MULTIDISCIPLINARY ASSOCIATION FOR PSYCHEDELIC STUDIES

MAPS

To the Ends of the Earth for MDMA Research

MAPS' MDMA Summit at the Dead Sea, Israel

Leary's Concord Prison Psilocybin Experiment

A MAPS Follow-Up Report

With Commentary by Ralph Metzner

Psychedelic Research Demystified

David Nichols, Ph.D.

The Latest News in Psychedelic Research Worldwide

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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, methylenedioxy-methamphetamine, 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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The Jerusalem Syndrome refers to an extreme psychological reaction that a few visitors to Jerusalem undergo as a result of being physically present at the holy sites of their religion. Sufferers of the Jerusalem Syndrome may become so moved by their proximity to history that they proclaim themselves to be the messiah or a prophet, engage in inappropriate proselytizing, or vociferously warn others of the imminent end of the world. Fortunately, there were no cases of the Jerusalem Syndrome among the 50 scientists, spouses and children who toured Jerusalem on the way to MAPS' August 30-September 1, 1999 conference on the clinical use of MDMA, MDE, and ibogaine. (see page 2)

Letter from Rick Doblin, MAPS President

I didn't succumb to the Jerusalem Syndrome but I did feel that a bit of the history of MDMA research was in the making, especially in Israel but also in the seven other countries from which researchers originated; Spain, Switzerland, Germany, Holland, England, Canada and the United States. MAPS' Israel/MDMA conference brought together for the first time at least one member of every team in the world that has administered MDMA to human subjects. We are working to post video and audio highlights on the MAPS web site, as well as transcripts of some of the talks. Among those attending the conference from Israel, Dr. Jorge Gleser, director of Israel's Department for the Treatment of Substance Abuse, remarked "I would like to thank you and MAPS again for the meeting and for allowing and supporting the participation of other Israeli colleagues. The meeting did change our point of view towards MDMA and similar substances and served to reduce the stigma. We will try to advance some of the projects like the treatment of PTSD with MDMA, and the treatment of opiate [withdrawal] with Ibogaine..."

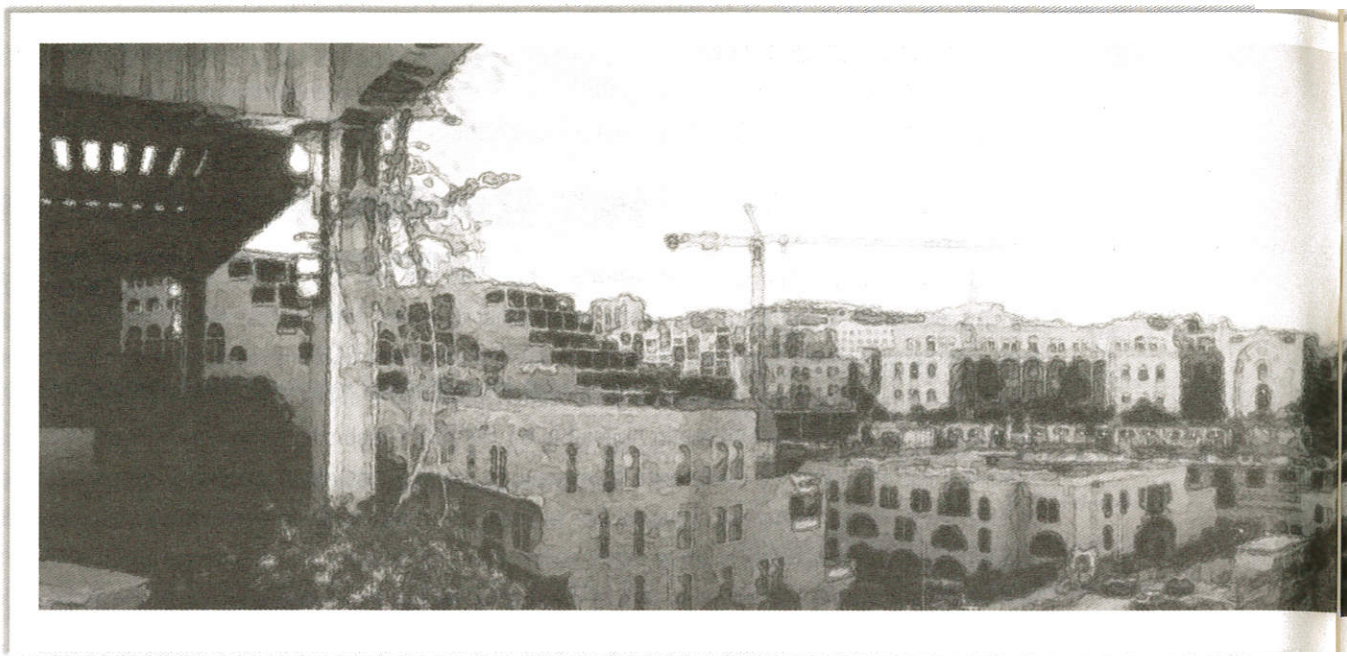
MAPS' Israel MDMA conference was intended to spotlight and advance the effort to win approval for three MDMA-assisted psychotherapy studies; Drs. Kotler and Darnell's MDMA/PTSD study in Israel to which MAPS has committed $50,000, Ph.D. candidate Jose Carlos Bouso's MDMA/PTSD study in Spain to which MAPS has committed $22,000 (see *MAPS Bulletin* Vol. IX, No. 3, pp. 11-14), and Dr. Charles Grob's U.S. study into the use of MDMA-assisted psychotherapy in terminal cancer patients, for which MAPS obtained a $58,000 grant from the Barnhart Foundation pending regulatory approval.

One conference session was devoted to presentations of the three MDMA psychotherapy protocols by a member of each research team, followed by suggestions for protocol design from the assembled scientists. This session was for me the highlight of the conference, since scientists from eight countries worked together to refine a vision for future research. I sensed a consensus forming in favor of rigorously designed and carefully conducted MDMA psychotherapy research studies.

I have been working to initiate MDMA psychotherapy research since 1984, even before I founded MAPS in 1986. After struggling for 15 years, it now seems that MDMA psychotherapy research will be approved, though perhaps not quite in this millennium. After being in Jerusalem, 15 years of work and patience seem like just a heartbeat in history, of little consequence in the pursuit of a worthy goal. I am deeply grateful to all MAPS members for helping make this conference possible. The lasting impact of the conference is that collegial relationships among scientists were forged and solidified across national boundaries, a development which augers well for both research quality and chances of approval. In all, it was one of MAPS' finest moments.

The entire range of MAPS' activities this past fiscal year is covered in the MAPS annual report (page 35). Your continued support is necessary for us to build on the remarkable openings that we have created together.

Rick Doblin, MAPS President.

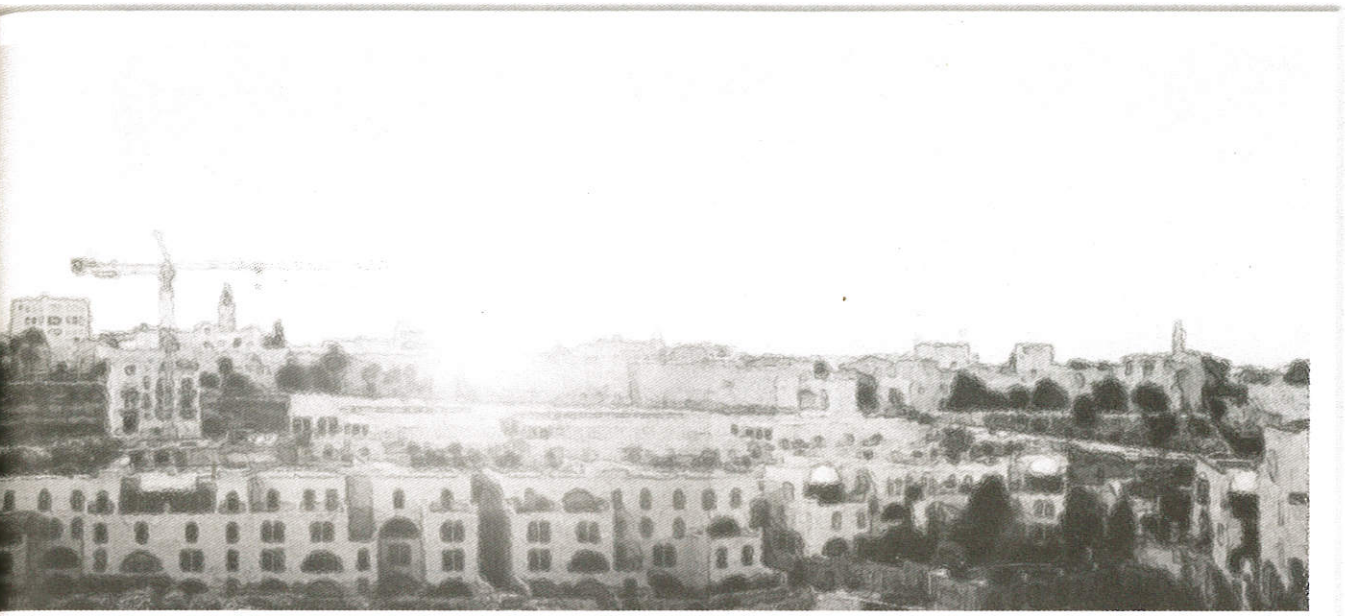


Clinical Research with MDMA and MDE

A MAPS' Conference: Dead Sea, Israel

Rick Doblin

IT HAS TAKEN ME SOME TIME to reflect on the enduring accomplishments of MAPS' international scientific conference on clinical research with MDMA and MDE. The conference took place August 30-September 1, 1999 at the Dead Sea, Israel. Attending the conference were representatives of every team in the world that has administered MDMA or MDE to human subjects, along with three teams (from Israel, Spain and the US) proposing to initiate MAPS-sponsored MDMA psychotherapy research (for a list of speakers, see *MAPS Bulletin* Vol. IX No. 3, p. 9). In addition to the conference, MAPS organized a six-day pre-conference tour of Israel for 33 people, paid for by tour participants. I'll first discuss the accomplishments of the conference and pre-conference tour, then report on some of the new data that was presented about MDMA, particularly about MDMA neurotoxicity.



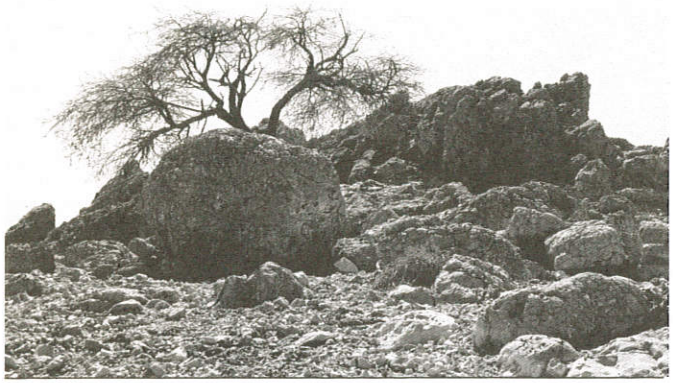
The building and rebuilding of Jerusalem has been going on for over 5,000 years, and shows no signs of letting up. Here the sun rises over the ancient walls of the Old City. MAPS' visiting scientists and guests spent several days touring numerous shrines and the Holy Places of three major world religions as they prepared for the MDMA summit conference.

MAPS arranged for the entire conference to be recorded on digital video. We are working to place selected video and audio recordings on the MAPS web site, as well as edited transcripts of several talks and associated question and answer periods. In addition, Dr. Julie Holland, who attended the conference and the pre-conference tour, is editing a book on MDMA with chapters from many of the conference speakers.

Purpose of the conference

MAPS has been working since March 1998 to sponsor a study into the use of MDMA-assisted psychotherapy in the treatment of patients suffering from post traumatic stress disorder (PTSD), to take place in Israel at Ben-Gurion University of the Negev, under the direction of Dr. Moshe Kotler and Dr. Adam Darnell. MAPS has pledged $50,000 for this study, $12,500 of which has already been paid. MAPS' long-term strategy prioritizes the effort to open the door to MDMA psychotherapy research in several countries in addition to the United States. In this way, we have the greatest chance that at least one such study will be approved and will yield data that can then be shared with other regulatory agencies. In the best of circumstances, MAPS will be able to sponsor and coordinate MDMA-assisted psychotherapy research in several locations around the world.

The primary purpose of the conference was to present the latest scientific information about the risks and benefits of MDMA to Drs. Kotler and Darnell, and to officials in the Israeli Ministry of Health and Anti-Drug Authority. MAPS' goal was to fully inform the protocol design and approval process in Israel regarding the proposed MAPS-sponsored MDMA/PTSD study, in the belief that a balanced assessment of the research data would lead to approval of the study. The secondary purpose of the conference was to foster the exchange of data and international collaborations between research teams involved in all aspects of the study of MDMA in human subjects, thereby



The landscape of the Dead Sea shoreline is an unforgiving place of heat and rocks, where only the heartiest survive.

Left to right: Deborah Mash, Rick Doblin and Alex Gamma discussing MDMA research onboard a Sea of Galilee water taxi.

expediting the pace and quality of research.

The conference was budgeted at $50,000. MAPS was able to raise $45,500 in new funds specifically for the conference, from Tim Butcher, Ami Shinitzky, Robert Barnhart, Jeremy Tarcher and the S. Family Foundation. This large investment and the support MAPS obtained from funders demonstrates the importance we all place on obtaining permission to conduct research into the psychotherapeutic benefits of MDMA.

The pre-conference tour

I've come to realize that scientists frequently need to meet each other in person before they come to fully believe what they read in scientific journals. Research, particularly at the advancing frontiers of knowledge, is still as much art and ambiguity as it is fact and clarity. In order to give MDMA researchers a chance to visit with each other in an informal setting, and to make coming to the conference potentially more attractive, MAPS organized a six day pre-conference tour of Israel, with participants charged a break-even cost. The tour involved four days in Jerusalem, one day in the Galilee and the final day in desert areas on the way to the Dead Sea Hyatt, where the conference was held.

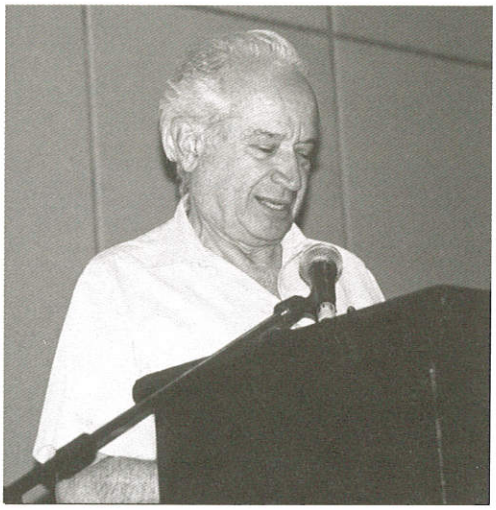
I am proud to say that 33 people participated in the tour; 28 adults, 4 children and one nine-month old infant (my daughter, Eliora). Tour participants were primarily from the US and Spain, with one person from the Swiss MDMA research team. I was particularly glad that three of the people involved in the Spain MDMA/PTSD project and their families came along for the tour. I have been engaged for some time in an e-mail discussion with Jose Carlos Bouso, a Ph.D. candidate who is developing the MDMA/PTSD study in Spain, and actually committed $22,000 to his project before ever meeting him in person. The opportunity to get to know Jose Carlos and his medical advisors was one of the most important aspects of the tour.

One participant in the tour, Lew Seiden, Ph.D., University of Chicago, needed to use a wheelchair. Not surprisingly, the Old City of Jerusalem was not built to accommodate wheelchairs, which didn't exist when the city was founded or when it was rebuilt after being destroyed numerous times. It was therefore necessary to carry Lew around the Old City, which is built into a hill, with a shifting team of four people around each corner of the wheelchair. This was actually a bonding experience for us all. I was reminded of Jerusalem in days of old, with the Kings being carried about in their chairs. Fortunately, Lew's laborers were permitted ice cream, water and rest breaks.

Accomplishments – Israeli perspective

On the first night of the conference, the only event on the schedule was an opening dinner. Dr. Carmi Margolis, an administrator at Ben-Gurion University of the Negev, welcomed everyone to Israel on behalf of the University. In his talk, he explained that one of the goals of the Medical School at Ben-Gurion University was to foster international scientific exchange. He also pointed out that, though he still needed to be convinced, he had an open mind about the possible therapeutic benefits of psychedelics. Dr. Kotler and I enjoyed dinner with Dr. Margolis, his wife and his daughter. After a spirited and well-received discussion of the use of MDMA and LSD in treating PTSD, I gave Dr. Margolis a copy of *Shivitti: A Vision*, an autobiographical story about the LSD-assisted psychotherapy of a concentration camp survivor suffering from PTSD. The author of *Shivitti* has also written several other powerful books about his experiences during the Holocaust and is well known is Israel. Dr. Margolis appreciated the gift and offered a short description of the Kabbalistic meaning of

The Dead Sea Scrolls were found in caves much like this one in the cliffs overlooking En Gedi between Qumran and Masada on the western shores of the Dead Sea.



Dr. Raphael Mechoulam is internationally famous for his research into the constituents of marijuana.

Shivitti, which is sort of an incantation making the spiritual world manifest physically. I think our dinner made Dr. Margolis more comfortable with Dr. Kotler's efforts to initiate MDMA/PTSD research.

Rather than start with my own impressions of the impact of the conference itself, I'd like to quote from an e-mail message I received after the conference from Dr. Jorge Gleser, Director of the Department for the Treatment of Substance Abuse, Israeli Ministry of Health, who attended the conference along with several other staff members from his Department. Dr. Gleser remarked:

> *"I would like to thank you and MAPS again for the meeting and for allowing and supporting the participation of other Israeli colleagues. The meeting did change our point of view towards MDMA and similar substances and served to reduce the stigma. We will try to advance some of the projects like the treatment of PTSD with MDMA, the treatment of opiate [withdrawal] with Ibogaine and possibly with Ketamine."*

The reference to the ibogaine project refers to a study in heroin addicts that Dr. Kotler is trying to obtain approval for in Israel, to be funded by Humatech, a company founded by Bob Sisko (see *MAPS Bulletin* Vol. IV, No. 2, pp. 15-23). To support the case for the approval of the Israeli ibogaine study, I invited Dr. Deborah Mash, University of Miami, to speak at the conference about her experience studying the use of ibogaine in the treatment of heroin addicts. Dr. Mash's talk was inspiring. She made a strong argument for the expansion of ibogaine research. Dr. Kotler's protocol is now being reviewed by the Israeli Ministry of Health, with eventual approval considered likely.

Dr. Gleser's comments about ketamine research need a bit of elaboration. At the conference, I handed Dr. Gleser and his associates copies of Dr. Evgeny Krupitsky's latest paper about his three year MAPS and Heffter Research Institute (HRI)-funded study investigating ketamine-assisted psychotherapy in the treatment of heroin addicts, conducted at the Leningrad Regional Center for Alcoholism and Drug Addiction Therapy. Dr. Krupitsky's study shows promising results at the six-month follow-up (see p. xx, this issue). Dr. Gleser was interested in learning more about the ketamine research, even though there is no effort being made at present to start such a study in Israel.

As a result of the conference, Dr. Gleser invited MAPS to organize a series of presentations on psychedelic research, especially related to the treatment of addiction and to drug policy, at a large international conference on addiction scheduled for November 6-9, 2000, in Jerusalem. The conference is being sponsored and organized by the Israeli Ministry of Health's Department for the Treatment of Substance Abuse, the Anti-Drug Authority, the International Society of Addiction Medicine, and the Israel Society of Addiction Medicine. I have already sent Dr. Gleser a proposal for seven speakers that MAPS would like to sponsor at the conference, with the proposal currently under review by the conference organizing committee.

One unexpected benefit of the conference was the opportunity to offer international support from the assembled scientists for the Department for the Treatment of Substance Abuse's plans for a heroin maintenance study in Israel. In this proposed study, which builds on the pioneering Swiss heroin maintenance program, heroin will be administered to heroin addicts in an effort to see if health problems and crime can be reduced. Also to be investigated is the extent to which the treatment team is able to motivate and assist addicts to quit their habits entirely.

Also present at the conference was Dr. Rachel

Alex Gamma, University of Zürich, discussed EEG data from MDMA-naïve subjects given 1.7 mg/kg of MDMA.

The most important new data about MDMA neurotoxicity was presented by Dr. Franz Vollenweider, University of Zürich.

Hamberger, the chief scientist for the Israeli Anti-Drug Authority. She seemed quite interested in the presentations at the conference and offered encouragement for the protocol. I introduced Dr. Hamberger to Dr. Franz Vollenweider, University of Zürich, who spoke to her about the research opportunities at his world-class lab, his need for more staffing, and his interest in offering internships to Israeli scientists/physicians in training who could go to Zürich for six months to assist in research. I mentioned to Dr. Hamberger that Drs. Kotler and Darnell had wanted to send some psychiatrists they train to Switzerland to fulfill their six-month research requirement, but hadn't been able to find anyone who was fluent in German, required to understand and sensitively assist subjects undergoing psychedelic experiences. Dr. Hamberger felt she might be able to find a qualified German-speaking scientist/physician and indicated an interest in trying to find out whether the Israeli's expenses could be paid for by some combination of the Israeli Ministry of Health, the Swiss National Science Foundation, and MAPS, if need be.

Another Israeli present at the conference was Dr. Raphael Mechoulam, Professor at Hebrew University. Dr. Mechoulam is internationally famous for his research into the constituents of marijuana. He was the first to isolate THC from marijuana and the first to identify the endogenous cannabinoid neurotransmitter, which he named anandamide. Dr. Mechoulam spoke about clinical research with cannabinoids, reinforcing the idea that clinical research with Schedule 1 drugs like marijuana and MDMA is important and can be conducted safely. Dr. Mechoulam has also been involved in Israel in determining which scientific studies can ethically be conducted in humans. In the US, these decisions are made by committees called Institutional Review Boards (IRBs) and in Israel by Helsinki Committees, after the Helsinki Accords which were drafted after the Nazi concentration camp experiments. As a result of the conference, Dr. Mechoulam now has a more comprehensive and accurate view of the risks of MDMA to human subjects.

Near the conclusion of the conference, Dr. Moshe Kotler told me that he thought the conference was very impressive and a major success. His final words to me were, "Let's move forward." Coming from an Israeli with the rank of General (Moshe was chief psychiatrist for the Israeli Defense Forces), I feel confident that our forward motion will eventually lead to approval for the study.

One major goal of the conference was to improve the chances of approval for the MDMA/PTSD protocol. That goal was clearly accomplished.

Accomplishments - Spain

Three MDMA researchers from Spain participated in the conference and came on the pre-conference tour with their spouses, and one daughter. After meeting the Spanish team in person, I am more enthusiastic than ever about their proposed study into the use of MDMA in the treatment of PTSD in rape victims. They have a long history of sophisticated and important drug research, much of it funded by government grants.

The conference also provided the opportunity for Moshe Kotler, Adam Darnell and Jose Carlos Bouso to meet informally to discuss protocol design issues and scientific collaboration between the two teams working to obtain permission to conduct MDMA/PTSD studies.

The meetings between the Israeli and Spanish teams were a very important benefit of the conference, and hopefully are just a beginning in a long relationship.

Jose Carlos' study, one of MAPS' highest priority projects, has already been submitted to the Spanish Ministry of Health for review. We are all hoping for the best.

Jose Carlos Bouso (Spain) presents his MDMA/PTSD study, with some translating help from Christopher Ryan. Bouso, Charles Grob and the Israeli team received invaluable feedback on their studies from colleagues.

Matt Baggott presented a new analysis designed to extrapolate from animal data what dose in humans would cause the first signs of long-term reductions in serotonin levels.

Additional accomplishments–my perspective

On a personal note, the complex logistics worked smoothly for bringing together 33 people for the six-day tour, 15 more people for from 1-3 days in Jerusalem, and scientists from 8 countries for the conference. In a delightful moment, the people on the pre-conference tour met up at the top of Masada with the 15 other people who came from Jerusalem in a separate bus, just as I had hoped. In my hopefully accurate estimation, I was Exhibit A for ability to perform complex tasks after taking lots of MDMA, instead of being Exhibit A for MDMA brain damage.

MDMA neurotoxicity: new data

The most important new data about MDMA neurotoxicity was presented by Dr. Franz Vollenweider, University of Zürich. Franz reported on a study of MDMA neurotoxicity in MDMA-naive subjects, to which MAPS donated $6,000. The study involved the use of PET scans to measure serotonin uptake sites, which are reduced by MDMA neurotoxicity. Dr. Vollenweider's team and Dr. Ricaurte's team at Johns Hopkins are the only groups in the world using PET scans to measure serotonin uptake sites. However, there is a crucial difference between the methodology of the two groups. Dr. Vollenweider studies the effects of the actual administration of pure MDMA to MDMA-naive subjects. Dr. Ricaurte does not administer MDMA but studies people with extensive use of Ecstasy (which is sometimes MDMA and sometimes not), frequently taken in rave environments. Dr. Ricaurte then compares the results of the Ecstasy users to that gathered from matched controls. Methodologically, Dr. Vollenweider's study design is more reliable in that it eliminates problems related to inexact matching between MDMA and control subjects. Furthermore, Dr. Vollenweider's study directly relates to determining the risk to research subjects in studies examining the therapeutic use of MDMA, where one or several doses of MDMA will be administered to MDMA-naive patients. Dr. Ricaurte's studies in polydrug users who have taken MDMA from 75 to thousands of times are valuable because this sort of study is most likely to show reductions in serotonin nerve terminals, since subjects have such high exposure to MDMA. However, this study is of less relevance to understanding the risks of exposure to a few doses of MDMA in a clinical research context.

Dr. Vollenweider reported on data gathered from several subjects who were given three PET scans, before, during and one-month after the administration of 1.5 mg/kg of MDMA. No reduction of serotonin uptake sites were found at the one-month follow-up. Dr. Vollenweider actually reported a slight increase, which he said was not statistically significant and represented normal variation in the PET scanning technique.

Dr. Vollenweider also reported on the results of a series of other biological and psychological tests administered to a total of about 50 MDMA-naive subjects, with the tests administered to subjects before and after one MDMA session and before and after one placebo session. There was no evidence of functional or behavioral consequences due to MDMA, either between the tests given before and after the administration of MDMA or between the people whose first session was MDMA or whose first session was the placebo.

Lew Seiden, Ph.D., University of Chicago, presented data from animal research that showed conclusively that serotonin reductions are related to core body temperature, with higher ambient temperatures producing hyperthermia which makes one vulnerable to serotonin reductions. This research calls into question risk assessments for

Conferees attended a rigorous series of informative presentations lasting well into late evening... This symposium enlarged the Israeli researchers' point of view toward MDMA and similar substances and served to reduce the stigma associated with them.

clinical research subjects based on data from rave-goers who take MDMA in high-ambient temperatures, exercise vigorously, and sometimes do not consume sufficient fluids. In contrast, clinical research contexts involve the administration of MDMA in temperature-controlled settings, to people who are resting in bed and are supplied with fluids. This data about the importance of ambient temperature requires a revision of the understanding of the mechanism of MDMA-related neurotoxicity. Some drugs which we previously thought blocked neurotoxicity through a specific pharmacological mechanism turn out to actually block neurotoxicity through non-specific blocking of hyperthermia.

Matt Baggott, researcher on the UC San Francisco MDMA research team, presented a complicated new analysis designed to compare human and animal data in order to extrapolate from animal data what dose in humans would cause the first signs of any long-term reductions in serotonin levels. Matt's approach is based on comparing similar blood levels of MDMA, as determined in pharmacokinetic studies, as opposed to basing comparisons on body weight or body surface area. According to this analysis, 5 mg/kg in humans is the equivalent of the lowest dose that has been shown to cause any long-term reductions in serotonin levels in rats. This is not necessarily the same as the highest dose that will not cause neurotoxicity, which is not known. This is only a preliminary approach and there are lots of assumptions in this model that are based on incomplete data. Most of the rat neurotoxicity data was collected before the importance of hyperthermia was appreciated. Therefore, these doses may cause serotonin reductions only in certain environments or with certain behaviors. Significant amounts of individual variability also need to be taken into account. A 5 mg/kg amount of MDMA is the same as taking more than twice as many milligrams as pounds of body weight, for example 5 mg/kg in a 150 pound person is 340 milligrams. A standard therapeutic dose of MDMA is 100-125 milligrams.

According to Baggott's estimates, Dr. Vollenweider's preliminary finding of no apparent long-term reductions in serotonin uptake sites in humans from a dose of 1.5 mg/kg was not surprising and is consistent with the animal neurotoxicity data.

Dr. Efi Gouzoulis-Mayfrank presented data from a study comparing MDMA-using ravers with two control groups, one with subjects who had used cannabis but not MDMA and another with control subjects who did not use drugs. The mean estimated cumulative total dose of the MDMA-using group was 93 pills, the mean duration of regular use was 27 months. The only differences found were in certain subsets of memory and executive functions, with the MDMA-using group performing somewhat lower. According to Dr. Gouzoulis-Mayfrank, these differences were statistically significant but clinically insignificant, meaning that neither the subjects nor the testers could tell the groups apart in normal social situations or in life performance. Dr. Ricaurte and Dr. Bolla's studies of memory function in MDMA users (*MAPS Bulletin* Vol. IX No. 3 pp. 6-8) are also statistically significant but clinically insignificant. Possibly confounding any causal role of MDMA in the memory findings is that these studies may be measuring effects of the Ecstasy raver lifestyle (lack of sleep, poor nutrition, heavy use of other drugs not matched by the controls groups) or of possible preexisting factors. However, the study of Dr. Gouzoulis-Mayfrank included no unusually heavy or poly-drug users. At present, the only evidence in humans for functional consequences from regular exposure rates to MDMA is from data that are not clinically significant and are not conclusively proven to be due to MDMA. The minimal findings in these studies of Ecstasy users is

Ripples in the viscous waters of the Dead Sea. Like these expanding waves, the after-effects of the 1999 international symposium on MDMA will be felt for years to come. Collegial relationships among scientists were forged and solidified across national boundaries, a development which augers well for both research quality and chances of approval. In all, it was one of MAPS' finest moments.

reassuring. In summary, there are no data showing that one or few doses of MDMA in a clinical research context bear substantial risks for long-term harms from possible neurotoxicity.

Conclusion

The consensus of the conference was that MDMA research in humans is important, that it can be conducted safely, that there are sufficient anecdotal reports and case histories of the therapeutic use of MDMA to justify research into the therapeutic use of MDMA, and that the risk of neurotoxicity is clearly outweighed by potential benefits in patients who are either terminal or have failed on conventional medications. Studies in MDMA-naive subjects or in patients who are not terminal or have not already failed on conventional medications were supported by most but not all conference participants.

MAPS' Israel MDMA conference helped improve the chances that the MDMA/PTSD study will be approved in Israel, fostered international collaboration and data sharing, provided an opportunity for MDMA psychotherapy protocols to receive thoughtful critiques, and generated a willingness among several researchers to provide letters of support to national regulatory bodies for MDMA psychotherapy protocols.

After reflection, I believe that the many months of MAPS' staff time that were invested in this conference, along with roughly $50,000, will prove to be an excellent investment that has played a major role in bringing us into the promised land of MDMA psychotherapy research. •

Dr. Leary's Concord Prison Experiment:

A 34 Year Follow-Up Study

Rick Doblin

[**Editor's Note:** This study — originally published in the *Journal of Psychoactive Drugs,* Oct-Dec 1998 issue — is one in a series of long-term follow-ups to early psychedelic research that MAPS has sponsored. Previous MAPS Bulletins have reported on the Bastiaans LSD Research in the Netherlands, the Janiger LSD Research in the Los Angeles area and the Good Friday Experiment Follow-Up. The data gathered from these follow-up studies provide sufficient evidence of safety and efficacy to justify the initiation of new studies in which psychedelics are administered to patients. For information on the *Journal of Psychoactive Drugs,* see www.HAFCI.org/journal/]

Abstract

THIS STUDY IS A LONG-TERM FOLLOW-UP to the Concord Prison Experiment, one of the best known studies in the psychedelic psychotherapy literature. The Concord Prison Experiment was conducted from 1961-1963 by a team of researchers at Harvard University under the direction of Timothy Leary. The original study involved the administration of psilocybin-assisted group psychotherapy to 32 prisoners in an effort to reduce recidivism rates. This follow-up study involved a search through the state and federal criminal justice system records of 21 of the original 32 subjects, as well as personal interviews with two of the subjects and three of the researchers, Timothy Leary, Ralph Metzner and Gunther Weil. The results of the follow-up study indicate that published claims of a treatment effect were erroneous. This follow-up study supports the emphasis in the original reports on the necessity of embedding psilocybin-assisted psychotherapy with inmates within a comprehensive treatment plan that includes post-release non-drug group support programs. Despite substantial efforts by the experimental team to provide post-release support, these services were not made sufficiently available to the subjects in this study. Whether a new program of psilocybin-assisted group psychotherapy and post-release programs would significantly reduce recidivism rates is an empirical question that deserves to be addressed within the context of a new experiment.

Keywords: *psilocybin, psychedelic, psychotherapy, recidivism, Leary, Concord Prison Experiment*

Background

This paper reports on the results of a long-term (34 year) follow-up study to the Concord Prison Experiment, one of the best known studies in the psychedelic psychotherapy research literature.[1] The Concord Prison Experiment was originally conducted during 1961-1963 by a team of Harvard researchers under the direction of Timothy Leary (Leary 1963; Leary et al. 1965; Leary & Metzner 1968; Leary 1969; Riedlinger & Leary 1994).

The Concord Prison Experiment arose out of preliminary research into the subjective effects of psilocybin (Leary, Litwin & Metzner, 1963). Leary and associates found that 88% of their subjects in the preliminary study reported that they learned something of value about themselves and the world, while 62% claimed that the experience of psilocybin changed their lives for the better. In some subjects, the administration of psilocybin produced a "mystical" or "transcendent" experience similar to experiences of religious conversion. Based upon the preliminary evidence, Leary speculated that psilocybin experiences might be powerful catalysts of behavior change in subjects with criminal records.

Leary thought that recidivism would be an objective measure of behavior change that would more persuasively demonstrate the effects of psychedelic-assisted psychotherapy than subjective self-report questionnaires and tests.

Research evaluating the use of psychedelic psychotherapy in subjects with criminal records was also being conducted around the same time by Tenenbaum, who administered LSD to criminal sex offenders while they were incarcerated in Atascadero State Hospital, California (Tenenbaum 1961), and, in the Netherlands, by Arendsen Hein, who administered a series of doses of LSD to twenty-one chronic criminal offenders (Arendsen Hein 1963). These studies generated promising results but focused on measuring symptom, behavior and personality changes rather than recidivism, the return to prison post-release for parole violations or new crimes.

Design of the original experiment

The Concord Prison Experiment was designed to evaluate the use of a form of psilocybin-assisted group psychotherapy in the reduction of rates of recidivism. As described by the researchers, the form of treatment was "a collaborative group program; we avoid... the traditional doctor-patient, researcher-subject, professional-client roles (Leary et al 1965)."

The subjects in the study, all volunteers, were incarcerated in Massachusetts Correctional Institute–Concord, located outside of Boston not far from Cambridge, where Harvard University is located. Subjects were limited almost entirely to prisoners nearing their possible parole dates, with just a few subjects released more than a year after the experiment concluded. Leary thought that recidivism would be an objective measure of behavior change that would more persuasively demonstrate the effects of psychedelic-assisted psychotherapy than sub-jective self-report questionnaires and tests. Differences between pre- and post- values of standardized tests of psychological functioning were also evaluated. Among the tests administered were the Minnesota MultiPhasic Personality Inventory (MMPI), the Thematic Apperception Test (TAT), and the California Personality Inventory (CPI).

The experimental treatment was administered in the context of group therapy, with each group composed of about four subjects and two members of the experimental team. The treatment generally took place over six weeks of bi-weekly meetings which included two administrations of psilocybin. The treatment involved a combination of an initial battery of tests, twice a week non-drug preparation sessions over the course of two weeks at which the test results were discussed and preparations were made for the first psilocybin experience, a day-long group experience of psilocybin with doses ranging from 20-70 mg., several post- psilocybin sessions devoted to discussion and integration of the initial psilocybin experience and preparation for the second and usually final administration of psilocybin, followed by several more non-drug sessions. After the final session, the identical battery of personality tests was readministered with the results again fed back to the subjects. This cycle was repeated over the course of two years for a total of 32 subjects.

In most treatment groups, one subject who had completed the cycle of treatment was included so as to give the new subjects exposure to a peer who had already been through the psilocybin experience. As a further method of providing emotional support to the subjects for their frequently challenging psilocybin experiences, one of the group leaders usually self-administered psilocybin as a demonstration of solidarity and trust in the healing potential of psilocybin.[2]

Once subjects who had completed the treatment process had been approved for parole, additional group meetings were held to address the details of trying to create a new life outside of prison. Though no post-release group meetings were originally planned, they were soon considered necessary to support the efforts of the subjects to live within the law and remain out of prison. Substantial effort was expended by the experimental team to remain in contact with subjects post-parole so as to provide continuing emotional support and leads on jobs and housing. A non-profit organization, Freedom Inc., was created to coordinate post-release efforts. However, Leary noted, "This phase (post-parole) of our program was never fully developed. We now realize that it is necessary to set up a halfway house where members can meet regularly and discuss mutual problems along Alcoholics Anonymous lines. For practical and material reasons, we were limited to irregular individual contacts with group members (Leary et al 1965)."

Reported outcome of the original experiment

The Concord Prison Experiment is generally accepted to have had somewhat beneficial results (Grinspoon & Bakalar 1979) or to have been an astonishing success (Stafford 1979; Lee & Shlain 1985, Stevens 1987) in reducing recidivism rate. In addition, some of the psychological measures showed changes that would be expected to support the development of more positive behaviors.[3]

Recidivism rates of the experimental group were initially measured on January 15, 1963, when 28 of the 32 subjects had already been released from one to eighteen months, with an average ten months post-release. At this first follow-up, Leary reported in two papers that the recidivism rate was 32%, slightly more than half of what Leary claimed was the expected 56% recidivism base rate for inmates at Concord Prison (Leary & Metzner 1968, Riedlinger & Leary 1994). In a slight discrepancy, Leary reported in another paper that the recidivism rate as of January 15,1963 was just 27% (Leary 1969). In his autobiography, Leary reported that, "We had kept twice as many convicts out on the street as the expected number." (Leary 1968). The recidivism base rates were generated through a review of the records of all 311 prisoners who had been discharged or paroled from Concord in 1959. This recidivism base rate study was conducted by Metzner and Weil, both of whom were graduate students affiliated with the Harvard Social Relations Department and co-investigators with Leary on the prison project (Metzner & Weil 1963).

The longest period of follow-up reported was from data gathered as of July, 1964, when 27 subjects were reported to have been evaluated at from 18-26 months post-release (Leary et al 1965). As of July, 1964, the total recidivism rate of the experimental group was reported by Leary to be no different than the expected base rates, with 41% of the experimental group who had been released reportedly still out of prison and 59% having been reincarcerated.[4]

Despite the lack of a reduction in overall recidivism rates, Leary still claimed that the experimental treatment had a significantly positive influence. Leary reported that in the control data gathered in the base rate study, the recidivism rate was due equally to new crimes and parole violations. However, in the experimental group, 52% were reported to have been returned on parole violations while only 7% were incarcerated for new crimes. With a total recidivism rate of 59%, Leary stated that the expected percentage of subjects reincarcerated for new crimes would have been 29.5% and the expected percentage of subjects reincarcerated for parole violations would also have been 29.5%. The discrepancy between the expected and actual numbers of subjects reincarcerated for parole violations compared to new crimes was reported to be significant at the .01 level.

The difference between recidivism for ostensibly less serious parole violations as compared to new crimes was considered a sign of the continued, though limited, success of the experimental treatment. Leary hypothesized that the higher rate of recidivism in the experimental group attributable to parole violations rather than new crimes might have been the result of the experimental group being more closely supervised than other parolees, resulting in an increased number of technical parole violations of a minor nature. As Leary wrote, "The main conclusion can be stated as follows: One and one half years after termination of the program, the rate of new crimes has been reduced..." (Leary, 1965).

Recognizing the historical importance of the Concord Prison Experiment, the Massachusetts Department of Corrections had preserved many of the original records of the experiment.

Genesis of the follow-up study

Recognizing the historical importance of the Concord Prison Experiment, the Massachusetts Department of Corrections had preserved many of the original records of the experiment. Michael Forcier, a researcher with extensive experience conducting research for the Department of Corrections, was aware of the continued existence of a collection of papers from the Concord Prison experiment. These papers included an uncoded list of the names of the subjects in the experiment, a series of progress reports by Leary, correspondence between Leary and the Department, and some personal accounts written by the subjects about their subjective experiences under the influence of psilocybin.

In 1991, Forcier read an op-ed article about the author of this paper's previously published twenty-five year follow-up study to the Good Friday Experiment, the other major psilocybin experiment that Leary sponsored during his time at Harvard (Doblin 1991). Conducted in 1962 by Walter Pahnke, M.D., then a Ph.D. student working under the direction of Leary, the Good Friday Experiment was designed to evaluate the potential of psilocybin to catalyze religious experiences when taken by religiously inclined people in a religious setting. After reading about the follow-up to the Good Friday experiment, Forcier contacted this author and offered to assist with a long-term follow-up study to the Concord Prison Experiment. After quite a lengthy process, approval was obtained for the Concord follow-up study from the office of then-Governor William Weld.

Research objectives

This follow-up study was conducted in order to

measure the impact of the experimental treatment on recidivism rates from both parole violations and new crimes at 2.5 years post-release, the longest point in time for which base rate statistics for a control group had been gathered, and also to review the records of the criminal behavior patterns of the subjects over a 34 year period. A secondary aim was to seek to interview some of the original subjects in order to determine what they felt were the long-term consequences of their participation in the experiment and to gather information on any reported linkages between the subjects' experiences under the influence of psilocybin and the nature of subsequent behavior change.

Due to the importance of the Concord Prison Experiment in the psychedelic literature, the long-term follow-up also offered the opportunity to raise awareness in a new generation of students and researchers about what this author believed at the beginning of this follow-up was a successfully proven approach to behavior change. It was also hoped that this follow-up might help to catalyze additional research extending and expanding on Leary's pioneering study and its reportedly promising results.

Methodology

The follow-up experiment was designed primarily as a search of the criminal histories of the subjects, using both Massachusetts and Federal data bases. A supplemental part of the experiment was planned to include interviews with any subjects who were located and willing to be interviewed. The readministration of the same set of psychological measures used by Leary was considered but rejected since there was no way to link any newly obtained results to the initial scores, which were reported only as group averages.

Limitations of the data set

The criminal histories of the subjects in the Concord Prison Experiment for the time period of the experiment and several years thereafter are contained only in file folders in storage at the Department of Corrections. The Concord Prison Experiment took place well before the records of the Department were computerized, thereby necessitating the follow-up study to be conducted primarily through physical examination of the records on site at the downtown Boston offices of the Department of Corrections. Federal records were accessed via computer.

Although a list of the names of 32 subjects who participated in the experiment was among the papers retained by the Department of Corrections, file folders could be located for only 21 of the original subjects. As a result, there is no way to determine the exact recidivism rate of the entire experimental group for periods of time longer than previously reported by Leary. Nevertheless, the total recidivism rate as of July, 1964 for the sample of 21 subjects whose files were located is quite similar to the rates reported by Leary for the entire experimental group, demonstrating that the lost folders are likely to form a random subset of the entire cohort. As a result, the recidivism rate for the subsample of 21 subjects at 2.5 years post-release is likely to be similar to that of the entire sample. Furthermore, by comparing the cumulative records from the smaller sample of 21 subjects as of July,1964 to that of the larger sample as reported by Leary, also as of July, 1964, it is possible to calculate both lower and upper bounds for the recidivism rate of the entire group of 32 subjects at the timepoint of 2.5 years post-release.

Leary claimed a remarkable reduction of recidivism rates in the short-run, at the date of the first follow-up as of January, 1963. A careful review of all the source documents, including the base rate study, prove that claims of an initial treatment effect were false.

Reanalysis of the reported short-term recidivism success

Leary claimed a remarkable reduction of recidivism rates in the short-run, at the date of the first follow-up as of January, 1963. A careful review of all the source documents, including the base rate study, prove that claims of an initial treatment effect were false. Leary's report of a dramatic treatment effect was the result of a misleading use of the base rate data.

To show an initial treatment effect as of January, 1963, Leary compared the recidivism rates of his experimental group after they had been out of jail an average of ten months (32%) with the recidivism rates of men who had been out of Concord Prison an average of 30 months (56%). The difference between the two rates was called the treatment effect. However, the appropriate comparison should have been between recidivism rates of the experimental and control groups at similar periods of time post-release. Recidivism is, among other factors, a function of how long someone has been out of prison, with rates rising over time since more time presents more opportunities for criminal behavior and police apprehension. Leary's flawed comparison has not been criticized to date, in part because in all the papers in which Leary reported data from the January, 1963 follow-up, he failed to mention that the base rate study figure used for comparison was for recidivism rates at 30 months. Perhaps another factor is that the base rate study was published in a journal that is not widely available.

Also unreported by Leary, the base rate study contained a graph indicating the recidivism rate as a function of time. It was thus easily possible for Leary to have compared recidivism rates at identical periods of time post-release. When the appropriate comparison between the experimental and control group is made for the

identical period of 10 months post-release, the recidivism rate for the control group turns out to be 34.3%, compared to 32% for the experimental group. This results in a 2.3% reduction over the base rates, not the 23% reduction reported by Leary. The 2.3% reduction is not significant and is the same as a finding of no treatment effect.

Parole violations or new crimes?

As of the July, 1964 follow-up, Leary reported that only two subjects were returned to jail for new crimes, while 14 were returned as parole violators.[5] The disproportionate rate of recidivism due to supposedly technical parole violations instead of new crimes is the basis of Leary's claim that the Concord Prison experiment was still a success as of July, 1964 despite there being no reductions in overall recidivism rates as compared to the base rate control group. Leary claimed that many of his subjects were returned to prison for minor technical parole violations. He hypothesized that these technical parole violations were due to the extra supervision the subjects received as a result of having been in the psilocybin experiment. Unfortunately, the results of this follow-up do not confirm Leary's claim that virtually all of the subjects in his study who were returned to prison were returned merely for technical parole violations.

Through comparing the findings of the follow-up with Leary's reported results, it was possible, with some difficulty, to discern Leary's method of categorization between new crimes and parole violations. Leary's method involved counted only the reason for the first reincarceration post-release, ignoring everything occurring after that first reincarceration. As of July, 1964, 12 out of the 18 subjects in the subsample of 21 subjects who had been released prior to this date had been returned to prison. By Leary's counting method, only one of these 12 had been returned for a new crime, while 11 had been returned for parole violations. Of the 15 out of 21 subjects who were returned to prison within 2.5 years post-release, only one was returned for a new crime while 14 were returned for parole violations.

Leary's method, using only the reason for the first reincarceration to determine whether a subject was returned to prison for a new crime or a parole violation, isn't as straightforward as it initially appears. For example, many of the experimental subjects were arrested for a new crime while on parole, immediately or shortly thereafter returned to prison as a parole violator because of the new arrest, then subsequently convicted and sentenced for the new crime, all within the follow-up period. By Leary' s counting rules, these subjects were considered parole violators because they were first returned to prison for a parole violation. They were not counted as having committed a new crime despite the fact that they had, in fact, committed a new crime that directly resulted in a rapid return to prison (but initially for violation of parole), followed by a subsequent conviction for the new crime. As another example, several subjects were first returned to prison for a parole violation that was not linked to an arrest with subsequent conviction for a new crime and were subsequently released within the follow-up period. They were then later arrested for a new crime, convicted and returned to prison again for that new crime, all within the follow-up period. These subjects were also counted as having been reincarcerated for parole violations and not new crimes since their first reincarceration was for a parole violation.

When the appropriate comparison between the experimental and control group is made for the identical period of 10 months post-release, the recidivism rate for the control group turns out to be 34.3%, compared to 32% for the experimental group.

It may be true that Leary's subjects were more closely monitored than other parolees. If that were the case, the result of this intensive monitoring would have resulted in a rapid violation of parole for new crimes that had been committed but for which the criminal justice system needed more time to arrive at a conviction. Parolees who were less intensively monitored may not have been returned to prison until they were actually convicted for new crimes. The rapid link between arrests for new crimes and parole violations prior to new convictions, combined with Leary's counting rules, resulted in the illusory appearance that fewer new crimes and more technical parole violations had been committed by the subjects in this experiment. The results look quite different when recidivism due to a new crime is defined as a return to jail during the period of the follow-up for any incident that later resulted in a conviction for a new crime (regardless if the subject was first returned to prison for a parole violation), and a parole violation is defined as a return to prison for anything short of an incident that led to a new conviction (such as not reporting in to the parole officer, not keeping a job, associating with known criminals, or suspicion of or arrest for a new crime but no new conviction). These definitions represent reasonable criteria; the present author is not certain that these are the exact definitions used in the base-rate study.

Using the above definition of a return to prison for the commission of a new crime, it turns out that of the 18 subjects who had been released prior to July, 1964, seven (39%) had been returned to prison for a new crime, five (28%) had been returned for parole violations, and six (33%) had not returned to prison. Of the seven returned to prison due to new crimes, one subject was first returned

to prison for a new crime while six had been returned to prison as a result of parole violations linked to incidents that subsequently resulted in convictions for new crimes. Of the five subjects who had been returned for parole violations, two were returned for parole violations linked to a suspicion of a new crime but without conviction. Only three were returned for technical parole violations, in each case due primarily to problems related to the use of alcohol.[6]

Of all 21 subjects evaluated at 2.5 years post-release, eight (38%) had been returned to prison for a new crime, seven (33%) had been returned to prison for parole violations, and six (29%) had not returned to prison. Of the eight returned for new crimes, one was returned first for new crimes and seven were returned for parole violations that were associated with incidents that later resulted in convictions for new crimes. Of the seven returned for parole violations, four were returned for parole violations linked to a suspicion without conviction of a new crime and only three were returned for a technical parole violation, in each case due primarily to problems related to the use of alcohol.[7]

Neither as of the July, 1964 follow-up nor at 2.5 years post-release were a disproportionate percentage of the subjects returned to prison for parole violations as compared to new crimes, when parole violations are defined as returns to prison not linked to convictions for new crimes and new crimes are defined as returns to prison for incidents linked to new crimes. Only a small minority of subjects who were sent back to prison were returned for technical parole violations, just three of 12 (25%) as of July, 1964 and only three of 15 (20%) as of 2.5 years post-release. Regardless of whether the results of the Concord Prison experiment were somehow an improvement on the ratio of new crimes to parole violations in the base rate study, the distinction between parole violations and new crimes is largely meaningless since the majority of what Leary considered "parole violations" were caused by incidents that later led to convictions for new crimes.

Longer-term recidivism rates

Of the 21 psilocybin subjects for whom records could be searched, the actual recidivism rate at 2.5 years (30 months) post-release was 71%, with 15 out of 21 of the subsample having been returned to prison. The bounded range of possible recidivism rates for 2.5 years post-release for the entire experimental group of 32 subjects is 56%-88%.[8]

The 71% recidivism rate of the sample of 21 is just one percentage point below the mid-point of the range of possible values (72%), again suggesting that the subsample is likely to be a random sample of the entire group. The range of possible recidivism rates is similar to the expected recidivism base rate of 56% at 2.5 years post-release, and to the previously reported recidivism rate as of July, 1964 of 59%. There is thus no treatment effect, in terms of reduced recidivism rates, at the longest point in time for which base rate statistics for a control group are available. The finding of no treatment effect at 2.5 years post-release is not surprising, given the lack of such an effect as of July, 1964, with subjects from 18-26 months post-release.

From 30 months post-release to the time when this long-term follow-up was conducted (an additional 31.5 years), the total recidivism rate was 76%. One of the six subjects who stayed out of jail for the first 2.5 years post-release was returned to jail after that period of time for the commission of a new crime, while the remaining five subjects were not reincarcerated.

One subject reflected, *"I firmly believe that I would never have gone back to prison if I had had help [post-release], if someone would have guided me, taken an interest. Who the hell wants to do time?"*

Follow-up interviews

Only three subjects were able to be located and contacted by phone. Two agreed to be interviewed and one declined. Of the two subjects who agreed to be interviewed, one had returned to prison after participating in the experiment while the other had not. A special meeting was arranged at which the author of this paper brought the two subjects willing to be interviewed to the home of Leary for an emotional reunion and tape-recorded interview. The meeting took place on January 20, 1996, just several months before Leary died. Weil, one of Leary's co-investigators on the experiment, also participated in the meeting.

Both experimental subjects expressed their gratitude at being able to participate in the experiment. Both felt that they had benefited personally from their psilocybin experiences and did not suffer any long-term negative problems linked to their psilocybin experience. Both had vivid memories of their psilocybin experiences. Neither had taken a psychedelic drug on their own after the experiment.

The subject who returned to prison spoke about a remarkable experience he had while under the influence of psilocybin. He described it as, "being back in the womb…I'm seeing a movie, it's my two older brothers and they're saying, 'Mom, can we go out and play?' 'Sure, Bob, sure, Al, you can go out.' I'm saying, 'Wait for me, I want to go out, too.' She says, 'You can't go out.' And I said, 'Why?' And she says, 'Because you're not even born yet.' It was a funny sensation."

He reflected on the experience and commented, "I firmly believe that I would never have gone back to prison

if I had had help [post-release], if someone would have guided me, taken an interest. Who the hell wants to do time?" After his final release from jail, he said he became more responsible, got married and became a father. He reported that his son also had served time in jail, and commented that he wished his son could have a psilocybin experience because it might have helped him see his life options in a new, more responsible manner.

The subject who did not return to jail speculated that he was able to stay out of jail primarily because he had a family to return to post-release. The crime for which he went to jail had been committed six years prior to his arrest, which he said came about because he told someone about his earlier crime who then told the police. This subject credited the psilocybin experiences with helping him to stay out of jail, saying, "I know this thing [the psilocybin experience] was great for me in my life for about two years after I had taken it. You know, my wife and I would discuss it every once and a while, and she'd ask me, 'How do you feel?' And I'd say, ' I feel great...you and I are together, so I got something out of it.'" He reflected on the content of his psilocybin experience by saying, "You tear your life down and you put it back together."

The prisoners were given the results of all the psychological tests that were administered, they could decide on the dose they wanted to take, and they even played a role in deciding which other prisoners could participate in the experiment.

Leary's reflections

Leary, though weakened by terminal illness, thoroughly enjoyed the meeting with the ex-prisoners. He reminisced about the elation he frequently felt leaving the prison after a successful experimental session, realizing that he had brought a degree of mental freedom to people behind bars.

Leary also mentioned several elements of the experimental design other than the use of psilocybin that he thought were important but might easily be overlooked. The main point he wanted to make was that, "There were no secrets. We gave you guys all the power..." The prisoners were given the results of all the psychological tests that were administered, they could decide on the dose they wanted to take, and they even played a role in deciding which other prisoners could participate in the experiment. At that time, this degree of openness was rare but Leary chose to be democratic about information and procedures in order to empower the subjects to take greater control over their lives.

Leary elaborated on the theme of relinquishing control. "Giving full disclosure, no secrets, but one of us [the experimental team] would always be in control, we would trade off. Once I really lost it. At one point, I was sitting there talking to the group and it was like a hypnotic thing. Everybody was like really into it, I was really into it, and suddenly I had this flash like you were all in my web, like a spider. I got into a whole control thing, and I felt really shameful about that. The next minute I collapsed. I kind of woke up and I was on a cot and you guys were all looking at me like mom. I was completely vulnerable, but everybody was so kind and sensitive. It was tremendous."

When asked what changes in the experimental design he would implement if he were to try to replicate the experiment, the first and only change he noted was, "One thing would be to set up the halfway house system.. A support system is really needed." The lack of post-release support was the most important weak link in the therapeutic intervention. This was recognized early on and the experimental team devoted a substantial amount of time keeping in touch with the subjects post-release, trying to find them living arrangements and jobs, and offering emotional support. The establishment of a half-way house was, however, beyond the means of the experimental team.

A higher standard

When Leary left Harvard, he left science behind and focused on becoming a cultural change agent of the most controversial nature. Until now, it has been generally assumed that all his scientific contributions were reliable. Indeed, this author's Good Friday Experiment follow-up study confirmed the basic findings of that Leary-sponsored experiment, although the author did uncover the unreported fact that one of the subjects in the Good Friday experiment had had a difficult reaction and was administered a major tranquilizer during the course of the experiment (Doblin 1991; Roberts & Jesse 1998). Whatever his motivations, Leary's misleading reports about the success of the Concord Prison experiment serve as an object lesson in what not to repeat. With the current renewal of research into the therapeutic use of psychedelic drugs after three decades of almost total prohibition, psychedelic researchers must hold themselves to the highest ethical standards in order to retain a measure of trust with regulators and the general public.

Conclusion

The failure of the Concord Prison Experiment to generate a reduction in recidivism rates should not be interpreted as proof of the lack of value of psychedelics as adjuncts to psychotherapy in criminals. Rather, the failure of the Concord Prison Experiment should finally put to rest the myth of psychedelic drugs as magic bullets, the ingestion of which will automatically confer wisdom and create lasting change after just one or even a few experiences. Personality change may be made more likely after a

cathartic and insightful psychedelic experience, though only sustained hard work after the drug has worn off will serve to anchor and solidify any movement toward healing and behavior change. Psychedelic drug experiences are not sufficient in and of themselves to produce lasting change. Leary, who wrote about the importance of set and setting, knew this as well as anyone, and wrote, "The main conclusion of our two year pilot study is that institutional programs, however effective, count for little after the ex-convict reaches the street. The social pressures faced are so overwhelming as to make change very difficult." (Leary 1969).

The failure of the Concord Prison Experiment should finally put to rest the myth of psychedelic drugs as magic bullets, the ingestion of which will automatically confer wisdom and create lasting change after just one or even a few experiences.

Leary took the time during the follow-up interview, conducted shortly before his death, to reiterate what he had previously claimed was the major lesson of the Concord Prison experiment; the key to a long-term reduction in overall recidivism rates might be the combination of the pre-release administration of psilocybin-assisted group psychotherapy with a comprehensive post-release follow-up program modeled on Alcoholics Anonymous groups to offer support to the released prisoners.

Of course, it is likely that post-release programs would be of some benefit to all people released from prison, regardless of whether they had received psilocybin-assisted group psychotherapy, drug abuse counseling, vocational training, non-drug psychological treatment, any other program intended to reduce recidivism, or even no treatment at all. As a result of the profound psychological effects of psilocybin, a post-release program for subjects who had received psilocybin might differ in both content and importance from programs for subjects who had received other interventions. Whether a new program of psilocybin-assisted group psychotherapy and post-release programs would significantly reduce recidivism rates is an empirical question that deserves to be addressed within the context of a new experiment. •

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Notes

1. This article has benefited from extensive critique by Ralph Metzner as well as thoughtful review by Rick Strassman, Tom Riedlinger, Gunther Weil, Charles Grob, and Bob Forte.

2. Experiential accounts by project leaders can be found in High Priest (Leary 1968), and in the account by Metzner, "From Harvard to Zihuatanejo," in the Leary Festschrift Timothy Leary—Outside Looking In, edited by Robert Forte, published by Inner Traditions, New York.

3. These personality changes are discussed in detail in Leary et. al. 1965, and Leary & Metzner 1968. In the California Personality Inventory, significant changes were noted in 12 of 18 scales (including sociability, sense of well-being, socialization, tolerance and intellectual efficiency.) There were generally no significant changes in the MMPI with the exception of the D-scale going down from test one to test three.

4. Some confusion may result from the fact that the first journal article that Leary published about the Concord Prison experiment (Leary et al. 1965) contains information about recidivism rates as of July, 1964, which showed no overall reduction. Leary's subsequent books and journal articles (Leary 1969; Leary 1968; Leary & Metzner 1968) and historical reviews written by authors to whom Leary spoke (Stevens 1987; Lee & Shlain 1985; Stafford 1979), report recidivism rates only as of January, 1963, which Leary claimed did show a dramatic reduction, and do not even mention that there had been a later follow-up as of July, 1964 which showed no overall reduction. The normal expectation is that later papers and reports contain the most up-to-date information. As a result of being first exposed to the later papers and reports, this author, as well as many other people, initially obtained the mistaken impressions that there had been no follow-up to the Concord Prison Experiment after January, 1963, and that the experiment had succeeded in reducing recidivism rates. Only in one post-1965 paper did Leary ever mention again that there had been a follow-up after January, 1963 in which the recidivism rates were not lower than expected. Leary was not the lead author in that paper, which was written after almost three decades had passed since the 1965 paper (Riedlinger & Leary 1994).

5. Leary's report of two people returned to prison for new crimes as of July, 1964 conflicts with his report as of January 15, 1963, 18 months earlier, when he claimed that three people had already been returned to prison for new crimes. Subject #9 was returned to prison for parole violations linked to a new crime for which he was not convicted, was released after serving additional time, and then returned for parole violations linked to subsequent convictions for new crimes.

6. Subjects #2, #9, #13, #17, #19, and #21 were returned to prison for parole violations for incidents that subsequently resulted in new criminal convictions. Subject #4 was returned to prison for a new crime.

Subjects #5 and #10 were suspected of committing new crimes but were not convicted, while Subjects #12, #15, and #20 were returned for problems related to their use of alcohol.

7. Between the July, 1964 follow-up and 2.5 years post release, three additional subjects were released from Concord. Subject #3 was returned to prison for skipping parole but was not suspected of committing any new crimes. Subject #6 was returned for a parole violation related to suspicion of involvement in an armed robbery for which he was not convicted. Subject #7 was returned to prison for a parole violation linked to suspicion of involvement in theft, was released after serving additional time, and then returned for a conviction of armed robbery.

8. As of July, 1964, Leary reported that 27 out of the 32 subjects had been released from prison. Of the 27 who had been released, 16 had returned to prison and 11 had not, for a recidivism rate of 59%. In the subsample of 21 subjects, 18 had been released from prison prior to July, 1964. Of those 18 who had been released, 12 had returned to prison and six had not, for a recidivism rate of 67%. Thus, out of the nine subjects who had been released as of July, 1964 and whose file folders were not located, simple subtraction indicates that four must have been returned to prison (16 minus 12) and five were not (11 minus 6). There were also five subjects who had not been released from prison as of July, 1964. In the subsample of 21 subjects, three were released only after July, 1964. Of that three, two were returned to prison for parole violations within 2.5 years post-release while the third was returned to prison for a new crime, but not until after 2.5 years post-release. Therefore, the best possible outcome at 2.5 years post-release would be 56% (18/32; 12 subjects from the subsample of 21 who went back to prison before July, 1964, four subjects from the missing files who Leary reported went back to prison by July, 1964, and two subjects from the subsample of 21 who were released from prison after July, 1964 and who returned to prison within 2.5 years post-release). This lower bound of 56% is exactly what the base rate statistics were for 2.5 years post-release. The worst possible outcome at 2.5 years post-release would be 88% (28/32).

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[**Editor's Note:** This response to Rick Doblin's follow-up to the Leary Prison Experiment was originally published in the *Journal of Psychoactive Drugs,* Oct-Dec 1998 issue.]

Reflections on the **Concord Prison Project** and the Follow-Up Study

Ralph Metzner, Ph.D.

Rick Doblin has provided a valuable service to the field of psychedelic research by conducting critical follow-up studies to the Good Friday study of religious experience as well as the study discussed here on a "behavior change" program for convicts in a maximum security prison. I was probably more deeply involved in the project and in the writing-up of the results than anyone besides Leary. I spent the better part of two years out of my four-year graduate program on this project, and though it was not the area in which I did my thesis research, I did also do a clinical internship in Concord prison, supervised by Dr. Madison Presnell, who was also the supervising psychiatrist for the psilocybin project.

It is disconcerting, of course, to discover, 35 years after the fact, that a research project I was involved in and wrote about, made quantitative errors and reported erroneous conclusions. As I read Rick Doblin's findings, and re-read our original papers, it did give me occasion to reflect on that period, and what was called the Harvard Psilocybin project. Leary was, at that time, a respected, experienced and committed research scientist, who had spent a decade doing statistical evaluations of psychotherapy — and coming to the depressing conclusion that none of it did any better than chance (as far as one could tell from the tests). The graduate students in the project, such as Gunther Weil and myself, were equally committed to doing exacting and rigorous demonstrations. Weil and myself, for example, spent most of a summer in the archives of the State Department of Corrections, poring through hundreds of prisoner files and assembling the data we needed to calculate an appropriate recidivism base-rate, against which any behavior change program could be tested.

The two dominating paradigms in the Department of Social Relations at Harvard, of which the Center for Research in Personality was a part, were behaviorism and Freudian psychoanalysis. For this reason, Tim Leary was particularly pleased with the prospect of trying the psychedelic insight treatment with convicts. Having just shown that the subtle personality changes that psychotherapists feel sure happen, can't be demonstrated to happen, he pointed out that in the recidivism rate (the rate of return to prison after being released on parole) we had the perfect incontrovertible behavioral index of personality change. Personality tests would also be given before and after the therapy, but they were secondary.

It was therefore with some dismay that the members of our project realized, after almost a year of running dramatic, seemingly life-changing psilocybin sessions with convicts in the prison, that we (and the prisoners) didn't have a clue as to what to do for them once they got out of the prison and how to help them make it in society. In the 1965 paper published in *Psychotherapy: Theory, Research and Practice*, which I mostly drafted, I remember sharing the disappointing conclusion that our group's recidivism rate was not different from the base-rate. We did find and report significant changes in several scales on the California Psychological Inventory, and one on the MMPI; as well as some inconclusive behavioral ratings changes. And that is the way I have held the study in my mind ever since — that deep personality changes occurred, but in order to maintain changed behavior outside of the prison, some kind of half-way house or rehab program is essential.

This conclusion was stated clearly in our reports. Leary actually devoted a tremendous amount of time and energy to trying of ways that our project could somehow help the paroled convicts who had been through our program, "make it" on the outside, trying to help them find jobs, places to live, offering

them companionship. I remember trips to Boston bars to meet with some of the men, just to keep in touch. Leary has described (in *High Priest*, ch. 10) his extreme and almost comical efforts on behalf of an uneducated, unskilled, lower class, alcoholic petty thief who was the first to graduate from our program — including eventually giving him a job at the Center for Personality Research (the "job" being to find another job) and renting him a room in his family home, with his kids.

Thirty-five years is a long time from which to recall details of a statistical research project. Although I wrote up the results of the final and longer follow-up in the 1965 paper, I have to say at this point I have no idea how Leary came up with the "finding" that the return rate for parole violations was up and for new crimes down (hence the overall rate unchanged). This "finding," which has now turned out to be erroneous, was of course the kind of result we wanted to find — it enabled us to maintain a positive, enthusiastic attitude in talking about this project. We fell victim to the well-known "halo effect," by which researchers tend to see their data in as positive a light as possible. I have myself, in later years, sometimes forgotten the basically negative result we reported in the study, and talked about the project as if we lowered the recidivism rate.

In this sense, I'm grateful to have this late opportunity to acknowledge a chastening correction. Rick Doblin's analysis of the situation shows that most prisoners who were actually returned for parole violations, had also committed new crimes — so that the distinction itself is an artifact.

Similarly, I have at this time no idea where the 10-month follow-up figure of 32% recidivism in our group came from. In the article in the *British Journal of Social Psychiatry*, which he apparently wrote before the project was completed though it was only published in 1968, Leary (erroneously) compared this 32% figure to the 30-month base rate figure — thereby arriving at a significant overall reduction. He stated these as "extremely tentative" results, subject to further analysis. Nevertheless, they are clearly inconsistent with our own results reported in the 1965 article of no difference in overall rate of return. As Doblin points out, Leary was able to get this seemingly positive finding only by using the wrong control figure. In the paper from *Psychedelic Review*, which was excerpted from the forthcoming *High Priest*, he repeated the same mistake — and I, as editor, didn't catch it. Clearly, we were both under the "halo effect." Leary was also by this time no longer playing what he called "scientist game."

Whether Leary made these mistakes consciously, faking the results that he wanted, or whether they were unconscious mistakes of carelessness, motivated by over-enthusiasm — is impossible to say at this point. I tend to favor the latter alternative, if only for the reason that our own results clearly show the inconsistencies. Our basic finding remains, then as now: that with psychedelics (and other programs) profound experiences of insight and personality change can be brought about, but criminal behavior patterns take a much more concerted system of rehabilitation and community support to change. The 30-year later interviews with two of the men document this in a direct and touching way.

The one statement of Doblin's that I would still question is the need for a "higher standard" or "highest ethical standards in order to regain a measure of trust with regulators." In my opinion, the existing accepted standards of honesty and truthfulness are perfectly adequate. We have those standards, not to curry favor with regulators, but because it is the agreement within the scientific community that observations should be

reported accurately and completely. There is no proof in any of this re-analysis that Leary unethically manipulated the data. Careless mistakes were made, no doubt, mistakes that made the data look more like we wanted them to look. But to make mistakes is neither unethical nor unscientific. It's an integral part of the scientific method that when mistakes are found, they are reported and corrected. In this sense, I appreciate the better understanding that comes from this more complete and accurate review of the Concord prison project.•

Ketamine Assisted Psychotherapy (KPT) of Heroin Addiction:

Immediate Effects and Six Months Follow-Up*

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IN THE 20th CENTURY, while billions of dollars have been spent to treat addictive diseases, the search for effective medication continues. The mainstay of such treatments include therapy and counseling, AA and NA, different kinds of rehabilitation programs, drug maintenance programs, and pharmacotherapy. However, the rate of efficacy of all suggested methods of addiction treatment is poor and the need remains for new effective medications. The use of hallucinogens in the treatment of addiction could be one promising approach (Halpern, 1996).

Many studies from the 1950s and 1960s suggested that hallucinogen-assisted (psychedelic) psychotherapy might be an efficient treatment for the addiction (Grinspoon and Bakalar, 1979), but the variation in methodologies made it difficult to generalize across studies.

In the 1970s Savage and McCabe (1973) showed that LSD-assisted psychotherapy had a positive effect on the outcome of treatment of heroin addicts: 25% of the subjects treated with LSD remained abstinent from opiates for one year as opposed to only 5% of the control group of conventional weekly group psychotherapy.

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THE AUTHORS encouraged further research with hallucinogens in the treatment of addictions, but by 1973, when their study was published, human research with these substances had essentially come to an end in America because of controversy associated with their non-medical use (Halpern, 1996). Later in the 1980s and 1990s both animal studies and anecdotal human reports suggested anti-craving properties of another hallucinogen – ibogaine ("Endabuse™") (Lotsof, 1995; Mash, 1998). However, further human research with ibogaine is needed to demonstrate its antiaddictive properties as well as safety.

Ketamine is a drug for general anesthesia, but in subanesthetic doses it induces a profound psychedelic (hallucinogenic) experience (Bowdle et al., 1998). Ketamine has several advantages over other hallucinogens as an adjunct to psychotherapy in the treatment of addictions: it is safe, short-acting, and, most importantly, it is not in Schedule 1 drug like other hallucinogens. Our

The typical age of heroin addicts in Russia is between 17 and 26. Patients participating in the study were mostly young people (mean age of experimental group: 23.03 years / mean age of control group: 21.63 years).

previous studies showed that ketamine assisted psychotherapy is an effective method for alcoholism treatment (Krupitsky and Grinenko, 1997). Ketamine could also have anti-craving properties because of its influence on the NMDA receptor, similar to other NMDA receptor ligands – acamprosate and ibogaine (Mash et al., 1998; Sass et al., 1996). All these factors led us to study the efficacy of ketamine-assisted psychotherapy for heroin dependence.

EXPERIMENTAL DESIGN AND METHODS

Design

Seventy detoxified heroin addicts were randomly assigned to one of two groups. The patients of the experimental group received psychotherapy in combination with a "psychedelic" dose of ketamine (2.5 mg/kg i.m.). The patients of the control group received the same psychotherapy combined with a very low, non-psychedelic (non-hallucinogenic), dose of ketamine (0.25 mg/kg i.m.). This low dose induces some pharmacological effects without inducing a peak psychedelic experience (see Results section below). Both a psychotherapist and a patient were blind to the dose of ketamine. All patients were treated alike and were given the same preparation. The KPT sessions, regardless of dosage, were given under similar circumstances. All patients' psychological and clinical evaluations during the treatment and follow-up period were performed by a clinician evaluator other than the psychotherapist providing KPT. This rater was also blind to the dose of ketamine.

Patients

Seventy heroin addicts were screened, evaluated and randomized in the study. There were 35 heroin addicts (27 male and 8 female) in the experimental group and 35 heroin addicts (28 male and 7 female) in the control group. There were no statistically significant differences between the experimental and control groups with respect to age, duration of heroin addiction, and duration of abstinence from heroin.

Patients participating in the study were mostly young people (mean age of experimental group: 23.03 years / mean age of control group: 21.63 years). In this concern it is important to note that heroin addiction has a higher prevalence among youth in Russia. The typical age of heroin addicts in Russia is between 17 and 26.The typical duration of addiction is about 3-4 years. Many of heroin addicts die because of overdosage or get imprisoned within the first several years of using heroin.

Selection and screening

Psychotherapy was provided by a psychotherapist (psychiatrist) specially trained in KPT. Only one KPT session was carried out for each patient. Screening evaluation for patients included a formal psychiatric examination; a standard medical examination, including blood chemistry panel (including hepatic functions), urine analysis, HIV-test, pregnancy test and EKG; and a review of previous medical and psychiatric records.

Assessment instruments

In choosing the battery of assessment instruments, care was taken to include those instruments we already successfully used in our previous studies of KPT for alcoholism (Krupitsky and Grinenko, 1997) to provide comparability with those studies. There was also an effort to provide a mix of instruments widely used in psychotherapy outcome research. In addition, due to the specific nature of ketamine psychotherapy, instruments were considered desirable that might indicate changes in the areas of personality, life values and purposes, spiritual development, and unconscious emotional attitudes.

Treatment assessment, outcome and follow-up

All patients were asked to write a detailed self-report about their experiences during the ketamine session. These self-reports provided evidence for the presence of a peak experience during the ketamine session.

Treatment procedure

Patients and the psychotherapist were both blind to the dose of ketamine. There were up to 10 hours of

psychotherapy provided before the ketamine session in order to prepare patients for the session. There were up to 5 hours of psychotherapy provided after the ketamine session to help patients interpret and integrate their experiences during the session into everyday life.

An anesthesiologist was present throughout the ketamine session to respond to any complications. The length of the ketamine session was about 1.5 - 2 hours. Only one ketamine session was carried out for each patient. The patient was instructed to recline on a couch with eyeshades. The pre-selected stereophonic music was used throughout the ketamine session. The psychotherapist provided emotional support for the patient and carried out psychotherapy during the ketamine session. Psychotherapy was existentially oriented, but also took into account the patient's individuality and personality problems (Krupitsky and Grinenko, 1997). The same psychotherapeutic technique (see below) was used regardless of the dose of ketamine. Patients were discharged from the hospital soon after the KPT.

Description of the psychotherapeutic technique

Three main stages in our method of KPT can be distinguished (Krupitsky and Grinenko, 1997). The first stage is preparation. In this stage, preliminary psychotherapy is carried out with patients. During these psychotherapeutic sessions it is explained to the patients that the relief of their dependence from heroin will be induced in a special state of consciousness in which they will have deep experiences that will help them to realize the negative effects of heroin abuse, and the positive aspects of life without drugs. We explain that the ketamine session may induce important insights concerning their personal problems, their system of values, notions of self and the world around them, and the meaning of their lives. All of these insights may entail positive changes in their personality, which will be important for their shift to a new lifestyle without heroin. During the ketamine sessions, patients often experience the separation of consciousness from the body and the dissolving of the ego, so it is very important to prepare patients carefully for such an unusual experience. The therapist pays close attention to such issues as the patient's personal motives for treatment, his goals for his new life without drugs, his idea of the cause of his disease and its consequences, and so on. An individually tailored "psychotherapeutic myth" is formed during this dialogue. It becomes the most important therapeutic factor responsible for the psychological content of the second stage of the KPT. It is also very important to create a specific atmosphere of confidence and mutual understanding between the psychotherapist and patient during this first stage of KPT.

The second stage is the ketamine session itself. With a background of special music (generally, "New Age" composers, such as Kitaro and Jean Michel Jarre) the patient having a KPT session is treated psychotherapeutically. The content of these psychotherapeutic influences is based on the concrete data of the patient's anamnesis (case history) and is directed toward the resolution of the patient's personality problems and toward the formation of a stable orientation towards the life without drugs. We try to help our patients create a new meaning and purpose in life during this session. We emphasize the positive values and meaning of life without drugs and the negative aspects of drug abuse during ketamine session. It is also very important to direct carefully the patient's psychedelic experiences by verbal influences and manipulating the musical background towards the symbolic resolution of the personality conflicts as well as a final cathartic peak experience. This second stage of KPT is conducted by two physicians, a psychotherapist and an anesthesiologist, because some complications and side-effects (such as increased blood pressure and depression of breath) are possible, though exceedingly rare. After the session, the patient rests, and we ask them to write a detailed self-report of their experience later that evening.

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In the third stage, special psychotherapeutic sessions are carried out within several days after the KPT session. During these sessions the patients discuss and interpret the personal significance of the symbolic content of their experience with the psychotherapist. This discussion is directed toward helping the patient establish a connection between their ketamine experience and their intra- and interpersonal problems (primarily those connected with drug abuse), and thereby to solidify their desire for a life without drugs. We try also to assist patients to integrate the insights from the ketamine session into everyday life. The uniquely profound and powerful ketamine experience often helps them to generate new insights that enable them to integrate new, often unexpected, meanings, values and attitudes about the self and the world.

RESULTS AND DISCUSSION

Characteristics of the ketamine experience

Content and features of the ketamine experience in both groups were evaluated with the Hallucinogenic Rating Scale (Strassman et al., 1994). HRS scores in the

high dose group provided evidence that patients in the experimental group had a profound psychedelic (hallucinogenic) experience. The scores in the high ketamine dose group are similar to ones induced by high (psychedelic) dose of another hallucinogen – dimethyltryptamine (DMT) in Strassman's study in healthy volunteers (Strassman, 1996). Average scores in the experimental group are also similar to the scores received by Bowdle and co-authors with the high level of ketamine in the blood (200 ng/ml) (Bowdle et al., 1998).

HRS scores in the low ketamine dose group suggests that patients did not have a full-blown psychedelic (hallucinogenic) experience. However, HRS scores in the low dose group were much higher than those seen in placebo groups in Strassman's (1996) and Bowdle's (1998) studies. Subjects in the low dose group demonstrated affective and cognitive effects that were close to a psychedelic dose of DMT. Thus, patients in the control group had experiences of what might be referred to as "sub-psychedelic." This could be the effect of set and setting combined with a relatively low dose of ketamine. Similar effects were noted in Kurland et al. (1971) study many years ago. They used 500 mcg of LSD as their high dose, and 50 mcg for their low dose, in treating alcoholics. They thought 50 mcg would be an active placebo. They found the frequency of peak experiences similar in both groups. This is also a strong statement about the importance of set and setting in determining the responses to hallucinogenic drugs.

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It is important to note that almost 50% of patients in the experimental group and 60% of subjects in the control group relapsed within the first three months...

HRS scores in the experimental and control groups in our study were statistically significant for all HRS subscales except Volition. That means that the experiences of the high ketamine dose group were different than those in the low dose group. Patients in the experimental group had a deep psychedelic experience while patients of the control group experienced something like a ketamine-facilitated guided imagery (Leuner, 1977). However, patients of the control group were often very much impressed by their experiences and considered them as useful as therapeutic ones.

Treatment outcome: Six month follow-up

Follow-up data were collected by psychiatrists who were blind to the dose of ketamine used for KPT. The follow-up data included information from patients themselves, their relatives, and urine drug testing results. According to the follow-up data, all patients were divided into four groups: patients who were abstinent, patients who relapsed, patients for whom we were unable to get reliable follow-up data, and patients with specific circumstances for abstinence. One patient of the experimental group was placed into the group with specific circumstances for abstinence: He was imprisoned on the fifth month of the follow-up for a crime committed before his admission into the treatment program.

The rate of abstinence in the experimental (high dose) group was approximately twice as high than that of the control (low dose) group, while the corresponding rate of relapse was lower. The differences between the experimental and control group in rates of both abstinence and relapse were statistically significant within the first six months of follow-up. Thus, KPT with the high dose of ketamine was significantly more effective within the first six months after the ketamine session.

It is important to note that almost 50% of patients in the experimental group and 60% of subjects in the control group relapsed within the first three months after KPT. Thus, it might be possible that repeated sessions carried out within the first few months after KPT would provide a higher rate of abstinence. J. Halpern in his review of the studies of hallucinogen-assisted psychotherapy of addictions (1996) came to a similar conclusion. However, testing of that hypothesis is a subject for a separate study.

KPT influence on craving for heroin

KPT sessions significantly reduced craving for heroin as evaluated by the Visual Analog Scale of Craving in both experimental and control groups. However, the decrease of craving in the experimental group was significantly greater than in the control group right after KPT as well as at one and three months after the ketamine session. Also, craving in the experimental group was significantly decreased for each of the six months following KPT, while in control group this was the case for only the first month. Thus, KPT with a high dose of ketamine produced greater and longer-lasting decreases in drug craving in heroin addicts than that seen in the low-dose group. It is interesting to note that other NMDA receptor antagonists, like ibogaine and acamprosate, have a similar influence on craving (Sass et al., 1996; Mash et al., 1998).

KPT influence on the syndrome of anhedonia

The amelioration of the syndrome of anhedonia is an important aspect of relapse prevention (Krupitsky et al., 1998). Thus, the positive effect of KPT on the syndrome of anhedonia in heroin addicts might be important for relapse prevention and maintaining abstinence from heroin. KPT reduced the severity of the syndrome of

anhedonia more quickly than did traditional treatment with selective serotonin reuptake inhibitors (SSRIs) which takes at least three weeks. Also, KPT reduced the severity of all components of the anhedonia syndrome, including a cognitive one, while SSRIs influence mostly affective and behavioral components (Krupitsky et al., 1999).

KPT influence on anxiety and depression

KPT in both experimental and control groups significantly reduced elevated pre-treatment levels of both state and trait anxiety, measured with the Spielberger Anxiety Scale and depression, measured by the Zung Depression Scale. The level of anxiety was within normal limits by six months of abstinence in both groups. The level of depression was relatively low within the first six months after KPT in both groups.

KPT influence on personality

KPT in the experimental group produced a decrease in scores for the following MMPI scales: depression, conversion hysteria, paranoia, schizophrenia, and Taylor scale of anxiety. The self-sufficiency score significantly increased after KPT. On the whole, such favorable psychological dynamics suggest that patients became more sure of themselves, their possibilities and their futures, less anxious, less depressed and neurotic, and more emotionally open after KPT. These changes are very similar to those noted in alcoholics after KPT (Krupitsky and Grinenko, 1997) and are favorable for abstinence. KPT in the control group decreased scores of the following scales hypochondriasis, depression, conversion hysteria, masculinity-femininity, paranoia, psychasthenia, schizophrenia, sensitivity-repression, and Taylor scale of anxiety. The self-sufficiency score significantly increased after KPT. Positive MMPI changes in the control group were similar to those in the experimental group and included even more scales. However, the scores for the lie scale significantly increased while those for the validity scale decreased in the control group. This may mean that control group patients tried to present themselves in a more positive, more socially acceptable way while they were answering MMPI questions after KPT. Thus, positive MMPI changes in the control group might reflect to some extent patients' desire to be appear in a more positive light.

KPT influence on the terminal life values

KPT's influence on the terminal life values was assessed with the Questionnaire of Terminal Life Values (QTLV) developed by Senin (1991), based on the Rokeach's approach to human values and beliefs (Rokeach, 1973). KPT in the experimental group caused a significant increase in the importance of values such as social recognition, creativity, social contacts, and individual independence. These factors were particularly relevant to areas of life values such as actualization as professional, educational and social life. KPT in the control group brought about significant increases in the importance of social recognition, creativity, self-perfection, achievement of life purposes, spiritual contentment, and individual independence. These changes were significant in all five areas of life values actualization. KPT-induced changes in the control group included even more QTLV scales than in the experimental group. However, the scores for individual independence and educational area of life values actualization were significantly greater after high, compared to low, dose KPT.

KPT influence on understanding the meaning of one's own life

KPT influence on understanding the meaning of one's own life was assessed using the Purpose-in-Life Test (PLT) based on Frankl's (1978) concept of the individual's aspiration for meaning in life. The PLT was adapted in Russian by Leontiev (1992). KPT caused a significant increase in the indices measuring understanding the meanings and purposes in life, as well as self-actualization, and the ability to control oneself and one's own life in accordance to those life purposes. PLT changes after KPT were similar in both groups. This means that after KPT (regardless of the ketamine dose) patients were better able to understand the meaning of their lives, their life purposes, and perspective. After KPT, their lives became more interesting, emotionally deeper, and filled with meaning. They felt themselves better able to live in accordance with their concept of the meaning of life and life purposes as a result of KPT. Such changes might favor abstinence from heroin, particularly from the standpoint of Frankl's approach, which considers alcoholism and addictions as an "existential neurosis," consequent to losing the meaning of life as well as the appearance of an "existential void" (Frankl, 1978). We believe KPT is able to fill in this void at least to some extent.

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KPT influence on spirituality

A psychedelic ketamine experience is to some extent similar to the near-death experience (Jansen, 1997); it might be transformative and induce changes in spiritual development and even in worldview (Krupitsky and Grinenko, 1997). KPT effects on the spiritual development of heroin addicts was studied with the Spirituality Changes Scale (SCS). This instrument previously demonstrated a positive influence on spirituality by KPT in

high dose group provided evidence that patients in the experimental group had a profound psychedelic (hallucinogenic) experience. The scores in the high ketamine dose group are similar to ones induced by high (psychedelic) dose of another hallucinogen – dimethyltryptamine (DMT) in Strassman's study in healthy volunteers (Strassman, 1996). Average scores in the experimental group are also similar to the scores received by Bowdle and co-authors with the high level of ketamine in the blood (200 ng/ml) (Bowdle et al., 1998).

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HRS scores in the experimental and control groups in our study were statistically significant for all HRS subscales except Volition. That means that the experiences of the high ketamine dose group were different than those in the low dose group. Patients in the experimental group had a deep psychedelic experience while patients of the control group experienced something like a ketamine-facilitated guided imagery (Leuner, 1977). However, patients of the control group were often very much impressed by their experiences and considered them as useful as therapeutic ones.

Treatment outcome: Six month follow-up

Follow-up data were collected by psychiatrists who were blind to the dose of ketamine used for KPT. The follow-up data included information from patients themselves, their relatives, and urine drug testing results. According to the follow-up data, all patients were divided into four groups: patients who were abstinent, patients who relapsed, patients for whom we were unable to get reliable follow-up data, and patients with specific circumstances for abstinence. One patient of the experimental group was placed into the group with specific circumstances for abstinence: He was imprisoned on the fifth month of the follow-up for a crime committed before his admission into the treatment program.

The rate of abstinence in the experimental (high dose) group was approximately twice as high than that of the control (low dose) group, while the corresponding rate of relapse was lower. The differences between the experimental and control group in rates of both abstinence and relapse were statistically significant within the first six months of follow-up. Thus, KPT with the high dose of ketamine was significantly more effective within the first six months after the ketamine session.

It is important to note that almost 50% of patients in the experimental group and 60% of subjects in the control group relapsed within the first three months after KPT. Thus, it might be possible that repeated sessions carried out within the first few months after KPT would provide a higher rate of abstinence. J. Halpern in his review of the studies of hallucinogen-assisted psychotherapy of addictions (1996) came to a similar conclusion. However, testing of that hypothesis is a subject for a separate study.

KPT influence on craving for heroin

KPT sessions significantly reduced craving for heroin as evaluated by the Visual Analog Scale of Craving in both experimental and control groups. However, the decrease of craving in the experimental group was significantly greater than in the control group right after KPT as well as at one and three months after the ketamine session. Also, craving in the experimental group was significantly decreased for each of the six months following KPT, while in control group this was the case for only the first month. Thus, KPT with a high dose of ketamine produced greater and longer-lasting decreases in drug craving in heroin addicts than that seen in the low-dose group. It is interesting to note that other NMDA receptor antagonists, like ibogaine and acamprosate, have a similar influence on craving (Sass et al., 1996; Mash et al., 1998).

KPT influence on the syndrome of anhedonia

The amelioration of the syndrome of anhedonia is an important aspect of relapse prevention (Krupitsky et al., 1998). Thus, the positive effect of KPT on the syndrome of anhedonia in heroin addicts might be important for relapse prevention and maintaining abstinence from heroin. KPT reduced the severity of the syndrome of

anhedonia more quickly than did traditional treatment with selective serotonin reuptake inhibitors (SSRIs) which takes at least three weeks. Also, KPT reduced the severity of all components of the anhedonia syndrome, including a cognitive one, while SSRIs influence mostly affective and behavioral components (Krupitsky et al., 1999).

KPT influence on anxiety and depression

KPT in both experimental and control groups significantly reduced elevated pre-treatment levels of both state and trait anxiety, measured with the Spielberger Anxiety Scale and depression, measured by the Zung Depression Scale. The level of anxiety was within normal limits by six months of abstinence in both groups. The level of depression was relatively low within the first six months after KPT in both groups.

KPT influence on personality

KPT in the experimental group produced a decrease in scores for the following MMPI scales: depression, conversion hysteria, paranoia, schizophrenia, and Taylor scale of anxiety. The self-sufficiency score significantly increased after KPT. On the whole, such favorable psychological dynamics suggest that patients became more sure of themselves, their possibilities and their futures, less anxious, less depressed and neurotic, and more emotionally open after KPT. These changes are very similar to those noted in alcoholics after KPT (Krupitsky and Grinenko, 1997) and are favorable for abstinence. KPT in the control group decreased scores of the following scales hypochondriasis, depression, conversion hysteria, masculinity-femininity, paranoia, psychasthenia, schizophrenia, sensitivity-repression, and Taylor scale of anxiety. The self-sufficiency score significantly increased after KPT. Positive MMPI changes in the control group were similar to those in the experimental group and included even more scales. However, the scores for the lie scale significantly increased while those for the validity scale decreased in the control group. This may mean that control group patients tried to present themselves in a more positive, more socially acceptable way while they were answering MMPI questions after KPT. Thus, positive MMPI changes in the control group might reflect to some extent patients' desire to be appear in a more positive light.

KPT influence on the terminal life values

KPT's influence on the terminal life values was assessed with the Questionnaire of Terminal Life Values (QTLV) developed by Senin (1991), based on the Rokeach's approach to human values and beliefs (Rokeach, 1973). KPT in the experimental group caused a significant increase in the importance of values such as social recognition, creativity, social contacts, and individual independence. These factors were particularly relevant to areas of life values such as actualization as professional, educational and social life. KPT in the control group brought about significant increases in the importance of social recognition, creativity, self-perfection, achievement of life purposes, spiritual contentment, and individual independence. These changes were significant in all five areas of life values actualization. KPT-induced changes in the control group included even more QTLV scales than in the experimental group. However, the scores for individual independence and educational area of life values actualization were significantly greater after high, compared to low, dose KPT.

KPT influence on understanding the meaning of one's own life

KPT influence on understanding the meaning of one's own life was assessed using the Purpose-in-Life Test

> ...It might be possible that repeated sessions carried out within the first few months after KPT would provide a higher rate of abstinence.

(PLT) based on Frankl's (1978) concept of the individual's aspiration for meaning in life. The PLT was adapted in Russian by Leontiev (1992). KPT caused a significant increase in the indices measuring understanding the meanings and purposes in life, as well as self-actualization, and the ability to control oneself and one's own life in accordance to those life purposes. PLT changes after KPT were similar in both groups. This means that after KPT (regardless of the ketamine dose) patients were better able to understand the meaning of their lives, their life purposes, and perspective. After KPT, their lives became more interesting, emotionally deeper, and filled with meaning. They felt themselves better able to live in accordance with their concept of the meaning of life and life purposes as a result of KPT. Such changes might favor abstinence from heroin, particularly from the standpoint of Frankl's approach, which considers alcoholism and addictions as an "existential neurosis," consequent to losing the meaning of life as well as the appearance of an "existential void" (Frankl, 1978). We believe KPT is able to fill in this void at least to some extent.

KPT influence on spirituality

A psychedelic ketamine experience is to some extent similar to the near-death experience (Jansen, 1997); it might be transformative and induce changes in spiritual development and even in worldview (Krupitsky and Grinenko, 1997). KPT effects on the spiritual development of heroin addicts was studied with the Spirituality Changes Scale (SCS). This instrument previously demonstrated a positive influence on spirituality by KPT in

alcoholics. It also demonstrated beneficial effects of meditation in healthy volunteers (Krupitsky and Grinenko, 1997). In the current KPT study, the Spirituality Changes Scale demonstrated a similar increase in the level of spiritual development after KPT in both groups of heroin addicts. The SCS changes in heroin addicts were also similar to those induced by KPT in alcoholics in our previous studies (Krupitsky and Grinenko, 1997). Many reports suggest that religious or spiritual conversion is an important factor in "spontaneous" recovery from drug abuse. Indeed, Twelve Steps and Alcoholic Anonymous programs have a distinctly spiritual/religious orientation (Corrington, 1989; Whitfield, 1984). A therapy that enhances the likelihood of a conversion experience therefore might have utility in the treatment of substance abuse. Ketamine-assisted psychotherapy may represent one method of eliciting spiritual experiences in patients with chemical dependence. The increased spiritual development induced by KPT in heroin addicts may be favorable for abstinence.

CONCLUSION

The results of this double-blind randomized clinical trial of KPT for heroin addiction showed that high dose (2.5 mg/kg) ketamine psychedelic psychotherapy (KPT) elicits a profound, full psychedelic experience in heroin addicts. On the other hand, low dose KPT (0.25 mg/kg) elicits "sub-psychedelic" experiences which are very similar to ketamine-facilitated guided imagery. High dose KPT produced a significantly greater rate of abstinence in heroin addicts within the first six months of follow-up than did low dose KPT. High dose KPT brought about a greater and longer-lasting reduction in craving for heroin, as well as greater positive change in nonverbal unconscious emotional attitudes. Thus, it is possible that the higher rate of abstinence in the high dose group was to some extent due to positive effects of ketamine on craving (which had been found similar in other NMDA receptor ligands). It also may be due to the positive transformation of nonverbal unconscious emotional attitudes.

KPT-induced changes in depression, anxiety, anhedonia, and psychological changes on the verbal (conscious) level assessed with verbal tests (MMPI, Locus of Control Scale, Questionnaire of Terminal Life Values, Purposes-in-Life Test, and Spirituality Scale) were similar in the experimental and control groups. These results support the hypothesis that dramatic psychological transformations induced by psychedelic psychotherapy on the verbal level do not always lead to high rates of abstinence from drugs and alcohol (Grinspoon and Bakalar, 1979).•

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Neurologic, Electroencephalographic and General Medical Observations in Subjects Administered **Ibogaine**

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ABSTRACT

IBOGAINE is a potentially hallucinogenic indole alkaloid with anecdotal antiaddictive properties against multiple drugs of abuse. Medical literature concerning the administration of this substance to humans is sparce. Ibogaine HCL (20-25 mg/kg) was administered orally to five subjects addicted to cocaine and/or opiates. Subjects underwent continuous intensive medical, neurologic and electroencephalographic observation. Movement-induced nausea and vomiting was seen in several subjects, all developed transient ataxia, and several experienced visual hallucinosis. No general medical, EKG or EEG abnormalities were seen. No subjects experienced withdrawal symptoms 24 hours after treatment, and two subjects were free of withdrawal or craving one week after treatment.

INTRODUCTION

Ibogaine (NIH 10567, Endabuse™) is an indole alkaloid derived from the West African bush, *Tabernanthe iboga*. Historically, the crude extract has been used by native tribes in Gabon; in low doses as a stimulant, and in high doses as an hallucinogenic agent utilized in folk rituals (1). Ibogaine has also been utilized in the psychotherapeutic milieu, largely for its abreactive properties (2,3). More recently, anecdotal reports have indicated that ibogaine has potential antiaddictive properties against multiple drugs of abuse, including opiates, stimulants and alcohol (4-9). Drug use is reportedly abruptly terminated without the development of withdrawal symptoms or drug-craving. There is also a body of recent animal research to support such claims (10-16). Pharmacologic studies suggest that ibogaine may act via interactions with the opioid, dopaminergic, serotonergic and/or glutamatergic neurotransmitter systems (13,17-21).

Reports of ibogaine administration to humans have been largely anecdotal and medically unsupervised. The few reports by physicians have utilized lower dosages of ibogaine (300-400 mg) than those reported effective in the interruption of polysubstance abuse (20-25 mg/kg), and descriptions of its effects have concentrated more on the visual imagery induced and the psychodynamic effects of treatment (2,3). The present report is intended to enlarge the small medically supervised literature concerning the acute effects of human treatment with ibogaine, particularly in the setting of chemical dependence. Specific attention was paid to general medical, neurologic and electroencephalographic findings.

METHODS

The present study represented a collaborative effort between the University of Miami, CITA (Centro Internacional para el Tratamiento de Addiciones) and NDA International. Subjects were obtained by private application to NDA

In our subjects, the first humans studied electroencephalographically during ibogaine intoxication, EEGs were normal and there was no clinical or electroencephalographic evidence of seizure activity.

International for the Endabuse procedure. A total of five subjects were studied. Initial screening evaluations were performed at the University of Miami (subjects 1-3), or the Hospital for Joint Diseases (subjects 4,5). Evaluations consisted of general medical, neurologic and psychiatric examinations. In Panama (Centro Medico Paitilla), further screening was performed, which included EKG, EEG, cranial MRI scan, CBC, SMA-20, urinalysis, HIV and hepatitis serology, alcohol and drug screens. Study exclusions included: seizure disorder, hypertension, cardiac/hepatic/renal disease, or DSM-4 Axis 1 diagnoses. Treatment was conducted by the Panamanian authors at the Centro Medico Paitilla (Panama City) and was approved by the IRB of that institution. Informed consent was obtained from all subjects prior to treatment.

Three subjects (1,2,3) were evaluated neurologically by the primary author in Panama City before, during and immediately after treatment in Panama City. The other two subjects had neurologic and EEG evaluations performed in New York approximately one week before and after treatment, and also had EEGs performed during treatment. Neurologic observations for these subjects were provided by the secondary authors, who were in attendance during treatment in Panama.

The subjects were first administered a 1 mg/kg test dose of ibogaine hydrochloride (OMNICHEM SA, Belgium) orally in capsule form. Patients were attended continuously by nursing and physician staff, and vital signs were performed every 30 minutes. The next day 0.5 mg/kg was administered to rule-out the possibility of a hypersensitivity reaction. On the morning after the second test dose administration, subjects were pretreated with two tablets of domperidone 10 mg, given one hour apart, in hopes of preventing the development of nausea and vomiting. They then received approximately 25 mg/kg of ibogaine hydrochloride orally, with 75% of the dosage given initially, and the remaining 25% one hour later. The subjects then rested in bed in a relatively darkened hospital room with continuous medical monitoring.

Vital signs and EKG were recorded every 30 minutes for four hours, and then hourly for eight hours. Acute symptomatic treatment was provided when necessary, such as the administration of metoclopramide for nausea and vomiting. Neurologic examinations were performed on the first three subjects by the primary author immediately prior to treatment, and 1, 2, 4, 8 and 24 hours after the ingestion of ibogaine. Gross neurologic examinations were performed by the secondary authors for subjects 4 and 5 during treatment, and a comprehensive exam was performed by the primary author one week later in New York. EEG studies were performed immediately pretreatment, as well as four and 24 hours after the ingestion of ibogaine. These were 30 minute EEG studies utilizing a Stellate system with electrodes placed according to the 10-20 system of electrode placement. A certified psychotherapist was in attendance at all times to provide acute counselling as necessary.

RESULTS

Vomiting may occur in up to 30% of those given ibogaine, with or without narcotic dependency, and is movement sensitive (2,3,6). Domperidone was administered in our subjects prophylactically, but three experienced movement-induced vomiting early in the course of treatment and were treated with metoclopramide 10 mg IV. In two of these subjects, since vomiting occurred early, an additional 5 mg/kg of ibogaine was administered orally to assure absorption of the appropriate dose. In the third subject, the dose was readministered as a rectal infusion due to persistent vomiting . As a result of such vomiting, some patients were at points reluctant to rise from bed for a full neurologic evaluation.

In all subjects, baseline neurologic examinations were normal. Signs of transient cerebellar dysfunction developed in all subjects, generally by two hours after ingestion. All neurologic examinations were normal 24 hours after treatment. In all cases, EEGs were normal in the awake or awake and drowsy states, before, during and after treatment.

Visual hallucinosis occurred in two subjects, initially noted within the first two hours after ingestion. The hallucinations were noted only with eyes closed. Notably, subjects remained oriented and

fully responsive, and demonstrated no evidence of psychological or physiologic anxiety, whether or not hallucinosis occurred.

During the study there were no significant general medical or electrocardiographic abnormalities noted.

On the morning after treatment, subjects demonstrated no psychological or physiologic evidence of drug withdrawal, nor was there evidence of craving or drug-seeking behavior. In the case of subjects 4 and 5, there was no evidence of drug withdrawal or craving when seen one week later in New York. Subjects 1 through 3 returned home following treatment and were thus not seen by the authors in follow-up.

DISCUSSION

Overall, ibogaine was well-tolerated, aside from the occurrence of early motion-induced nausea and vomiting in several subjects, which likely reflects acute vestibulocerebellar dysfunction. Thus, subjects treated with ibogaine should remain relatively immobile, and prophylactic treatment with antiemetics seems warranted to ensure effective treatment. There was otherwise no evidence of general systemic side-effects due to ibogaine.

In animal studies of ibogaine, tremor and ataxia are frequent acute effects of treatment (13,22,23), and suggest the presence of transient cerebellar dysfunction. Some concern has been raised by O'Hearn et al., who reported indirect evidence of possible cerebellar Purkinje cell damage in rats given 100 mg/kg of ibogaine (23). However, the ibogaine dosage used in this study was much higher than that used in the Endabuse procedure (20-25 mg/kg). Molinari et al. have replicated these findings at a dose of 100 mg/kg, but have found no evidence of neuropathologic changes at a dose of 40 mg/kg (24). Similarly, Sanchez-Ramos and Mash found no neuropathologic changes in green monkeys given ibogaine 5-25 mg/kg daily for four days (25). In our subjects, ataxia and rare tremor were seen transiently, but there was no clinical evidence of persistent cerebellar dysfunction following treatment.

Past animal research has suggested that high doses of ibogaine may result in seizures (22,26) However, there is also animal data suggesting that ibogaine may have an anticonvulsant effect (27). In rats, ibogaine (10-30 mg/kg intraperitoneal) caused only an increase in EEG rhythmic theta range activity, but there was no report of epileptiform activity being seen (28). In cats, EEG arousal patterns have been described (29). In our subjects, the first humans studied electroencephalographically during ibogaine intoxication, EEGs were normal and there was no clinical or electroencephalographic evidence of seizure activity.

Despite the powerful hallucinogenic properties of ibogaine, all subjects maintained intact reality testing and responsivity during treatment and demonstrated no signs or symptoms of anxiety or thought disorders. In three subjects visual hallucinosis occurred during treatment. Hallucinosis was present only with the subjects eyes closed, as described by Sigg (29,30), and patients were typically reluctant to discuss these at any length. One patient described simple moving geometric spheres, like "asteroids in space," akin to the decription by Sigg of "disks dancing up and down the walls." (30). Another described vivid memories of early childhood, similar to the reactions decribed by Naranjo (2,3). It is notable that at least short-term interruption of drug use was achieved whether or not patients experienced visual hallucinosis. In some subjects who did not experience hallucinosis the heightened awareness of the psychodynamic factors behind their addictions may still have contributed to successful treatment. However, this does not preclude the possibility that the antiaddictive effects of ibogaine may be more closely related to potential neurotransmitter effects rather than psychological abreation. These matters will require further research in order to determine ibogaine's mechanism of action.

In our subjects there were no signs or symptoms of drug withdrawal or craving immediately after treatment. In addition, when examined one week after treatment the two subjects examined at that time remained free of symptoms Though drug testing was not performed at that time, there were no observable signs of recurrent drug use. There was also no reason for

Despite the powerful hallucinogenic properties of ibogaine, all subjects maintained intact reality testing and responsivity during treatment and demonstrated no signs or symptoms of anxiety or thought disorders.

these subjects to conceal recurrent drug use, as they had sought treatment on their own, at their own expense. The post-treatment period of observation in this study was limited and long-term follow-up will be helpful in assessing the long-term benefits of ibogaine treatment. The authors recognize the methodological weakness of not obtaining post-treatment drug screens and suggest that this be overcome in future research with appropriate evaluations.

The present report represents one of the few medically supervised trials of ibogaine for the interruption of human addiction syndromes, and describes the effects of the highest dosages of ibogaine yet reported in a scientific human study. The results indicate that ibogaine is generally well-tolerated and produces transient cerebellar dysfunction, not unlike that produced by other intoxicants, with no signs of persistent neurologic effects. The absence of withdrawal symptoms or drug craving following treatment supports the anecdotal human reports of ibogaine's efficacy in the treatment of multiple addiction syndromes. Though the number of subjects in this study is small, and the period of follow-up limited, the results suggest that ibogaine does acutely interrupt addictive behavior without untoward consequences, providing a symptom-free window of opportunity that may permit major changes in patients lives, particularly in the presence of an appropriate psychosocial support structure. Such treatment may offer a viable alternative to less effective, more prolonged and costly methods of drug detoxification.•

The present study represented a collaborative effort between the University of Miami, CITA (Centro Internacional para el Tratamiento de Addiciones) and NDA International.

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MDMA and a couple struggling with cancer: **Sue's final letter**

Hello,

I recently lost my fiancée, Shane, to cancer after a long battle. It has been trying on those who were close to him. It has also been a very fulfilling event, due in part to MDMA sessions we went through to seek to accept his death and relieve the emotional pain and hardships we encountered as the result of his terminal illness. While we had only three sessions with MDMA, they were life-changing. Our story has been published for all to read in the MAPS Bulletin since the first experience three years ago.

TAKING MDMA TOGETHER was the best decision we could have ever made in regards to the cancer. We discussed this many times before his death last week. Shane's very long obituary concluded with a request at the end; in his memory, in lieu of flowers, we asked that people support the MDMA research going on for people facing cancer. Unfortunately, not many people knew of what we had done to be able to deal with his cancer in such a positive way, nor had they ever heard of MDMA. We were lucky enough to have a beautiful friend who designed pamphlets to distribute at the service that outlined the research and why we both support it so strongly. Through this, over 100 people were made aware of the research, the need for research and how it helped us in less than a one hour time span. Grandparents, aunts, uncles, people who had never even heard that marijuana could aid a cancer patient... all were made aware of crucial MDMA research going on to help others.

There is such a need for recognition of this wonderful research and its potential to change the lives of those facing terminal illness. The spectacular people fighting the cause need the help of all of us out there to bring it to a postive light. Among people who read Shane's obituary, some have sent checks who had no clue what we were asking, but donated out of respect, others donated out of love, while others donated out of genuine care for the program and the help it could bring. There are enough of us out there that can help bring awareness. Nobody knows if someday they could be facing all that we did. Hopefully they never will, but in the event they do, it should be feasible that they have this readily available to them, unlike how we had to "break the law" to help our anguish.

I plead to you now. Please, bring light to the research going on in a positive way. Make others aware of the importance of helping terminal patients and their loved ones with acceptance and love... despite what they are facing. Please help fight for the rights of those who are scared and hurting. If you lose a loved one, or someone whom maybe you didn't even know personally... instead of flowers make a donation in their name—out of love for them and love for your own life and that of your loved ones—to a program that helps cure the pain.

Please, don't let Shane's death go in vain. We benefitted so much from this, you may have a day when you need this also.

Thank you and warm hugs to all.

Sue's final letter... our last journey

October 10, 1999

IT HAS BEEN the longest week of my life. Shane passed away on October 2, 1999 at 2:50 PM in the comfort and love of his own home. He was surrounded by me and my children who were holding his hands, touching his face tenderly and telling him that while we would miss him horribly that it was OK that he was leaving. I knew that this day would rip my insides out and while it did do just that, I feel that it was a beautiful experience. That morning Shane woke rather incoherent and kept telling me, "I gotta pee," so I would hold the urinal for him. By this time, the cancer in his abdomen had grown and was pressing on his spine, making him unable to walk at all. He was confined to a wheelchair. Upper body strength had also given in to weakness and inability to move much, hence he used a urinal exclusively. This had begun about a week before our last MDMA session (which occurred September 4). After a few hours of his drifting in and out of consciousness, I realized that it just may not be the medication that he was on. Something was severely wrong. I contacted our Hospice nurse, who came out to put a catheter in him. He was moaning while drifting in and out, a horrible painful moan that broke my heart. I thank God deeply that the catheter alleviated the pain he was feeling; immediately after she drained his bladder the moaning stopped and I knew that he was peaceful. Unfortunately, this was accompanied by the dreaded news that they felt he would be passing that day. Shane's breathing had slowed and he fell unconsciousness at this point. The nurse took his blood pressure and a reading of 80/0 confirmed this.

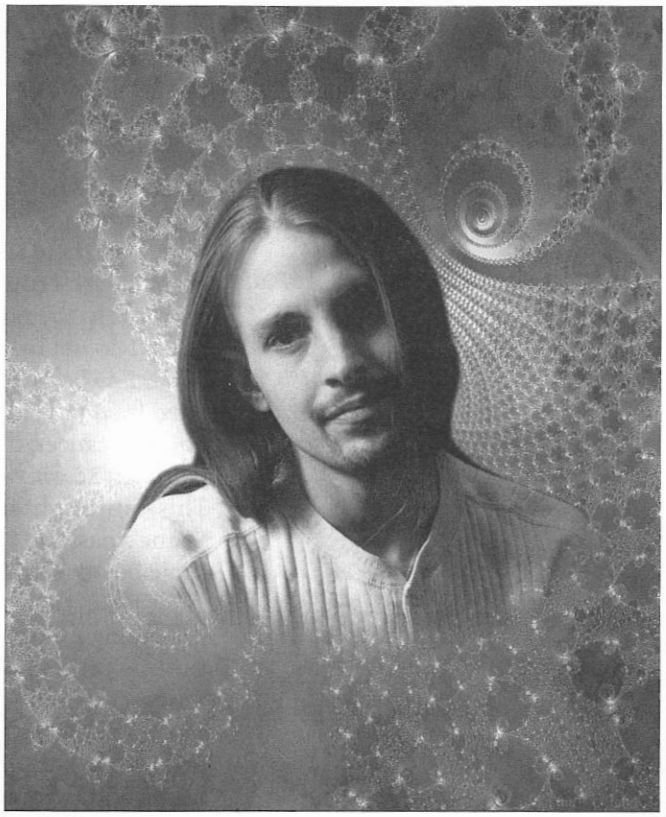
The phone calls to his family began, telling them to please hurry to be by his side to love him into whatever eternity awaited him. What seemed like hours, but in reality was less than an hour and half later, he physically left us while I held him tightly and kissed him into peace. The hardest event of my life was kissing him as I told him to "please go," but "never leave my heart and soul." While it was the hardest time for me, it oddly was the most fulfilling. I can't put that into words, so I won't even attempt it. Shockingly, my tears flowed with minimal pain. Repeatedly telling him how much I loved him and wanted his happiness came so naturally. I was ready. I hated being ready, but I was. May he forever rest in peace and eternally in my heart.

Our last MDMA session together is on videotape, although I don't know when I will have the strength to watch it. We decided to tape it so we would have it to enjoy together; seven to eight hours of pure love that read more naturally that the best written script for any Hollywood movie.

The night that we decided to do this, concerned that there might be a cross reaction with the MDMA, we opted for Shane not to take his medications. We were told this was an unfounded fear, but being overly careful as we are, we didn't want to risk marring a beautiful night. At approximately 7:20 PM we opted for a rectal administration to avoid any stomach upset. Shortly after this, the video begins. When I decide to watch it, it will show the two of us sitting on the couch, and you can visibly see Shane's physical pain. He had been off any pain killers for approximately 12 hours at this point, a great feat for him. He was shifting himself on the couch, trying to get comfortable. When he would get up to walk to the bathroom or kitchen for a drink, the pain was apparent, with much wobbling as he moved due to the tumor pushing on his spine. Still, there was a very jovial mood between the two of us. We joked that our "feature film" would be for all to see... Michelle Pfieffer would play me, and we opted for Scott Baio, of all people, to play him! We were in a light-hearted mood as we waited for the effects of the MDMA to begin, sharing many smiles and hugs. But shadowing this mood was an evident tension of fear and mental pain.

Within an hour we felt the effects. The thought of this brings the largest smile to my face in rememberance. It was an unbelievable night that I wish every government official could view. Every person who is sceptical of the legalization of MDMA to help people with cancer pain needs to view the miraculous events that began to unfold. As the effects of the MDMA were felt our mood really lightened. The love we have for each other became more evident and we moved physically closer to each other. We began talking, not of the cancer like we had hoped to do, but of our life together. We caressed each other's faces, arms, legs, backs and souls. We thanked each other for the years of love we shared, holding each other's hand like it was the most precious of gems and looking into each other's eyes like the Heavens were unfolding before us. Beautiful, that's the only way to phrase it. But this is not the only wonderful thing that occurred that night.

Since our second MDMA session, Shane's discomfort had intensified, and with it the need to increase his pain medication. Since the multitudes of drugs had begun to surge through his system, he became a bit distant on more than an occasional basis. This was from the physical pain, the medications and a bit of fear thrown in. He had repeatedly expressed to me recently that he was terrified of my not being "ok" when he passed. We shared this fear equally. A wedge is the only way to describe recent distancing. During this third session, the wedge was removed and we felt nothing but closeness. The talking with each other flowed freely and non-stop, something that we hadn't had in a long time due to the pain he had been in and the closed up feeling that accompanied it. Gone—no more shell around him, and no more treading lightly on my part—just closeness and communication.



Shane 1972-1999

A miracle of pain relief

Shane's health had deteriorated drastically, as I said. Walking had become a chore for him. Sitting comfortably was a thing of the past. This video of our session shows what we deem a miracle. In the first two hours, Shane is clearly physically uncomfortable. That diminishes as time passes until suddenly he is pain-free. I'm not talking the mental/emotional pain that we knew would be gone; physically he had zero pain. We didn't expect this at all. He would be up and walking around with no wobble, no holding his back, and no wincing as pain hit. He even "hammed it up" for the camera as he virtually jogged towards the kitchen, leaning into the lens of the camcorder telling the world that he didn't hurt. No amount of morphine had been able to accomplish this and he had been living for a long time hurting to a harsh degree. I can't even begin to express our happiness at this. This night allowed him one night of normalcy that neither of us had felt in a long time. Tears come to my eyes as I write that because I had watched this strong man crumble physically over the past months and suddenly it was a step back in time for us. The cancer was gone, the pain… destroyed. We questioned this for a few days after the session, but, "Why ask why?"

We enjoyed approximately 5-6 hours free of physical and mental pain. We joked, we loved fully, we talked like we hadn't seen each other in years and had much catching up to do. We would suddenly stop talking just to look at each other and feel... cancer free. We had attempted to make this a session about the cancer, and sought to videotape a learning experience for not only us, but for everyone that we would honor by allowing them to view our night together on this tape. But how can you address a disease that felt eradicated? MDMA allowed us that night to do what our oncologist hadn't been able to do. To kill the disease entirely… if only for a night.

Eventually we allowed the tape to stop and as the drug wore off we opted for privacy and intimacy that we would rather not share with anyone on video. We though it may be our last night of it. Normally a private person, I'm not afraid to share that while we had gone almost a year with no physical intimacy due to pain and medications… we were almost able to achieve it that night. More than physical love, what the camera missed was the

emotional and mental love that we were able to achieve with a bit of chemical assistance. Mere words cannot describe the warmth in my heart as I write about this.

Cancer took my soul-mate from me physically for the remainder of my life. Cancer robbed us mentally and emotionally. We were able to fight back and "kill" the cancer not only for the last night we took MDMA together, but for the next five weeks that followed before Shane's passing last week. I have no doubt that this wouldn't be the statement I would be making if it were not for the MDMA sessions that we shared over the past three years. Some people swear by it as a "recreational" drug... we wouldn't know about that. It has only been used as a tool for us, as one would use a hammer to aid in building a house. It helped us build our life despite the odds we faced.

I thank MAPS for allowing me to tell our experience. I hope that it will make someone ponder options that could be made available and in essence, I am immortalizing Shane and our life together.

Since Shane's passing, I have not yet broken down. I can't assure that this won't happen but I was able to accept his physical absence hours after it happened. I have cried semi-openly, but am able to do so without pain. This is not saying I don't miss him. I can never express the emptiness I feel by not having him by my side. I have had emotional stress and physical stress such as drastic weight loss and lack of sleep. But accompanying this emptiness is a fulfilling feeling that I also cannot express.

Shane's service was on October 7th and I woke up that morning with a smile. I felt that morning as if it were not the finale of the life of my soul-mate, but as if it were our wedding day. I made it through the entire service with no tears and a genuine smile on my face as we gazed again into each others eyes for an hour of pure love. The only unfortunate thing of that was one of us was in a photo and one of us was a living breathing soul. That doesn't matter. He lives on in my heart and mind as if he is not gone.

The only downfall of these sessions: Shane's family is not happy with me for I am not playing the part of a desolate grieving widow. I didn't become a blubbering mess at the service as a large percentage of people did. I smiled, I laughed and I loved. This would not have happened if it were not for the exploration we did over the past three years. I'm the lucky one and they do not realize this nor will they ever unless they experience what we had. Our physical relationship was cut violently short, but our spiritual relationship had been solidified beyond imagination. Our acceptance soared over the past three years, something that they do not understand. I feel for them that they were not able to share this with him, for if that were the case, then they also would be "ok."

While my heart goes out to anyone who is facing what we have dealt with over the past years since Shane's diagnosis, I would like nothing more than to hold each and every one of them close and tell them that there is hope and acceptance out there. I wish I could say I believe a cure for cancer is in the near future, but I would be lying. I do not believe this, unfortunately. What I do believe fully and have seen and lived first hand is that while MDMA will not cure cancer, it can cure the emotional pain that accompanies it if used correctly. This entire fight makes me cry more than Shane's passing. I am appalled that it is not available to those who need it.

I ask of those reading this to please, pass along information about MDMA therapy research to those facing a terminal illness. The more of us who fight for the cause, the better the chance that recognition will surface. There are wonderful people out there who are fighting for those of us who need/needed it, but they cannot do it alone. No-one should have to face the road Shane and I were heading down before we were made aware of MDMA. In the same token, everyone facing terminal cancer should have the feelings of acceptance brought on by MDMA made available to them when it is so desperately needed.

I would like to thank everyone out there who has taken the time to read about our situation and has wished us well. I can laughingly say "All's well that ends well." I thank MAPS for allowing me to tell our experience. I hope that it will make someone ponder options that could be made available and in essence, I am immortalizing Shane and our life together.

My warmest thoughts and love go out to all... please make the best of life while you can.

Sue*

MAPS Annual Report

Fiscal Year 98-99, June 1, 1998 – May 31, 1999

Rick Doblin

Fiscal Year June 1, 1998 — May 31, 1999 (FY 98-99) was another year of significant accomplishments. More than twice as much money was devoted to educational projects than to research projects, due in part to continued struggles to obtain permission for research. Staff time was more evenly divided between educational and research efforts, primarily because working to resolve and overcome bureaucratic obstacles to research requires more time and effort than money.

MAPS' efforts on behalf of research bore fruit this summer—after the close of MAPS' FY 98-99—with three FDA decisions which we reported in the last *Bulletin* (Vol. IX No. 3). First, the FDA approved MAPS' application to have marijuana designated an Orphan Drug for AIDS wasting. Second, the FDA approved Dr. Ethan Russo's MAPS-supported marijuana/migraine protocol. Finally, the FDA decided to permit Dr. Charles Grob to move forward with a MAPS-supported study of MDMA in cancer patients, with the exact protocol design still to be negotiated.

Financially, total expenditures of $280,194 in MAPS' FY 98-99 were essentially the same as the $288,548 spent in FY 97-98, permitting MAPS to continue to support a wide variety of projects. Income was substantially greater in FY 98-99, rising to $308,743 from $227,637, primarily due to an increase in large grants restricted to specific projects. MAPS' membership still continues to grow gradually and reached 1850 with our target of 2500 members still to be obtained.

MAPS' net assets were $351,701 as of May 31, 1999. Of this amount, $80,000 is restricted to specific research and educational projects. These sums need to be subtracted from net assets when considering MAPS' unrestricted funds available for new projects or organizational expenses. MAPS' goal as a non-profit organization is not to increase its net assets, but to advance its mission. Nevetheless, having some net assets gives MAPS the ability to commit to support high-priority projects and gives a measure of stability in the face of fluctuating contributions from its membership.

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 it and share with the staff any comments, suggestions or questions that they would like to offer. MAPS will continue to

To sustain itself in its current form for more than several years, MAPS needs to try to raise an endowment of $600,000.

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.

PROJECT OVERVIEW

Psychedelic Research

MAPS supports the efforts of researchers around the world to study the beneficial uses, mechanisms of action and risk profiles of psychedelic drugs. In FY 98-99, MAPS allocated funds to support protocol design for two MDMA psychotherapy projects, one in the United States and another in Israel. MAPS also supported expenses involved in conducting an MDMA safety study in Switzerland, two follow-up studies to pioneering LSD research, an LSD psychotherapy protocol design effort in the United States, a project to study the effect of the non-medical use of psychedelics within a family context, a ketamine psychotherapy project in heroin addicts conducted in Russia, and a study of meditation combined with *Salvia divinorum*, conducted in Canada.

MAPS staff spent substantial time, but no money, in preliminary development of various research protocols, some of which will be supported by MAPS if and when they become approved. The highest priority of these studies in development is the MDMA/PTSD study being developed by Ph.D. student, Jose Carlos Bouso, in Madrid, Spain.

Marijuana research

MAPS allocated funds to a marijuana analysis project in the United States investigating the potency of marijuana used in medical marijuana buyers clubs (*MAPS Bulletin* Vol IX No. 3). MAPS also devoted a great deal of staff time, but no funding, to its successful effort to have FDA designate marijuana an Orphan Drug for AIDS wasting syndrome, and to Dr. Ethan Russo's effort to obtain FDA permission for a marijuana/migraine study. Dr. Donald Abrams' study of the effects of marijuana in HIV patients taking protease inhibitors—for which MAPS and Dr. Abrams worked for five and a half years to obtain final permission and funding—treated 46 subjects out of a total of 64 (page 40, this issue).

Educational Efforts

MAPS devoted substantial resources to the publication of the quarterly MAPS Bulletin. MAPS continued to market and started to pay royalties on *The Secret Chief*, the first book MAPS has published. MAPS made a donation in support of the re-publication of *Shivitti: A Vision* by a concentration camp survivor on his experiences undergoing LSD psychotherapy. MAPS also helped support the writing of three new books, on DMT research, on medical marijuana, and on the penalties imposed on non-medical users of psychedelics and other drugs. MAPS worked to disseminate information on MAPS' Internet web site. MAPS focused resources on the cataloguing and posting of a searchable version of the Sandoz bibliography of scientific papers on LSD and psilocybin, started a project creating an electronic annotated bibliography of current scientific papers published in peer-review journals, and supported the MAPS Forum, a moderated e-mail discussion group. MAPS allocated funds to two conferences, a Psychedelic Elders conference that took place in the United States and a MAPS-sponsored conference on clinical research with MDMA and MDE that took place in Israel. MAPS also undertook a membership drive that involved the mailing of over 50,000 brochures about MAPS and psychedelic research. MAPS staff spent significant time but no money responding to numerous media requests for information, and replying to members' questions.

FINANCIAL OVERVIEW

MAPS' expenditures in FY 98-99 amounted to $280,194. This compares to $288,548 in FY 97-98, $255,746 in FY 96-97, $185,797 in FY 95-96, and $133,153 in FY 94-95.

MAPS' income in FY 98-99 was $308,743. This compares to $227,637 in FY 97-98, an astonishing $558,683 in FY 96-97 (due primarily to the bequest from Eric Bass, which enabled MAPS to substantially enlarge its range of projects), $200,182 in FY 95-96 and $107,184 in FY 94-95.

At the close of FY 98-99, MAPS had assets of $351,701, $80,000 of which were restricted to specific projects.

MAPS has yet to call on a pledge of $58,000 from the Barnhart Foundation for Dr. Charles Grob's proposed research project evaluating the use of MDMA in terminal cancer patients. This grant will be allocated only after all the required regulatory approvals have been obtained, hopefully by the spring of 2000.

MAPS' financial picture in FY 98-99 is solid, though some long-term issues need to be addressed if MAPS can continue into the future as an organization providing the current mix of services and project support. The fundamental issue is that MAPS' organizational expenses exceed unrestricted income. This is sustainable for the next several years since MAPS has a cushion in the form of assets, primarily the remaining portion of Eric Bass' bequest. To sustain itself in its current form for more than several years, MAPS needs to try to raise an endowment of $600,000. An increase in membership from 1,850 to 2,500 would also help to raise additional funds for organizational expenses. I expect that continued success in

An increase in membership from 1,850 to 2,500 would also help to raise additional funds for organizational expenses.

obtaining permission for research into beneficial uses of psychedelics and marijuana, as well as growth in the quality, range and reach of MAPS' educational projects, will generate increased enthusiasm and support for MAPS work. I hope and trust that this enthusiasm and support will translate both into new members and donations for a permanent endowment.

Compared to the costs of clinical trials into the risks and benefits of psychedelic drugs and marijuana, MAPS resources are insufficient. As a result, MAPS focuses on supporting pilot studies that, if promising results are generated, can be used to generate larger donations for full-scale trials. In other words, MAPS provides initial risk capital for projects in the early stages of development. Some of these projects will succeed in producing promising results and some will not, as is the case for all scientific research. The key to maximizing the value of the donations MAPS receives from members is for MAPS to make sure that valuable lessons are gathered from the projects that do not succeed, and to work as hard as possible to secure additional support for projects that do warrant continued investigation. In the effort to support larger scale trials, MAPS will continue to develop a working relationship with the Heffter Research Institute (HRI) which is also committed to supporting scientifically rigorous research projects. MAPS will also reach out to larger, more established foundations and government funding sources when opportunities for possible support seem within the realm of possibility, however slight. MAPS can itself fund major clinical trials only if it receives donations on a scale which it has yet to obtain.

DETAILED INCOME REPORT

MAPS' income in FY 98-99 was $308,743. Of this amount, $70,371 came from Foundation grants, with these foundations being primarily family foundations. Donations from individuals amounted to $197,675. Of this amount, donations from the 9 individual donors who contributed $2,000 or more amounted to $90,862. MAPS' approximately 1800 other members contributed a total of $106,813 for an average donation of $59, as compared to an average donation of $68 in FY 98-99. Investment income (dividends, interest and capital gains) was $24,194. Sales of the *Bulletin* and books generated $16,502.

The foundation grants came from the following sources: Promind Foundation established by Bob Wallace—$39,371; S. Family Foundation—$10,000, Institute of Noetic Sciences—$6,500; Tarcher Family Foundation—$5,000; PLACE Foundation—$5,000; Zimmer Foundation —$2,500; Heffter Research Institute—$2,000, Odyssey Foundation—$2,000.

The largest donations of $2,000 or more given by individuals were from the following people: Tim Butcher —$21,500, Ami Shinitzky—$18,500, Robert Barnhart—$12,000, John Gilmore—$10,351, Melisa Richardson—$10,000, Andrew Stone—$9,511, Anonymous—$5,000, Anonymous—$2,000.

From an organizational development standpoint, the donations of less than $2,000 from MAPS' approximately 1800 members form the core recurring resource. In FY 98-99, these donations totalled $106,813. In order to increase the stability of MAPS as an organization, it is necessary to increase the number of members who contribute regular membership donations. MAPS added 250 members in this last fiscal year. MAPS conducted a test of a new bulk mail appeal but the appeal was of limited success. This suggests once again the value of word of mouth as a tool for organizational development, and leads me to urge any MAPS readers who are reviewing this document in detail to mention MAPS to their friends.

DETAILED EXPENDITURE REPORT

Total expenditures for FY 98-99 amounted to $280.194. The expenditures have been divided into four categories; research, education, staff and office. In FY 98-99, MAPS allocated $42,318 to research, $107,119 to education, $116,459 to staff and $14,298 to office. By way of comparison, in FY 97-98 MAPS allocated $54,209 to research, $119,982 to education, $100,224 to staff and $14,132 to office. MAPS' individual expense items are discussed below in more detail.

RESEARCH PROJECTS

MDMA Cancer Patient Study – United States

Charles Grob, M.D. is the lead investigator for the proposed study into the use of MDMA in the treatment of psychological distress in terminal cancer patients. MAPS allocated $4,460 to this project. Of that sum, $1,250 went for expenses involved in reviewing the scientific literature for submission to FDA. A neurotoxicity review was started by Matt Baggott and a review of the effect of MDMA on kidney function was started by John Podraza. The remaining funds were allocated to protocol development work, which included expenses involved in assisting Dr. Grob to obtain the latest data on MDMA neurotoxicity at scientific conferences in London and Washington, D.C. After working to support efforts to initiate MDMA psychotherapy research in cancer patients since MAPS was founded in 1986, I think we will finally see FDA approval of such a study before I will be writing next year's annual report.

MDMA PTSD Study – Israel

In FY 97-98, MAPS began the process of trying to

This Annual Report is an invitation for dialogue; MAPS members are encouraged to review it and share with the staff any

catalyze an MDMA/PTSD study in Israel, in association with Dr. Moshe Kotler, Chairman of the Department of Psychiatry, Beersheva Mental Health Center, Ben-Gurion University of the Negev. In FY 98-99, MAPS allocated $6,726 to this project. These costs primarily involved informing Dr. Kotler and his co-investigator, Dr. Adam Darnell, about MDMA neurotoxicity by bringing them to scientific conferences. Both attended a conference about MDMA neurotoxicity in London, at which Drs. Grob and Greer and I joined them. Dr. Darnell (and myself and Dr. Grob) attended a neurotoxicity conference in Washington, D.C. I felt it was essential that Drs. Kotler and Darnell be exposed to the entire range of scientific information about the risks of MDMA. In that way, they would be in the best position to make a fully informed decision about how to proceed with MAPS' proposed study. Fortunately, after hearing the latest information about MDMA neurotoxicity, they felt that the risk/benefit ratio was such that proceeding with the study was still an appropriate course of action.

As reported below in the educational section, expenditures involved in bringing MDMA researchers to Israel to present their data to Israeli health authorities have been allocated to the Israel MDMA conference. As I reported last year, a donation of $12,500 to cover the initial protocol design process of the MDMA/PTSD study was made by MAPS members (my supportive parents) but was routed not through MAPS but given directly to Ben-Gurion University for restricted use for the study.

MDMA Neurotoxicity PET Study – Switzerland

MAPS donated $6,000 to lend partial support to a crucial study conducted by Dr. Franz Vollenweider, University of Zürich, designed to use PET scans to determine whether a single dose of MDMA administered to MDMA-naive subjects would result in any detectable evidence of long-term reductions in serotonin transporter reupdate sites. Dr. Vollenweider and his research team, and Drs. George Ricaurte and Una McCann and their team at Johns Hopkins University, are the only scientists in the world using PET scans to measure serotonin reuptake sites in MDMA users. The primary difference between the approaches of the two teams is that Dr. Vollenweider tests the effect of a single standard-size dose in MDMA-naive subjects, producing data that is directly relevant for determining the risk to subjects from participating in clinical research. Drs. Ricaurte and McCann test polydrug users with a history of hundreds of exposures to large doses of MDMA, among a wide range of other drugs, and compares their results to a supposedly matched control group, generating data that may bear on the risk of heavy recreational use of MDMA.

Preliminary data from Dr. Vollenweider's study suggests that a single dose of 1.5 mg/kg may not produce any measurable reductions in serotonin transporter reuptake sites. This data still needs to be confirmed in larger numbers of subjects and then submitted for publication and subjected to the peer-review process. The results of this study, if they hold up after additional subjects and higher doses are evaluated, can play an important role in reassuring regulatory and review bodies that MDMA research can be conducted without undue risk of neurotoxicity to subjects.

Ketamine Heroin Addiction Study – Russia

In FY 98-99, MAPS donated $8,857 to Dr. Evgeny Krupitsky for the third year of a three-year study of the use of a single session of ketamine-assisted psychotherapy in the treatment of heroin addiction. The study is taking place in Russia at the Leningrad Regional Center for the Treatment of Addiction. MAPS' support for the project was provided by a restricted grant from Tim Butcher.

In addition, MAPS assisted Dr. Krupitsky in the protocol design process. HRI has also donated $5,000 a year for three years to Dr. Krupitsky for this study. The joint sponsorship of Dr. Krupitsky's study by HRI and MAPS is an example of the increasingly collaborative nature of the relationship between these two organizations, both of which are working to support psychedelic research.

All subjects have been tested and the results at the six-month follow-up period have been analyzed and published in this issue of the *Bulletin* (pp. 21). Additional follow-ups at longer intervals will be conducted and submitted for publication to peer-reviewed journals. Dr. Krupitsky's study has yielded promising and provocative results. Dr. Krupitsky and MAPS have begun discussions about the design and funding of additional studies evaluating whether multiple sessions with ketamine-assisted psychotherapy will increase rates of abstinence and/or reduction of drug use patterns beyond that achieved from a single session.

Follow-Up to Dr. Janiger's LSD Research

MAPS spent $11,276 in FY 98-99 for the historic follow-up study to LSD research that was conducted from 1954-1962 by Dr. Oscar Janiger. Follow-up interviews with over 40 subjects were conducted by Kate Chapman. A detailed report on the findings of this study appeared in a recent *MAPS Bulletin* (Vol IX No. 1), and media reports appeared in the Utne Reader, the LA Weekly, and other newspapers around the country. The results of this study provided further evidence that LSD research could be conducted safely and that a significant fraction of subjects in this experiment reported that their LSD experiences

comments, suggestions or questions that they would like to offer. We will do our best to be worthy of your renewed support.

had lasting benefits. The Janiger follow-up study may mark the end in a series of long-term follow-ups to early psychedelic research projects that MAPS has sponsored (see pp. 10 this issue). The data gathered from these follow-up studies provide sufficient evidence of safety and efficacy to justify the initiation of new studies in which psychedelics are administered to patients.

Follow-up to Dr. Bastiaans' LSD Therapy – The Netherlands

MAPS pledged $5,000 and in FY 98-99 donated the first $2,500 to a follow-up study of Dr. Bastiaans' patients treated for PTSD with LSD-assisted psychotherapy. Some of these subjects were concentration camp survivors. The results of this study were published in *MAPS* (Vol IX No. 2). This study provides anecdotal information suggesting that further research into the use of psychedelically-assisted psychotherapy in patients with PTSD should be conducted. MAPS is working on protocol design and has pledged funding for two studies of this sort, one in Israel and one in Spain, both using MDMA in treatment-resistent PTSD patients.

LSD Research – United States

Richard Yensen, Ph.D. and Donna Dryer, M.D., have been working for many years to obtain FDA permission to administer LSD to humans within a therapeutic context. Drs. Yensen and Dryer are now engaged in the process of redesigning a protocol for the use of LSD in the treatment of cancer patients. MAPS allocated $57 for the purchase of a book on outcome measures useful in evaluating psychological changes in cancer patients.

Second Generation Study

MAPS donated $540 to Adele Getty for assistance in protocol design for an interview study intended to gather information from families where the use of psychedelics is openly approved of (*MAPS Bulletin* Vol IX No. 2). This study may shed some light on whether parental acknowledgment of the benefits of the responsible use of psychedelics "sends the wrong message" or acts as a protection against drug abuse in adolescents and young adults.

Salvia Divinorum Meditation Study

MAPS donated $1,500 to a double-blind study examining the use of low doses of *Salvia divinorum* as an aid to meditation (*MAPS Bulletin* Vol. IX No. 2). Though MAPS primarily focuses its resources on the medical aspects of psychedelics and marijuana, this study investigates the more traditional use of psychedelics as aids to spiritual practice.

Marijuana Analysis Project

MAPS and CA-NORML cosponsored a study into the potency of various samples of marijuana sold at medical marijuana buyers clubs around the country. The data support the contention that the potency and quality of the marijuana supplied by NIDA to FDA-approved research protocols is significantly inferior to the marijuana preferred by patients (*MAPS Bulletin* Vol. IX, No. 3).

EDUCATIONAL PROJECTS

MAPS allocated $107,119 to educational projects in FY 98-99. The educational component of MAPS' activity includes the printing and mailing of the *MAPS Bulletin*, the writing, publication and marketing of books, the development of information and searchable databases available on the MAPS web site, organizing and supporting conferences, conducting membership drives, and the associated costs for copies, phones, internet connection, postage, advertisements, books and tapes, and informational materials.

In FY 98-99, as in FY 97-98, educational projects represented the largest category of expenditure. This is due in part to the lengthy and difficult process of securing permission for clinical research, a process which I expect will be less problematic in the future. MAPS' focus on educational projects is also due to our growing recognition that MAPS' educational functions are an important adjunct to research, and that approval for research depends upon public support for such research and the minimization of possibly tragic negative experiences in non-medical users of psychedelics. The educational functions of MAPS thus act as a necessary component of a complete strategy that recognizes the need for the dissemination of accurate, balanced information in support of the education and associated harm-reduction in non-medical users of psychedelics, and the education of the general public on research results from psychedelic and marijuana studies.

MAPS Bulletin

The *MAPS Bulletin* is the major educational project of MAPS. MAPS spent $23,496 printing the *Bulletin*, the envelopes, and the enclosures we sometimes include in the envelope. The mailing of the *Bulletin* also consumed a substantial fraction of the $8,760 spent on postage. The *Bulletin* continues to take a great deal of staff time as well as the donated time and talent of a graphic designer who gives the *Bulletin* its professional look. The annual per-member costs of the *Bulletin* are quite high, in excess of $10 per member (subtracting for the copies of the *Bulletin* sold on newstands and sent for free to key scientists, government officials and media). This figure does not count staff time to produce the *Bulletin*. We feel that this expenditure in communication with our members is well

In partnership with its members, MAPS continues in its efforts to develop socially sanctioned contexts for the

worth the money. Furthermore, the *Bulletin* is also posted on the MAPS web page and is available to a much larger group of people. We welcome comments from members concerning ways to improve the *Bulletin*.

Sandoz Psychedelic Bibliography Project

The Sandoz on-line psychedelic bibliography is a shared project between MAPS, HRI and the Albert Hofmann Foundation. MAPS spent a total of $12,696 in FY 98-99 on this project, with funds donated by Bob Wallace through his Promind Foundation. The goal of this project is to digitize the Sandoz bibliography of all scientific papers published about LSD and psilocybin from their initial synthesis up to 1980, when Sandoz stopped collecting research papers. The on-line psychedelic bibliography is now a very powerful tool and preserves early LSD and psilocybin research in an easily accessible form for future generations of students and researchers.

On-Line Summary of New Psychedelic Research

In a related project, MAPS spent $1,250 to gather, post in the searchable data base, and comment on all new scientific papers about the use of psychedelics in humans that are published in peer-reviewed journals, all clinical studies in humans with marijuana, and results of the most important psychedelic-related animal studies. MAPS has hired Matt Baggott to implement this project, with funding provided by Bob Wallace's Promind Foundation.

MAPS Moderated Electronic Forum

MAPS spent $3,450 on the Forum in FY 97-98. MAPS' on-line discussion group is moderated by Jon Frederick, a neurosciences Ph.D. candidate at the University of Tennessee in Knoxville. Jon has done an excellent job and has built participation to over 1500 people. Jon receives a monthly $300 stipend for his services, and MAPS pays for his internet connection. The Forum is an excellent method for MAPS to communicate with participants in the Forum, many of whom are members but many are not, and for participants to communicate with each other. MAPS continues to believe that it is best to give out information for free, hoping that many will benefit and some will become members to help cover the costs of the service. To subscribe, send a message to maps-forum@maps.org with subscribe maps-forum youremailaddress in the body of the message.

Strassman DMT Book

MAPS is donating $2,000 a month for one year to Dr. Rick Strassman to enable him to have time to write a book on his experiences conducting DMT and psilocybin research. Support for this project comes from a grant from Robert Barnhart. This book will be published by Inner Traditions.

New Edition of Shivitti: A Vision

MAPS donated $1,500 toward the re-publication by Gateways Books of *Shivitti- A Vision*, by Ka-Tzetnik 135633. This book is about the LSD-assisted psychotherapy that Ka-Tzetnik 135633 underwent to help him deal with the long-term emotional consequences of having been in a Nazi concentration camp. This book is available from orders@gatewaysbooksandtapes.com. MAPS helped underwrite the costs of publicizing this book because it is an excellent personal account of the use of psychedelic-assisted psychotherapy in the treatment of PTSD, a use that MAPS is trying to study in the context of MDMA/PTSD research projects in Israel and Spain.

Conrad/Norris Books Projects

MAPS donated $2,500 as a final contribution to Chris Conrad and Mikki Norris for their work in researching *Hemp for Health: The Facts on Medical Marijuana* (by Conrad) and *Shattered Lives: Portraits from America's Drug War* (by Norris, Conrad and Virginia Resner). MAPS received a restricted grant of $2,500 from the Zimmer Family Foundation for these projects. This books can be ordered through local bookstores.

The Secret Chief

MAPS spent $2,280 in FY 98-99 marketing *The Secret Chief* by Myron Stolaroff. The book is a series of interviews with a pioneer of the underground psychedelic psychotherapy movement. MAPS staff member Carla Higdon worked on the promotional efforts. If you haven't already purchased a copy, you can do so through the MAPS web site, by calling the MAPS office or by ordering through your local book store. Only a few copies of the special limited edition of 100 signed copies are still available at $250 each (signed by Albert Hofmann, Stan Grof, Ann and Sasha Shulgin, and Myron Stolaroff). MAPS also had the pleasure of paying Myron $1,914 in royalty payments for writing *The Secret Chief*. While this is not a large amount of money, at least Myron didn't have to write the book only for love. MAPS' costs for publishing and marketing *The Secret Chief* were funded by a $10,000 grant from Bob Wallace, through the Promind Foundation (donated prior to FY 98-99).

Israel MDMA Conference

MAPS spent $5,348 on preliminary expenses for the MAPS-sponsored conference on clinical research with MDMA and MDE, which took place in Israel at the Dead Sea on August 30-Sept 1. This conference represents a major component in MAPS' efforts to obtain permission

time-honored potential of psychedelics and marijuana to facilitate healing, inspiration, creativity and spiritual growth.

for MDMA psychotherapy research in Israel, Spain, the U.S. and elsewhere. Funds for this conference were donated by Jeremy Tarcher, Robert Barnhart, Tim Butcher and Ami Shinitzky. A report on this conference is in this issue, on page 2.

Psychedelic Elders Conference

MAPS allocated $9,966 to the Elders conference in FY 98-99. This conference succeeded in gathering together many early pioneers of psychedelic research where they could reflect on the insights gained from their research, both personal and as experimental subjects, and could strategize on ways to move forward with psychedelic research. MAPS brought Albert Hofmann and Juraj and Sonja Styk, Swiss psychiatrists involved with psychedelic research and treatment in Switzerland, to the conference, and assisted with additional expenses. Funds for this conference were donated to MAPS by Tim Butcher and the Institute of Noetic Sciences.

Direct Mail Membership Drive

In order for organizational expenses (salaries, Bulletins, phone, rent, etc.) to be met by membership fees alone and not also by special donations, MAPS needs to increase its membership to 2,500. The standard methods to build membership are by bulk mail solicitation or advertising. MAPS, in collaboration with HRI, spent $3,789 in FY 98-99 as the last installment of a direct mail campaign that was a dismal failure. About 55,000 letters were sent out to a variety of lists we felt would be more inclined to be sympathetic to research. The only list for which we reached the target of a 1% response rate was from the smallest-sized list. As a result of this response, HRI decided to abandon a shared direct mail campaign with MAPS.

MAPS redesigned the direct mail piece with the advice of professional consultants and spent $9,158 on a subsequent campaign seeking membership only in MAPS. This campaign, while more effective than the previous, still did not obtain the level of response required to justify the continuation of this effort. After MAPS succeeds in obtaining FDA permission for psychedelic psychotherapy research in the United States, research which has not taken place for over 25 years, it may prove easier to motivate people to support MAPS and the projects for which it has managed to obtain approval.

Our difficulties in obtaining new members means that current MAPS members are a rare and unusual group! We need to do our best to ensure that a very high proportion of current members decide to renew each year. MAPS also requests that each MAPS member consider asking just one friend to also join MAPS. If you have any comments or suggestions that you would be willing to share with us about any aspect of MAPS, we would deeply appreciate hearing from you.

MAPS Website

MAPS spent $1,787 on internet functions including connection fees for staff and costs for the MAPS Forum and web site, with secure credit card processing. The MAPS web site has been a very important educational tool and a source of contacts from new members, major funders and researchers. The site has received over 100,000 hits since November 1998. The server space is donated and administered by Jim Petersen of San Francisco. Content is supervised and updated by Sylvia Thyssen and Andrew Stone. The web site underwent a major remodeling in March 1999 thanks to Andew Stone of Stone Design. If you haven't already checked it out, I think you will probably like what you see, at www.maps.org.

Staff

MAPS allocated $116,459 to staff in FY 98-99. Of the amount, $100,134 went for salaries, taxes and health care benefits, while $9,855 went for travel, $2,756 for conference fees and $3,712 for professional fees such as accounting. MAPS has three full-time staff members, Rick Doblin, Sylvia Thyssen and Carla Higdon. We would like our compensation policy to enable MAPS to retain its staff for may years to come, especially since, in my opinion, we all become more qualified as time goes by. This is partially a result of the growth and development in our personal contacts with researchers and members, thereby enhancing MAPS' ability to serve as one hub in the psychedelic community. It is also due to our growing understanding of the worldwide range of psychedelic research projects, research design, and the regulatory approval process.

In FY 98-99, Rick Doblin's salary remained at $30,000 a year with no health care benefits, Sylvia Thyssen received $28,600 with full health care benefits and Carla Higdon received $22,880 with full health care benefits. In recognition of the long-term nature of MAPS' mission and the excellent job done by both Sylvia and Carla, MAPS also makes contributions to a retirement fund for them. These salaries and benefits are under market value for jobs in the private sector with similar responsibilities and required skills. For FY 99-2000, Rick Doblin's salary remains the same, Sylvia's salary was raised to $32,600 and Carla's salary was raised to $26,880.

Office

MAPS allocated $14,298 to office expenses in FY 98-99. Of that amount, $3,966 went for rent. MAPS moved its location from Charlotte, North Carolina to Sarasota, Florida, and incurred $2,980 in moving expenses. $3,923 went for the purchase of a car to be used by MAPS staff on

Current MAPS members are an unusual group of people willing to support efforts to make this vision of the beneficial

MAPS Income/Expenditures FY 98-99

		Research	Education	Staff	Office
MDMA - Cancer / Harbor-UCLA		$4,460.16			
MDMA - PTSD / Israel		6,726.14			
MDMA - PET Study / Switzerland		6,000.00			
Ketamine - Heroin Addiction / Russia		8,857.19			
Janiger LSD Follow-up Study		11,276.88			
Bastiaans LSD Follow-up Study		2,500.00			
LSD - Cancer Patient Study		57.22			
Second Generation Study		540.75			
Salvia Divinorum / Meditation Study		1,500.00			
Medical Cannabis Analysis		400.00			
MAPS Bulletin			$23,496.51		
Sandoz Bibliography Online			12,696.35		
New Research / Web Bibliography			1,250.00		
MAPS Forum			3,450.00		
Strassman DMT Book			6,000.00		
Shivitti Book			1,500.00		
Conrad/Norris Books			2,500.00		
Secret Chief Marketing			2,280.43		
Secret Chief Royalties			1,914.56		
Israel MDMA Conference			5,348.80		
Psychedelic Elders Conference			9,966.00		
MAPS/HRI Membership Drive			3,789.62		
MAPS print ads, membership drives			9,158.38		
Postage			8,760.57		
Copies			2,858.28		
Phones			7,261.77		
Internet connections			1,787.35		
Books and tapes			1,539.23		
Informational materials			1,561.27		
Staff travel				$9,855.02	
Conference fees				2,756.96	
Professional services				3,712.50	
Salary, benefits & taxes				100,134.64	
Office supplies					$2,075.82
Office relocation					2,980.30
Office rent					3,966.84
Computer equipment					74.94
Office equipment					685.24
Car					3,923.58
Fees-bank, etc.					591.45
Subtotals		$42,318.34	$107,119.12	$116,459.12	$14,298.17
TOTAL	$280,194.75				
	FY Totals	Research	Education	Staff	Office
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
FY95-96	185,797.04	84,169.71	46,144.15	48,490.06	6,993.12
FY94-95	133,153.19	48,680.13	35,212.68	42,199.87	7,060.51
FY 98-99 Balance as of May 31, 1999					
Income		$308,743			
Expenditures		$280,194			
Net Assets		$351,701			

Note: $80,000 of net assets are restricted to specific projects and will be disbursed in FY 99-2000

uses of psychedelics and marijuana into a reality. MAPS is deeply grateful for the past generosity of its members.

MAPS-related errands. The purchase of this car was largely paid for by restricted donations from several members.

Summary

Scientifically, FY 98-99 was a year in which several groundbreaking studies were conducted, most notably Dr. Krupitsky's study of the use of ketamine-assisted psychotherapy in the treatment of heroin addicts, and the UC San Francisco study of Dr. Donald Abrams, in which the effects of marijuana in HIV patients is being evaluated. A fascinating study of Salvia divinorum and meditation was started, and a medical marijuana potency study was completed, both at little financial cost. A follow-up study to the LSD research of Dr. Janiger was completed and a follow-up study to the LSD research of Dr. Bastiaans was initiated.

A great deal of energy was spent trying to obtain permission for MDMA research projects around the world, for Dr. Russo's marijuana/migraine study in the United States, and for MAPS' application to have marijuana declared on Orphan Drug for AIDS wasting syndrome. The results of this effort can be seen in the FDA's final approval of Dr. Russo's study, which took place in FY 99-2000, and FDA approval of MAPS' application to have marijuana declared an Orphan Drug for AIDS wasting syndrome, which also took place in FY 99-2000.

MAPS' work on behalf of MDMA research can be measured by whether approvals will be granted in FY 99-2000 for MDMA psychotherapy projects in the United States, Israel and Spain.

Educationally, MAPS reached out to more people than ever through its *Bulletin*, various web site projects, e-mail discussion group, book publication efforts, and membership drive. MAPS supported the Psychedelic Elders conference and began planning a major international scientific conference on the clinical use of MDMA.

Financially, MAPS raised a substantial amount of money that enabled it to support a wide range of projects. MAPS' net assets were $351,701 as of May 31, 1999. Of these assets, $80,000 are restricted to specific research and educational projects and need to be subtracted from net assets when considering MAPS' unrestricted funds available for new projects or organizational expenses. These restricted sums will probably all be allocated in FY 99-2000.

MAPS' work load and range of projects increased, and with it the need to increase the amount of unrestricted donations that MAPS can use for organizational expenses. The disappointing results of the direct mail membership campaign means that MAPS needs to rely on its current members to remain supportive and to assist MAPS staff in outreach efforts to locate new people who share MAPS' vision and goals and are willing to become formally involved as new MAPS members. Current MAPS members are an unusual group of people willing to support efforts to make this vision of the beneficial uses of psychedelics and marijuana into a reality. After MAPS succeeds in obtaining FDA permission for psychedelic psychotherapy research in the United States, research which has not taken place for over 25 years, it may prove easier to motivate people to support MAPS and the projects for which it has managed to obtain approval.

This past year has been one of significant accomplishments, among the most important being the building of a more mutually satisfactory working relationship with the FDA. I hope and expect that FY 99-2000 will see a continued improvement in MAPS' relationship with regulatory bodies around the world.

Comments or questions from MAPS members concerning this annual report are invited. Only with the continued support of its members can MAPS build in FY 99-2000 on the efforts expended since MAPS was founded in 1986. MAPS is deeply grateful for the past generosity of MAPS' membership. We will do our best to be worthy of your renewed support.•

maps announcements & updates

Need help with last patients

The historic study of the Short Term Effects of Cannabinoids in HIV Infection is looking for the final 15 participants to complete the trial.

The goal is to finish enrollment in early 2000, hopefully by February, according to Donald I. Abrams, M.D., Principal Investigator and Professor of Clinical Medicine at the University of California San Francisco. The NIDA funded trial is investigating the interaction of cannabinoids – smoked or oral – with HIV protease inhibitor drugs.

Subjects must be HIV positive with a stable viral load on a protease inhibitor containing antiviral regimen. They must have smoked marijuana in the past, but CANNOT have smoked within 30 days prior to enrollment. Subjects spend 25 days in the inpatient General Clinical Research Center at San Francisco General Hospital. They are randomly assigned after the first four days to either smoked marijuana, Marinol or Marinol placebo. The study agent is administered three times daily before meals for the next 21 days. Two outpatient follow-up visits are also scheduled. Particiapnts receive $1000 for completing the trial.

Of the 64 participants needed to complete the trial, 46 have been enrolled. The study is particularly seeking individuals who are taking indinavir (Crixivan) as their protease inhibitor. Women are also being actively sought. Participants cannot be smoking cigarettes, using methadone or any other Schedule 1 drugs.

If you know of someone who may be eligible and would like more information, please contact the study coordinator at 415-502-5705 for more information.

New FDA-approved psilocybin research needs donations

The first FDA-approved study in more than 20 years to examine the use of psilocybin in a patient population is close to being initiated. The principal investigators, Dr. Pedro Delgado and Dr. Francisco Moreno, University of Arizona, plan to study the use of psilocybin in 10 patients suffering from obsessive-compulsive disorder (OCD). They want to determine if they can replicate in a clinical study several published case reports of patients whose OCD symptoms were reduced after self-experimentation with psilocybin mushrooms.

The researchers still need financial support for hospital and laboratory costs and for an approved supply of psilocybin. These costs amount to $30,000. MAPS is assisting the researchers to raise $30,000 for their study. If you would like to make a tax-deductible contribution to this historic study or would like more information, please contact MAPS.

Ayahuasca: Amazonian Shamanism, Science, and Spirituality

March 17-19, 2000 • San Francisco

This will be the first-ever conference devoted solely to ayahuasca, the visionary plant brew widely used by indigenous shamans in South America for healing and divination. Many groups and individuals from Western countries have participated in ayahuasca ceremonies in the Amazon, often in conjunction with projects for the preservation of rainforest ecosystems and indigenous cultures.

The conference project director is Ralph Metzner, Ph.D., psychologist and editor of Ayahuasca: Hallucinogens, Consciousness and the Spirit of Nature (Thunders's Mouth Press, 1999), a collection of scientific papers and experiential accounts.

Presenters:

J.C. Callaway, Ph.D.
José Campos
Charles Grob, M.D.
Kathleen Harrison
Luis Eduardo Luna, Ph.D.
Dennis McKenna, Ph.D.
Ralph Metzner, Ph.D.
Jeremy Narby, Ph.D.
Jonathan Ott
Alex Polari de Alverga

Panels Include:

Women and Ayahuasca
Medico-Scientific Research on Ayahuasca
Amazonian Cultural Context of Ayahuasca

Sponsored by:

The California Institute of Integral Studies
Website: www.ciis.edu
For information on registering for this event, call 415.575.6290 or e-mail: kathyg@ciis.edu

Introduction to a new psilocybin study

Thomas Heinz, MD
Co-investigators: Michael Schlichting, MD
and Michael Szukaj, MD

Since the 1980s scientists have become intensly re-engaged in researching the basic questions of efficacy, side-effects and toxicity (i.e. in Europe: Gouzoulis, Hermle, Kovar, Vollenweider). Several projects have also begun or are planned on how psychedelics can be used as adjuncts to psychotherapy. A new german study with psilocybin is planned for next year. The influence of synthetic psilocybin (0,2 mg/kg bodyweight) on twenty-four physician volunteers will be explored using psychometric and other tests under special set and setting conditions. Ultimately, the objective of the research team is to explore the utility of psilocybin as an adjunct to psychotherapy and for the self-exploration and training of mental health professionals.

Hanscarl Leuner, the famous German psychiatrist, psychotherapist and former director of the European College for the Study of Consciousness (ECSC) researched psycholytic psychotherapy in the 1960s and 70s. After his official permission to use psychedelics as adjuncts to psychotherapy expired, he tried persistently to re-open the doors for research projects on psychedelics until his death in 1996. The roots of our project reach back to this effort; Leuner was the one who called us together in 1995. In this pilot study we have decided to work exclusively with healthy physicians, because, in Germany, it is much easier to get official permission to start research project with psychedelic substances on human beings when the subjects are medical professionals. These substances are strictly prohibited in Germany. Psychopathological, psychodynamic, pharmacokinetic and metabolic-toxicological examinations will be conducted. We want to make a contribution to the research on the paradigm of model-psychosis and to the biological and psychological research on substance-related dependency. In recent years the use of psychedelics in Europe and other industrialized countries has increased. Thus, the influence of special set and setting patterns on psychiatric and psychological aspects, on affectivity and the motivation for using/abusing psychedelics are other spheres of interest.

The research on the individual motivation for the consumption of psychedelics is of great scientific and public interest for public health and drug abuse prevention strategies. Psilocybin is not a so-called "designer drug," but looking in at its effects, it is comparable. The simultaneous consumption of different psychoactive substances may occur because the motivation to use each drug may be similar in some aspects. The effects of psilocybin on the human body and mind are well known and it seems to be a very safe substance to study when investigating motivations for using psychoactive substances.

Conclusion:

In our viewpoint our project is a continuation of the research of Gouzoulis, Hermle, Kovar, Leuner, Spitzer and others. We are honored by the participation of our board of advisors: Prof. Dittrich, Dr. Hermle, Prof. Kovar and Prof. Scharfetter. It is encouraging to see the resumption of the impressive work of Stan Grof and others, who assisted "the human encounter with death" with psychedelics in the past. Looking at the Internet it seems as if there is a psychedelic research revival all over the world. The short acting designer psychedelics (for example CZ-74 and LE-25) are especially interesting, because of their ability to provide the positive aspects of psychedelic expriences with minimal negative side effects. I hope that we will be able to explore other new short acting-psychedelics in the following years that could be useful as adjuncts to psychotherapy. •

Contact: t.heinz.oberbergkliniken@t-online.de

Update: Salvia Divinorum Experiment

IN THE DOSE establishment phase of this study we have tested subjects on 1/2 gram, 1.0 gram, 1.5 grams and 2.0 grams of dried and crumbled *Salvia divinorum* leaves. We had a hard time coming up with a placebo. Dried comfrey leaves are a very close duplicate, but they lack the bitterness of *Salvia.* We had a breakthrough in July when we found that if you wash dried and crumbled *Salvia* leaves in two changes of water—2 full glasses of water per gram—the bitterness of it is gone. The active ingredient Salvinorin-A is insoluble in water. When treated in this way you cannot tell *Salvia divinorum* from comfrey leaves prepared in the same way.

Almost everyone liked the 1.0 gram level for meditation. The half-gram dose was rarely detected by anyone. The 2.0 gram dose was too strong for meditation. Effects from the dried *Salvia* leaves soaked and washed in water and then placed under the tongue were as follows. The actual technique is to chew the leaves every five minutes or so and return them to under the tongue.

0.5 grams… half of the subjects noticed a slight effect... a clearer than normal mind that is free from distractions. The other half noticed nothing at all.

1.0 grams… everyone noticed it when they were in a quiet room with no distractions. Mind is clear and meditation is unusually easy with few distracting thoughts. This dose was only detected by anyone when they were trying to meditate. The effect made it easier tc oncentrate without thoughts… a definite plus for meditation. If they, however, listened to music or did some activity they could not notice any effect at all.

1.5 grams… half of subjects notice a trance like state beginning to happen. Effect is slight but it inhibits meditation for some.

2.0 grams produced a slightly trance like effect for some people with time distortion. Generally people found that level too strong for meditation. The effect was enjoyable however… a bit dream like and time seemed to slow down.

So those are the casual results from the dose establishment phase of the study. The next step will be the double blind study.

Ian Soutar
soutar@horizon.bc.ca

New ketamine study published

Anesthesiology 1998 Jan;88(1):82-8
Psychedelic effects of ketamine in healthy volunteers: relationship to steady-state plasma concentrations.
Bowdle TA, Radant AD, Cowley DS, Kharasch ED, Strassman RJ, Roy-Byrne PP
Department of Psychiatry, Harborview Medical Center, University of Washington, Seattle 98195, USA. Contact: bowdle@u.washington.edu

Background: Ketamine has been associated with a unique spectrum of subjective "psychedelic" effects in patients emerging from anesthesia. This study quantified these effects of ketamine and related them to steady-state plasma concentrations.

Methods: Ketamine or saline was administered in a single-blinded crossover protocol to 10 psychiatrically healthy volunteers using computer-assisted continuous infusion. A stepwise series of target plasma concentrations, 0, 50, 100, 150, and 200 ng/ml were maintained for 30 min each. After 20 min at each step, the volunteers completed a visual analog (VAS) rating of 13 symptom scales. Peripheral venous plasma ketamine concentrations were determined after 28 min at each step. One hour after discontinuation of the infusion, a psychological inventory, the hallucinogen rating scale, was completed.

Results: The relation of mean ketamine plasma concentrations to the target concentrations was highly linear, with a correlation coefficient of $R = 0.997$ ($P = 0.0027$). Ketamine produced dose-related psychedelic effects. The relation between steady-state ketamine plasma concentration and VAS scores was highly linear for all VAS items, with linear regression coefficients ranging from $R = 0.93$ to 0.99 ($P < 0.024$ to $P < 0.0005$). Hallucinogen rating scale scores were similar to those found in a previous study with psychedelic doses of N,N-dimethyltryptamine, an illicit LSD-25-like drug.

Conclusions: Subanesthetic doses of ketamine produce psychedelic effects in healthy volunteers. The relation between steady-state venous plasma ketamine concentrations and effects is highly linear between 50 and 200 ng/ml.

Report from DanceSafe

Laboratory Analysis Program Reveals DXM Tablets Sold as "Ecstasy"

Emanuel Sferios — eman@tsoft.com

THIS SUMMER was enormously successful for us. We now have local chapters in the San Francisco Bay Area, Seattle, and Vancouver. Donations have been steady and have enabled us to provide our laboratory pill analysis service for free to US residents. We have distributed over 250 Ecstasy Testing Kits to users across the country, and have successfully implemented an on-site pill testing program in the Oakland rave scene. The onsite testing program has contributed to a measurable decrease in the number of fake and adulterated ecstasy tablets, as well as the number of medical emergencies, in the Bay Area. Below is a summary of our programs and accomplishments.

Laboratory Analysis Program

Last Spring we launched a laboratory pill analysis program whereby US residents can anonymously send street ecstasy tablets to a professional lab for qualitative analysis using full-scale gas chromatography. The results are posted regularly to our website (www.harmreduction.net/dancesafe).

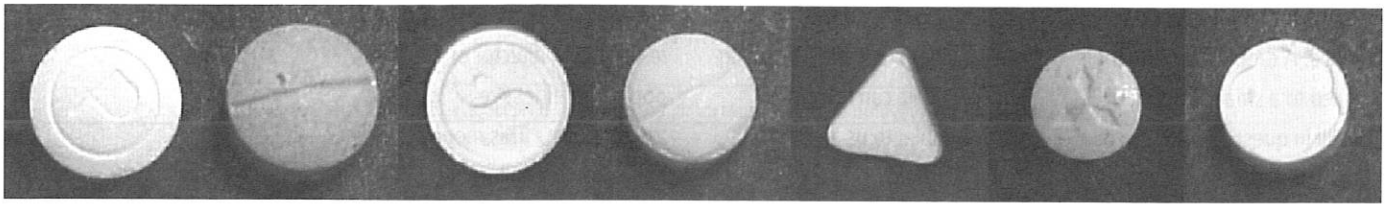
Since July the laboratory has received twenty-eight pills from cities around the US including San Francisco, New York, Los Angeles, Philadelphia, Phoenix, Nashville, Seattle, Orlando, San Antonio, Oakland, St. Petersburg (FL) and Birmingham.

Of these twenty-eight pills, fifteen contained entactogenic compounds. Eleven of them were pure MDMA, while one contained MDMA and caffeine, one contained MDE only, one contained MDA only, and one contained a combination of MDMA and MDE. Of the remaining thirteen, three contained no drugs at all, one contained only caffeine, one contained a combination of Guaifenesin and Ephedrine, and the remaining eight contained only Dextromethorphan (DXM).

The prevalence of DXM tablets on the ecstasy market is of particular concern. DXM is a cough suppressant that in high doses is a dissociative similar to ketamine. We had been receiving numerous emails from ecstasy users reporting extremely unpleasant experiences from supposed ecstasy tablets, particularly a brand known as "green triangles" which had surfaced everywhere around the country. Users who had taken these pills reported nausea, delerium, itchy skin, loss of motor control, and audio and visual hallucinations. Effects were reported by some to have lasted 36 hours or longer, particularly in users who had taken multiple pills. Some users reported that they or their friends had been hospitalized after taking these pills, and the Dancesafe volunteers personally witnessed over a dozen medical emergencies requiring hospitalization in Oakland where users had consumed the green triangles.

The rumor going around was that these pills contained heroin and/or mescaline. After testing five of these pills at the laboratory we discovered that they contained high doses of DXM (averaging 127mg per pill). We immediately posted warnings on our website and through various rave email lists. While relatively safe in the proper dosage and environment, an overdose of DXM in a rave setting, particularly by someone not expecting the drug, can be dangerous. Furthermore, DXM is contraindicated with MDMA. It is a both a serotonin releaser and a reuptake inhibitor, as well as being metabolized by the same liver enzyme as MDMA, thus preventing the proper

The "yin yang" pill below contained MDE only. The "mitsubishi" contained caffeine only. The "wildflower" (far right) contained MDA only. All other pills pictured below contained DXM only. A brand known as "green triangles" which contained DXM only surfaced everywhere around the country. Users who had taken them reported nausea, delerium, itchy skin, loss of motor control, and audio and visual hallucinations.



breakdown of MDMA. Furthermore, DXM inhibits perspiration, elevating body temperature. Combining DXM and MDMA, therefore, significantly increases ones chance of "serotonin syndrome," a rare but potentially fatal condition. We witnessed a number of serotonin syndrome occurrences involving accidental DXM/MDMA combinations, and there are a number of documented cases of serotonin syndrome resulting from people who had taken DXM-containing cough syrup while on MAOIs or SSRIs, two types of serotonin-affecting anti-depressants.

DXM is cheap and legal, which is probably one of the reasons it has become such a common adulterant on the lucrative ecstasy market. It is our hope that as information about the dangers of DXM-laced 'ecstasy' tablets becomes known, its prevalence on the ecstasy market will decrease.

One positive discovery we made is that DXM is identifiable using the Marquis reagent Ecstasy Testing Kits, available through our website. Users can thus use these kits to screen against DXM-adulterated pills.

Ecstasy Testing Kits

An ecstasy testing kit consists of a chemical called "Marquis Reagent," which can be used to identify the presence of amphetamine-like compounds. A drop of the reagent is applied to a small scraping of the pill in question and the color change is observed. If an entactogen is present in the pill (MDMA, MDA, or MDE), the reagent will turn black or dark purple very quickly. If the pill contains only speed (amphetamine, methamphetamine, or ephedrine) the reagent will turn orange. 2CB causes the a yellow/green reaction, and DXM will cause the reagent to emit smoke and then slowly turn black after a distinctive initial delay of five to seven seconds.

Since launching our testing kit distribution program in July, we have distributed almost 178 kits to users in 27 States and Canada, and almost 100 more to Bay Area users. Each kit contains enough reagent to test about 150 pills. Users have reported success in screening against fake pills, including the many brands of DXM-laced pills on the market.

On-site Testing

Perhaps the most successful harm reduction program we have undertaken is an on-site testing program within the massive Oakland rave community. Almost every weekend enormous rave parties take place in Oakland, with anywhere between 4,000 and 12,000 people attending. We staff harm reduction booths at these events where, along with answering questions and distributing literature on the safer use of ecstasy and other dance drugs, we provide an on-site pill testing service. Users can bring their ecstasy tablet to us and we will test it for them using the Marquis reagent kit (we only need to scrape a tiny bit off the pill). We keep records of all the pills we test, and over the last four months have begun to notice a decrease in the number of fake pills being sold.

Most of the fake pills users bring to us at these raves were sold to them by scam dealers inside the rave. After we tell them that there is no ecstasy-like substance in the pill (and/or whether it contains or DXM) they will usually run off to find the person who sold the pill to them and try to get their money back. Oftentimes they do, after which they return to our table and thank us. At one particular rave on September 18, we tested 40 fake pills, 26 of them DXM-laced green triangles. We helped all of these people avoid ingesting the fake pills, and many of them were even able to get their money back. One of the scam dealers was ejected from the rave by a group of angry users. In another By placing direct pressure on the scam dealers in this way, our on-site testing program has contributed to a noticeable reduction in the number of fake pills being sold in the Oakland rave scene.

Funding

July was a turning point in our funding situation when we received a $10,000 donation from Paul Phillips, San Francisco resident and director of the popular internet site "go2net.com." This money helped us jump-start our laboratory testing program (the lab charges $110 for each pill analysis) and also provided us with start-up funds to begin our testing-kit distribution program, which has become a steady source of funding in itself. Special mention must be given to MAPS as well, who is our non-profit sponsor and who donates to us the use of their secure internet server. •

DanceSafe: *Promoting Health and Safety Within the Rave and Nightclub Community*
www.harmreduction.net/dancesafe

1999 UPDATE

Heffter Research Institute

Heffter Research Institute
Research at the Frontiers of the Mind

The Heffter Research Institute: New Swiss Program

The Heffter Research Institute has been in the process of setting up a clinical research program on psychedelics in Switzerland. Swiss authorities are open to research designed to test the efficacy of psychedelic medicines for therapeutic use in human beings, and have welcomed our efforts. We now have an agreement with the Psychiatric University Hospital at the University of Zürich to set up a Heffter program as an official part of the University's Department of Psychiatry. The agreement will allow us to build a solid and long-term research program with a team of in-house researchers. Dr. Franz Vollenweider, who is a professor of psychiatry at the University and a longtime collaborator with Heffter (and recently elected to the board of directors), is the Medical Director of the Heffter Swiss program. He has been supervising the development of a protocol for the first study in the new Heffter Swiss clinical research program.

Slated to begin in the spring of 2000, the study will involve patients with depression. It is designed to test whether experiences of temporary ego dissolution, medically facilitated through the use of a psychoactive agent, can ameliorate depression in a sizable population of patients. If the results are positive, the study will demonstrate the medical efficacy of psychedelic therapy in a robust way, according to the most stringent contemporary research designs available.

In very general terms the psilocybin study will work this way: patients with depression will be enrolled in a double-blind placebo-controlled study in which they will be treated on four occasions with psilocybin or an active placebo in a group setting with a trained psycholytic psychiatrist. The acute experiences of each patient will be assessed using a well-validated scale, the Altered States of Consciousness scale; the clinical status of each patient will be monitored using established clinical scales and blind raters. Preliminary studies have demonstrated robust changes in measures of ego dissolution using this approach in normal volunteers. The study will be supervised by Dr. Vollenweider, and will be a cooperative effort with a group of Swiss psycholytic psychiatrists who are experienced in administering psychedelics. This study will have a very tight experimental design, rigorous assessment measures, and careful data analysis.

We hope that this study will lead to the Swiss government granting a license to do psychedelic psychotherapy. Such a license was in place in Switzerland at one time, but the government has requested new evidence of efficacy before it can be re-issued. This study is designed to provide such evidence.

The study may open the door to further studies that, for example, use PET scans and MRI imaging to investigate and map the brain states associated with transcendent experience. A long-term research goal at Heffter is to answer this question: from the point of view of neuroscience, what is the nature of the "self" that dissolves in transcendent experience, what are its neurobiological substrates in the brain, how does this "self" reconstitute when the subject leaves the state of illumination, and in what way is this "self" different after such an experience? Answers to these questions should provide important information that leads to better understanding of how different states of consciousness may, for example, further healing and affect character formation and personality.

The coming year will be an exciting time for Heffter, as the new Swiss clinical research program comes on line, and begins to produce results. We will keep you informed! •

David E. Nichols, Ph.D. • President, Heffter Research Institute • E-mail: drdave@pharmacy.purdue.edu
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From Eleusis to PET scans: **the mysteries of psychedelics**

David Nichols, Ph.D.

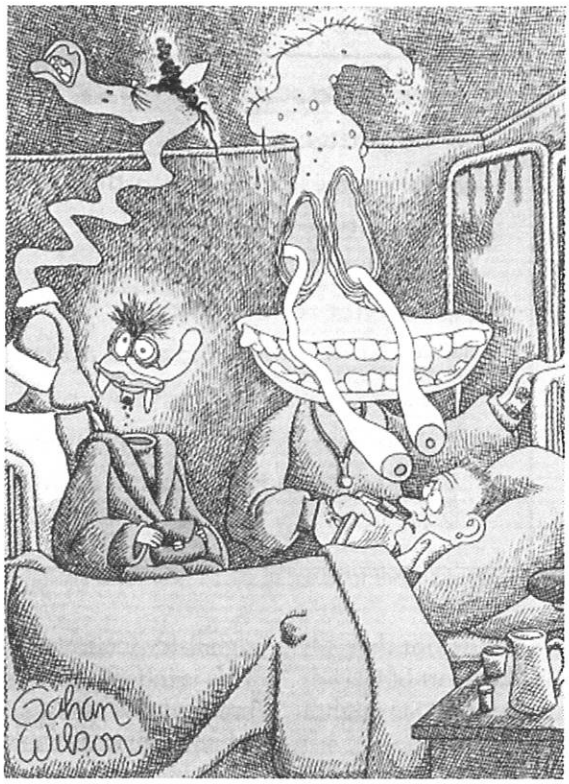
This article is adapted from an after-dinner talk given by David E. Nichols, Ph.D. on Tuesday, November 10, 1998 to the Serotonin Club at the annual meeting of the Society for Neuroscience in Los Angeles, CA. This is an international club of scientists who research all aspects of serotonin and its role in the brain and normal physiology.

WE ARE TALKING tonight about psychedelic agents. These are the same drugs that were initially known as psychotomimetics. Sometime in perhaps the early to mid-1970s it became politically correct to call them hallucinogenic agents or hallucinogens, and then with the seventh and eighth editions of Goodman and Gilman*, Jaffe has told us that in fact it is now politically correct to call these drugs psychedelics in scientific contexts. I haven't actually seen that transformation occur in the formal scientific literature but psychedelic is the term by which all these drugs were known to the lay public and continues to be used by the lay press. So tonight I am going to take the liberty of using the term psychedelic and this perhaps will be one of the first presentations in quite a few decades to use this term liberally at a scientific meeting.

LET ME START OFF by suggesting that a significant number of the people in this room tonight and indeed a significant percentage of serotonin researchers worldwide first gained their interest in serotonin through some association with psychedelic agents. For some people it may have been as a participant in a legitimate scientific clinical experiment, others may have done some personal experimentation during the 1960s. Perhaps others read some of the rich and interesting literature describing the powerful effect on the psyche of these drugs and developed an academic curiosity, or perhaps still others developed an interest through the drug abuse aspect, "Why do people enjoy taking these drugs?" Whatever the motivation, I would still assert that a significant percentage of the serotonin researchers in the world today developed their research focus through some connection to psychedelic drugs. Certainly I think there would be no debate among us that the high degree of structural similarity between LSD and serotonin, the natural neurotransmitter, was a clear motivation very early on to consider that serotonin played a powerful and important role in brain behavioral states.

Psychedelics didn't just spring on us fully formed in the 1960s. They have a long, rich, and well documented history. Unfortunately, it seems as though that knowledge has not come forward to us at the present time. I guess I first became aware of this on a plane trip that I took perhaps ten or twelve years ago where I was seated next to a psychiatrist. This psychiatrist and I talked about our research interests and when I mentioned some of the earlier clinical studies that had

* *The Pharmacological Basis of Therapeutics*, a standard reference text on the action of drugs



"Those pills you took may cause some visual distortion."

been done with LSD he was simply aghast. He just couldn't believe that LSD had ever knowingly been given to humans. What I hope to do tonight is to bring some of that ancient knowledge, if you will, into the 1990s, to give us a perspective as to why these drugs are important in the first place, why they motivated many people to do research with serotonin, and why they are still an important research area.

Psychedelics have had a profound effect on our culture. They have affected music, art and philosophy. We probably don't appreciate the extent to which psychedelics have affected our culture and our society. If you were to walk down the street and a colleague pointed to some poster or picture or article of clothing and said, "Wow, that is really psychedelic," most everyone here tonight would probably understand what he meant. Psychedelics did have a profound effect on our culture, probably in ways that we couldn't even begin to quantify today because it was so broad and widespread.

An old Playboy cartoon (above), is meant to illustrate what most people think of when they think of hallucinogens or psychedelics. Here we have a physician giving medication to a patient, telling the patient those pills he just took may produce some visual side effects. Of course what the patient is seeing is a bizarre array of hallucinated characters. His wife's head is floating, the nurse's neck is all misshapen, and this is probably what most people think about when they think of an hallucinogen. However, psychedelics or hallucinogens don't reliably produce hallucinations. I like the definition that Jaffe used for psychedelics in Goodman and Gilman. He said that they are drugs that produce changes in consciousness which normally occur only during dreaming or at times of religious exaltation. It is worth taking just a minute or two sometime to think about the definition of a drug class like that; it is really pretty profound if you think about it.

Now, why would we be interested in psychedelics? The conventional wisdom is they are nothing but drugs of abuse. Actually, I don't think that is the case at all. Here is a list of things that potentially would be interesting to look at or areas of study where psychedelics might be very important.

Cognitive functions and sensory processes

These drugs have a profound effect on normal cognition. How do they produce that effect? That obviously would be something very interesting to explore. Stan Grof has defined these drugs as non-specific amplifiers of unconscious processes. Normally we don't know much about the subconscious, but obviously if we have a drug that amplifies the subconscious this would be an interesting thing to study.

Study of personality and dreams

What is personality, where does it come from, what are the different phases and the different times in life that lead to personality development? Again, an amplifier of the subconscious or the unconscious mind might be revealing in studying personality. What about the processes involved in dreaming? I read an interesting paper many years ago by Clara Torda who had put volunteers in a sleep lab, acclimated them on one night and then the next night began an intravenous infusion a very low dose of LSD. What she observed was that the LSD produced an immediate bout of REM sleep. What kind of dreams were produced? Were they lucid dreams, were they different in any way from normal dreams? We don't know. It has been conventional wisdom that both from an EEG standpoint

AREAS OF POTENTIAL INTEREST

- Cognitive functions; sensory processes
- Processes involved in dreaming
- Structure & development of personality
- Use in obsessive-compulsive disorder
- Convict rehabilitation
- Alcohol and Substance abuse
- Pain relief in intractable pain
- Depression in terminal illness
- Parallels to near-death experiences
- Theories of "mind"

and even from a descriptive, subjective standpoint that oftentimes the effect of psychedelics is like a sort of conscious dream. So here's another area where LSD might be used, to study dreaming.

Obsessive/compulsive disorder

This is a very interesting application where psychedelics might be useful. OCD is an extremely difficult disorder to treat. There are a number of anecdotal reports involving remission of OCD symptoms after psychedelics, and in one case a complete cure. I recall the report from a Scandinavian psychiatrist years ago that involved a severe obsessive/compulsive patient who was given LSD over a period of some months, in the absence of any structured psychotherapy. The paper was a report of a ten-year follow-up. The individual was completely free of obsessive/compulsive symptoms and by all accounts had a better personality than at any prior time in his life.

Convict rehabilitation

There was a tantalizing study done by Tim Leary years ago (see this issue p.10).
A recent retrospective has shown that the data were not properly manipulated, shall we say. But suppose it was possible to use psychedelics in the context of convict rehabilitation. We have the highest incarceration rate of any developed nation in the world and our solution to crime seems to be to build more jails and hire more policemen. That just simply cannot go on. We need a different approach to treating social deviance. Here is a possibility that would be tremendously cost saving in our society.

Alcohol and substance abuse treatment

Although the studies with alcoholics seem to suggest that LSD was not particularly effective, some of the researchers reported that in certain patients they got dramatic recoveries. I think here is a case where the signal-to-noise ratio really needs to be examined carefully. This is in fact a problem with a lot of the studies with psychedelics. What you had were a few people in a study who had dramatic remission of symptoms but when lumped together with the whole cohort of subjects that signal, if you will, was lost in the noise and the overall study was reported as non-significant. I'll get back to that in a minute when I talk about what I think the paradigm should be for these drugs.

Pain management

Relief from intractable pain, pain relief in terminal illness, depression in terminal illness, these are all related. Many people don't realize that one of the most well documented uses for LSD was in the treatment of terminal patients. Early studies going back to those of Eric Kast in the mid 1950s showed that LSD was as effective as narcotic analgesics. Interestingly, the analgesic effect transcended the acute effect of the drug so that a comparison of LSD with a conventional narcotic like Demerol showed first of all that LSD was more effective acutely. Whereas the narcotic analgesic wore off within a period of hours, in many cases the analgesic effect of LSD went on for one or two weeks. Kast remarked on this and it eventually led into fairly extensive studies of terminal patients at the Spring Grove Hospital with Al Kurland, Charles Savage, Bill Richards, and Stan Grof. This would be a definite research area to open back up with psychedelics where effectiveness has already been well documented.

Near Death Experience

This is an area that I think is really interesting. Grof has formally pointed out this relationship but many people have commented on the parallel between the psychedelic experience and the near death experience (NDE). Probably most of you know what an NDE is but for those of you who don't let me just quickly tell you. It

"Here take these, I'd like to see what they do to you."

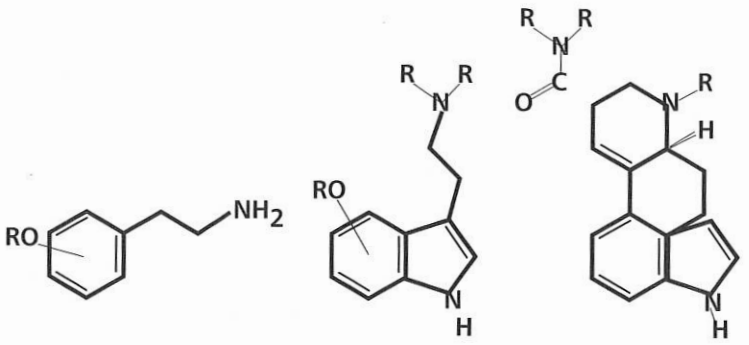
occurs when someone is pronounced clinically dead and then subsequently through some means the person is resuscitated. And it is sometimes the case that when those people are resuscitated they describe a memory of going—this would be a typical description—of going through a dark tube and emerging out into a bright light, being filled with light, being filled with a sense of ecstasy or love or often seeing heavenly messengers and hearing angelic singing, sometimes seeing long dead relatives or family members who come and greet the person. People who have this sort of NDE in many cases or most cases are convinced that they have seen the other side of death. That has demonstrated positive personality effects. These people often develop a zest for life. They have lost their fear of death. They become much more outgoing. They seem to experience life more fully. This has been very well documented in many cases and Grof has said that psychedelics can produce what he calls a "ritual encounter with death." People who have a near death experience often undergo powerful transformative changes. People who undergo a peak psychedelic experience—the type where they have a sort of drug-induced near death experience, if you will—these are the people who undergo the powerful personality changes. In the early days of psychedelic research researchers didn't fully appreciate that. They used low doses of psychedelics that produced distortions of the senses and changes in image processing and cognition. Most clinicians tried to use that state to facilitate a sort of cognitive therapy; to have people look at their pasts and introspect and so forth. But the people who had a peak experience—this parallel to the death experience—were the ones who were most often significantly helped. Certainly in the terminal cancer patient studies that was the case. I think that is the paradigm that has to be used and it is what many researchers in those earlier days failed to appreciate up until about the very end; that you have to bring about a powerful transformative experience to get personality change and a significant therapeutic effect. That is what I referred to earlier about the signal-to-noise ratio. This transformative experience is the "signal" that you need to find, but it was obscured in the "noise" of all the subjects who did not experience this effect of the drug. In all the early studies, one wonders what the results would have been if subjects who experienced this "peak experience" had been analyzed separately from those who did not.

Study of the mind

A final use for psychedelics is simply to study the mind and to develop theories about mind and the mind-brain relationship. I have a humorous cartoon—these are often sent to me by colleagues—in which the physician gives medication to the patient saying, "Here take these, I would like to see what they do to you." This represents the wishes of psychedelic researchers like myself. We really don't have a good model for understanding the clinical effects of these drugs.

Available research model

The best animal model we have right now is probably the two lever drug discrimination. In this model a rat is trained to discriminate between an injection of saline and a drug like LSD, for example. After the animal reliably learns to discriminate LSD from a saline injection he is administrated some new experimental drug and by observing which lever the animal presses one concludes that the animal is saying this drug was either like the training drug, that is, like LSD or was not like LSD. I have sort of a comparison between the rat and the human experience. In the rat "dialogue" the researcher says to the rat, "What does it feel like?" and the rat can only say, "It feels like LSD," or "It doesn't feel like LSD." The human experience on the other hand is quite different. When the researcher says, "What does it feel like?" the human subject is just as likely to reply, "I was a witness to the Creation, I died and was reborn, it changed my life." You



Three Basic Types of Hallucinogen Molecules

can see that the type of animal data we have is a pale, pale reflection of what we would like to see in clinical studies of psychedelics.

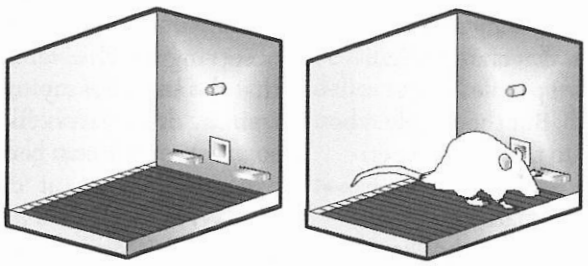
What I am really focusing on are what I would call the classical psychedelic agents. These are compounds that fall into these three chemical categories that are all serotonin agonists. On the left [above] we have the simple phenethylamines, the prototype of these would be mescaline. In the center we have the tryptamines, N,N-dimethyltryptamine and 5-methoxy-N,N-dimethyltryptamine. Psilocybin and psilocin would be the components of "magic mushrooms." They are hydroxylated or oxygenated. Then on the right are the lysergic amides, which are the most potent class and of course where the "R" groups are two ethyl groups, you have lysergic acid diethylamide or LSD. These are the classical psychedelics and for those of you that follow the 5HT2A receptor literature, these are all believed to exert their effects primarily by stimulating serotonin 5HT2A receptors.

PET scan research

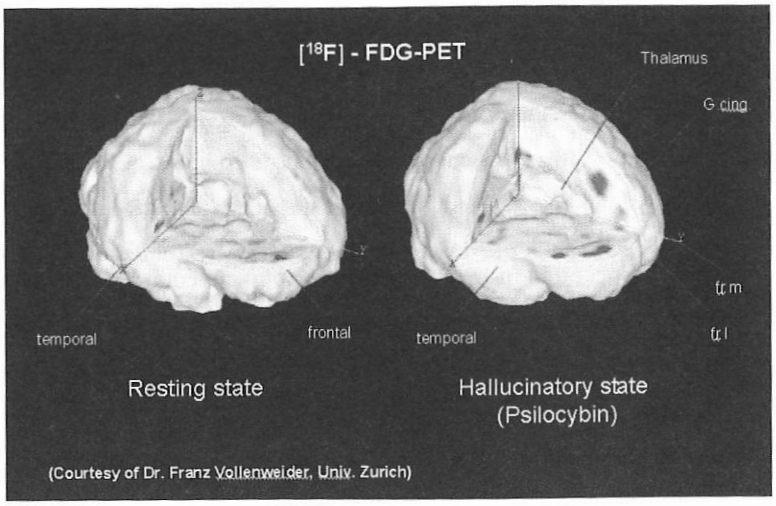
I did promise in the title to talk about PET scans. Unfortunately there isn't much of this work being done but there is one laboratory right now in the world where cutting edge research is taking place. It is the laboratory of Dr. Franz Vollenweider at the University of Zürich Psychiatric Hospital. This slide is from some of his work showing a fluorine-18 fluorodeoxyglucose (FDG) PET experiment. On the left (facing page), we have a PET scan of a normal human and on the right a PET scan of the brain of a subject who is taking psilocybin. What you can see is the areas where the fluorodeoxy glucose has been taken up, where higher brain metabolism is occurring, and with psilocybin in the frontal cortex and thalamus it is a really high level of FDG uptake. As you can see, it is possible to do some really interesting research with psychedelics, just not too many people seem to be interested in doing it for some reason.

Finally, another cartoon sent to me by a psychiatrist friend: In this case we have the physician with a whole desk full of boxes and bottles of medication telling the patient, "One of these should make you feel better, be sure and let me know which one it is." This is the kind of situation we are faced with now. Due to the chemistry and pharmacology work in a number of laboratories we have quite a number of these molecules that have, at least in the animal model, LSD-like effects. What we don't know is what their clinical effects would be, or which of these might be useful for particular therapeutic indications. We have a plethora of different molecular structures and we really don't have a clue as to what value they might have or what effects they might produce.

I would like to end with an e-mail message that was sent to me by a colleague of mine a couple of weeks ago. He is a fellow that goes around giving workshops on herbal medicine. At one workshop he had a fellow come up to him and relate this story to him. This is what he said, "One of the fellows at the workshop had been afflicted with severe dyslexia when he was a child. He described to me how the letters would just seem to float off the page and get all mixed up in his



Two-Lever Drug Discrimination Paradigm



head. He had a lot of social problems because of this. He was considered the dummy and was outcast because of this. He started taking LSD when he was around 15 or 16 and he described how over the course of a series of sessions he was able to 'look inside his brain.' He had been formally diagnosed as being brain damaged and while under the effects of LSD 'understood how things were wired' and those were his words. Then in one particularly high dose and harrowing session he described to me how he had discovered 'all these unused filing cabinets in a different part of his brain.' He said he was able by an act of will to somehow download the language software from the damaged language centers and transfer the functions to this unused newly discovered or understood part of his brain. After that he said he had no more problems. Suddenly, words on a page made sense, they stayed put and no longer floated away." Well, I realize that isn't the report of a double blind placebo controlled clinical study but the literature is replete with anecdotal first person accounts just like that. And if only a small percentage of those accounts represent the real potential of psychedelic drugs, aren't we missing out on something very profound and fundamentally important by not pursuing a more extensive research effort with these fascinating compounds? •

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"One of these should make you feel better, be sure and let me know which one it is."

The Hofmann Report

MESSAGE FROM THE PRESIDENT

Since its inception in 1988, The Albert Hofmann Foundation has been presided over by Robert Zanger, Michael Gilbert, and Ron Brettin. Each has seen the Foundation through changing fortunes and has guided it to its current presence on the World Wide Web. It is now my turn to work with our Chairman of the Board, Dr. Oscar Janiger, our Secretary, Dr. John Beresford, and our Treasurer and Website Editor, Myron Stolaroff to increase our presence in cyberspace and continue informing the readers of the MAPS Bulletin as to the activities of the Foundation.

I thank Ron Brettin for all his time and effort as President and Michael Gilbert for his recent attention to our board. I hope to do as well and bring my business experience to the tasks at hand.

Kathy Janiger, President

STANISLAV GROF, M.D. ADVISOR TO THE ALBERT HOFMANN FOUNDATION

We are pleased in this report to introduce another of our outstanding advisors, Stanislav Grof. Stan has probably done the most research of psychedelic therapy of anyone in the world, and is generally viewed as the world's top expert in this field. He has also been the clearest, most informed speaker in defining the true nature and value of psychedelic experiences, and the basis for their widespread misunderstanding. In addition, he is a key contributor and supporter to the founding of the Transpersonal branch of psychology. Ken Wilber, whom I personally think has one of the greatest minds on the planet, and despite some personal differences with Stan, had this to say: "Stan Grof is arguably the world's greatest living psychologist. He is certainly a pioneer in every sense of the word and one of the most comprehensive psychological thinkers of our era." (Wilber, K. 1996. Stan Grof and Perinatal Redux. *Revision*, Fall 1996, Vol. 19, No. 2, page 16.)

A brief review of his history reveals his qualifications as an outstanding spokesman in this field. Stan was brought up in Prague, Czechoslovakia, where he received his training in medicine and psychology. Early in his schooling he was fascinated by the work of Sigmund Freud, which led him to apply to medical school. While he was enthused about the theoretical aspect of psychoanalysis, he became increasingly disappointed with its potential as a therapeutic tool. The meager clinical results did not justify the enormous investment of time, money, and energy. Just as he was having misgivings about his choice of careers, he volunteered for an experiment with LSD provided by Sandoz Corporation. The profound mystical experience that resulted completely changed his life, generating a vivid interest in non-ordinary states of consciousness that has been the guiding element of his life to this very day.

With this new awakening, Stan became involved in the study of non-ordinary states of consciousness. Early on he became aware that what was being studied was not "experimental psychosis," as was so extensively accepted by other investigators in the psychedelic field, but the depth of the human psyche. He explored the properties and therapeutic potential of LSD and other psychedelics for a number of years in Prague. He continued this work in the United States at Johns Hopkins University in Baltimore and the Research Unit of Spring Grove State Hospital in Catonsville, Maryland. At Spring Grove, controlled clinic studies of psychedelic therapy were conducted with a variety of subjects – neurotics, alcoholics, drug addicts, dying cancer patients, and mental health professionals. This was the last sanctioned work before the complete government shutdown of research and the passage of the Comprehensive Drug Abuse Prevention and Control Act of 1970, which essentially made all known psychedelics illegal to possess.

Stan retired to Esalen Institute in 1973 to work on two books based on his research. Among his publications are over 100 papers in professional journals and the books: *Realms of the Human Unconscious*; *The Human Encounter with Death* (with Joan Halifax); *LSD Psychotherapy*; *Beyond the Brain*; *The Adventure of Self-Discovery*; *The Holotropic Mind*; *Books of the Dead: The Manuals for Dying and Living*; *Beyond Death*; and *The Stormy Search for the Self* (the last two with Christina Grof).

The culmination of Stan Grof's research and observations is perhaps best presented in a recent paper in the *Journal of Psychoactive Drugs*, Volume 30, Number 4, October - December 1998, an issue devoted to the Therapeutic Use of Hallucinogens. Stan's paper is Human Nature and the Nature of Reality, pages 343-357. The following passages in quotes are taken from this article. In the Abstract, Stan states: *"This research has generated a plethora of extraordinary observations that have undermined some of the most fundamental assumptions of modern psychiatry, psychology, and psychotherapy. Some of these new findings seriously challenge the most basic philosophical tenets of Western science concerning the relationship between matter, life, and consciousness."*

For discussion, Stan raises a special group of non-ordinary states of consciousness which he has labeled holotropic, a term to designate "moving toward wholeness." It suggests states that are different from our ordinary state of consciousness in which "we are fragmented and identify with only a small fraction of who we really are." A principal characteristic of holotropic states is that other dimensions of existence can be experienced while still retaining touch with everyday reality. He describes a broad range of experiences that can occur, including frequently spiritual and mystical states. *"We can experience sequences of psychological death and rebirth and a broad spectrum of transpersonal phenomena, such as feelings of union and identification with other people, nature, the universe, and God. We might uncover what seem to be memories from other incarnations, encounter powerful archetypal figures, communicate with discarnate beings, and visit numerous mythological landscapes. Our consciousness might separate from our body and retain its capacity to perceive both the immediate environment and remote locations."*

While western psychiatrists are aware of the existence of holotropic experiences, because their perceptual framework is limited to postnatal biography and the Freudian individual unconscious, they have no adequate

explanation for them. Consequently "they see them as pathological products of the brain, symptomatic of a serious mental disease, psychosis."

Stan gives a thorough review of holotropic states and how they are induced. He covers ancient and aboriginal cultures and their techniques, such as "chanting, breathing, drumming, rhythmic dancing, fasting, social and sensory isolation, extreme physical pain, and other elements." Also mentioned are botanical materials containing psychedelic alkaloids, forms of spiritual practice such as meditation, concentration, and breathing exercises, and special techniques of the ancient mystery religions, perhaps employing psychedelic materials. More recently, active psychedelic materials have been isolated from plants and synthesized in the laboratory. New techniques have also been developed in forms of psychotherapy, such as hypnosis, primal therapy, rebirthing, and the system developed by Stan and his wife Christina, Holotropic Breathwork. Laboratory techniques for inducing holotropic states include sensory isolation and biofeedback. Such states can also occur spontaneously. *"Since modern psychiatry does not differentiate between mystical or spiritual states and mental diseases, people experiencing these states are often labeled psychotic, are hospitalized, and receive routine suppressive psychopharmacological treatment."*

"Ancient and preindustrial cultures have held holotropic states in high esteem, practiced them regularly in socially sanctioned contexts, and spent much time and energy developing safe and effective techniques for inducing them. These states... have been the main vehicle for their ritual and spiritual life." Since western psychiatry and psychology see such states as basically pathological, valuable information about the human psyche and healing is lost. Michael Harner is quoted as suggesting that Western psychiatry is seriously biased in at least two significant ways. The first is "ethnocentric, which means that it considers its own view of the human psyche and of reality to be the only correct one and superior to all those shared by other cultural groups," and the second is cognicentric, "meaning that it takes into consideration only experiences and observations in the ordinary state of consciousness." (Harner, M. 1980. *The Way of the Shaman: A Guide to Power and Healing.* New York: Harper and Rowe.) The consequence is a disinterest in holotropic states by modern psychiatry, which has resulted in a tendency to pathologize all activities not understood in the narrow context of the monistic materialistic paradigm.

Stan continues in a detailed analysis of the changes that must be made in the cartography of the human psyche to take into account holotropic experiences. The two primary areas that need to be added to the usual biographical level are the perinatal domain, taking into account the trauma of biological birth, and the transpersonal domain, *"which accounts for such phenomena as experiential identification with other people, animals, and plants, visions of archetypal and mythological beings and realms, ancestral racial and karmic experiences, and identification with the Universal Mind or the Void. These are experiences that have been described throughout the ages in religious, mystical, and occult literature."* Both of these domains are expanded upon in detail in his paper.

With regard to the perinatal domain, Grof has observed detailed relationships between the experiences of subjects under psychedelics and stages of the birth process. These observations have been confirmed by data from Holotropic Breathwork. *"Biological birth has three distinct stages... At each of these stages, the baby*

experiences a specific and typical set of intense emotions and physical sensations. These experiences leave deep unconscious imprints in the psyche that later in life play an important role in the life of the individual. Reinforced by emotionally important experiences from infancy and childhood, the birth memories can shape perceptions of the world, profoundly influence everyday behavior, and contribute to the development of various emotional and psychosomatic disorders... In holotropic states, this unconscious material can surface and be fully experienced."

Stan examines each of these stages in great detail, and reports the kind of life developments that can ensue from these experiences. Such experiences bring in a wealth of important information affecting the development and growth of the individual which remains relatively untouched by conventional therapeutic techniques.

Such is also true of the Transpersonal level, the level of experiences which transcend the personal. Grof divides transpersonal experiences into three large categories. "The first of these involves primarily transcendence of the usual spatial barriers, or the limitations of the 'skin-encapsulated ego.'" Identification can be experienced with a vast array of possibilities, including other persons, animals, plants, and entire groups of people.

The second category involves transcendence of temporal boundaries. In the third category, consciousness can expand into realms and dimensions that the Western industrialized culture does not recognize as 'real.' This can include "numerous visions of archetypal beings and mythological landscapes, encounters or even identifications with deities and demons of various cultures, and communication with discarnate beings, spirit guides, suprahuman entities, extraterrestrials, and inhabitants of parallel universes."

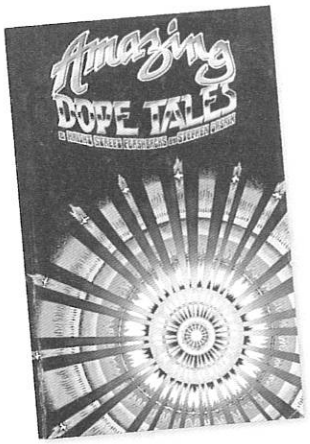
"In its farthest reaches, individual conscious can identify with Cosmic Consciousness or the Universal Mind known under many different names - Brahman, Buddha, the Cosmic Christ, Keter, Allah, the Tao, the Great Spirit, and many others. The ultimate of all experiences appears to be identification with the Supracosmic and Metacosmic Void, the mysterious and primordial emptiness and nothingness that is conscious of itself and is the ultimate cradle of all existence. It has no concrete content, yet it seems to contain all there is in a germinal and potential form." Again, the paper contains detailed descriptions and discussion of various aspects of such experiences, and how they re¡late to conventional understanding.

Stan makes telling arguments of how taking into account these new dimensions of experience can add great effectiveness to psychotherapy and self-understanding, understanding the role of spirituality in human life, and understanding the nature of reality. For those interested in these subjects, I highly recommend a detailed reading of this important data. Understanding of these issues not only explains the importance of psychedelic exploration, but can point the way to more effective healing, expanding personal development, and answers to many of the world's major problems.

Myron Stolaroff, Editor

The **Literature** of Psychedelics

Bob Wallace



new books

Timothy Leary
Outside Looking In
Great book of essays honoring Leary's life. Notable contributors include Ram Dass, Ralph Metzner, Terence McKenna, Albert Hofmann, Jerry Garcia, Robert Hunter, Ken Kesey, Owsley Stanley, Winona Ryder, Andrew Weil, Allen Ginsberg, John Perry Barlow, Frank Barron, Paul Krassner, Huston Smith, Jeremy Tarcher; over 40 in all. Excellent! Robert Forte 1999; Inner Traditions 0-89281-786-0, 348 page paperback, $16.95.

Ayahuasca
Hallucinogens, Consciousness, and the Spirit of Nature
This excellent ayahuasca book combines wise background, commentary, and editing by Ralph Metzner; 24 first-person accounts of shamanic and religious use by a variety of people and cultures; and scientific essays by experts Dennis McKenna, Charles Grob, and Jace Callaway. Highly recommended! Ralph Metzner (editor) 1999; Thunder's Mouth (PGW) 1-56025-160-3, 302 page paperback, $13.95.

Forest of Visions
Ayahuasca, Amazon Spirituality, and the Santo Daime
New book by elder of the Brazilian Santo Daime ayahuasca church. Includes both his extraordinary personal story of spiritual quest, and that of the church, its psychoactive sacraments and ecologically sustainable jungle community. Also combines both an extensive treatment of the beliefs and worldview of the Church with a readable and interesting account of personal and organizational growth. Notes and glossary. Alex Polari De Alverga 1999; Inner Traditions 0-89281-716-X, 288 page paperback, $14.95.

The Violet Forest
Shamanic Journeys in the Amazon
Story of a five year journey through South America, and the inner journey to find a spiritual and healing focus. Includes some experiences with ayahuasca and San Pedro, as well as other paths such as hummingbird medicine. Also describes aspects of the "wounded healer," and overcoming the temptation of a man of power to seduce women and instead heal the separation from the Great Mother. Interesting. Foster Perry 1998; Bear & Company (Ingram) 1-879181-43-6, 223 page paperback, $13.95.

Ploughing the Clouds
The Search for Irish Soma
Did the Celtic Indo-Europeans also use Soma, the ancient entheogen of the Rig Veda? Certain Celtic myths and folklore suggest the connection, and perhaps the use of *Amanita* or *Psilocybe* mushrooms for shamanic purposes. Readable academic analysis, with related illustrations. Bibliography and index. Peter Lamborn Wilson 1999; City Lights (Homestead) 0-87286-326-3, 158 page paperback, $14.95.

Twilight of the Clockwork God
Conversations on Science and Spirituality at the End of an Age
The old rift between rigid scientific and religious views of the cosmos is closing, as both science and spirit find common ground, says the author. He supports this view with interviews of eight scientists and philosophers, including our friends Terence McKenna and Stan Grof on the value of the psychedelic tools, along with Ralph Abraham, Rupert Sheldrake, Deepak Chopra, Lynn Margulis. Notes, index. John David Ebert 1999; Council Oak (Ingram) 1-57178-079-3, 222 page hardback, $22.95.

Peyote Religious Art
Symbols of Faith and Belief
Good introduction to peyote, Native American use, and the Native American Church. Begins with chapter on ceremony, especially ritual feather fans, rattles, attire, and other artifacts. Moves to artistic motifs and early religious art. Ends with modern Native artists inspired by the experience. Many photos, often in color. Bibliography and index. Well done. Daniel C. Swan 1999; University Press of Mississippi (Ingram) 1-57806-096-6, 128 page hardback, $34.95.

A Brief History of Drugs
From the Stone Age to
the Stoned Age
Story of psychoactive materials: pre-history, Greek, Roman, witchcraft, new world plants, start of real medicine; then modern history: prohibition, new drugs, the psychedelic revolution, the drug war, and the present situation. Insightful translation by Ken Symington. Index. Antonio Escohotado 1996/1999; Inner Traditions 0-89281-826-3, 176 page paperback, $12.95.

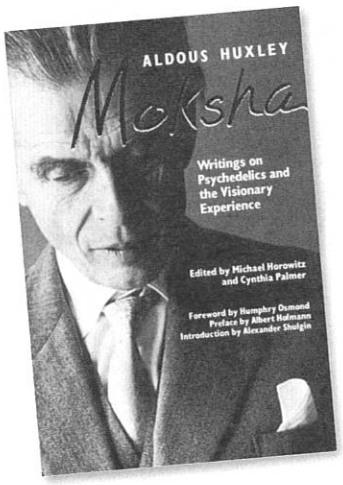
Encyclopaedia of
Psychoactive Substances
From Aconite to Zombi drug, common and obscure plants and chemicals that make people high, with their cultural uses and significance. Cross-references, some illustrations, bibliography, and index. Very useful reference work. Richard Rudgley 1998; St. Martin's (Homestead) 0-312-19868-X; 319 page hardback, $25.95.

Salvia Divinorum and
Salvinorin A The Best of The
Entheogen Review 1992-1998
Includes every entry from the *Review* about this interesting plant and its pure compound, with many trip reports, growing and processing tips, and speculation as to its essential nature and uses. Fresh commentary from the present, lists of known Internet web sites, sources for live plants and preparations, annotated bibliography, and complete index. Valuable resource for *Salvia* researchers and psychonauts. 1999; *The Entheogen Review*, 217 page large paperback, $19.95.

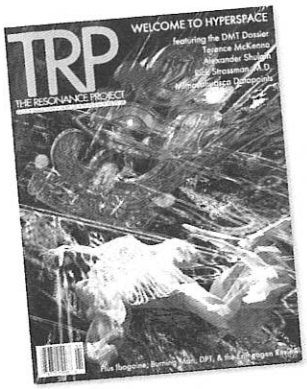
new editions

The Road to Eleusis Unveiling
the Secret of the Mysteries
For almost two thousand years, any Greek citizen could, once in a lifetime, learn the awesome Mystery of Eleusis in a secret, all-night ritual. This book suggests a water extract of two lysergic acid compounds from ergot fungus brought forth an entheogenic experience which may have stimulated the birth of Western culture. This updated edition includes new material by Albert Hofmann, Carl Ruck, and Huston Smith. R. Gordon Wasson, Carl Ruck, & Albert Hofmann 1978 (1999 edition); William Daily Rare Books 0-915148-20-X, 150 page fine hardback, $49.95.

Moksha
Aldous Huxley's Classic
Writings on Psychedelics
and the Visionary Experience
Great collection of essays and letters by Huxley, about his early use of LSD and mescaline, and how they affected his life and philosophy. Alexander Shulgin, Humphry Osmond, and Albert Hofmann also contribute. Source notes and index. Michael Horowitz & Cynthia Palmer (editors) 1977 (1999 edition); Inner Traditions 0-89281-758-5, 300 page paperback, $14.95.



The Walls of Illusion
A Psychedelic Retro
Essays on psychedelic culture from the '60s: beats Cassady, Kerouac, Ginsberg, Ferlinghetti, Corso, Burroughs; later essays by Leary, Watts, Craddock, Weil; writers Paul Bowles, Henri Michaux, Terry Southern, Alexander Trocchi, Brion Gysin, Richard Brautigan; and famous folk John Lennon, Hunter S. Thompson, Jerry Garcia and Aldous Huxley. (Reprint of *The Hashish Club*, Volume 2). Peter Haining (editor) 1975 (1998 edition); Souvenir (Homestead) 0-285-63414-3, 223 page paperback, $14.95.



Mindscapes
An Anthology of Drug Writings
Older but interesting essays by famous people. Section on ayahuasca, peyote, and psilocybin, with writings by Artaud, Burroughs, Wasson, Harner, Castaneda, and Terence McKenna. Another on mescaline and LSD features Huxley, Michaux, Nin, Leary, and others. Also has sections on nitrous oxide and hashish. Altered state experiences are hard to describe; these articulate writers help us understand them. Antonio Melechi (editor) 1998; Mono 0-9532444-0-7, 251 page paperback, $17.95.

The Little Book of Acid
Finally, a short, simple beginner's guide to tripping, LSD, and LSA. First it introduces LSD and the tripping experience, both the good elements and how to avoid and handle "bummers" or bad trips. Then it describes LSD distribution, forms (blotter, liquid, etc.), and terminology. Finally, it covers the preparation and use of certain morning glories which contain the related compound LSA. Cam Cloud 1999; Ronin Publishing 0-914171-88-7, 98 page paperback, $12.95.

Amazing Dope Tales (formerly Haight Ashbury Flashbacks)
Tripping during the Summer of Love. Insights, mind games, and right-on truths from psychedelics. Also acid aphorisms, hundred button tea, and tales of the tribe. Fun-reading story and Sixties history. Stephen later became a spiritual teacher and community leader. Stephen Gaskin 1980 (1999 edition); Ronin Publishing 1-57951-010-8, 154 page paperback, $12.95.

Turn On, Tune In, Drop Out
New edition of chapters 12 to 22 of *Politics of Ecstasy*. Includes chapters Start Your Own Religion, Soul Session, Mad Virgin of Psychedelia, Molecular Revolution. Timothy Leary 1968 (1999 edition); Ronin Publishing 1-57951-009-4, 157 page paperback, $14.95.

Altered State
The Story of Ecstasy Culture and Acid House
MDMA and fast dancing have a natural affinity. Though it started with the New York and Texas club scene, both the scene and the book soon shift to England and the house/trance rave experience. Many true stories of chemists and DJ's, clubs and parties of the largest youth movement in British history. Notes and index. Matthew Collin 1998 (2nd edition); Serpent's Tail (Consortium) 1-85242-604-7, 329 page paperback, $11.95.

new periodicals

TRP: The Resonance Project, 4
Medical marijuana, MDMA neurotoxicity, psychedelic PR, dharma of ibogaine, Burning Man, mimosahuasca, interviews with Rick Strassman, Terence McKenna, Alexander Shulgin, and David Aardvark of the *Entheogen Review*. James Kent (editor) 1999; Resonant Media, $4.95.

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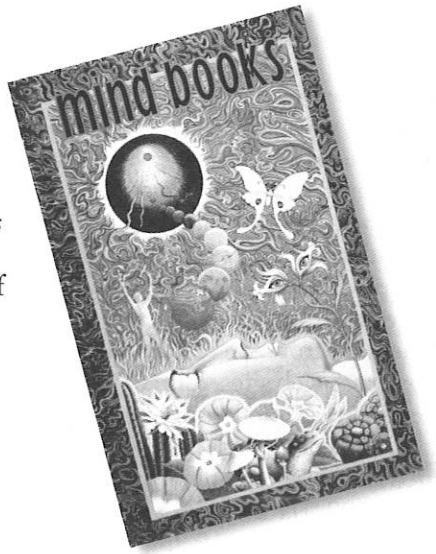

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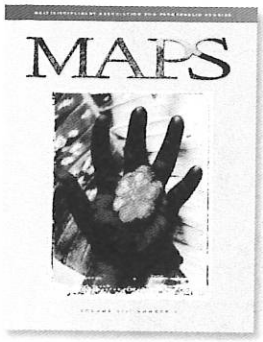

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Founded in 1986, MAPS is an IRS approved 501 (c)(3) non-profit corporation funded by tax-deductible donations from 1,800 members.

MAPS' founder and current president, Rick Doblin, is currently in the Ph.D. program in Public Policy at Harvard's Kennedy School of Government and has previously graduated from Stan and Christina Grof's Holotropic Breathwork 3-year training program.

Sylvia Thyssen is responsible for editing the *Bulletin* and oversees MAPS' website and outreach efforts. She is a graduate of the University of North Carolina at Chapel Hill, where she majored in Art History and French.

Carla Higdon coordinates MAPS member services and the marketing and distribution of the *MAPS Bulletin* and *The Secret Chief*. She is a graduate of Western Carolina University and certified art educator with a Bachelor of Science in Education.

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.

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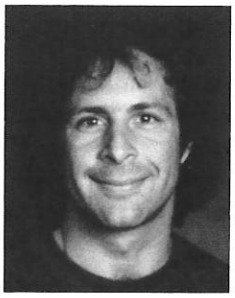

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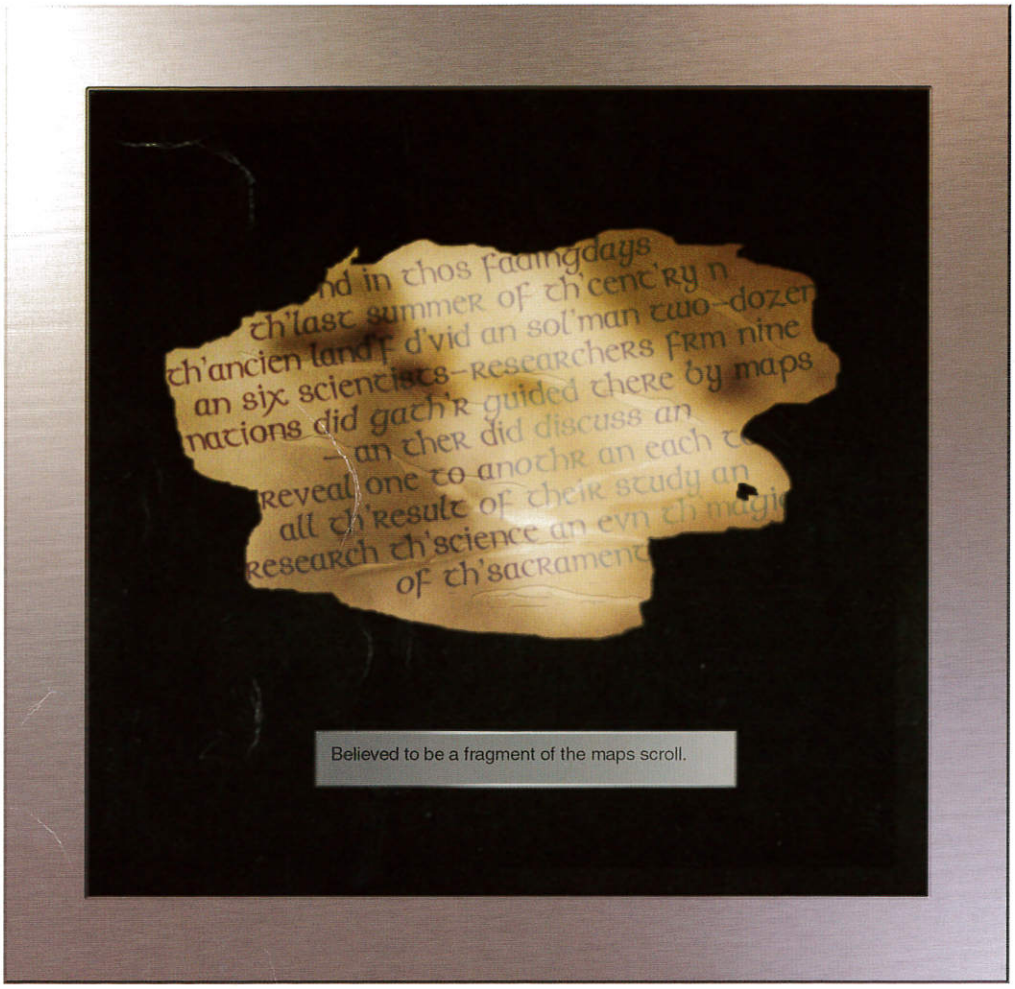

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