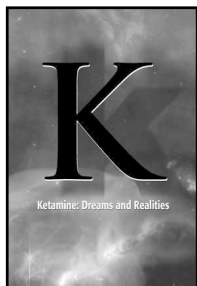
We welcome you to visit our website, [www.hofmann.org](http://www.hofmann.org), as we continue to search out and provide accurate information regarding psychedelic substances and their potential. We welcome contributions to our section on VOICES, and recommendations of important papers that can contribute to greater understanding. Submit your suggestions to me at [myron@qnet.com](mailto:myron@qnet.com), or write to me at P.O. Box 742, Lone Pine, CA 93545.





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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.

And 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 pillage the precious ambrosia of human spirit and dreams. You may have heard this one before, but it's true!

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.

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Rick Doblin, Ph.D.,  
MAPS President



Maggie Hall,  
Director of Operations



Mercedes Paulino,  
Director of Electronic Media  
and Communications



**Dear MAPS Members,**

**After much consideration I have made the difficult decision to leave my position as Director of Community Relations at MAPS. I will miss the daily opportunity to be in touch with so many of you but don't be surprised if you still see me out there in the mix from time to time. Though I will not be physically present in the office any longer, in spirit, I will always support the mission of MAPS. To serve you all these past six years has been an invaluable experience for me and one that has led to much growth and adventure.**

**I will be keeping my carla@maps.org e-mail address for any of you who wish to continue to correspond with me. As of May 31st Maggie Hall will be the contact person to communicate with about book orders, memberships, and any other questions you might have.**

**Bon voyage, everyone! What a long strange trip it's been...**

**— Carla Higdon**

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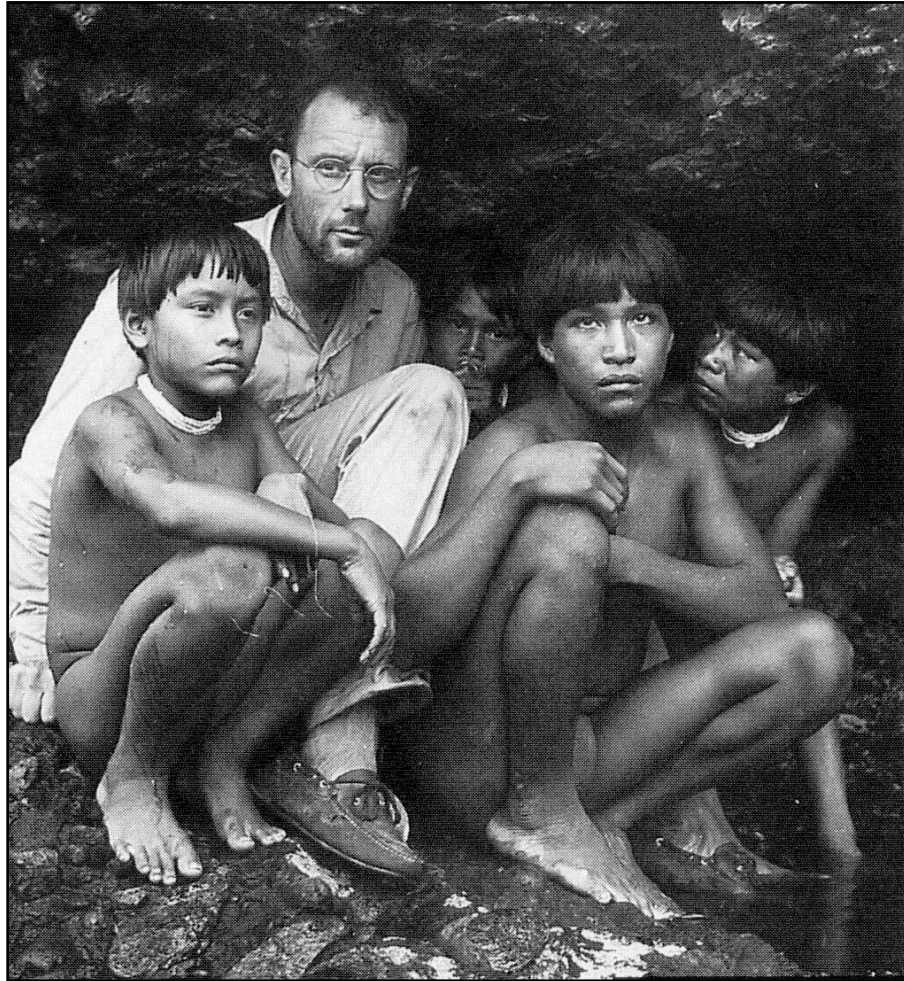
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Preeminent authority on the ethnobotany of psychedelic and medicinal plants

Professor of Biology, Harvard University

Author, with Albert Hofmann, of *Plants of the Gods* and

*The Botany and Chemistry of Hallucinogens*.

"I was so enthralled with peyote, of which I had never heard [until reading *Mescal: The "Divine" Plant and its Psychological Effects*, by Heinrich Kluver, assigned in an undergraduate class at Harvard in 1936], that I decided to write my senior honors thesis on the plant. Professor Ames found me finances to visit Oklahoma and partake of peyote in Indian ceremonies. That started my whole career."