

FEBRUARY 1986 \$2.00

# SCIENCE DIGEST

## **COPING WITH ANXIETY**

**Science Tackles  
America's No.1  
Mental Health  
Problem**



© 08702



02

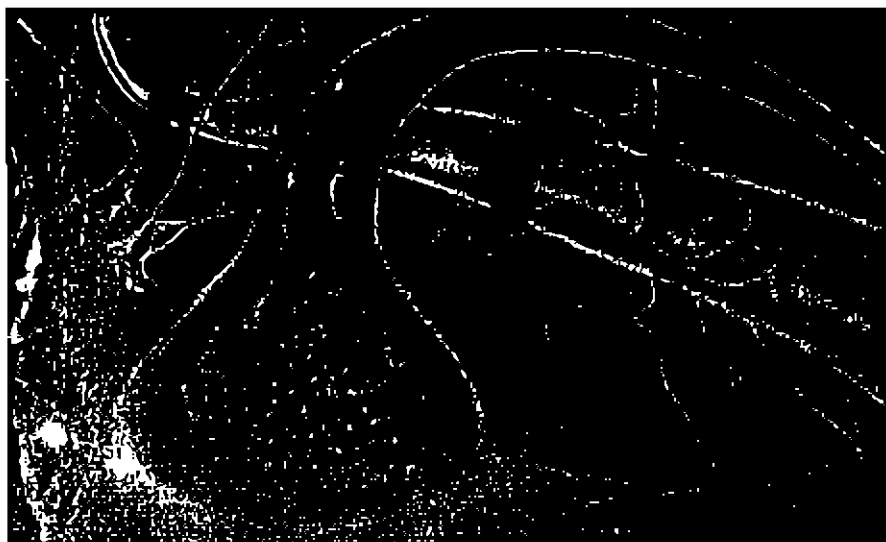
754784

SCHULZ

# Chemistry/digest

## The Agony of Ecstasy

Some call it the new "love drug," but the DEA calls it dangerous.



In a normal brain, an electrical signal travels to the end of a nerve cell. It then triggers the release of a chemical neurotransmitter, which crosses the gap (synapse, in yellow) to the next cell, initiating a new signal. MDMA may impede this process.

**O**n the street it's known as Ecstasy. In the lab they call it 3,4-methylenedioxymethamphetamine, or MDMA. Some psychiatrists think it's a therapeutic marvel, while the government believes it's a dangerous drug. One thing's for certain: No one involved is dispassionate about MDMA, the latest in the pursuit of better living through chemistry.

MDMA is a less potent version of the psychedelic MDA, known in the sixties as the "love drug." Both combine some of the effects of the hallucinogen mescaline and of amphetamine stimulants. Though synthesized and patented in 1914 as an appetite suppressant, MDMA was never marketed. It remained all but forgotten until about 10 years ago, when it resurfaced quietly, first in the offices of some therapists and then on college campuses and in the homes of young professionals.

"MDMA lowers anxiety levels in such a way as to make people less defensive," states Harvard professor of psychiatry Lester Grinspoon. "It also increases the capacity for insight, empathy and communication." Watertown, Massachusetts, psychiatrist Rick Ingrasci has successfully administered MDMA, which until recently was legal, to 200 patients over the past five years. He has found the drug to be especially helpful in therapy with couples, since it diminishes defensiveness and encourages communication. Speaking of

one business executive who took MDMA during a session, Ingrasci says, "We covered more ground in those two hours than we did in two months of psychotherapy."

In recent years, recreational use of MDMA has boomed. Street users gladly pay from \$8 to \$20 for a typical 100-milligram capsule of the synthetic white powder. Never mind the initial side effects—15 minutes or so of sweating, rapid eye oscillation and an increase in blood pressure and heart rate—and the 24-hour aftereffects of exhaustion and appetite loss. What they are buying is approximately four hours of contentment, self-acceptance and insight, usually without the perceptual and cognitive distortions associated with other psychedelic drugs.

But last summer the Drug Enforcement Agency (DEA), alarmed by research associating the drug with possible brain damage, slapped an emergency ban on MDMA. It has, for now, joined the ranks of heroin, LSD and marijuana as a Schedule I controlled substance, the only legal use being in an approved experimental setting. However, one group, protesting that such classification inhibits clinical research, is pressing to have the drug placed in a less restrictive category.

Grinspoon, who is one of those challenging the DEA, believes "it is imperative that we explore this drug as a possible adjunct and catalyst to psychotherapy. Keep-

ing it in Schedule I would be a terrible obstacle. We need to get new data—from the lab, not the street." He and the other proponents want to see MDMA listed instead in Schedule III—with most tranquilizers and diet pills—for which research protocols are more lenient. But a Schedule III drug must have a currently accepted medical use and a relatively low potential for abuse. And as DEA chemist Frank Sapienza points out, "MDMA hasn't even been approved for human consumption by the Food and Drug Administration. And we believe the abuse potential is high."

The DEA also cites research at the University of Chicago. Animal studies by Lewis Selden and Charles Schuster indicate that the drug might cause "long-term damage to central nervous system structures." These researchers have shown that MDA, which differs from MDMA by only one methyl group, "produces a marked depletion of a vital neurotransmitter, serotonin." Additionally, they have shown that the parent compound of MDMA, methamphetamine, can cause degeneration of nerve cells containing another key neurotransmitter, dopamine.

Ecstasy boosters tend to scoff at these findings. Says Ingrasci, "It is true that MDMA differs only slightly in chemical structure, but a small variation can produce a radically different biological activity." To put an end to speculation, the Chicago researchers are doing experiments with MDMA itself to examine its toxicity to the brain. Initial results indicate that while a single injection of MDMA may not be as toxic as MDA, chronic treatment, which causes severe depletion of serotonin and a reduction in its intake, may be worse.

### Designer Drugs

Even if the DEA does succeed in permanently classifying MDMA as a Schedule I drug, basement chemists may be one step ahead with a new and legal variation of it. Since current laws define drugs by precise chemical structure, so-called designer drugs—compounds in which the psychoactive quality of a banned substance is maintained but the molecular structure is slightly altered—are a devious way to skirt the law. "In fact, there is already rumor of one called MDE," says Sapienza. But a bill before Congress would broaden existing bans to include spin-offs.

—Kathryn Rose Gertz