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lansky and Moore, and the Soueif Egyptian Study as misquoted by Nahas. Interestingly, Powelson asserts that Dr. Ungerleider agrees with his views (Tr. Powelson p. 43). Dr. Powelson admitted that marihuana was not addicting (Tr. Powelson p. 50) and that acute panic reactions were rare (Tr. Powelson p. 44). Dr. Powelson believes that atrophy of the brain has been demonstrated, apparently accepting the now universally discredited cerebral atrophy studies of Campbell (exhibit II) (Tr. Powelson p. 52) and also misstates the temporal disorganization (sic) studies of Hollister (exhibit JJ) (Tr. Powelson p. 54). Dr. Powelson states that there is no question but that marihuana will change one's basic personality (Tr. Powelson p. 55) and that it is a stepping stone to harder drugs (Tr. Powelson p. 57), both assertions of which are contrary to the most universally accepted fact. (See National Commission report Marihuana: A Signal of Misunderstanding pp. 57 and 87). Dr. Powelson also believes that he personally can tell from observation when someone is on both LSD and marihuana (Tr. Powelson p. 59) and subscribes to the dirty hippie syndrome. (Tr. Powelson p. 62), and use of marihuana causes "mushy thinking" (Tr. Powelson p. 7). Dr. Powelson also states that Dr. Grinspoon's theories are "observably untrue" (Tr. Powelson p. 67). All of Dr. Powelson's observations are from his clinic and none can be repeated.

On cross examination Doctor Powelson denied that "S" was a person named Michael Entin. (See testimony of Kulik for a direct contradiction). Dr. Powelson

claims that marihuana is the first step toward changing one's mind (Tr. Powelson p. 20) and that he was able to observe in multiple drug users marihuana as a common denominator (Tr. Powelson p. 22) and his "observations" are that marihuana affects thinking (Tr. Powelson p. 24) and effects lasting damages (Tr. Powelson p. 27). He cites the studies of Kolansky and Moore (Tr. Powelson p. 28) and endorses their discredited methodology (Tr. Powelson p. 28), and also misrelies upon the studies of Hollister, et al. (exhibit JJ) in support of his views when asked the basis for them. He admits he can't name any other studies (Tr. Powelson p. 29) and claims that the literature supports that there are chronic changes in the brain (Tr. Powelson p. 30) caused by marihuana.

Of course, Dr. Powelson believes that the best summary of the literature is Gabriel Nahas' book Marihuana Deceptive Weed (Tr. Powelson p. 41) which lends his tacit endorsement to biased, distorted and changed facts. Dr. Powelson admits that his "observations" are of multiple drug users (Tr. Powelson p. 32). Dr. Powelson who continually talks about marihuana buildup in the brain admits that he does not even know what polar metabolites are (Tr. Powelson p. 39) maintaining also that there is actual structural damage caused to the brain by marihuana (Tr. Powelson p. 44). He speaks of a colleague who took marihuana who "could not stop running in circles" (Tr. Powelson p. 54) and describes a marihuana panic reaction as someone climbing walls (Tr. Powelson p. 55) and that a marihuana user can't give up the drug after six months (Tr. Powelson p. 82) and once again

endorses cerebral atrophy studies (Tr. Powelson p. 63) claiming that marihuana is the common denominator. All of the foregoing misstatements of fact and reliance upon totally discredited studies form the basis for Dr. Powelson's belief in addition to his own unreplicable personal clinical observations. Predictably, Dr. Powelson also endorses the Kolansky and Moore theory that marihuana changes the personality (Tr. Powelson p. 65).

Dr. Powelson was asked how he could reconcile his theory of tolerance as being based upon marihuana "buildup" with his co-existing stepping stone theory that the user wants more and more and moves on to harder drugs." (Tr. Powelson p. 66). Dr. Powelson explains that there is a sort of "dynamic equilibrium" that explains the phenomena. Dr. Powelson claims, also contrary to all belief, that marihuana may lead to criminal behavior (Tr. Powelson p. 70). Dr. Powelson also claims that the marihuana user develops the same tolerance to marihuana as an amphetamine user does to speed. A hint of rationality crept into Dr. Powelson's testimony when he admitted that other dangerous drugs proscribed in Alaska's statutory scheme are much more lethal than marihuana.

Dr. Thomas Ungerleider

In rebuttal, defendants were able to produce an actual member of the National Commission on Marihuana and Drug Abuse, Dr. Thomas Ungerleider. Dr. Ungerleider initially explained what the Commission did (Tr. Ungerleider p. 211-213) and stated simply that Dr. Nahas' statement that "Marihuana. A Signal of Misunderstanding" was authored by one man was entirely untrue, and that it was the work and the actual report of the entire Commission (Tr. Ungerleider p. 214). Dr. Ungerleider interestingly noted that contrary to what the law enforcement agencies say, 93% of marihuana arrests are for the user (Tr. Ungerleider p. 215). The Commission visited some 35 countries (Tr. Ungerleider p. 217) and simply did not find the marihuana problems that are popularly attributed to them. In this context the Commission actually met with Dr. Chopra in India and Dr. Miras in Greece (Tr. Ungerleider p. 223) and could not find any evidence of "moral deterioration" found in their studies. Drs. Hardin Jones, Harvey Powellson and Kolansky and Moore testified before the Commission (Tr. Ungerleider p. 225) and as can be seen from a reading of the report their positions were totally and unequivocally rejected. Dr. Ungerleider noted the hysteria and fear associated with the subject (Tr. Ungerleider p. 225). He noted that the Commission's

national survey revealed that there were 24 million persons who had tried marihuana (Tr. Ungerleider p. 228) and that in a year this number had increased to 26 million (Tr. Ungerleider p. 228). Dr. Ungerleider noted that alcohol is the greatest problem (Tr. Ungerleider p. 229) and that all types of persons use marihuana (Tr. Ungerleider p. 229). He cited as very interesting the Anchorage School Children Study which appeared in the Journal of the American Medical Association (page 230 Exhibit N) which showed that the same situation nationally is in effect here. He summarized the results of the Commission's findings to the effect that there was no physical damage or significant psychological effects from the use of marihuana. (Tr. Ungerleider p. 231), and no chromosome breaks (Tr. Ungerleider p. 232), in fact the chromosome break studies could never be duplicated by anyone else (Tr. Ungerleider p. 233). There was no withdrawal from marihuana (Tr. Ungerleider p. 235), no psychological dependence (Tr. Ungerleider p. 256), no amotivational syndrome (Tr. Ungerleider p. 258), no personality changes (Tr. Ungerleider p. 237), marihuana did not lead to other drugs (Tr. Ungerleider p. 238), that there was no tolerance developed by the user (Tr. Ungerleider p. 240), that the reverse tolerance syndrome was not considered significant, and that the effects on long time users was minimal (Tr. Ungerleider p. 232). He noted that there was some body storage of the polar metabolites of THC (Tr. Ungerleider p. 241) but did not see this in any way related to reverse tolerance which phenomenon is attributed in Dr. Ungerleider's judgment to psychological conditioning

factors. Dr. Ungerleider distinguished marihuana from other dangerous stimulants, hallucinogenic and depressant drugs. He noted the self titration phenomenon of marihuana which eliminated any danger from strong hashish to the user (Tr. Ungerleider p. 245) and stated that the Commission just couldn't find the disasters of marihuana use that were popularly held ideas. Any induced psychosis was very rare and only in predisposed individuals (Tr. Ungerleider p. 246). He stated that marihuana did not induce violence and in fact has sedative effects (Tr. Ungerleider p. 246). He stated that alcohol was the greatest drug problem in the United States. (Tr. Ungerleider p. 246).

Dr. Ungerleider explained that the Commission went through a very subtle process in arriving at its recommendation of decriminalization through the process of education. (Tr. Ungerleider p. 250) and that it believed that continued criminalization was harmful (Tr. Ungerleider p. 251). He discounted Nahas' book as a moral treatise reading from the American Medical Association review of the work (Tr. Ungerleider p. 255). He particularly criticized page 40 of the book (Tr. Ungerleider p. 255) where Nahas called the Commission "liberal" when as a matter of fact it was operated in conjunction with the Bureau of Narcotics and Dangerous Drugs. Dr. Ungerleider stated that Tennant, Teague, Chopra, West and Brill, relied upon by Nahas, were themselves in favor of decriminalization. (Tr. Ungerleider p. 258). He also criticized the Kolansky and Moore studies as they involved multiple drug users who used LSD

the most powerful drug known to man (Tr. Ungerleider p. 260). He notes that any new study must be conducted by non-moralists and must be replicated (Tr. Ungerleider p. 261) before it can have any significance. He states why the works of Miras in Greece were rejected (Tr. Ungerleider p. 261).

The State called three witnesses to Alaska to testify, Hardin Jones, his employee, Harvey Powelson and Gabriel Nahas. Jones was present as the State's in-house expert throughout the testimony but left the night before he was to testify. Hardin Jones and Harvey Powelson both testified before the National Commission (Tr. Ungerleider p. 265-266); when the Commission apparently was not subscribing to Hardin Jones' views he accused the Commission of being stoned on marijuana. (Tr. Ungerleider p. 269). Dr. Jones' testimony related primarily to sexual behavior and marijuana and seemed to the Commission to be quite irrational (Tr. Ungerleider p. 270). Dr. Ungerleider stated that one of the Commission members, Maurice Seevers, a pharmacologist, examined the significance of polar metabolites' retention in body fat and found as did the Commission there was no significance. Dr. Ungerleider also described the Boston Free Access Study upon which Nahas misplaced great reliance (Tr. Ungerleider p. 282) to support his stepping stone and tolerance theories. Dr. Ungerleider notes that Dr. Seevers and many of the other Commission members changed their initial opinion about marijuana as the facts became known to them (Tr. Ungerleider p. 286). Dr. Ungerleider recalled the testimony of Harvey Powelson before the Commission as based essentially

upon his experience with one patient (Tr. Ungerleider p. 287) the same as his testimony given before the District Court. He also noted that one of the Commission members, Dana Farnsworth, was the head of the Harvard Student Health Services and had come to opposite conclusions from Dr. Powelson (Tr. Ungerleider p. 295). Dr. Ungerleider notes that alcohol is much more harmful than marihuana (Tr. Ungerleider p. 355) and distinguishes marihuana from other dangerous drugs (Tr. Ungerleider p. 353). Dr. Ungerleider also notes that 200 deaths occur from ingestion of aspirin in the United States per year (Tr. Ungerleider p. 355). He stated that the use of LSD by any person in any study of marihuana invalidates the study because LSD is the most powerful drug known to man (Tr. Ungerleider p. 257).

Dr. Sanford Feinglass II

Sanford Feinglass was also called back by the defense to testify in rebuttal. Dr. Feinglass explained that the non-psychoactive polar metabolites of THC were stored in fatty tissues in the liver, lungs, and brain and this could have no significant effect (Tr. Feinglass p. 18-22). Dr. Feinglass also described in detail the Patton studies (exhibit 22) in mice relied upon by Dr. Nahas in his immunology theory (Tr. Feinglass p. 22-25) and demonstrated how far Nahas was reaching for the conclusions that he sought.

Dr. Feinglass had great difficulty in following Nahas' statement that polar metaboloid buildup explains reverse tolerance as this conclusion is not

warranted by the facts (Tr. Feinglass p. 26). Dr. Feinglass explained that the only significant question is what amount of the psychoactive properties of a drug effect the receptor in the brain (Tr. Feinglass p. 28) and the polarmetab- loids were not psychoactive.

Dr. Feinglass severely criticized Dr. Powelson's testimony in which Dr. Powelson stated that marihuana accumulated in a particular part of the brain for which there is no evidence and he criticized him for stating that marihuana stays in the brain longer than any other drug, a meaningless statement since LSD stays in the brain an extremely short time (Tr. Feinglass p. 28). Dr. Feinglass also severely criticized Dr. Nahas, particularly on page 93 of his book where he deliberately distorted a molecular diagram in an effort to show that marihuana was similar in structure to LSD and mescaline (Tr. Feinglass p. 37) and he criticized Dr. Nahas for the distortion and alterations of other diagrams (Tr. Feinglass p. 54 and see video tape).

Dr. Feinglass explained how ample research could have been done and was in fact done prior to the synthesization of THC in 1967 by use of marihuana extract (Tr. Feinglass p. 45).

From the evidence presented at petitioner's hearing on his motion to dismiss it is obvious that the overwhelming weight of scientific knowledge, and indeed the weight of general knowledge based on four thousand years of man's use of marihuana is that it is as close to a harmless drug as exists. Against

the testimony of Alaskan witnesses, of Doctor Brown and her studies, of Doctors Langdon and Wolf and Jack Heesch no evidence was submitted. Against the testimony of Doctor Fort of Doctors Granspoon and Feinglass and of Doctor Ungerleider who introduced into evidence the findings, publications and studies of the National Commission on Marihuana and Drug Abuse all the state could produce after a six week delay of searching was Doctor Powelson with anecdotal information and Doctor Nahas whose book is far more deceptive then the "weed" he describes. This is not the stuff of compelling state interests; this is not the material to force a state to interfere with the liberty and privacy of individuals like petitioner to possess and use a pleasurable plant which grows wild all over the world. The years when Harry Anslinger could state that marihuana causes murder, violence and psychosis are long gone. Even the days when those opposed to pleasure could point to amotivational syndromes or long term effects are ended by the plethora of studies compiled in the National Commission reports and appendices which are evidence in this case. All that could be brought forth by the State of Alaska to show why it was forced, compelled to outlaw marihuana was a psychiatrist with an unhappy patient, "S", and an anesthesiologist who felt there might, possibly be some effect on the immune systems of the body. But possibilities are not enough and hysterical pronouncements based on deceptive data cannot meet the constitutional tests legislation must meet. Petitioner asks that this Court in viewing all the evidence in looking for "hard facts" (Breese v. Smith,

supra, 501 P. 2d at 172) reverse the decisions below because no compelling state interest was shown. Petitioner asks that this Court find reefer madness is no longer a viable concept upon which to predicate laws and declare those under which he was arrested invalid.

III. THE PROHIBITION AGAINST MARIJUANA VIOLATES THE EQUAL PROTECTION AND DUE PROCESS OF THE LAWS

A. EQUAL PROTECTION

It is evident that the legislature has made the possession of one recreational drug, marijuana, a criminal offense while at the same time, the possession of other recreational drugs such as alcohol or tobacco, which clearly from all the testimony at trial pose a greater danger, are not prohibited. On a scale of one to ten ". . . I would say nothing is a zero. Caffeine, which is the safest of all mind altering drugs would be about one, marijuana at about 3 and then at the hardest end of that spectrum. . . would be alcohol and tobacco." (Fort Tr., p. 42). At present the average yearly consumption for each adult over 18 years in Alaska is: distilled spirits - 6 gallons per year; wine - 30 gallons; beer - 34 gallons. 14 Alaska Medicine 35 (1972).

It is clear that the equal protection guarantee is a constantly evolving right. As the Supreme Court state in Harper v. Virginia State Board of Elections, 383 U.S. 663, 669 (1966):

(T)he Equal Protection Clause is not shackled to the political theory of a particular era. In determining what lines are constitutionally discriminatory, we have never been confined to historic notions of equality, any more than we have restricted due process to a fixed catalogue of what was at a given time deemed to be the limits of fundamental rights. . . . Notions of what constitutes equal treatment for purposes of the Equal Protection Clause . . . do change.

The Supreme Court initially set out the test for the validity of statutes under the Equal Protection Clause in Skinner v. Oklahoma, 316 U.S. 535, 539 (1942), as follows:

When the law lays an unequal hand on those who committed intrinsically the same quality of offense and sterilizes one and not the other; it has made as invidious a discrimination as if it had selected a particular race or nationality for oppressive treatment. (Citations omitted.) Sterilization of those who have thrice committed grand larceny, with immunity for those who are embezzlers, is a clear, pointed, unmistakable discrimination.

In recent years, the Supreme Court has added an additional dimension to the Equal Protection guarantee: where the statute effects a fundamental right, the classification must be supported by a compelling governmental interest, and must be narrowly drawn. See Shapiro v. Thompson, 374 U.S. 618, 634 (1969); McLaughlin v. Florida, 379 U.S. 184 (1964); Harper v. Virginia State Board of Elections, 383 U.S. 663 (1963). In Harper, the Court stated, 383 U.S. at 670:

We have long been mindful that where fundamental rights and liberties are assured under the Equal Protection Clause, classifications which might invade or restrain them must be closely scrutinized and carefully confined.

Petitioner has argued above, in connection with the right of privacy, that private possession of marihuana does involve "fundamental" rights. That argument is applicable to the equal protection argument made in this portion of

the brief, and it will not be repeated here. For the same reasons as discussed above, the private possession of marihuana involved "fundamental" rights and liberties in terms of the Equal Protection Clause.

Whether this Court uses the test set out in Skinner, supra, or uses the more recent test, it is clear that there can be no legitimate reason for treating marijuana differently from alcohol and the other drugs which were introduced and discussed at trial.

There exists unanimity in the record that alcohol is the most dangerous drug in our society as defined by parameters of tolerance, addiction, toxicity, tissue damage, induced criminality and psychosis. See testimony of Fort p. 42-43; Grinspoon p. 49; Ungerleider p. 229, 355; Langdon p. 18; Feinglass p. 77 and see the Second Report of the National Commission Drug Use in America: Problem in Perspective (exhibit W).

This Court has recognized the need for the equal protection of equal laws. In Leege v. Martin, 379 P.2d 447 (Alaska 1963) this Court found it a denial of equal protection to prohibit commercial fishermen a right to stay, the forfeiture of their license pending appeal.

A discrimination against commercial fishermen can be justified only if there is some reasonable basis for placing them in a different class from those engaged in other licensed occupations and the reasonableness of the classification depends upon whether the class denied a stay pending appeal includes all persons who are similarly situated with respect to the purpose of the law, and none who are not.

Leege v. Martin, supra, 379 P. 2d at 452. The court found commercial fishermen similar to doctors, real estate brokers and dentists, yet in this latter class the legislature has made no law denying stays pending appeal. Consequently, the legislative act withdrawing this right from commercial fishermen was unconstitutional. The equal protection clause

. . . is a prohibition against laws which, in their applications make unjust distinction between persons. As to this case, the guarantee of equality of treatment prohibits legislation which denies to one group of persons the enjoyment of certain rights which are afforded to another group, when considering the purpose of the legislation, there is no reasonable basis for not treating both groups the same.

id. Precisely this reasoning applies to the prohibition against marijuana while there is none against the recreational drugs, tobacco and alcohol.

B. IRRATIONAL CLASSIFICATION

Marihuana in the form of Cannabis Sativa L. is included in AS 17.12.010 as a stimulant, hallucinogenic or depressant drug. Included with it are psilocybin, demethyltryptamine, lysergic acid diethylamide, and drugs of similar physiological effect, barbituric acid and amphetamines including any of the optical isomers of amphetamines or any substance designated as habit forming or dangerous because of its stimulant, hallucinogenic or depressant effect on the central nervous system. AS 17.12.150(3). Obviously, the legislature found all of the drugs listed as "dangerous" since the legislature also provided

Rehabilitation. A person convicted of violating a provision of this chapter relating to the possession

or control of depressant, hallucinogenic and stimulant drugs, when his possession or control is for his own use may, in place of a fine or imprisonment, be committed to the custody of the department for rehabilitative treatment for not more than one year.

AS 17.12.120. There are no marijuana rehabilitation plans in Alaska. There are none anywhere because use of marijuana is not a problem from which one needs to be rehabilitated. (Tr. Heesch p. 88-89)

Indeed pharmacologically, psychologically and medically it is unlike any of the drugs listed in AS 17.12.150 (3) and is irrationally classified in being there.

There was also unanimity among the witnesses, and in scientific fact, that marijuana should be classified apart from the other dangerous drugs therein proscribed. Marijuana differs in terms of legitimate societal interest in all parameters of measurement. See testimony of Fort p. 36, 43; Grinspoon p. 61; Ungerleider p. 245, 353; Feinglass p. 33-41, 77; and Heesch p. 89-99.

The argument as to a misclassification is similar in nature to those used above concerning equal protection. For example, in Ledger-Enquirer Company v. Brown, 213 Ga. 538, 100 S.E. 2d 166 (1957) the Supreme Court of Georgia had occasion to discuss the power of the Georgia legislature to classify, stating at S.E. 2d 168:

It is clear that the legislature may, for purposes of legislation, classify and may legislate with respect to, each classification. The power of the legislature to classify for the purpose of legis-

lation, however, is not without limitation. The classification must be natural and not arbitrary. It must have a reasonable relation to the subject matter of the legislation, and must furnish some legitimate ground of differentiation.

The converse must be equally true. The inclusion of marihuana within the classification of stimulants or depressants and hallucinogens must be based upon some "legitimate ground" for the inclusion to be correct. As shown by the evidence in this case, marihuana simply does not fit within such classification in terms of legitimate societal interest.

The United States Supreme Court has also held that a classification which does not rest upon a reasonable basis and which is essentially arbitrary in nature constitutes a violation of the equal protection clause. See McLaughlin v. Florida, supra, where the court held at page 191:

Judicial inquiry under the Equal Protection Clause, therefore, does not end with a showing of equal application among the members of the class defined by the legislation. The courts must reach and determine the question whether the classifications drawn in a statute are reasonable in light of its purpose -- in this case, whether there is an arbitrary or invidious discrimination between those classes covered by Florida's cohabitation law and those excluded.

Even if the legislature was laboring under some misconception with respect to the proper classification for marihuana, nevertheless this court has a duty to rectify said error by holding the statute in question unconstitutional. As pointed out by the U.S. Supreme Court in Meyer v. Nebraska,

supra, at page 401:

(A) desirable end cannot be promoted by prohibited means.

Further, as pointed out by the Supreme Court in Levy v. Louisiana, 391 U.S. 68 at page 71:

While a state has broad power when it comes to making classifications (Ferguson v. Skrupa, 372 U.S. 726, 732), it may not draw a line which constitutes an invidious discrimination against a particular class. See Skinner v. Oklahoma, 316 U.S. 535, 541-542. Though the test has been variously stated, the end result is whether the line drawn is a rational one. See Morey v. Doud, 354 U.S. 457, 456-466.

In English v. Miller, 341 Fed. Supp. 714 (1972) the District Court for the Eastern District of Virginia considered the constitutionality of the Virginia law classifying marijuana as a narcotic and held at page 171:

The classification of marijuana as a narcotic is, in this Court's opinion, violative of the equal protection clause of the United States Constitution. The statutory pronouncement that 'every substance not chemically distinguishable from coca leaves and opium, cannabis and isonipeciane is a narcotic drug,' as referred to in Virginia Code §54-487 (14), is so vague that, even if it could be pharmacologically substantiated, due process considerations compel its repudiation.

In the English case, in footnote number four at page 718, the court noted as follows:

The court's power to determine the actual state of facts concerning marijuana, as well as the court's

reliance on current writing of authorities in a rapidly developing field, is based upon pronouncements of the U.S. Sup. Ct. in Brown v. Board of Education, 347 U.S. 483, 494, 17 F.N. 11, 74 S.Ct. 686, 98 L.Ed. 873 (1954) where unquestionably the court has the power to determine the true state of facts upon which a law is based. See also, People v. Sinclair, *supra*, 1972.

According to Justice Holmes, even a judge being bound to declare the law must know or discover the facts that established the law. See, Prentis v. Atlantic Coast Line Co., 211 U.S. 210 (1908).

The courts have deferred to the rationality of the legislature in proscribing the possession of marihuana even though no legislative histories have been published which could offer the courts the basis for the legislature's promulgation of such laws. All that the courts have upon which to base their deference is the stated purpose of the statute. To Justice Holmes, the proposition that a mere statement of a proposition is sufficient to establish that proposition as a factual justification for a statute, is erroneous;

Obviously, the facts should be accurately ascertained and carefully weighed, and this can be done more conveniently in the Supreme Court of the District than here. The evidence should be preserved so that if necessary it can be considered by this Court.

Chastleton Corp. v. Sinclair, 264 U.S. 543 (1926) at 549.

For purposes of this argument the state does have a compelling interest to regulate the use of drugs which have been proved harmful to the consumer, such as amphetamines and barbiturates. But marihuana may not rationally be

included within this category. Scientific evidence delineated in the record demonstrate that there is no potential for abuse of marihuana as having a depressant, stimulant, or hallucinogenic effect on the central nervous system. This may have been the belief of the legislators at the time the law was passed. A court has an on-going duty to examine legislation in light of modern developments. See, for example, Abie State Bank v. Bryan, 282 U.S. 765, stating:

... (E)ven though a police power enactment have been or may have seemed to be valid when made, later events or later-discovered facts may show it to be arbitrary and confiscatory. Abie State Bank supra, at 772.

Thus, in performing this duty, this Court must look into the factual situation which exists in light of today's knowledge. See, Oterland Silvergate, The Pursuit of Pleasure Constitutional Dimensions of the Marihuana Problem, 3 Suffolk L.Rev. 55 (1968) at 59, 60.

It is, now evident that the scientific classification of marihuana is well established as was shown by the evidence, and that by contrast the legislature's classification is so erroneous that such classification is unreasonable, irrational, arbitrary and unconstitutional, and in violation of the equal protection and due process clauses of the Fourteenth Amendment of the United States Constitution and the Constitution of the State of Alaska.⁶

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In People v. McCabe, 49 Ill. 2d 338; 275 N.E. 2d 407 (1971), the Illinois Supreme Court held that classifying marihuana under the Narcotic Drug Act rather

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(cont'd) than under the Drug Abuse Control Act was so arbitrary as to deprive the defendant of the equal protection of the law. The Court, with no more than a cursory analysis, noted that there were several cases contra but felt that those cases had not had the equal protection argument put before them in the same manner as had been the situation in McCabe.

Even though the McCabe case held it was improper to classify marihuana with opiates, the same rationale applies to the classification of marihuana with amphetamines, barbiturates, LSD, psilocybin, mescaline and dimethyltryptamine. The evidence presented disclosed that the effects of all of the foregoing were grossly different than marihuana in terms of addiction, tolerance, tissue damage, induced psychosis, deviant behavior and other criteria. In fact, some dangerous drugs are much more harmful to the individual and society than are narcotics.

The recent case of People v. Sinclair, 387 Mich. 91; 194 N.W. 2d 878 (1972), has also served to bring the marihuana issue into focus. In this case the defendant, leader of a politically radical group known as the White Panthers, was convicted of possession of marihuana and sentenced to 9½ to 10 years in prison. In reversing his conviction, the Michigan Supreme Court handed down four separate opinions in which four of the justices voted for reversal and two merely for modifying the sentence imposed. The arguments were many and varied, including the opinion written for the Court by Justice Swainson holding that the evidence used to convict was inadmissible because Sinclair had been entrapped. The argument that the sentence constituted cruel and unusual punishment was appealing to two of the justices while two also felt that classification of marihuana as a narcotic violated the Equal Protection Clause. Justice Kevanagh argued that the criminalization of marihuana was unconstitutional as "an impermissible intrusion upon the fundamental rights to life, liberty and the pursuit of happiness and. . . unwarranted interference with the right to possess and use private property". He stated as a constitutional principle that "an individual is free to do whatever he pleases, so long as he does not interfere with the right of his neighbor or society", and did not believe that "Big Brother" can dictate in the name of public health what one consumes in private.

IV. THE IMPOSITION OF ANY SENTENCE FOR THE PRIVATE POSSESSION OF MARIJUANA IS A VIOLATION OF THE PROHIBITION AGAINST CRUEL AND UNUSUAL PUNISHMENTS.

Possession of marijuana holds the maximum penalty for a misdemeanor. Also holding the maximum one-year penalty is driving while under the influence of intoxicating liquor, AS 28.35.030, a crime which involves substantial danger to others as well as a danger to oneself; shooting at buildings, AS 11.55.060, a crime which results in clear damage to property; possession of a firearm while under the influence of intoxicating liquor, AS 11.55.070, a crime which presents the danger of severe injury or death.

On the other hand, assault and battery, AS 11.15.230, is punishable by only six months imprisonment. Petty larceny, AS 11.21.040, is punishable by a lesser fine though it may provide for one year imprisonment. AS 11.44.080 provides that a person who cruelly beats or tortures or otherwise maltreats or neglects an animal is punishable by not less than ten days nor more than thirty days. AS 11.55.050 provides that one who flourishes or points or discharges a firearm in a public place is punishable by six months imprisonment. Prior to its repeal, drunk in public was punishable by a maximum of thirty days in prison. In the context of other maximum fines and imprisonments the sentence of one year for possession of marijuana is grossly disproportionate. Considering the evidence produced at petitioner's hearing any sentence of imprisonment is

so grossly disproportionate as to be a cruel and unusual punishment.⁷

As early as 1910, in Weems v. United States, 217 U.S. 349, the Supreme Court established beyond any reasonable doubt that punishments excessive in length or severity were as constitutionally objectionable as those that were inherently cruel. In that case, the petitioner was sentenced to fifteen years at "hard and painful" labor following his conviction for falsifying government documents. In striking down the penalty imposed on Weems, the Court deemed it necessary to invalidate a penalty prescribed by a legislature for a particular offense. The Court examined the punishment in relation to the offense, compared the punishment in relation to the offense, compared the punishment to those inflicted for other crimes, and to those in other jurisdictions, and concluded that the punishment was excessive. Justice McKenna, speaking for the majority, asserted that in America "it is a precept of justice that punishment for crime should be graduated and proportioned to offense," at 367.

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Article 8 of the United States Constitution states

Excessive bails shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

Similarly Article I, Section 12 of the Alaska Constitution states

Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted. Penal administration shall be based on the principle of reformation and upon the need for protecting the public.

The Weems Court, in its analysis, emphasized the minor nature of the offense, the opinion noting twice the trivial amount of cash Weems was convicted of claiming as a government expenditure (217 U.S. at 366) and twice emphasizing that an offender may "gain nothing" from this crime and "injure nobody" (id., at 365).

The Weems proportionality test was followed in Trop v. Dulles, 356 U.S. 86 (1958), where loss of citizenship by reason of a conviction for wartime desertion was found to violate the Eighth Amendment. In so holding, Chief Justice Warren added that the "Amendment must draw its meaning from the evolving standards of decency that mark the progress of a maturing society." 356 U.S. at 101.

The approach utilized by the Court first in Weems and then in Trop was to scrutinize the severity of the penalty in relation to the offense, examine the practice of other jurisdictions, compare the challenged penalty with punishments prescribed for different crimes in the same jurisdiction, and then determine whether or not the penalty imposed was excessive in light of the evolving standards of decency.

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(cont'd) See Faulkner v. State, 445 P. 2d 815 (Alaska 1968) (Dimond, J.) and State v. Chaney, 477 P. 2d 441 (Alaska 1970).

In his concurring opinion in Robinson v. California, 370 U.S. 660 (1962) Justice Douglas spoke of the constitutional prohibition against cruel and unusual punishment which strikes at punishments which are so disproportionate to the offense as to be constitutionally excessive:

The questions presented in the earlier cases concerned the degree of severity with which a particular offense was punished or the element of cruelty present. A punishment out of all proportion to the offense may bring it within the ban against 'cruel and unusual punishments.' 370 U.S. at 676.

The Robinson case held that a state statute which made it a criminal offense, punishable by imprisonment for not less than 90 days nor more than one year, to be addicted to the use of narcotic drugs inflicted a cruel and unusual punishment upon the addict defendant.

Responding to the argument that ninety days in jail was neither excessive nor unusual, Justice Stewart, speaking for the Court in Robinson, clearly stated:

To be sure, imprisonment for ninety days is not, in the abstract, a punishment which is either cruel or unusual. But the question cannot be considered in the abstract. Even one day in prison would be a cruel and unusual punishment for the 'crime' of having a common cold. 370 U.S. at 667.

In recent years, a number of State Courts have critically examined marihuana possession sentences for unconstitutional excessiveness.

The New Jersey Supreme Court, in State v. Ward, 270 A2d 1 (N.J. 1970),

granted certification "primarily to establish guidelines for the sentencing of first offenders who were found guilty of possession of marihuana for their own use." 270 A.2d at 5. Defendant was sentenced to serve a state prison term of two to three years for illegal possession of marijuana; although a first offender. The court stated, 270 A.2d at 5:

(I)t remains the policy of the law to reform the youthful offender. Sentencing judges should direct the punishments they impose to the goal of reformation. Too severe a punishment will do little towards advancing this goal. Incarceration is a traumatic experience for anyone. The effect must be particularly devastating upon young persons such as the defendant here. A sentence of two to three years in State Prison in a case like this will probably be more detrimental to both the offender and society than some other discipline. Even a sentence to a reformatory as suggested by the Appellate Division may be more punitive than is required. We think that generally a suspended sentence with an appropriate term of probation is sufficient penalty for a person who is convicted for the first time of possessing marihuana for his own use.

The Court in Ward recognized that "devastating" and "traumatic" effect of incarceration upon the first offender convicted of marihuana possession. Any conviction, indeed any arrest, for marihuana is a personal tragedy that can ruin a life. An arrest record, even without a conviction, can bar a youth from future scholarships, employment, entrance into the professions, qualification for occupational licenses, and military service. It means an emotional ordeal for him or her, and their family, financial hardship, and for those who cannot make bail, a long wait in jail before trial. A conviction and prison term will

expose the youthful offender -- who in the vast majority of cases has never been arrested before -- to a school of drug abuse, violence, and criminality. As Harold H. Titus, Jr., on resigning as U. S. Attorney for the District of Columbia, recently said: "Our prisons turn out worse people than they take in -- especially the youth centers." Wash. Post, Dec. 30, 1973 at p. B1 col.7.

Incarceration for simple possession of marihuana is not only a cruelly harsh, excessive and unusual form of punishment, but serves no purpose to society. The New Jersey Supreme Court recognized this and established guidelines to protect from incarceration those first offenders charged with possession. Although the Court in Ward did not specifically refer to the Eighth Amendment, Eighth Amendment logic was the basis of the opinion. The court stated, 270 A. 2d at 425:

(W)e think the sentence was entirely too harsh.

...
We think that a two or three year unsuspended sentence in State Prison for a first offender, whose possession is incidental to his own use, is far too severe.

This 5-2 decision of the New Jersey Supreme Court was unanimous on one point -- the sentence was "grossly excessive." See dissent of Justice Francis, joined by Justice Hall. 270 A.2d at 6.

In People v. Lorentzen 194 NW 2d 827, (Mich., 1972), the Supreme Court of Michigan held that a "compulsory prison sentence of 20 years for a non-violent

crime (i.e., sale of marijuana) imposed without consideration for defendant's individual personality and history is so excessive that it shocks the conscience." 194 N.W.2d 834. That such a sentence was excessive and in violation of the Eighth Amendment was unanimous.

The Lorentzen case cited the three generally recognized constitutional tests of what constitutes cruel and unusual punishment, namely: (1) the proportionality test; (2) the evolving standards of decency test; and (3) the rehabilitation test.

The proportionality test was first proposed in Justice Field's dissent in O'Neil v. Vermont, 144 U.S. 323 (1892) when he stated that the prohibition against cruel and unusual punishment "is directed not only against punishments of (torture), but against all punishments which by their excessive length or severity are greatly disproportioned to the offense charged. The whole inhibition is against that which is excessive." 144 U.S. at 339-40. It was adopted by the majority in Weems, supra, and has been used in nearly all subsequent Eighth Amendment analyses. See, In re Lynch, 105 Cal. Rptr. 217, 503 P.2d 921 (1972), for an excellent discussion of this, and the other tests.

The "evolving standards of decency test" was first enunciated in the Weems case, when the Court stated that the definition of cruel and unusual punishment is progressive and "is not fastened to the obsolete but may acquire meaning as public opinion becomes enlightened by a humane justice." The Court reiterated this point in the Trop case, supra, discussed earlier.

In determining whether the marihuana prohibition violates evolving standards of decency, this Court should look to statutes passed in some jurisdictions drastically reducing or eliminating criminal penalties for marijuana use. For example, the State of Oregon recently enacted a statute making possession of less than one ounce of marihuana subject to a civil fine up to \$100, processed similar to motor vehicle violations. House Bill 2936, amending O.R.S. 167.207, .217, 1225 (effective Oct. 5, 1973). Possession of up to one ounce of marihuana is now classified as a "violation" in Oregon, rather than as a misdemeanor. In Nebraska, first offense possession of less than one pound of marijuana can result in seven days in county jail and/or \$500.00 fine. Neb.Stat.Rev. 28-4115 et seq. (Supp. 1971) New Mexico and Hawaii have adopted similar laws.

In determining whether the marihuana prohibition violates evolving standards of decency, this Court could also look to the organizations which have recommended decriminalization of marihuana. In addition to the National Commission on Marihuana and Drug Abuse, the Alaska Bar Association and the Alaska State Medical Association, the following organizations have recommended decriminalization: The District of Columbia Mayor's Advisory Committee on Narcotics Addiction; The American Bar Association; the Canadian Commission of Inquiry into the Non-Medical Use of Drugs (the Le Dain Commission); the British Advisory Committee on Drug Dependence (the Wooten Commission); the American Public Health Association; Consumers Union, publishers of Consumer Reports; The National Conference of Commissioners on Uniform State

Laws; Board of Trustees, American Medical Association; National Council of Churches; and, National Education Association.

The National Advisory Commission on Criminal Justice Standards and Goals has also recently issued a report entitled, "A National Strategy to Reduce Crime: (1973). This Commission, established by the Law Enforcement Assistance Administration (L.E.A.A.) of the U. S. Department of Justice in 1971, recommended as follows, Id. at 203:

The Commission recommends that State reevaluate their laws on gambling, marijuana uses and possession for use, pornography, prostitution, and sexual acts between consenting adults in private. Such reevaluation should determine if current laws best serve the purpose of the State and the needs of the public.

The Commission further recommends that, as a minimum, each State should remove incarceration as a penalty for these offenses, except in the case of persistent and repeated offenses by an individual when incarceration for a limited period may be warranted.

Finally, Lorentzen cites the rehabilitation test, and explains, supra, 194 N.W. 2d at 833:

This test looks to a consideration of the modern policy factors underlying criminal penalties -- rehabilitation of the individual offender, society's need to deter similar proscribed behavior in others, and the need to prevent the individual offender from causing further injury to society.

The Lorentzen Court applied each test to the minimum mandatory statute and concluded that the statute failed all three. Accord: People v. Sinclair, 194 N.W.

2d 878, (Mich. 1972) (concurring opinion of T. G. Kavanagh, J. and Adams, J.)

All three tests are closely related. Weems and subsequent recent cases have not favored the proportionality test over the decency test, or vice versa, but rather have used them in conjunction with one another. Similarly, the rehabilitation test is merely an extension of the decency test, and in our "maturing society," an increasingly important extension.

In determining whether penalties for possession of marihuana constitute cruel and unusual punishment, both the decency test and the rehabilitation test demand that the Court inquire into the objectives of criminal sanctions.

It has been suggested that the objectives of criminal sanctions are:

- (1) rehabilitation of the convicted offender into a noncriminal member of society;
- (2) isolation of the offender from society to prevent criminal conduct during the period of confinement;
- (3) deterrence of other members of the community who might have tendencies toward criminal conduct similar to those of the offender (secondary deterrence), and deterrence of the offender himself after release;
- (4) community condemnation or the reaffirmation of societal norms for the purpose of maintaining respect for the norms themselves; and
- (5) retribution or the satisfaction of the community's emotional desire to punish the offender. Note, 69 Yale L.J. 1453, 1455 (1960). Accord: State v. Chaney, supra.

Since the crime of possession and private use of marihuana is a victimless crime, i.e. not an act against person, property or society in general, the traditional objectives of criminal sanctions are not applicable in their ordinary sense.

The state interest in rehabilitation of the marihuana user is examined in the following:

The concept of rehabilitation usually suggests⁽¹⁾ the correction of the moral and or legal deficiencies considered responsible for one's criminal activities. Thus, the question of rehabilitation is intimately related to the individual's and society's moral attitude toward the smoking of marijuana; for the individual who believes that the right to use marijuana is one of his fundamental constitutional rights or that it is protected by the freedom of religion, any attempts at rehabilitation, in the commonly accepted sense, would be fruitless.

M. Dichter, "Marijuana and the Law," 13 Vil. L. Rev. 851, 870, (1968).

There does not appear to exist, with respect to isolation, a sufficient state interest in isolating the marihuana user, again because of the "victimless" aspect of the crime.

Although deterrence would appear to be a primary objective of marihuana laws, the evidence indicates that the laws have not had any significant deterrent effect. According to the most recent survey by the National Commission on Marihuana and Drug Abuse, at least 26 million Americans have now tried marijuana, and over 12 million are current users. The survey indicated that marihuana is used by all classes, groups, ages, and occupations, although the greatest incidence of use is in the 18-25 year-old group. Id. at 5. As the uncontroverted evidence in petitioner's case showed, Alaskan usage at the very least confirms the national statistics.

Another potential objective of the marihuana laws in community con-

demnation -- the reaffirmation of social norms for the purpose of maintaining respect for the norms themselves. The marijuana laws do not accomplish this objective for a number of reasons. First, a recent survey by the National Commission on Marihuana and Drug Abuse has indicated that a majority of Americans no longer favor incarceration for private possession of marijuana. In addition, it must be clear that the major effect of the marihuana laws, and their selective enforcement, is to promote disrespect, not respect, for the law. Finally, in this area of "victimless" crimes, the Court should be very hesitant to subscribe to this community condemnation rationale, where the justification for the law may really be a desire to impose a concept of morality on a specific minority group in our society. All drug use should be discouraged in this country, including the use of alcohol. However, as the National Commission on Marihuana and Drug Abuse pointed out, there are numerous institutions in this society which are able to discourage drug use in addition to the criminal laws. First Report at 103-135. As the National Commission indicated (Id. at 140):

On the basis of this evaluation we believe that the criminal law is too harsh a tool to apply to personal possession even in the effort to discourage use. It implies an overwhelming indictment of the behavior which we believe is not appropriate. The actual and potential harm of use of the drug is not great enough to justify intrusion by the criminal law into private behavior, a step which our society takes only with the greatest reluctance.

The last objective of the criminal law is retribution. Whatever the

continuing validity of this rationale, the use of marihuana creates little emotional desire for punishment when compared to crimes against persons and property. No marihuana penalties can be justified by the rationale of retribution. See Note, "Marihuana and the Law," 13 Vil. L.Rev. 851, 70-71 (1968).

By any and all analyses used to determine what violates the Eighth Amendment, and Article I, Section 12 of the Alaska Constitution, the penalties for possession and private use of marijuana are excessively cruel and unusual in light of the harmless, non-violent nature of the offense, the penalties proscribed for more serious crimes and the evolving standards of decency in American society. Further, the harsh and cruel penalty of incarceration for even one day is disproportionate to the seriousness of the offense.

CONCLUSION

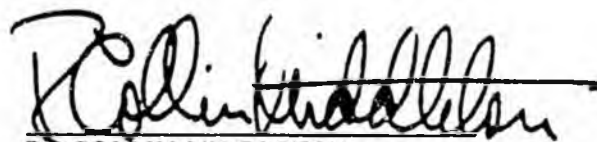
For the reasons cited above petitioner asks that this Court reverse the decision of Judge Tyner and grant petitioner's motion to dismiss his charge of possession of marihuana as being unconstitutional on its fact and as applied. Arrested every day are persons, like petitioner, who have for their own personal use a plant which grows wild the world over. They smoke it because it gives them pleasure. Yet marihuana is far less harmful than alcohol, and people use that for pleasure without the danger of arrest, or tobacco. The plant in petitioner's pocket is less dangerous than Romalar (exhibit T-5), Sleep-eze (exhibit T-9), Sominex or Cheracol D. But these drugs have hallucinogenic, stimulant or depressant effects greater than marihuana and they unlike marihuana are lethal, but they are legal. No one holding two nutmegs is arrested, but using them that person can achieve a euphoria far greater than with marihuana.

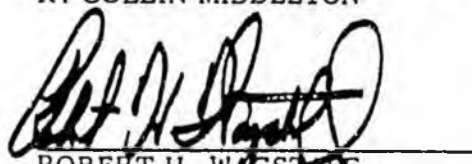
Bromo-seltzer causes organic brain syndromes, uniodized salt causes states of chronic tiredness and possible death. Marihuana does not. Yet of all the drugs listed above only marihuana is illegal and a person, like petitioner, caught with a small amount in his pocket may be imprisoned for a year and forced to pay a thousand dollar fine.

Petitioner has argued above that such distinctions between substances a person chooses to place in his own body violate his right of privacy and liberty, constitutional guarantees. The prohibition of one drug, marihuana, and not others

is a violation of his right to the protection of equal laws, and that marijuana unlike the drugs with which it is classified is not dangerous and its proscription denied him due process and the protection of equal laws. Finally petitioner requests this Court find that any penalty for possession of so harmless a substance is a cruel and unusual punishment. In the evolving standards of our society and the ordered liberty of our Alaskan way of life the laws prohibiting petitioner from having in his pocket a plant man has had in his pocket or loincloth or animal skin for four thousand years cannot stand. They are unconstitutional and petitioner seeks this Court's determination accordingly.

Respectfully submitted this 10th day of June, 1974.


R. COLLIN MIDDLETON


ROBERT H. WESSHOFF
Counsel for Petitioner and the
American Civil Liberties Union

APPENDIX I

Columbia University
College of Physicians and Surgeons
630 West 168th Street
New York, N.Y. 10032

Contact: Arsene Eglis
Days: 212-579-1911
Nites: 201-947-3657

For p.m. release Friday, January 25

A Columbia University study shows that habitual marihuana smoking weakens the body's immune defenses against disease and inhibits the division of cells that specialize in these defenses. The findings represent the first direct evidence of cellular damage from marihuana in man.

The study was undertaken to observe the behavior of certain white blood cells--mobile defenders against invading viruses--in samples of venous blood taken from chronic marihuana smokers. It measured the ability of these white cells, T lymphocytes, to respond to the addition in the test tube of foreign substances.

Besides the T lymphocytes, which are believed to specialize in hunting down and absorbing invading viruses and viruslike particles, the body's immune system maintains defenses against bacteria with another group of cells called the B lymphocytes. The T group of lymphocytes may be instrumental in preventing viruses from causing cancer.

The Columbia study, carried out by a quartet of researchers in the Departments of Anesthesiology, Surgery and Pediatrics of the Col-

-more-

lege of Physicians and Surgeons, or P&S, compared the T cells of 51 marihuana smokers with those of a control group of 81 healthy volunteers. Groups of patients with cancer, uremic poisoning and recent kidney transplants were drawn into the study to gain additional frames of reference.

"For a long time, educators and legislators have wanted hard facts about biological damage from long-term usage of this drug," commented Dr. Gabriel Nahas, research professor of anesthesiology and head of the team. "Now we are in a position to start supplying them with such facts."

Dr. Nahas and his colleagues, Drs. Nicole Suci-Focaccia, Jean Pierre Armand and Akira Morishima, tested venous blood samples of young smokers from 16 to 35 years of age who had been smoking either marihuana or hashish at least once a week for more than one year. The median age of the smokers was 22, half the median age of the control group. The marihuana smokers maintained that they did not use any other mind-altering drugs. They drank alcoholic beverages and smoked cigarettes, as did the members of the control group.

The P&S scientists utilized a standard mixed lymphocyte culture test and a test with PPA, a plant protein that induces lymphocytes

to enlarge and to reproduce. The responsiveness of a subject's lymphocytes to PHA reflects the capability of his immune defenses. The rate of reproduction of these cells can be measured by tagging their DNA with a radioactive label and then measuring the blood sample for additional radioactivity.

The P&S team found that "the ability of the T lymphocytes from marihuana smokers to undergo blast transformation (division of the cell nucleus) was 40 per cent less than that of a control group, made up of older individuals."

"The difference would be more marked if the control group were of the same age," Dr. Nahas remarked. "The immune response of white blood cells is known to decrease with age."

The immune response of marihuana smokers was inhibited to about the same degree as that of patients with a regionally spread tumor, the scientists noted in their report, which will appear in the February 1 issue of the journal Science.

"We don't know yet the mechanism responsible for this inhibition," Dr. Nahas said. "Possibly it is connected with the tendency of tetrahydrocannabinol (the active ingredient of marihuana, THC for short) to inhibit DNA reproduction."

The decrease of DNA synthesis in T cells from marihuana users was observed by Dr. Morishima in the build-up period between cell divisions, when the DNA content of a cell nucleus is normally expected to double.

Dr. Morishima also observed an increased incidence of broken

chromosomes in the T cells taken from marihuana smokers. He also found a marked increase in the number of micronuclei. A micronucleus contains less than a half of the normal complement of chromosomes, and its presence indicates a breakdown of normal cell reproduction.

Judging from these abnormal cell divisions, the Columbia report states, there may be a lag in the separation of daughter chromosomes during cell division. This phenomenon, called anaphase lag, combined with chromosome breakage, may lead to increased attrition of white blood cells and consequently to weakened resistance to invading organisms.

The new biochemical evidence of the untoward effects of THC on cell behavior has led Dr. Nahas to call for a thorough reappraisal of the findings of the National Commission of Marihuana.

"The medical profession should not accept those recommendations of the commission which might lead to marihuana legalization without further analysis of all the facts, especially those that are now being collected by researchers on a molecular level," Dr. Nahas declared in an appeal written for this month's (January) issue of the Bulletin of the New York Academy of Medicine.

Furthermore, says Dr. Nahas, "we have observed that marihuana products accumulate in the germ cells of the testes and ovaries. It is therefore most urgent to find out to what extent long-term marihuana use will impair the genetic equilibrium and the DNA metabolism

of these dividing germ cells and possibly affect adversely the offspring of the marihuana user."

In addition to his clinical research at P&S, Dr. Nahas has conducted extensive field investigations in areas of chronic marihuana use in Africa and Asia.

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6. The composition of the medium. In millimoles per 1000 cm³ of water, was Na⁺, 128; K⁺, 2.6; Ca²⁺, 2; Mg²⁺, 2; Cl⁻, 112; HCO₃⁻, 20 [S. H. Fleisley, *Fed. Proc.* 27, 237 (1963)].
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11. The experiments with high magnesium were started under the sponsorship of E. F. MacNichol at the National Institute of Neurological Diseases and Stroke, Bethesda, Maryland, while L.C. was on a visiting fellowship. We thank V. Alpigiani, M. Benvenuti, G. Bottaru, B. Margheriti, and M. Morelli for their valuable technical help.

3 July 1973; revised 24 September 1973

Inhibition of Cellular Mediated Immunity in Marijuana Smokers.

Abstract. The cellular mediated immunity of 51 young chronic marijuana smokers, as evaluated by the lymphocyte response in vitro to allogeneic cells and to phytohemagglutinin, was significantly decreased and similar to that of patients in whom impairment of T (thymus derived) cell immunity is known to occur. This inhibition of blastogenesis might be related to an impairment of DNA synthesis.

It has been previously reported (1) that delta-9-tetrahydrocannabinol (Δ^9 -THC), a psychoactive substance of *Cannabis*, when administered to rodents alters their cellular mediated immune responsiveness, and it was suggested that similar changes might also occur in man. In our study the mixed lymphocyte culture (MLC) and phytohemagglutinin (PHA) responsiveness of 51 marijuana smokers, 16 to 35 years old (median age 22), were studied. Only subjects who had used *Cannabis* products (at the exclusion of other drugs) at least once a week (average four times a week) for at least 1 year (average 4 years) were selected for this investigation.

Eighty-one healthy volunteers, 20 to 72 years of age (median age 44) were used as controls. Purified lymphocyte suspensions were prepared from fresh samples of venous blood by the Ficoll-Isopaque density gradient method (2). A microculture system was used for screening of cellular responsiveness (3). For the MLC test, 1×10^5 responding cells were incubated, per well, with 2×10^5 stimulating cells pooled from a panel of ten donors, phenotypically different (allogeneic cells in which 25 different HL-A specificities were represented (4)).

For the PHA test, 2×10^5 respond-

ing cells were incubated per well with 1 μ g of purified PHA. The medium used was RPMI 1640 with penicillin, streptomycin, and glutamine, to which 25 percent autologous serum was added.

Results are summarized in Table 2 and compared with data obtained in 60 patients with cancer, 20 patients with uremia, and 24 renal allograft recipients with iatrogenically induced immunosuppression. The mean values registered in the group of marijuana users were significantly lower than those of the normal, but much older,

as reflected by in vitro lymphocyte blastogenesis and aging (5), results obtained in the group of marijuana smokers may be interpreted as being indicative of cellular hyporesponsiveness. Supporting this conclusion is the close similarity between the depressed MLC and PHA responsiveness of marijuana users and that of cancer (6), uremia (7), and immunosuppressed transplant patients in whom impairment of T (thymus derived) cell immunity is known to occur. Furthermore, we observed that in vitro inhibition of PHA-induced blastogenesis of normal human lymphocytes started with 1.6 μ M THC and was complete with 20 μ M.

The major psychologically active constituent of *Cannabis sativa* is Δ^9 -THC. This substance, as well as its metabolites, is insoluble in H₂O, but is very fat soluble, and has a half-life of several days in tissues where it might exert a cumulative and pharmacological effect (8). Such an effect might be related in a still unknown way to the depressed cellular immune response in vitro of chronic marijuana smokers. The effect of THC on adrenergic receptors (9) might also play a role in its immunosuppressive activity, as was suggested for other drugs administered continuously over a long period (10).

This inhibition of blastogenesis might result from an impairment of DNA synthesis. One of us (A.M.) sampled lymphocytes from four marijuana smokers, cultivated the cells for 72 hours, and then observed a decreased number of cells during the period of DNA synthesis (S period of the cell cycle). There was also an increased incidence of chromosomal breakages,

Table 1. Comparative cellular mediated immunity of normal subjects, marijuana smokers, and patients with impairment of T cell immunity. The in vitro blastogenic response of lymphocytes was studied by the MLC and the PHA tests. The incorporation rate of [³H]thymidine of the T lymphocytes is given in counts per minute \pm the standard error.

Subjects	No. tested	MLC		PHA	
		[³ H]Thymidine incorporated (count/min)	No. tested	[³ H]Thymidine incorporated (count/min)	No. tested
Normal controls	81	26400 \pm 200	81	23250 \pm 210	81
Cancer patients					
Primary tumors	16	14894 \pm 792	16	17501 \pm 124	16
Regional spread	23	15316 \pm 420	23	13345 \pm 540	23
Distant spread	21	8968 \pm 459	21	10516 \pm 580	21
Uremic patients	26	12001 \pm 272	26		26
Transplant patients*	24	12307 \pm 357	24		24
Marijuana smokers†	34	15679 \pm 499	34	13779 \pm 169	34

* After 1 to 4 years of immunosuppressive therapy. † At least 1 year; at least once a week; no other drug taken.

and an increase in the prevalence of micronuclei. Since it has been shown that lymphocytes of normal individuals will undergo three or four divisional cycles during 72 hours of culture (12), the observed micronuclei might indicate that there is an increased anaphase lag with or without chromosomal breakage during the preceding cell divisions in vitro. Anaphase lag, formation of hypodiploid cells, and alterations of DNA content were also observed in cultures of human lung explants exposed to marijuana smoke (13). Tetrahydrocannabinol in 3 to 9 μM concentration inhibits the growth of tetrahymena by reducing DNA and RNA synthesis (14).

Further studies are required to elucidate the exact mechanism by which marijuana products might affect DNA synthesis and the genetic equilibrium of T (thymus derived) lymphocyte population.

GABRIEL G. NAHAS
NICOLE SUCIU-FOCA
JEAN-PIERRE ARMAND
AKIRA MORISHIMA

Departments of Anesthesiology,
Surgery, and Pediatrics,
College of Physicians & Surgeons of
Columbia University, New York 10032

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15. Supported in part by the Philippe Foundation, a gift from H. G. Doll, State of New York Department of Health Kidney Disease Institute research grant C-43-03, and NIH grant 5N1-07659-11. We thank G. Thiem for technical assistance.

16 July 1973; revised 9 October 1973

A Sensitive and Specific Enzymatic Assay

Abstract. A sensitive and specific enzymatic-isotopic method of determining plasma amphetamine concentrations in man is described. The assay is based on the transfer of the tritiated methyl group of S-adenosyl-L-[methyl-³H]methionine to amphetamine in the presence of a partially purified N-methyltransferase from rabbit lung. With this assay as little as 10 nanograms of amphetamine per milliliter of plasma can be accurately determined. The concentrations of d- and l-amphetamine in the plasma after 20 to 30 milligrams of the drug had been ingested by human subjects are reported.

Amphetamine is a potent sympathomimetic amine widely abused for its central stimulant effects and used clinically in the treatment of hyperactive children (1), obesity (2), and narcolepsy (3). Amphetamine also produces a psychosis that has been a useful model for the study of schizophrenia (4).

The lack of a sensitive, specific, and reproducible assay for amphetamine in plasma has hampered efforts to establish therapeutic dosages, to understand tolerance and the different potencies and effects of d- and l-amphetamine, and to detect abusers of the drug. Several assay methods have been proposed (5), but none has, as yet, become fully accepted.

We now describe an enzymatic assay for amphetamine in plasma such that 10 ng of amphetamine per milliliter of plasma can be accurately and reproducibly measured. The assay is based on the N-methylation of amphetamine to form radioactive methamphetamine, by means of an N-methyltransferase from rabbit lung and S-adenosyl-L-[methyl-³H]methionine (³H-SAME) as methyl donor. Sensitivity and specificity are achieved by extraction into solvents and drying at high temperatures.

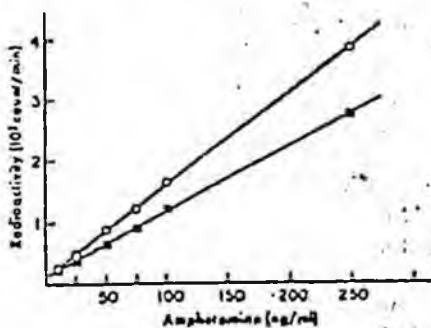


Fig. 1. Standard curves for d- (□) and l- (○) amphetamine added to plasma. Results are expressed as counts per minute produced per nanogram of amphetamine per milliliter of plasma. The blank values for amphetamine-free plasma were 60 to 150 counts per minute.

Blood samples were collected in heparinized syringes or in ACD-containing Vacutainers and were centrifuged at 4°C for 10 minutes at about 5000 rev/min. (Plasma samples can be stored at -15°C for at least 1 month without loss of amphetamine.) Samples (4 ml) of plasma were transferred to a 45-ml glass-stoppered centrifuge tube, adjusted to pH 11 with 50 μ l of 5N NaOH, and shaken with 16 ml of pentane (6) for 30 minutes at about 6°C to avoid evaporation. The tubes were centrifuged at 1500 rev/min for 10 minutes, the amphetamine was returned to the aqueous phase by transferring 15 ml of the pentane extract to another 45-ml glass-stoppered centrifuge tube containing 0.6 ml of 0.2 M HCl and shaking for 15 minutes. After centrifugation, the acid phase was frozen with acetone and Dry Ice and the pentane was decanted. It is important that residual pentane be removed; normally this is done by leaving the centrifuge tubes containing the acid extracts in the cold room overnight. The acid phases were then divided into two 0.25-ml fractions and transferred to 13-ml glass-stoppered centrifuge tubes. The pH was adjusted to 8.6 with 25 μ l of 0.01M tris buffer (pH 8.6), and 75 μ l of lung enzyme plus 1.25 μ g (0.156 nmole) of ³H-SAME (7) were added. This mixture was incubated at 37°C for 90 minutes, and 0.5 ml of 0.5M borate buffer (pH 10) plus 2.5 μ g (25 μ l) of dl-methamphetamine hydrochloride were added. A mixture (6 ml) of heptane and isoamyl alcohol (98.5:1.5, by volume) was then added and the [³H]methamphetamine was extracted into the organic phase by shaking for 10 minutes and centrifuging at 1500 rev/min. The following shaking and centrifuging were carried out in the same manner. The organic extract was then washed with an additional 0.5 ml of borate buffer, following which the [³H]methamphetamine was extracted into 0.5 ml of 0.1M

HARVARD SCHOOL OF PUBLIC HEALTH

Department of Behavioral Sciences

677 Huntington Ave.

~~xx xxxxxx xx~~
Boston, Massachusetts 02115
Cable Address: Harvhealth

February 25, 1974

Mr. R. Keith Stroup, Director
NORML
1237 22nd Street, N.W.
Washington, D. C. 20037

Dear Keith:

My reaction to the article in Science by Nahas and Associates (2/1/74) is that it is too technical for me to understand and that criticism from other specialists in immunology and related studies should be awaited. From the tenor of the inferences made in the press release issued prior to publication of the article, I fear that the generalizations may be considerably more sweeping than the facts warrant.

In any case, nothing in the report or the press release alters the significance of the data and recommendations contained in the two reports of the National Commission on Marihuana and Drug Abuse. Any and all serious and accurate research work done on the physiological and psychological effects of cannabis should be considered thoughtfully. Neither the article or the press release makes the Commission's recommendations out of date or inappropriate.

Warm personal regards,

Sincerely yours,

Dana

Dana L. Farnsworth, M.D.
Consultant on Psychiatry

/mca

Some years ago reports that LSD or other hallucinogenic drugs had been used in the treatment of psychiatric patients that were made.

Columbia University

in the City of New York 10027 C I A 7 3 A 11

NEW YORK, N.Y. 10027

PRESIDENT'S ROOM

February 25, 1974

Dear Mr. Stroup:

We have received your letter of February eighth concerning the recently announced findings of Dr. Gabriel Nahas and his co-workers on the effects of tetrahydrocannabinol on bodily defenses against disease.

The community of scholars which is a University traditionally expresses no collective opinion about matters under scholarly investigation, and we intend to keep to that tradition in the matter of Dr. Nahas' report. To do otherwise would be highly destructive of one of the basic requirements of academic freedom.

Supporting the right of a scholar to publicize his findings entails the obvious risk that on occasion misinformation will be disseminated. In the same fashion our principles of due process entail the risk that a guilty person may go free occasionally. In both instances, we accept the risk because the freedom or right is so important to us.

You are probably aware that certain faculty members of two of the most prestigious universities in the country are currently questioning whether there is genetic equivalence between white and black people. The implications of this question are personally repugnant to me as well as to numerous other scholars, yet neither university would countenance any attempt to silence the individuals in question. In time, scholars throughout the world will discover pertinent evidence to support or refute the positions now being discussed. Dr. Nahas and his group will be accorded the same scrutiny by disinterested and objective researchers.

Some years ago, considerable publicity was given to reports that LSD caused chromosomal breakage, with the implication that users would be parents of congenitally defective

MAR 01 1974

children. Because such findings could be confirmed by so few investigators and because the significance of the finding was at best so problematical, the allegation is given little credence today. It is true that refutations and retractions commonly receive much less publicity than the original statements, but this state of affairs reflects routine policy of the communications media. It is not our policy and it is certainly not the policy of the scientific community. Toppling a widely held erroneous belief is one of the things every scientist hopes to achieve.

To respond to some of your specific statements and questions, let me say first that Dr. Nahas' membership on our faculty is a matter of public record. Without specific authorization, no faculty member can speak for the University. Dr. Nahas speaks for himself, not for the University. The coupling in the public mind of Dr. Nahas' statements with the University's prestige is inevitable and, to us, unavoidable.

Whether a press conference is to be called to announce findings is a matter left to the discretion of individual faculty members. The various funding sources for the Nahas study are cited in Item 15 of the bibliography of his article in Science.

The University will not endorse or otherwise comment on Dr. Nahas' findings. It also neither endorses or rejects the recommendations of the National Commission on Marijuana and Drug Abuse. Such advocative activity is not consonant with our concept of the University's proper function. Individual members of our faculty are free to act as they wish under their own professional constraints. They may qualify or criticize any of the aforementioned findings and recommendations; and it is in the nature of our activity that both sides of the discussion will be represented here. The University does not, however, shape public attitudes on controversial topics. That comes in the public reaction to the

research and other activities of our faculty. We are obliged to protect the integrity of such work even when we disagree with it.

Sincerely,

William J. McGill
President

Mr. R. Keith Stroup, Director
National Organization for the
Reform of Marijuana Laws
1237 22nd Street, N.W.
Washington, D.C. 20037

eh/t

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HARVARD UNIVERSITY
THE BIOLOGICAL LABORATORIES

16 DIVINITY AVENUE
CAMBRIDGE, MASSACHUSETTS 02138

February 14, 1974

Mr. Keith Stroup
NORML
1237 22nd St. NW
Washington, D.C. 20037

Dear Mr. Stroup:

I'm writing this letter to reiterate what I said to you over the phone with respect to the article in Science by G. Nahas, et al. (Science 183:419, 1974). I would like to confine my comment only to the scientific merit of the publication which claims to have shown an inhibition of cell-mediated immunity in marijuana smokers.

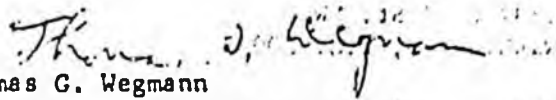
The first thing that strikes the eye of anyone that works with mixed lymphocyte cultures is the fact that the data given in Table 1 shows an extremely low standard error. In other words, the variation from experiment to experiment reported seems abnormally low. Since it's not possible to tell exactly how this came about I would suspect that the individual replicated each experiment many, many, many times and got an artificially low standard error because of this. This is a statistical artifact if such is the case. The data should have been expressed in terms of standard deviation.

Also, there is no statistical analysis of the difference between the various groups. For example, is the difference between the mean for normal controls and marijuana smokers statistically significant either for the mixed lymphocyte culture activity or for the phytohemagglutinin response? This is not given in the paper. My own guess, and it is only a guess, is that these differences would not be significant. Everyone who works with mixed lymphocyte cultures knows they vary greatly from time to time and differences of this magnitude generally would not be considered very significant. But I would have to have access to their raw data in order to conclude this with any degree of certainty.

Another criticism that can be made of the study is that it is not clear that the control group was carefully matched with the experimental group for age, sex, or smoking habits. The latter could contribute significantly if the marijuana smokers also smoked more cigarettes and nicotine itself would suppress the cell-mediated immunity. But all these arguments aside, no experiment of this sort is believable until firstly, it is replicated in other labs, and secondly, and more importantly, experiments are done to evaluate the effect of tetrahydrocannabinol on various in vitro immune systems at concentrations within the physiological range. This may be technically somewhat difficult because tetrahydrocannabinol is not soluble in water, but this could probably

be gotten around. Before the experimenters claim that they have shown marijuana to cause defects in cell-mediated immunity, they should be able to demonstrate a clear in vitro effect of tetrahydrocannabinol on mixed lymphocyte culture, phytohemagglutinin responsiveness and responsiveness to an antigen such as tuberculin totally in vitro and with a reasonable dose response kinetics (in other words, increasing suppression with increasing dose). Such experiments would not prove that marijuana reduced resistance to infectious disease in chronic users, but it would be reasonable evidence for concern. At the moment, however, I do not think the data sufficient to cause great concern until the questions I have raised are answered and until the study is repeated.

Sincerely yours,



Thomas G. Wegmann
Associate Professor, Biology

TW:cmh

Another criticism...
that the control group...
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secondly, and...
of tetrahydrocannabinol...
within the physiological...
induced tetrahydrocannabinol...

From the desk of...

Vera Rubin

Various lurid myths about marihuana are being exercised by serious research, but this is a slow process, given the urge to sensationalism. The Jamaican study of long-term chronic ganja smokers found no deleterious effects that could be attributed to cannabis. The potency of ganja (marihuana) normally smoked in Jamaica is much higher than that of "pot" and the frequency and duration of ganja smoking is far greater than in the U. S. There was no difference in the incidence of disease and no "adverse effects" were reported for the offspring of smokers. Ganja teas and tonics have been taken by the rural population for the past fifty years -- from infancy to old age, for medical and energizing purposes. Life expectancy in Jamaica has increased dramatically during this period and there is no indication that resistance to disease has declined as a result of marijuana.

Medical studies underway in Czechoslovakia for over twenty years, have established the antibiotic as well as analgesic properties of cannabis; qualities that have been understood since ancient times, in many parts of the world. Modern medicine is beginning to catch up with folk medicine. We need to refine research methodology and to slough off sensational stereotypes that result from questionable research methods.

washingtonian center for addictions

41 MORTON STREET
BOSTON, MASSACHUSETTS 02130
TELEPHONE 617 522-7151

February 7, 1974

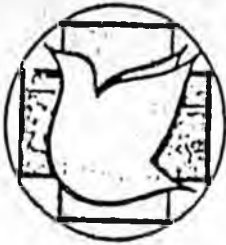
Dr. Gabriel Nahas' research presents serious ethical and scientific problems. First and foremost, it is essential that no significant research be dismissed because of the credentials or bias of the researcher. Hence, Dr. Nahas' work deserves careful consideration. However, it is also essential that the position of the observer as a human being or a scientist be known and be taken into account, at least until new work is carefully validated. For instance, it would be worth knowing whether startling new work proving the existence of God was done by a Jesuit or an atheist. Similarly, if the man who announced the successful harnessing of fusion was known to be a tailor rather than a nuclear physicist, one would expect the average person to be skeptical until considerable checking of the work had been done by more usual authorities. Thus, it would seem to me of importance that, until Dr. Nahas' work is replicated by objective scientists, his long-held conviction, prior to this research, that marihuana is a powerfully dangerous drug be mentioned. His conviction has gone beyond simple prejudice. His concern about marihuana has led him to take the stump and testify before as many legislators as would hear him, that criminal penalties against marihuana not be reduced or changed. The fervidity of his concern has gone beyond almost all other scientists, judges, policemen, and legislators. It seems to me ethically desirable that his position on this matter be well known when his research is considered. This is necessary because the possibility of experimenter bias affecting experimental result is a general problem of science, and most scientists are vigilant to that possibility.

On scientific grounds, there are two problems with Dr. Nahas' work. First, the whole issue of the DNA metabolism and the genetic equilibrium and how to know when it is affected is one which I do not know enough to consider, although I gather that Dr. Nahas' pronouncements in this area must be considered highly speculative. Second, however, and an area in which I have considerable experience, is the discrepancy between his research findings and the findings of clinicians working with young people. If his in vitro findings about the loss of immune capacity were correct in vivo, one would have anticipated that during these last five years the millions of young people smoking marihuana would have shown increased incidence of infections. At colleges, where marihuana use has been documented to include over 50% of the population, one would surely expect the use of the health services to have shown a significant increase. No such increase has been reported. This lack of clinical evidence to support the decrease in immune capacity is particularly striking when one considers how marihuana is

Ad. The ritual of passing a joint from mouth to mouth should be a good way of spreading infections as anyone could devise. Were effective immune responses interfered with, clinicians should have been seeing a virtual deluge of infections, which is not so. Many researchers could themselves call attention to so obvious a discrepancy between the actual events and the logical suppositions implied by the research, but Dr. Nahas has not chosen to do so. Again, I must say that the behavior of the researcher does not affect the research, but the problems with the research itself, as well as Dr. Nahas' departures from usual ethical and scientific standards, make it especially important for both the lay and scientific communities to wait for replication before accepting these findings.

Norman Zinberg, M.D.
Chief of Psychiatry

Thank you for your letter of 1/11/73 regarding the study of marijuana smoking in the military. I am sorry to hear that you are disappointed in the results. I would like to point out that the study was conducted in a very controlled environment and the subjects were carefully selected. The results of the study are consistent with the findings of other research in this area. I am sure that you will find the study to be of interest and value.



HAIGHT-ASHBURY FREE MEDICAL CLINIC

- AN ACTIVITY OF YOUTH PROJECTS, INC. -

1698 Haight Street
San Francisco, Calif.
94117

DAVID E. SMITH, M.D.
President, Youth Projects
Medical Director
Haight-Ashbury Free Medical Clinic

February 12, 1974

R. Keith Stroup, Director
National Organization for the Reform
of Marijuana Laws
1237 22nd Street, N.W.
Washington, DC 20037

Dear Keith:

Thank you for your phone call and material on the Nahas study claiming increased susceptibility of marijuana smokers to infectious diseases. I am circulating the report and related materials to my colleagues at both the Haight-Ashbury Free Medical Clinic and at the West Coast Polydrug Abuse Project.

I agree that Dr. Nahas has used this study to achieve his own anti-marijuana political goals and I hope your release will help counteract the damage he has caused. The study is weak in several respects; but the area that was most striking to me as a toxicologist was his claim that the 51 marijuana smokers with a median age of 22 which he studied had used cannabis products exclusively and did not use any other drugs. In his press release, however, he stated that the marijuana smokers "maintained" that they did not use any other mind-altering drugs although they drank alcohol and smoked cigarettes. It is well known that alcohol is a mind-altering drug and a potent sedative-hypnotic. In fact the National Commission on Marijuana and Drug Abuse claims it to be the number one drug problem in the United States, producing far more problems than marijuana. It is also well known that nicotine is a minor stimulant and a mind-altering drug. Numerous toxicological studies have been published on far sounder scientific grounds than the Nahas study documenting the toxicity of both alcohol and cigarettes. For example, recently it was determined that heavy cigarette smoking during pregnancy caused an increase in prematurity by weight.

There is no way that Nahas could attribute the findings in his study to cannabis alone rather than alcohol, nicotine, or possibly even caffeine which I would speculate that the subjects used. By deliberately stating that the subjects used no mind-altering drugs, Nahas was both misleading and dishonest in his toxicological interpretations. It stretches scientific credibility as to how he could ascribe the findings to cannabis alone.

I also question why he used a control group with a median age of 44 when his study group had a median age of 22. This is no control group at all and also sheds doubt on his findings.

R. Keith Stroup
National Organization for the Reform of Marijuana Laws
Page 2

Finally, even if the toxicological findings were correct, the subsequent claim that marijuana should continue to be criminalized or that the National Commission of Marijuana and Drug Abuse study was inaccurate is also politically motivated, dishonest and a corruption of science. For example, almost daily toxicological reports of the negative consequences of heavy alcohol, tobacco and caffeine consumption are published in a variety of scientific journals. "Never does the scientist who publishes such studies then claim for example that just because a woman smokes heavily during pregnancy thereby increasing prematurity by weight in her potential offspring that she should be placed in jail.

Dr. Mahas has obviously corrupted the scientific process to achieve his own preconceived political goals relative to marijuana and his study should be disregarded on both scientific and ethical grounds.

Peace and health,

David E. Smith

David E. Smith, M.D.

DES:mjg

P.S. It is also important, Keith, to emphasize that in our many years of studying and observing marijuana smokers, we have found no increase clinically in infections or birth defects that can be traced to marijuana smoking over that seen in a comparable age group that does not use marijuana.

cc: John Newmeyer
Donald Wesson
Skip Gay

Enclosures

Mayo Clinic

Rochester, Minnesota 55901

Telephone 507 282-2511

February 26, 1974

Howard P. Rome, M.D.
Adult Psychiatry

Mr. R. Keith Stroup, Director
National Organization for the Reform of Marijuana Laws
1237 - 22nd Street N. W.
Washington, D. C. 20037

Dear Mr. Stroup:

In response to the repeated hyperboles by Doctor Gabriel G. Nahas, I wish to submit the following in refutation:

I enclose a statement prepared in May 1972 by the Council on Mental Health and the Committee on Alcoholism and Drug Dependence of the American Medical Association which itself is an updated version of the Board of Trustees Policy Statement on Marijuana issued in December 1969. Apparently the next to the last sentence on page 5: "Many of the strong emotions and controversies raging about marijuana are a result of years of misinformation" - is still the case.

The laws against marijuana not only have made criminals of our youth but also encouraged widespread disrespect for law enforcement and in my judgment significantly contributed to the anti-establishmentarian attitudes that prevail currently. I think there are two cases in point. Our national experience during Prohibition certainly was enough to convince every thinking person that that law did more harm than good. Until it was repealed, it fostered an era of bootlegging and gangsterism which ravaged the country during the 1920's. Then too, the significant data that have been adduced for the past ten years since the Surgeon General's Report on the Hazards of Cigarette Smoking have done little to decrease the prevalence of cigarette smoking.

Doctor Nahas' premature release of his as yet unverified findings brings to mind a similar report released to the New York Times in October 1970 by Dr. Vincent de Paul Lynch of St. Johns University alleging that pregnant mice and rats breathing smoke from the equivalent of one marijuana cigarette a day for ten days produced defective offspring. To the best of my knowledge, those data were never confirmed by scientifically controlled genetic studies and moreover, the criticism of Lynch's findings on rats and mice were gratuitously extrapolated to humans.

MAR 01 1974

Mr. R. Keith Stroup

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February 26, 1974

Other commentators have alluded to the definitive reports by the Secretary, Department of Health, Education and Welfare on "Marijuana and Health" submitted to the Subcommittee on Alcoholism and Narcotics of the Committee on Labor and Public Welfare, United States Senate, March 1971. "Marijuana: A Signal of Misunderstanding" was the First Report of the National Commission on Marijuana and Drug Abuse released to the President and Congress of the United States on March 22, 1972. Governor Shafer as Chairman noted in his covering letter the intention of the Commission "to place in proper perspective one of the most emotional and explosive issues of our time."

There are two paragraphs in that Report that I think are relevant at this juncture. On page 130, the Report continues:

Marijuana's relative potential for harm to the vast majority of individual users and its actual impact on society does not justify a social policy designed to seek out and firmly punish those who use it. This judgment is based on prevalent use patterns, on behavior exhibited by the vast majority of users and on our interpretations of existing medical and scientific data. This position also is consistent with the estimate by law enforcement personnel that the elimination of use is unattainable.

The second paragraph appears on page 140:

On the basis of this evaluation, we believe that the criminal law is too harsh a tool to apply to personal possession even in the effort to discourage use. It implies an overwhelming indictment of the behavior which we believe is not appropriate. The actual and potential harm of use of the drug is not great enough to justify intrusion by the criminal law into private behavior, a step which our society takes only with the greatest reluctance.

I am sure your consultants have referred to the voluminous data which appears in the Technical Papers of the Second Report of the National Commission on Marijuana and Drug Abuse: "Drug Use in America: Problem and Perspective" March 1973. Apropos of Doctor Nahas' incendiary statements which have appeared in the public press, may I suggest you refer to the Report of an Ad Hoc Committee of the Council of Academic Societies of the Association of American Medical Colleges: "A Policy for Biomedical Research" which appears as a supplement to the Journal of Medical Education Vol. 46, August 1971. I have particular reference to the subchapter - Goals of Communication which appears on page 727 et seq.

Sincerely yours,

Howard P. Rome, M. D.

HPR:mm

A Few Comments About Dr. Gabriel G. Nahas, his book
Marihuana - Deceptive Weed, and his recent study on lymphocytes

The jacket of Marihuana - Deceptive Weed calls the book "a scholarly work" and states that Dr. Nahas has "carefully evaluated the scientific data on marihuana and has produced a balanced and objective" work.

One picks up the book with enthusiasm to read the work of a scholar, but one's enthusiasm quickly turns to dismay and even horror as one becomes quickly aware of how adroitly a fanatic can twist the world literature to prove the premise he wants to prove. In spite of the promise of the jacket there is nothing objective or balanced in this warped presentation.

A few examples give the flavor of the book. Dr. Nahas devotes about 12 pages to a discussion of the National Commission on Marihuana and Drug Abuse. He gives many quotes which purport to be direct quotes from the Commission Report. They are indented from the rest of the text and put between quotation marks. I have been unable to find any of these "direct quotes" in the text of the Commission Report. Most of them consist of lifted sentences (some, but not all correctly quoted) strung together in a single paragraph. Qualifying statements are omitted.

Nahas denigrates the Jamaica Study - a study done for the Commission as follows:

He "quotes" in his fashion some of the basic findings of the Study to the effect that no organic damage could be detected attributable to heavy cannabis use.

Then to negate this finding by quoting from the same Study the fact that work performance was decreased immediately after use of heavy doses of cannabis.

The two points are a non-sequitor.

The lack of organic damage indicated that long time heavy use of cannabis did not injure the user permanently.

The fact that the intoxicated person did not work as efficiently as the non-intoxicated person has no bearing on long time organic damage.

Nahas summarizes the Commission Report as follows:

"14. The first Report of the National Commission on Marihuana (1972) does not contain any novel information concerning Cannabis intoxication. It merely describes the prevalence of the usage of a mild form of marihuana in the United States during the past decade. Its recommendations, which would make private use and possession legal but public use and possession illegal, are difficult to reconcile with its policy of "discouragement" of marihuana usage. These recommendations were rejected by the President of the United States."

This is a rather cavalier way of disposing of the Commission's 1250 page report in which the world literature was exhaustively studied, 48 special assigned studies were carried out and 91 experts in the drug field acted as contributors and contractors.

It is perhaps worthy of note that the Commission looked at Nahas work and rejected it as not meeting the standards of the Commission for accuracy or objectivity.

In discussing the pharmacology of cannabis, Nahas states:

"The mechanism of the action (increased heart rate) is not clear and its persistence among chronic heavy users remains to be systematically studied".

Ignoring the well-documented evidence that chronic heavy users do not suffer from impaired cardiac function Nahas goes on to say:

"In the meantime, in view of the high incidence of acute

cardiac accidents in the United States the use of cannabis derivatives by middle-aged men might present some hazard"

This is an emotion loaded scare statement that has no place in an "objective" report. The only fact on which Nahas based this statement is that the pulse rate goes up moderately during the marihuana high.

Dr. Nahas relies heavily on the work of Dr. Jacques Morceau, a Frenchman who published a book in 1845 about his own personal experience with marihuana. Dr. Morceau's book may be interesting reading but his anecdotal reports can not be seriously used to refute modern controlled studies. Dr. Nahas quotes Morceau extensively in his chapter on mental illness, but he relies on Morceau also for social and pharmacologic information ignoring for the most part, modern research.

Throughout Nahas' book the presentation is warped. He picks and chooses what suits his premise giving his own coloration to what he reports, ignoring, or else treating with sarcasm, conflicting data.

This book is not the work of a scholar but that of a fanatic. Dr. Nahas most recent contribution.

Having gained some insight into the kind of man Nahas is as spelled out in his own book one approaches his recent conclusions.

Dr. Nahas is an anesthesiologist, a surprising background for work in molecular biology. However he conducted some in vitro experiments from which he concluded that the lymphocytes of marihuana smokers had less ability to fight viral infection than the lymphocytes of non-marihuana smokers.

Before publication of his results he called a press conference

in which he told the press ~~of~~ results of his tests ^{tube} with experiments. He did not confine him elf to his actual findings but drew sweeping conclusions of the implications of his studies, suggesting that marihuana smokers are more susceptible not only to viral infections but also to cancer.

When Dr. Wahas' paper was published in Science it contained no more information than the press release. The paper is only a summary, no details are given of how the work was done, no protocol of results were published. It is impossible to evaluate his work on the basis of what he has published.

Until some molecular biologists have an opportunity to scrutinize his study, and until his work can be duplicated in other laboratories, and ultimately transferred from the test tube to human beings Dr. Wahas' findings must be received with skepticism. This is particularly so since his findings are in direct contradiction to ~~that~~ of controlled clinical studies. No evidence has been obtained that shows marihuana smokers to be more susceptible to viral infection than non-smokers.

Dorothy Whipple, M.D.

Moreover, the manner in which he stated his findings in a press conference before the...
...makes the validity of his findings especially...
...as an evil and...
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The study, "Inhibition of Cellular Mediated Immunity in Marihuana Smokers," by Gabriel Nahas et al. raises the interesting possibility that chronic marihuana use may be correlated with weakening of the body's defenses against disease. Dr. Nahas and his co-workers suggest this possibility on the basis of retrospective reasoning. That is, they observed an effect in the present (apparent impairment of certain cells of the immune system) and tried to assign it to a cause in the past (chronic marihuana smoking). Regardless of how carefully controlled such investigations are, they are risky ways of drawing conclusions. For a very long time, logicians have known that retrospective reasoning is fraught with dangers of coming to incorrect hypotheses. Yet medical scientists, like Dr. Nahas and his colleagues, continue to use it, often with unfortunate results.

The only legitimate way to test a hypothesis is by prospective experiment. That is, groups of people should be examined, in this case for the health of their body defenses; then, marihuana should be administered in controlled fashion to some of the subjects; and changes in the immune system should be looked for over time. In the absence of such a prospective study, the possibility raised by the Nahas paper can be regarded as nothing more than a possibility, worth testing properly.

The trouble with possibilities based on retrospective information is that they may be nothing more than illusions motivated by the bias of the investigators. Especially in emotionally charged fields of inquiry, researchers may seize on something as a cause of a phenomenon only because they are blind to other possible causes. In his past writings and public statements, Dr. Nahas has made it clear that he regards marihuana as an evil and a menace. This obsession with marihuana makes the validity of his hypothesis especially suspect.

Moreover, the manner in which he chose to release his findings -- in a press conference before his article was pub-

Review by Prof. Lester Grinspoon, Harvard Medical School

MARIJUANA -- December 1971
HARVARD PRESS

Secondly, the studied group ranged in age from 16 to 35 years, with a median age of 22 years; the control group ranged in age from 20 to 72 years, with a median age of 44 years. This age difference is inappropriate.

Thirdly, carefully-conducted studies of biologic effects of other substances have shown similar *in vitro* inhibition of leukocyte activity. I enclose a copy of one such reported study from a German university and published in 1971, concerning aspirin. Mahas is no fool: he almost certainly is aware of these other studies. His failure to mention them in connection with his report on the alleged effects of marijuana was, then, probably intentional. In that case, it was also very possibly a willfully misleading thing. At best, Mahas' report is a mud-dier, not a clarifier. And that is unfortunate, since we have plenty of that already.

This updating affords me again the opportunity of pointing out that NO substance is without the possibility of causing some damaging or disadvantageous effects on a living organism or its functions. That, however, is not really the question. If the "strength" of legislation concerning use of various substances is to depend upon scientific evaluations of biological dangers from use of those substances, then we must markedly change our approach and get to work legislatively on the demonstratedly-destructive substances which we now more or less accept for unchecked public use. We might begin with alcohol and nicotine --- but we won't. Cannabis is far, far down on the list of biologic threats, and to criminalise its user on that basis is patently indefensible.

Legislation which criminalises the user of cannabis simply cannot be justified by appeal to medical data concerning the threat of cannabis to the human organism. This remains the major message, and it is no way less certain now than when I wrote you some weeks ago.

Respectfully,

R. B. Bjornson
R. B. Bjornson, M.D.,

Associate Professor, University
of Minnesota;
Member, Minnesota State Medical
Association Subcommittee on
Alcoholism and Other Chemical
Dependency;
Co-director, Health Professionals

... .. Spoon, Harvard Medical School
of
Marihuana -- Deceptive Weed by Gabriel G. Nanas, New York,
Raven Press, 1973

to appear in
New England Journal of Medicine
March 29, 1973

One property of cannabis, certainly as interesting as any other, is that an objective account of its psychoactive effects and the consequences of its prolonged use seems impossible to achieve. Judging by the reports of Bayard Taylor, Fitz Hugh Ludlow, Theophile Gautier, Charles Baudelaire and J. J. Moreau (de Tours), this was even more of a problem in the 19th century than it is today. Most contemporary authors writing in the field of psychoactive drugs are quite conscious of the role of their own bias and, beyond identifying it, attempt to minimize its influence on their work. Not so the author of this book. He has unabashedly published the most biased account of cannabis since the 1933 publication of Marihuana, The New Dangerous Drug by the anti-marihuana crusader, F. T. Merrill.¹ It is an attempt to update and lend some scientific authority to the dangers involved in the use of marihuana; the result is a repetitious and strident pasticcio of hazards which people who are knowledgeable about this drug now recognize as largely mythical. This is not to say that there are not real risks involved in the use of cannabis as there are with any psychoactive drug, but unfortunately the hyperbole which so characterizes this book makes it but one more addition to the scare literature which has been so counterproductive in drug education programs.

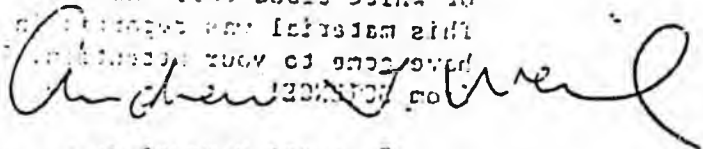
Given the fact that Dr. Nanas sees the growing use of marihuana in this country as the green menace which threatens to destroy our way of life, his missionary fervor and tendentiousness are understandable. But what he produces is a kind of psychopharmacologic McCarthyism which compels him to use

R.S.
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lished in Science -- suggests that he is more interested in propagandizing than in presenting data. In his press release he states: "For a long time educators and legislators have wanted hard facts about biological damage from long-term usage of this drug. Now we are in a position to start supplying them with such facts."

The facts of the recent Nahas study are not "hard." They are more of the same kind of research that anti-marijuana crusaders have relied on all along: conclusions based on sloppy reasoning drawn from observations that may or may not have something to tell us about real-world uses of the drug.

As a physician who has studied marijuana for many years, I do not believe that there is any evidence that use of the drug causes short-term or long-term adverse medical effects.



Andrew T. Weil, M.D.

Tucson, Arizona 85715

[Faint, illegible text, likely bleed-through from the reverse side of the page]

15 February 1974

Senator Stanley Thorup,
Chairman, Subcommittee on Criminal Law and Corrections,
Minnesota State Capitol Building,
SAINT PAUL, Minnesota 55101

Dear Senator Thorup:

During your Subcommittee hearings several weeks ago, you asked that I submit a written statement concerning the medically-related bases for judgement re decriminalisation of cannabis. I did that. Since your legislative judgement must, or should, depend upon current data, please accept this brief addendum to, or updating of, that statement.

In the weeks since your hearings and my statement, perhaps the most notable published information regarding cannabis has come from Nahas et al, who work at Columbia in New York. They released to the lay press, then published in the journal SCIENCE, information concerning inhibition of white blood cell activity in long-time users of marijuana. This material was reported in our local papers, and it may have come to your attention. I enclose a copy of that article from SCIENCE.

I cannot comment as a biochemist on this, but I can comment as one aware of scientific method. Also, I have heard Nahas speak and aware of his attitudes toward marijuana. Finally, I am aware of many other studies of biologic effects of various substances.

The experimental or study sample used by Nahas et al was made up of young persons who had used marijuana an average of four times per week for an average of four years. They were reported as using no other drugs. This freedom from other drugs is not just challengeable: it is preposterous. At least some, and perhaps all, of those subjects used caffeine, nicotine, alcohol, aspirin, amphetamines, barbiturates or antihistaminics, for example, during those same years. So any observations on white blood cell (leukocyte) activity or on anything else cannot establish causal relationship between cannabis and whatever "effects" may be observed. That is not to say the the inhibition of leukocyte activity noted by Naha was not caused by, or its cause contributed to by, cannabis. It is simply, but importantly, to point out that no causal relationship is established.

FEB

half-truths, innuendo, and unverifiable assertions and to discredit all the major commissions and reports which failed to certify cannabis as a great deceptive menace. Thus beginning with the British Hemp Commission of 1894, he dismisses the LaGuardia Report (1944), the Wootten Report (1969), the N.I.M.H. Report to Congress on Marihuana and Health (1971), and the First Report of the National Commission on Marihuana and Drug Abuse (1972). Along with attributing youth's involvement with marihuana to "permissive education" and the decline in "religious interest," and related to his view that drug information is too easily available, he also holds the authors of the leading recent books on cannabis as responsible for adding to the corruption of young people through misleading them.

With the exception of the chapter on chemistry which is both accurate and comprehensive (perhaps because it is the one which most nearly escapes the author's moral outrage), this book comes closer to being a demonology than a considered discussion of cannabis. As such it will undoubtedly be used by those who would retard the slowly developing progress of the last year or so toward a more enlightened approach to the growing social use of marihuana. But, alas, progress is rarely linear.

1. Merrill, F. T.: Marihuana, the New and Dangerous Drug. Opium Research Committee, Foreign Policy Association, Inc., Washington Office, 1200 National Press Building, Washington, D. C. (March 1938).

The Book Forum

Birth Defects

Is My Baby All Right? A Guide to Birth Defects, by Virginia Apgar and Joan Beck, 492 pp, with illus, \$9.95, Trident Press, 1973.

"Is my baby all right?" Medical personnel often must struggle for words to explain the nature and consequences of birth defects to stunned parents. In the emotional milieu of such a birth and in later treatment, everyone who deals with these children—physicians, nurses, social workers, therapists and parents—will profit from reading Dr. Apgar's book. In collaboration with a professional writer, she has produced a readable, informative book.

This is not the usual enumeration of syndromes and statistics. A warm interest in parent and child is evident in the insertion of pertinent case histories and a patient, logical explanation of even the intricacies of cell division. Complicated medical terminology is refreshingly absent. However, terms commonly used in describing abnormalities or which would be encountered by affected families are included.

Most parents would do well to read the applicable parts of this source book. Its orientation is toward explaining the nature of a birth defect and the evolution of a rational plan of treatment. The authors have carefully avoided endorsing specific therapies so that one can get an overview of treatment modes currently in favor and fads are not given undue prominence. Specific references to medical literature are not included, but general references where laymen can obtain helpful literature are found in almost every chapter. This is particularly important in dealing with conditions that lead to chronic handicaps.

The first chapters of the book deal with life before birth and what can go wrong and why. These discuss how life begins, the various stages of fetal development and the many genetic and environmental interactions that produce the newborn child. Later chapters illuminate specific abnormalities and the book ends with an excellent chapter on genetic counseling and an interesting discourse on how to prevent birth defects.

MARILTA M. HUBBY, MD
Indianapolis

Marihuana

Marihuana: Deceptive Weed, by Gabriel G. Nahas, 331 pp, 25 illus, \$12.50, Raven Press, 1972.

Of the spate of books about marihuana published recently, most have viewed cannabis as a rather benign drug. The conclusion is usually reached after a plethora of pharmacologic, sociologic, and historic data have been presented and interpreted, often with a hint or more of bias in marihuana's favor. Granted that a totally objective book on the subject is probably not possible, one might settle for a well-reasoned and documented volume slanted against marihuana. This Nahas has attempted to do but has failed—due to his undisguised belief that marihuana is not only harmful but evil.

To support his essentially moralistic viewpoint, examples of biased selection and interpretation of studies and omissions of facts abound in every chapter. Although there is much accurate information in this book, especially in the areas of botany and chemistry, so much of the volume is distorted that one must know the marihuana literature in order to judge the accuracy of each statement. Accuracy, however, is not of prime importance to Nahas because for him, marihuana is not only destructive, but evil and should, therefore, be eliminated with little or no consideration of the cost to our basic social values. What he ultimately fails to face is the concept that to view cannabis as a curse rather than a problem is a tremendous step backward for medicine.

RAYNE I. LECROW, MD
US Public Health Service Hospital
Seattle

Medical Care

How You Can Get Better Medical Care for Less Money, by Morris N. Placere and Charles S. Marwick, 192 pp, \$1.95, Walker & Co. (720 5th Ave, NY 10019), 1973.

This brief and easily read book presents a curious combination of condemnation and praise for the medical profession. On the one hand, physicians are described as almost diabolical in their intent to harm and impoverish patients; on the other hand, physicians are almost angelic in their ability to care for patients and to police themselves. It seems that the critical factors are specialty board certification, large university centers, and a monumental medical sophistication of patients.

The authors, by telling horror stories, build a case against the whole

health care system. They point out some deficiencies of hospitals, nursing homes and physicians. By substituting "all" for "some" they develop an indictment that is awesome in its expanse. With this as an assumption, it is relatively simple to justify their proposal of two or three thousand physician inspectors "fully qualified" in their specialties, traveling about the country 60 weeks a year evaluating all physicians.

Perhaps the nom de plume of the senior author is the key to this book. There appears to be a deliberate attempt "to please" those who could degrade the physician and control the system. An alternate interpretation might be for the physician "to please" the people by reclaiming the special position of the doctor in the public's heart—or else.

It is well to know what is being said about the medical profession, but do not read this book if you are not prepared to be more objective than the authors.

LAWRENCE L. HIRSCH, MD
Illinois Masonic Medical Center
Chicago

Hematology

Hematology: Principles and Practice, edited by Charles E. Mengel, Emil Frei, III, Ralph Nachman, 732 pp, with illus, \$20, Year Book Medical Publishers, 1972.

The rapid expansion of knowledge in the field of hematology has stimulated a proliferation of new textbooks. It is also indicative of the wealth of information available that all the new books, with one exception, are multiauthored. This allows the various contributors to speak with authority in their fields, but does demand a strong editorial policy. The present monograph is highly successful in this particular area and Drs. Mengel, Frei, and Nachman are to be congratulated.

The sections of this book are logically presented. Erythropoiesis, red blood cell maturation, and stem cell kinetics are followed by a description of iron metabolism. Subsequently chapters concerning the aplastic and refractory anemias are presented. Next, the megaloblastic anemias are discussed and then this section is completed with a chapter devoted to transfusions and several chapters devoted to hemolysis.

I found the second section of this book to be the strongest. This is the portion devoted to white blood cells and their diseases. It begins with an excellent chapter concerned with leukocyte physiology and metabolism.

APPENDIX II

Gabriel Nahas' book Marihuana: Deceptive Weed should be closely examined by this Court. Several selected quotations follow which direct this Court to an understanding of Dr. Nahas' orientation.

Hemp plants were widely cultivated in the United States as a fiber crop by early American settlers. George Washington grew Cannabis on his own farm, not to smoke, but to use in making ropes. Marihuana and hashish were unknown as pleasure-inducing drugs. The vigorous and industrious endeavors of the young Puritan American Republic seemed to be incompatible with a habit of inner contemplation and departure from reality. p.7-8

5. Recent reports confirm older ones made over the centuries, and indicate that the daily use of Cannabis preparations (containing 1 to 5% delta-9-THC) is associated with mental and physical deterioration as well as social stagnation. p.219

According to some educators over the age of 40, the permissively brought up young people of America have been given too much too soon, and have not been offered any guidelines. In many instances, a major goal of progressive education is the instant and effortless gratification of the school child. Disciplined scheduling is frowned upon as preventing self-realization of the child. The fear of fostering a "destructive guilt complex" in the young leads to the withholding of traditional verbal reproach or light spanking. Many of these oversensitive, spoiled youths are unable to develop their own resources and resilience, and their threshold to frustration

and boredom is dangerously lowered. They are not taught the discipline of hard work; they are not told that the learning process is in most instances a hard one. p. 258

Man has a very deep craving to go beyond the narrow bonds of a mortal existence. Modern man escapes this permanent and fundamental drive no more than his ancestors did. When the rising generation uses drugs to quench its thirst for evasion, it is reverting to an old mystical practice in which the most primitive tribes have always indulged. It is also obvious that such practices, which do not ennoble man, can only prevent him from reaching a truly lofty goal. But youth is still willing to take the risk of damaging his future for the sake of passing exaltation of his imagination. p. 263

There is a need for wider professional and lay education about the dangers of taking drugs without informed medical advice. However, this information must be given with care. Too often education is the mere dispensation of objective information. Many young people report that only after hearing or reading about drugs do they decide to experiment themselves and find out "really what it is all about." p. 265

Cannabis sativa was first used as a mind-altering drug by significant segments of the European population in the 1950's, when the economic recovery of the postwar years created a demand for industrial and construction workers. With the influx of West Indians, Africans, and Turkish Cypriots, the use of Cannabis in the forms specific to each of these cultures became part of the British scene for the first time in the history of Great Britain. But the use of Cannabis rapidly extended from these migrant workers to the new "swinging" generation which was coming of age

in Britain. The erosion of traditional religious values, the breakdown of a life centered around the family, the Church of England, and the monarchy, and the general permissive attitude adopted by many educators, are general factors difficult to evaluate but which did contribute to the adoption of Cannabis intoxication as part of a new life-style. Marihuana and hashish use are also inextricably linked among the young with the appearance of popular "rock" music, all-night clubs, coffee bars, Beatnik and Hippie culture. p. 25

It is possible for a group of intellectuals with important assets of talent and ability to use with taste and discrimination, for their own comfort and pleasure, psychotropic drugs including Cannabis. Many of them, after a number of years, may outgrow the marihuana habit, and find non-pharmacological ways to gratify themselves. But what about those who by birth or opportunity do not possess such resources? What about those who must be satisfied with a routine and uninspiring occupation? Will they outgrow or control as readily the chemical gratification so easily offered by Cannabis, especially if this drug has become socially acceptable because of its use by those in the professions and the universities? As a facetious Englishman remarked, "And what happens when grass hits the grass roots? Who will do the hard work?" p. 267.

Young people today prefer Cannabis to alcohol. They may obtain greater, longer-lasting euphoric effects than those derived from much larger quantities of alcohol and without the unpleasant side effects that follow excessive libation. "The pleasure of smoking marihuana has convinced many students that this drug is better than alcohol" (Greenwald, 1968). Just because Cannabis, when available, is preferentially used by the young, it represents a much greater abuse potential and consequently a greater danger to health in that age group

THE SUPREME COURT OF THE STATE OF ALASKA

IRWIN RAVIN,)
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 Petitioner,)
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 vs.)
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 STATE OF ALASKA,)
)
 Respondent.)
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 _____)

Supreme Court No. 2135

ON PETITION FOR REVIEW FROM THE DISTRICT
AND SUPERIOR COURTS OF THE THIRD JUDICIAL DISTRICT

PETITIONER'S REPLY
BRIEF

Robert H. Wagstaff
R. Collin Middleton
Attorneys for Petitioner and the
American Civil Liberties Union

Filed this ^{7th} ~~4th~~ day of October, 1974
in the Supreme Court of the State
of Alaska

By: Veronica H. Knopik
Deputy Clerk

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ARGUMENT

I. RESPONDENT'S APPENDIX OFFERS NO NEW OR COMPELLING INFORMATION

In an apparent attempt to supplement an already exhaustive record, respondent has included as an appendix to his brief several statements made before the Senate Subcommittee on Internal Security during May of 1974. Attached as appendix I of this brief is a letter from Senator James Eastland, Chairman of the committee, with that committee's press release dated May 8, 1974. Senator Eastland states:

There is one point that I would like to make clear at the outset to avoid any possibility of misunderstanding. In its previous series of hearings on "The World Drug Situation and Its Impact on U.S. Security" the subcommittee made it abundantly clear that it was opposed to sending young people to jail for the simple possession of small quantities of marihuana for personal use. I have repeatedly gone on record and supported this position. This is no longer at issue.

The Committee was only concerned with the open distribution of marihuana, in the military, and invited known anti-marihuana persons to speak before it while endorsing decriminalization. A short commentary on the appendicized statements while not necessary, may be of interest.

The first statement submitted is that of Julius Axelrod and contains merely a description of some of marihuana's physical properties as purportedly found by Axelrod's research. He notes, as was discussed at hearing, that the polar metabolytes of THC are stored in the fatty substances of the body. Axelrod believes that the 11-hydroxy THC metabolyte does have essentially the same psychic effects as

cannabis in whole form. He cites no specific studies of his own or others for this proposition. Most importantly, he postulates no consequences as a result of his studies. He advises further research. At no time does Dr. Axelrod say anything that would indicate that marihuana is hazardous to public health or the general welfare.

The next paper in respondent's appendix is a statement by Nils Bejerot of the Karolinska Institute of Stockholm, Sweden. This paper demonstrates that unscientific fanataticism is not confined to our continent.

Bejerot believes that marihuana is addicting, describing an "abstinence phenomena". He states that physical dependence is not included in the strict concept of addiction, admitting the validity of the National Commission report on the subject (Marihuana: A Signal of Misunderstanding, page 87), but arriving at his own peculiar conclusion that all euphorizing drugs may give rise to psychological dependence. As Judge Norman noted from the testimony of a witness in United States v. Grady and Thorne, set forth in full in appendix 2 to this brief:

In human beings, pleasurable experiences are sought to be repeated. Thus for many persons, listening to the music of Bach induces "Bach-music seeking behavior," and in others Sunday TV programming of the NFL and AFL produces "football-watching seeking behavior." In essentially all persons, pleasurable experiences with eating and drinking produce, from a very early age, clearly noticeable "nourishment-seeking behavior." (p.8)

Bejerot also notes:

A serious complication of cannabis use is chronic psychosis (insanity), a condition which has long been recognized where cannabis abuse is endemic.

Statements such as this totally ignore the basic research and literature on the subject and the specific findings of the National Commission. (p. 59)

Bejerot continues:

If the Committee has any doubts about the existence of chronic cannabis psychosis, it can initiate a simple investigation to eliminate the question. The rates of schizophrenia among relatives of verified cases of schizophrenia are compared with those of relatives of persons with chronic cannabis psychoses, there will be a difference in these two rates if we are dealing with two different conditions.

Obviously, Bejerot is making a lot of assumptions relating to genetic schizophrenia and the existence of a syndrome known as chronic cannabis psychosis. Additionally if such an experiment is so simple why has it never been done?

Getting to the real point of his testimony Bejerot states that marihuana causes "intellectual deterioration", which may be "irreversible" and "vagabondism". Again, this is sharply contrasted with the findings of the National Commission. (p. 98) Bejerot concludes his paper by comparing a Swedish two-year experiment of permitting limited access to opiates and amphetamines for intravenous injections as having a direct and positive correlation to an undefined "crime rate" thereby concluding that marihuana would do the same.

The next statement is that of Henry Brill, a member of the National Commission as was Dr. Thomas Ungerleider. Brill states:

In summary I would say that I found myself in complete agreement with the conclusions of the Commission, and this attitude was reinforced by personal observations in mental hospitals here and in Greece, Morocco and Jamaica during my work with that body.

Next included by respondent is the Kolodny report concerning the depression of plasma testosterone levels after chronic intensive marijuana use. The impotency scare publicity given this article is thoughtfully included by respondent in the Newsweek exhibit. It is indeed ironic that the proponents of proscription who originally relied upon premises that marijuana directly induced the user to rape and kill now attempt to support their position with inferences of causal impotency. A reading of the report quickly dispels any such fears. Twenty heterosexual men who used marijuana at least four days a week for a minimum of six months without use of other drugs for six months were the test group. These facts were established only from the taking of a history and the subjects had control over their own dosage and quality of cannabis.

Sexual functioning was unimpaired in all subjects studied except for subject 1, who reported potency problems intermittently over the preceding year, and subject 10, who reported markedly impaired libido and impotence of approximately six months duration. Subject 1 discontinued use of marijuana, and at followup study two months thereafter, was experiencing no difficulty with the erectile function. Subject 10 declined abstinence from marijuana.

So much for this anxiety. In those subjects who showed decreased testosterone levels during the study there was an immediate reversal upon cessation. Pragmatically, it can be said that at the present world population and considering the widespread

and 4,000 years of use there is no danger of infertility. Moreover, the study has not been replicated and in fact Drs. Mendelson and Meyer of the Harvard Medical School's alcohol and drug abuse research center have found no depression of testosterone concentrations in the blood of heavy users of cannabis under more controlled conditions.¹

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These studies are reported in *Marihuana: The Grass May no Longer be Greener* in the August 23, 1974 *Science* and *Marihuana: Does It Damage the Brain?* reported in August 30, 1974 *Science* both authored by Thomas H. Maugh. These two articles illustrate the position of those, like Senator Eastland, who have an exaggerated view of marijuana's potential for harm notwithstanding his decriminalization position. The articles at least provide a useful survey of the sharply conflicting medical reports currently available. A few comments:

a. The author erroneously claims that marihuana legalization advocates base their position on "an assumption that it is harmless." (p. 683) He is apparently setting up a straw-man which he then knocks down. This evidences either his ignorance of the social policy considerations behind marijuana decriminalization and/or legalization or his prejudices towards continuing the criminal prohibition. The medical debate concerning marijuana should not be permitted to frustrate decriminalization. No one is claiming now, nor has ever claimed, that marijuana is totally harmless.

In fact, marijuana was blamed for many years for violent crime, insanity, heroin addiction, and sexual excesses among other things. Thus the author is involving himself in misstatement when he claims that "marijuana in its various forms may be far more hazardous than was originally suspected." (p. 683)

b. The author appears willing to list as "may cause" every claim made even by a single researcher, regardless of the lack of replication by H.E.W. or others;

c. The author erroneously says "The research indicates that cannabis causes sharp personality changes. . ." (p. 683) when in fact this is merely an unsupported claim. The author, a week later, considerably softens his position to "the possibility that long term, heavy use of marijuana may produce sharp personality change. . ." (p. 775);

d. The author makes no attempt to differentiate between the serious researchers and those who offer only their personal prejudices and opinions, e.g. Hardin Jones (pp. 683 and 775), Kolansky-Moore (pp. 685 and 775), W.D.M. Paton (p. 685). (In one instance, Hardin Jones is actually used to support Kolansky-Moore (p. 775)).

Next the statement of W.D.M. Paton is submitted. Paton is discussed at some length in Dr. Grinspoon's book Marihuana Reconsidered.

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(cont'd)

e. Several of the reports cited involved extremely high dose levels of THC rendering the results inapplicable to the question of how marijuana affects humans. This is not always mentioned by the author. E.g. Rosenkrantz (p. 684), Heath (p. 776), and Tennant (pp. 685 and 776).

f. The discussion of the Harris and Lessin-Silverstein research as contrasted to the Nahas study is helpful. Lessin-Silverstein suggest the possibility that other components may compensate for any supposed immune reduction as claimed by Nahas. They found no actual immune reduction when marijuana smokers were administered a standard skin patch test. The Nahas data is based on in vitro studies only.

g. The author fails to note that the subjects in the Kolodny research used their own marijuana; there was absolutely no control over dosage or strength. Nevertheless, the Mendelson-Meyer controlled study is discussed, which found no change in the testosterone level under controlled conditions (p. 685).

h. The entire second part of the series ignores the H.E.W. Report which offered the following comments concerning the possibility of brain damage:

"Definitive conclusions regarding cannabis use and possible brain damage cannot be reached at this time. Thus far, such a causal connection remains unproven but neither can cannabis be completely exonerated on the basis of present evidence. It does seem likely on the basis of the Jamaican study that brain damage is not an inevitable nor even a likely result of chronic cannabis use when at a level that would be considered heavy (e.g., an average of 7 cigarettes per day) by American standards. In general, there continues to be little evidence to suggest that light or occasional use of cannabis has serious deleterious physical effects."

i. The author gives wide discussion to the claim by Stenchever that marijuana causes chromosome damage (p. 683). He apparently ignores the H.E.W. conclusion in their 1977 Report that:

"The possibility that cannabis preparation might cause genetic or birth defects has been a source of concern although there has been little evidence to support it. The bulk of present evidence, par-

Even one of the most vociferous opponents of the legalization of marihuana in England, W.D.M. Paton, admits that "life is in fact built up of such dependencies. . . (he is referring to his habit of eating Kellogg's cornflakes each morning). Any habit represents one: some dependences are trivial, some benign and pleasurable, some not so benign: some, such as dependences on friends and family and work, are part of what makes you what you are." The possibility of harm to the individual or society is not a function of dependency per se, but rather of the harmfulness of that which is depended upon. In the case of marihuana, the dangers are not well established.²

Dr. Grinspoon also discusses Paton's theories relating to the association between

1

(cont'd)

ticularly that of well controlled studies, suggests that the likelihood of genetic or neonatal abnormalities arising from cannabis use at present social levels of use is low. There is no convincing evidence that chromosomal abnormalities arise from marijuana use. The Jamaican study of chronic users as well as other studies of the effects of THC on chromosomes in human lymphocytes (type of white blood cell) indicate no changes related to cannabis use. Although there have been isolated case reports of abnormal offspring born to mothers who have used marijuana and other illicit drugs during pregnancy, more systematic controlled investigation has not borne this out. As has been indicated, animal research at substantially higher dosage levels than those likely to be employed by users showed no evidence of hazard to fetal development."

2

Marihuana Reconsidered at p. 259 (Bantam ed.)

cannabis and heroin.³ After citing Paton's three stepping stone hypothesis, he logically, scientifically, and factually refutes each.

Paton states:

The question of lethality in man is important. Since few practitioners would know how to diagnosis a death caused, or contributed to, by cannabis, and since it could not at present be proved by forensic analysis, only scanty information can be expected in any case. The case reported by Heyndricks, et al., in light of this, is rather convincing.

It is difficult to follow a scientist who postulates because it cannot be proven it must be so. Paton ignores the findings of the National Commission (page 56).⁴

Paton then proceeds to show how marihuana "could" theoretically cause death.

One could also postulate a death due to marihuana where a man walking beneath a tall building is hit on the head by a large package of marihuana thrown from the uppermost floor.

Paton makes claims of teratogenicity and fetal deformity citing absolutely no studies and which is completely contrary to the National Commission report's findings at page 84. It is also contradictory to the statement of Stenchever, infra, also offered by respondent. Paton, like Nahas, is apparently privy to exclusive and

3

Ibid. at p. 271-277.

4

See also testimony of Fort (p.50) and Grinspoon (p.84) on this subject.

unpublished research. He states:

A very important question is whether cannabis directly affects the genetic material, i.e., nucleic acid. Early reports of interference with cell division indicated this. These have been confirmed. Dr. Nahas' report here has clinched the issue. One must notice that general anesthetics as a class can also produce fetal abnormality. A provisional hypothesis for teratogenicity therefore, is that this action of cannabis reflects its fat solubility and relation to anesthetics, and constitutes a sort of anesthesia, for instance, of limb buds developing in the fetus at critical periods—hence the reduction-deformity.

This "provisional hypothesis", of Paton's is contrary to all competent research on the subject, the literature, and empirical data. Respondent is suggesting that such a "provisional hypothesis" equals a compelling state interest.

Paton also cites unreported, unreplicated, and unpublished claimed "studies" relating to carcinogenicity and brain damage. One might ask where are these studies? As respondent points out on page 9 of his brief these studies only "apparently" exist.

Paton also speaks of irreversible psychological change and concludes:

It is quite likely that all this would be accepted and acted upon, by the cannabis user, were it not for the visual imagery, and (here cannabis is very like nitrous oxide) the euphoria and the conviction of insight and cosmic significance.

The final statement submitted is of Dr. Morton A. Stenchever, the man who first claimed "chromosome breakage" from marijuana use. He has become a little more guarded since first reports stating:

We have not demonstrated a link between marihuana use and an increase in fetal damage or fetal loss, in mutagenesis or the increased incidence of cancer.

In fact the results of his tests were:

While there was an increase in abnormal chromosome form seen in the users' group over those in the control, the number of cells involved were small enough that no statistical analysis could be carried out.

II. THERE IS NO COMPELLING STATE INTEREST IN THE CRIMINAL PROSCRIPTION OF THE PRIVATE POSSESSION AND USE OF MARIHUANA BY ADULTS. A COMPELLING INTEREST EXISTS ONLY WHEN THERE IS A CLEAR AND PRESENT DANGER OF IMMINENT HARM TO SOCIETY.

This Court on August 12, 1974, stated in Gray v. State, Opinion No. 1068:

In 1972 Alaska amended its Constitution expressly providing that, "the right of the people to privacy is recognized and shall not be infringed." There is no available recorded history of this amendment, but clearly it shields the ingestion of food, beverages or other substances but the right of privacy is not absolute. Where a compelling state interest is shown, the right may be held to be subordinate to express constitutional powers such as the authorization of the legislature to promote and protect public health and provide for the general welfare.

As was recognized in Gray, the state carries the heavy burden of showing the compelling state interest in proscription of marihuana. In the evidentiary hearing petitioner came forward with evidence demonstrating there is not even a rational basis for criminal proscription.

The National Commission on Marihuana and Drug Abuse has found:

Medical and Health Data:

"The most notable statement that can be made

about the vast majority of marijuana users -- experimenters and intermittent users is that they are essentially indistinguishable from their non-marijuana using peers by any fundamental criterion other than their marijuana use. (p. 41)

From what is now known about the effects of marijuana, its use at the present level does not constitute a major threat to public health. (p. 90)

No conclusive evidence exists of any physical damage, disturbances of bodily processes or proven human fatalities attributable solely to even very high doses of marijuana. (pp 56-57)

Although a number of studies have been performed, at present no reliable evidence exists indicating that marijuana causes genetic defects in man. (p. 84)

No objective evidence of specific pathology of brain tissue has been documented. This fact contrasts sharply with the well-established brain damage of chronic alcoholism. (p. 85)

In a word, cannabis does not lead to physical dependence. (p. 87)

Research has not yet proven that marijuana use significantly impairs driving ability or performance. (p. 79)

Public Safety:

Neither the marijuana user nor the drug itself can be said to constitute a danger to public safety. (p. 78)

In sum, the weight of the evidence is that marijuana does not cause violent or aggressive behavior. (p. 73)

Marijuana and Hard Drugs:

Marijuana use per se does not dictate whether

other drugs will be used; nor does it determine the rate of progression, if and when it occurs, or which drug might be used. (p. 88-89)

The fact should be emphasized that the overwhelming majority of users do not progress to other drugs. (p. 87)

In an excellent opinion by D.L. Norman, Superior Court Judge for the District of Columbia, in United States v. Grady and Thorne, decided on May 17, 1974, and reported in part in 102 D.W.L.R. 1161 at 1167 and included in the appendix here, it was concluded after a lengthy evidentiary hearing that "marihuana is not a narcotic drug; that the use of marihuana is not addictive; the use of marihuana has no short term or long term harmful effects upon the individual user; (and) that the ordinary use of marihuana does not lead to the commission of crimes or induce acts of violence by the user." The opinion is persuasive for its logic and factual findings. Judge Norman was reversed by the District of Columbia Court of Appeals on August 7, 1974, (see Appendix) on the basis that he should have deferred to legislative findings as the issue was "at least debatable" under the rational basis test. Interestingly, when the court noted that the issue of the effects of marihuana was still not settled it cited, in footnote 5, Gabriel Nahas' immune response studies as then reported in the Washington Post. The District of Columbia Court of Appeals did not quarrel with Judge Norman's findings of fact but rather with his right to make them citing United States v. Carolene Products, 304 U.S. 144 (1938). In Alaska compelling state interest is the only relevant applicable standard. In Alaska Judge Norman would be upheld.

Respondent admits that there is no compelling state interest in the continued proscription of the possession and use of marijuana by adults when he states "its use does not directly provoke any user into the commission of dangerous anti-social acts" (Respondent's brief p. 15), and "the evidence concerning its physical, psychological and social effects is in conflict, and little about it can be said for certain" (Respondent's brief p. 59). Respondent's position that there exists a "sharp conflict" in the evidence under the facts of this case equates a voice crying in the wilderness with an overwhelming body of evidence. The stylized "existence of a controversy" because of an ability to find a handful of persons with scientific credentials who will speak out against marijuana "legalization" not as scientists, but as moralists to justify wholesale invasions of liberty and privacy does not give rise to a compelling state interest. The only question is must the state act in proscribing marijuana in order to stop eminent harm to society? and the only answer is the eminent harm of marijuana is only in its continued proscription.

The heart of respondent's brief is a plea for this Court not to legislate when the will of the people has spoken. Our Bill of Rights, both state and federal, interposes constitutional limitations on government between respondent's characterized will of the people and the people themselves. Minorities are thus protected from the abuses of power by simple majority rule. It is this Court's function to enforce these Constitutional restrictions upon exercises of legislative power.

Respondent urges that the failure to regulate an ingestible substance is to legalize it. Throughout his brief Respondent mingles arguments concerning right

of the legislature to regulate distribution of a particular substance with the right of the legislature to make it a crime to possess a particular substance urging that decriminalization is only a way station to open legalization. (Respondent's brief p. 59) Similarly, the rational basis test as applied to the former is urged upon the latter. Respondent relies heavily upon the United States Supreme Court opinion in Paris Adult Theatre v. Slaton, 413 U.S. 49, 37 L.Ed.2d 446 (1973) and particularly the following language:

"We do not demand of legislatures scientifically certain criteria of legislation."
Noble State Bank v. Haskell, 219 U.S. 104, 110 (55 L.Ed. 112, 31 S.Ct. 186). Although there is no conclusive proof of a connection between anti-social behavior and obscene material, the legislature of Georgia could quite reasonably determine that such a connection does or might exist.

Even though Respondent recognizes that the Court was not dealing directly with a compelling state interest question he urges this specific reasoning upon this Court. Paris Adult Theatre was a 5 to 4 decision in which Justice Douglas filed a dissenting opinion, and Justice Brennan filed a separate dissent in which Justices Stewart and Marshall joined. The case was a companion case to Miller v. California, 413 U.S. 15, 37 L.Ed.2d 419, 93 S.Ct. 2607 (1973), which was, at the time, hailed as a signal for renewed book burnings. That book burnings have not happened is testimony that the clock cannot be turned back, nor halted, by any single branch of government nor can society be stopped from its normal course of evolution and growth, as was contemplated by the Founding Fathers. Justice Douglas stated in

his dissent:

When man was first in the jungle he took care of himself. When he entered a societal group, controls were necessarily imposed. But our society -- unlike most in the world -- presupposes that freedom and liberty are in a frame of reference that makes the individual, not government, the keeper of his tastes, beliefs, and ideas. That is the philosophy of the First Amendment; and it is the article of faith that sets us apart from most nations in the world. 413 U.S. 73, 37 L.Ed.2d 466.

The judicially found fact that the legislature of Georgia could reasonably determine that a connection between obscene material and anti-social behavior might exist does not fair well with Justice Douglas' eloquence. In his dissent in Paris Adult Theatre, Justice Brennan states:

Like the proscription of abortions, the effort to suppress obscenity is predicated on unprovable, although strongly held, assumptions about human behavior, morality, sex, and religion. The existence of these assumptions cannot validate a statute that substantially undermines the guarantees of the First Amendment, any more than the existence of similar assumptions on the issue of abortion can validate a statute that infringes the constitutionally protected privacy interests of a pregnant woman.

If, as the Court today assumes, "a state legislature may. . . act on the . . . assumption that commerce in obscene books, or public exhibitions focused on obscene conduct, have a tendency to exert a corrupting and debasing impact leading to antisocial behavior," ante, at 63, 37 L.Ed.2d at 460, then it is hard to see how state-ordered regimentation of our minds can ever be forestalled. For if a State may, in an effort to maintain or create a particular moral tone, prescribe what its citizens cannot read or cannot see, then it would seem to follow that in pursuit of that same objective a State could decree