1801 Tippah Avenue
Charlotte, NC 28205
Phone (704) 358-9830
FAX (704) 358-1650
Rick Doblin,
MAPS President

Multidisciplinary Association for Psychedelic Studies, Inc.

Small Steps, Gradual Progress, New Opportunities **Spring 1992, Vol III No. 2**

AFTER A YEAR AND A HALF OF HARD WORK, a groundbreaking MDMA research protocol has been born. A collaborative effort of MAPS, several psychiatrists at the University of California at Irvine (UCI), and numerous expert consultants, the protocol seeks to explore the safety and efficacy of MDMA-assisted guided imagery and psychotherapy in the reduction of pain and distress in end-stage pancreatic cancer patients. If approved by all required authorities, the historic protocol will be the first human study using MDMA conducted in the United States since 1985, when MDMA was made illegal. A protocol approved by the FDA will have the added effect of catalyzing MDMA research around the world.

The MAPS strategy discussed in the last newsletter involved submitting the protocol first to the FDA around the beginning of this year and then submitting it to the UCI Institutional Review Board (IRB). Our strategy was modified as it became clear that the protocol was more well received at UCI than anticipated. Since FDA approval is much more likely if IRB approval is in hand, we decided to delay submission to the FDA and first seek IRB approval.

On February 28,1992, UCI's Institutional Review Board formally approved the study! The protocol has now been submitted to the FDA for final review. The FDA can either approve the protocol, reject it or place it on hold pending further pre-clinical studies or advisory committee hearings. If the FDA approves the protocol, MAPS will begin a major fund-raising campaign to raise the estimated $75,000 -$100,000 needed for the experiment. Though this will require a great deal of work, raising the necessary funds for an approved experiment may be less difficult than raising funds for the process of seeking protocol approval, a struggle with an uncertain outcome and long odds. The current members of MAPS are the core group without whose support no progress would have been made. To all of you, I extend my deep appreciation. Because of your support for the long hard work that went into the protocol design, we have finally succeeded in submitting a well-designed protocol to the FDA. Now we wait and hope that Springtime has really arrived!

In addition to reports on psychedelic research in the US and Switzerland, this issue contains fascinating reports about psychedelic research in Russia. Of special importance is the proposal from Dr. Luchakova for funding for collaborative studies. Soviet state-funded science is in a crisis. It is now possible to assemble a world-class psychedelic research group for a fraction of the cost here in the US. This is a rare opportunity for MAPS and you will hear more about it in the future. — *Rick Doblin, MAPS President*

A Proposal for Collaborative Psychedelic Research in Russia

By
Dr. Olga Luchakova, M.D., Ph.D.
Lab. of Functional Neurochemistry, Pavlov Institute of Physiology, St. Petersburg, Russia

I quite agree that "future experiments should be approached cautiously and carefully, with a multidisciplinary team of scientists." In Russia it is possible now to gather such a team, and I'll explain why. Igor *(Ed. Note: next two articles by Dr. Igor Kungurtsev)* and I are the leaders of a non-profit public organization "Breathing World." It consists of professional scientists mainly, dealing with the scientific investigation and practical use of many spiritual methods. Our observation of the dynamics of public consciousness in today's Russia reveals that psychological difficulties are being experienced by a considerable part of the population. The aid, coming from the Western countries, mainly various foodstuffs, etc., helps people to survive but not to live. It is necessary to develop social programs directed specifically towards teaching people how to help themselves. More than 6 years of practical experience conducting groups of personal development (different meditative techniques) made it clear that methods of working with consciousness couldn't be just taken from one culture to another without any changes, because of the important differences between the subconscious of people belonging to different cultures. So we are very interested in cross-cultural investigations concerning the structure of deep consciousness levels.

Psychedelics are powerful tools for such research. At this moment, it is possible to investigate the phenomenology of experience of women who have undergone abortions under ketamine administration in Russia and in the United States. If permission could be obtained for additional human studies, it would be very useful to obtain information about the neurochemical action of psychedelics such as ketamine and MDMA. It is amazing that we even today we can only offer suggestions about what's really happening at the neuron membrane when a person takes psychedelics. Modern neurochemical approaches could make this clear.

We've already discussed such a possibility with my colleagues. The program could be called "Transcultural Investigation of the Contents of Consciousness as a Result of the Use of Different Methods of Inducing Transpersonal States." The methods include connective conscious breathing, different meditation techniques, administration of various psychedelics, and so on.

I guess you are familiar with the existing situation within science in Russia: government-funded official academic science proved to be ineffective. It is possible and necessary to develop private science, using the highly educated professionals who find themselves disappointed with the existing state-governed science. ■

"Death-rebirth" psychotherapy of neuroses with Ketamine (Ketalar) Administration

By
Dr. Igor V. Kungurtsev. MD.
Research Associate, Bekhterev Psychoneurological Research Institute, St. Petersburg, Russia

PSYCHOTHERAPISTS working within a psychodynamic paradigm often encounter the following situation. After months of therapy, the patient on a logical, rational level can easily understand and explain from where his symptoms are originating but the symptoms continue to exist. Besides a logical understanding, human beings need intensive experiences to change. Full liberation from neurotic symptoms is impossible without deep personality alterations. It seems that life values and personality alter only through non-ordinary states of consciousness connected with profound experience.

Though most psychedelics are in Schedule 1, Ketamine (Ketalar), an interesting substance for transpersonal psychotherapy that is used in surgery as an anesthetic, is not. In doses 6-10 times lower than used in surgery, it induces profound transpersonal experiences which last 30 - 45 minutes. Ketamine is safe, short-acting and has a low addictive potential.

We have tried to use ketamine in psychotherapy of neuroses. In the beginning we undertook self-experimentation in order to find the most convenient doses for treatment. We prefer intramuscular injection because of the longer effect (in comparison with intravenous). My weight is 72 kilograms (kg) and I will indicate doses in total and in milligram per kilogram (mg/kg). *(continued next page)*

A dose of 50 mg (.7 mg/kg) induces a motion picture of colored images when eyes are closed. When eyes are open, ordinary reality remains but assumes an unusual air. Orientation is resolved. On 100–150 mg (1.4-2.1 mg/kg) ordinary reality disappears even when eyes opened. Perceptions of one's own body also disappear. The subject discovers himself as a point of consciousness which moves in very strange worlds yet the feeling of self remains. On doses higher than 150 mg (2.1 mg/kg) intramuscularly, the feeling of individual self dissolves. The process of losing one's individuality can be horrifying and felt as a real death. If the subject can relax and let go, this process may be ecstatic. After the loss of the feeling of one's individual self, the experience is indescribable. There exists only "That which is aware of Itself."

Concerning the work of the psychotherapist during the session, we preferred the psychedelic paradigm because of the peculiarities of the action of ketamine. In terms of Stanislav Grof's classification, ketamine usually catalyzes transpersonal experiences without engaging the psychodynamic level.

We have recently finished the planning of a research project, "Psychotherapy of Neuroses with Ketamine Administration." We have since investigated only 9 patients, too few for statistical validity. To my regret, the completed test results have not yet been analyzed. Therefore, I will discuss our research plan and first impressions.

We plan to examine male and female patients (age 18-50) with the diagnosis of neurotic non-endogenous) depression and phobias. Two variants of therapy were considered: treatment with only one ketamine session and supportive psychotherapy, and repeated ketamine sessions when relapse occurs. So far, we have used only the first variant, with an intramuscular injection of between 1.9-2.2 mg/kg.

The patient is prepared for the session by individual psychotherapy existentially and transpersonally oriented. No psychotropic drugs are prescribed.

During the session, the patient is lying on a wide bed. We use music by Kitaro, Vangelis, and other New Age composers. Since at the doses used the patient usually has no contact with ordinary reality, the psychotherapists is simply sitting nearby ready to give any kind of support. Transpersonal experiences usually last 30-45 minutes and after this the patient gradually comes back into ordinary reality. The "coming back" period lasts about an hour and is also important. The psychotherapist gives emotional support and feedback. If the patient shares his/her experience there could be the beginning of interpretation. In the evening the patient writes the report of his/her experience and on the next day discussion and interpretation is conducted.

A set of psychological tests are administered before and after each session. Among the well-known tests are the MMPI and Zung Anxiety and Depression Scales. However, we are most interested in measuring life values and worldview alterations. For this purpose, we use the Self-Assessment Spirituality Scale by C. Whitefield and Questionnaire of Life Changes by Ken Ring. But the main tool of measuring deep subconscious alterations is the original version of Repertory Grids which was specially worked out for this purpose. It measures existential psychosemantic field alterations which reflect profound personality changes.

The preliminary results are auspicious. We treated 8 patients with neurotic reactive depression and 1 with phobia. We observed significant clinical improvement in 7 patients including the phobic. Two patients remained without alterations. Statistically valid declines in the Zung Anxiety and Depression Scales were observed. To our regret, our computer is broken we have not yet analyzed the results on our main tool — repertory grids. However, according to interviews and completed Questionnaire of Life Changes scores, we have noticed that a reduction of depression and other neurotic symptoms was mainly associated with alterations in life values, attitudes and worldviews.

Concerning the phenomenology of ketamine experiences, that is a topic for a separate article. We are only at the beginning of our interesting investigations. ■

(This research was conducted in the laboratory and under the direction of Dr. Evgeny Krupitsky)

After the loss of the feeling of one's individual self, the experience is indescribable.

From Russia with Mushrooms– A Sketch

by Dr. Igor Kungurtsev, Research Associate, Bekhterev Psychoneurological Research Institute, St. Petersburg, Russia

FROM the psychedelic literature, I was convinced that divine psilocybin mushrooms grew only in far-away Mexico and were only available to such lucky persons as Gordon-Wasson and Carlos Castaneda. Here in St. Petersburg, Russia, we poor altered states investigators of necessity content ourselves with ketamine. But recently, I learned that God had taken care to grow mind-altering plants everywhere on Earth.

I made acquaintance with a person who called himself a magician. He told me that he uses psychedelic mushrooms growing in the forests of the Leningrad region in his magic practice. I doubted that it was really psychedelic mushrooms and he gave me some amount of dried specimens. He also told me the instructions for use and promised to take me in the forest in summer to show me the places they grew.

Though he assured me that the mushrooms were absolutely safe, I wanted to identify it scientifically. I opened a xerox copy of *Psychedelics Encyclopedia* by Peter Stafford (this book is my pride; even Lenin's Library in Moscow doesn't have this book!) and identified the specimens as a *Psylocybe semilanceata!* They looked exactly like the picture in the book. I read that *Psylocybe semilanceata* grow in North American, Britain and even in Scandinavian countries. The Leningrad region is near Scandinavia. I carefully studied the Encyclopedia's chapter about psilocybin mushrooms.

The magician told me that the initial dose is about 8 mushrooms which should be eaten dried without boiling. On February 7,1992 I ate 10 dried mushrooms. The action began in 15 minutes as a physical and emotional relaxation. Then I noticed that my usual stream of thoughts ("inner dialogue") had stopped. Sensations of the body became more precise. My awareness and mindfulness were strong and lucid. I was absolutely "here now" in every moment. I noticed that when I began to do something I was fully involved in the action forgetting all else. At the same time I felt an inner surrender from all actions. The experience was gently going deeper. I felt myself miraculously serene and in a contemplative mood. I had no desires and needs. I simply was. Bodily sensations became blissful. Periodically, waves of indescribable bliss were going through me. In this period, I saw an "as if" white light shining through ordinary reality while the feeling of individual self dissolved. Later, I called this experience "the unbearable bliss of being." In the last part of the trip, the intensity of bliss gradually decreased but I had a miraculous experience of Suchness (or Is-ness). Pure existence. The world is perfect; all happens in the proper way. There is nothing to improve, nothing to add and nothing to take off. Just to be.

I called this experience "the unbearable bliss of being."

It was late. I lay down to sleep while the action was not finished and had an interesting experience. I was a pure observer, a witness non-identical to my body and mind. I was observing that my body began to fall asleep and then how my mind was sleeping and experiencing dreams while I continued to observe this! An hour later the Observer entered into dreams of sleeping mind and lost himself. ■

Swiss Psychedelic Research Update

SEVERAL PSYCHIATRISTS in the Swiss Association for Psycholytic Therapy (SAPT) have permission from the Swiss Health Office to continue to treat a limited number of patients with LSD and MDMA. In late January, the members of SAPT, who are primarily clinicians and not researchers, met with Professor Ladewig, a supervisor and consultant appointed by the Swiss Health Office to monitor their use of psychedelics. Professor Ladewig is helping the members of SAPT design a research protocol so that they can begin work with a larger number of patients. The design of the protocol is currently in process and is expected to be completed around the end of the summer.

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Development of Ibogaine to Treat Addiction

by
Howard Lotsof,
President, NDA
International

THERE EXISTS A PERCEPTION by many people who have clinical experience in the area of psychoactive substances that the pharmaceutical development of such a product would be fraught with problems. This has not been NDA International, Inc.'s experience. We are, however, at an early stage in our work.

It had been demonstrated that the FDA would not allow the marketing of any product on broad-based claims of psychotherapeutic efficacy. While our original interest in Ibogaine was as an adjunct to psychoanalytical and psychotherapeutic treatment, our reason to proceed with the development of Ibogaine was its unique ability to interrupt chemical dependency disorders. This allowed for a very specific application to a long term public health problem which heretofore had been provided with no successful means of medical interruption.

The keys to marketing any pharmaceutical product are patent protection, proper financing and a clear understanding of the regulatory requirements which must be met. The ENDABUSE PROCEDURE™ in which Ibogaine may be used to interrupt heroin, cocaine, alcohol or nicotine addiction are the only research areas for which NDA International will supply Ibogaine for human treatment. That Ibogaine is a schedule 1 substance was a circumstance we viewed as positive in that only responsible researchers would have access to the material.

One of the reasons I believe that we have not run into any significant problems is that we are following normal guidelines for pharmaceutical development and not seeking special accommodations from regulatory agencies. Furthermore, NDA International is well represented by legal specialists in the regulatory and patent areas.

A second reason I believe research is proceeding without problem is that NDA International has a clear understanding of who our medication is intended for: Addicts. Our corporation has a policy of not providing Ibogaine to satisfy the professional curiosity of psychiatrists and psychologists as to its effects. It is no more necessary for a medical specialist to take Ibogaine to treat addictive disorders than it would be for an oncologist to take anti-cancer drugs in order to treat patients suffering from cancer. Thus, a clear distinction exists between satisfying physician curiosity and treating addicted patients.

There are inherent advantages to Ibogaine which lend themselves to allow the development of this product: 1) Ibogaine eliminates narcotic and cocaine withdrawal and in most cases interrupts the desire of the addict to continue drug use, 2) any medical specialist in the area of addiction and chemical dependency would fine the ENDABUSE PROCEDURE (tm) easily adaptable to the majority of treatment modalities already in existence, 3) the effects of treatment with Ibogaine in the ENDABUSE PROCEDURE (tm) are dramatic and easily identified, 4) the ENDABUSE PROCEDURE (tm) is provided in a clinical environment with no take home doses and is not a maintenance treatment, 5) Ibogaine is not a euphoriant and has not shown itself to have abuse potential.

In order to place Ibogaine in correct perspective, it must be remembered that many psychoactive substances are already available for medical use. The belladona alkaloids (cold preparations), dextromethorphan (cough medications), vincaleukoblastine (anti-cancer drugs) and valium (anti-anxiety agents) are all capable of causing hallucinatory reactions. In the case of Ibogaine, an anti-mnemonic repression agent, all visualization appears to cease after three or four treatments. While our conclusions are highly speculative, it may be that once repressed memories are released during the ENDABUSE PROCEDURE (tm), visualization ceases. Thus, Ibogaine is not an hallucinogen.

I hope that in this brief review, the reader will have been provided with a general understanding which may lead to the further development of valuable medical products.

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For more information about ibogaine, contact Howard Lotsof, NDA International, 46 Oxford Place, Staten Island, NY, 10301, (718) 442-2754.

Reflections on Strategy for Psychedelic Research in Light of the Medical Marijuana Struggle

By Rick Doblin, MAPS President

HOWARD LOTSOF'S STRATEGY (see previous article) of following normal guidelines for pharmaceutical development and not seeking special accommodations from regulatory agencies is fundamentally the same as MAP's strategy. Choosing to work within the guidelines of the FDA means that the requirements that apply to large multinational pharmaceutical companies must also be met even by much smaller organizations. The cost of required pre-clinical and clinical studies in time and money is a significant hurdle, even for large pharmaceutical companies developing non-controversial drugs. Such obstacles are particularly vexing for advocates of the medical use of psychedelic drugs.

After participating in and observing the struggle surrounding the medical use of marijuana, I've come to believe that working with the FDA is the path of least resistance for the development of the medical use of any Schedule 1 drug. The strategy employed by most advocates of the medical use of marijuana was to seek to provide marijuana to patients through FDA's "compassionate use" program. A major drawback of this approach was that the "compassionate use" program was designed to supply experimental drugs to relatively few patients while full-scale clinical trials are in progress. The program involves a patient-by-patient review by the FDA and does not generate data in support of the prescription availability of marijuana as a regularly approved pharmaceutical drug. Most importantly the ad hoc nature of the "compassionate use" program makes it subject to the vicissitudes of political manipulation.

...working with the FDA is the path of least resistance for the development of the medical use of any Schedule 1 drug.

As long as the compassionate use program for marijuana remained very small, it was grudgingly tolerated. Unfortunately, there has been a bureaucratic backlash against the program as physicians in 1990 and 1991 increasingly sought legal marijuana for their AIDS patients to reduce nausea, stimulate appetite, and promote weight gain and a more positive attitude. Though the FDA approved about thirty new patients to receive government-supplied marijuana, Dr. James Mason, the director of the Public Health Service (of which the FDA is only a part), grew very worried at the thought of the "compassionate use" program growing from a small handful of patients to hundreds or even thousands. In June 1991, ideologically yoked to the position that marijuana has no medical benefits, Dr. Mason prevented the newly FDA-approved patients from receiving their marijuana by claiming among other things that smoking marijuana might induce them to practice unsafe sex.

In January 1992, advocates of the medical use of marijuana succeeded in winning some support from the White House Office of Drug Control Policy. Its support was limited, however, to requesting that Mason allow the 30-odd newly FDA-approved patients to receive marijuana, and that he move forward with studies designed to find alternatives to marijuana.

On March 10, 1992, Mason responded by announcing that he is shutting down compassionate access to medical marijuana permanently to all 13 patients already receiving it. To explain his decision to deny marijuana to all additional glaucoma, cancer, spasticity and AIDS patients, Mason claimed that marijuana might harm the immune systems of AIDS patients. Though no scientific evidence proves this to be the case (and much government money has been spent trying to find such problems), neither have any studies specifically in AIDS patients shown it not to be a problem. Mason also claimed that no studies showed marijuana was better than the currently available medicines, a blatantly false claim concerning cancer patients but true about AIDS patients. There is now no chance that the "compassionate use" program will become a

vehicle to provide medical marijuana to more than the tiniest fraction of the patients who could benefit from it.

In the same period of time that most advocates of the medical use of marijuana have been unsuccessfully trying to enlarge the "compassionate use" program for AIDS patients, UNIMED - the pharmaceutical company that markets oral THC (Marinol) - has made remarkable progress in securing permission to market oral THC to AIDS patients to increase appetite and reduce weight loss. A small Phase 1 pilot study at a hospital in San Francisco involving around ten AIDS patients showed that oral THC did indeed promote weight gain. UNIMED was able to get oral THC classified by the FDA as an "Orphan Drug" in the treatment of AIDS patients, giving UNIMED tax incentives, protocol assistance and patent protection. A larger Phase 2 trial was also conducted successfully . On January 8, 1992 UNIMED announced that it had reached its enrollment target for its Phase 3 studies. In UNIMED's quarterly report mailed to stockholders in late February 1992, it indicated that it plans to file an FDA Supplemental New Drug Application (SNDA) by July 1992. In addition, clinical trials will be conducted throughout Europe, including at The Pasteur Institute in Paris where Professor Luc Montagnier discovered the AIDS virus.

When evaluating the progress of UNIMED, it is essential to note that oral THC does not carry with it all the political liabilities of smoked marijuana. Indeed, the Bush Administration is willing to approve oral THC so that it can claim that an alternative to smoked marijuana does exist and that shutting down the "compassionate use" program would cause no real hardships to patients.

Despite smoked marijuana's political connotations, the Bush Administration would be hard- pressed to keep denying smoked marijuana to AIDS patients if FDA-approved studies showed that smoked marijuana worked better than oral THC and had no harmful effect on patient's immune systems. Indeed, if a study comparing oral THC to smoked marijuana were conducted, it is highly likely that smoked marijuana would prove the better medicine. This is partly due to the fact that smoking THC has been proven to be a more efficient and effective route of administration than oral consumption. In addition, some researchers speculate that the variety of ingredients in the natural marijuana plant offers pharmacological synergisms not present in refined THC. MAPS has long advocated scientific studies to arrive at conclusive answers to these questions.

One lesson from the struggle concerning the medical use of marijuana is that special FDA procedures such as the "compassionate use" program can be capriciously shut down by political pressure from outside the FDA. It is much harder to imagine the administration shutting down the conventional drug development process just to block the approval of smoked marijuana, ibogaine, MDMA, or any other Schedule 1 drug. Another lesson is that the FDA is more willing than other government agencies to permit the medical use of Schedule 1 drugs.

The strategy of following normal guidelines for pharmaceutical development and not seeking special accommodations is designed to minimize the political pressure that can be placed on the FDA by generating objective scientific data that must be reviewed on its merits. This is the strategy that MAPS has advocated in its struggle to open the door to medical research with MDMA. While predicting what the FDA will do is impossible, there is evidence that the strategy may work. First, the MDMA protocol has been endorsed by several of the main MDMA neurotoxicity researchers. Normally opponents of human studies, these scientists have been won over primarily because the risk of significant harmful consequences to the subjects is minimized by the choice of end-stage cancer patients. They have been persuaded that such risks are outweighed by the potential benefits to the patients and the gain in scientific knowledge. Second, the doses involved in the experiment (a maximum of four doses of up to 2.3 mg/kg of MDMA administered at least two weeks apart) are less than half the lowest level at which neurotoxicity has been found in the primate. Third, animal researchers have failed to find significant functional consequences of even massive MDMA-related neurotoxicity.

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Subjective Effects of DMT and the Development of the Hallucinogen Rating Scale

by Dr. Rick Strassman, Asst. Professor of Psychiatry, University of New Mexico

A draft of a new scale, the Hallucinogenic Rating Scale (HRS), was developed and administered in approximately 25 non-blind low (0.05 mg/kg) and high (0.4 mg/kg) dose DMT sessions.

WE WERE INTERESTED in developing a new rating scale to more accurately assess the subjective effects induced by DMT, a powerful, short-acting hallucinogen. To this purpose, 19 experienced DMT smokers were interviewed, mostly by telephone, to provide a relatively detailed description of the physical, perceptual, emotional, and cognitive effects of smoked DMT free base. If there was any overriding framework within which these initial interviews were conducted, it was from a descriptive, phenomenological and non-judgmental perspective. Additionally, the items I began with involved what might be called the "mental status" approach, learned by all third year medical students during their psychiatry rotations. This approach takes a systematic view of mental phenomena and breaks mental experience down into several categories: perceptual, emotional, cognitive, interoceptive/somatic (that is physical sensations), and volition. Interviews ranged from 1-2 hours and were at first loosely structured; they became more focused toward the later stages of this process.

A draft of a new scale, the Hallucinogenic Rating Scale (HRS), was developed and administered in approximately 25 non-blind low (0.05 mg/kg) and high (0.4 mg/kg) dose DMT sessions. The HRS was modified based on the experiences reported during these sessions, and upon suggestions of the subjects. The final questionnaire contained 126 questions, many of which were repeated in a "Stage" format, so that subjects were requested to answer 238 questions. There was a "Beginning" stage, the first 30-60 seconds, corresponding to drug onset; a "Middle" stage, the period from 1-5 minutes post-injection, when effects peaked or plateaued; and an "Ending" stage, corresponding to the 5-15 minute post-injection "resolution" phase. A final stage, "Wrap-up," allowed a global assessment of certain general features of the session, such as degree of liking, desire to repeat the experience, how high subjects were relative to other hallucinogenic experiences, and to guess at what dose they received that day.

Questions were all posed retrospectively; i.e., subjects were asked to recall their experiences from the immediately preceding session. The brief duration of the drug effect and incapacitating nature of the higher doses precluded subjects answering the questionnaire during the acute intoxication. The first time filling out the HRS took about 35-40 minutes. Once subjects became familiar with it, 20 minutes or less were required. Nearly all questions were coded 0-4: 0 = "Not at all;" 1 = "Slightly;" 2 = "Moderately;" 3 = "Quite a bit;" 4 = "Extremely." Some questions were coded 0-2. For example, "Were you unconscious during any part of the session?" was coded 0 = "Definitely no;" 1 = "Not sure;" and 2 = "Definitely yes." Finally, several questions were scored in a "bipolar" fashion; i.e., -2 to +2. For example, "Was there an effect on your sense of bodily weight?" was coded in the following manner: -2 = "Much lighter;" -1 = "Somewhat lighter;" 0 = "No effect;" 1 = "Somewhat heavier;" and 2 = "Much heavier."

A tremendous amount of "number crunching" has gone into analyzing the data from this questionnaire. The data base we are using consists of responses from 11 subjects given drug or placebo 5 times each; this results in over 13,000 responses. Most of the statistical analyses have been performed on PC's; however, our final approach to some of the problems will require a mini-computer recently installed in the Clinical Research Center's computer room.

The immediate concern that comes to mind is, "How can 238 questions be turned into a manageable number of factors?" One cannot publish results of analyzing 238 questions 55 times. The process by which "shrinking down" a lengthy questionnaire occurs is called "factor analysis." Two methods of factor analysis were preformed to create a more manageable number of "clusters" of questions. The first method for developing factors was the "empirical" method. Based upon our initial interview with DMT smokers, and the narrative accounts of our subjects of their experiences, we arrived at six factors that appeared to "hang together" conceptually. They also were appealing from a descriptive, phenomenological, "mental status" perspective. These factors were: 1) Affect/Emotion — questions concerning "anxiety," "fear," "euphoria," "urge to laugh," "urge to cry;" 2) Somaesthesia/Interoception: questions addressing "feeling flushed," "effect on bodily weight," "shaky feelings," "effect on bodily temperature;" 3) Intensity: questions concerning "how high were you," "how intense was the experience," "how strong was the rush;" 4) Perception: questions addressing primarily visual and auditory effects such as "visual imagery," "visual effects," "presence of a geometric grid over objects," "sounds sounding different;" 5) Cognition: questions concerning effects on thought processes or content, such as "thoughts speeded up," "effect on quality of thinking," "insights into occupational or personal life;" and 6) Volition: effects pertaining to "loss of control," "feeling sane or insane," "ability to more around if asked to."

THE second method of developing clusters was based on purely statistical issues, allowing the computer to choose which questions belonged in which categories. We told the computer to generate six factors, the number we chose in our "empirical" approach. Our computer program, SAS (from Cary, NC), provides a procedure called Principal Factor analysis, which creates relevant factors, using what is called a "Varimax rotation," which allows the responses of questions to "rotate in space" in such a way as to maximize the relationships among all questions.

We then analyzed the ability of each of these sets of factors to discriminate among doses of DMT and placebo. As you may recall, we gave 0.05, 0.1, 0.2 and 0.4 mg/kg intravenous DMT fumarate, or saline placebo, in a double-blinded manner to our subjects. That is, neither I nor the subject knew what substance he/she was getting any particular session, and there was no set order in which any of the substances were given.

We found that either of these methods of clustering questions provided greater ability to separate doses of DMT than any of the biological effects of DMT (blood pressure, heart rate, pupil diameter, body temperature, ß-endorphin, adrenal stimulating hormone, prolactin, growth hormone, cortisol or pineal melatonin). Surprisingly, but gratifyingly, we found that the "empirical" factors provided a greater ability to distinguish among doses of DMT, particularly between the lowest dose (0.05 mg/kg) and saline placebo than the computer-derived factors. This is of note because many subjects mistook the 0.05 mg/kg dose with placebo; and the questionnaire provided data that could statistically separate responses from the 0.05 mg/kg dose and placebo based on the total number of responses. Furthermore, the empirical "Intensity" factor is the only one among all 12 factors (six "empirical" and six "computer-derived")

(continued next page)

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which provides a clear separation among all 5 doses. Thus, we retained our empirical factors in lieu of the computer derived factors.

It may be of interest to briefly describe each dose effect, realizing that subjects differed widely in their experiences at any particular dose.

0.4 mg/kg: Subjects were almost uniformly overwhelmed at the intensity and speed of onset of this dose, given for the first time, non-blind.

All described an intense, rapidly developed, and generally transient anxiety-provoking "rush" throughout their body and "mind." This was described as a "freight train" by several subjects. It immediately and totally disrupted normal mental function, replacing it with the hallucinogenic effects of DMT. Most subjects lost awareness of their bodies at this point, and many were not cognizant of being in the hospital, or participating in an experiment, so completely compelling, arresting and overwhelming were the initial two minutes of the experience. Interestingly, the three subjects with experience smoking DMT free base all described the effects of the IV drug as more overwhelming and rapid in onset than the smoked form.

Most subjects lost awareness of their bodies at this point, and many were not cognizant of being in the hospital, or participating in an experiment, so completely compelling, arresting and overwhelming were the initial two minutes of the experience.

Visual effects, at the peak, included concrete, formed, more or less recognizable visual images with eyes open or closed. Examples of these types of images are: "a fantastic bird," "a tree of life and knowledge," "a ballroom with crystal chandeliers," human and "alien" figures (such as "a little round monstrous creature with one big eye and one small eye, on nearly invisible feet"), stairways, etc. At the other end of the visual effects spectrum, some subjects described kaleidoscopic geometric patterns that were not obviously representational. In between these two poles were discrete visual images of novel phenomena. For example, some subjects saw "the inside of a computer's board," "tubes," "ducts," "DNA double helices," "a pulsating diaphragm," " a spinning golden disc off to my left," " a huge fly eye bouncing in front of my face," etc. Subjects generally described the colors as brighter, more intense and more deeply saturated than any colors they had ever seen in normal consciousness, and some found the visual images more intensely constituted than those seen on other hallucinogenic drugs. Subjects' visual phenomena were qualitatively quite similar for the two 0.4 mg/kg doses (non-blind and double-blind). As the effects resolved, subjects would open eyes and note that the visual field was overlaid by geometric patterns, with undulating movement and intensification of colors of external objects.

Auditory effects were consistent from one high dose to the other, if they were noted at all. Auditory hallucinations were not formed (e.g., music or voices) but were usually high pitched, "whining," "chattering," "crinkling/crunching," or at times comical, such as the "boing, sproing" sounds heard in cartoons.

Somaesthetic effects were generally of a highly stimulating "fear response" nature, although all subjects recognized a curious distinction between their physical reaction to the drug and the less emotional subjective response to this reaction. Phrases such as "my body was afraid but I wasn't" were relatively common. As effects resolved, the physical sensations became quite pleasant and relaxing. However, one subject, the least experienced of the group, began to uncontrollably shiver during the resolution phase of his non-blind high dose. This responded to verbal reassurance and brief massage of his chest and abdomen. Some subjects described a sexual effect of the highest dose; a hot and pleasurable sensation developing in their genital area. No subjects experienced orgasm or ejaculated.

Emotionally, most subjects were initially anxious as the "rush" developed. However, they quickly settled into the experience within 15-30 seconds post-injection. The majority of subjects described the high dose as exciting and

uplifting, euphoric and highly positively charged. These qualities were often associated with the visual hallucinatory display. However, most paradoxically also described the emotional "valence" as "bland," "unemotional," and "journalistic" in nature. That is, the experience developed and resolved so quickly that there did not seem to be time for subjects to react to it one way or the other; subjects just "held on" and dispassionately watched the experience unfold. For some, however, the rapidity of the experience was not the primary reason for a lack of emotional response: one subject "tried to get myself worked up over what I was seeing, but I just wasn't able to respond emotionally." Some, however, found the experience emotionally quite unsettling. For example, a non-practicing Catholic found himself "face to face with God," and "saw how insignificant and stupid mankind is, and how non-moral and basically uninterested God is." He was "blown away; my foundation for religion has been destroyed." He subsequently began an interest in and practice of another, non-Western religion, that "fit my needs more realistically."

Cognitively, most subjects found the high doses to not necessarily be "novel" or "insightful." Only a few emerged from the intoxication with new perspectives on their personal and/or professional lives (as in the subject described in the preceding paragraph). Neither was there much distortion of normal thinking processes. Subjects almost uniformly remarked at how unchanged their thinking processes were. Some subjects compared this phenomenon to that of a dream; in which their total involvement and belief in the certainty of what was unfolding coincided with an unimpaired ability to observe.

Nearly every subject found the high dose to cause an almost total loss of control. They felt extremely regressed, more or less completely helpless and unable to function either physically or psychologically in a normal manner. They did not seem able to affect the hallucinatory phenomena in any way during the earliest stages.

The first non-blind high dose was usually more anxiety ridden (particularly for the first 30 seconds post-injection) than the subsequent high dose. That is, subjects were prepared to "lose control" and be swept away after having been in that state once before. Furthermore, their understanding that the drug experience was essentially safe, that they "would live" and not "lose their minds" was strengthened by having had the high dose before. Finally, their confidence in the research team to unobtrusively support their regressed state grew as their participation in the study progressed.

0.2 mg/kg: For most subjects, this was the threshold dose for hallucinogenic effects. The majority of subjects had some visual hallucinations, but auditory ones were rare. Some found this to be their "dose of choice," being less disorienting and frightening than the 0.4 mg/k dose, but generating enough perceptual and affective effects to be interesting, novel and pleasurable. The "rush" was difficult to distinguish, at the onset, from the 0.4 mg/kg dose, but it soon became apparent that the intensity of the experience would be less than the highest dose.

0.1 mg/kg: This dose was generally not enjoyed by many subjects. They felt the somaesthetic sensations of excitation and the "drive to discharge" were more striking than the perceptual or affective changes induced. Thus, they were physically expecting an hallucinogenic effect, but were left only with uncomfortable physical tension. One subject remarked, "You'll never sell this dose. It has all of the physical effects without any of the mental ones."

0.05 mg/kg: Several subjects mistook this dose for placebo. Those who were able to distinguish this from saline remarked on its uniformly relaxing, comforting and warm physical effects. One former heroin user likened it to the "soft

(continued next page)

...a non-practicing Catholic found himself "face to face with God," and "saw how insignificant and stupid mankind is, and how non-moral and basically uninterested God is." He was "blown away; my foundation for religion has been destroyed."

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.

cotton batting" of heroin. There were no perceptual (auditory or visual) effects at this dose.

Subjects were relatively consistent in their style of reacting to all doses of DMT. That is, those who began speaking early did so on all doses; those who preferred a longer period of silence with eyes closed did so on all doses, too. At the high dose, subjects varied widely in their capacity to and interest in beginning to interact with the research team. Some subjects would open eyes and make a brief remark at 2-3 minutes after the injection was complete, commenting that the experience was beginning to fade; others could not speak or open eyes for 10 minutes or more. Many, even if they were able to speak early on, chose to remain silent with eyes closed so as to be able to follow carefully the progression of effects.

In summary, we have developed a rating scale for the effects of DMT that is not based on any particular theoretical framework except one of a descriptive nature; that is, it is based on the effects reported by a group of experienced DMT users who also have a wide range of exposure to other hallucinogenic drugs. The Hallucinogen Rating Scale is more capable of distinguishing among doses of DMT/placebo than any of the biological effects of DMT; furthermore, our "empirical" factoring of the questions into a manageable number of sub-scores is more sensitive to dose effects than the factoring on a purely statistical basis. There are several major areas that we believe this rating scale will now help in the conduct of future hallucinogenic drug studies, both with DMT and with other drugs.

First, studies designed to modify the effects of DMT, either by blocking certain receptor subtypes that might mediate its effects, or by strategies designed to enhance its effects, will have that much greater power to carefully tease apart what effects are actually being modified by the experiments. That is, if one particular subtype of serotonin receptor is blocked, will that change the "Perceptual" effects more or less than the "Volitional" effects? If dietary manipulations enhance the effects of DMT, are its effects enhanced across the board, or only in "Affective" or "Somaesthetic" areas?

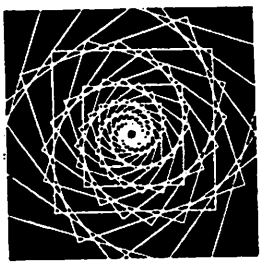
Second, a careful comparison of hallucinogenic drug effects in humans can now be accomplished, using this rating scale. Animal experiments often equate phenethylamine hallucinogens such as DOM, DOB, and DOI with tryptamine compounds such as psilocybin, DMT, and 5-methoxy-DMT and with the lysergamide LSD. However, there are clearly subtle differences when humans take these drugs, subtle differences which are not discernible using animal behavioral models. Thus, applying the HRS to a gamut of hallucinogenic drugs in humans will begin the necessary and important process of categorizing compounds in terms of their <u>human</u> effects. For example, is psilocybin more "Perceptual" than LSD? Is LSD more "Affective/Emotional" than DMT? How similar to the "classic" hallucinogens are the effects of MDMA in humans? These questions can be given quantitative answers using the Hallucinogenic Rating Scale.

A third, somewhat peripheral, but potentially important corollary of this work is that regarding potential therapeutic applications. If certain psychological disorders can be determined to show defects or dysfunction in certain areas that are affected by certain hallucinogenic compounds, this would strengthen the rationale by which these drugs could be applied to certain psychological disorders. ■

Psychedelic Horror Stories in the War on Drugs

MAPS has been contacted by several parents whose college-age children have been sentenced to very lengthy terms in jail for the sale of LSD. The Guidelines by which penalties are determined are inconsistent and have been the subject of a U.S. Supreme Court case. If the accused seller is convicted in a Federal court, the penalties are usually draconian. Minimum Mandatory sentences are based not on the amount of LSD but on the weight of the LSD and its carrier. For example, selling 100 doses of liquid LSD would result in a sentence of 10 to 18 months, with parole likely. Selling the same number of doses of LSD on blotter paper would result in a sentence of 5-1/2 to 16 years with no parole possible, if the LSD were on sugar cubes the sentence could be as long as 40 years.

The U.S. Sentencing Commission is currently considering changes to the Guidelines, and has invited public comment. Please consider writing to the Commission requesting that the carrier weight in LSD cases be specifically excluded, that this be "grandfathered" to shorten the sentences of those already serving time, that parole be reinstated, and that Judges be given flexibility to appropriately consider such factors as first offense, youth of the offender, etc. Write to William Wilkens, Jr., Chairman, U.S. Sentencing Commission, 133 Pennsylvania Ave. NW, Suite 1400, Washington, D.C. 20004. ■



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, Matthew Fox and others.

MAPS is coordinating three conference panels on international psychedelic research and is sponsoring a pre-conference discussion of the use of psychedelics in the treatment of the terminally ill. MAPS is also sponsoring the attendance of three Russian psychiatrists to the conference.

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 Hofmann, Lewis Seiden, George Ricaurte & 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** - 34 pages, $10.
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.
9. **Against Excess: Drug Policy for Results,** Mark A. R. Kleiman - $26.

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.

1801 Tippah Avenue
Charlotte, NC 28205
Phone (704) 358-9830
FAX (704) 358-1650

❑ **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_____**
❑ If outside the US, add $10 for postage. **NOTE: Your donation will not be spent on animal studies.**

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General –
❑ I already have **Through the Gateway of the Heart, please substitute MDMA Protocol.**

Supporting –
❑ I already have **PIHKAL, please substitute MDMA Protocol.**

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 a membership-based organization working to assist psychedelic researchers around the world design, obtain governmental approval, fund, conduct and report on psychedelic research in humans. Founded in 1986, MAPS is an IRS approved 501 (c)(3) non-profit corporation funded by tax deductible donations from about two hundred members. MAPS' founder and current president, Rick Doblin, is also working on a Ph.D. in Public Policy at Harvard's Kennedy School of Government and has previously graduated from the Grof's Holotropic Breathwork training program.

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

Albert Einstein wrote that "Imagination is more important than knowledge." If you can even faintly imagine a cultural re-integration of the use of psychedelics and the states of mind they engender, please consider joining MAPS in supporting the expansion of scientific knowledge in this area. Progress is possible with the support of individuals who care enough to take individual and collective action. In addition to supporting research, your contributions will return to you the following benefits:

THE MAPS 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. ***(If outside US add $10 postage.)***

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. ***(If outside US add $10 postage.)***

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. ***(If outside US add $10 postage.)***

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 capabilities more wisely,
under suitable conditions, in medical practice
and in conjunction with meditation, then in the future
this problem could become a wonder child."

Dr. Albert Hofmann, Discoverer of LSD

The 30th anniversary of Dr. Walter Pahnke's classic Good Friday experiment is April 17, 1992

Despite the media's general reluctance to report on the beneficial use of psychedelics, Alex Beam's Op-Ed piece was printed in The Boston Globe 11/25/91 The Baltimore Sun 12/4/91 and other papers across the country

THE BOSTON GLOBE • MONDAY, NOVEMBER 25, 1991

Getting real about drugs

ALEX BEAM

It was almost 30 years ago that a group of 20 young seminarians from Andover-Newton Theological School gathered in the basement of Boston University's Marsh Chapel to participate in an experiment using psychedelic drugs.

Organized by Walter Pahnke, a graduate student in religion and society, assisted by a young Harvard researcher named Timothy Leary and encouraged by the Rev. Howard Thurman, the charismatic black chaplain of Boston University, half the group swallowed psilocybin, a hallucinogen derived from mushrooms, while their colleagues ingested niacin tablets. Then all 20 filed into pews to listen to Thurman's Good Friday sermon and reflect upon Christ's Passion on the cross.

Pahnke believed that the psilocybin would induce mystical religious visions, and he hypothesized that the drug experiences would exert a long-term positive influence on his subjects' lives. Little did he know that his Good Friday experiment, which created a furor at the time, would be one of the last scientifically controlled tests using psychedelics. Shortly after the experiment, Leary was booted out of Harvard and psilocybin was outlawed. Pahnke died in 1971.

Rick Doblin, a young researcher at Harvard's Kennedy School of Government, has spent four years tracking down the 20 participants in the Good Friday experiment. One has died, one has disappeared. Of the remaining 18, all but one agreed to discuss their experiences with him. Ten of the 18 subjects whom Doblin located entered the ministry, while the rest fanned out among other professions.

By and large, they agree that the psilocybin experience had a lasting, positive effect on their lives. In an article just published in the Journal of Transpersonal Psychology, Doblin writes: "The subjects unanimously described their psilocybin experience as having had elements of a genuinely mystical nature and characterized it as one of the highpoints of their spiritual life."

Robert Kirven, who at the time was writing a thesis on spiritual reality, remembers feeling like a skeleton and experiencing his own death. "It was a very vivid opening onto another aspect of reality," he said. "Here I thought I knew what I was talking about; it was like writing about China and then getting a chance to go there."

Several psilocybin subjects had profound mystical experiences, prompting one to tell Doblin: "I would want my kids to take it."

But Doblin's follow-up research also uncovered some of the experiment's darker moments. Two subjects found the combination of the hallucinogen and Thurman's vivid Passion sermon to be overwhelming. When Thurman urged his listeners to spread the news about the crucifixion, one seminarian rushed onto Commonwealth Avenue to announce the good news and had to be restrained.

More chillingly, one of the subjects experienced what Pahnke called a "psychotic episode," and was given an injection of the powerful tranquilizer thorazine – a fact Pahnke never mentioned in his writings. Six months after the experiment, the man reported "slightly harmful" negative persisting effects. Almost 30 years later, the man's colleagues told Doblin that "his experience caused no persisting dysfunction and may even have had some beneficial as well as detrimental effects." The subject refused to talk to Doblin.

Doblin, who is also the president of the Multidisciplinary Association for Psychedelic Studies, believes his follow-up to Pahnke's original research argues for the legalization of drugs, which he supports. I don't support the full legalization of drugs, but if dissemination of Doblin's work helps quell the antidrug hysteria in this country, so much the better.

My own children are learning about illicit drugs from public-service advertisements aired during Saturday-morning cartoon shows, thus whetting their interest in the forbidden fruit of which their parents partook. Some drugs are dangerous and are properly outlawed. Other controlled substances provide medical benefits. As the aging hipsters might say: It's time to get real about drugs.

Alex Beam is a Globe columnist.