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MARIJUANA

The pot boils

Despite opinions pro and con, scientists lack precise knowledge

by Patricia McBroom

Marijuana is one of the mind-benders of antiquity. It has been used since long before Christ to ease the ills of body and soul, from gonorrhea to grief.

Ancient Hindus sometimes called marijuana "Poor Man's Heaven." In the first century, the Greek physician Galen described the custom of passing out pot at banquets to promote hilarity and happiness. Some early Chinese called it "Delight Giver," though moralistic Chinese preferred "Liberator of Sin"—a debate that still rages.

For all its age, marijuana is one of the least understood of the natural drugs. Its active principles were not identified until 1964 and were only synthesized in pure form this year.

In August Israeli and American chemists reported exact synthesis of the natural tetrahydrocannabinols in marijuana, which provides scientists with much-needed pure compounds for research (SN: 9/2). Dr. Raphael Mechoulam of Hebrew University, Jerusalem and Dr. Herchel Smith of Wyeth Laboratories, Inc., Philadelphia, led the project.

But until now scientists, though they issue strong pronouncements pro and con, have lacked a precise measure of the active ingredients in marijuana on which to base tests and have little evidence by which to assess its potential for harm.

The last major piece of work—the benchmark La Guardia study done in New York—is now 30 years old. And that investigation, though it was done with care, is no more conclusive than any other: Those who did it had no way of determining the consistency of the drug doses with which they worked.

So while the marijuana controversy grows in intensity and the criminal laws surrounding pot are under court challenge, medical specialists can do little more than choose up sides and add to the confusion.

Their testimony, either condemning pot as a hazard or praising it as a safer alternative to whiskey, reveals conviction, but not much evidence. The fact is, the evidence remains fragmentary, anecdotal and full of holes, though the current controversy may produce the research that will fill the gaps.

Medical scientists don't know, for instance, whether marijuana poses a

threat comparable to alcohol, or more serious, or less. They don't know whether chronic users undergo subtle personality changes, though there is a widespread impression that long-term users have an unusually depressed drive level. And they don't know how safe it is to smoke the weed occasionally, as a large group of Americans seems to be doing.

The one thing they do know is that marijuana is not innocuous; but then neither is alcohol or tobacco.

There have been reports of occasional psychological disturbance from a marijuana smoke. Reactions include anything from panic to psychosis, but it isn't clear how long these reactions last or how often they occur.

The strength of pot varies widely; a marijuana cigarette is not a measurable thing; it doesn't always contain the same concentration of active chemicals. Two plants grown in different areas have different amounts of the active chemicals, explains Dr. Daniel Efron, a psychopharmacologist with the National Institute of Mental Health. And depending on where the material is kept—in attic, basement or refrigerator—the concentration is again different.

According to the newest scientific work on the pure marijuana chemical, the size of the dose means the difference between a pleasurable experience and a psychological blow-out. In very rough terms, marijuana is perhaps one-hundredth as strong as LSD, but with enough of it, the smoker might just as well be flying on acid-headed straight down.

Finally, there is a possibility, with chronic use, of long-term and subtle effects even from the weak stuff, leading to passivity and withdrawal.

On the opposite side, the ground swell of opinion favoring marijuana among the middle class intelligentsia makes a strong argument that the drug, as used in the United States, is not all that dangerous. Rather it seems a pleasant and aesthetic diversion.

Judging from their own experience, many well-informed people simply cannot view marijuana as a hazard. As one government scientist puts it: "The prudent man isn't frightened of marijuana as he is of LSD."

Is there a safe use of marijuana?

"In my opinion," says Dr. Efron, "at this moment we don't have enough scientific facts to answer that question."

Those facts should soon be available. Dr. Efron now has a sample of the new synthetic marijuana principle and plans a study in animals. One small U.S. study has already been completed in humans with the pure chemical, resulting in evidence that marijuana is in fact a hallucinogen (there was some doubt whether it causes hallucinations) and that its action varies with dose.

Marijuana action apparently derives from two chemicals, delta⁸ and delta⁹ trans-tetrahydrocannabinol lumped as THC. The chemical structure of these substances is highly unusual, not resembling that of other hallucinogens, and occupying a class of its own. Quite apart from their concern over pot, many scientists are intrigued by the marijuana chemicals and want to test them for possible therapeutic uses.

The resin of the female hemp plant, *cannabis sativa*, produces THC (the male plant produces rope) and according to the method of cultivation and preparation, the resulting drug is either a powerhouse, commonly called hashish, or the much weaker marijuana.

Cannabis sativa can and does grow wild in the United States, as it does in many countries of the world. But because of U.S. legal penalties, most of the prepared weed comes over the border from Mexico under the name marijuana or mary jane. In India, the weak preparation is called bhang and is made by brewing cannabis tops and leaves. The extracted resin alone makes hashish.

In his tests with pure delta⁹ THC on some 40 human subjects, Dr. Harris Isbell of the University of Kentucky produced all the effects ever attributed to either hashish or marijuana, from mild euphoria to psychosis.

In a 160-pound man, 18 milligrams of the chemical would almost without exception bring on psychotic-like reactions—hallucinations, depersonalization, loss of reality, distorted sight and hearing. But a fifth to a third of this dose produced euphoria, some change in perception and mood.

With the lesser dose, subjects were satisfied, referred to the cigarette as a "good reefer," Dr. Isbell says.

"But if you keep turning the screws (increasing the dose) all of a sudden they're on a trip watching their own burial." The men would swear that the jolt never came from marijuana, says Dr. Isbell.

Occasionally, on the lower dose, a man would react peculiarly as though in a psychotic episode. "But you wouldn't expect this in the majority of people," he says.

Dr. Isbell strongly advocates control

over marijuana. "The local grass is probably pretty weak stuff," he says, "but if you lower controls, watch out. You open the door to more potent stuff." Hashish is not now widely available in the United States.

Criminal penalties fixed on marijuana use have little to do with the matter of control, in Dr. Isbell's opinion. He says he sees no reason why the Food and Drug Administration could not control marijuana, which is now in the jurisdiction of the Bureau of Narcotics.

In the event marijuana were placed under FDA control, penalties for use and possession would be dropped. Only the illegal sale of the drug would then be a crime—under present law a misdemeanor, rather than a felony. The stronger hallucinogens are now controlled that way and the prevailing opinion among medical specialists is that marijuana should also be handled by the FDA.

Dr. Isbell's concern, however, lies only in control: "I personally don't care who does the job, as long as it is done."

There is a chance that if marijuana were regulated by the FDA, the law would be changed to make illegal sale of all hallucinogens a felony.

So far, the FDA has made no moves regarding marijuana. Commissioner James L. Goddard has called current penalties "too severe," and it is no secret the FDA believes that marijuana should be considered an hallucinogen—and the weakest one at that—rather than a narcotic. But the agency has not acted to assume control.

In any case the problem isn't solely a Federal one. Most states have their own narcotics laws that include marijuana. Under those laws, scores of young people are now being arrested, and, "What does it prove?" asks another FDA official.

"As I understand it," says Dr. Jonathan Cole, formerly chief of psychopharmacology at the NIMH and now superintendent at the Boston State Hospital, "under the narcotics laws, a 21-year-old college kid who sold half his stuff to a roommate could get 20 years in prison."

There isn't enough evidence on marijuana's safety to legalize the drug, says Dr. Cole, but current narcotics laws are terrible. He advocates FDA regulation.

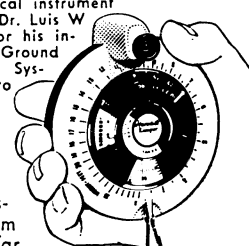
Actually the issues that marijuana represents will not be solved by scientific evidence alone. Should the evidence eventually prove marijuana relatively safe, the country would still have to balance the risks and potential for danger against the benefits and decide whether to add a new approved intoxicant to the old ones.

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