Health & Medicine

Breaking Through

Cannabis legalization is a growing reality: 20 states permit medical marijuana use, and Colorado and Washington have legalized it for all adults. But as more states line up — and more people light up — Columbia researchers wonder: what's on the other side?

By
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|
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Keith Negley

"I don't think it is more dangerous than alcohol," President Barack Obama '83CC told the *New Yorker* in a profile published in January. In the seventy-seven-year history of the federal prohibition of cannabis, this was the least antagonistic remark about the substance ever to issue from the White House. Not that Obama was out on a political limb: a 2013 Gallup poll showed that 58 percent of Americans support legalization. The government estimates that 110 million Americans have tried cannabis, and that nineteen million people use it regularly.

Though Obama, a partaker in his Hawaiian youth, also called pot smoking a “vice” and “not something I encourage,” he said it was important for legalization to go forward in Colorado and Washington, citing the racial disparities in punishment that have always been a feature of US drug enforcement. African-Americans, despite having a cannabis usage rate about the same as whites, are nearly four times as likely to be arrested for possession.

But while most people can agree that liberalized laws will alleviate certain injustices, another set of questions looms in the fog: What are the harms to individuals from using cannabis? Will legalization lead to more use? Will the roads be less safe? And what about the kids?

To get answers, *Columbia Magazine* went uptown to the medical campus, stopped by the New York State Psychiatric Institute and the Mailman School of Public Health, and knocked on some doors.

Smoking for Uncle Sam

Is cannabis addictive? The question has long been a point of contention in the how-harmful-is-it debate. One key criterion would be the presence of a withdrawal syndrome.

Margaret Haney, a professor of clinical neurobiology, is the director of Columbia’s Marijuana Research Laboratory. Every other month, she brings in four chronic users to live for a nine-to-sixteen-day period in the lab’s tiny bedrooms and common space (couch, chairs, DVD-only flat-screen, board games, washer/dryer, books, no clock, no radio, no phone, no windows, no Internet) and has them smoke weed. The product is grown at the government’s pot farm at the University of Mississippi; funding comes from the National Institute on Drug Abuse. “We don’t have a hard time finding volunteers,” Haney says.

Haney has headed the lab since 1999. That year, she and her team conducted an experiment: over a span of twenty-one days, they gave their willingly captive subjects an alternating course of active marijuana and placebos. Then they monitored behavior on closed-circuit TVs: sleep patterns, food intake, shifts in mood.

What they found was compelling. “Sleep disruption is one of the most robust withdrawal symptoms,” Haney says. “The smokers had trouble falling asleep. They woke up in the night. They woke up early. Their mood, too, reflected classic drug-withdrawal symptoms: irritability, anxiety, restlessness. Food intake dropped precipitously. The first two days, they consumed up to a thousand calories less than they did baseline conditions. That recovered fairly quickly, but the disruption in mood and sleep lasted for a week to ten days.”

It was the first empirical demonstration of a withdrawal syndrome for cannabis.

“The consequences of dependence are not as severe as with alcohol, cocaine, and other things,” Haney says. “However, once you’re a daily smoker, your ability to stop becomes as poor as cocaine users’: only 15 to 37 percent are able to maintain abstinence.” The physical withdrawal symptoms don’t compare to those of heroin (diarrhea, sweating, nausea), but to Haney, it’s the psychological part — the anxiety, the craving — that really drives relapse. “These withdrawal symptoms for marijuana are significant,” she says. “They play a role in maintaining heavy drug use.”



Keith Negley

It’s that heavy use that concerns Haney. One thing she feels she isn’t hearing much about in the legalization discussion is the consequences of smoking an intoxicant every day.

“There’s going to be a cost for teenagers doing that,” she says. “I do worry about the developing brain and the effect of heavy marijuana use on the brain’s cannabinoid receptors. The CB-1 cannabinoid receptor, where THC binds, is virtually everywhere in our brain, in areas involved with mood and memory and stress response.” (THC is the main psychoactive compound in cannabis.)

“What is the effect on a fifteen-year-old, whose brain is developing, of smoking marijuana every day? What are the long-term consequences?”

Are the Kids All Right?

With Haney’s questions in mind, we drop in on Deborah Hasin ’80SW, ’86PH, an epidemiologist at the Mailman School. In the haze of such data as a 2012 New Zealand study tying adolescent pot smoking to lowered IQ, Hasin wants to know if liberalized cannabis laws will lead to an increase in use among teenagers.

In 2011, she and her colleagues, with funding from the National Institutes of Health, took a national data set and compared rates of adult marijuana use and prevalence of “use disorders” in states with medical-marijuana laws and states without them. According to the American Psychiatric Association, “cannabis use disorder” includes standard addiction signs like “important social, occupational, or recreational activities are given up or reduced” and “a failure to fulfill major role obligations at work, school, or home,” and afflicts 9 percent of pot smokers.

Predictably, Hasin found a higher rate of use in states with medical marijuana, and a higher rate of disorders, too. “You could interpret that in different ways,” she says. “You could say, these laws are causing people to use more and be at higher risk. Or you could say, the laws are just reflecting what’s going on in the states: the states with more permissive attitudes have higher use.”

That was for adults. Next, Hasin wanted to learn about kids. Using another data set, she and her team did an analysis of twelve-to-seventeen-year-olds in medical-marijuana states. There, too, the data showed a higher level of use — though again, it didn't say what came first, the elevated rate or the law. To figure *that* out, Hasin is now studying a larger sample — a yearly survey of 45,000 eighth, tenth, and twelfth graders from 1991 to the present. She wants to see what was going on in states before and after they passed a medical-marijuana law, and compare that to trends in states without any law. (California was the first to legalize medical marijuana, in 1996.)

"There are many variables that we need to incorporate before we can understand the results," Hasin says. "There are differences in laws, in how states handle dispensaries, and in attitudes within a state. How risky do people think it is? How OK is it to use? We built those variables into the analysis, because we wanted to see: does passing a law result in a change in attitudes as well as a change in use?

"Medical marijuana aside, marijuana use has been creeping up in adolescents and adults since 2007. The proportion of the population that sees it as risky has been going down. There is a debate about cannabis: on the one hand, market forces are perking up at legalization. On the other, there is a public-health perspective. In the two states that have legalized marijuana, we're seeing that the systems they're implementing aren't taking public health into account the way they could.

"Not every user is harmed," says Hasin, "but there are harms from using cannabis. And it seems likely that legalization will increase the amount of harm."

Czar Power

What are those harms, exactly?

Let's visit Herbert Kleber, the director of the Division on Substance Abuse at Columbia's College of Physicians and Surgeons and the New York State Psychiatric Institute. From 1989 to 1992, Kleber, now seventy-nine, was deputy drug czar under President George H. W. Bush. His official title was deputy director for demand reduction. He's a treatment guy, a mild-mannered, good-humored professor of psychiatry who is not high on marijuana, in any sense.

Kleber's office is a barricade of books and stacked peer-reviewed papers and framed photos of himself with colleagues and personages. Prominently displayed is a letter of thanks from the president he served. Kleber, a dapper, white-haired man with wireframe glasses, sits in his desk chair, dwarfed by the monuments of his achievements.

"Dr. Kleber," we begin. "You've spent your career trying to reduce the demand for cannabis. Now things are moving in the opposite direction. How do you understand this?"

Kleber reflects for a moment. "I gave a talk over a decade ago on marijuana entitled, 'The Grass Makes the Other Side of the Hill Look Greener.'" He grins at the pun. "Meaning that there are a lot of people who enjoy marijuana's effects." This remark sounds almost tolerant, a concession to the pursuit of happiness. Kleber then qualifies it. "We're going through a difficult time in this country, in terms of jobs, stress, a dysfunctional Congress, and a dysfunctional government. I think a lot of people are looking for escape. And the marijuana today is a very different creature than it was in the 1960s, when John Lennon called it 'a harmless giggle.' Then, it was about 2 percent THC. Now, the THC level of the average DEA seizure is about 12 percent. At the dispensaries in California and Colorado, it's 15 to 30 percent." Kleber lowers his voice. "It's a very different drug. A very, very *powerful* drug."

In a 2009 CBS News op-ed on marijuana, Kleber wrote, "There are a number of very serious side-effects including increased likelihood of cancer, impaired immune system, and increased chance of other drug problems, such as addiction to opiates. Some studies disagree on these. Recently, substantial evidence has been published linking marijuana use to earlier onset of schizophrenia and other psychoses."

Psychoses?

"Dr. Kleber, is it really true? About psychosis?"

"Yes." Kleber stands up, goes over to a table heaped with papers and indicates two thick folders. "It's all marijuana," he says. "Marijuana and psychosis." Kleber proffers a folder for inspection. "These articles are all on marijuana and psychosis."

When we politely invoke *Reefer Madness*, in a delicate "some might say" formulation, Kleber says, "No. These are careful scientists who have studied this, both in the US and in England."

Kleber also considers the medical-marijuana movement “a stalking horse for legalization.” He says he can make a pretty good case that medical marijuana is a fraud. In California, he claims, doctors provide marijuana cards willy-nilly at $150 a pop, mostly for supposed back pain, and in the absence of FDA standards. “Medical marijuana laws,” Kleber wrote (with coauthor Robert DuPont) in a 2012 commentary, “have challenged the way physicians practice medicine by asking them to recommend to their patients the use of a Schedule I illegal drug of abuse with no scientific approval, dosage control, or quality control” — Schedule I being, as stated by the Drug Enforcement Administration, the “most dangerous” of its five categories, denoting drugs with “no currently accepted medical use and a high potential for abuse.”

Still, Kleber recognizes the plant’s success in relieving chemotherapy-induced nausea and boosting food intake in AIDS patients, and emphasizes that there are synthetic medications in pill form, such as dronabinol and nabilone, that are FDA-approved for these conditions. One component of cannabis, CBD (cannabidiol), is being studied for possible use for childhood epilepsy.

“There are at least sixty cannabinoids in the plant,” Kleber says. “We need to do controlled studies of these substances, which could be useful to treat a variety of conditions. But we need something of known purity and potency so that doctors know what they’re prescribing and patients know what they’re taking.”

This nod to possible health benefits hardly diminishes Kleber’s sense of the drug’s perils, however. Especially for young people.

“People who start smoking marijuana in their teens are much more likely to get into trouble with it, and get addicted,” he says.

And not just addicted.

“Marijuana does affect the brain. The younger you are when you start using it, the greater the risk that it will cause brain damage that will be with you the rest of your life.”

Columbian Gold

Before we go on, let’s step back and see how we got here.

“Would there be propriety … in suggesting the policy of encouraging the growth of Cotton and Hemp in such parts of the United States as are adapted to the culture of these articles?” wrote President George Washington to treasury secretary Alexander Hamilton 1776KC in 1791. At the time, the plant was a major crop, used for rope, fabric, and paper. With the rise of the cotton gin, demand for agricultural hemp fell, while medicinal hemp (sold in tincture form at the local druggist’s) was, by 1900, supplanted as a pain reliever by morphine. In 1906, one-time Columbia law student President Theodore Roosevelt signed the Pure Food and Drug Act, which required drug labels to include any of ten substances considered dangerous, including cannabis; and another Law School attendee, President Franklin D. Roosevelt, having sealed Prohibition’s death in 1933, signed the Marihuana Tax Act of 1937, a bill of repressive taxation that made legal procurement infeasible.

The latter legislation was pushed by Harry J. Anslinger, the iron-fisted director of the Federal Bureau of Narcotics, an office set up in 1930 under the Treasury Department. In the post-Prohibition era, Anslinger had found a new enemy — “marihuana,” a term used by Mexicans and advanced by the bureau for its seedy essence of foreignness. In statements submitted to Congress in 1937, Anslinger claimed that the “deleterious, even vicious, qualities of the drug render it highly dangerous to the mind and body,” and that “its use frequently leads to insanity.” Anslinger linked marijuana, which was common among jazz musicians, to race mixing and wild abandon, and touted stories from the yellow press of marijuana-fueled psychosis and murder, as immortalized in the 1936 movie *Reefer Madness*.

In 1938, New York mayor Fiorello La Guardia, having learned that marijuana use was prevalent in the city, sought advice from the New York Academy of Medicine. The academy recommended that La Guardia form a panel to undertake the most in-depth study yet of cannabis use. The commission was composed largely of Columbia psychiatrists and sociologists, including Robert F. Loeb ’61HON, Leon H. Cornwall, and James McKeen Cattell, who years earlier was fired from the University by president Nicholas Murray Butler for his public opposition to the draft during World War I.

The La Guardia Committee Report was released in 1944. Among its findings was that “marihuana is not a drug of addiction, comparable to morphine, and that if tolerance is acquired, this is of a very limited degree. Furthermore, those who have been

smoking marihuana for a period of years showed no mental or physical deterioration which may be attributed to the drug.”

Anslinger was furious. He denounced La Guardia, threatened the scientists with jail should they attempt more cannabis research, and pressured the American Medical Association to condemn the report. An April 1945 editorial in the *Journal of the American Medical Association* stated, in curiously Anslingerian prose, that “public officials will do well to disregard this unscientific, uncritical study, and continue to regard marihuana as a menace wherever it is purveyed.” Public officials did.

But Anslinger’s thorniest nemesis was an Indiana University sociologist named Alfred Lindesmith ’31TC. Lindesmith, who studied opiate addiction, rejected Anslinger’s portrayals of addicts as crazed killers and rapists, and sought to dispel these notions in articles in small legal journals. According to a 1998 article about Lindesmith and Anslinger in the *Journal of Criminal Law & Criminology*, Anslinger retaliated by demanding retractions and enlisting people to write discrediting rebuttals.

Anslinger’s Lindesmith problem soon came into full view. In 1946, the National Film Board of Canada released a documentary called *Drug Addict*, which depicted addicts as sick people in need of help. When Lindesmith traveled to Canada for a screening, Anslinger appealed to the Canadians to forbid the professor from seeing it. Canada declined. But Anslinger wasn’t finished. Fearful that the film’s graphic scenes of drug use “would do incalculable damage in the way of spreading drug addiction,” he wrote to the Canadian government requesting that the film not be shown in the US. This time, to Lindesmith’s regret, Canada complied.

In 1956, President Dwight D. Eisenhower, former president of Columbia and a Scotch whisky man, signed the Narcotic Control Act. It was America’s harshest drug law yet: except in cases of possession for first-time offenders, the law eliminated suspended sentences, probation, and parole. Ten years later, Lindesmith, in an introduction to a collection of essays on cannabis titled *The Marihuana Papers*, wrote, “the use of marihuana has in the past tended to be concentrated in the lower, underprivileged classes, whereas alcohol is used in all strata. This sociological fact may account in considerable part for the persistence of the marihuana myths, for it means that most writing on the weed and its effects has been done by persons of the middle and upper classes, who themselves use alcohol rather than marihuana, who often have no direct experience with marihuana or with the social types who use it, and who consequently tend to forget about alcohol when they express their disapproval of

the alleged effects of the weed on persons of the lower strata.”

At that point, in the late 1960s, in a climate of body counts, assassinations, police riots, and the draft, cannabis was becoming popular with white middle-class youth. President Richard Nixon, who saw marijuana as a token of antiwar sentiment and moral degeneracy, took action. In 1970, he signed the Controlled Substances Act, which, among other things, divided drugs into five classifications, with marijuana listed temporarily on Schedule I, pending an examination by a Nixon-appointed task force led by Pennsylvania governor Raymond Shafer. In June 1971, with the Shafer Commission still at work, Nixon commenced the War on Drugs, calling for a major expansion of the antidrug effort.

The Shafer Commission released its findings in 1972. It determined that, in the users studied, “no significant physical, biochemical, or mental abnormalities could be attributed solely to their marihuana smoking.” The report refuted claims about a link to violence, and concluded that, “considering the range of social concerns in contemporary America, marihuana does not, in our considered judgment, rank very high. We would *deemphasize* marihuana as a problem.”

None of this jibed with Nixon’s political message, or his personal scorn for cannabis, which he set down on tape, with statements like, “By God, we are going to hit the marijuana thing, and I want to hit it right square in the puss.” The Shafer Report was shelved, the drug war was waged, and cannabis remains, to this day, along with heroin and LSD, a Schedule I drug.

Entering the Gateway

In 1975, Denise Kandel ’60GSAS, a professor of sociomedical sciences in Columbia’s Department of Psychiatry and the Mailman School, and a research scientist at the New York State Psychiatric Institute, published a paper in *Science* called “Stages in Adolescent Involvement in Drug Use.” Applying data from a longitudinal study of high-school students in New York State, Kandel found that adolescent drug use tended to follow a sequence of stages: from beer or wine to cigarettes or hard liquor, to marijuana, and finally to other illegal drugs, such as cocaine and heroin. That meant that a young person who uses one substance was at an increased risk of progressing hierarchically to the next.

There was little ado about this research at the time. But a few years later, in the early 1980s, during First Lady Nancy Reagan's "Just Say No" campaign, Robert DuPont, director of the National Institute on Drug Abuse, echoing Kandel's hypothesis, began using the term "gateway" to refer to alcohol and cigarettes. By logical extension, marijuana, which stood seductively at the gates of the *really* bad stuff, became the poster child of the gateway theory.

"At the beginning, I did not like the term at all, and I will tell you why," says Kandel. "In the 1930s, a study was done on the drug behavior of people incarcerated at the federal facility for heroin addicts in Lexington, Kentucky. The study found that 100 percent of those addicts had used marijuana. The term 'stepping stone' was developed to indicate that marijuana was the step on the way to heroin. The implication was that once you started marijuana, you were inevitably going to become a heroin addict. It is true that if you use marijuana, you have a higher likelihood of using other illicit drugs, including heroin. But this increased likelihood does not imply that you are now fated to become a heroin addict. Only a fraction of all marijuana users become heroin addicts. Some people associate the 'gateway' concept with the stepping-stone theory, and do not differentiate between the two. This has given the gateway theory a negative connotation."

Kandel's theory was widely accepted. Perhaps its most fervent advocate was an Egyptian-born Columbia anesthesiologist named Gabriel Nahas.

One day in 1928, Nahas, then eight years old, took a walk with his father through the streets of Alexandria. Ragged beggars were everywhere. Nahas asked his father what was wrong with these men. His father had a simple answer: hashish. (Hashish is made of cannabis resin.) Nahas moved with his family to Paris a year later, but the imprint of human desolation in Alexandria stayed with him. Those memories, together with fatherhood, spurred Nahas to a crusade against cannabis that lasted from 1969 until his death in 2012. Nahas wrote more than a hundred papers on marijuana in the 1970s and '80s, making controversial claims for the drug's negative effects on the brain, the immune system, fetal growth, and testosterone and sperm production. His books *Marihuana, Deceptive Weed* (1972) and *Keep Off the Grass* (1976), though criticized within the medical community, were embraced by the antidrug movement, and Nahas became known as "Nancy Reagan's favorite scientist."

“Nahas loved my stuff,” Kandel says. “I wasn’t too crazy about that. He was really extreme.”

On the Couch

John Mariani is an assistant professor of clinical psychiatry and the director of Columbia’s Substance Treatment and Research Service, which provides free substance-abuse treatment in a research setting.

“Most people using marijuana probably don’t experience significant problems,” says Mariani. “But there is a subset of people who do.”

Mariani explains the nature of the problems by way of contrast.

“With alcohol,” he says, “you might have a blackout, or get in a fight, or have sex with people you wouldn’t have sex with otherwise. With heroin you could have an overdose, or get hepatitis or an HIV infection. With crack you could have a seizure. With crystal meth, you could get psychotic. Marijuana is not really like that.



Keith Negley

“Marijuana problems tend to be less dramatic — you’re not as ambitious, you perform less well. You probably stay home, watch TV, and eat ice cream. The disorder is about the absence of things — what *doesn’t* happen. Part of the problem is that because the problems are subtle, it’s never an emergency to stop. With other substances, if you’ve had a near overdose, or a DUI, it can be a wake-up call: ‘Wow, I

need to get this under control.’ With marijuana, there are no overdose deaths. If there’s a crisis, it’s from someone else, like a spouse. The wife’s pregnant, and she’s not OK with her husband smoking anymore. So it often takes longer to appreciate the consequences.”

According to Mariani, no medications have been proved effective for cannabis use disorder.

Lost Highway?

While others focus on mental health, Guohua Li has his eyes on the road. With a grant from the National Institute on Drug Abuse, Li, the director of the Center for Injury Epidemiology and Prevention at the Mailman School, is studying cannabis and traffic accidents. Vehicular collisions are the biggest killer of Americans under forty-five.

“First of all,” Li says, “the use of marijuana doubles the risk of being involved in a crash. The risk is not as great as with alcohol, which increases crash risk thirteen-fold. But when a driver uses alcohol *and* marijuana, the risk of a fatal crash increases about twenty-four-fold. So marijuana in combination with alcohol doubles the risk.” In another study, Li looked at the trends of alcohol and drug involvement in traffic fatalities from 1999 to 2010. Alcohol involvement remained high but stable, at about 40 percent, but marijuana involvement tripled over that time, from 4 percent to 12 percent.

This raises a question.

“Dr. Li, since cannabis stays in the blood for days and weeks after use, how do you know if a person was high at the time of the crash?”

“We cannot say for certain,” Li says. “But based on the blood-test results, it’s definitely an indication that the driver used marijuana pretty recently.”

True. Maybe we should ask the more obvious question.

“Dr. Li, if marijuana is no more dangerous than alcohol — and a lot of people say it’s less dangerous — then why shouldn’t it be legal?”

“I don’t buy that argument,” Li says. “It’s as flawed as the argument you make in traffic court: ‘The drivers in front of me were going even faster and they weren’t ticketed, so why should I be ticketed?’ The reasoning is flawed. If you argue that because alcohol is worse than marijuana (and I think that statement is debatable), then marijuana should be legalized, that’s a race to the bottom, rather than a race to the top.”

What really matters in policymaking, Li says, is the risk-benefit ratio of the substance.

“Moderate alcohol consumption has a proven benefit in reducing cardiovascular disease, whereas marijuana has no proven health benefits.”

Li, too, sees medical marijuana as a “stepping stone to the goal of legalizing marijuana.” Ideally, he would like to see marijuana offenders treated in substance-abuse programs rather than going through the criminal-justice system. But he draws a line at legalization.

“I don’t think we should surrender to the drugs,” he says. “The legalization of marijuana is open surrender.”

High Visibility

“Proponents of marijuana legalization or liberalizing marijuana laws — I am one of those proponents — tend to vilify other drugs in order to make the point about marijuana. That vilification concerns me.”

Carl Hart is not your garden-variety neuropsychopharmacologist. He has a bundle of thick dreadlocks. He has three gold teeth. He has consorted with drug users and drug addicts. In his youth, he used drugs himself. Weed. Coke. He even sold a little weed on the side. He is the first tenured African-American professor in the sciences at Columbia, and he has traveled a different path.

Along that road he saw lives tossed to the wayside, lives ruined less by drugs than by the War on Drugs. Saw downward spirals set off by an arrest, a jail sentence, a bullet. Saw the demonization of a substance redound to its user.

As a scientist, Hart, forty-seven, assigns no value judgments to molecular structures. “When we think of marijuana as being separate from heroin and cocaine, we play up the distinction too much,” he says. “We say things like, ‘Nobody ever died from marijuana.’ That’s right — it takes a lot more marijuana to be that toxic. But they’re all psychoactive substances, and you can get into trouble with all of them. And you can also use all of them safely, to *enhance* functioning.”

The problem, says Hart, is that US drug policy favors politics and emotion over science. The majority of drug users aren’t addicts, he says; most don’t even have a drug problem.

“The drug issue in America has always served larger political goals. People still need this tool, so they’re going to fight vigorously. You will start to see this in Colorado and Washington. There will be studies funded to show that young people in those states start to smoke marijuana at an earlier age and do more poorly in life. These studies will come out in the next few years, before there’s even enough time to track the evidence, and you’ll really have to look at the details.

“Remember, scientists don’t always present all the data. You need to ask for all the data. Once you have it, you can think about what it means, as opposed to having the scientists tell you what it means in their introductions. Because their goal is not necessarily objectivity. Their goals are 1) not to be wrong, and 2) to make sure their labs stay funded. Objectivity is somewhere down the line. This is what people have been afraid to say in science, but it’s a fact.”

That New Zealand IQ study? “You look at the actual paper, which I do in my classes, and you find that the kids who smoked pot started out with higher IQs than the other kids, and they just regressed toward the mean over time. Their IQs stayed in the normal range. But the claim was, ‘These kids became dumber.’”

The gateway theory? “Think about it from a simple perspective: the majority of people who smoke marijuana don’t go on to use heroin, although the majority of people who use heroin have smoked marijuana at some point in their lives. It’s an illogical argument. The majority of people who use heroin also drank milk.”

Psychosis? “This notion that people smoke marijuana, become psychotic, and kill their mothers — these arguments recycle themselves, and they’re back today. The language has been tempered and the arguments are a little more sophisticated, but when you look at it carefully and ask, ‘How are they measuring psychotic behavior?’

then you start to see some troubling things. For example, people are given a questionnaire. Some questions are related to psychosis, like, ‘I hear things that other people don’t hear.’ But then you have things like, ‘I feel special,’ or ‘I am uncomfortable in public.’ That’s the psychotic scale, supposedly. That’s troubling.

“I think one of the things we have to look forward to,” Hart says, “is the vilification of the youth of Colorado and Washington.”

Hart grew up in a poor section of Miami. Like a lot of kids, his mind was mainly on girls, basketball, and music. In his pleasure seeking he was eager yet disciplined, motivated as much by an athlete’s will (no sex before a game) and a macho street culture (cool guys had multiple partners) as by any biological drives. Later, in college, he studied the dopamine-producing “pleasure center” in the brains of rats, at a time when this region was thought to hold the key to curing addiction. Subsequent research suggested a more complex story, one that, for Hart, was crystallized still later, at Columbia, where in lab experiments he furnished crack-addicted human subjects with crack cocaine, then gave them a choice between the drug and other “reinforcers,” like small amounts of cash. That the subjects did not clamor for the drug, and went for the money instead, told Hart that there was more to addiction than chemicals, that context mattered, and that addicts could make rational decisions, especially when presented with desirable alternatives.

Last summer, Hart published a book, *High Price*, that traces his progress from the hood to the Air Force to college to grad school to Columbia, and challenges common assumptions about drugs and drug use. He has since become a hot item on TV talk shows and the lecture circuit, speaking out against the antidrug establishment not just as a scientist but as someone who has seen drugs — and the impacts of US drug policy — up close.

“The problem with many researchers,” says Hart, “is that they benefit handsomely for their perspectives. Everybody has a price. I know their price and I know what they respond to. But when you look at what they actually know about drugs, that’s where it all falls apart. Because they don’t know *anything* about drugs. Or actually hang out in subgroups that use drugs, or really study drugs in those types of settings. These folks have no idea. They only have anecdotes from their patients, and their patients have problems — the patients are the aberrant, pathological group. And that’s the group on which they’re basing all their information.”

No Heading Back?

More users. More disorders. More traffic fatalities. More developmental problems. More treatment. More research. More ice cream. More questions. That's the prognosis uptown.

Out west, Washington State is about to roll out its legal cannabis program. Colorado, amid cannabis job fairs and campaigns against stoned driving, is projecting $100 million in annual tax revenue. And back in Washington, DC, attorney general Eric Holder '73CC, '76LAW has vowed not to interfere with state-sanctioned marijuana businesses. The Justice Department has also provided guidelines for banks to handle medical-marijuana money without fear of federal interference.

In February, eighteen members of Congress, pouncing on President Obama's *New Yorker* quote, asked the White House to reclassify cannabis out of Schedule I. "Lives and resources are wasted on enforcing harsh, unrealistic, and unfair marijuana laws," they wrote. On the other side, the head of the Drug Enforcement Administration, Michele Leonhart, criticized Obama's comments at a meeting of the nation's sheriffs. Last year, the DEA, which operates under the Justice Department, released a report that stated, "Legalization of marijuana, no matter how it begins, will come at the expense of our children and public safety. It will create dependency and treatment issues, and open the door to use of other drugs, impaired health, delinquent behavior, and drugged drivers."

The Columbia researchers we spoke to, save for Hart, seem to concur with the DEA's assessment. One can imagine, as Hart does, a spirited backlash to legalization in the near future. But will it be enough to send cannabis back to the other side?

"It will not," says Hart, "as long as Colorado and Washington report big profits. If they do that, they'll offset it. This is still America."

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