

Erowid Extracts

A P s y c h o a c t i v e P l a n t s a n d C h e m i c a l s N e w s l e t t e r

November 2003

Number 5

Erowid.org is a member-supported organization working to provide free, reliable and accurate information about psychoactive plants and chemicals.

The information on the site is a compilation of the experiences, words, and efforts of hundreds of individuals including users, parents, health professionals, doctors, therapists, chemists, researchers, teachers, and lawyers. Erowid acts as a publisher of new information as well as a library for the collection of documents published elsewhere, spanning the spectrum from solid peer-reviewed research to creative writing and fiction.

IN THIS ISSUE . . .

The [Pseudo-] Science of the War on Drugs	2
Erowid 3.0	4
Conference Reports	5
Meme Cultivation	6
Cannabinoids Neuroprotective?	7
Looped Reality (N ₂ O Exp.)	8
Myth Debunking	10
LSD Analysis	12
Measured Doses	18
LSD Experience Excerpts	20
Escottology	22
Distillation	23

Books. Big, heavy, expensive, difficult-to-ship dead tree product. Marvels of the Renaissance and boat anchors of knowledge.

Computers. Alien, annoying, expensive, headache-inducing factory effluent. Engines of the Data Age and destroyers of boundaries.

Erowid is primarily a digital endeavor. Web publishing allows us to keep costs low and accuracy high, with no need for expensive reprints every time a piece of data is corrected or new information added. Internet databases also have the potential for truly ubiquitous access, a possibility only hinted at by the invention of the printing press, but made real by the current revolution in information and publishing.

Yet as much as we are digital data geeks, we are also bibliophiles. Books and papers remain the foundation of much of the work we do. We collect printed pages to use as resources for writing and answering questions, for data checking, to help us keep up with the current state of knowledge, and because they are more pleasant to hold than a keyboard.

As the world's knowledge repositories inevitably shift from physical to digital, we must work to preserve the old while maximizing the benefit of the new. Although most of the knowledge gained from the work of past experts exists only in paper form, we are moving towards a world where the de facto standard for the state of knowledge in any given field is based solely on what can be found online. With this change, the world risks losing existing data and having to re-create the hard work of previous generations.

This problem is especially present in the field of psychoactive research, where political pressures have compelled public libraries to carry only disturbingly juvenile resources and caused universities to shy away from maintaining comprehensive collections.

Our strong belief that this sort of inherited data needs to be added to the global digital library inspired our work on the Albert Hofmann Collection in 2002. And where copyrights allow, or through agreements with authors and publishers, we continue to work to collect, digitize and make difficult-to-find information more available.

Digitizing existing materials can improve both the world of computer-accessible information and the usability of printed resources. Our current ideal is a physical book to read, with a full-text digital copy for searching and reference. In many ways, a digital index for a physical library is the perfect blending of past and present technologies.

Every sentence that I utter must be understood not as an affirmation, but as a question.

— Niels Bohr

In our field, much of the archived knowledge exists only in private collections. There is the danger that existing libraries will end up dispersed into the hands of collectors who value them less as data and more as artifacts. With digital tools, it is possible to preserve and actually enhance these collections without the physical objects needing to remain together forever.

The love of books and papers should not be seen as incompatible with the drive towards robust digital collections. The digital bibliophile, lost in the dusty stacks with his portable computer connected wirelessly to the universal network, knows the value of both. The data geeks of the new millennium are the bridge across the technological divide between the Renaissance and the Information Revolution.

Fire & Earth

The (Pseudo-) Science of the War on Drugs

by Earth Erowid

AND THE RECENT RICAURTE ERROR

Many Erowid readers are already aware that there was a major shake-up in the world of MDMA neurotoxicity research in September 2003 when George Ricaurte and his lab at Johns Hopkins University issued a retraction to their controversial article published in the journal *Science* in October 2002. The retracted article, which had been provocatively named “Severe Dopaminergic Neurotoxicity in Primates After a Common Recreational Dose Regimen of MDMA (‘Ecstasy’)”, purported to show that MDMA caused “severe” damage to the dopamine system and could lead to Parkinson’s disease symptoms after a single use.

This paper contradicted previous research and made claims that were criticized as politically motivated. Papers such as this one fuel increasingly draconian legal changes and frightful sentencing for drug-related crimes, all in the name of “protecting the children” from horrors like Parkinson’s disease.

The Retraction

The retraction explained that Ricaurte’s team had accidentally used methamphetamine (a known dopamine toxin) instead of MDMA in the study, causing deaths, near-deaths, and severe dopamine-system brain damage to the primates they experimented on. Since the retraction, much has been written about this incident. Commentators have highlighted problems ranging from scientific issues about MDMA’s effect on the dopamine system, to the influence of politics on science, conflicts of interest in the current system of peer reviewed publishing, problems with the news-tainment industry’s treatment of complex scientific matters, and the over-emphasis of negative findings by the War on Drugs industry.

The Ricaurte Error also brought into focus another systemic problem that plagues

the science of this field: the lack of a neutral standards or review body for scientific research.

It is common in many fields for the media to jump on new scientific findings and present them as sensationalist fact. The rush to judgement is certainly not unique to the study of recreational psychoactives. Politics influence everything, including the media, and popular ideas are often out of sync with existing scientific understanding. In other fields of science, however, there are two primary pressures which mitigate the impact of bad data on public policy and law: competing scientific inquiries and neutral standards or regulatory bodies.

Competing Scientific Investigations

In most fields, scientists have the opportunity to study opposing theories, the ability to conduct experiments and test hypotheses, and generally, the freedom to question data. Unfortunately, because of the War on Drugs, the social, professional, and legal pressures are configured to dramatically limit this type of balancing research into illegal psychoactives. It can be professional suicide for a researcher to come out too vocally against studies that find harmful effects, even if the criticism is technical. Being perceived as “pro-drug” can mean jeopardizing the ability to get grants and inviting increased professional scrutiny.

Government sources almost never fund scientific research into alternative theories, positive effects or therapeutic uses of proscribed psychoactives, while research designed to show harm receives hundreds of millions of dollars each year. This immense funding imbalance precludes the competition of ideas required for good science.

Functionally, the scientific world works on a sort of democracy-of-data principle.

Though neuropharmacological facts don’t become true or false based on a vote, as data stacks up supporting a particular theory it’s natural to assume that theory is more likely to be true. But if only particular theories are ever allowed to be studied, the system breaks.

There are a few who work to provide some measure of counterpoint to the flood of War on Drugs science. But with their hands tied by the current system—with limited ability to do the research necessary to back their theories with data—their voices are too easily dismissed by mainstream researchers, physicians, educators and lawmakers.

Science, as a result-neutral method for finding fact, can only function successfully

Conflicts of Interest

Imagine if the FDA not only acted to evaluate whether a pharmaceutical drug was healthy and useful to the public, but was also required by its charter to disallow and discourage the use of all pain medications. They would declare the use of ibuprofen immoral, publish handbooks and review articles about how ibuprofen causes ulcers and thousands of deaths per year, with no mention of why so many people use it anyway. Imagine that this body would be the only source of funding for research into this dangerous type drug.

This Food, Drug, and Ibuprofen Abuse Administration would have a charter that is incompatible with the aims of producing information society can rely on.

when the choices of what and how to study are not dictated by a foregone conclusion. Since Ricaurte's article linking Ecstasy use to Parkinson's disease was published in the fall of 2002, there seems to have been an increased visibility of the War on Drugs machinery and the way it manipulates ongoing research to match its political objectives. Many normally silent researchers have reacted with outrage that this article was allowed to be published in the first place and have openly criticized the weight it has been given in public policy.

Unfortunately, as long as a significant portion of research is funded by an agency with a political agenda, the chance for a balanced picture to emerge about the use and abuse of recreational psychoactives is very small.

Content-Neutral Standards

In many fields there are recognized organizations that work to create neutral standards, vet published research, and keep track of the status of ongoing scientific debates.

In the pharmaceutical industry, scientists employed by corporations work to show the beneficial effects of their potential products while researchers at universities, independent labs and rival companies test their claims. Competing scientists challenge theories and argue about the meaning of their findings.

The U.S. Food and Drug Administration (FDA) also acts as a semi-neutral review organization for pharmaceutical science. The FDA makes decisions about approval or removal of pharmaceutical drugs based on its evaluation of current research. If a company disagrees with a finding, they can perform more research or resubmit their data. Although it's important to note that there are strong political and economic pressures influencing the FDA's decisions, as well as an organizational tendency towards risk aversion, the vetting process provides a system for the evaluation of data by informed, trained individuals within a defined structure.

For illegal or recreationally used psychoactives, the National Institute on Drug Abuse (NIDA) is the closest there is to a moderating body. NIDA, a part of the National Institutes of Health (NIH), has a budget of over one billion dollars. It not only acts as the funder for nearly all research into recreational drugs (their website claims they fund over 85% of the world's research

into "drugs of abuse"), but it is also the body entrusted by the U.S. government to evaluate the evidence, publish papers, and testify to Congress about the current state of the science.

It is NIDA that sits at the center of the War on Drugs science debacle. It has dramatic conflicts of interest between its roles as a neutral standards body, a funder of research and a governmental hub for the "demand reduction" policy objective.

As Stephen Kish, a brain scan expert, described at a presentation to NIDA in September 2003, NIDA has repeatedly overstated the certainty of the data. For example, under previous director Alan Leshner, NIDA used brain scans of questionable validity as part of a huge national "education" campaign to show how dangerous ecstasy was. Dr. Kish said that NIDA has been effectively misleading both the public and Congress about how well understood the issue of ecstasy-related brain damage is. What is particularly concerning is that some of the top scientists at NIDA were well aware of the problems with their official media campaign, but in the end political and marketing considerations drove their public description of the "science".

Conclusions

The Ricaurte Error stands out as a red flag, a warning that the scientific "system" in this field is dangerously flawed if not broken. In this case, a bogus finding, inconsistent with previous research, from a lab known to be biased, was able to influence U.S. law and stop research in other countries. As we are immersed further into the post-post-post-modern world where fact and fantasy melt in the digital foundries, there is a growing need for neutral scientific expertise isolated from profit motive and political agenda.

A neutral evaluative body has become necessary. Perhaps it can be found outside the United States. Or perhaps a private association of scientists in the field can form a collaborative effort to provide a measure of distance from the corrupting influence of politics. Until then, the field will remain another pseudoscience. ●

For more information see:
[Erowid.org/extracts/n5/ricaurte_retraction.shtml](http://erowid.org/extracts/n5/ricaurte_retraction.shtml)

References

1. Ricaurte G, et al. "Severe dopaminergic neurotoxicity in primates after a common recreational dose regimen of MDMA ('ecstasy')." *Science*. Sep 27, 2002; 297(5590):2260-2263.

Erowid Extracts

Number 5, November 2003

Technical Director	Earth Erowid
Head Archivist	Fire Erowid
Crew	Spoon mindlace Psilo Lad
Art Curator	Christopher Barnaby
Report Reviewers	Scruff Morning Glory Seed Raoul Catfish Rivers Tacovan
Copy Edits	Urge Scott O. Moore Figment
Layout & Design	Fire Erowid

Erowid Extracts is the members newsletter of Erowid.org. It is published about twice a year. If you are interested in receiving this newsletter, visit our membership page:

<http://www.erowid.org/donations/>

If you would like to cancel your subscription to *Erowid Extracts*, please let us know. Past issues can be read online.

<http://www.erowid.org/extracts/>

Erowid
P.O. Box 1116
Grass Valley, CA 95945
<http://www.erowid.org/>
info@erowid.org

© 2003 Erowid.org
All rights reserved

Reprints: Those interested in reprinting articles from this newsletter should contact Erowid by email.

Advertising: *Erowid Extracts* does not accept advertisements, but if you would like to include a flier about a related organization or event in our mailings, contact extracts@erowid.org.

Know Your Body
Know Your Mind
Know Your Substance
Know Your Source

THE ONGOING PROCESS OF SITE REDESIGN EROWID 3.0

by Fire & Earth Erowid

As we work on the day-to-day management of new and existing site content, there are also several large ongoing projects that we try to keep moving forward. The largest of these is what we call Erowid 3.0, which received a great deal of our time over the summer of 2003. The project has been mentioned briefly in past *Extracts*, but we wanted to provide a further outline to keep members informed about the progress we're making.

Conceptually, the Erowid 3.0 project is a complete redesign and restructuring of the site. It includes front-end changes to the look-and-feel, user interface and site organization, as well as back-end changes to the data storage and processing systems. Because Erowid has grown organically over the past eight years, it is made up of dozens of different "areas" which were created at different times, in different formats, with different looks to meet the needs of the moment.

The primary design goals of the Erowid 3.0 project are to:

- Update the look of the site.
- Improve site interface and navigation and take advantage of dynamic browser capabilities.
- Move to using the HTML 4 standard (including CSS) for better maintainability.
- Create the necessary underlying structure to make the look-and-feel of the site user-configurable in the future.
- Add an error and correction reporting interface to every page.
- Implement a first draft of the Erowid content review system.
- Make it easier to add documents.
- Integrate existing sections of the site into one coherent system.

Although we hope to make Erowid 3.0 work well in all browsers, we are targeting Mozilla, Internet Explorer, Safari (Mac OS X), and Lynx (a text-based web browser) as our testing platforms. Erowid 3.0 will not support Netscape 4.x.

Interface Changes

The current site navigation is more than four years old. While it is still functional, it is obviously outdated. For the past few years, we have prioritized working on content over working on the interface and design, but it's obviously time for a change.

The most noticeable changes to the interface are new headers and footers that use dynamic drop-down menus (ECMA/Javascript) to improve navigation. These menus provide quicker access to a deeper site structure, meaning less intermediate pages to click through when moving from one area to another. Second, the headers will include a search field and links to associated topics.

Documents will have more standardized authorship, copyright, and publication information, hopefully reducing confusion and improving citability. Another major addition is that page footers will provide direct access to a form for reporting errors and corrections, making it easier to manage suggested changes to the site.

Once the new interface has been implemented and files have been updated and regularized, it should be much simpler to make interface changes in the future.

Two sections of Erowid already have preliminary versions of the new design and interface in place. We began beta testing the new designs with the smaller and more manageable Spirit and Freedom Vaults in July 2003.

Back End Changes

Currently, much of the core content of the site exists only as static HTML files, coded and linked to by hand over the last eight years by the Erowid crew. The Experience Vaults, the References Vaults, and Ask Erowid are all database applications, but they were written years apart in different languages, do not use the same ontology (category system), and share very little code. This hodgepodge means that currently: links between sections must be made by hand, the systems are cumbersome to update, and changes to one area are not automatically reflected on the rest of the site.

Content Review System

While the initial release of Erowid 3.0 will likely contain only hints of the larger Grass Roots Peer Review system we're working on, we're very excited about this developing part of the project. The content review system for Erowid 3.0 uses something known in the software development world as "collaborative filtering". Voting and rating systems are types of collaborative filtering. Early versions will involve managing the per-document comments and corrections submitted through the new interface and providing a system for volunteers and crew to work together to filter and validate these submissions. Simple error corrections can be handled by crew, while more complex comments could be approved for display at the end of the relevant document.

Another early piece of the content review system is a "triage" process (described briefly in *Extracts* issue 3) for incoming experience reports, images, and article submissions. Currently, one of the primary bottlenecks in our information publishing system is simply sorting through and keeping track of the status of thousands of waiting submissions. The primary function of triage will be to allow a much larger number of people to help categorize, critique and approve submissions before they are ready for publication without reducing overall quality or reliability. The triage process will track submitted items and comments by triagers, as well as help us identify valuable volunteers.

Other major features of the Erowid content review system include:

- A standardized public interface for viewing a document's review status.
- Seeing a list of identified articles that contradict or support a document.
- Viewing back links (links from other documents).
- A way to track, browse, and compare the reviews by different crew members.

Erowid 3.0 will continue to see progress amidst other necessary work, but beta testing parts of the release on the live site has begun and we look forward to feedback about the new designs. ●

Conference Reports

Mind States IV (mindstates.org)

May 23-25, 2003

The Mind States IV conference, held at the International House in Berkeley like two previous Mind States, drew more than 500 attendees.

The International House is a reasonably good location for conferences; its beautiful main auditorium has a tall vaulted ceiling, good acoustics, and enough peripheral space to accommodate 500 people. This year the addition of a richly decorated chill space provided some participants a place to relax and mingle. The chill space was decorated with visionary art, including an original Alex Grey painting on loan from a private collection and a life-size mixed-media sculpture depicting the spirit of ayahuasca in the form of a wise old woman.

Unfortunately, there are aspects of the layout of the International House that are less than ideal. The vendors area, in the hallway outside the auditorium, is quite crowded. The chill space—the only place other than the auditorium where guests could hang out in relative comfort and privacy—is too small to accommodate as many people as needed and too separated from the main auditorium to be readily accessible. Finally, the parking in Berkeley is generally pretty tough, especially this year, as the conference was held on graduation weekend. But all in all, the positives of the International House outweigh the negatives.

This was arguably the best of the three Berkeley Mind States conferences, with more speakers, visionary art by more artists, an auction that benefited related organizations such as Erowid and MAPS, Sheldon Norberg's one-man performance of *Confessions of a Dope Dealer*, Mark Pesce's opera about Terence McKenna's life, and an interesting collection of attendees. Bob Wallace and Mind Books were conspicuously and sadly missed, but books from Mind Books inventory were available for purchase.

Three panel presentations—Artists, Elders, and LSD—provided the opportunity for more presenters to speak. In some ways this was great, but there were a few speakers on panels, like Myron Stolaroff, whom we would have loved to hear talk for an hour rather than the limited 10 or 15 minutes that was available to them. Fire and Earth participated in the LSD panel where they presented data about analytical testing of street LSD (see page 12 for more details).

Lectures were given by Mind States newcomers V.S. Ramachandran, Jaron Lanier, and researcher David Nichols as well as by many old favorites. Mistress of Ceremonies Susan Blackmore was stalwart in her task of keeping presentations to their allotted time, causing some good-humored exchanges between her and several speakers.

Word is that Mind States V will be held in Oaxaca, Mexico in September 2004. Updates and information can be found at mindstates.org. Jon Hanna and the Mind States crew have learned how to put on a great conference, mixing the old and new, trying out ideas while sticking with what works. We're looking forward to the next one. ●

ASSA Con (assacon.com)

July 12-13, 2003

Altered States and the Spiritual Awakening was a consciousness-related conference held by the San Francisco group False Profit. This was the first event of this type that False Profit has produced. It attracted about 200 attendees, pushing their maximum capacity, with minimal advertising (mostly word-of-mouth and mailing lists).

One of the notable advantages to this conference was the low entrance fee. Often conferences have high overhead with the rental of auditorium space, speakers' fees and travel costs. The organizers worked hard to keep costs to a minimum in order to create an event that was affordable to more people while still providing a full roster of interesting speakers. Conference fees even included excellent meals (two catered continental breakfasts, two lunches and one dinner). Guests could also pay for just one day of talks if their time or budget was limited. Ancillary workshops, offered by some of the speakers (for additional reasonable fees), allowed more intimate forums.

The venue for ASSA was False Profit's warehouse space. It was significantly more informal than the average conference space—there were couches and cushions on the floor for attendees, who listened to speakers sitting in easy chairs on a raised stage in the corner. This provided a very comfy, laid-back atmosphere but some participants, especially older guests, found the sofas uncomfortable for long durations. Presentations were kept impeccably on-time.

A large outdoor area was available for those who didn't want to be indoors. As this was the only place to be other than the main room, and was uncovered, it's a good thing it didn't rain. As it was, Fire got a sunburn from standing out in the sun all weekend.

The topics were well-balanced between empirical and spiritual orientations. Presenters included Stanley Krippner speaking about shamanism; a panel discussion moderated by Erik Davis about spirituality, technology and altered states; Luis Eduardo Luna speaking about the non-shamanic use of ayahuasca; and Charles Tart's thoughts about enlightenment and spiritual growth.

Earth and Fire gave a brief talk about the variety of ways the word "drugs" is used depending on the context and situation, and then joined Ann Shulgin in a Q&A session where audience members were encouraged to ask questions about psychoactive-related topics. For details about this excellent event, see assacon.com. ●

Speaking as a mother of three, I'm glad someone has to courage to provide the next generation unbiased information about recreational drugs—I told my kids, "If you do drugs, please read Erowid first so I won't have to someday identify your body in the hospital morgue."

— An Erowid Visitor

Limiting Liability while Discussing Psychoactives

by Earth & Fire Erowid

The complex and sensitive nature of our field of study not only presents thorny ethical issues, but also very real considerations concerning potential legal, social, and professional sanctions. Erowid work demands we take great care when answering questions and discussing topics related to potential illegal activities.

This is especially true given the many people who work on the Erowid site, as one person's careless actions could endanger others. Could we be sued if someone is hurt after taking a psychoactive they read about on Erowid? Could we be charged with conspiracy for providing information about how psilocybin-containing mushrooms are grown?

Unfortunately, there is no simple answer. Civil liability (individuals or companies suing each other) is a wide open field of law where there are few absolute rules. Criminal liability is a little easier to address and there are some very clear rules we follow to avoid breaking any laws.

Civil Liability

The First Amendment in the United States provides substantial, meaningful protections against both civil and criminal liability. Unfortunately, because a great deal

of civil liability is negotiated outside courts (often by insurance companies and law firms) and because civil action in the U.S. can be undertaken with very few requirements, it is hard to summarize the issues involved. All of the guidelines for avoiding criminal liability also help to reduce risk of civil problems.

Criminal Liability

The primary concern most people have is whether providing information or answering questions could be illegal.

Some concerns have arisen out of the recent case of Psilocybe Fanaticus (PF), a company that sold *Psilocybe* mushroom spores over the internet. The company's owner was charged with conspiracy to manufacture psilocin (an active ingredient in *Psilocybe* mushrooms and a Schedule I substance in the United States). One of the reasons people have been concerned about this case is that a major element in the conspiracy charge is the set of specific growing instructions PF included with the spores they sold.

The PF case has not yet been resolved, but it is important to point out the distinction between pure speech and product sales. If PF had merely told people how to grow *Psilocybes*, they would likely have been ignored by law enforcement. While it is certainly possible to be guilty of conspiracy or aiding and abetting a felony through communication alone, there are some fairly bright lines that one can avoid crossing.

Talking About Illegal Acts

The primary thing people should know to avoid is discussing future, specific illegal acts or current possession of controlled substances. Admitting publicly to having smoked cannabis in the past is almost certainly not going to result in prosecution, but talking about intending to smoke cannabis after dinner could. A credible statement about either current possession of an illegal substance or about specific future illegal acts could be grounds for a valid search warrant.

Aiding, Abetting and Conspiracy

Not only can talking about future specific acts of your own get you in trouble, but so can talking with someone else about their plans to break the law. Knowingly providing information to help someone in the commission of a crime can be prosecuted as aiding and abetting a crime or even conspiracy. It can be illegal to provide information to an individual whom you know intends to break the law, *even if they do not actually commit the crime.*

What is NOT considered conspiracy is providing the same piece of information for general use by the public, even if an individual ends up using the information to break the law. The definition of conspiracy requires that all involved parties knowingly or intentionally agree to assist in the commission or planning of a specific crime.

For instance, consider the following question:

"I have some Psilocybe mushroom spores and have been having trouble getting the fruit to grow well. Can you tell me what I can do to reduce contamination?"

Answering this question could be considered conspiracy to manufacture psilocybin or psilocin. On the other hand, answering the question:

"Can you tell me what common techniques people use for reducing contamination when cultivating Psilocybe mushrooms?"

would not be conspiracy as long as there is no reason to believe the individual intends to break the law using the information provided.

Assuming the person asking does not have a license to grow *Psilocybe* mushrooms—not always a correct assumption, but a prudent one—the first question implies that the information might be used to engage in a specific future illegal act. The second question in no way implies an intent to use the information to break a law.

KEY POINTS

- 1) Avoid discussing current possession or future, specific illegal acts.
- 2) Do not provide recommendations or suggestions, simply provide generic descriptions of factual data.
- 3) Refuse clearly when asked directly for information that would assist a crime.
- 4) Do not provide specific information or answers to questions if there is any suggestion that they might be used in the commission of a crime.

Cannabinoids Neuroprotective?

by Earth Erowid

If someone asks a question and sounds like they might use your response in the commission of a crime, tell them you can't or won't answer the question. Redirect the conversation to a new topic or end it entirely.

Providing Information

Although, by their very nature, libraries are open to everyone, there are those who would like to restrict access to information to people they approve of.

Erowid is founded on the belief that everyone must have access to the same information in order for there to be shared trust and responsible choices. Knowledge of psychoactives and their use is of interest to researchers, physicians, anthropologists, historians, reporters, lawyers, teachers, students, politicians, as well as the average person who lives in a world surrounded by these potent substances.

Because we provide information to the public, intended for no specific individual, and for no specific purpose, our situation is relatively clear. If we were providing information for the purpose of helping people break controlled substance laws, it would substantially increase our risk of civil or criminal problems, but we have no intention of assisting anyone in breaking the law or encouraging anyone to use illegal psychoactives.

It's clear that people will continue to use illegal substances whether they have access to information or not. Hundreds of millions of people in the United States alone have used an illegal plant or chemical. Reliable information about these substances needs to be available to the public and there is little question that this type of publishing is well within both the spirit and the letter of the law. While other rights outlined in the U.S. Constitution have degraded substantially, the First Amendment still stands as a powerful protection of the right to discuss sensitive topics without the fear of prosecution. ●

Research has begun to accumulate over the past few years showing that cannabinoids are neuroprotective against brain injury resulting from toxins, hypoxia, and head trauma. Cannabinoids are, loosely, chemicals that are similar in structure to the psychoactive components in cannabis and/or chemicals that activate the cannabinoid receptor system in the body. Researchers have found protective effects not only from the plant-derived cannabinoids such as THC, but also from endogenous cannabinoids (those occurring naturally in the body, such as anandamide) and some synthetic pharmaceutical cannabinoids.

The research with the cannabis-source cannabinoids, conducted in mice, rats, and *in vitro*, has shown remarkable effectiveness in reducing brain damage from injected toxins, hypoxia, and head trauma.¹ Other research has found that anandamide levels in the brains of rats naturally rise after brain injury or death and the cannabinoid system may play a primary role in limiting brain damage.²

Because psychoactivity is considered an unwanted side effect, much of the current research is being done with synthetic cannabinoid system agonists. One synthetic cannabinoid, Dexamabinol (HU-211), is already in phase 3 trials (medium scale, involving humans) headed towards governmental approval as a neuroprotective pharmaceutical. Research conducted in Israel that gave 67 patients with serious head trauma either Dexamabinol or placebo confirms similar research in rats showing reduced damage and faster recovery among those receiving the cannabinoids.³ Although other promising head trauma treatments have failed in the demanding and complex phase 3 research trials, many interested in the field of neuroinjury are excited about the findings to date.

The mechanisms by which the cannabinoids reduce damage from both toxic and traumatic injury to the brain are not yet fully understood. Although some researchers have suggested that the cannabinoids may offer protection through a strong antioxidant effect, this

is now considered unlikely to account for much of the protection, since cannabinoid-receptor antagonists block the beneficial effects and the doses of the cannabinoids given are very low.

Perhaps the current best guess for how these chemicals provide their protective effects is that their general dampening of neural activity reduces excitotoxicity (damage caused by overly excited neurons). One of the specific ways this happens is through the inhibition of the glutamate system in the brain. The glutamatergic neurons are part of the excitatory system in the brain; inhibiting glutamate reduces the activity of other neurons. At least in some parts of the brain, activation of the CB1 cannabinoid receptor (a specific type of cannabinoid receptor) has been shown to block pre-synaptic release of glutamate. CB1 receptor activation is also known to inhibit certain calcium channels, directly reducing the production of nitric oxide and other potentially damaging reactive oxygen species.^{1,4}

For more information and a more complete list of references, see erowid.org/extracts/n5/cannabinoids.shtml and read the summary article "Cannabinoids and brain injury: therapeutic implications" by Mechoulam et al. 2002.⁵ ●

References

1. van der Stelt M, Veldhuis WB, Bar PR, Veldink GA, et al. "Neuroprotection by Delta9-tetrahydrocannabinol, the main active compound in marijuana, against ouabain-induced in vivo excitotoxicity." *J Neurosci.* 2001; 21(17):6475-6479.
2. Marsicano G, Goodenough S, Monory K, Hermann H, et al. "CB1 cannabinoid receptors and on-demand defense against excitotoxicity." *Science.* Oct 3, 2003; 302(5642):84-88.
3. Knoller N, Levi L, Shoshan I, Reichenthal E, et al. "Dexamabinol (HU-211) in the treatment of severe closed head injury: a randomized, placebo-controlled, phase II clinical trial." *Crit Care Med.* Mar 2002; 30(3):548-554.
4. Shen M, Piser TM, Seybold VS, Thayer SA. "Cannabinoid receptor agonists inhibit glutamatergic synaptic transmission in rat hippocampal cultures." *J Neurosci.* Jul 15, 1996; 16(14):4322-4334.
5. Mechoulam R, Panikashvili D, Shohami E. "Cannabinoids and brain injury: therapeutic implications." *Trends Mol Med.* Feb 2002; 8(2):58-61.

LOOPEd REALITY

An Experience with Nitrous Oxide at the Dentist's Office

by JK



Last year, I broke my teeth. I fell off my bicycle at speed (while sober; it was a mechanical failure) and broke the fall entirely with my mouth. Needless to say, this was not fun. The shattered jaw was set and has healed beautifully, but lacking dental insurance I was unable to have my needed tooth repairs done. A year later, it had developed into horrible infection, the bone had dissolved, and I was in urgent need of care. Enter the Supreme Tooth-Fu Dental Master Artisan, a longtime friend of the family and a senior, trusted expert in restoration. He also had a huge tank of nitrous, and decades of practice with it.

That said, I was still completely terrified. Everyone I'd asked about nitrous said "yeah, you feel the pain, you just don't really give a fuck." I didn't understand this. From my limited youthful experiences with whipped

cream cans, I thought the high would last a minute, I'd feel great, and then I'd be right back to the real world. I didn't realize that they'd keep a mask on my nose the whole time. So, in the chair, I was nervous to the point of trembling. My pain threshold is extremely high, but not high enough to take two extractions and extensive digging/cutting/cleaning without being totally incapacitated. Boy, was I in for a treat. The dentist and hygienist strapped the nosepiece on me and grinned as if I was being indoctrinated into a secret club.

The feeling started at the tips of my fingers. I noticed that my hands and feet didn't want to move around as much, though they were still responsive. I ran through some logical tests in my head to make sure I could still think straight, and I could. Still scared, I thought this was the best it would get, so

when asked how I was doing, I told them, "not feeling a thing". They turned it up, and kept working on their preparations. In 10 minutes, they came back and the dentist said, "So so so so so so how how how how how how are are are are you you you you you you you you feeling feeling feeling feeling feeling now now now now now now now?"

I knew this was going to be fun.

The world echoed and time stretched out. The dentist took his needle and injected me with a hefty dose of lidocaine. The physical sensation of the injection did not bother me at all, but my sense of taste was still very acute and I felt myself grimace a bit at the chemical bitterness of the stuff, though that was short-lived as it soon numbed my tongue as well. The next thing I noticed was that my synesthesia was going into overdrive, starting with my pitch/color/texture sense.

The chair lowered with a deep B thrum, and then the drill screamed to life at its very distinctive pitch, oscillating between high registers of B and C# and slowing to an F to F# when it bit angrily into my teeth. Colors leapt out of the corners of my eyes as the sounds around me became intensely musical and I focused solely on their frequencies. The sing-song speech of the adorable hygienist was every bit as interesting to me as the R&B crooning on the car radio that morning. There was some pretty innocuous-sounding Vivaldi (redundant? yes.) playing on the radio, and at first it was echoing profoundly. It seemed as if, while falling into the sky, the same five note passage was playing over and over again with a flange effect—not a repetition of notes but of sound. It felt like I was looking at a square grid of luminescent bluish white lines on a dark blue background, rippling out to infinity on the horizon. I studied that effect, curious and aware of its existence, wondering



what process the nitrous is interrupting or affecting in order to do that. Could it be an extreme short term memory loop, like some kind of auditory buffer that holds the last two seconds of...

WHOA! I was jarred out of la-la land by the dentist tapping on my shoulder, eager to show me the jagged-edged, broken tooth he had pulled out of my head. I moved my tongue to the spot instinctively, and feeling nothing but bloody gum, I sighed in relief and knew that if I didn't even notice they were

“The dentist said, ‘So so so so so so how how how how how are are are are are are you you you you you feeling feeling feeling feeling now now now now now now?’”

doing that, nothing could be very bad. Well, except for the fact that the dentist, a kindly old white-haired man who is perpetually smiling and always ready with his razor-sharp wit and grandfatherly wisdom, seemed extremely strange; the familiar and jovial features of his face were alien to me and he was a strange dragonfly/elephant creature with melting skin. The hygienist—and I'm not making this up—was “Carrot Lady”, a human carrot with a face and arms. I have no idea how I drew this lateral association, but there it was. It wasn't a visual hallucination, I wasn't tripping, but my mind was in purely lateral thinking mode and extremely strange conclusions were drawn based on the wildest linked memories.

Another completely ignored tooth extraction later, they had settled into their curettage groove, cleaning out my gum sockets, and I was in need of something else to focus on; they had fallen silent. So I concentrated on the colorful, comfy music, and just in time: Beethoven's Fifth started playing, and despite its being popular to the point of cliché, it is one of my favorite pieces of music. I'm a composer and I work a lot with orchestral music. I've never, ever heard it like this before, though, not on any other substance (I was into weed, LSD, and meth-amphetamine a lot during my teenage years) and never by concentrating while alert.

My physical body was completely irrelevant at this point and ALL of my consciousness was focused on the sound entering my ears. It sounded as if I was listening to a low-frequency sound, as if the sampling rate of the radio had been reduced to 2 or 4 kHz, as if the rate of processing my brain was doing on the sound was dramatically accelerated and I could now tell apart the individual grains of sound making up the waveform. It was not slow motion in a pitch sense, but in a time sense, like the popular DJ effect of time-stretching a sound.

There were again spectrums of color leaping over my closed eyelids as I listened. It's difficult to pinpoint the exact colors of sound—I don't see reds and greens, but more iridescent, shiny “flavors” of light that make me sort of itch inside, like various senses interconnected. While sober, I'll only see it in my mind's eye, seeing/feeling a certain color/texture as the music hits certain frequencies and timbres. Now, however, there was a light show dancing across my vision and elaborate landscapes and flashes, not unlike the “Journey through Sound” introduction to Disney's *Fantasia*. It felt very much like an orgasm, a tingle spreading

across my body, overwhelming warmth, and a strong inclination to smile and be happy about everything in life at that moment. Structurally the music and the brilliance of the inversions used in the symphony suddenly became clear—I knew at that moment why he chose to ascend and descend, and why a certain sharp or flat was used at a certain point to hint ever-so-subtly at a particular mood and to advance the story.

I listened to most of the Fifth this way, and have figured out so many things about it—and about Beethoven's mind itself—that I had not been able to unravel before. The nitrous high allowed me to move forward in my understanding of aesthetics in general, not just a particular work.

So, my teeth. By this point they'd cleaned out all the yucky stuff from my gums and taken out both lateral incisors, and were ready to take casts. So they put me on oxygen, and within 10 minutes I was completely back to my normal self. I felt like part of my mind was shutting off and I was reverting to stupidity, a door closed forever. ●

Erowid.org/experiences/exp.php?ID=16335

New Books

- 1** *LSD, Spirituality, and the Creative Process*,
by Marlene Dobkin de Rios, Ph.D., and Oscar Janiger, M.D.
An exploration of how LSD influences imagination and the creative process, based on Janiger's research. (Park Street Press/Inner Traditions)
- 2** *Animals and Psychedelics*,
by Giorgio Samorini
Examines the role of psychedelics in the development of consciousness in all species. (Park Street Press/Inner Traditions)
- 3** *Psychedelics and Magic Mushrooms*,
by Peter Stafford
Two new books exploring various aspects of psychedelics. Based on chapters from the classic book *Psychedelics Encyclopedia*. (Ronin Publishing)
- 4** *Psychedelika: Kultur, Vision und Kritik*,
Edited by Wolfgang Sterneck
German-language anthology with discussion of the history of psychedelia and its role in hippie and techno culture. Includes 80 b/w images of art. (Nacht-Schatten Verlag)



Do Undercover Police Have to Identify Themselves?

“Entrapment” and Deception by Law Enforcement

Brief Description of the Myth

There is a persistent rumor that if you ask an undercover police officer or police informant if they’re a cop, they are required to tell you. Based on this myth, many people believe they can safely conduct illegal transactions just by making sure to ask “Are you a cop?” first.

This idea is widespread and like many such myths, is most often transmitted by word of mouth. Examples can also easily be found on bulletin boards and newsgroups, in subculture publications, and in the media. The major variations of the myth include:

- Police have to identify themselves if specifically asked whether they are law enforcement.

Example: *“Are you scared that your friend or enemy is an undercover cop, just ask, they are required to tell you if they are reporting to law enforcement.”*¹

- Undercover officers aren’t allowed to initiate a drug sale without pre-existing suspicion.²

Example: *“An undercover cop comes up to you and asks, ‘Do you want to buy some drugs?’ You say, ‘Yes’, and they arrest you. THAT is entrapment, and will be thrown out.”*³

- Undercover officers aren’t allowed to ask for an illegal drug by name.

Example: *“He tells me that [undercover police] cannot ask you for drugs by name, or even common slang terms. They must call it something else, like ‘fun stuff’.”*⁴

Entrapment

These types of myths are generally based on the belief that it is illegal for a police officer to entrap a citizen into committing a crime. Following this theory, many people believe that related actions by police, such as lying about their identity, would also be illegal or invalidate a prosecution. While a claim of “entrapment” by police can be used as a defense in a criminal case, it is both uncommon and rarely successful. Additionally, police entrapment itself is not illegal—just potential cause for a not-guilty verdict.

Loosely defined, entrapment is a situation in which, if not for the actions of the police officer or police informant, the defendant would not have committed the crime. This defense is generally only successful in situations where law enforcement officers create a criminal plan, plant the idea of that plan into an otherwise innocent person’s mind, and then instigate the plan for the purpose of prosecuting the suspect.

The mere presentation of an opportunity or request by an officer that an individual commit a crime does not qualify as entrapment. An officer may engage a citizen in conversation and ask to buy an illegal substance—even if they have no reason to suspect the person of illegal activity.² They may offer to sell an illegal substance and arrest the buyer after the sale.

They can go out of their way to help a person to commit a crime. What they can’t do, is unduly persuade, threaten, coerce, or harass the person, such that a normally law-abiding citizen would participate in the unlawful action.

Unfortunately, even in cases where the government *does* induce a crime, evidence that the defendant was “predisposed” to committing the crime is likely to undermine

an entrapment defense. If the prosecution can show that the defendant agreed to participate too quickly or had a record of similar crimes in the past, the entrapment defense rarely succeeds.⁵ One example of such a case was U.S. v. Bogart (1986) in which Bogart agreed to sell presidential campaign posters to a police informant. When the informant arrived to purchase the posters, he informed Bogart that his only method of payment was with cocaine. Though Bogart initially refused, he eventually agreed because he needed the proceeds from the sale. He was arrested and his entrapment defense was denied based on his “predisposition” to commit the crime.⁶

Are Police Allowed to Lie?

The question of whether or not the police may lie during the course of their work goes hand in hand with the question of entrapment.

It is well accepted that deception is often “necessary” to catch those who break

Factors Considered in an Entrapment Defense
1) The character of the defendant (whether the defendant was more “predisposed” to commit the crime than the ordinary citizen; e.g. having a record of illegal activity of this sort).
2) Who first suggested the criminal activity.
3) Whether the defendant engaged in the activity for profit.
4) Whether the defendant demonstrated reluctance (and not just “no thanks, well ok”: more like repeatedly refusing and then eventually, months or years later, giving in).
5) The nature of the government’s inducement (how much did they persuade, threaten, coerce, or harass).

the law. There is no question that police officers are allowed to directly mislead and/or deceive others about their identity, their law enforcement status, their history, and just about anything else, without breaking the law or compromising their case.⁵ Conversely, it is illegal for an ordinary citizen to lie to the police in many jurisdictions.

Are Police Allowed to Break The Law?

Police officers working undercover have exceptions from certain criminal laws. For instance, law enforcement officers directly engaged in the enforcement of controlled substance laws are exempt from laws surrounding the purchase, possession, sales or use of illegal substances.⁷

This means that there's no way to identify an undercover officer based on their willingness or refusal to use an illegal drug. Reverse stings are common in the enforcement of controlled substance laws. In a reverse sting operation, a police officer sells drugs that have previously been confiscated and then arrest the buyer.

Possible Sources of the Myth

The myth that undercover police must admit to being police if asked has been around since at least the mid-1970s. In addition to the belief that entrapment is illegal, it may have roots in requirements that law enforcement identify themselves in some other situations.

- 1) Most on-duty police are required to wear both a uniform and a uniquely numbered badge identifying themselves as police.
- 2) Police must generally identify themselves before executing a search warrant or arresting someone.
- 3) Though it varies by jurisdiction, there are some situations in which off-duty police may be required to identify themselves, including if confronted by another police officer or before acting in their capacity as a police officer.

The simple summary is that undercover police are given a great deal of latitude when investigating suspected criminals. They may

lie, break controlled substance laws, ask to buy substances by name, offer drugs for sale and are not required to identify themselves during the course of their undercover investigations. ●

References

1. Bob L. "Babylon and other important stuff." Posted to St. Louis Raves (Yahoo Groups). Jun 30, 1999. Retrieved Oct 2003 from groups.yahoo.com/group/stl-raves/message/3725
2. Kukura TV. "Undercover Investigations And The Entrapment Defense." *Law Enforcement Bulletin*. Apr 1993.
3. Frank M. "Any Other Brits Here?" Usenet.alt.support.girl-lovers. Jun 3, 2002.
4. Spyder. "Undercover Cops at Burning Man." *Piss Clear*. Aug 27, 2003; 19:2.
5. Greaney GM. "Crossing the Constitutional Line." *Notre Dame Law Review*. 1992; 67:745.
6. Lord KM. "Entrapment and Due Process." *Florida State Univ. Law Review*. 1998; 25(3):463.
7. 21 U.S.C. § 885(d) of the U.S. Code.

Organizational Updates

MAPS (maps.org)

On Tuesday, September 23, 2003, the Institutional Review Board reviewing a MAPS-sponsored study of MDMA-assisted psychotherapy for Post-Traumatic Stress Disorder approved the study protocol. This study is poised to be the first research into the therapeutic use of MDMA ever conducted in the U.S. Dr. Mithoefer and MAPS have been struggling to obtain IRB approval since 2001, when the FDA approved the study. The last remaining hurdle is for Dr. Mithoefer to obtain a Schedule I license. MAPS has also been busy responding to media regarding the retraction of the Johns Hopkins MDMA neurotoxicity study published in *Science*. Traffic to the MAPS website tripled in September due to the MAPS response to and coverage of the scandal.

DrugSense / MAP (drugsense.org)

DrugSense/Media Awareness Project has launched Drug Policy Central (DPC) to support the efforts of over 150 drug policy reform organizations worldwide by providing affordable web and internet services. Non-profit organizations dedicated to drug policy reform that lack funding can benefit from a grant application process. DrugSense/MAP now offers German, French, Canadian and Dutch versions of its news clipping and excerpting service, and MAP OnAir, targeting broadcast media.

CCLE (cognitiveliberty.org)

The CCLE has been busy working to submit a legal brief in the Supreme Court case *Sell v. United States*. In the brief, CCLE argued that cognitive liberty is protected by the First Amendment, and guarantees the right of each person to self-determine their own neurochemistry. The brief is available on the CCLE website.

TRIP Magazine (tripzine.com)

Issue 10 of *Trip* is on schedule for a December release, including pieces by Earth & Fire Erowid, Hakim Bey, Erik Davis, Mark Pesce, and Sheldon Norberg. Meanwhile, *Trip* recently released *Terence McKenna: The Last Interview*, a two-CD interview with Erik Davis, the last recording of McKenna's career, featuring Terence's final thoughts on entheogens, culture, the future, his own spiritual beliefs, and the grim problem of cancer, death and dying. Another new release is *Tales From The Trip Side*, a silly, psychedelic sketch comedy DVD featuring Seattle comedians in drug-inspired comic situations.

SSDP (ssdp.org)

Students for Sensible Drug Policy has had an interesting summer with long time friend and leader Shawn Heller leaving as National Director to further pursue his education. Darrell Rogers is running SSDP as interim National Director. SSDP plans on having its chapters and students play a large and pivotal role in the New Hampshire Democratic primary in January. Their goal is to mobilize hundreds of organized SSDP activists and saturate the Democratic presidential candidates' forums with SSDP's drug law reform platform.

Bluelight (bluelight.nu)

The survey that Bluelight helped put together for a Texas A&M Department of Sociology study ("Technology, Youth and the Proliferation of Drug Use") funded by NIDA was completed on August 25, 2003 and the data is currently under review. Bluelight has added a new interactive photo gallery where members can upload images into either member-only or public galleries, and registered posters now have the new option of starting their own blog.

LSD ANALYSIS

Do We Know What's In Street Acid?

by Fire & Earth Erowid

According to the 2002 National Household Survey—the largest survey of psychoactive drug use in the United States—more than 10% of people over the age of 12 say they have tried LSD at some time in their lives. The number is more than 15% among those between the ages of 18 and 25.¹

Although it has now been over 60 years since the discovery of LSD—with thousands of papers published about its chemistry, pharmacology, and social impact—there are still huge questions about what is sold on the street as “acid”.

“Good Acid” vs. “Bad Acid”

One of the most persistent ongoing debates about street acid is why people report that different batches are experientially different in their effects. Is it the result of different qualities of acid? Is it the result of different dosages? Or is it simply the

result of normal variations in experience from one person to another or one situation to another?

Some people believe that there is no pure acid on the street these days: that the last “clean” acid was made by Sandoz or Owsley.² Others believe that “acid is acid”: that differences in purity don’t play a significant role in different effects, which are instead explained as the result of differences in dosage, set, setting, and individual reactions. Yet a third opinion is that there are variations in purity—from incomplete syntheses, poorly purified material or degraded material—as well as a variety of chemicals such as ALD-52 or isomers of LSD that might be sold as street acid.

One of the primary arguments against the premise that differences in LSD experiences are the result of differences in quality of material has come from people we’ve spoken to who have distributed and aliquoted acid in the past. One such person described how some recipients of his LSD would go on at length about how distinct and how much better one type of blotter was than another. Yet, often, both types had been aliquoted by this chemist on the same day, from the same batch of liquid, onto similar blotter paper bearing different designs.

The Legality of Testing

These questions should be trivial to address, yet for several years we have been trying to collect reliable information about the contents of street LSD, with minimal results.

Unfortunately, getting street LSD legally analyzed is extremely difficult for anyone outside of law enforcement. Starting in the early 1970s with the passage of the Controlled

Substances Act, tight restrictions were put in place over who is allowed to analyze and research controlled substances. Only those labs or individuals who are licensed by the DEA are allowed to handle Schedule I substances such as LSD.

In 1972, the BNDD (The Bureau of Narcotics and Dangerous Drugs) requested that labs collect names and addresses for anyone submitting controlled substances for testing.³ Then in 1974, the DEA issued firm guidelines that required licensed laboratories to stop providing quantitative results for anonymously submitted samples of scheduled substances.⁴ Now, unless a person is willing to walk in to a lab, give their name, show identification (which would be recorded in the lab’s records), and then submit the sample (thereby volunteering proof of having committed a crime), labs are not permitted to provide information about how much of any chemical is present in the sample. Not surprisingly, most lawyers would advise against such an action.

Additionally, even for qualitative data (simply listing what chemicals are present) the DEA does not allow labs to test anonymously submitted samples without special permission. It is through one such approved lab that the EcstasyData project is, with some difficulty, able to provide qualitative results for street ecstasy tablets.

Though these rules against testing are only DEA “guidelines” (we do not believe they are part of any law or publicly available official policy), representatives of at least one lab we spoke with have been threatened with having their license revoked after participating in research the DEA didn’t like. Since DEA licensing is required in order to handle Schedule I substances, labs that work with

GLOSSARY

Aliquot – to divide or measure into equal parts.

Isomers – two substances that are composed of the same elements in the same proportions but with a slightly different arrangement of atoms.

d-LSD – (or d-LSD-25) is the known active form of LSD first synthesized by Albert Hofmann.

iso-LSD – an isomer of d-LSD believed to be non-psychoactive.

such chemicals are understandably reticent to risk their livelihood by going against these guidelines.

The Difficulty of Testing

Testing LSD is technically more difficult than the testing of many other common psychoactives. This is because the dose range is very low and because it's a complex molecule. There are simple tests available for identifying the *presence* of LSD (using thin layer chromatography or immunoassay). But detecting and characterizing impurities or quantifying the exact amount of LSD in a given dose unit is more complicated and requires an experienced analytical chemist with specialized equipment and an interest in the topic.

Unfortunately, because of the combination of DEA restrictions and the difficulty of testing, there may be no labs in the United States currently licensed and qualified to do anonymous testing of LSD.

The Existing Data

The difficulty we encountered in getting currently-circulating samples tested led us to collect what historical information we could find about the contents of street LSD.

Even here, the resources are scarce. To the best of our knowledge, there have been

no papers published, using reproducible lab methodology, that attempt to characterize the impurities found in street acid.

PharmChem Data

In the early 1970s, prior to issuance of the DEA's guidelines, there were a few labs that actively analyzed street LSD. The most prominent of these labs was PharmChem, based in Palo Alto, California. Between 1972 and 1978, PharmChem solicited users to send in samples of chemicals purchased on the street. They then worked with labs around the country to provide testing results for the submitted samples.

Prior to 1974, PharmChem published both qualitative and some quantitative testing results—including microgram dosages for street LSD—in their print newsletter. Each month they would publish a list of hundreds of samples that had been submitted, including information about what the submitter believed the substance to be, where and when it was purchased, how much it had cost, a physical description of the material, and what the test results were for the sample. Unfortunately, they failed to describe their testing methods. We believe, based on talking to Alexander Shulgin and a former PharmChem employee who worked there after their "Analysis Anonymous" program had ended, that they used thin layer chromatography to detect both the presence of LSD, and what could only be estimates of the quantities present.

PharmChem Summary of Street Acid Analysis (1969-1975)
2200 samples submitted
87% contained LSD and no other psychoactive
5-500 µg per dose
75 µg average dose
10 labs produced results but most from PharmChem itself
Testing methods were not described.

In March 1977, PharmChem published a review of the street drug analysis they had done in the United States and Canada between 1969 and 1975. Looking at a total of 2200 samples submitted as "acid" or "LSD", they reported that 87% of the submitted samples alleged to be LSD were d-LSD with no other psychoactive drug present. In LSD-positive samples, they found a range of 5 to 500 µg with an average of 75 µg per dose.⁵

Interestingly, people who submitted samples to PharmChem also often submitted comments about whether they believed that the acid contained "speed" or "strychnine". Although no strychnine was ever detected in any of the submitted samples—and only a few tested positive for methamphetamine—PharmChem reported that the more LSD that was present in a dose unit, the more likely the submitter was to think it contained strychnine.

Following the issuance of the DEA's 1974 guidelines, PharmChem and other labs quickly stopped publishing quantitative data.

DEA Data

The second major source of testing data is the DEA itself. Unfortunately, their law enforcement mission does not necessitate that they provide the public with the vast quantities of information they generate in their pursuit of drug law violators. Though occasionally they publish average dosages for the street acid they confiscate, they are not necessarily neutral in their reporting. Because there is no oversight or external verification of any of their data and because of potential conflicts of interest between science and law enforcement, their data must be considered carefully.

According to the DEA, the average dose of LSD on street blotter is between 20 and 80 micrograms (µg). Based on this, they now consider a "standard dose" of LSD

Pharmchem Test Results (Examples from December 1973)		
Alleged Content	Actual Content	Description
LSD	40 µg LSD	white blotter paper
LSD	90 µg LSD + 10 µg iso-LSD	yellow tablet
LSD	60 µg LSD	yellow-green powder
LSD	55 µg LSD + 15 µg iso-LSD	blue tablet, "microdot"
LSD	140 µg LSD + 40 µg iso-LSD	white blotter paper
LSD	65 µg LSD	white double-dome tablet
LSD	55 µg LSD + 10 µg iso-LSD	white blotter paper, "Mr. Natural"
LSD	45 µg LSD	pink spot on white/red/blue blotter
LSD	55 µg LSD	orange tablet
LSD	60 µg LSD	orange tablet
LSD	130 µg LSD	amber gelatin square
LSD	60 µg LSD + 20 µg iso-LSD	magenta spot on white blotter
LSD	100 µg LSD + 10 µg iso-LSD	spot on white blotter paper
LSD	150 µg LSD + 20 µg iso-LSD	spot on white blotter paper
LSD	45 µg LSD	blue tablet
LSD	80 µg LSD + 20 µg iso-LSD	beige spot on white blotter
LSD	60 µg LSD	white tablet

DEA Information about LSD (2003)
20-80 µg per street dose unit
50 µg standard dose
62% average purity in LSD crystal seized
95% + purity in some LSD crystal seized
Note possible conflicts of interest in reporting.

to be around 50 µg. They also report that crystal LSD they have seized averages about 62% d-LSD (with the rest made up of other isomers or impurities) but that some is 95-100% pure.⁶

For more than 35 years, the DEA and their predecessor organizations have produced a private—in fact almost secret—internal publication called *Microgram*. Prior to 2003, this publication was available only to the DEA and the labs and chemists they worked with. A wide variety of information about the street use of scheduled substances and about law enforcement action has been published in *Microgram*. Over the years, it has included information about LSD blotter designs tested by DEA offices around the United States and the lab techniques used to test them. They have also regularly printed images of street acid and sometimes included quantitative information.

In 2002, in response to Erowid's interest in learning more about the DEA's past LSD analysis, a Freedom of Information request was filed for a 10-year-old issue of *Microgram*. The request was denied and is currently being appealed.

Still seeking the information, we were soon informed that some obscure libraries in the United States happen to carry back issues. From these libraries and from Erowid friends, we have been able to piece together a collection of back issues of the publication.

The latest year of *Microgram* we have access to is 1996. In that year, the DEA published a handful of blotter images and a small number of quantitative test results. The doses they report were between 28 and 78 micrograms per hit of blotter.

More interestingly, in 1987, the DEA published an article in *Microgram* titled "The LSD Blotter Index" by Franzosa, Harper, and Crockett. This article is a catalog of hundreds of blotter designs seized by law enforcement between 1976 and 1986, including quantitative information for many of them.⁷ In this index, the reported dose per unit ranges from

as low as a couple of micrograms to doses near 200 µg per hit.

Unfortunately, *Microgram* is not scientifically rigorous in its reporting of the DEA's testing results. No information is provided in The Blotter Index about which labs provided which data and what methods were used for detection or quantification. Likewise, the DEA's data about average doses is difficult to reproduce or verify, as their methods for averaging are not described and they do not provide information about how many doses of each design were produced, seized, or tested.

The dose per unit for individual designs described in The Blotter Index also shows an average of about 20-80 µg per hit. There is speculation that some of this variation might be the result of inconsistency in the dipping process resulting in higher doses on one edge of a sheet than the other. A copy of this article is available in the Erowid LSD Vault.

Other Countries

Other countries have different regulations than the United States regarding testing of controlled substances and some European countries appear to have easier access to quantitative testing.

The Netherlands have an ongoing free testing program where individuals can bring in a sample of any street drug to be tested. We were given a summary of their testing results that shows that they receive very few samples of street acid to be tested. Of 600 samples submitted in 2001 and 2002, they

tested only 12 samples alleged to be LSD and only half of these actually contained LSD. Of these, they reported doses ranging from 5 to 168 micrograms. Additionally, the person we communicated with from their lab said that results for the two lowest dose samples were considered unreliable. The Dutch lab reports that they use HPLC for their quantification and occasionally use GC/MS to verify results.⁸

Although we have been unable to get results from or clear documentation about ongoing testing programs in other countries, we believe that testing programs for street drugs exist in France, Spain, Austria, and Switzerland, most funded by the national governments. Most of these programs are oriented towards testing ecstasy tablets, cocaine, or heroin and it is unclear whether they could reliably detect or quantify various forms of LSD, let alone detect minor impurities.

New LSD Testing

After being disappointed by our historical search—finding little to help resolve the enduring debate about what differences exist between batches of street LSD—we continued to seek a lab with the necessary skills to perform LSD analysis. Earlier this year, we were able to find a licensed lab with access to an analytical standard of LSD as well as a lab sample from 10 years earlier that had been stored under nitrogen in freebase form. They also had access to a street sample in the form of a small brown microdot.



Information about these brown microdots was reported to Erowid from around the United States between August 2002 and May 2003. Additionally, the newly public version of the DEA's *Microgram* reported a seizure of two such brown microdots in Owatonna, Minnesota in April 2003.⁹ Though the *Microgram* mention did not include quantitative information, most reports (though not all) have described these microdots as "very weak", suggesting a low dosage per tablet.

The lab we communicated with used high performance liquid chromatography (HPLC), ultraviolet (UV) absorption measurements, and liquid chromatography/mass spectrometry (LC/MS) to determine what was in the microdot. Using the same methods, the microdot results [Fig. 1] were compared against both the high quality analytical standard [Fig. 2] and the 10-year-old lab sample [Fig. 4].

Testing Methods

The most useful of the tests performed was HPLC followed by UV absorption. For this, the sample is dissolved in a solvent (such as water or methanol) and is then injected into a long, thin tube called a "column". The column has a specially prepared coating on the inside that causes different chemicals to travel at slightly different speeds as they move through the tube.

At the end of the column is a detector that senses when the chemicals emerge from the tube. The output from the column is subjected to ultraviolet light at a chosen wavelength. For this test 254 nanometer light was used, a common detection frequency.

The time the sample takes to move through the column is called the "retention time" and is marked along the x-axis (bottom side) of figures 1, 2, and 4.

The y-axis (left side) of the charts shows how much UV light was absorbed by the material coming out of the column at a particular point in time.

Each peak in the chart represents when each chemical component of a sample reached the end of the column. The small bumps nearest the left side of each chart are called "solvent fronts" and are usually ignored because they represent residue chemicals carried through the system with the initial "wave" of the injected solvent.

The HPLC + UV output for the new reference standard of d-LSD (Fig. 1) is quite simple. In the middle of this figure, there is a single very clean, clear peak with

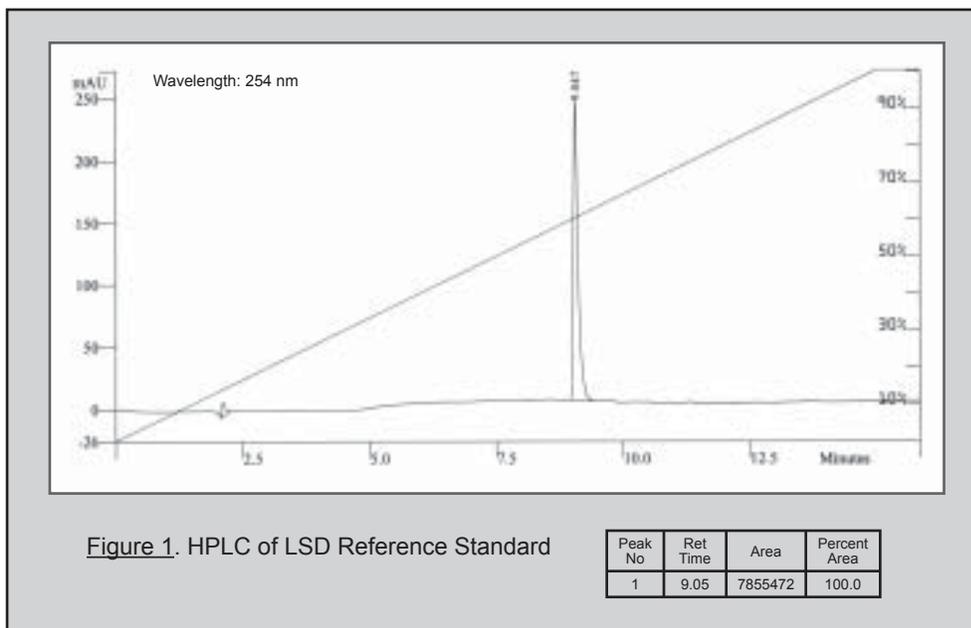


Figure 1. HPLC of LSD Reference Standard

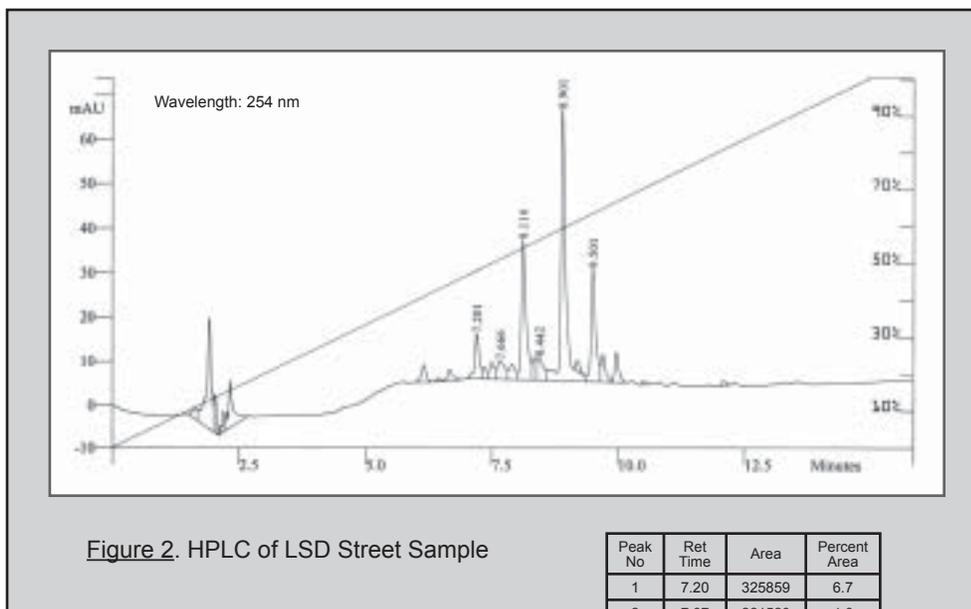


Figure 2. HPLC of LSD Street Sample

a retention time of 9.047 minutes. Using an electro-spray mass spectrometer, the lab verified that this reference standard had the correct molecular weight (323) for d-LSD. This material was further verified by checking that its UV absorption profile had the correct peak absorption at around 320 nanometers.

This all verified that the new reference standard appears to be very pure d-LSD. Although there are some extremely minor perturbations in the baseline around the LSD peak, these are well within the margin of error of the equipment.

What Is in the Microdot?

The HPLC + UV output for the street microdot (Fig. 2) shows a central peak on the graph that is without question d-LSD. Its

retention time matches almost exactly that of the reference standard (small variations in retention time are normal) and mass spectrometry verified that d-LSD was present in the sample.

Since each peak represents a chemical present in the sample, and there are several significant peaks besides the one known to be d-LSD, that leaves us with the important question—what chemicals do the rest of the peaks represent? Relative amounts of each chemical can be measured by comparing what is known as Area Under the Curve

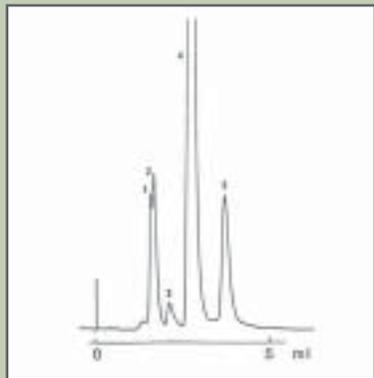


Figure 3. HPLC + UV Profile from UNODC's 1984 Street Sample of LSD

(AUC), shown in the table below the graph.

In figure 2, peak 3 (at 8.12 minutes) is nearly half the area of the d-LSD peak and peak 6 (at 9.5 minutes) is a little over a third of the area of the d-LSD peak. This suggests that the chemicals represented by those peaks are present in the microdot sample in quantities one-half and one-third of the total d-LSD present, respectively. Because the exact retention times for specific substances can vary quite a bit, based on factors such as what type of solvent and column were used, retention time cannot be used by itself to identify a substance.

We believe that peak 6 is iso-LSD, an isomer of LSD. The lab guessed this peak to be iso-LSD based both on its UV absorption profile (image not shown) and on their analysis of results of their LC/MS work (also not shown).

This is also confirmed by a 1984 article published by the United Nations Office on Drugs and Crime,¹⁰ which discussed analytical work done in the United Kingdom. Figure 3 is an image from this paper showing the HPLC + UV profile for a street sample tested in 1984. The similarities to the results from the brown microdot are striking. This paper identifies peak 4 (the equivalent to peak 5 in the microdot sample) as d-LSD, peak 5 (equivalent to microdot peak 6) as iso-LSD, peak 3 (equivalent to microdot peak 4) as most likely unconverted ergotamine, and says peaks 1 and 2 are unidentified.

Iso-LSD is considered non-psychoactive. Papers in the late 1950s reported low or no activity for iso-LSD, including a very interesting report published by Sandoz comparing activities of several "lysergic acid derivatives".¹¹ Albert Hofmann reported having tried iso-LSD at doses up to 500 µg

and found no psychoactivity. More recent rat experiments have found that rats given iso-LSD in a discrimination study don't respond as though it's d-LSD.¹² It is an open question, however, whether high levels of iso-LSD could possibly alter the effects of LSD, either through activity at a different serotonin receptor type than d-LSD triggers or through some other mechanism.

As far as we know, no research has been done to determine whether isomers of LSD can potentially reduce or alter the receptor binding or otherwise modify the pharmacodynamics of d-LSD. At this point, iso-LSD is mostly believed to be inert and simply represents "wasted" lysergic material since it is in the wrong configuration to be psychoactive.

10-Year-Old Lab Sample

The last HPLC + UV graph (Fig. 4) shows a lab sample of LSD freebase that had been stored under nitrogen for more than ten years. The lab said that the sample had started as extremely pure d-LSD but did not have any record of previous analysis results. We can see that the number of secondary peaks is far lower than with the brown microdot. The three tallest peaks appear to coincide with the three tallest peaks in the brown dot, and the 9.0 peak was confirmed to have the correct UV absorption pattern for d-LSD. The lab believed the peak at 9.6 to be iso-LSD based on the UV and mass spectrums.

The rest of the small peaks in that area of the graph are likely other lysergic-structure

chemicals, although without doing work to characterize exactly what those peaks represent, it's impossible to say what they are. Chemists we've talked to suggest they might include other isomers of LSD and material such as lumi-LSD (LSD with an additional oxygen) or potentially unconverted ergotamine.

It is certainly not very reassuring that neither the lab testing the brown microdot nor the British scientist who produced the 1984 UNODC results was able to determine what the second largest peak was in the tested street acid. We are guessing it's an oxidative product or lumi-LSD, but at this point we don't know.

Could those additional peaks be psychoactive by themselves? Could they contribute noticeably to the experience? Most experts don't think so, but there is remarkably little hard data to say with much certainty.

Quantity

Finally, by having a reference standard of known concentration, it is possible to interpolate the dose of d-LSD on the single brown microdot that was tested. By using the Area Under the Curve for the reference standard and the total amount of d-LSD injected for that result, in this case 1.49 µg, then comparing the total areas under the d-LSD peaks (in this case, the brown dot's result is about .28 the total area of the reference standard's peak), and finally dividing this by the portion of the street sample that was injected (in this case 2%), we can estimate

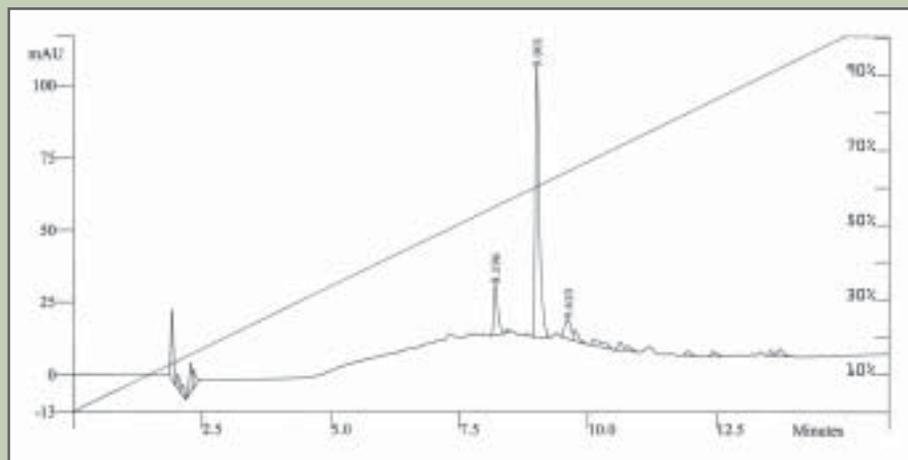


Figure 4. HPLC of 10-year-old LSD Reference Sample

Peak No	Ret Time	Area	Percent Area
1	8.20	488347	14.3
2	9.00	2660857	77.7
3	9.61	274704	8.0

the total quantity of d-LSD in the brown dot. According to this analysis, with a margin of error of about 10%, the brown microdot contains 21 µg of d-LSD per tablet.

As a side note, if we assume that most of the secondary peaks around the d-LSD peak are lysergic compounds, a rough estimate of the total mass of these would be around 50 µg. It is possible that whoever aliquoted these microdots was working with impure crystal and had intended to make 50 µg doses.

Confirmation of Results

After hearing that we were interested in learning more about the contents of street LSD, an anonymous individual contacted us and volunteered to send a brown microdot to a lab for testing. This microdot was tested by a DEA-licensed lab that positively identified d-LSD in the sample.

We also received results from an independent lab that had recently tested a brown microdot. Using a cruder testing technique, this lab was able to roughly estimate the dose of the microdots at around 20 micrograms, "give or take 50%". These results were produced using thin layer chromatography and comparing the results against three reference standards of known concentration using a UV light. This technique is not a reliable quantitative method, but it was reassuring that two labs independently arrived at approximately the same value from two different samples of the same dose form.

Because this matches most of the experiential reports we've received and the estimates of experienced LSD users, we believe this quantitative estimate is correct.

Summary

The results of these analyses showed that the "brown dot" samples of street acid contained d-LSD, as well as several other major components. One of these substances was identified as iso-LSD, based on molecular weight, UV absorption pattern, and similarity to published HPLC results of a street LSD sample. Another component was suggested to be lumi-LSD, but a clear molecular weight was not obtained and no reference standard for lumi-LSD was available. Three other chemicals present in the sample, making up about 15 percent of the total detected material, have not been identified.

Using AUC from the HPLC + UV and rough estimates using TLC, the "brown

dot" street samples were estimated to have approximately 21 µg per unit. This value was consistent with widespread reports that effects produced by the brown microdots were "weak".

Erowid has been working for several years to find qualified analytical chemists who have both the time and interest to look at the complex issue of LSD purity and independent quantitative analysis. Over the past three years, we have interacted with only one lab willing and able to perform a detailed quantitative analysis. Out of fear of official scrutiny, they are unlikely to perform any future work. The lab that provided the rough quantitative estimate did so only on the condition that they not be identified.

Independent academic analysis of controlled substances is substantially limited by fears of license revocation or harassment by the DEA. Labs are concerned about cooperating with groups they expect the DEA to disapprove of. The DEA itself has not published scientifically rigorous analyses of street acid and there are unresolved issues about what is sold as acid in the black market.

We are left with the knowledge that, at this time, there is not enough information to resolve the "good acid / bad acid" debate. We will continue to watch for new data on this topic and hope this work can inspire other investigators to look more closely at the issue. Perhaps university researchers will be inspired to contact Erowid about follow-up work. ●

References

1. *National Survey on Drug Use and Health (formerly the National Household Survey on Drug Abuse)*. Substance Abuse and Mental Health Services Administration, 2002 data. Retrieved from samhsa.gov/oas/nhsda.htm
2. Eisner B. "LSD Purity: Cleanliness is Next to Godheadliness." *High Times*. Jan 1977; 17: 73-75.
3. *PharmChem Newsletter*. 1972; 1(2):1.
4. *PharmChem Newsletter*. 1974; 3(4):1.
5. "Street Drug Analysis and Drug Use Trends 1969-1975." *PharmChem Newsletter*. 1977; 6(3):2.
6. Drug Enforcement Administration. "LSD Manufacture." *DEA Website Intelligence Reports*. Retrieved May 2003 from www.usdoj.gov/dea/pubs/lsl/lsl-5.htm
7. Franzosa, Harper, and Crockett. "The Blotter Index." *Microgram*. Jul 1987; 10(7).
8. Vervaeke H. Personal Communication. Mar 2003. drugsinfo.nl/testen/
9. Drug Enforcement Administration. *Microgram*. Apr 2003; 36(4).
10. Humphreys IJ. "The Work of the Drugs Intelligence Laboratory, Home Office Forensic Science Service." Jan 1984. Retrieved from unodc.org/unodc/en/bulletin/bulletin_1984-01-01_1_page005.html
11. *Pharmacologic Properties and Psychotogenic Effects of some Lysergic Acid Derivatives: Comparison with Delysid (LSD-25)*. Internal Sandoz Publication, 1958. Retrieved from erowid.org/references/refs_view.php?id=6084
12. Anonymous. Personal Communication. 2003.



The Truth About Mugs

If you haven't yet seen them, we now have Erowid Mugs!

For those members who spend their day in an office, who already have an Erowid t-shirt or who just enjoy their coffee or tea.

These 15 oz. black mugs bear the "Words" design used previously on one of our t-shirts. The large "Erowid" is made up of hundreds of small words and printed in yellow lettering. Available with new memberships or renewals.

Erowid.org/donations/

THE IMPORTANCE OF Measured Doses

by Fire Erowid & Spoon

In theory, most people seem to understand the concept that psychoactives can be dangerous or extremely unpleasant if taken at the wrong dosage. But in practice, many people don't take the necessary precautions to reduce the chances of such an "overdose".

Principles of Measured Doses

- 1) Use an accurate scale every time individual doses are prepared, especially for substances active at less than 50 mg.
- 2) Demand that individual doses purchased from others be labelled with their exact weight.
- 3) Never measure in a hurry. Individual doses can be measured ahead of time to remove the possibility of being rushed.
- 4) Never measure when high or overtired. When judgement is altered, it's easy to get more than you bargained for.

While high-quality accurate scales can be expensive, some groups choose to purchase a single scale to be shared. Ten people contributing \$40 each can purchase a good scale.

Eyeballing

Many people who acquire powdered psychoactives believe that they can "eyeball" doses accurately enough that a scale isn't required.

Eyeballing methods take a variety of forms. One example is the "graph paper method", where a known quantity is spread as evenly as possible on graph paper to determine its volume (size). Doses are measured based on how many graph paper squares they cover. The problem with this inaccurate method—and with most eyeballing methods—is that the volume of a measured mass (weight) of material can vary dramatically depending on how dense the material is.

A solid crystal of mescaline exactly 1 cm by 1 cm will weigh significantly more

than an equal-sized pile of fluffy powdered mescaline. Likewise, two exactly equal-sized piles of mescaline can include parts with very different densities. Powders can go from "fluffy", with low density, large crystals, to "cakey", to dense crystals more like table salt. While the difference between powder and a solid crystal would be apparent to the careful eye, the difference between two slightly different densities of powder might not be. Obviously, these problems are even worse when comparing two different substances.

Another issue arises when eyeballing methods depend on starting with a known quantity of material. One common process is to take a known quantity of powder, say one gram of MDMA, and divide it into ten equal piles, theoretically resulting in ten 100 mg doses. But if the original "one gram" measurement can't be verified, any dividing process is merely guesswork. While it might seem unlikely that someone selling MDMA will accidentally provide too much material, it's not at all unheard of. We have received many reports from individuals who have ordered a research chemical online only to discover, when the material arrives, that the company sent nearly twice what was ordered.

Substances that have very low dosages, such as 5-MeO-DMT or 5-MeO-AMT, are especially dangerous to eyeball. Basing a "5 mg dose" on the fluffy crystal from last spring could easily lead to a 10 mg overdose of a new denser powder.

Measurement Techniques

There are several techniques people use for measuring, labelling, and storing individual doses.

1) Measuring a series of equal-weight doses. Each dose goes into its own capsule and the capsules are kept together, with a label indicating the contents and quantity. The obvious problem with this method is that if a single capsule gets separated from the

rest, there is no way to identify its contents.

2) Measuring a series of doses that are different weights. Each dose goes into its own capsule, which is labelled in indelible ink as to its contents and quantity (some do this in code). The variety of doses lets a person choose how much they would like to ingest. The main problem with this method is that the ink can eventually wear off of a capsule.

3) Using liquid measuring techniques. A known quantity of material is dissolved into a known volume of liquid (usually alcohol or water). Doing a simple calculation can then identify how much material is in each volume of liquid. A small volume of liquid is much easier to accurately measure than a tiny mass of a powder.¹

The concern that measuring out individual doses and clearly labelling them could reduce

"I Took One"

While bored at a party, my ears perked up a bit at the sound of a nearby conversation about psychoactive drugs. Wandering closer, I overheard a girl talking about an unpleasant experience she had recently had with a research chemical. I asked the first question that came to mind in such a situation:

"How much did you take?"

Her answer was, "One."

"One what?" I asked. "Do you know how many milligrams?"

To which she replied "Milligrams? I took one."

She didn't seem to understand that a unit of weight could be applied to the quantity of a drug, or that just because a substance came in pill or capsule form didn't mean she had no control over her dose.

— An Erowid Volunteer

privacy or increase vulnerability to law enforcement is an important one. However, leaving things unlabeled and unmeasured bears its own set of perils. Erring on the side of caution with measuring and labelling may reduce anxiety-causing guesswork (“did I take the dose I intended to take?”) and possibly dangerous mistakes. ●

References

1. Zam. “Liquid Measurement Technique.” *Erowid.org*. erowid.org/extracts/n5/measuring.shtml

Comparing Dosages

These days, it’s relatively easy to find dosages for most recreationally used psychoactives. This wasn’t true ten years ago before the ‘net made the dissemination of information so much easier.

Individual dosages for psychoactives range from tiny microgram quantities to more than a gram per dose, a difference of nearly 20,000 times. One of the more interesting things about working on the Erowid project is occasionally getting bird’s-eye views of the dataset as new information accumulates and fills in the terrain.

We are suckers for data collection, indexing, and distilling. Charts like this are mostly for fun: a snapshot to give a sense of the range, similarities, and differences on this one measurement of these chemicals.

Notes

All dosages listed are for oral ingestion in adults without tolerance. Quantities represent single doses; redosing regimens (common with shorter-acting psychoactives) are not addressed. Doses are given for the most commonly found form of each substance—variations occur with salts and isomers. Numbers are listed in ranges intended to represent dose variability based on weight, gender, sensitivity, and preferred effects level. All numbers are approximations for comparison purposes and should not be used as a guide to selecting dosages for actual ingestion. There are much more detailed numbers easily available.

Threshold and Common Dose Chart (Oral)

Substance Name	Threshold Dose Range	Common Dose Range
LSD	10-20 µg	50-150 µg [.05-.15 mg]
Fentanyl	50-100 µg	200-400 µg
Alprazolam	150-200 µg	250-2500 µg
DOB	200-300 µg	750-2500 µg
Flunitrazepam	250-500 µg	500 µg-2 mg
5-MeO-AMT	500 µg-2 mg	2-10 mg
DOM	500 µg-2 mg	5-8 mg
Diazepam	1-2 mg	2-20 mg
Nicotine	1-2 mg	3-10 mg
PCP	1-3 mg	5-10 mg
Psilocybin	2-4 mg	10-30 mg
THC	2-5 mg	5-20 mg
5-MeO-DIPT	3-5 mg	7-20 mg
Amphetamines	3-5 mg	5-20 mg
Methamphetamine	3-5 mg	5-30 mg
Hydrocodone	3-5 mg	10-30 mg
Oxycodone	3-5 mg	10-30 mg
2C-B	3-5 mg	10-40 mg
4-Acetoxy-DIPT	4-6 mg	15-30 mg
2C-T-7	4-6 mg	15-45 mg
4-Methylaminorex	5-7 mg	10-25 mg
Ephedrine	5-10 mg	15-60 mg
AMT	5-10 mg	20-50 mg
Fluoxetine	5-10 mg	20-80 mg
Morphine	8-10 mg	10-30 mg
Sildenafil	10-15 mg	25-100 mg
Caffeine	10-20 mg	30-200 mg
MDMA	20-30 mg	75-150 mg
Bupropion	25-50 mg	75-150 mg
Ibogaine	25-50 mg	200-1750 mg
Modafinil	25-75 mg	100-300 mg
DXM	30-50 mg	200-400 mg
BZP	40-50 mg	70-150 mg
Ketamine	40-50 mg	75-300 mg
DPT	60-80 mg	150-250 mg
Mescaline	80-150 mg	200-800 mg
Carisoprodol	100-150 mg	200-800 mg
Adrafinil	150-250 mg	300-600 mg
GHB	400-500 mg	1000-2500 mg

The LSD Experience

A Collection of Excerpts

Reading personal reports can be one of the best ways to try to understand the effects of a substance. But the fact that people's reactions to psychoactives vary considerably based on personality, mood, set and setting means that each report represents just one possible reaction among infinite possible experiences. The following excerpts are from reports, submitted to Erowid between 2001 and 2003, that describe the LSD experience.

Photo Credits

LSD blotter images were submitted by Monkey, Apothecary, and L. Vijfentwintig, clockwise from center top.

An Unexpected Twist, by Strazi

Time became an enemy to us and we found that when we walked to the gas station to get cigarettes, we found no problem in stopping in the middle of our walk, sitting down on the sidewalk and discussing life. Why did we always feel like we had to be somewhere when we didn't. We decided this was something we needed to permanently change about ourselves.

Erowid.org/experiences/exp.php?id=9980



Making the Most of It, by Clearlight

A common theme was that at the beginning of each vision, fear tempted me to go no further, but if I saw the truth for myself, it was liberating, bringing in more light, allowing me to sense a higher Love. At each turn the viewer can bail out and return to normal thought by taking the bait. In the beginning, the bait is fear ("don't look at this next thing or something bad will happen") later the bait is an egotistical excitement ("Wow!...I am finally seeing the Truth, Me, Me, I, etc."). To maintain the states one must not take the bait and instead focus on what Is.

The most compelling part of this experience, and the part that has had the longest-lasting and most important impact on my life, was a direct result of inner stillness. Lying on my mat, letting IT take me over, I was taken into hell-realms. I'm sure many of you know of what I speak. The most excruciating physical pain combined with utter terror so that it seems like I was being psychologically gang-raped by demons while insects devoured me from the inside out. Instead of squirming in the face of this horror, however, my inner stance was one of

stillness. To approximate this posture with words: "ok...what's next?"

Well, what was next could still have been termed as very uncomfortable, but everything went up a notch. By up I mean from the fear end of the spectrum towards

Intruding on God's Turf, by Jesse

I was on God's turf. Everything I saw...the millions of eyes I kept seeing and couldn't get out of my head. Were they the eyes of the dead and every soul that is no longer a part of humanity? Those that are lost but still manifested in "reality" on another plane? It was like looking upon thousands of disassociated souls. I think God might have decided to show me things that night. I wasn't ready for it. I took it upon myself and took all those doses and God said, "Here you go, here is a taste of what you've been craving." Now that I took it upon myself—with such ARROGANCE—to invade into matters that I was not supposed to tune into, it was my time to pay. All the evil and "scary" images that I saw, that was me toying with God's universe. I wasn't meant to be able to comprehend all this, that's why I can't come to these thoughts naturally—without LSD. God allowed it to happen though. He saw my soul screaming for so long and then he decided that He thought it was OK for me to see some of his ballpark. It made me feel humble as a human being. I wasn't supposed to be here—in the manifestation of my acid experience. It made me feel sorry for intruding on God's space, like I just took things in my own hands and I really wasn't supposed to. I wasn't even really sure how much I believed in God before this but it solidified things so greatly now. It was the spiritual moment of my life.

Erowid.org/experiences/exp.php?id=10440

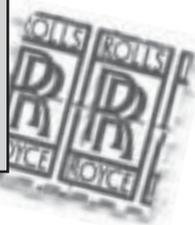
Still Dancing, by Ted

And right then I knew. I knew that EVERYTHING is an illusion. Fleeting, temporary... I knew that existentialism is the most beautiful philosophy in the history of the world, because it's the only philosophy that captures how brief and fragile we are, and thus expresses how truly unique our existence is. I understood in that instant that "The Afterlife" is an oxymoron, fool's gold.

The Universe is an eternity's worth of Now, that never-ending "IS". I saw that our individual lives are an interpretive dance, expressing from our subjective perspective what G-d, the Universe and Everything, is all about. I felt that the only way to truly have lived for that instant is to get up on stage and feel the music...

So that's it. And here I am now, nine years later. Still dancing.

Erowid.org/experiences/exp.php?id=24938



Be Careful, by Recovering

...When I snapped out of it I was in a huge line of people in a whirl-like pattern. Everyone was walking towards the center of it, towards a black hole, with mindless looks on their faces; and I knew it was the souls of everyone on Earth here, shoulder to shoulder, line after line. When the people got to the center and stepped into the hole they would fall out of the hole at the end of the line and start the walk again! I remember stepping right up to the hole, then getting a notion of what was happening and freaking out! I pushed my way through about 5 of these mindless people before the “system” got me again and I had to resume walking with no choice; but I was out of place in line, and in return, I knew I had lost my place in life.

Erowid.org/experiences/exp.php?id=18029

love. I was still in pain and scared but it eased up somewhat, so at least I felt a little gratitude for that. But instead of thinking about it too much or looking for something to cling to or something to save me, I maintained. “ok...what’s next?”

It got better (to use a dualistic word), but still I did not move internally: “ok...what’s next?” Gradually, the feelings moved up, up, up the spectrum, all the while, I remain a rock. Before my naked eye was laid as if in pages of a book what seemed on the order of 10,000 different thought-emotional states. These ranged from the lowest fear up to the highest joy, and they came in order. At the end it felt as though bubbleenergy was expanding through every cell in my body (much better than the disco-biscuits of old). Everything was perfect and I had once again reached harmony with All That Is. Still I did not move. “ok...what’s next?”

What was next is obscured from my current human vision. I can comment however on the lessons that that final moment imprinted on me. Everything is love and fear. But since fear is a lower form of love, then everything is love. God is love. everything is god. One cannot point at something that is not part of god. God/devil, love/fear are only creations of our limited thought-state. In the world beyond our dualistic logic, everything is what it is. Everything is everything.

Erowid.org/experiences/exp.php?id=25635

Umsquamadic Peels, by Hiab-x

Back on the street I had staggered a few more paces then fallen. I was now a seven year old child lying on the pavement, my best friend’s parents stood over me feeling concerned “What happened”, “He’s hit his head”, “Call an ambulance”. A disk shaped hole appeared above me with someone’s arm reaching down to me to try and pull me up into safety; I tried to reach the grasping hand but couldn’t, then the hole disappeared. I was staggering along the street again at the bottom of the cul-de-sac.

My gaze lifted to the sky and the sky’s gaze fell upon me. Each cloud was now a giant amoeba-type organism, covered in dots which pulsed in colour like the skin of a cuttlefish; each giant amoeba had a giant blue human-looking eye observing me. I could hear voices taunting me, telling me I was stupid, telling me how thick I was for looking for the answers, telling me I had spastic consciousness.

Erowid.org/experiences/exp.php?id=15901

Beyond Eye, by Peace and Fro

It was at this point that I regained my connection with my eyes, I suppose, and I started to create evil, blackened images around the room. Even though I was sliding off the timeless merry-go-round LSD provides, I was still aware of intense visual distortion. My vision then suddenly felt as if it were splintering into a numberless amount of different dimensions, or states of consciousness.

Then, like a picture forming, my immediate view began to transmogrify into a thousand interlacing eyes peering intently with their piercing pupils upon my retarded, simplistic insignificant self. At this I stood and stared—with glazed eyes as my mate informed me later—trying to comprehend the meaning behind such a depiction whilst I felt a flurry of emotion engulf my soul, from interest to apathy, curiosity to fear, as if each had no reasoning nor meaning behind, just a different aspect of constant motion. At fear, unfortunately, I lost myself and all that it entails followed. As fear is one of the most integral, primal emotions or reaction that any intelligible being possesses, it’s easy to lose one’s self to such. And when it is a result of some vision or something that is not an immediate threat to mortality, like the fear of death or whatever, flowing emotion is rendered perishable or susceptible to all things ill.

If all that shit made sense to you, the reader, then you can understand how I was frozen, lying on the floor with my left eye folding into my right, cross-eyed, perplexed, rendered utterly useless. Eventually I guess I passed out or something, but I woke the next day feeling so fucked up I found it hard to think. I had an overwhelming feeling that I had done myself some permanent damage, which will perpetually reside in my subconscious—in other words, not easy to explain.

Erowid.org/experiences/exp.php?id=26596

ESCOTTOLOGY

Addicted to Everything

By Scott O. Moore

A friend asked me recently why I liked alcohol so much. What did I get from alcohol that made being drunk such a regular pursuit? My initial response took the form of a kind of idealized alcohol trip report: I greatly enjoy the relaxing disinhibition that alcohol can bring, the relative reliability of the alcohol experience, the easy availability of alcohol in quantity. Unlike marijuana—a drug I don't enjoy—I find that alcohol leaves me with more of my general wits about me during a greater percentage of the experience, while still being inebriating enough to satisfy me. Alcohol just seems suited to my general temperament.

Of course, my relationship to alcohol is more complicated than that. I was essentially straight edge all through high school, then became a bit of a binge drinker in college. After getting turned on to LSD, I went through a short period of viewing alcohol (and all non-psychedelic recreational substances) with a haughty disdain, before realizing that I enjoyed alcohol too much to keep up such an attitude. Still, it wasn't until my year without psychedelics—a year that coincided with an especially brutal time in my professional life—that alcohol really took on a prominent role in my life.

Now I drink pretty much every evening, a pattern interrupted only by occasional use of psychedelics or other drugs, and even then alcohol is almost always a part of my coming down ritual. I self-identify as an alcoholic, both to myself and to my friends, to help me stay cognizant of just how much I drink and the fact that my life has taken this turn. I tell myself that I'm not a self-destructive alcoholic; I hold down jobs, I stay active in theatre and music and writing, I practice aikido twice a week, I stay involved in my community, I have a healthy marriage. I contrast this with the only other alcoholic I've ever known, the stepfather who raised me until I was eleven and who destroyed his marriage and his career by drinking too much. But that's a rationalization. By any reasonable definition of alcoholism, I likely qualify. Drinks every day—check. Drinks alone—check. Drinks to get hammered—check.

Still, the conversation didn't stop there, because alcoholism is an incomplete description of what motivates me. I'm certainly an addict, but not simply to alcohol—I'm addicted to altered states of consciousness in general. I'm addicted to being off baseline. I'm addicted to the kind of recreational drug use that respected members of the psychedelic movement look upon with disdain, and I don't particularly care. This appetite is comprised of equal, and somewhat contradictory, parts hedonism and escapism. Drug use in my life is a way to make the world “feel better”, while at the same time an attempt to distance me from the world. Psychedelics offer additional psychological benefits, but psychedelic-inspired insight and revelation are happy surprises, not a goal.

I do study with fascination and respect how others in the world incorporate psychedelic use into a spiritual path, but that's not the road I'm on. I long considered myself a nihilist before recently coming to the conclusion that maybe I'm too happy-go-lucky for that; perhaps I'm more of an existentialist, someone who, as Dictionary.com offers, “emphasizes the uniqueness and isolation of the individual experience in a hostile or indifferent universe, regards human existence as unex-

plainable, and stresses freedom of choice and responsibility for the consequences of one's acts.” I extract joy and pleasure from reality in whatever manner works to help me survive the world, keeping in mind strict personal guidelines about not harming others. Drugs and alcohol are an important part of that formula. There's a richness to the constant seesaw between sobriety and intoxication that drives me, one that defies authoritarian notions of propriety and restraint.

Alcohol, of course, extracts a darker toll from me than psychedelics. I lose my temper more frequently now, embarrass myself more often now, and perhaps most disturbingly, lose chunks of time from memory much more than I would prefer. I can try to moderate these incidents, but my appetite has difficulty moderating dosage. I know that alcohol is physiologically disastrous at these levels. In fact, my friend initiated this conversation with me in part because his wife had observed me completely obliterated at parties recently with what she perceived to be an alarming frequency. I can't deny any of it. I can rationalize, try to stay alert, and hope to work within drunken confines to change myself, but hope is a cheap word in a situation like this.

But there's something I enjoy perhaps too much in the wild abandonment that intoxication provides. It's a grim kind of celebration, a dance on razor's edge, which seems an appropriate expression of my personality. The fact is that I do enjoy the experience of life—of being in love, of being an artist, of being drunk and high. Another friend sent me a quote from Baudelaire that expresses my feelings better than I ever thought to:

“One must be forever drunken: that is the sole question of importance. If you would not feel the horrible burden of Time that bruises your shoulders and bends you to the earth, you must be drunken without cease. But how? With wine, with poetry, with virtue, with what you please. But be drunken. And if sometimes, on the steps of a palace, on the green grass by a moat, or in the dull loneliness of your chamber, you should waken up, your intoxication already lessened or gone, ask of the wind, of the wave, of the star, of the bird, of the timepiece; ask of all that flees, all that sighs, all that revolves, all that sings, all that speaks, ask of these the hour; and wind and wave and star and bird and timepiece will answer you: ‘It is the hour to be drunken! Lest you be the martyred slaves of Time, intoxicate yourselves, be drunken without cease! With wine, with poetry, with virtue, or with what you will.’”

Of course, after years of drug and alcohol use, Baudelaire died at the age of forty-six after suffering a stroke of “aphasia and hemiplegia”. I refuse to draw the obvious conclusion, mostly for aesthetic reasons. ●

Erowid.org/columns/scotto/

1. Baudelaire's Death: In 1862 a minor stroke or some other sudden sign of deteriorating health gave him a “warning” of the consequences of alcohol, opium, and hashish. The remaining years of Baudelaire's life were darkened by despair and financial difficulties. He died in a Paris clinic of aphasia and hemiplegia on August 31, 1867, in his mother's arms. (Liukkonen P, Biography of Charles Baudelaire. PoetryConnection.net)

THE DISTILLATION

Aside from the daily maintenance and upkeep of the site, we are always working on a variety of projects. Many of these involve updating existing sections of the site as a part of the overall Erowid 3.0 project. Below is a list of updates and notes about some of these projects.

EcstasyData.org

The EcstasyData project has tested 72 tablets since enacting a required \$20 co-pay in May 2003. With this co-pay we were able to stretch the remaining funds for a few extra months, but we have now reached the end of the project's budget. We still believe that this project is a valuable one, but until additional funding can be found, we will no longer be accepting tablets for testing. Serious suggestions for funding sources in the \$20-40,000 range should be forwarded to admin@ecstasydata.org.

ECSTASYDATA STATISTICS				
2003	Daily Visitors	1,425	Daily Page Hits	9,091
	Daily File Hits	170,783	Tablets Tested	142
Tablets Tested		Testing Results (1999-2003)		
2003	142	Total Tablets Tested	1210	
2002	301	MDMA Only	(42%)	507
2001	332	MDMA + Something	(13%)	158
2000	333	No MDMA	(45%)	545
1999	69	- Nothing		89

Spirit & Freedom Vaults

The Spirit Vaults and Freedom Vaults are currently where we're beta-testing some of the Erowid 3.0 front-end (see page 4). They have also seen the first major reorganization and editing in almost five years. We continue to seek volunteer curators to help improve and maintain these vaults.

Volunteers

Thank you to both the short-term and long-term volunteers who do the work of link checking, experience report reviewing, document translating, error correcting, and art processing, as well as those who act as expert resources for the Erowid crew. Two notification lists have been created to communicate with potential volunteers—the volunteers' list and the content review list—both of which receive minimal traffic. As always, we welcome sincere inquiries and encourage self-motivated volunteers to read our About Volunteers pages.

References

We continue to collaborate with MAPS on collecting scientific references about MDMA, psychedelics, and related topics. Over the summer, we made progress towards a revision of the system that would allow us to offer this software for use by other sites. We are currently seeking a dedicated volunteer to be in charge of the References Vaults. The References Manager would need experience reading scientific literature and interest in following research news, searching PubMed for new references, and adding these to a database.

Fundraising

We continue to struggle with our reluctance to spend time doing fundraising instead of working on the site. As we re-examined our fundraising model this year, it became clear we need to expand our base of support. Although major funders are critical to our continued work, the blow of losing one of those funders endangers the project. We would like to reach a point where the Erowid membership provides enough support to cover the basic costs of running the site.

Our two primary goals for this year were to increase general memberships and increase the percentage of Fellow level (\$200+) and higher donations. We began the year with about 450 members and, with a series of fundraisers and membership drives, have now increased to over 750 members. In previous years, we only had a handful of people donate \$200 or more, suggesting we needed to work to fill in the gap between general membership and large grants (\$5,000 and higher). This year we more than doubled the number of Fellow level donations. We intend to continue trying to increase memberships over the next year and hopefully reach 1500 by the end of 2004.

We've had a lot of help with our recent fundraising efforts. Two different groups (one in Seattle and one in Chicago) have held events to help raise funds. Scott O. Moore published a book of short stories that he is selling as an Erowid fundraiser, and Sasha Shulgin, Ann Shulgin and Wendy Perry have signed copies of their books for us to give as Fellow level membership gifts.

If you have an idea for fundraising, we'd love to hear from you.

Art Vaults

The Art Vaults are currently in the process of being reorganized. When this area of the site was started three years ago, we didn't expect the level of interest that it has drawn. It has become apparent over the past year that the existing structure is not sufficient to hold the wide variety of submissions we receive. The new structure will be oriented towards a wider range of art and ability levels. The first step of this reorganization will hopefully be completed over the next few months.

SITE STATISTICS				
CURRENT	Content Pages	22,936	Daily Visitors	28,153
	Archived Images	4,461	Daily Page Hits	376,844
	Current Members	751	Daily File Hits	1,539,208
BY MONTH		Avg Daily File Hits	Avg Daily Page Hits	Avg Daily Visitors
	Sep 2003	1,419,346	351,628	26,888
	Aug 2003	1,242,013	306,921	23,143
	Jul 2003	1,225,892	308,748	23,823
	Jun 2003	1,350,403	324,441	25,002
May 2003	1,477,751	343,524	26,391	
BY YEAR	2003	1,401,006	344,066	25,880
	2002	1,206,855	283,541	23,042
	2001	798,400	207,427	17,300
	2000	462,000	126,000	12,000
	1999	135,800	37,000	4,100

VERBATIM

“First they laugh at you; then they ignore you; then they fight you and then you win.”

— Mahatma Gandhi (1869–1948)

“The people never give up their liberties but under some delusion.”

— Edmund Burke (1729–1797)

“Truth comes out of error more easily than out of confusion.”

— Francis Bacon (1561–1626)

“There are two kinds of people, those who do the work and those who take the credit. Try to be in the first group—there is less competition.”

— Indira Ghandi (1917–1984)

“To know is nothing at all; to imagine is everything.”

— Anatole France (1844–1924)

“I’d rather be a failure at something I love than a success at something I hate.”

— George Burns (1896–1996)

“Penalties against possession of a drug should not be more damaging to an individual than the use of the drug itself.”

— President Jimmy Carter, (b. 1924), in a 1977 speech before Congress.

“Study as if you were going to live forever; live as if you were going to die tomorrow.”

— Maria Mitchell (1818–1889)

“Pursuing the religious life today without using psychedelics drugs is like studying astronomy with the naked eye because that’s how they did it in the first century A.D.”

— Timothy Leary, (1920–1996) in *The Politics of Ecstasy*, 1968

“The dancer of the future will be one whose body and soul have grown so harmoniously together that the natural language of that soul will have become the movement of the body.”

— Isadora Duncan (1877–1927)

“Nature provides exceptions to every rule.”

— Margaret Fuller (1810–1850)

“Intolerance of ambiguity is the mark of an authoritarian personality.”

— Theodor W. Adorno (1903–1969)

**Quod ali cibus
est aliis fuat
acre venenum**

**[What is food to one man may
be fierce poison to others]**

— Lucretius (c. 99–55 B.C.E.)

“Giving money and power to government is like giving whiskey and car keys to teenage boys.”

— P.J. O’Rourke (b. 1947) in *Parliament of Whores*, 1991

“Nobody realizes that some people expend tremendous energy merely to be normal.”

— Albert Camus (1913–1960)

“If we were to read about spiritual things, it is only words...what is of greatest importance is that we have experience. Not words, not beliefs, but experience.”

— Dr. Albert Hofmann (b. 1906)

“Drug use, some might say, is destroying this country. And we have laws against selling drugs, pushing drugs, using drugs, importing drugs. And the laws are good because we know what happens to people in societies and neighborhoods which become consumed by them. And so if people are violating the law by doing drugs, they ought to be accused and they ought to be convicted and they ought to be sent up.”

— Rush Limbaugh (b. 1951), in 1995. Limbaugh recently admitted his dependence on illegally purchased opiates.

“Normal is in the eye of the beholder.”

— Whoopi Goldberg (b.1949)

“We are going to have peace even if we have to fight for it.”

— Dwight D. Eisenhower (1890–1969)

“How far you go in life depends on your being tender with the young, compassionate with the aged, sympathetic with the striving, and tolerant of the weak and strong. Because someday in your life you will have been all of these.”

— George Washington Carver (1860–1943)

“It is difficult to live without opium after having known it because it is difficult, after knowing opium, to take earth seriously. And unless one is a saint, it is difficult to live without taking earth seriously.”

— Jean Cocteau (1889–1963)

“If they can get you asking the wrong questions, they don’t have to worry about the answers.”

— Thomas Pynchon (b. 1937)