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Multidisciplinary Association for Psychedelic Studies, Inc.

The Rekindling of a Thousand Points of Light **November 1991, Vol 3 No. 1**

This is an auspicious time for the Multidisciplinary Association for Psychedelic Studies (MAPS), a non-profit membership organization primarily devoted to assisting researchers design, secure approval, fund, conduct and report on psychedelic research. The Food and Drug Administration (FDA) recently opened the door to very limited human studies with LSD (one study has been approved but is not yet funded) and DMT *(page 7)*. There is also a good chance the FDA will permit research with MDMA, for which MAPS holds an FDA Drug Master File *(page 2)*. Even the National Institute on Drug Abuse (NIDA) is preparing to conduct research with the psychoactive African root ibogaine, for the treatment of drug abuse *(page 5)*. Adding to the public discourse is the recent publication of *PIHKAL- A Chemical Love Story*, by Sasha and Ann Shulgin *(page 9)*. In this autobiographical love story, the Shulgins chronicle the benefits that a resumption of psychedelic research could yield in scientific knowledge, and in the accelerated development of sorely needed medicines and catalysts for personal growth.

In Europe, the Swiss government recently permitted four psychiatrists to resume their use of LSD and MDMA in psychotherapy. Scientific studies with MDMA will begin there soon. In Russia, an application for MDMA research will soon be made to the Pharmacological Committee of the Ministry of Health by a MAPS-affiliated psychiatrist, Dr. Evgeny Krupitsky, who currently treats alcoholics with ketamine *(page 2)*. In other countries, notably Mexico and Israel, would-be MDMA researchers are waiting to see if the MDMA protocol submitted to the FDA will be approved. Official approval in their countries is more likely if the FDA approves studies in the US.

Securing FDA approval for the prescription use of MDMA continues to be MAPS' main task. If human studies are approved, MAPS will take a leadership role in raising funds for research - a role which would require MAPS to grow substantially beyond its current membership of several hundred and average annual budget of around $45,000 *(page 4)*. Ultimately, it is hoped that MAPS-supported research will catalyze currently shy foundations and profit-seeking pharmaceutical companies into conducting their own psychedelic research. Until that happens, the people who support MAPS, and the experts MAPS can mobilize, are making a vital contribution to the future of psychedelic research. The aim and purpose of our research, to generate scientific knowledge so that risks and benefits can be accurately weighed, can only be realized with your support *(page 11)*. To all current and future members who share both the vision and willingness to work to realize these goals, welcome to MAPS. It looks to be an incredible adventure. ■

MAPS AND MDMA RESEARCH IN THE UNITED STATES

Though the War on Drugs indiscriminately targets all uses of Schedule 1 drugs, including the therapeutic, scientific knowledge can serve to counteract exaggerated fears and provide a factual basis to support claims of benefits. Over the past several years, MAPS has funded pilot studies which generated the first scientific information about the effect of MDMA use on human serotonin levels, and about the no-effect levels and recovery rates for MDMA neurotoxicity in the primate. In addition, MAPS funded 28-day MDMA toxicity studies in the dog and rat which were used to open an FDA Drug Master File for MDMA.

MAPS currently devotes most of its energies to supporting the effort to conduct MDMA human safety and efficacy research. This priority was chosen for several reasons. First, we believe that MDMA is a uniquely valuable drug that many therapists would use, if it were legal, to treat patients suffering from a wide variety of debilitating emotional illnesses. Second, MDMA, by virtue of its popularity in the non-medical market, is attracting many millions of dollars of government research funds. The data from government studies, funded from public rather than private monies, can be appropriated by MAPS into its FDA application to make MDMA available by prescription. Furthermore, because MDMA is relatively short acting and gentle, it can be easily used within a psychiatric outpatient setting. This feature makes the adoption of the use of MDMA in psychiatric practice much more likely than the use of longer acting, more powerful psychedelic drugs such as LSD.

Last year, MAPS' main project was the international psychedelic research methodology conference held in November, 1990 in Bern, Switzerland and Prague, Czechoslovakia. (Note: proceedings of the conference available from MAPS). Some of the United States' main experts on MDMA neurotoxicity were at the conference and a dialogue was established that improves the chance of securing FDA approval for human studies with MDMA.

A research protocol is currently being developed by University of California at Irvine psychiatrists Drs. Charles Grob, Gary Bravo and James McQuade, in collaboration with MAPS. The study focuses on the use of MDMA-assisted psychotherapy in the treatment of pain, depression and anxiety in end-stage cancer patients. Since the protocol would be the first-ever FDA-approved human study with MDMA, we must focus more on safety and tolerance than on efficacy. We plan to administer MDMA to the patients four times over a period of six months, in conjunction with guided imagery and music. On the issue of safety, we will look at the effect of MDMA on the brain's serotonin system through the use of spinal taps and tryptophan challenge tests, and on the immune system and organ function through the use of blood and urine tests. Pharmacokinetic studies (the route and timing of the drug through the body) will also be conducted. Regarding efficacy, we will look at pain, depression, anxiety and quality of life through a variety of standardized tests.

The protocol was circulated for critique to over 25 experts around the country and is now being revised in response to the excellent comments that were received. We plan to submit a final draft of the protocol to the FDA by around the end of the year. The FDA is then required to respond within 30 days, either permitting or rejecting the study or requesting more information. If our extensive design work has been successful, and if we are lucky, permission will be granted sooner rather than later. ■

MAPS AND MDMA RESEARCH IN RUSSIA

A collaborative working relationship has been established between MAPS, psychiatrist Dr. Evgeny Krupitsky in St. Petersburg (Leningrad) and the psychiatrists working on the MDMA protocol here in the US. The catalyst for this working relationship was the presence of four psychiatrists and a translator from Moscow at the MAPS international psychedelic research methodology conference in Switzerland. Dr. Krupitsky writes that he has "discussed again the possibilities of MDMA research with Drs. Rzhankova and Dunaevsky from the Leningrad Institute of Oncology, Academy of Medical Sciences of the USSR. They informed me that maybe it will be possible to receive permission for this work from the Pharmacological Committee of the Ministry of Health, especially for the last draft of the protocol with the accent on the relief of pain, because

of the large amount of substances with high addictive potential (narcotics) that are tested and used in oncology for the relief of pain. I can't give any guarantee, but we hope it will be successful."

A comparable study in Russia would be much less expensive than one in the US, even though researchers in the US will donate much of their time to the experiment. Dr. Krupitsky writes that "the cost for one patient may be about $700 - $1,000." Research in Russia is of value to MAPS because the FDA will accept one efficacy study from abroad into the MAPS MDMA Drug Master File. This means that international collaboration, particularly in countries like Russia with experienced researchers and relatively low salaries, is definitely the way to get the most out of MAPS' scarce resources.

There will be some differences between the protocols in the US and in Russia due to different political pressures and research objectives. Dr. Krupitsky reports that the use of spinal taps would make it more difficult to gain approval for the study in Russia, since spinal taps are strictly limited to people with certain indications. We need to use spinal taps in the US because of official concern over neurotoxicity. Ironically, a Swiss Institutional Review Board (IRB) also rejected the use of spinal taps in MDMA research, which they felt posed more risk to the patients than the possibility of MDMA neurotoxicity. In addition, Dr. Krupitsky proposes that the Russian control group receive "logical therapy", much like what we call "cognitive therapy", rather than guided imagery and music (without MDMA) as in the US plan. ■

MAPS AND RESEARCH WITH PSYCHEDELICS OTHER THAN MDMA

Though MAPS will continue to concentrate its resources on MDMA research, it will also broaden its vision. The field of psychedelic research is so interdependent that progress with one drug in one country can effect researchers interested in another drug in another country. Conversely, problems with one drug can hinder research with other drugs. For example, the tragic and still puzzling death of a patient in France who had been treated with ibogaine halted all therapeutic use of MDMA, LSD and 2-CB in Switzerland for over a year. Their use was only recently permitted to resume.

As part of the broader MAPS agenda, this issue of the MAPS newsletter contains a discussion of DMT research by Dr. Rick Strassman and a request for donations to help him write a book on DMT. In addition, Dr. John Morgan writes about research with ibogaine. When the FDA-approved LSD protocol has secured Institutional Review Board approval, MAPS will then seek funds for LSD research. This newsletter also discusses developments regarding the medical use of marijuana. ■

MEDICAL MARIJUANA... SYMBOLIC VICTORIES

The last MAPS newsletter reported on the scientific findings and astonishing publicity received by the publication in the *Annals of Internal Medicine* and the *Journal of Clinical Oncology* of a study conducted by MAPS President and then Harvard Kennedy School of Government student Rick Doblin and faculty member Mark Kleiman. The study, reported in the *New York Times*, on *NBC National News*, and elsewhere, found widespread support among oncologists for the medical use of marijuana to reduce nausea and vomiting in cancer patients. Though the DEA still opposes the medical use of marijuana and the FDA says it does not have enough data to support claims of marijuana's safety and efficacy, there have been some new symbolic victories.

On October 30, 1991, a symbolic bill in favor of the medical use of marijuana was endorsed 7-1 by the Cambridge City Council. On November 6th, 1991, Dale Gieringer, Coordinator, California NORML reports that, "San Francisco voters overwhelmingly endorsed Proposition P, supporting legalized prescription use of medical marijuana. Final returns showed Proposition P with 79.5% yes votes, more than any other ballot proposition including one affirming the city's support for the First Amendment. Proposition P received the endorsement of all of the city's newspapers, as well as the Democratic Central Committee and the leading mayoral candidates. It was opposed by the Partnership for a Drug-Free America, the Chamber of Commerce, and the Republican Party. Proposition P puts the city of record as favoring legalized medical use of marijuana on prescription, but does not alter current state or federal restrictions."

In San Francisco, de facto legalization of home-grown marijuana by patients in medical treatment may result. Nationally, a non-profit like MAPS needs to be organized to work with the FDA. ■

WHAT HAPPENS WITH DONATIONS TO MAPS?

MAPS' budget for its last fiscal year is reported below. As noted, the main item was the Swiss conference, followed by the standard costs of putting out the newsletter. No salaries were paid.

Though MAPS has in the past supported animal research, no funds were spent last year on animal studies and none are planned for the foreseeable future. This issue has generated a great deal of soul searching for MAPS and some of its members. In fact, several potential donors decided not to join MAPS due to their opposition to animal studies on ethical grounds. In order to respond to the moral dilemma faced by some potential donors, MAPS will never use membership fees or unrestricted donations for animal studies. If such studies are to be undertaken, and none are planned, a special fund-raising campaign will be conducted specifically for that research.

The current fiscal year's main activities have been the development of the MDMA protocol. Funds have been spent on administrative expenses such as postage, phones, office, copies, and on meetings to bring together the various psychiatrists and researchers working on the protocol, all of whom have donated their time. In addition, MAPS has sent $250 to Dr. Krupitsky to help with expenses incurred in preparing the protocol for submission to the Russian authorities. MAPS has also repaid the loan from Rick Doblin, which was made so that a larger than originally planned number of psychiatrists from Russia could attend the Swiss conference.

IF THE MDMA PROTOCOL IS APPROVED

If the MDMA protocol is approved, either in the US or the USSR, funds will be directed toward training the experimenters and conducting the experiment. A week-long training program on "Psychedelic Therapy in the Terminally Ill" would focus both on work with terminal patients and with psychedelics. Participants would include a few researchers from the US, Russia, and other countries. The session might be taught by Ram Dass and Stan Grof and others. It might be possible to videotape this both for research purposes and as a special offering to MAPS members. As a special benefit, MAPS' Patrons would also be invited to attend the training program.

In conducting the experiment in the US, there will be significant costs even though much of the psychiatric time involved will be donated. Total costs are estimated to be $70,000 or so for medical tests, independent raters, nurse and clinic time, data analysis, etc. In the USSR, the experiment is liable to be less than half that price. A special benefit conference/concert will be arranged, similar to the MAPS benefit of February, 1990 (with speakers Laura Huxley, Ram Dass, Tim Leary, Ralph Metzner, Terence McKenna, Andrew Weil, and others), to help raise funds for any studies which get approved.

IF THE PROTOCOL IS NOT APPROVED

If the protocol is not approved this time around, funds will be directed toward the continual revision of the protocol through the use of consultants and it will be resubmitted. If necessary, lawyers will be secured. International collaborations will become even more of a MAPS priority. ■

Summary of MAPS Expenses and Income
Fiscal Year June 1, 1990 to May 31, 1991

EXPENSES	
Office Supplies/Copies	3140.62
Phones/Modem	920.00
Officer Travel	2527.10
Conference Fees, Licenses	1052.45
Subscriptions, Reference Material	1002.35
Professional Fees	1425.00
Salaries	0.00
Public Relations/Ads	0.00
DEA Hearings	0.00
MDMA Animal Studies	0.00
Swiss Conference	26614.30
MDMA Human Studies – J. Hopk., Yale	300.50
MDMA Studies – Switzerland	3100.00
Medical Marijuana Study	271.69
MAPS Newsletters	4273.14
Maps Video	900.00
TOTAL EXPENDITURES	45527.15

INCOME	
Beginning Balance	14733.84
Deposits from Members	23687.77
No-interest loan from Rick Doblin	8108.47
TOTAL	46530.08
Expenditures	45527.15
Ending Balance	1002.93
TOTAL	46530.08

Note: Loan from Rick Doblin has been repaid out of FY 91-92 donations.

Note: Donation of services by researchers working on the MDMA protocol, authors of newsletter articles, and Roger Houston, designer of the MAPS newsletter, and Ladd McPartland, editor of the 3 1/2 hour MAPS video, are not included in the income statement, and are greatly appreciated.

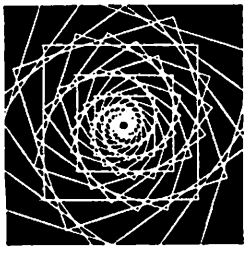
Ibogaine: A Plant Alkaloid Proposed for the Interruption of Addiction

by
John Morgan, M.D. Professor of Pharmacology
CUNY Medical School

IBOGAINE, a preparation from the roots of the African shrub *Tabernanthe iboga*, has been proposed as a medicine useful in interrupting addictive behaviors including those related to heroin, cocaine and even nicotine.

Ibogaine may interact with serotonergic receptors in a similar fashion to indolalkylamines such as psilocybin. It may even be metabolized to a hydroxylated dimethyltryptamine compound resembling bufotonin, but this is uncertain. Rare recreational users in the United States have previously described a psychedelic effect with visual perceptual alterations reportedly often associated with anxiety. The small amount of use in the United States coupled with a satiric report of Hunter Thompson in *Rolling Stone* describing Democratic (presidential) candidate Edwin Muskie as a likely addict, was enough for the DEA to place it in Schedule 1 of the Controlled Substances Act.

Ibogaine's use in rituals in Africa related to the Bouiti cult have generated interesting descriptions by pharmacoethnographers. It is employed in both young men and women to navigate rites of passage to adult life. Participants in such rituals often describe an evocation of the spirits of the dead and of their own previous past lives. This is particularly intriguing because many of the 60-70 addicts who have undergone dosing with a purified form of ibogaine have described personal historical visions and thoughts which they deem critical to the treatment process.



Howard Lotsof, who holds some use patents for administering ibogaine to addicts, and his colleague B. Sisko of the International Coalition for Addict Self-Help (ICASH) have publicized and worked hard to convince critics that a single dose of ibogaine hydrochloride will interrupt addictive behaviors for six months or longer. ICASH has arranged application of the ibogaine procedure, chiefly in Europe, for 60-70 addicts. They believe and produce testimonials to that belief that a single dose of 1000-1200 mg of ibogaine HCL will both attenuate withdrawal symptoms and help the user to cease "self-medication with euphoriant drugs." The use of the drug has generally been conducted in outpatient settings and is designed to include pre-drug interviews and evaluation preceding the single dose. In some subjects smaller test doses have preceded the 1200 mg oral dose. The active treatment period which includes counseling and interaction with the subject may consume 2-3 days.

The proponents of the procedure have not been able to collect much in the way of follow-up data and even the descriptions of the procedure and the immediate aftermath are sparse. A hard scientific view would indicate that in fact,

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no adequate data reflect these human experiments. The committed proselytizing of Lotsof and Sisko has attracted significant attention. However, recent animal experimentation has attracted more mainstream interest.

Drs. E.D. and M.R. Dzoljic of the Netherlands, in 1988 published evidence that ibogaine significantly attenuated a naloxone-precipitated withdrawal syndrome in rats made morphine dependent.

Dr. Stanley Glick of the Albany Medical College has conducted two supporting studies with his colleagues. The use of ibogaine diminished self-administration of morphine in rats conditioned to inject the opioid. Additional work has indicated that ibogaine treatment in rats attenuated the usual morphine-induced increase in dopamine excretion in the brain dopaminergic systems associated with reward.

Dr. Patricia Broderick of the CUNY Medical School, using a different neural technique than Glick, demonstrated that ibogaine altered similarly-expected dopamine increases secondary to cocaine administration in rats. Broderick also noted a decreased motor response to cocaine in these experiments performed in freely-moving rats.

Despite these studies little is known of the basic pharmacology and toxicology of the drug. In fact, the stability and proper dosage formats of the drug in humans are not known. However, in a late October meeting, officials of the National Institute on Drug Abuse (NIDA) Medications Development Division (MDD) indicated their plans to begin a committed research program with the agent. They have ordered 700 grams of ibogaine from a medicinal supplier currently awaiting the January iboga harvest in Africa. They shall use this material to conduct a variety of animal and molecular studies to assess brain-site binding, neurotoxicity, basic metabolism and behavioral studies in animals. If these studies do not yield significant animal toxicity, NIDA's MDD will assess stability testing and dosage formats and begin some human testing combining phase 1 and phase 2 studies as early as one year from October, 1991.

The MDD of NIDA is currently overseeing other pharmacotherapies for addiction including desipramine, buprenorphine and the long-acting (and long-awaited) methadone congener L-acetyl-alpha-methadol (LAAM). They are concerned that ibogaine may induce psychedelic pleasurable effects. The political perspective of NIDA is still committedly on the side of a war-like approach and therapies to this institution mean something to stop individuals from taking (or enjoying) drugs. The unusual steps regarding ibogaine may be seen to reflect some enlightenment or they may be viewed as cynical. The animal studies might indeed show some "useful" toxicity and kill the drug, moving NIDA in its usual direction while quieting the political movement that brought ibogaine to the door. (The AIDS Coalition to Unleash Power [ACT-UP] also participated in the NIDA meeting as activist supporters of ibogaine.) However, the scientists from NIDA have blocked out a seemingly proper course of action.

Observers of addictive behavior have always found the ibogaine story hard to accept. How could a behavior so complex be altered by a single application of a drug whose effects are scarcely described and whose function is completely unknown? Certainly these thoughts occurred to me and they have not left me. However, Lotsof and his colleagues have approached this problem appropriately and ICASH may be the only organization of former addicts in the US trying to help addicts. I can now balance my skepticism with some appropriate optimism and look forward to the NIDA studies. ■

(Ed Note: Howard Lotsof is trying to develop ibogaine through the use of a for-profit corporation, the opposite approach of MAPS to MDMA. For more information, contact Howard Lotsof, NDA International, 46 Oxford Place, Statten Island, NY, 10301 (718) 442-2754.)

See page 11.

A Report on FDA-Approved Human Studies with DMT

by Dr. Rick Strassman

I became interested in hallucinogenic tryptamines, such as DMT and 5-methoxy-DMT, some years ago when it became obvious to me that the pineal gland could possibly synthesize these compounds. I had been intrigued by the possible role of the pineal in unusual states of consciousness, and the hypothesis that the pineal could mediate those states biologically had great appeal. I began a thorough study of the biological effects of melatonin. We have published 5 scientific papers in the role of melatonin, and have found only a moderating effect of the hormone on the nighttime temperature rhythm in normal humans. The lack of major effects of melatonin led me to believe that a more direct approach to studying hallucinogenic tryptamines was in order.

I more or less switched fields of interest, and dropped the melatonin work. I decided to focus on DMT (N,N-dimethyltryptamine) as a model hallucinogenic tryptamine for several reasons. It is found in the human body, brain, spinal fluid, urine and blood) and its existence has yet to be properly explained. It is very short acting and could be used in the hospital clinical research setting that seemed necessary for reinstituting any human studies with these drugs at the present time. It is not a well-known compound, advantageous for both the subjects in the study, and the regulatory agencies that would be overseeing such research; that is, subjects would not have major expectations one way or the other as to its effects, and the regulatory agencies would not have to face the intense public scrutiny that would be brought to bear if word emerged that "LSD was being studied again." Finally, it produces an extremely interesting hallucinogenic state: florid visual hallucinations, euphoria and a sense of bodily dissociation subjects find immensely pleasurable.

I decided to take a biological and descriptive approach to studying DMT. That is, what are the effects of DMT, both psychological and as an effector of brain function? As indicators of brain function, I used the "neuroendocrine" approach. This model is built on the fact that the brain is both an organ containing nerve cells (neurons) and also one that regulates the secretion of various hormones (a controller of endocrine function). From the psychological perspective, I believed it important to develop a way of looking at the effects of DMT that focused more on the phenomenology of the drug, rather than how effects might reproduce those seen in certain pathological states. Early rating scales of hallucinogens were based on the theory that these drugs induced a brief schizophrenic episode, and questions were asked that tapped those effects. People, however, do not take hallucinogens to become schizophrenic. So, I interviewed about 20 smokers of DMT and developed a draft of a questionnaire that was revised early in the study, and that we have been spending a great deal of time analyzing the results of.

Experienced hallucinogen users were recruited as subjects for the study. This was for several reasons. Experienced hallucinogen users could report more accurately the effects of the drugs, and particularly could compare effects of DMT with other drugs they had taken over the years. They were more experienced with the unusual states induced by hallucinogens and were less likely to panic at the effects of DMT. Finally, "drug abuse" problems that might be "blamed" on the DMT study would be less sustainable in subjects with an extensive prior history of drug use.

It took 21 months to receive permission to give DMT. The first 18 months was spent finding a source. The last 3 months were spent making certain the drug that was finally made met Food and Drug Administration specifications for pharmaceutical purity. [Ed. note: Dr. Rick Strassman has published the fascinating story of the process he went through to gain permission for his research in the Jan.-Mar., 1991 issue of the *Journal of Psychoactive Drugs* in an article entitled "Human Hallucinogenic Drug Research in the United States: A Present-day Case History and Review of the Process."]

Subjects were carefully screened. They could not be on any medications, have any history of psychotic symptoms (that were not drug or fever induced), and had to be in good health, as determined by a medical history and physical examination, electrocardiogram, thyroid function tests, and blood chemistry and blood counts. Current drug abuse (alcohol or cocaine) also excluded subjects.

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Furthermore, I needed to feel secure with subjects' ability to manage their hallucinogenic drug effects comfortably, even the most extreme states. This last issue was determined by informal interviews with me.

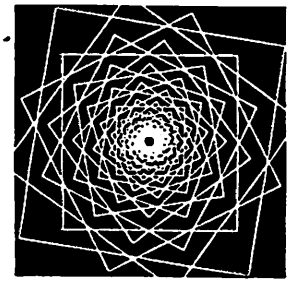
We gave the drug intravenously (IV), rather than intramuscularly (IM), as had been the case with older studies in which DMT was given to humans. This was because our early pilot work with DMT smokers demonstrated that the IM route gave an effect that was slower in onset and less intense than the smoked route. And the smoked route was impossible because of uncertainty as to how much DMT was actually being absorbed, plus the questions about what the burnt DMT products were that people might be inhaling. So, the IV route seemed the most reasonable.

We gave the drug in a double-blind placebo-controlled, dose-response manner. That is, subjects received either 0.05, 0.1, 0.2, or 0.4 milligrams per kilogram of DMT, or salt water placebo in a randomized order, with neither myself nor the subject knowing what they would get any particular day. The pharmacist preparing the injection for the day knew, however, and could be contacted immediately if necessary. Subjects had received, before starting the double-blind study, the low and high doses on consecutive days. This was for them to become familiar with the most and least intense effects to expect in the hospital setting. It was also for the research nurse and me to assess subjects' psychological and blood pressure responses to the drug. One subject had to be dropped because his blood pressure rose too high on the low dose, and we did not want to risk a dose ten times that high.

If anyone is interested in helping support Dr. Strassman's DMT book project, donations can be specifically earmarked for this purpose. MAPS will forward to Dr. Strassman 100% of all funds (in excess of membership dues) specifically donated to the DMT project. In return, Dr. Strassman has agreed to write periodic reports on his research for the MAPS newsletter.

Eleven subjects went through the entire study, for a total of about 85 drug sessions. We have had no adverse effects, and several subjects are volunteering for follow-up studies. We have seen that most of the variables we measured have risen as expected, and that there is a clear relationship between dose and effect. For example, beta-endorphin, prolactin, cortisol, and adrenocorticotrophic hormone (stimulating the adrenal gland) rise dose-dependently. Body temperature, blood pressure, heart rate, and pupil diameter all increase. Our rating is capable of distinguishing between the very lowest dose of the drug and salt water placebo.

These "normative" and descriptive data now suggest follow-up studies that will assess more carefully the mechanisms of action of DMT. For example, we have written a protocol looking at the effects of blocking endorphins, and then treating with DMT. Animal data suggest that endorphins actually inhibit the effects of DMT, and endorphin blockade enhances the effect. Seeing if the same holds true for humans would be of great interest. We have written a protocol that will investigate the electroencephalogram (EEG) effects of DMT, using new computerized technology, that will allow us to focus very carefully on selected brain areas to determine where in the brain DMT is acting. We are now writing a study looking at menstrual phase effects of DMT. That is, are the effects of DMT different depending on different phases of the menstrual cycle? Animal data suggest that it is. Human data also indicate that drugs effecting serotonin (which DMT also does) are more potent if given pre-menstrually rather than at ovulation or early in the cycle. We will also submit a protocol investigating the development of tolerance to the acute effects of DMT. This had never been demonstrated in humans, as opposed to clear tolerance developing to LSD, mescaline, or psilocybin with repeated doses. Perhaps older studies looking at DMT tolerance development in humans did not use frequent enough administrations. Other future studies will look at types of serotonin receptors that might be mediating DMT's effects. Clearly, much more research can, and should be done regarding this more interesting compound.



The funding that I would like to request from MAPS would go to allowing me the time to write up the results of the study in book form, during part of my sabbatical next year. The scientific literature, where most of the scientific data will be presented, is not the place for me to describe subjects' reports in the detail that would be of most interest to the psychedelic community. Also, a book would be more the forum in which to speculate about our findings from several points of view. Finally, the personal approach that a book could offer has advantages that are not available in scientific writing. I think between $8,000 and $10,000 will provide the funds necessary to take the time to complete a book in timely fashion. Of course, any help MAPS could provide would be greatly appreciated. ■

Paean to a Champion:

A Review of

Phenethylamines I Have Known And Loved: A Chemical Love Story.

by Alexander Shulgin and Ann Shulgin

reviewed by Bradley C. Lenz, Research Fellow in the History of Pharmacy,
University of Wisconsin-Madison

Paean to a Champion, is an appropriate title for a review of a remarkable new book: *Phenethylamines I Have Known And Loved* (hereafter abbreviated as PIHKAL), co-authored by Alexander Shulgin (or "Sasha," as he is known to his friends), and Ann Shulgin. Our English word, *paean*, is a loan word from Latin and is derived from the ancient Greek, *paion*, ultimately derived from a cultic hymn of praise for the god of healing, Apollo, in his title as physician of the gods: *Paion*. In PIHKAL, the Shulgins demonstrate that they are indeed, in service to the physicians' god of healing.

The spirit of the book and the reason that the Shulgins undertook the labor of its writing is characterized by the following comments offered by Sasha: " have stated some of my reasons for holding the view that psychedelic drugs are treasures. There are others, and many of them are spun into the texture of this story. There is, for instance, the effect they have on my perception of colors, which is completely remarkable. Also, there is the deepening of my emotional rapport with another person, which can become an exquisitely beautiful experience, with eroticism of sublime intensity. I enjoy the enhancement of the senses of touch, smell, and taste, and the fascinating changes in my perception of the flow of time. I deem myself blessed in that I have experienced, however briefly, the existence of God. I have felt a sacred oneness with creation and its Creator, and—most precious of all—I have touched the core of my own soul. It is for these reasons that I have dedicated my life to this area of inquiry. Someday I may understand how these simple catalysts do what they do. In the meantime, I am forever in their debt. And I will forever be their champion."

Sasha calls himself a champion, and a champion he is. And along side Sasha stands his consort, Ann Shulgin, herself a heroine in this adventure for in this period of American history, a book such as this takes bravery to write. Truly, in authors such as these, the human community once again finds champions of the spirit willing to risk all for the benefit of their fellow human beings. Sasha and Ann Shulgin merit praise for their work, and praise hereby is offered.

Looking for antecedents to the brave explorations of the Shulgins chronicled in PIHKAL, we remember ancient tales of Ulysses, Aeneas, and Jason, heroes who risked their mortal lives through voyages into realms of the unknown. The ancient story of *Jason and the Argonauts* was first told by the famous Greek scholar, Apollonius of Rhodes, Chief Librarian of the Great Library, in Alexandria, Egypt; and the tale was later retold, and had things added, by ancient Greek mystical groups who had an interest in psychoactive substances. There is a striking similarity between the tale of Jason told by Apollonius, and the plot of PIHKAL.

In the ancient tale, Jason and his crew of fellow "argonauts," sailed to the far off land of Colchis in search of a Golden Fleece that had the power to heal any and all who came into contact with it. Colchis was a land that lay on the "other" side of the world from the familiar land of Greece. In ancient Greek, a way to describe this "other" side of the word where the rules of everyday life no longer hold true is to call it a place of the *antipodes* (literally, "feet opposite"). Aldous Huxley used the word "antipodes" when he was composing his *Doors of Perception*, and *Heaven and Hell*, to describe the states of consciousness engendered by the administration of psychodelic substances [I prefer to spell "psychedelic" correctly as "psychodelic", just because Aldous Huxley

(continued next page)

Phenethylamines I Have Known And Loved: A Chemical Love Story, by Alexander Shulgin and Ann Shulgin; provided by MAPS to all new Supporters and Patrons and for sale from MAPS or from: Transform Press, P. O. Box 13675, Berkeley, CA 94701; (c. 1991) xcviii + 978 pages; price: $18.95 (+ $4.00 p/h), California residents add $1.38 tax; ISBN 0-9630096-0-5.

... acquisition of the book is a *must* for anyone wishing to follow the adventure of the human spirit as it unfolds through contact with the science of chemistry.

misspelled the word 40 years ago is no reason to perpetuate the error except in the colloquial context of its use in the 60s-70s]. In PIHKAL, we find our modern "Jason" under the *nom de plume*, "Shura," but the adventure is the same whether the tale is set in the past, in the far off land of Colchis, *ca.* 200 B.C.; or in modern California, *ca.* 2,000 A.D.. Sasha Shulgin is, in fact, a modern Jason (*Jason* means, literally, "man of drugs"), and the story told by the Shulgins is nothing less than a modern tale of an Argonautic voyage — quite real, and still, quite magical.

Reading PIHKAL is a journey to the antipodes of the mind; the land of Colchis come to life again. The Golden Fleece of Jason, and the phenethylamines of Sasha Shulgin, are one and the same. Both have the power to heal and each is guarded by a dangerous dragon of power. The two tales are further entwined by a common feminine element. The goddess Hera whispered directions in the ear of the ancient Jason that guided his voyage to Colchis. Doubtless, Ann Shulgin whispers feminine wisdom in the ear of our modern Jason that leads him onward in his quest. PIHKAL makes this journey of discovery public and allows each of us to take our seats as fellow Argonauts alongside the Shulgins who pilot us on a new voyage into the unknown. PIHKAL is an astonishing guidebook that reveals a way past the dragon to the Fleece hidden in Colchis. Any reader who wishes to explore what Aldous Huxley called, "the antipodes of the mind," would do well to read PIHKAL before setting sail on the voyage.

The adventure awaiting the reader in PIHKAL, is divided into two parts. The first part of the book is devoted to the human dimension of the phenethylamine story — what happens to people immediately after they ingest these substances. In is an engaging tale, sometimes tinged with eroticism, of human exploration into worlds of the unknown. The second part is a magnificent storehouse of information (it is, in fact, the most comprehensive compendium on the creation of psychoactive phenethylamine substances ever published, and includes the popular substance, MDMA). This storehouse contains a collection of nearly two hundred chemical formulae that presents in a clear and straightforward manner the molecular structure of each phenethylamine, instructions on the process whereby each is made, and short descriptions of the effects on human subjects. This section will be of great interest to readers with a knowledge of phenethylamine chemistry. Whether readers are attracted more to the first or the second half of PIHKAL, however, the acquisition of the book is a ***must*** for anyone wishing to follow the adventure of the human spirit as it unfolds through contact with the science of chemistry. ■

MAPS strongly recommends that members consider attending the

Twelfth International Transpersonal Conference

to be held in Prague, Czechoslovakia on June 20-25,1992.

The conference is entitled

"Science, Spirituality, and the Global Crises:

Toward a World with a Future."

Invited presenters include: Stanislav and Christina Grof, Ram Dass, Ralph Metzner, Ivan Havel, Charles Tart, Roger Walsh, Frances Vaughan, David Bohm, John Mack, Rupert Sheldrake, Karl Pribram, Brother David Steindl-Rast, Kenneth Ring, Thomas Roberts, June Singer, Jack Kornfield, Chung Liang Al Huang and others.

For more information, write or call

ITA, 20 Sunnyside, Suite A-257, Mill Valley, CA 94941,

(800) 533-3641 or (415) 383-8819.

PUBLICATIONS AVAILABLE FROM MAPS

(Simply circle the ones you want and enclose payment)

1. **Exploring Ecstasy: A Description of MDMA Users.** Final Report to the National Institute on Drug Abuse. Marsha Rosenbaum, Principal Investigator, Patricia Morgan, Co-Principle Investigator, Jerome Beck, Project Director. 253 pages. Cost - $30.

2. **The MDMA Controversy: Contexts of Use and Social Control** Jerry Beck's Ph.D thesis for a Doctor of Public Health from the U. of Cal., Berkeley. 271 pages. Cost - $30.

3. **Hallucinogen-Assisted Psychotherapy: A Survey of the Swiss Association for Psycholytic Therapy,** Dr. Ernst Benz's Ph.D. thesis for the University of Zurich, 100 pages. Available only in German. Cost - $30.

4. **Through the Gateway of the Heart,** edited by Sophia Adamson and Ralph Metzner and signed by Ralph Metzner, $9.95 plus $1.50 postage.

5. **Proceedings of the MAPS Swiss Psychedelic Research Methodology Conference,** talks and papers by Albert Hoffman, Lewis Seiden, George Ricuarte and others. 150 pages, $25.

6. **PIHKAL** by Sasha and Ann Shulgin. $18.95 (+$4.00 p/h), California residents add $1.38 tax.

7. **MDMA Psychotherapy in End-Stage Cancer Patients -The Protocol** - 23 pages, $8.

8. **The Good Friday Experiment Follow-Up,** the article on psychedelics and experimental mysticism by Rick Doblin, published in the August, 1991 *Journal of Transpersonal Psychology,* $8.

VIDEOTAPES AVAILABLE FROM MAPS

1. **MAPS February,1990 Benefit** - 3 1/2 Hour Extended Version, $35.

2. **MAPS February,1990 Benefit** - 1 1/2 Hour Artistically Edited Version, $35.

3. **Stanford, February, 1991 Conference**- 2 hour Artistically Edited Version, $35.

On February 24,1990 a unique group of speakers gathered to discuss "Psychedelics in the 1990's-Regulation or Prohibition" as part of a benefit for MAPS. These speakers included Jerry Beck, MDMA researcher; Ram Dass, psychedelic research pioneer; Rick Doblin, President of MAPS; Bruce Eisner, author of **Ecstasy: The MDMA Story;** Laura Huxley, author of **This Timeless Moment** (about the last days of her husband, Aldous); Emerson Jackson, Navajo Medicine Man and president of the Native American Church (whose freedom to use peyote in religious services was at issue in a U.S. Supreme Court case); Dr. Mark Kleiman, lecturer in criminal justice and drug policy at Harvard's Kennedy School of Government; Dr. Timothy Leary, psychedelic research pioneer; Dennis McKenna, brain researcher, Terence McKenna, founder of Botanical Dimensions; Ralph Metzner, psychedelic research pioneer, Dr. Andrew Weil, author of **The Natural Mind, From Chocolate to Morphine,** and **Health and Healing;** and Robert Zanger, president of the Albert Hofmann Foundation.

On February 2 and 3, 1991, a large conference on psychedelics was held at Stanford University featuring Tim Leary, Terence McKenna, Francis Huxley, Ralph Metzner, Robert Anton Wilson, Steven Gaskin, Mountain Girl, John Lilly, Rick Doblin, Charles Grob, David Nichols, Alison Kennedy and others. Compilation by Sound Photosynthesis.

MAPS

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❑ **YES!** I would like to join the Multidisciplinary Association for Psychedelic Studies.
Enclosed is my tax-deductible contribution of: ❑$30 ❑$100 ❑$250 or more ❑$ other_____

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Patrons- Check Appropriate Box

❑ I prefer the MAPS Benefit 3-1/2 hour Video.

❑ I prefer the MAPS Benefit 1-1/2 hour Video, artistically edited by Sound Photosynthesis.

❑ I prefer the Bridge Conference 2 hour Video, artistically edited by Sound Photosynthesis.

MAPS Membership Information

MAPS is the only organization in the world primarily devoted to assisting psychedelic researchers design, fund, conduct and report on psychedelic research in humans. In addition, MAPS is the only organization other than the government's National Institute on Drug Abuse actively funding research on MDMA. Directed by Rick Doblin, recently awarded a Masters in Public Policy from Harvard's Kennedy School of Government, MAPS and the scientists we assist can generate critical information about the risks and benefits of MDMA and other psychedelics. MAPS is solely supported by donations from its members, who currently number several hundred, and has spent over $300,000 on psychedelic research. With patience, we can help to bring about the gradual medicalization and legalization of psychedelics and the states of mind they engender. Albert Einstein wrote that "Imagination is more important than knowledge." If you can even faintly imagine our culture integrating the use of psychedelics, please contribute toward the expansion of knowledge in this area. No progress is possible without the support of individuals who care enough to take individual and collective action. In addition to supporting research, your contributions will return to you the following benefits:

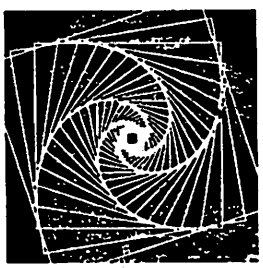
THE MAPS NEWSLETTER. Each quarterly newsletter will report on MAPS research in progress. In addition to reporting on our own studies, the newsletter will focus on psychedelic research both in the US and abroad and on conferences, books and articles of interest. Issues raised in letters and calls from members will be addressed, as will political developments that effect psychedelic research and usage.

MEMBERSHIP CATEGORY 1... General $30.

General members will receive four newsletters a year and advance information about MAPS conferences and special events. In addition, General members will receive a signed (by the editor) copy of **Through the Gateway of the Heart**, a collection of fascinating self-reports of personal experiences with MDMA and 2-CB, edited by Sophia Adamson and Ralph Metzner.

MEMBERSHIP CATEGORY 2... Supporting $100.

Supporting members will receive four copies of the newsletter as well as advance information and discounts to MAPS conferences and special events. In addition, supporting members will receive a copy of **PIHKAL** by Sasha and Ann Shulgin.



MEMBERSHIP CATEGORY 3... Patron $250 or more.

Patrons will receive four newsletters, advance information and discounts to MAPS events, **Through the Gateway of the Heart, PIHKAL,** plus either a 3-1/2 hour videotape of the February, 1990 MAPS Benefit which featured Jerry Beck, Ram Dass, Rick Doblin, Laura Huxley, Emerson Jackson, Mark Kleiman, Tim Leary, Dennis McKenna, Terence McKenna, Ralph Metzner, Andy Weil and Robert Zanger, or a new Sound Photosynthesis 1-1/2 hour artistically edited videotape of the MAPS Benefit, or a new 2-hour Sound Photosynthesis videotape containing highlights of the February, 1991 Bridge conference entitled "*Linking the Past, Present and Future of Psychedelics*". Patrons may also request research updates at any time on matters of personal interest.

"I believe that if people would learn to use LSD's vision-inducing capability more wisely, under suitable conditions, in medical practice and in conjunction with meditation, then in the future this problem child could become a wonder child."

Dr. Albert Hofmann, discoverer of LSD