

perceptions of reality, reduce alertness, and impair short-term memory.

"The prevention of glaucoma blindness requires the patient's lifelong compliance in using conventional medication, and periodic examination by a skilled ophthalmologist to determine whether the disease is under control."

The American Medical Association has consistently refused to support any of the various state initiatives to reschedule marijuana and, in an update of their findings on the dangers of the drug released last summer, commented that recent evidence (to be outlined below) shows that marijuana is even more dangerous than the AMA had previously concluded.

Even one of the staunchest supporters and an early investigator in marijuana research for glaucoma, Keith Green, Ph.D., of Atlanta, Ga., admitted in the course of a promarijuana guest editorial for the *Annals of Ophthalmology* (Feb. 1977):

"It is apparent that research on marijuana itself as a potential modality (for glaucoma treatment) is not only fruitless but is also time-wasting, since the undesirable side effect, i.e., the 'high' makes it totally unacceptable as a 'medicant.' The side effects inflicted upon the recipients of marijuana certainly outweigh any conceivable benefit and it behooves us to insure that good medical practice does not get submerged in the political and lay pressures to allow patients to

utilize marijuana under ill-conceived and poorly managed conditions."

In addition, many investigators, such as Dr. Kenneth Benjamin of the Wills Eye Hospital in Philadelphia, have found, in well-controlled experiments, that marijuana has no effect on the intraocular pressure of glaucoma patients. Dr. Lawrence Pape, director of the Glaucoma Clinic at the Harkness Eye Institute of Columbia Presbyterian Hospital in New York City, has gone on record against the use of marijuana in glaucoma, and is available for further discussion of the issue for interested callers.

The second main therapeutic use proposed for marijuana by rescheduling advocates is in the treatment of the nausea which frequently accompanies cancer chemotherapy. As in the case of glaucoma, there are very few published articles in the area, so the evidence is slim. The most recent update on the state of ongoing research was presented at a symposium on the subject at the National Cancer Institute several weeks ago. Nearly all of the 16 licensed research projects around the country involve only very small numbers of patients, and are therefore inconclusive, in addition to being frequently ill-designed.

For example, Dr. Stephen Sallen at the Sidney Farber Cancer Institute in Boston has only 22 patients in his study, and no controls in the experiment, so he has nothing with which to rigorously compare the marijuana effect; Memorial Sloan-Kettering in New York is also running a poorly controlled study. At the

Stop international drug trafficking

On April 18, the Massachusetts Legislature passed and sent to the Congress and the President of the United States the following memorial.

Resolutions memorializing the President and the Congress of the United States:

Stop international drug trafficking

Whereas, the proliferation of dope, including marijuana, the opiates, psychotropic and all other dangerous chemicals has reached epidemic proportions in our homes, schools and work places until our entire "next generation" of American youth are now literally endangered; and

Whereas, the estimated \$200 billion of international dope trafficking revenues is destroying the industrial integrity and scientific basis of the U.S. economy by disrupting honest capital markets and economic transactions; and

Whereas, developing-sector countries, most notably Colombia, Guyana, and others in Latin America and Asia are being forced into converting their economies into cash-crop drug production to satisfy World Bank-International Monetary Fund terms of debt demand; and

Whereas, the Republic of Mexico has demonstrated, in collaboration with U.S. agencies, that dope production can be rapidly and thoroughly eradicated by concentrated scientific use of appropriate advanced technology—paraquat, helicopters, and other devices supplied by the U.S. for the purpose;

Therefore, be it resolved that:

The Massachusetts General Court calls on Congress and the President to take all necessary investigative and prosecutory steps to collaborate with the governments of dope-producing countries to wipe out all

NCI itself, 15 young bone cancer patients were tried on marijuana and eight had an initial "excellent" response, but of these only one remained "excellent" during the course of therapy; that is, the patients rapidly developed a tolerance to the drug. The only large study presented at the symposium was a review of 150 patients in a well-controlled, double-blind investigation at the Mayo Clinic, in which marijuana was tested not only against a placebo but also against Compazine, a standard anti-emetic. According to the presentation at the symposium, THC (the active chemical in question in marijuana) was found to be comparable in anti-emetic effect to Compazine, and no better; but the THC was deemed "not as promising, not as useful" as Compazine because of a number of "dysphoric side effects" noted, including depression, depersonalization (the feeling that your body is not your own), and a long list of other harmful and distressing psychological effects.

The harmful effects of 'pot'

Dr. Robert Heath, chairman of the Dept. of Psychiatry and Neurology at Tulane School of Medicine in New Orleans, has recently found brain damage in Rhesus monkeys exposed to marijuana (*Journal of Neuroscience Research* 1977, 3:87-93). The marijuana was administered as smoke, injections of THC, and other methods. The dosage was comparable to one 5 percent THC marijuana cigarette for a human per day, five days a week for three months. The brain damage found after

dope acreage, and to assist in the rapid and thorough conversion of these economies away from debilitating World Bank policies and into sound agricultural and industrial integration into a growing world economy; and be it further resolved that

The Congress investigate and bring to justice all those banking and corporate networks complicit in the laundering of the international illegal dope trade money, which takes place in particular in the Hong Kong, Caribbean, and Canadian sections of the London-based banking networks;

And to enforce to the fullest the existing laws against dope use and trafficking into and within the United States.

Senate Memorial Resolution 317, passed in both Houses of the Massachusetts Assembly, April 18.

this period included a pathological widening of the synaptic space (the communication space) between brain cells in a deep area of the brain termed the septum. This damage is clearly visible on electron microscopy of the brain tissue, and this particular change is otherwise found in cases of brain poisoning (as in carbon tetrachloride poisoning) and in severe vitamin B deficiencies which are associated with psychosis.

Dr. Heath continued the marijuana administration in some of the animals for several more months, then discontinued the marijuana and waited six months to see if the changes would revert to normal. He found the changes still present, indicating that at least over the medium term the damage is irreversible. The microscopic pathological findings were correlated with abnormal EEG (electroencephalographic) findings recorded from deeply placed electrodes in the septal area, and these abnormalities also did not reverse. The areas of the brain most affected by the marijuana were also found, on chemical analysis, to contain the highest amounts of THC. All of the variables of the experiment, including route of administration dosage, presence of deep electrodes in the brain, smoke with and without THC, and so on, were compared with control animals, and the results were all shown to be statistically significant.

In another medical area, Dr. Gabriel Nahas, Special Advisor to the United Nations Narcotics Commission and Research Professor of Anesthesiology at the Columbia College of Physicians and Surgeons in New York, has found that THC damages cellular functioning on a general level, by interfering with the ability of the cell to produce the most rapidly, such as the white blood cells and the sperm cells; and as well results in the production of abnormal forms of these cells (see *Marijuana—Deceptive Weed*, by Dr. Nahas, 1975, Raven Press Ltd., New York). Several months ago Dr. Nahas chaired a major international conference in Reims, France, on the biological effects of marijuana, in which dozens of other effects were documented by researchers from more than 20 countries.

In the area of psychological damage due to THC, Dr. Robert Souief, head of the Department of Psychiatry at Cairo University, testified extensively during the 1974 U.S. congressional hearings conducted by Senator Eastland that, in his experience with the problem of hashish (a potent form of THC) users, the degree of psychological deterioration seen is directly correlated with the predrug level of intellectual competence of the individual; highly trained and educated people lose the most on the drug, while those who have never developed their intellectual powers show little change.

The loss of motivation, the "drop-out syndrome," which is closely correlated with a decrease in attention span, has been documented by numerous investigators