

frankly, there's nothing wrong with that."

Lois Gibbs, executive director of the Citizens Clearinghouse for Hazardous Wastes (and an Earth Day 20 board member), agrees that the more, the merrier. "Given the monumental task ahead," she says, "there's plenty of work to go around."

—D.R.

CONSCIOUSNESS

The Price of Ecstasy

WHEN IT FIRST TURNED up in the therapy sessions of maverick psychiatrists in the late '70s, and, a few years later, when it became a favorite among college students, gay men, and young professionals, MDMA (or, more accurately, 3,4-methylenedioxy-methamphetamine) was celebrated as the drug of the new age, capable of breaking down barriers of communication, releasing suppressed memories, and bringing users in touch with their feelings—but without the perceptual distortions and unpredictability that often accompanied hallucinogens such as LSD. "A five-hour session can be equivalent to five months of regular therapy," professed one psychologist. The suggestion that MDMA might be harmful was all but drowned out by a chorus of advocates claiming that the drug provided just what its street name promised: Ecstasy.

Not everyone was ecstatic, however. In July 1985, in a decision that was unsuccessfully challenged by a group of psychiatrists, MDMA was outlawed by the Drug Enforcement Agency amid contested reports that it might cause brain damage. And while that ruling has not stopped its underground use in therapy and its wide use as a recreational drug, new

research on the potential neurological dangers of MDMA suggests that the initial concern over the drug's health effects may have been warranted after all.

The government first raised the red flag over MDMA when a 1985 University of Chicago study showed that the drug reduced serotonin levels in rats. Low levels of serotonin, a neurotransmitter, may result in "increased tendency towards sexual activity, increased aggression, and increased impulsive behavior," says the study's author, George Ricaurte, M.D., now an assistant professor of neurology at Johns Hopkins School of



Medicine. Although critics of his research have argued that the rat data should not be applied to humans (since rodents and primates metabolize drugs in different ways), Ricaurte has more recently found that MDMA is five to ten times more toxic in monkeys than in rats. He notes further that "a dose that produces a toxic effect in the monkey is only two to three times higher than the dose of MDMA that humans typically take on the street."

The drug's effect on serotonin can be considerable. Two weeks after exposure to MDMA, the serotonin level in a monkey's brain was down 80 percent, Ricaurte reports. At the ten-week

point, however, the level was down only 50 percent, indicating that the serotonin-producing nerve terminals damaged by the drug may be able to recover in some form (though whether they'll ever be exactly the same remains a mystery). Ultimately, Ricaurte says, these findings suggest that MDMA "could indeed produce neurotoxic effects in humans at the dose that is generally taken on the street." He acknowledges that it is speculative to extrapolate human risks from monkey data and that he should know a good deal more after completing a detailed examination of recreational MDMA users.

But even if MDMA can damage or destroy part of the brain, some scientists don't think the risk of neurotoxicity is large enough to outweigh what they see as the drug's lasting therapeutic benefits. Speaking at a January symposium on synthesized "designer drugs" in San Francisco, Reese Jones, M.D., a professor of psychiatry at the University of California Medical Center, asked: "Is there something sacred about those little bumps on the end of the serotonin receptors that would keep us from giving that drug, if it really did increase love and relatedness, and made people feel better at work, and made people feel better with their family, and so on? Is that neurotoxicity?"

Perhaps not. But to the Drug Enforcement Agency, MDMA is still a Schedule I substance—judged to have no medically accepted value and a high potential for abuse—and it seems likely to remain so. Although the Swiss government late last year gave five psychiatrists permission to use MDMA and other drugs in their practices as part of a limited experimental

program, clinical studies that might establish MDMA's medical use have been forbidden in the United States because of the unresolved neurotoxicity questions. And according to Food and Drug Administration spokeswoman Susan Cruzan, "It is irrelevant to talk about clinical trials of a drug that has no legitimate medical use."

Perhaps frustrated by that regulatory catch-22, a few psychiatrists continue to use MDMA illegally in therapy, according to Rick Doblin, a former MDMA user who now heads the nonprofit Multidisciplinary Association for Psychedelic Studies, which has raised more than \$200,000 to fund MDMA research. Of particular note, he says, are the psychiatrists using the drug to treat the psychological trauma associated with the diagnosis of AIDS. "They find that it is quite useful in helping people to face the terminal nature of their illness," he explains, "and in helping them, instead of focusing on the days that they won't have, to focus on the days that they do have."

And, despite the controversy, street users continue to seek Ecstasy as well. "Some people take it almost entirely for therapeutic or spiritual reasons and can't see it as a recreational drug," explains Jerome Beck, a researcher at San Francisco's Institute for Scientific Analysis who has interviewed more than a hundred MDMA users as part of a study sponsored by the National Institute on Drug Abuse. Other people, he adds, "look at it as a party drug—a stimulant that is even better than cocaine."

Whether the new research will make Ecstasy a dirty word remains to be seen.

—Simson I. Garfinkel