LEGISLATIVE ASSEMBLY OF QUEENSLAND

PARLIAMENTARY CRIMINAL JUSTICE COMMITTEE

Submissions received on the Review of the Criminal Justice Commission's Report on Cannabis and the Law in Queensland

21/2/95

AUSTRALIAN INSTITUTE OF CRIMINOLOGY

AFFILIATED WITH THE UNITED NATIONS

The Research Director
Parliamentary Criminal Justice Committee
Parliament House
Cnr George & Alice Streets
Brisbane Qld 4000

Dear Sir or Madam

CJC Report on Cannabis and the Law in Queensland

We have seen your press advertisement calling for submissions on this matter. As you are probably aware, the Australian Institute of Criminology is a Commonwealth statutory authority. We have undertaken extensive research on drugs policy and drug law enforcement, over the years, and have a contempory research interest in the areas covered by the CJC's report.

In the view of myself and the Acting Director of the Australian Institute of Criminology, Dr Grant Wardlaw, the CJC report is a high quality, thoroughly-researched document. It provides a fair overview of the position and well reasoned conclusions.

Rather than comment upon the report in detail, we wish to refer your Committee to the study which we have undertaken, for the National Cannabis Task Force, on 'Legislative Options for Cannabis in Australia'. I understand that the report on our study (along with other research documents) will be released by the Ministerial Council on Drug Strategy at its 30 September 1994 meeting. Unfortunately we are not able to provide copies until the MCDS releases it: the material is currently under embago.

The Committee may care to compare and contrast the evidence and conclusions contained in our report to the National Cannabis Task Force with those found in the CJC's report.

I hope your enquiry is successful and that, as a result, Queensland is able to establish a policy and legislative regime relating to minor cannabis offences which accords more closely, than than does the current policy of total prohibition, with the National Drug Strategy's goals of minimising the harm caused by drug use and by society's responses to drug use.

Yours faithfully

David McDonald
Senior Criminologist
6 September 1994

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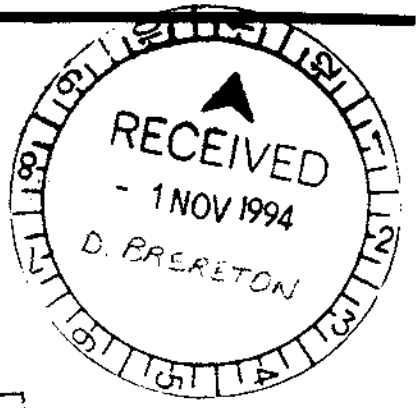
CJC CLASSIFICATION

( ) Sensitive
( ) Confidential
( ) Restricted
( ) Unclassified



RECFIND PENDING

The Chairperson
Criminal Justice Commission
557 Coronation Drive
Toowong 4066.

30/10/94

Dear Sir

Please accept this late submission on your Report on "Cannabis and the Law in QLD". If there is a problem accepting it please inform me by ringing pager 8316199 pager number 42104 or writing to me at above address.

Yours sincerely

Dr William Bor MBBS DPM FRANZCP.
on behalf of DRSQ executive

The Criminal Justice Commission (CJC) is to be congratulated on the process it has used to assess the issue of cannabis and the Law in Queensland.The Doctors' Reform Society of Queens land (DRSQ) notes the thoroughness in which the CJC has examined the issues related to the use and effects of cannabis; the views on the current law in Queensland and also the range of legal options for dealing with use of cannabis. While DRSQ does not fully agree with the thrust of conclusions arrived at by the Report, the methodology and process by which the CJC have arrived at their conclusions deserves praise.

The position of the DRSQ is that the question of the harmfulness of a drug or any activity should not in itself be the key determinant which activates legal processes within the State. It is necessary to repeat a number of the arguments presented by various groups, including the Queensland Council for Civil Liberties (QCCL) and Help in Marijuana Prohibition Lobby (HEMP).DRSQ does this because the question of harm seems to have been one of the factors influencing the final recommendations of the CJC.

It is essential from a medical perspective to question the grounds on which the issue of harm has been emphasised within the report.The first point to make is that individuals and groups expose themselves to potential harm throughout their daily lives.These include activities such as driving, exposure to sunlight, dietary intake, and certain sports.

Indeed it would be fair to say that there are probably few activities carried out within a daily routine of any family that may be perceived as without risk. An extreme example of harmful behaviour certainly should include those individuals who sadly engage in suicidal or para-suicidal behaviours.
The causes of risk-taking behaviour are indeed complex and they involve multiple influences including cultural, psychological factors emerging at different points in the life span of individuals and groups. For example,the more frequent use of alcohol and illegal drugs may be not uncommon during late adolescence and early adulthood in our society .This behaviour may be influenced by social expectations,the availability of income,a period of experimentation and mild rebellion against parent figures.

The second point is that a recreational drug culture exists in most societies .This culture cannot be removed by prohibition. The fact that the Commission has identified in it's review of surveys and its own surveys that a significant proportion of Queensland population occasionally uses cannabis, reinforces the fact that there is a wide spread support for a recreational drug culture.

The third point is that such a culture should been distinguished from those individuals and groups whose use of drugs (legal or otherwise) would be classified as drug abuse and or dependency.These people need the services of medical /drug dependency organisations.

The fourth point DRSQ would like to make is that all the above points can be separated from the issue of harm to others.It is here that the behaviour of drug using individuals and groups should intersect with the law as it provides protection to our citizens against harm caused without their consent whether directly or indirectly.Such harm can emerge from passive smoking to injury of others in driving accidents while under the influence.DRSQ does not support the use of the law where adults choose to harm themselves.Any use of the law to control such behaviour must produce a backlash of disrespect for the law in light of it's obvious inconsistency eg why not vigorously prosecute people for suicidal behaviour.

On the specific aspects of harmfulness of the cannabis itself, the Commission is to congratulated for its thoroughness of its preparation of its discussion paper, and its response to some of the more questionable conclusions from the Australian Medical Association, Queensland Branch. It is certainly not our opinion that the use of cannabis is harmless.I certainly would agree from my experience as a psychiatrist, that individuals who have heavy daily use of cannabis, may be at risk for severe mental illness such as psychotic episodes.
The DRSQ does not support the argument that cannabis by itself, leads to taking of more 'harder drugs'.
We would agree with the findings of the Commission that the causes of this pathway to 'harder drugs' is in fact complex and more due to pre-existing personality problems than due to cannabis itself.

Finally, we would note the findings made by both international and local researchers that the effect of a prohibition mentality enforced through the legal system results in a heavy cost both in terms of policing and damage to individuals reputation for just consenting to harm themselves. Despite the draconian laws in Queensland against use of cannabis, the Commission's own studies indicate a significant proportion of the population occasionally uses the drug. To repeat the point, this finding in itself is adequate argument against those that support the use of prohibition laws.

The DRSQ has discussed the issue on a number of occasions and our general conclusions are these:

1. That the Commonwealth and the States should move towards a system of legalisation of all illicit drugs.

2. That those individuals who have become drug dependant should be able to seek treatment from appropriate mental health services and drug dependency services.

3. The benefits of legalisation of cannabis use and other illicit drugs is that it will result in the dramatic savings to the police and judicial system.The use of illicit drugs in known medical conditions needs to be further explored.

4. A re-prioritization of the debate over illicit drug use towards the acceptance of a drug recreational culture within this country, with education and treatment programs aimed at preventing drug abuse and dependency, rather than a prohibition mentality. Savings from a reduction in the involvement of judiciary and police in the "drug war" could be diverted to both the educational and health services.

5. DRSQ recognises that cannabis use , along with other illicit drugs, may cause harm, however as outlined by the Commission itself, that such effects have been over-stated. Doctors Reform Society certainly supports the use of legal means to prevent harm to others. Therefore a whole range of legislation dealing with the issues to deal with passive smoking, intoxication in the work place, and intoxication while driving whilst using cannabis or other illicit drugs, certainly deserves further scrutiny.The role of the law should be to prevent harm to others and we certainly agree with the attitude of the Civil Liberties Council and HEMP that consent to harming oneself should not result in activation of civil or criminal proceedings.

The Doctors Reform Society of Queensland is realistic in noting that such liberalization of the law to the use of illicit drugs, may take several generations of debate and legislative reform. We also recognise, as detailed in the Criminal Justice Commission's report, the international constraints on Australia moving unilaterally to change the law.

We see that the recommendations made by the Criminal Justice Commission are a first step in movement of our society towards the legalisation of illicit drugs. While we do not agree fully with the conclusions of the Report , we certainly support the recommendations to simplify the law on the matters of possession / cultivation of small quantities of cannabis as well the abolition of cannabis paraphernalia offence. We also support a recommendation to reduce police powers in the Drug Misuse Act.

BD 21/2/95

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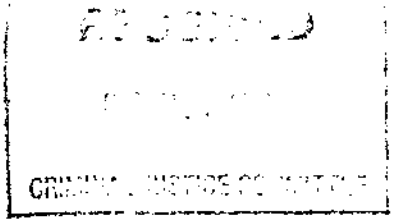

2 November 1994

Mr Ken Davies
Chairman
Parliamentary Criminal Justice Commission
Parliament House
Cnr George and Alice Streets
BRISBANE QLD 4000

Dear ~~Sir~~ Ken

I enclose our submission in relation to your review of the CJC's report on *Cannabis and the Law in Queensland*.

I refer to several telephone conversations we have had with Mr Neil Lawrie of your office and request that you grant us an extension of time for accepting our submission.

Thankyou for your consideration and we look forward to receiving your report in due course.

Yours faithfully

.....
Tony Woodyatt
Coordinator

CAXTON LEGAL CENTRE INC

SUBMISSION

TO THE

PARLIAMENTARY CRIMINAL JUSTICE COMMITTEE

REGARDING ITS REVIEW OF THE
CRIMINAL JUSTICE COMMISSION'S
REPORT ON CANNABIS AND THE LAW IN QUEENSLAND

NOVEMBER 1994

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RECOMMENDATIONS

RECOMMENDATION 1.

WE RECOMMEND THAT LEGISLATION BE INTRODUCED TO DEFINE SEPARATE OFFENCES OF POSSESSION AND CULTIVATION AND THAT POSSESSION AND CULTIVATION OF SMALL QUANTITIES OF CANNABIS BE DECRIMINALISED. THESE OFFENCES SHOULD BE REPEALED FROM THE DRUGS MISUSE ACT. THIS WOULD FOLLOW THE CLEAR REASONING THAT CANNABIS IS DIFFERENT TO OPIATES AND NARCOTICS. MORE SERIOUS OFFENCES SHOULD BE DEALT WITH IN THE CRIMINAL CODE (OR IN BOTH THE CRIMINAL CODE AND SIMPLE OFFENCES ACT IF IT IS DRAFTED).

RECOMMENDATION 2.

WE RECOMMEND THAT IN CONJUNCTION WITH THE DECRIMINALISATION OF MINOR CANNABIS USE, AND LESSER PENALTIES FOR MORE SERIOUS OFFENCES, A STATE EDUCATION AND MEDIA CAMPAIGN BE INTRODUCED TO WARN OF THE POTENTIAL CONSEQUENCES OF MARIJUANA USE AND DRUG USE GENERALLY. THE CAMPAIGN SHOULD INCLUDE:

(A) THE MEDIA (TELEVISION, NEWSPAPERS, MAGAZINES);
(B) EDUCATIONAL INSTITUTIONS;
(C) RELIGIOUS INSTITUTIONS;
(D) PARENTS (SEMINARS, GOVERNMENT INFORMATION);
(E) GOVERNMENTS THROUGH
- VIDEOS
- PAMPHLETS
- ADVERTISING IN THE MEDIA
- SCHOOL SEMINARS ETC

(F) EMPLOYERS & UNIONS - WORK PLACE SAFETY SEMINARS ("DRUGS IN THE WORKPLACE")

RECOMMENDATION 3.

THE QUEENSLAND GOVERNMENT SHOULD UNDERTAKE FURTHER RESEARCH INTO MARIJUANA USE, SHOULD MONITOR THE NEW LAWS CLOSELY, AND REVIEW THE NEW LAWS EFFECT FIVE YEARS FROM THEIR INTRODUCTION.

RECOMMENDATION 4.

WE RECOMMEND THAT POSSESSION OF A QUANTITY OF CANNABIS NOT EXCEEDING 100 GRAMS OR CANNABIS RESIN NOT EXCEEDING 25 GRAMS, AND THE CULTIVATION OF UP TO FIVE PLANTS BE MADE A QUASI-CRIMINAL OFFENCE (SIMILAR TO TRAFFIC OFFENCES LIKE SPEEDING) ATTRACTING A PENALTY OF NO MORE THAN $100.00, NOTIFIABLE BY AN INFRINGEMENT NOTICE.

RECOMMENDATION 5.

WE RECOMMEND THAT POSSESSION FOR PERSONAL USE OF MORE THAN 100 GRAMS BUT LESS THAN 1000 GRAMS OF CANNABIS, MORE THAN 25 GRAMS AND LESS THAN 250 GRAMS OF RESIN, AND MORE THAN FIVE AND UP TO 20 CANNABIS PLANTS BE A SIMPLE OFFENCE WITH A MAXIMUM PENALTY OF SIX MONTHS IMPRISONMENT AND IN ADDITION TO OR INSTEAD OF IMPRISONMENT A FINE NOT EXCEEDING 25 PENALTY UNITS ($1500.00).

RECOMMENDATION 6.

WE RECOMMEND THAT THE CULTIVATION OF CANNABIS PLANTS FOR PERSONAL USE EXCEEDING 20 PLANTS AND NOT EXCEEDING 100 PLANTS BE A SIMPLE OFFENCE. THE MAXIMUM PENALTY SHALL BE TWO YEARS IMPRISONMENT AND IN ADDITION TO OR INSTEAD OF IMPRISONMENT A FINE NOT EXCEEDING 100 PENALTY UNITS ($6,000.00).

RECOMMENDATION 7.

WE RECOMMEND THAT WHERE AN OFFENDER HAS BEEN FOUND GUILTY OF A SIMPLE OFFENCE INVOLVING CANNABIS POSSESSION AND/OR CULTIVATION; AND

* THE OFFENDER HAS NOT BEEN FOUND GUILTY OF A SIMILAR OFFENCE IN THE PRECEDING 2 YEARS PERIOD; AND

* HAS NOT PREVIOUSLY BEEN FOUND GUILTY OF ANY OTHER DRUG OFFENCE; AND

* THE QUANTITY OF CANNABIS WHICH IS THE SUBJECT OF THE CHARGE DOES NOT EXCEED 200 GRAMS (OR 50 GRAMS OF CANNABIS RESIN) OR 10 CANNABIS PLANT WHOSE NET WEIGHT IS LESS THAN 200 GRAMS.

THE COURT SHOULD:

* NOT RECORD A CONVICTION AGAINST THE OFFENDER: AND

* WHERE IT SENTENCES THE OFFENDER TO A FINE, IMPOSE A FINE NOT EXCEEDING $500.00 UNLESS HAVING REGARD TO THE MATTERS REFERRED TO IN PART 2 OF THE PENALTIES AND SENTENCES ACT 1992, IT IS SATISFIED THAT THERE ARE SPECIAL CIRCUMSTANCES WHICH JUSTIFY NOT PROCEEDING UNDER THIS PROVISION. WHERE THE COURT ELECTS NOT TO PROCEED UNDER THIS PROVISION, IT SHALL STATE ITS REASONS FOR DOING SO.

RECOMMENDATION 8.

WE RECOMMEND THAT WHERE POSSESSION EXCEEDS 1000 GRAMS OF

CANNABIS OR 250 GRAMS OF RESIN OR CULTIVATION INVOLVES MORE THAN 20 PLANTS INTENDED FOR SALE, OFFENCES SHOULD BE INDICTABLE UNDER THE CRIMINAL CODE CARRYING PENALTIES OF UP TO 15 YEARS IMPRISONMENT AND $250,000.

RECOMMENDATION 9.

WE ENDORSE THE RECOMMENDATION OF THE CJC IN THE REPORT THAT IT SHOULD NOT BE AN OFFENCE TO POSSESS ANYTHING FOR USE IN CONNECTION WITH THE ADMINISTRATION, CONSUMPTION OR SMOKING OF CANNABIS, OR THAT HAS BEEN USED IN CONNECTION WITH SUCH A PURPOSE.

RECOMMENDATION 10.

WE ENDORSE THE RECOMMENDATIONS BY THE CJC IN RELATION TO THE POWERS OF POLICE, NAMELY:

- THAT THE POWERS CONTAINED IN THE DRUGS MISUSE ACT AUTHORISING POLICE TO:

  * SEIZE MOTOR VEHICLES (S.14)
  * DETAIN A PERSON AND REQUIRE HIM OR HER TO SUBMIT TO AN INTERNAL BODY CAVITY SEARCH (S.17)
  * ENTER AND SEARCH PREMISES WITHOUT A WARRANT (S.18(2))
  * USE TRACKING DEVICES (S.24)

  BE LIMITED TO THE INVESTIGATION OF INDICTABLE DRUG OFFENCES AND SHOULD NOT APPLY TO THE INVESTIGATION OF THE TICKETABLE AND SIMPLE OFFENCES RECOMMENDED IN THIS REPORT.

- THAT THE POWERS CONTAINED IN THE DRUGS MISUSE ACT AUTHORISING POLICE TO:

  * STOP AND SEARCH AND REMOVE MOTOR VEHICLES (EXCLUDING THE POWER TO SEIZE VEHICLES) (S14)
  * DETAIN AND SEARCH PEOPLE AND ANYTHING IN THEIR POSSESSION (S15)
  * ENTER AND SEARCH PREMISES WITH A WARRANT (S18(I) - (II))

  SHOULD CONTINUE TO APPLY TO THE INVESTIGATION OF THE SIMPLE OFFENCES RECOMMENDED IN THE REPORT.

- THAT IT MUST BE MADE CLEAR TO POLICE INVESTIGATORS INVOLVED IN ILLICIT DRUGS, THAT THEIR RESOURCES SHOULD BE MANAGED SO THAT LARGE SCALE PRODUCTION AND TRAFFICKING BE TACKLED AS A PRIORITY, AND NOT WASTE TIME

ON PERSONAL CONSUMPTION OF CANNABIS BECAUSE OVER HALF OF ALL APPREHENSIONS OF MINOR OFFENDERS OCCURS BY ACCIDENT, RATHER THAN BY POLICE INVESTIGATIVE SKILLS.

RECOMMENDATION 11.

WE RECOMMEND THE USE OF EXPIATION NOTICES IN QUEENSLAND, AND THAT THE FOLLOWING FEATURES BE ADOPTED IN THAT SCHEME:

- FINES TO BE SLIGHTLY LOWER THAN THOSE PRESENTLY USED IN THE ACT AND SOUTH AUSTRALIA;

- PEOPLE FROM LOWER SOCIO-ECONOMIC BACKGROUNDS BE GIVEN OPTIONS AS TO METHOD OF PAYMENT OF THEIR FINE WITHOUT HAVING TO ATTEND COURT DUE TO NON-PAYMENT. THIS COULD BE DONE BY GIVING THE FOLLOWING OPTIONS:

  * PAYING FINES BY INSTALMENTS, ADMINISTRATIVELY ADJUSTED ACCORDING TO INCOME RECEIVED AND REASONABLE PERIODS TO PAY THE FINES;

  * SUSPENDED FINES, IF UNDER EXTREME ECONOMIC HARDSHIP; AND

  * COUNSELLING RATHER THAN FINES FOR PEOPLE WITH CANNABIS DEPENDENCY, SUCH AS OCCURS WITH SOME DRIVING OFFENCES;

- UNDER NEW CANNABIS LAWS THE POLICE BE GIVEN STRICT GUIDELINES AS TO THE ISSUING OF FINES;

- POLICE GUIDELINES RESTRICT FINE ISSUING SPREES, BUT TO FOCUS THEIR RESOURCES ON MORE PRESSING PROBLEMS SUCH AS LARGE SCALE PRODUCTION AND IMPORTATION OF CANNABIS;

- PERSONS WHO ARE REPEAT MINOR OFFENDERS NOT TO BE LABELLED CRIMINALS, BUT TO PAY HIGHER FINES THAN THE FIRST OFFENDER. COMPUTER DATA ON PREVIOUS FINE NOTICES COULD PERMIT A POINTS SYSTEM SUCH AS WITH LOSS OF DRIVERS LICENCE; AND

- A COMPREHENSIVE EDUCATION PROGRAM BE ADOPTED AND SUSTAINED, SO THAT ALL SECTORS OF THE COMMUNITY UNDERSTAND THE OPERATION AND EFFECT OF THE SCHEME TO THE COMMUNITY.

INTRODUCTION

In response to the Parliamentary Criminal Justice Committee's call for public submissions on the Criminal Justice Commission's report *Cannabis and the Law in Queensland (June 1994)* (herein referred to as the Report) Caxton Legal Centre Inc. welcomes the opportunity to review the report and make the following submission.

The Report focuses on the need to amend the present legislative framework for minor offences relating to cannabis in Queensland, based on the following:

* health risks to users and the community;

* the law should be consistent with established legal principles;

* law must have the basic level of public support;

* law must be practical and, not overly complex.

The Criminal Justice Commission (CJC) concludes in the Report that a new approach is required in Queensland. It recommends a number of ways in which the laws in Queensland should be amended to reflect the reality of practice in the courts. However, the CJC confined its consideration to minor cannabis usage, and the reforms it recommends, in our view, do not go far enough to overcome the delitereous aspects of the current law.

In this submission, we urge the Committee to take a more far reaching approach in order to remove the stigma of criminality which attaches to minor cannabis users. In support of our recommendations, we will focus on the shortcomings of the Report which we suggest undermine some of its reasoning and conclusions. We briefly canvass health and safety concerns, weighing up opposing perspectives, and then consider the legal problems involved in this issue.

Reference will also be made to the document - *Overview of Advisory Committee on Illicit Drugs - A Discussion Paper*, which was published in July 1993. This discussion paper focussed on the nature, supply and use of cannabis in Queensland and the cost of law enforcement in this area.

CANNABIS USE

The 1991 National Household Survey for the National Campaign Against Drug Abuse (NCADA) suggests that three percent of Queenslander's use the drug on a regular basis, which suggests that there has been no real usage change in the last decade.

However, the Report is critical of this survey due to the survey methodology and sampling procedures used. The Report submitted that a face-to-face survey results in people feeling threatened to commit themselves to an answer which shows that they have committed a criminal act. The criminal stigmatisation of cannabis users is a very real fear in the community. The Report states that telephone surveys allow people to be more "frank in answering sensitive questions, due to the relative anonymity which this survey technique affords (de Leevin, 1992)".

It is submitted therefore, that the real usage rate could be much higher than the figures suggest.

A significant number of Queenslanders are regular users of cannabis, and many more are

occasional users from all socio-economic groups. These Queenslanders are consistently breaking the law and are branded as criminals if they are apprehended and convicted.

Since 1976, Caxton Legal Centre Inc has represented many people charged with cannabis offences, and has seen many young people suffer the stigmatisation of arrest and criminal conviction, economic hardship, police victimisation, loss of employment, and occasionally imprisonment, for behaviour in which, according to user surveys, a great many people indulge.

PUBLIC ATTITUDES TO CANNABIS USE

As was correctly stated by the Report, a legitimate avenue of inquiry in examining law reform issues of this kind is the analysis of public opinion surveys.

The Report referred to several recent surveys which are as follows:

The Commission's Survey - Social Research Consultancy Unit of the University of Queensland (SRCU) - December 1993

From a sample of 845 taken from people of 18 years or over and from the main geographical regions of Queensland, the survey found:

- that 47% of Queenslanders believed that the smoking of cannabis should be legal and 27% stated that is should be dealt with by on the spot fines; and

- that 50% of Queenslanders believed that the cultivation of a few plants should be legal, and 16% stated it should be dealt with by an on the spot fine, while 24% believed it should be dealt with by a court imposed fine.

1993 NCADA Survey

It is submitted that a clear discussion of this survey was not undertaken in the Report, in particular in relation to the five point scale used in this survey. This survey suggests that around 61% of Queenslanders oppose legalisation, but does not reveal how many believe it should be decriminalised?

It is submitted that this survey is very restrictive in the questions which it asks and is therefore unreliable.

The Age Poll - 21 March 1994

This survey as well is highly restrictive, due to its small survey group. However, it found that "53% of Queensland respondents 'disagreed' when asked whether they thought that people should be prosecuted for having small quantities of marijuana for personal use."

National Taskforce on Cannabis - Telephone Survey 1994

The Taskforce surveyed 1608 individuals between the ages of 18 and 70 years across Australia, and reported as follows:

- 39% of the survey group have used cannabis;

- 52-55% believed that growing and possessing cannabis for personal use should be legal;
- 75% believed growing and possessing cannabis for personal use and possession of implements should not be treated as a criminal offence;
- over 50% from South Australia and Queensland who believe that cannabis for personal use should remain illegal, believed that it should not be a criminal offence;
- 90% believed educational measures and counselling services should be provided by governments to secondary school students and the general community;
- 70% supported increased police efforts to detect large scale cannabis growing and importation.

It is our submission that the CJC and Taskforce surveys are reliable and creditable indicators of general community support for decriminalisation of minor cannabis use and the Committee should give weight to this public opinion.

We also refer you to the Fitzgerald report where it was stated:

> Laws should reflect social need, not moral repugnance. Unless there are pressing reasons to do so, it is futile to try and stop activities which are certain to continue and upon which the community is divided. To do so takes resources away from the policing of other activities which the community considers undoubtedly wrong, such as violence and fraud. (Report, 1989:186)

We contend that cannabis comes squarely within this precept.

EFFECT ON HEALTH

Medical opinion is divided on the short and long term effects of cannabis. In this overview of the evidence presented to the Advisory Committee and the CJC, we suggest that the arguments in favour of maintaining the current law are less cogent than those supporting decriminalisation.

Short term effects

Based on the medical information that is presently available from prominent medical researchers such as Dr G Chesher, it would appear that a medically normal person who has taken the drug on its own appears to have only very short term effects which are reversed within a few hours.

People who are at risk are those with heart conditions or with a predisposition to some mental disorders such as schizophrenia (Centre for Education and Information on Drugs and Alcohol (CEIDA) 1989; National Drug and Alcohol Statistics Unit 1994).

It is submitted by Caxton that the short term effects are negligible to the general population of cannabis users, based on the statistical data that was supplied to the Advisory Committee.

Public Safety Effects

The impairment of motor skills is an identifiable result of cannabis use, which may result in a lack

of industrial safety and road safety of users.

The Mount Isa Mines submission to the Advisory Committee claimed that financial and productivity losses would occur if the laws were changed. MIM alleges that the relaxation of cannabis laws would lead to increased usage, resulting in its use at the workplace.

It is submitted by Caxton however, that no mention was made of losses resulting from alcohol and other drugs to the industrial sector. Few employers tolerate the use of intoxicants (legal or illegal) in the course of employment, so it is difficult to accept the argument that legalisation of cannabis would change what is already occurring covertly.

In relation to road safety, Dr G. Chesher, in his submission to the CJC and Associate Professor Olaf Drummer (*Drugs in Drivers killed on Australian Road Traffic Accidents (1994)*) found that alcohol rather than cannabis is the key determinant of increased risk in road safety.

The CJC Report also dealt with this issue at pages 13 to 15 where it found that the causal role of cannabis is difficult to assess because THC levels in the blood can remain for up to eight days after the cannabis was consumed. Furthermore, the effects of cannabis diminish rapidly after the first hour of consumption of the drug.

Cannabis and driving was addressed by the National Taskforce on Cannabis as follows:

> It is difficult to estimate the magnitude of risk of being involved in motor vehicle accidents due to cannabis intoxication. It is known that cannabis intoxicated persons drive more slowly and take fewer risks than alcohol intoxicated drivers. The presence of blood alcohol levels indicative of intoxication in 75% of road accident victims also complicates the issue, making it difficult to assess the causal role of cannabis intoxication (page 11).

The Taskforce also concluded:

> The major difficulty in enforcing restrictions on cannabis use in relation to driving motor vehicles is due to the lack of a simple relationship between blood levels of THC or its metabolites and the degree of impairment or subjective intoxication (unlike alcohol, where there is a clear relationship between blood alcohol levels and degree of alcohol induced impairment). It is therefore not possible to define a threshold blood level of THC or other cannabinoids which could serve as a basis for legal testimony in cases involving offences relating to driving a motor vehicle under the influence of cannabis.

It is noted that an article in The Sunday Mail on 16 October 1994 relying on police reports that cannabis was prevalent in motor vehicle accidents, was in the same article refuted by medical experts based on the above findings.

Furthermore, a range of studies have concluded that there is no evidence that cannabis use is implicated in violence (Hollister Trinkerserg). However, the same cannot be said of alcohol.

Long Term Effects

In research conducted by CEIDA (1989), no evidence that occasional use of small doses of cannabis causes permanent health damage was found. This was supported by the Alcohol and Drug Foundation of Queensland and is referred to in the Report.

Long-term physical and psychological effects of cannabis use, which have been asserted in the literature examined by the Report are:

Respitory Conditions

The Queensland Cancer Fund submitted that:

> ... while tobacco and cannabis are two different substances, the enormity of the tragedy of our mistake with tobacco demands that we look exceedingly hard at any potential for bringing on a similar tragedy in our response to the substance cannabis.

Price (1993), observed that "...nicotine, the tobacco drug is much more addictive than the cannabinoids, the active principles in the marijuana plant".

Therefore, it is submitted that regular prolonged use of tobacco cannot be equated with the use of cannabis. This is based on evidence that the majority of cannabis users use far less cannabis than a tobacco smoker uses tobacco.

Reproductive Effects

It was submitted to the CJC that there may be a direct correlation between lower birth weight and the use of cannabis. The research however, seems to have failed to take account of research on tobacco, which can have a similar effect on birth weight.

It is submitted that further research is required to establish any link between cannabis and reproductive effects on humans.

Psycho-pathological Effects

It appears that people with mental health problems who use cannabis are more susceptible to resulting symptoms due to the drug, aggravating pre-existing symptoms such as schizophrenia (Jones,1980; Hollister,1988; based on research by Knudsen and Vilmar,1984; Tunvig,1984).

However, it is submitted that the association between cannabis and mental health should not be exaggerated, due to a lack of substantive research evidence.

Dependency Effects

"Cannabis dependency" is defined in the *Diagnostic and Statistical Manual* for the American Psychiatric Association (1987:176) as:

> ... characterised by daily, or almost daily, use of the substance. In cannabis use, the person uses the substance episodically, but shows evidence of maladaptive behaviour such as driving while impaired by cannabis intoxication.

It is submitted, that this definition would characterise only a very small proportion of cannabis users.

It is submitted that there is no evidence to show that cannabis is an addictive drug, such as tobacco or heroin, and therefore the number of dependants is low. Furthermore the effects of withdrawing

from the usage of the drug are minimal, and therefore do not require great costs like the methadone program for heroin addicts and alcohol rehabilitation programs.

The National Drug and Alcohol Statistics Unit 1994 stated as follows:

> Users of cannabis do not appear to develop physical dependence to any significant degree however mild tolerance does appear to develop after prolonged use.

"Gateway Drug"

In 1975 Kandel and Faust (USA) stated that almost all pscho-active drug users had begun by using the legal drugs alcohol and tobacco.

The Report also stated that other studies have shown that psychological or sociological factors rather than pharmacological properties contribute to the relationship between cannabis and other illicit drugs. These factors include:

* pre-existing personality and attitudinal traits;
* involvement in an illicit drug subculture, where the availability is much greater, as well as the encouragement to use the drug;
* illicit drugs can have common distribution networks.

It is submitted that cannabis alone is not a major gateway drug, and is not perceived by the general public as such. Because of misinformation in the community, cannabis has been portrayed as a significant gateway to "harder" drugs. the evidence now shows this to be incorrect.

The 1993 NCADA survey of drug use in Australia found that while a large number of heroin users had used cannabis, 96% of cannabis users had not used heroin.

AMA (Queensland) submission

The Report canvassed the submission of the Australian Medical Association (Queensland Branch) in a favourable light despite the criticisms of the AMA (Qld) submission by a number of highly respected researchers in this area.

Firstly, Ms Nadia Solowij of the National Drug and Alcohol Research Centre stated:

> The Queensland AMA's submission appears to be a hastily prepared document which reflects a general lack of familiarity with the large scientific literature and places a great deal of weight upon unpublished letters written by their own members.

Ms Solowij went on further to claim that the AMA's submission is alarmist and that it fails to recognise that decriminalisation of personal use of cannabis would be an effective way of reducing exposure to criminal activity and black market sales and reduce profiteering.

Dr G. Chesher, Consultant Pharmacologist, agreed with these criticisms of the AMA (Qld) submission.

Furthermore, Dr A Wodak, Director of the Alcohol and Drug Service, St Vincents Hospital, Sydney, stated in his letter of 26 October 1993 to the Australian Professional Society on Alcohol

and Drugs (APSAD) as follows:

> The submission by the Queensland AMA shows much evidence of hurried preparation, sloppy methodology and lack of intellectual rigour. Even if their conclusion is accepted that it poses health risks, the submission does not demonstrate how the adverse health and other effects of cannabis are diminished by current policies and increased by alternative approaches. Accordingly, I would suggest that you bring to the attention of the Criminal Justice Commission (Queensland) that the Australian Professional Society of Alcohol and Drugs regards the quality of the Queensland - Australian Medical Association submission to be unsatisfactory and accordingly recommend that it not be further considered.

This letter was included in the submissions to the Advisory Committee (by APSAD), and was referred to in the Report, even though Dr Wodak was quoted as an authority by the AMA (Qld) in its submission.

It is difficult therefore to justify the Report's extensive reference to the AMA (Qld) submissions. We urge the PCJC to give less weight to the AMA view than was given to it by the CJC.

To conclude, it must be noted that Dr CJ Alroe, Chairman, Section of Psychiatry for the Queensland branch of the Australian Medical Association, responded to the criticisms of the AMA (Qld) submission on 19 November 1993, as follows:

> Finally, there is the old red herring about prohibition of alcohol in America. I can assume that you like a little wine with your meals. I doubt that you smoke cannabis. Of course it is foolish to ban something that is approved of as opposed to banning what is generally not approved of. The comparisons are absurd. The now discredited Margaret Mead is hardly a person to quote, is she? Time has proven her wrong in any case? The problems in the USA with crime and drugs are to do with cocaine and heroin and for these drugs the same arguments could be proposed. Perhaps you and APSAD are suggesting we legalise cocaine and heroin. This would be arguably more reasonable than legalising cannabis which is probably a more dangerous drug than either of the two former, though I must say, I have at times, being (sic) impressed by psychiatric effects of cocaine, something which John Ellard another signatory to the advertisement, is fortunate enough never to see.

This view is not supported by the evidence.

The AMA (Australia) has pursued a different view believing that the laws at present need to be relaxed. The Association has voted to support decriminalisation of cannabis use or possession of small amounts of cannabis for first offenders.

Conclusions on health and safety issues

There appears to be no conclusive evidence that the safety and health risks associated with cannabis use are any more serious than legal drugs. In fact, the evidence suggests that cannabis is less harmful. This view was also accepted by the Select Committee on HIV, Illegal Drugs and Prostitution of the Legislative Assembly for the Australian Capital Territory *Marijuana and other illegal drugs* (October 1991) which stated:

> It is apparent that current research has failed to demonstrate the premise that cannabis used as a mind altering drug, is more harmful to people than legally available drugs such as

> tobacco and alcohol; nor has the research demonstrated that chronic cannabis use is as harmful as these other drugs. It is the Committee's opinion that the current state of research into the effects of acute and chronic marijuana use indicates in fact, that marijuana is less harmful than tobacco or alcohol (p28).

However, it has been argued that nonetheless, decriminalisation of cannabis would add another drug to the already long list of legal drugs causing harm to the community. This argument is outweighed in our view by the evidence that cannabis is already widely used, that decriminalisation is unlikely to lead to significant increased usage, and that the consequences of discrimination and criminalisation by maintaining cannabis as an illegal drug are far more harmful to the community.

It is submitted by Caxton that the available research, while not being conclusive, indicates that the health effects of cannabis are minimal and reversible within a very short period of time, and therefore pose no great health risks or cost burdens on the community.

Furthermore, there is no conclusive evidence that cannabis is an addictive drug on the scale of any of the legal drugs, i.e. alcohol and tobacco or other illicit drugs, i.e. heroin and cocaine.

It is submitted that any relaxation of the present laws would not produce any increased risk to public health and safety.

CURRENT LAW AND PRACTICE IN QUEENSLAND

At present, under sections 8 and 9 of the Drugs Misuse Act, which creates offences for production and possession of cannabis, the maximum penalty is 25 years imprisonment where the amount produced or possessed exceeds 500 grams or 100 plants. Where the amount is less than 500 grams or 100 plants the maximum penalty is 15 years imprisonment.

According to statistical data discussed in the Report, 94% of drug possession cases and 91% of drug cultivation cases are prosecuted in the Magistrates Court summarily.

Section 13 of the Drugs Misuse Act allows a Magistrate discretion as to whether it is appropriate for a charge to be heard in the Magistrates Court.

It should also be noted that 72.5% of these cannabis prosecutions in the Magistrates Court involved 10 plants or less.

In sentencing of very minor offenders:

- first time offenders can be put under the category of "no conviction recorded" and fined approximately $300.00;
- repeat offenders are fined in a range from $400.00;
- a jail term will usually only be given if there are several criminal offences being dealt with. This is mainly due to the introduction of the Penalties and Sentences Act 1992, where the principles are.

The policing and prosecution of minor offences thus represents an enormous cost to the community.

The Report did not address the question of "who is apprehended for cannabis offences". The discussion paper however did refer to it at pages 73-76, and based these findings on the NCADA Social Issues Survey 1991. It found that males who are unemployed or unskilled accounted for well over half the apprehended numbers, even though they made up only 20% of the user population.

The question is not whether the police are victimising certain groups but whether the laws as they stand at present lead to discriminatory enforcement with inequitable outcomes to those apprehended. It is submitted that this is a critical issue that needs to be addressed by the policy makers of Queensland.

The CJC has recommended that the penalty for possessing up to 100 grams of cannabis or up to 20 grams of resin should be a maximum of six months imprisonment and/or 25 penalty units ($1,500). Cultivation of up to 10 plants should carry a penalty of up to two years imprisonment and/or a fine of 100 penalty units ($6,000).

Members should be mindful of recent recommendations for reform of the Criminal Code, which if not altered by the Criminal Justice Commission's recommendations could have significant ramifications. The Code review recommends that police and anyone asked to assist them may use all necessary force to prevent a person suspected of committing an offence which carries a penalty of 15 years or more from absconding. Possession of less than 500 grams of cannabis carries a penalty of up to 15 years imprisonment. Accordingly, in theory, under the proposals, a police officer or assistant could shoot a person who was absconding, where it was suspected that they were smoking one cannabis cigarette.

However, it is our submission that the CJC's recommendations will not deter or prevent cannabis use, will not address the social view of cannabis, will continue to criminalise otherwise law-abiding citizens, and will not mitigate other social consequences of cannabis use, such as driving under the influence, or workplace safety.

It is also our submission, based on the available evidence from South Australia, that decriminalisation will not lead to an escalation of cannabis use and its social consequences.

RECOMMENDATIONS REGARDING LAW REFORM

It is submitted that one realistic option to equitably change the present laws, is to make minor offences civil or quasi-criminal in nature, rather than criminal. Simply put, decriminalisation of very minor offences seems a logical step given the failure of the current criminal laws to stem the use of cannabis, and the likelihood that the reforms proposed by the CJC will also fail in that obective.

It would also allow the Queensland Police Force to focus its attention and resources on more pressing community concerns such as property and personal violence offences, and public safety issues.

It is submitted by Caxton that imprisonment should not be a sentencing option for personal use under the recommended quantity, and imprisonment should generally be the option of last resort where it is an available option. We submit that all steps should be taken to reduce the use of imprisonment. As Justice McHugh of the High Court recently stated:

> ... that unreliability which arises not so much because the prisoner has been convicted of serious crime but because the character of that person has been altered by exposure to the values and culture of prison society. (Pollitt v R, 13 August 1992)

Because of these facts and the social consequences of continued criminalisation, a new system must be found.

RECOMMENDATION 1.

WE RECOMMEND THAT LEGISLATION BE INTRODUCED TO DEFINE SEPARATE OFFENCES OF POSSESSION AND CULTIVATION AND THAT POSSESSION AND CULTIVATION OF SMALL QUANTITIES OF CANNABIS BE DECRIMINALISED. THESE OFFENCES SHOULD BE REPEALED FROM THE DRUGS MISUSE ACT. THIS WOULD FOLLOW THE CLEAR REASONING THAT CANNABIS IS DIFFERENT TO OPIATES AND NARCOTICS. MORE SERIOUS OFFENCES SHOULD BE DEALT WITH IN THE CRIMINAL CODE (OR IN BOTH THE CRIMINAL CODE AND SIMPLE OFFENCES ACT IF IT IS DRAFTED).

However, a responsible and comprehensive education program must be permanently established to promote health and safety.

RECOMMENDATION 2.

WE RECOMMEND THAT IN CONJUNCTION WITH THE DECRIMINALISATION OF MINOR CANNABIS USE, AND LESSER PENALTIES FOR MORE SERIOUS OFFENCES, A STATE EDUCATION AND MEDIA CAMPAIGN BE INTRODUCED TO WARN OF THE POTENTIAL CONSEQUENCES OF MARIJUANA USE AND DRUG USE GENERALLY. THE CAMPAIGN SHOULD INCLUDE:

(A) THE MEDIA (TELEVISION, NEWSPAPERS, MAGAZINES);
(B) EDUCATIONAL INSTITUTIONS;
(C) RELIGIOUS INSTITUTIONS;
(D) PARENTS (SEMINARS, GOVERNMENT INFORMATION);
(E) GOVERNMENTS THROUGH
- **VIDEOS**
- **PAMPHLETS**
- **ADVERTISING IN THE MEDIA**
- **SCHOOL SEMINARS ETC**

(F) EMPLOYERS & UNIONS
- **WORK PLACE SAFETY SEMINARS ("DRUGS IN THE WORKPLACE")**

RECOMMENDATION 3.

THE QUEENSLAND GOVERNMENT SHOULD UNDERTAKE FURTHER RESEARCH INTO MARIJUANA USE, SHOULD MONITOR THE NEW LAWS CLOSELY, AND REVIEW THE NEW LAWS EFFECT FIVE YEARS FROM THEIR INTRODUCTION.

RECOMMENDATION 4.

WE RECOMMEND THAT POSSESSION OF A QUANTITY OF CANNABIS NOT EXCEEDING 100 GRAMS OR CANNABIS RESIN NOT EXCEEDING 25 GRAMS, AND

THE CULTIVATION OF UP TO FIVE PLANTS BE MADE A QUASI-CRIMINAL OFFENCE (SIMILAR TO TRAFFIC OFFENCES LIKE SPEEDING) ATTRACTING A PENALTY OF NO MORE THAN $100.00, NOTIFIABLE BY AN INFRINGEMENT NOTICE.

RECOMMENDATION 5.

WE RECOMMEND THAT POSSESSION FOR PERSONAL USE OF MORE THAN 100 GRAMS BUT LESS THAN 1000 GRAMS OF CANNABIS, MORE THAN 25 GRAMS AND LESS THAN 250 GRAMS OF RESIN, AND MORE THAN FIVE AND UP TO 20 CANNABIS PLANTS BE A SIMPLE OFFENCE WITH A MAXIMUM PENALTY OF SIX MONTHS IMPRISONMENT AND IN ADDITION TO OR INSTEAD OF IMPRISONMENT A FINE NOT EXCEEDING 25 PENALTY UNITS ($1500.00).

The Report seems to be misguided on the small scale cultivation techniques used to grow one fully grown plant. To achieve one fully grown plant, the usual technique is to start with at least 4 seedlings. The seedlings will produce a number of male and female plants. The desired result is to remove the male plants and raise a female plant. This is because the female cannabis plant produces a higher amount of THC in its flowers. Therefore the weight of the plants should be considered if more than 1 plant is grown and the number of plants grown is relative to the number of plants required. The Supreme Court has found that up to 100 plants is a small crop.

RECOMMENDATION 6.

WE RECOMMEND THAT THE CULTIVATION OF CANNABIS PLANTS FOR PERSONAL USE EXCEEDING 20 PLANTS AND NOT EXCEEDING 100 PLANTS BE A SIMPLE OFFENCE. THE MAXIMUM PENALTY SHALL BE TWO YEARS IMPRISONMENT AND IN ADDITION TO OR INSTEAD OF IMPRISONMENT A FINE NOT EXCEEDING 100 PENALTY UNITS ($6,000.00).

RECOMMENDATION 7.

WE RECOMMEND THAT WHERE AN OFFENDER HAS BEEN FOUND GUILTY OF A SIMPLE OFFENCE INVOLVING CANNABIS POSSESSION AND/OR CULTIVATION; AND

* **THE OFFENDER HAS NOT BEEN FOUND GUILTY OF A SIMILAR OFFENCE IN THE PRECEDING 2 YEARS PERIOD; AND**

* **HAS NOT PREVIOUSLY BEEN FOUND GUILTY OF ANY OTHER DRUG OFFENCE; AND**

* **THE QUANTITY OF CANNABIS WHICH IS THE SUBJECT OF THE CHARGE DOES NOT EXCEED 200 GRAMS (OR 50 GRAMS OF CANNABIS RESIN) OR 10 CANNABIS PLANT WHOSE NET WEIGHT IS LESS THAN 200 GRAMS.**

THE COURT SHOULD:

* **NOT RECORD A CONVICTION AGAINST THE OFFENDER: AND**

* **WHERE IT SENTENCES THE OFFENDER TO A FINE, IMPOSE A FINE NOT EXCEEDING $500.00 UNLESS HAVING REGARD TO THE MATTERS REFERRED TO IN PART 2 OF THE PENALTIES AND SENTENCES ACT 1992, IT IS SATISFIED THAT THERE ARE SPECIAL CIRCUMSTANCES WHICH JUSTIFY NOT PROCEEDING UNDER THIS PROVISION. WHERE THE COURT ELECTS NOT TO PROCEED UNDER THIS PROVISION, IT SHALL STATE ITS REASONS FOR DOING SO.**

We recommend that the Committee address the broader picture involving cannabis. The CJC Report did not look at trafficking issues. We suggest that the offence of possession and cultivation for sale, as outlined above, be contained in the Criminal Code with penalties as stated. We do not recommend higher penalties, again restating the principle that penalties should differentiate between cannabis and other more serious drugs.

RECOMMENDATION 8.

WE RECOMMEND THAT WHERE POSSESSION EXCEEDS 1000 GRAMS OF CANNABIS OR 250 GRAMS OF RESIN OR CULTIVATION INVOLVES MORE THAN 20 PLANTS INTENDED FOR SALE, OFFENCES SHOULD BE INDICTABLE UNDER THE CRIMINAL CODE CARRYING PENALTIES OF UP TO 15 YEARS IMPRISONMENT AND $250,000.

RECOMMENDATION 9.

WE ENDORSE THE RECOMMENDATION OF THE CJC IN THE REPORT THAT IT SHOULD NOT BE AN OFFENCE TO POSSESS ANYTHING FOR USE IN CONNECTION WITH THE ADMINISTRATION, CONSUMPTION OR SMOKING OF CANNABIS, OR THAT HAS BEEN USED IN CONNECTION WITH SUCH A PURPOSE.

RECOMMENDATION 10.

WE ENDORSE THE RECOMMENDATIONS BY THE CJC IN RELATION TO THE POWERS OF POLICE, NAMELY:

- **THAT THE POWERS CONTAINED IN THE DRUGS MISUSE ACT AUTHORISING POLICE TO:**

  * **SEIZE MOTOR VEHICLES (S.14)**
  * **DETAIN A PERSON AND REQUIRE HIM OR HER TO SUBMIT TO AN INTERNAL BODY CAVITY SEARCH (S.17)**
  * **ENTER AND SEARCH PREMISES WITHOUT A WARRANT (S.18(2))**
  * **USE TRACKING DEVICES (S.24)**

  BE LIMITED TO THE INVESTIGATION OF INDICTABLE DRUG OFFENCES AND SHOULD NOT APPLY TO THE INVESTIGATION OF THE TICKETABLE AND SIMPLE OFFENCES RECOMMENDED IN THIS REPORT.

- **THAT THE POWERS CONTAINED IN THE DRUGS MISUSE ACT AUTHORISING POLICE TO:**

* **STOP AND SEARCH AND REMOVE MOTOR VEHICLES (EXCLUDING THE POWER TO SEIZE VEHICLES) (S14)**
* **DETAIN AND SEARCH PEOPLE AND ANYTHING IN THEIR POSSESSION (S15)**
* **ENTER AND SEARCH PREMISES WITH A WARRANT (S18(I) - (II))**

SHOULD CONTINUE TO APPLY TO THE INVESTIGATION OF THE SIMPLE OFFENCES RECOMMENDED IN THE REPORT.

- **THAT IT MUST BE MADE CLEAR TO POLICE INVESTIGATORS INVOLVED IN ILLICIT DRUGS, THAT THEIR RESOURCES SHOULD BE MANAGED SO THAT LARGE SCALE PRODUCTION AND TRAFFICKING BE TACKLED AS A PRIORITY, AND NOT WASTE TIME ON PERSONAL CONSUMPTION OF CANNABIS BECAUSE OVER HALF OF ALL APPREHENSIONS OF MINOR OFFENDERS OCCURS BY ACCIDENT, RATHER THAN BY POLICE INVESTIGATIVE SKILLS.**

THE SOUTH AUSTRALIAN AND ACT SCHEMES

This State and Territory are using an Expiation Notice Scheme which the Report admitted was the most widely supported method in the submissions to the Advisory Committee.

Key features of the South Australian Scheme stated in the Report were:

* persons detected of committing minor cannabis offences are given an 'expiation notice', rather than being arrested;

* akin to an 'on-the-spot-fine'; and

* if the notice is not paid then the person must go to court to be dealt with in the normal manner.

The only difference with the ACT laws, is that police in the ACT have a discretion as to whether to proceed under the expiation notice scheme or the usual arrest process.

It is submitted by Caxton that the advantages of implementing an expiation notice scheme in Queensland would:

- display a realistic community view as to the prohibition of cannabis;

- generate savings in police and court system resources and time spent pursuing minor cannabis offences. The Report admitted some savings would accrue ie $235,000 for drug paraphernalia alone; and

- in a decriminalised environment, appropriate educational programs (see Recommendation 3 above) should be implemented on the legal aspects of decriminalisation and on the more serious offences.

The Report suggests that the expiation notice scheme would fail due to the following:

* penalties are too low;

* rely on a threat of criminal conviction as an inducement to expiate;

* there would be an increase in cannabis use and therefore greater pressure on the expiation notices scheme; and

* there is no hierarchy of penalties for repeat offenders.

It is submitted by Caxton that the Report did not consider the fact that after a recent Federal Government survey reported in the Courier-Mail on 1 October 1994 and several other surveys, that the great majority of the Australian community is in favour of decriminalising cannabis. Therefore, it is submitted that the Report's negative view of expiation notice schemes is out of touch with community views.

Furthermore, the CJC has ignored the fact that such concerns are not similarly encountered in respect of traffic breach notices.

In relation to the Report's criticism of the South Australian and ACT models, it is submitted that these are not criticisms which can suitably deny a similar scheme being introduced to Queensland. There is no evidence to prove South Australian users have increased consumption at a greater rate than other states. On the contrary, Western Australia at present has the greatest use of cannabis in the 14-19 year age bracket for the whole of Australia.

On 30 September 1994 the *Report of the National Taskforce on Cannabis* was released. In the Report it discussed legislative options for cannabis in Australia. Of particular interest was its examination of the prohibition with civil penalties option used in South Australia and the Australian Capital Territory. It addressed the concerns of most in the community when it stated:

> While concern has been expressed at the possibility that cannabis use levels might increase following the introduction of civil penalty schemes, the evidence available to date suggests that such systems introduced in some American states, and in South Australia and the ACT have not led to changes in patterns of cannabis consumption and cannabis use remains at similar levels to that in jurisdictions which have policies of total prohibition (page 22).

It was, however, acknowledged that this scheme has a distinct problem, namely the failure of over 40% of expiation notices being paid, whereby, it results in a court appearance. The Report by the National Taskforce on Cannabis however found:

> While there remain problems resulting from unintended administrative consequences of such changes to the existing law, suggestions have already been put forward as to ways of improving rates of expiation specifically, and more generally ways of achieving the maximum benefits which may reasonably be expected from the implementation of the civil penalty option.

It can be concluded that the total prohibition with a civil penalty option as practised in the two Australian jurisdictions goes a long way towards meeting its policy goals and the criteria for good policy.

Furthermore, the important issue of disproportionate discrimination on people from lower socio-

economic backgrounds was raised again. It was addressed by the Taskforce by suggesting that adjustments to the administration and operation of these options be reviewed to produce a more efficient and equitable expiation notice scheme. It must be remembered that Queensland laws at present face this issue as well, but with little or no scope to adjust unlike the expiation notice scheme.

It is acknowledged that some criticisms of the ACT and South Australian expiation notice schemes are valid. The Report states that its current operation does not deliver the results that are expected of it. On the other hand, the Taskforce argued that a scheme which is more flexible and efficient in its administration and operation would fulfil the policy goals of achieving an effective and equitable drug policy. The Taskforce highly recommended such a scheme so long as it is adjusted to address the criticisms.

We submit that the South Australian and ACT schemes can be improved upon in Queensland.

RECOMMENDATION 11.

WE RECOMMEND THE USE OF EXPIATION NOTICES IN QUEENSLAND, AND THAT THE FOLLOWING FEATURES BE ADOPTED IN THAT SCHEME:

- **FINES TO BE SLIGHTLY LOWER THAN THOSE PRESENTLY USED IN THE ACT AND SOUTH AUSTRALIA;**
- **PEOPLE FROM LOWER SOCIO-ECONOMIC BACKGROUNDS BE GIVEN OPTIONS AS TO METHOD OF PAYMENT OF THEIR FINE WITHOUT HAVING TO ATTEND COURT DUE TO NON-PAYMENT. THIS COULD BE DONE BY GIVING THE FOLLOWING OPTIONS:**
  - *** PAYING FINES BY INSTALMENTS, ADMINISTRATIVELY ADJUSTED ACCORDING TO INCOME RECEIVED AND REASONABLE PERIODS TO PAY THE FINES;**
  - *** SUSPENDED FINES, IF UNDER EXTREME ECONOMIC HARDSHIP; AND**
  - *** COUNSELLING RATHER THAN FINES FOR PEOPLE WITH CANNABIS DEPENDENCY, SUCH AS OCCURS WITH SOME DRIVING OFFENCES;**
- **UNDER NEW CANNABIS LAWS THE POLICE BE GIVEN STRICT GUIDELINES AS TO THE ISSUING OF FINES;**
- **POLICE GUIDELINES RESTRICT FINE ISSUING SPREES, BUT TO FOCUS THEIR RESOURCES ON MORE PRESSING PROBLEMS SUCH AS LARGE SCALE PRODUCTION AND IMPORTATION OF CANNABIS;**
- **PERSONS WHO ARE REPEAT MINOR OFFENDERS NOT TO BE LABELLED CRIMINALS, BUT TO PAY HIGHER FINES THAN THE FIRST OFFENDER. COMPUTER DATA ON PREVIOUS FINE NOTICES COULD PERMIT A POINTS SYSTEM SUCH AS WITH LOSS OF DRIVERS LICENCE; AND**
- **A COMPREHENSIVE EDUCATION PROGRAM BE ADOPTED AND SUSTAINED,**

SO THAT ALL SECTORS OF THE COMMUNITY UNDERSTAND THE OPERATION AND EFFECT OF THE SCHEME TO THE COMMUNITY.

INTERNATIONAL DRUG CONVENTIONS

* 1961 Single Convention on Narcotic Drugs

* 1971 Convention on Psychotropic Substances

* 1988 United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances

Firstly it must be noted that the Commonwealth Government is a signatory to these conventions not the State Government. It could be argued that the powers of the states are not eroded by these conventions in any way with respect to cannabis, due to the separation of powers in the Australian Constitution.

It also must be remembered that the inclusion of cannabis in these conventions was only possible, by defining it as an opiate or narcotic. This classification is unjustified because there is no evidence that cannabis has any association chemically or causatively with hard drugs such as heroin or amphetamines.

In the 1988 convention Articles 3.4(b),(c) and (d) allow the provision of "measure of treatment, education, aftercare, rehabilitation and social integration "as an alternative to conviction or punishment of drug offenders.

In Australia the debate is whether the laws in South Australia and the ACT breach the conventions. On 24 February 1994 the Commonwealth Attorney-General's office which advised that the South Australian and ACT laws on "Expiation Notices" are consistent with both conventions on "personal consumption".

It is submitted that state laws based on the "social integration" of persons using cannabis for personal consumption can be introduced to allow a system of partial decriminalisation of minor cannabis offences. This could be done in a similar manner as laws relating to illegal parking, speeding and other traffic offences.

CONCLUSION

The critical issue to be addressed is, "should personal consumption of cannabis be viewed as a criminal activity?"

It was clear from the discussion paper and the Report that the laws require change. However the recommendations made in the Report do not appear to address the problem posed by the criminal stigmatisation placed on minor users of cannabis.

We submit that contact with the criminal justice system, even if the result is that no conviction is recorded, is inappropriate in the case of a widely accessible and used drug such as cannabis, which also has few proven serious side effects and is less harmful than several legal drugs.

We submit that the community would accept decriminalisation of cannabis use. However, the

Committee may feel more able to recommend decriminalisation of minor use if a clause in any legislation decriminalising cannabis use provides for the review of the legislation after a reasonable period of time.

We therefore ask the Committee to recommend this approach. Our principal concern is that young people who frequently have contact with this drug are not criminalised by their youthful experimentation.

We submit that personal consumption should not be viewed by the Legislature as a criminal activity.

Dana Wainwright
M.B., B.S., M.A.C.P. (UK), F.A.A.C.P.
Provider No. 099802 L

24/2/95

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21 OCT 1994
CRIMINAL JUSTICE COMMITTEE

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13th October, 1994

The Research Director,
Parliamentary Criminal Justice Committee,
Parliament House,
Cnr. George & Alice Streets,
BRISBANE QLD 4000

Dear Sir,

I enclose a submission from the AMAQ on the review of the Criminal Justice Commission's Report on Cannabis and the Law in Queensland.

Yours sincerely,

Dana Wainwright

DANA WAINWRIGHT

CRIMINAL JUSTICE COMMISSION'S REPORT ON CANNABIS AND THE LAW IN QUEENSLAND

ISSUES RAISED

Chapter 2

The Use and Effects of Cannabis

Short-Term Effects

- impairment of motor and cognitive skills
- perceptual distortion
- lowered attention span and short-term memory disruption

We are pleased that the consensus of all scientific contributors to the report is that cannabis produces the above short-term effects, the strength of the effects being increased by larger doses of cannabis.

The report then went on to discuss the public safety effects with which we also agree.

However, what was omitted in this report is the duration of these effects which is dose dependent. There is good scientific evidence that impaired skills motor performance has been detected 24 hours after use by aeroplane pilots and with careful measurement short-term memory defects have been found persisting as long as four weeks after cannabis use.

This duration of effect has profound implications for students attempting to study, sportsmen, skilled workers and many other members of society who are not performing to their full potential.

We have recently commissioned and obtained an excellent review of the scientific literature from a leading Professor of Neuropharmacology and previous head of the Australian Drug Evaluation Committee. This is a scientific paper, unbiased and unemotional and the evidence for the duration of cannabis effects is incontrovertible.

We would like this duration of effect and its implications for society to be taken into account when the CJC decisions are made.

Long-Term Effects

Respiratory Conditions

"... most researchers agree there is likely to be an association." We agree.

AMA(Q) Submission (Page 20)

"Two effects:

- potential respiratory effects,
- cognitive and psychomotor effects are unanimously acknowledged by the professional medical and research community."

We endorse this finding as discussed in the previous 'Short-term effects' section.

Chapter 3

Current Law and Practice in Queensland

AMAQ has the following position on marijuana.

- Cannabis is a dangerous drug affecting mental functioning.
- The community needs to be educated about the dangers of cannabis.
- Legalisation or even decriminalisation is not acceptable but imprisonment should be avoided with a first offence and compulsory rehabilitation preferred for the users of cannabis.

Accordingly, we agree with the four conclusions (page 47) particularly point 3 - 'The sentences being imposed by Queensland courts for lower-scale cannabis offences bear no relation to the statutory penalties.'

Chapter 7

Recommended Approach

We agree with the recommended approach in relation to the drug laws and minor cannabis offences.

". the lowest level cannabis possession and cultivation offences be reduced to the status of simple offences, ..."

We agree with the following recommendations.

7.1 Creation of Simple Offences
7.2 Scope of Simple Possession Offence
7.3 Scope of Simple Cultivation Offence
7.4 Special Provisions for Minor Cases
7.5 Abolition of Cannabis Paraphernalia Offence

We agree with their conclusion (page 109). We also agree with the recommendation that further research be undertaken (page 110).

Education of the Public

We strongly believe that, pari passu, with the above change to drug laws, education should be a priority of all stakeholders.

Education is mentioned in the report (page 90).

> "It is also proposed that the current national and state health strategies to educate the public, in particular the youth about the health and social costs of cannabis use should continue to receive government support, with a greater emphasis on provision of drug education program in schools."

We urge the CJC to endorse the above recommendations and to set aside government funds for the above.

We would like to see the educative strategy broadened to all sections of the community.

We, AMAQ, have convened a committee with representatives from AMAQ, Drug Arm, Department of Health, Department of Education, Schools P & C, and Drug and Alcohol Foundation with the aim of developing and launching an educative campaign with a uniform message and believe that Queensland can be the foremost state in developing such a broad based strategy. We would welcome the support of Government.

SUBMISSION TO THE PARLIAMENTARY

CRIMINAL JUSTICE COMMISSION

on

Criminal Justice Commission's

"Report on Cannabis and the Law in Queensland."

October 21st 1994

Queensland Coalition Health Committee

PO Box 403

Spring Hill 4004

This submission by the Queensland Coalition Health Committees on the Criminal Justice Commission's "Report on Cannabis and the Law in Queensland", has been directed solely to that report. The submission has highlighted some areas of the report - and comment has been brief. This has therefore excluded the requirement for Table of Contents, Index, Bibliography or References.

This brief submission has been submitted on behalf of the Coalition Health Committee, and is solely directed towards that area of the Criminal Justice Commission's report on Cannabis and the Law in Queensland. This submission will refer to specific pages by number as it progresses.

"The effects of Cannabis"
pages 11 to 15
Very little weight has been given to the short term effects of Cannabis - perceptual distortions and loss of inhibitions. Page 15 suggests that "impairment effects of THC last for only two to four hours" but "THC can remain in blood and urine for days/weeks after use".

No mention is made of the pharmacodynamics of its high fat solubility and cerebral levels. THC's lipid solubility explains its rapid clearance from the blood. But it is cleared to high fat or lipid organs e.g. Brain.

Page 17. The last two lines attempt to refute the potential for birth irregularities and congenital conditions. The evidence is growing to reaffirm the suggested dangers.
Page 20. The cognitive and psychomotor adverse effects are given very light emphasis. Although the submission from Mt Isa Mines was not studied by the chairman of the Coalition Health Committee, it may be of real concern in industries such as Air Lines, Air Traffic Control, electric power transmission, computer operation in specific occupations and associated high risk areas.

Cannabis as a "gateway drug" did not receive the attention that it deserves.

Page 27. "Current law practice". This section does note some inconsistencies e.g. no offence in having syringe and needles for heroin, but criminal offence to possess a "bong".

Page 61. The suggestion by C.A.L.M. that relaxation of laws would result in increased use - did not appear to be refuted.

Page 61. Qld Council for Civil Liberties (QCCL) in no way at all covered the bureaucracies of quality control licensing, monitoring of sales outlets, and issuing of "smart" I.D. Cannabis card holders to the point of being ludicrous.

Q.C.C.L. argued that prohibition has not curtailed cannabis use - but neither has prohibition curtailed murder, rape, incest nor armed holdups.

The Coalition's approach is one of education, harm reduction, rehabilitation and containment. The enforcement is to be linked with other and associated policing functions already in existence. Cost/benefit concept in the Appendix 2 refutes QCCL claim. The suggestion that cannabis, if legalised criminal organisations would be removed from the scene, is not felt to be accurate. This does not appear to be so in horse racing, gambling, some entertainment venues and certain aspects of tourism. (Criminals will always be seeking an easy tax free dollar).

Q.C.C.L. and H.E.M.P. suggest that prohibition has failed to achieve a reduction in levels of use. That the levels of use HAVE fallen and levelled out in Australia and U.S.A. - must be due to something - appears to be overlooked.

The report does not appear to recognise that the world of neuro-science, molecular pharmacology and biochemistry has slowly, but surely been accumulating evidence that Cannabis is toxic in acute and chronic exposures and that if more freely available and decriminalised - its use by workers in high risk responsible occupations would be difficult to supervise. (It is easy to grow, harvest, dry and make ready for use with no biochemistry and processing required.

In an effort to inform and assist the members of the Parliamentary Committee - the Coalition Health Committee would like to bring to its notice the existence of a safe, rapid, convenient, inexpensive, reliable, multiple drug screening kit supplied by Integrated Scientifics. The

screening tests are specific for Seven drugs at a cost of $25 total outlay.

The testing of workers in high risk industries in the - interests of public safety - may become necessary in the near future. To that end the Coalition Health Committee remains of the view that legalisation or decriminalisation of Cannabis would be a most retrograde step indeed.

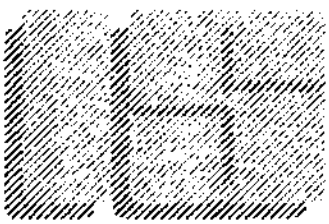
Coalition Health Committee.

Dermot A. Lynch

.....
Chairman

Integrated Sciences

INTEGRATED SCIENCES PTY LTD, ACN 002 688 726.
LEVEL 1, 2 McCABE PLACE, WILLOUGHBY, NSW 2068, AUSTRALIA
POST OFFICE BOX 731, WILLOUGHBY, NSW 2068, AUSTRALIA
TELEPHONE 02-417 75[illegible] - 1800 232 204 FACSIMILE 02-4[illegible]



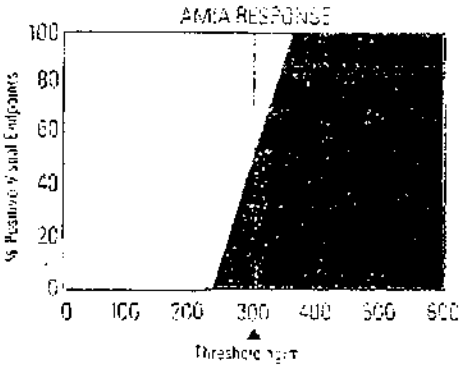
10th February, 1994

ASCEND™ MultImmunoassay

BREAKTHROUGH TECHNOLOGY THAT BRINGS YOU SIMPLE, ACCURATE TESTING.

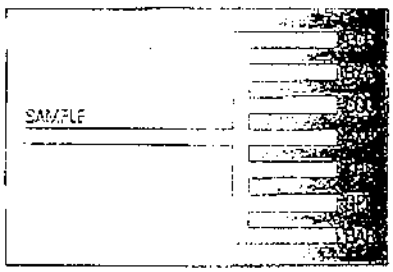
CLEAR, SIMPLE ANSWERS

Each *ASCEND MultImmunoassay (AMIA™)* has a "digital" ON/OFF response at its built-in threshold concentration. Color formation occurs rapidly, increasing to a maximum visual signal. Color endpoints are clearly interpreted as YES or NO, without need for comparison to external standards.*



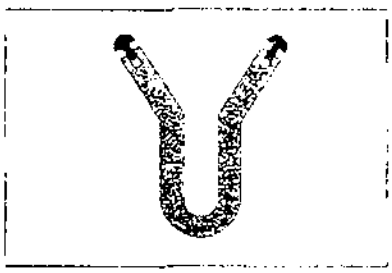
MULTIPLE, DISCRETE TEST RESULTS

From a small urine sample, seven different drug classes can be analyzed simultaneously to provide seven discrete test results in just 10 minutes.* *ASCEND MultImmunoassay* makes this possible.



SELECTED MONOCLONAL SPECIFICITY

Our patented *ASCEND MultImmunoassay* (U.S. Patent #5,028,535) technology gives you the specificity of monoclonal antibodies that detect either broad classes or specific drug compounds—depending upon the need.



INES • MARIJUANA • OPIATES • BARBITURATES

Step 1

ADD SAMPLE

Just remove the cap from the reaction cup. Add urine. Then wait 10 minutes.

Step 2

TRANSFER SOLUTION

Transfer the solution from reaction cup to the detection area. Allow solution to soak in completely.

Step 3

WASH AND READ

Add 3 drops of wash solution and read test results.

Reliable TRIAGE test results are assured by reading the built-in procedural controls.

A sample's test result is *positive* if a color bar appears in the detection zone adjacent to the drug name.

Triage™

THE ONLY SCREENING PANEL FOR DRUGS OF ABUSE THAT GIVES YOU 7 TEST RESULTS IN 10 MINUTES.

CP • BENZODIAZEPINES • COCAINE • AMPHETA

Triage

PANEL FOR DRUGS OF ABUSE

PIPETTING PROCEDURE

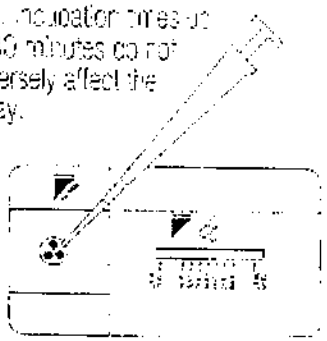
Instructions For Using the Biosite Pipet

1. Attach a clean disposable tip to the pipet.
2. Depress the plunger until it stops.
3. Holding the pipet vertically, place the end of the tip into the sample.
4. Release the plunger, allowing the tip to fill with sample. Withdraw the tip from the sample when the plunger is fully released.
5. To dispense the sample, gently depress the plunger until it stops.
6. Withdraw the tip and fully release the plunger.
7. Discard the pipet tip immediately after each use.

TEST PROCEDURE

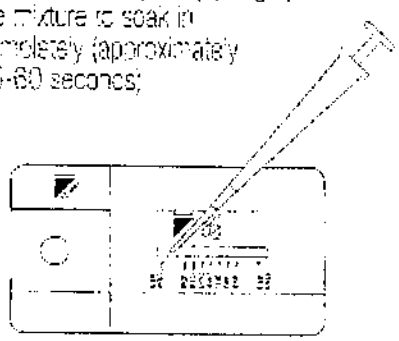
STEP 1: Add Sample

Slide the cap from the reaction cup. Using the pipet provided, pipette the urine sample (140µl) into the reaction cup and incubate **10 minutes** at room temperature. Incubation times up to 30 minutes do not adversely affect the assay.



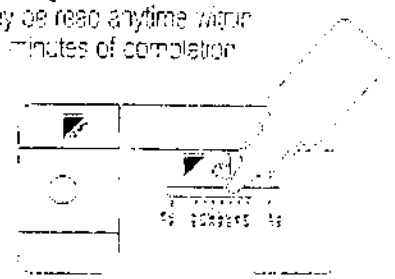
STEP 2: Transfer Solution

Using the pipet provided and a clean pipet tip, transfer the reaction mixture from the cup to the point in the Detection Area indicated by the pipet graphic. Allow the mixture to soak in completely (approximately 45-60 seconds).



STEP 3: Wash and Read

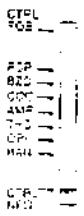
Add 3 drops of Wash Solution into the center of the detection area and allow to soak in completely (approximately 45-60 seconds). Read the CONTROL NEGATIVE Zone, the CONTROL POSITIVE Zone and the Drug Detection Zones. Results may be read anytime within 10 minutes of completion.



INTERPRETATION OF RESULTS

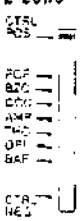
STEP 1: Read The CONTROL NEGATIVE Zone

If a color bar appears in the CONTROL NEGATIVE Zone, discard the device and retest the sample using a new device.



STEP 2: Read The CONTROL POSITIVE Zone

Results are valid if a color bar appears in the CONTROL POSITIVE Zone. If no color bar appears in the CONTROL POSITIVE Zone, discard the device and retest the sample using a new device.



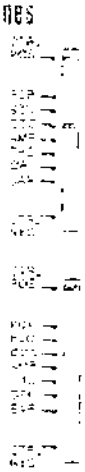
STEP 3: Read The Drug Detection Zones

POSITIVE RESULTS

A sample is positive if a color bar appears in any of the Drug Detection Zones adjacent to the drug names.

NEGATIVE RESULTS

A sample is negative if a color bar appears in any of the Drug Detection Zones adjacent to the drug names.



BIOSITE DIAGNOSTICS
11030 ROSELLE ST., STE. C
SAN DIEGO, CA 92121-2417
1-800-745-8226

INTENDED USE

The Triage™ Panel for Drugs of Abuse is a rapid immunoassay for the qualitative detection of the major metabolites of these drugs of abuse in urine at the following cut-off concentrations.

PCP	Phencyclidine	25 ng/mL
BZO	Benzodiazepines	300 ng/mL
COC	Cocaine	300 ng/mL
AMP	Amphetamines	1000 ng/mL
THC	Tetrahydrocannabinol	100 ng/mL
OPI	Opiates	300 ng/mL
BAR	Barbiturates	300 ng/mL

This test provides only a preliminary test result. A more specific alternate chemical method must be used in order to obtain a confirmed analytical result. Gas chromatography/mass spectrometry (GC/MS) is the preferred confirmatory method. Other chemical confirmation methods are available. Clinical consideration and professional judgment should be applied to any drug of abuse test result, particularly when preliminary positive results are used.

SUMMARY AND EXPLANATION OF THE TEST

Drug abuse in the United States continues to be an increasingly significant social and economic problem. Opiates, cocaine, THC, amphetamines, and phencyclidine are recognized as the most frequently abused illicit drugs by the National Institute on Drug Abuse (NIDA). Tranquilizers, anti-depressants, barbiturates and opiate compounds are among a group of

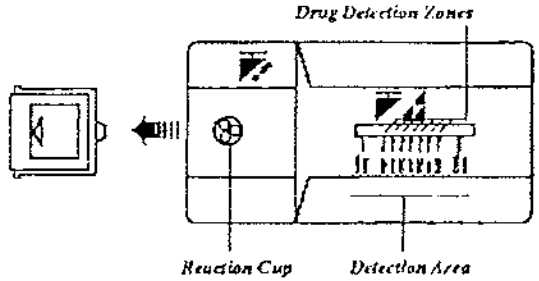
prescription drugs that also are frequently abused. The opiate class of compounds that may produce a positive result include illicit opiates as well as codeine containing cough medications and antidiarrheal preparations.

Urine based screening tests for drugs of abuse range from simple immunoassay tests to complex analytical procedures. The speed and sensitivity of immunoassays have made them the most accepted method for screening urine for drugs of abuse. Visually read immunoassays eliminate the need for instrumentation.

The Triage™ Panel for Drugs of Abuse is a rapid, visual, competitive immunoassay that simultaneously provides discrete results for the major metabolites of seven different classes of drugs of abuse in urine specimens. The use of monoclonal antibodies, which are specific for the metabolites of the seven drugs/drug classes, ensures a high degree of sensitivity and specificity. Monoclonal antibodies allow the simultaneous detection of multiple drugs in a single sample.

PRINCIPLES OF PROCEDURE

TRIAGE™ TEST DEVICE



The Triage™ Panel for Drugs of Abuse utilizes a patented immunochemistry, ASCEND™ MultImmunoassay (AMIA™). The AMIA™ assay is a competitive binding immunoassay in which a chemically labeled drug (drug conjugate) competes with drug which may be present in the urine for antibody binding sites. After a brief incubation, the reaction mixture is transferred to the membrane in the Detection Area. Free drug conjugate that is displaced from antibody binding sites by drug in the urine, binds to a zone of monoclonal antibody that is immobilized on the membrane. The membrane is washed to remove the unbound conjugate and clear the background. Test results are visually read.

A positive specimen produces a distinct colored bar in the Drug Detection Zone adjacent to the drug name. A negative specimen does not produce a colored bar.

REAGENTS

Triage™ Panel for Drugs of Abuse kit contains all the reagents necessary to perform the assay.

TEST DEVICE

- Mouse monoclonal antibodies against the major metabolites of Phencyclidine, Benzodiazepines, Cocaine, Amphetamines, Tetrahydrocannabinol, Opiates and Barbiturates immobilized on a membrane
- Mouse monoclonal antibodies against the major metabolites of Phencyclidine, Benzodiazepines, Cocaine, Amphetamines, Tetrahydrocannabinol, Opiates and Barbiturates lyophilized in a protein matrix containing <0.01% sodium azide
- Drugs of abuse conjugated to colloidal gold lyophilized in a protein matrix containing <0.01% sodium azide

- Lyophilized buffer

WASH SOLUTION

- Buffered solution containing 0.02% sodium azide

WARNINGS AND PRECAUTIONS

- FOR IN VITRO DIAGNOSTIC USE.
- For professional use only.
- Urine specimens may be potentially infectious. Proper handling and disposal methods should be established.
- Reagents in this kit contain sodium azide which may react with lead or copper plumbing to form potentially explosive metal azides. Upon disposal of these reagents, always dilute the material with a large volume of water to prevent azide build up in the plumbing.
- The Biosite pipet and Wash Solution included in the kit are intended to be used only with the kit in which they are supplied. The pipet and the Wash Solution should be disposed of on completion or expiration of the kit.

STORAGE AND HANDLING REQUIREMENTS

The reagents contained in the Triage™ Panel for Drugs of Abuse should be stored at room temperature (15°-25°C/59°-77°F) and are stable until the date stamped on the kit box.

SAMPLE COLLECTION AND PREPARATION

Freshly voided urine specimens should be collected in a clean, previously unused glass or plastic container. The specimen may be refrigerated at 2°-8°C/36°-46°F for 2 days or frozen (-20°C/-4°F or colder) for longer periods. Specimens that were refrigerated must reach room temperature (15°-25°C/59°-77°F) prior to testing. Specimens previously frozen must be thawed and mixed thoroughly prior to testing.

This product has been evaluated for urine only.

Specimens containing a large amount of particulate matter may be clarified by centrifuging or allowing to settle before testing.

MATERIALS

PROVIDED

Triage™ Panel for Drugs of Abuse

Kit contains	
Test Devices	25 each
Wash Solution	1 x 8 mL

Pipet	1 each
Pipet Tips	50 each

REQUIRED BUT NOT PROVIDED

Timer or stopwatch.

PIPETTING PROCEDURE

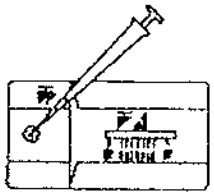
INSTRUCTIONS FOR USING THE BIOSITE PIPET

1. Before each use, attach a clean, disposable tip to the pipet.
2. Depress the plunger until it stops.
3. Holding the pipet vertically, place the end of the tip into the sample.
4. Release the plunger, allowing the tip to fill with sample. Withdraw the tip from the sample when the plunger is fully released.
5. To dispense the sample, gently depress the plunger until it stops.
6. Withdraw the tip and fully release the plunger.
7. Discard the pipet tip immediately after each use .

TEST PROCEDURE

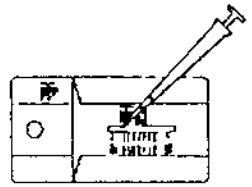
STEP 1 ADD SAMPLE

Slide the cap from the reaction cup. Using the pipet provided and a clean pipet tip, pipette the urine sample (140 µl) into the reaction cup and incubate 10 minutes at room temperature.



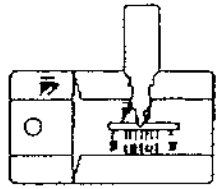
STEP 2 TRANSFER SOLUTION

Using the pipet provided and a clean pipet tip, transfer the reaction mixture from the cup to the point in the Detection Area indicated by the pipet graphic. Allow the mixture to soak through completely.



STEP 3 WASH AND READ

Add 3 drops of Wash Solution into the center of the Detection Area and allow to soak through completely. Read the *CTRL NEG* Zone, the *CTRL POS* Zone and the Drug Detection Zones. Results may be read anytime within 5 minutes of completion.



INTERPRETATION OF RESULTS

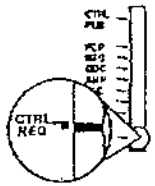
Cut-off concentrations for each drug class in the Triage™ panel are:

PCP	Phencyclidine	25	ng/mL*
BZO	Benzodiazepines	300	ng/mL
COC	Cocaine	300	ng/mL*
AMP	Amphetamines	1000	ng/mL*
THC	Tetrahydrocannabinol	100	ng/mL*
OPI	Opiates	300	ng/mL*
BAR	Barbiturates	300	ng/mL

*Concentrations recommended by NIDA (National Institute On Drug Abuse)

STEP 1 READ THE *CTRL NEG* ZONE

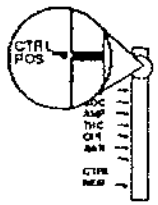
If a color bar appears in the *CTRL NEG* Zone, discard the device and retest the sample using a new device.



If the same results are observed upon repeat analysis, contact Biosite Technical Services.

STEP 2 READ THE *CTRL POS* ZONE

Results are valid if a color bar appears in the *CTRL POS* Zone. If no color bar appears in the *CTRL POS* Zone, discard the device and retest the sample using a new device.

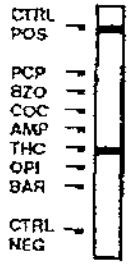


If the same results are observed upon repeat analysis, contact Biosite Technical Services.

STEP 3 READ THE DRUG DETECTION ZONES

POSITIVE RESULTS

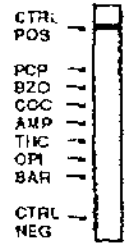
A sample is positive if a color bar appears in any of the Drug Detection Zones adjacent to the drug names.



If a color bar appears, the sample is presumed to contain drug at a level equal to or greater than the cut-off concentration for that drug.

NEGATIVE RESULTS

A sample is negative if no color bar appears in any of the Drug Detection Zones adjacent to the drug names.



QUALITY CONTROL AND ACCEPTABILITY OF RESULTS

The Control Negative (*CTRL NEG*) Zone ensures that reagents are active and the proper incubation time has been followed. A color bar <u>should not</u> appear in this zone.

The Control Positive (*CTRL POS*) Zone ensures that reagents are active and the correct procedure has been followed. A color bar <u>should</u> appear in this zone.

Positive urine controls above the specified cut-offs for each drug should produce a color bar adjacent to the drug name. Negative urine controls should not produce a color bar adjacent to any of the drug names.

If a positive result is not observed adjacent to the *CTRL POS* zone and/or a negative result is not observed adjacent to the *CTRL NEG* zone the test should be discarded. The test should be repeated using another device. If the same results are observed upon repeat analysis another specimen should be obtained and retested. If the same results are observed upon repeat analysis, contact Biosite Technical Services.

The use of a positive urine control, approximately 25% greater than the cut-off concentration, is recommended to initially test each shipment of product or at any time one feels it necessary to validate the performance

of the reagents. The Positive *(CTRL POS)* and Negative *(CTRL NEG)* procedural controls contained in this product satisfy the requirements of testing a positive and negative control on a daily basis.

Consult Biosite Technical Services at (800) 745-8026 for recommendations for commercial controls.

LIMITATIONS OF THE PROCEDURE

There is the possibility that factors such as technical or procedural errors, as well as additional substances in the urine sample that are not listed on pp 13-16, may interfere with the test and cause erroneous results.

Adulterants, such as bleach or other strong oxidizing agents, added to urine specimens may produce erroneous results regardless of the method of analysis. If adulteration is suspected, obtain another specimen.

A positive result indicates the presence of the drug or drug metabolite and does not indicate the level of intoxication, route of administration or urinary concentration.

PERFORMANCE CHARACTERISTICS

ACCURACY

Approximately 50 positive specimens above the cut-off concentration for each of the seven specific drugs were evaluated using the Triage™ test device, Gas Chromatography/Mass Spectroscopy and Syva®EMIT® d.a.u.™. A minimum of 100 drug free specimens were also evaluated. The results are presented below.

	Triage™ Pos/Neg	GC/MS Pos/Neg	Syva®EMIT® d.a.u.™ Pos/Neg
PCP			
>25 ng/mL	49/0	49/0	49/0
<25 ng/mL	0/100	0/100	0/100
Benzodiazepines			
>300 ng/mL	65/3	68/0	68/0
<300 ng/mL	3/122	0/125	14/111
Cocaine			
>300 ng/mL	46/1	47/0	45/2
<300 ng/mL	0/101	0/101	1/100
Amphetamines			
>1000 ng/mL	48/3	51/0	48/3
<1000 ng/mL	2/113	0/115	3/112
THC*			
>100 ng/mL	51/0	51/0	49/2
<100 ng/mL	1/100	0/101	1/100
Opiates			
>300 ng/mL	46/1	47/0	47/0
<300 ng/mL	0/100	0/100	0/100
Barbiturates			
>300 ng/mL	49/0	49/0	45/4
<300 ng/mL	0/100	0/100	0/100

*GC/MS confirmation is done at 15 ng/mL of 11-nor-9 carboxy-Δ^9-THC

SPECIFICITY

Monoclonal antibodies for the Triage™ Panel for Drugs of Abuse were selected with specificity for the major metabolite(s) of parent drugs found in the urine.

The specificity of the Triage™ Panel for Drugs of Abuse was tested by adding to drug-free urine, various drugs, drug metabolites, and other compounds that are likely to be present in urine.

The specificity of each of the seven drug classes in the Triage™ test has been extensively tested with over 600 drugs and closely related compounds. A portion of the compounds representative of each class are listed below and are expressed as the concentration that produces a positive result[1].

	ng/mL
PCP	
PCE	1000
PCP	25
PCPy	100
TCM	25,000
TCP	25
TCPy	200
Benzodiazepines	
Alprazolam	450
Alprazolam, α-OH	400
Bromazepam	1,000
Chlorazepate	7,500
Chlordiazepoxide	5,000
Clonazepam	25,000
Demoxepam	2,000
Diazepam	450
Flunitrazepam	350
Flurazepam	750
Halazepam	1,000
Hydroxyethyl flurazepam	450
Lorazepam glucuronide	400
Nitrazepam	500
Nordiazepam	1,000
Nordiazepam glucuronide	300
Oxazepam	1,500
Oxazepam glucuronide	300
Temazepam	300
Temazepam glucuronide	300
Triazolam	750
Triazolam, α-OH	1,000
Cocaine	
Benzoylecgonine	300
Cocaethylene	1,500
Cocaine	3,000
Ecgonine	50,000
Amphetamines	
d-Amphetamine	1,000
l-Amphetamine	35,000
MDA	3,000
MDEA	5,000
MDMA	3,000
d-Methamphetamine	1,000
l-Methamphetamine	10,000
Phenethylamine	15,000
THC	
11-nor-9 carboxy-Δ^9-THC	100
Opiates	
Acetylmorphine, 6-	300
Codeine	300
Diacetylmorphine	300
Ethylmorphine	400
Hydromorphone	400
Meperidine	75,000
Morphine	300
Morphine 3 B glucuronide	400
Naloxphine	2,000
Oxycodone	25,000
Oxymorphone	30,000
Thebaine	2,000
Barbiturates	
Allobarbital	500
Aminoglutethimide	10,000
Amobarbital	300
Aprobarbital	750
Barbital	1,000
Butabarbital	300
Butalbital	300
Cyclobarbital	300
Cyclopentobarbital	300
Pentobarbital	300
Phenobarbital	450
Secobarbital	300
Talbutal	300

The following compounds were found not to cross-react when tested at concentrations up to at least 100 µg/ml (unless otherwise indicated in parenthesis)[1].

Acebutolol	Acetaminophen	Acetanilide
Acetazolamide	Acetone	Acetopromazine
Acetyl-l-cysteine, n	Acetylmethadol	Acetylsalicylic acid
Albumin	Afdrin	Allopurinol
Alphaprodine	Alprenolol	Amantadine
Amikacin	Amiloride	Amino-benzoic acid,p-
Aminopyrine, l-	Amiodarone	Amitryptyline
Ammonium chloride	Amoxapine	Amoxicillin
Amphotericin	Ampicillin	Amygdalin
Aniline	Antipyrine	Apocodeine

Triage™

PANEL FOR DRUGS OF ABUSE

Apomorphine
Aspirin
Azatadine
Benactyzine
Benzocaine
Benzphetamine
Benzylamine
Bumetanide
Butyrophenone
Carbamazepine
Carbidopa
Cephalexin
Chloral hydrate
Chlormezanone
Chlorotrianisene
Chlorprothixene
Chlorzoxazone
Cinnoxacin
Clindamycin
Clonidine
Cortisone
Cotinine, l-
Cyclophosphamide
Desipramine
Diazinon
Dichloromethane
Dicumarol
Dieldrin
Diethylpropion
Digoxin
Dihydroxyphenylglycol,dl 3,4
Dimethylbiguaride, 1,1
Diphenoxylate
Diquat (10)
Dobutamine
Dopamine
Doxycycline
Ecgonidine methyl ester
Emetine
Ephedrine, (+/d)
Ergotamine
Estriol
Estrone-3-sulfate
Ethamivan
Ethinamate
Ethotoin
Famotidine
Fenoprofen
Flufenamic acid
Fluoxetine
Furosemide

Ascorbic Acid
Atenolol
Barbituric Acid
Bendroflumethiazole
Benzoic Acid
Benzthiazide
Bilirubin (2.5)
Bupivacaine
Caffeine
Carbamyl-β-methylcholine
Carbromal
Cephaloridine
Chloramphenicol
Chloroquine
Chlorpromazine
Chlorpyrifos
Cholesterol
Ciprofloxacin
Clofibrate
Cloxacillin
Cortol, β-
Creatinine
Cyproheptadine
Despropionyl fentanyl (10)
Dibucaine
Dichlorphenamide
Diclofenac
Diethyldithiocarbamic acid
Diflunisal
Dihydroxymandelic acid,dl3,4-
Diltiazem
Dimethyluric acid, 1,3-
Diphenylhydantoin, 5,5-
Disopyramide
Domperidone
Doxapram
Doxylamine
Ecgonine methyl ester
Endrin
Ephedrine, (-/l)
Erythromycin, l-
Estrone
Ethacrynic acid
Ethanol
Ethinyl estradiol
Ethyl p-aminobenzoate
Fenoterfamine
Fenproporex
Flumazenil
Fluphenazine
Gentamicin

Aspartamine
Atropine
Beclomethasone
Benzidine
Benzonatate
Benzyl alcohol
Bromoergocryptine, 2-α
Buspirone
Camphor
Carbaryl
Carisoprodol
Cephradine
Chlordecone
Chlorothiazide
Chlorpropamide
Chlorthalidone
Cimetidine
Clenbuterol
Clomipramine
Colchicine
Cortolone, β-
Cyclobenzaprine
Deoxycorticosterone
Dextropropoxyphene
Dichloralphenazone
Diclofenac
Dicyclomine
Diethylnicotinamide n,n
Digitoxin
Dihydroxyphenylacetic acid
Dimenhydrinate
Diphenhydramine
Dipyridamole
Disulfiram
Dopa, l-
Doxepin
Dyphylline
EDDP
Enflurane
Epinephrine, l
Estradiol -β
Estrone-3-Glucuronide
Ethambutol
Ethchlorvynol
Ethosuximide
Ethyl-2-phenylmalonamide, 2-
Fenfluramine
Fentanyl
Fluothane
Flurbiprofen
Gentisic acid

Glucose
Griseofulvin
Haloperidol
Haloperidol metab. II
Hemoglobin
Hexachlorophene
Homovanillic acid
Hydrocodone
OH(5)indole-3-acetic acid
Hydroxynicotinic acid, 6-
Imidazole-4-acetic acid
Indole,3- Lactic Acid, dl
Indomethacin
Isopropanol
Isoxsuprine
Ketoconazole
Labetalol
Lithium Carbonate
Lysergic acid diethylamide(2.5)
Mebendazole
Mefenamic acid
Menthol
Mephenytoin
Mercaptopurine, 6-
Metanephrine
Methandrostenolone
Methenamine
Methoxyflexital
Methoxyamine
Methoxytryptamine, 5-
Methyl-l-dopa, α-
Methylephedrine,N-(-)
Methylpseudoephedrine(+)
17α-Methyltestosterone
Metolazone
Miaserin
Nadolol
Nalidixic acid
Naphazoline
Naproxen
Nicotinamide
Nifedipine
Nordoxepin
Norethindrone
Norfluoxetine
Noroxymorphone
Nortriptyline
Noscapine
Orotic acid
Oxandrolone
Oxybutynin
Oxyphenbutazone

Glutethimide, dl-
Guaiacol glycerol ester
Haloperidol metab. I
Hemoglobin
Hippuric acid
Hydralazine
Hydrocortisone
Hydroxy PCP, 4-
Hydroxynorephedrine, p-
Iminostilbene
Indole-3-acetic acid
Iproniazid
Isoproterenol, d,l-
Kanamycin
Ketoprofen
Lidocaine
Loperamide
Malathion
Meclizine
Melarsin
Mephenesin
Mepivacaine
Mescaline
Metaproterenol
Methaqualone
Methenolone
Methotrexate
Methoxyflurane
Methoxytyramine, 3-
Methyldopamine, 3-o-
Methylphenidate
Methylpseudoephedrine(-)
Methyprylon
Metoprolol d,l-
Monoethylglycinexylidide
Nafcillin
Naloxone
Naphthol- α
Neomycin
Nicotine
Nitrofurantoin
Norepinephrine, l-
Norfentanyl (10)
Normeperidine
Norpseudoephedrine
Nortriptyline metab.
Nylidrin
Orphenadrine
Orotinic acid
Oxymetazoline
Oxypurinol

Glycopyrrolate
Guanethidine
Haloperidol metab. II
Hexachlorobenzene
Histamine
Hydrochlorothiazide
OH(5)indole-2-carboxylic acid
OH-3-methoxphenyl glycol,dl4-
Ibuprofen
Imipramine
Indole-3-butyric acid
Isoniazid
Isosorbide
Ketamine
Kynurenic acid
Lindane
Loxapine
Maprotiline
Meclofenamic acid
Melphalan
Mephentermine
Meprobamate
Mesoridazine
Metaraminol
Methazolamide
Methocarbamol
Methotrimeprazine
Methoxyphenamine
Methyl histamine,3-
Methylephedrine, N-(+)
Methylprednisolone, 6-α
Methyl Salicylate
Metoclopramide
Metronidazole
N-acetylprocainamide
Naltrophine
Naltrexone
Naphthoxyacetic acid, 2-
Nialamide
Nicotinic acid
Nitrophenol p-
Norethandrolone
Norfloxacin
Normetanephrine
19 Nortestosterone
Norverapamil
Octopamine
Oxalic acid
Oxprenolol
Oxymetholone
Pancuronium

Papaverine	Paraldehyde	Paramethadione
Paraquat	Parathion	Paraxanthine
Pargyline	PCA	PCC
Pemoline	Penicillin G	Penicillin V
Pentachlorophenol	Pentazocine	Perphenazine
Phenacetin	Phendimetrazine	Phenelzine
Phenformin	Pheniramine	Phenol
Phenolphthalein	Phenothiazine	Phensuximide
Phenylacetone	Phenylalanine-d,l	Phenylbutazone
Phenylenediamine, m-	Phenylenediamine, p-	Phenylephrine
Phenylpropanolamine	Picrotoxin	Pimozide
Pindolol	Pipecolic acid, l-	Pipemidic acid
Piromidic acid	Piroxicam	Potassium chloride
Potassium Iodide	Prazosin	Prednisolone
Prednisone	Pregnene -3β-ol-20-one, 5-	Pregnanediol glucuronide
Prilocaine	Primaquine	Primidone
Probenecid	Procaine	Prochlorperazine
Procyclidine	Progesterone	Promazine
Promethazine	Propiomazine	Propoxyphene
Propranolol, dl-	Propylbenzene	Protriptyline
Pseudoephedrine d	Psilocybin	Psilocyn
Pyridium	Pyridoxine	Quinidine
Quinine	Quinolinic acid	Ranitidine
Rescinnamine	Reserpine	Riboflavin (7S)
Ritodrine	Salbutamol	Salicylamide
Salicylic acid	Salicyluric acid	Serotonin
Sodium chloride	Stanozolol	Strychnine
Succinylcholine	Sulfadiazine	Sulfuguanidine
Sulfamethazine	Sulfamethoxazole	Sulfanilamide
Sulfathiazole	Sulfisoxazole	Sulindac
Tannic acid	Terbutaline	Terfenadine
Testosterone	Tetracycline	Tetrahydrocortisone
Tetrahydrozyline	Theophylline	Thiamine
Thiothixene	Thymol	Thyroxine
Timolol	Tobramycin	Tocainide
Tolbutamide	Tolnetin	Toluene
Toluic Acid, p-	Tranylcypromine	Trazadone
Triamcinolone	Triamterene	Tribenzylamine
Trichlormethiazide	Trichloroacetic acid	Trifluoperazine
Trifluoromethylbenzoic acid, m-	Triflupromazine	Trimethadione
Trimethoprim	Trimipramine	Tropic acid
Tropine	Tryptamine	Tryptophan
Tubocurarine	Tyramine	Tyrosine, dl-
Urea	Uric acid	Valproic acid
Vanillylmandelic acid, dl	Verapamil	Vincamine
Warfarin	Xylometazoline	Yohimbine
Zidovudine	Zomepirac	Zoxazolamine

PRECISION

The precision of the Triage™ Panel for Drugs of Abuse was determined using various concentrations of drug standards for each principle drug detected in this system. 95% confidence levels for positive results are targeted at 120% of the cut-off concentration for each drug.

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5. The Pharmacological Basis of Therapeutics, A.G. Gilman, L.S. Goodman and A. Gilman eds. MacMillan Publishing, New York, NY, 1980.

For Technical Assistance call
Biosite Technical Services at
1-800-745-8026

BD 21/2/95

AMAQ
Queensland Branch of Australian Medical Association

FACSIMILE COVER SHEET

TO: Parliamentary Criminal Justice Committee

FROM: Dr DANA Wainwright

SUBJECT: AMAQ response to 'Report on Cannabis and the Law in Qld'

DATE: 20/10/94 TIME: 2:45pm

NUMBER OF PAGES (INCLUDING COVER SHEET): 5

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13th October, 1994

The Research Director,
Parliamentary Criminal Justice Committee,
Parliament House,
Cnr. George & Alice Streets,
BRISBANE QLD 4000

Dear Sir,

I enclose a submission from the AMAQ on the review of the Criminal Justice Commission's Report on Cannabis and the Law in Queensland.

Yours sincerely,

Dana Wainwright

DANA WAINWRIGHT

CRIMINAL JUSTICK COMMISSION'S REPORT ON CANNABIS AND THE LAW IN QUEENSLAND

ISSUES RAISED

Chapter 2

The Use and Effects of Cannabis

Short-Term Effects

- impairment of motor and cognitive skills
- perceptual distortion
- lowered attention span and short-term memory disruption

We are pleased that the consensus of all scientific contributors to the report is that cannabis produces the above short-term effects, the strength of the effects being increased by larger doses of cannabis.

The report then went on to discuss the public safety effects with which we also agree.

However, what was omitted in this report is the duration of these effects which is dose dependent. There is good scientific evidence that impaired skills motor performance has been detected 24 hours after use by aeroplane pilots and with careful measurement short-term memory defects have been found persisting as long as four weeks after cannabis use.

This duration of effect has profound implications for students attempting to study, sportsmen, skilled workers and many other members of society who are not performing to their full potential.

We have recently commissioned and obtained an excellent review of the scientific literature from a leading Professor of Neuropharmacology and previous head of the Australian Drug Evaluation Committee. This is a scientific paper, unbiased and unemotional and the evidence for the duration of cannabis effects is incontrovertible.

We would like this duration of effect and its implications for society to be taken into account when the CJC decisions are made.

Long-Term Effects

Respiratory Conditions

"... most researchers agree there is likely to be an association." We agree.

AMA(Q) Submission (Page 20)

"Two effects:

- potential respiratory effects,
- cognitive and psychomotor effects are unanimously acknowledged by the professional medical and research community."

We endorse this finding as discussed in the previous 'Short-term effects' section.

Chapter 3

Current Law and Practice in Queensland

AMAQ has the following position on marijuana.

- Cannabis is a dangerous drug affecting mental functioning.
- The community needs to be educated about the dangers of cannabis.
- Legalisation or even decriminalisation is not acceptable but imprisonment should be avoided with a first offence and compulsory rehabilitation preferred for the users of cannabis.

Accordingly, we agree with the four conclusions (page 47) particularly point 3 - 'The sentences being imposed by Queensland courts for lower-scale cannabis offences bear no relation to the statutory penalties.'

Chapter 7

Recommended Approach

We agree with the recommended approach in relation to the drug laws and minor cannabis offences.

". the lowest level cannabis possession and cultivation offences be reduced to the status of simple offences, ..."

We agree with the following recommendations.

7.1 Creation of Simple Offences
7.2 Scope of Simple Possession Offence
7.3 Scope of Simple Cultivation Offence
7.4 Special Provisions for Minor Cases
7.5 Abolition of Cannabis Paraphernalia Offence

We agree with their conclusion (page 109). We also agree with the recommendation that further research be undertaken (page 110).

Education of the Public

We strongly believe that, pari passu, with the above change to drug laws, education should be a priority of all stakeholders.

Education is mentioned in the report (page 90).

> "It is also proposed that the current national and state health strategies to educate the public, in particular the youth about the health and social costs of cannabis use should continue to receive government support, with a greater emphasis on provision of drug education program in schools."

We urge the CJC to endorse the above recommendations and to set aside government funds for the above.

We would like to see the educative strategy broadened to all sections of the community.

We, AMAQ, have convened a committee with representatives from AMAQ, Drug Arm, Department of Health, Department of Education, Schools P & C, and Drug and Alcohol Foundation with the aim of developing and launching an educative campaign with a uniform message and believe that Queensland can be the foremost state in developing such a broad based strategy. We would welcome the support of Government.

SUBMISSION TO THE CRIMINAL JUSTICE COMMISSION'S INQUIRY INTO ILLICIT DRUGS FROM HILDA BROOKS, CAMPAIGN AGAINST THE LEGALISATION OF MARIHUAN

27.2.93.

It seems extraordinary to me that,nearly twenty years after Professor Gabriel.G.Nahas, a physiologist and a pharmacologist a Research Professor of Anaesthesiology at Columbia University, New York first published his findings on the very damaging effects of smoking cannabis we are still debating its "harmlessness". Of course, there we many other researchers from different parts of the world also working this field------William Paton at the University of Oxford;Indanpaan-HeikkilaNational Board of Health, Helsinki; Kolansky and Moore at the Pennsylvania School of Medicine,Philadelphia;Robert Heath,Dept. of Psy iatry and Neurology at Tulane Medical School for 32 years (now retired the late Professor Hardin Jones, Professor of Medical Physics and Physiology, University of California; . to name a few.In the last 20 years much more research has been done by dedicated and reputable researchers All these people corroborate each other's evidence that marihuana is a dangerous drug. Unless we prefer to remain ignorant (and stupid) we wil take advantage of the knowledge which we have received, without financi cost to us,and base our laws upon the facts.

I began collecting informat ion in the form of scientific papers, articles, books etc.,mainly directly from the researchers over 20 years ago. I was concerned that the information was not getting to the public and I have endeavoured through articles and letters to do just that. My submission contains a small fraction of the information I have at hand.

Hilda Brooks

---------oOo-------

CANNABIS:-ITS EFFECTS ON THE PHYSIOLOGY OF THE BODY.

Dr. Carlton Turner, who is often called "The man who knows more about marihuana than anyone else in the world", was Director of a Government-fundedMarihuana Research Project at the University of Mississippi.DR. Turner says:-"There is no other drug used or abused by man which stays in the body as long as cannabis does.And there is no other drug--legal or illegal--which affects every major organ in the body...and every system in the body....and every single cell in the body."

"It is the most complex of all illegal drugs with 421 different chemicals---toxic agents, carbon monoxide, ammonia,acetone and benzene....cancer-causing chemicals ----benzathracene and benzoprene....50-100% greaterthan are found in tobacco smoke.When it is smoked the 421 chemicals turn into still more chemicals----over 2,000 of them, from one single joint.Only cannabis has cannabinoids, the best known being Tetrahydrocannabinol.Only a small amoumt gets through the blood-brain barrier, the rest act on the lungs and reproductive organs,in fact, on every cell in the body."

Turner continues " because cannabinoids seek out the fatty organs in the body and settle there(brain and reproductive organs,for example) cannabinoids 'hang out' in fatty sections of every cell in the body".

When Dr. Robert Heath was a practising psychologist he saw patients who were regular marihuana smokers.All had the "drop-out" syndrome; everything in school was "boring";they also had the "don't hassle me " syndrome;t hey had an abnormal amount of irritability and hostility with abrupt mood swings. They suffered impaired short term memory; found it harder to concentrate; their thinking was confused and their will power was zilch. Their speech had a sameness, a slowness and a dullness.People were against them;they suffered paranoia and depression and had suicidal feelings.Dr. Heath found that it took 3 months for a 'pot personality' to return to normal; because it takes that amount of time for the cannabinoids to clear the body and it was necessary for the person to stay off the drug and not just cut down.

Dr. Herbert Moskowitz of the Southern California Research Institute has shown that smoking marihuana has a harmful effect on every single aspect of driving a car,or a plane,or a school bus-or any other vehicle.He states that despite some popular opinion that,whereas opiates are "hard drugs",marihuana is a "soft drug" recent research shows that cannabinoids contain psychoactive substances of high potency and rapid onset.The widespread effects of marihuana involve cerebral; cardio-vascular,.pulmonary and neuro-regulatory

:ms."

EFFECT OF CANNABIS ON THE LUNGS :-Marihuana smokers draw smoke deeply into the lungs and hold it there because the THC must be deposited on the walls of the fragile air sacs next to the capillaries which then absorb the THC ,so that it can be carried,via the blood vessels, to the brain. The barrel-shaped emphysematon's chest is a common finding in Rastafarian "cultists." Marihuana increases attacks in chronic asthmatics.(though a myth was put about that it helped relieve asthma).

EFFECT OF CANNABIS ON THE HEART:-Marihuana smoking increases the heart beat and can aggravate a hidden heart condition.It increases the amount of carbon monoxide in the blood.It should never be used by anyone with coronary heart trouble.(Dr.Aranow.Prof. of Medicine and Chief of Cardio-vascular Research at the University of California at Irvine.)

EFFECT OF CANNABIS ON THE REPRODUCTIVE SYSTEM:- Dr. Carol Grace Smith, a reproductive pharmacologist, who has probably done more than any other scientist in this area said"There is increasing evidence that the reproductive system may be more impaired by marihuana than any other system.The reproductive system is unique because it has so many different types of control mechanisms. The impairment is a subtle lifelong process. Only when we want to have a baby do we notice that the system has been damaged.It can be heartbreaking if you lose your chance of being a parent because you've been smoking so much pot."

Dr Issidorides (Athens) is a cell biologist who studies the effects of long-term cannabis use on males. Her studies on a group of men who live on the outskirts of Piraeus, and are hashish users found they had misshapen sperm.

In a study in New York City of male marihuana users there was a 20% decrease in the sperm count, a decrease in mobility and an increase in abnormal forms.

Dr.Kolodny (Reproductive Biology Research Foundation of St. Louis)found there were lower rates of sexual activity and lower frequency of orgasm in 500 pot-smoking men compared with non-smokers.

Dr. Carol Smith states:-"One or two joints shuts down sexual production for as long as 24 hours.Tetrahydrocannabinol (THC) profoundly inhibits testosterone and other hormones which stimulate the sex organs,bringing them down to the level of a castrated animal.Of the drugs that we've studied,none has as potent a long-lasting effect on these hormones as THC."

EFFECT OF CANNABIS ON THE IMMUNE SYSTEM:-Professor Gabriel Nahas is a pioneer researcher in this area and one of the most eminent of all

researchers into the effects of marihuana smoking.Itmust be remembered that as long ago as 1961 the United Nations Single Convention on Narcotic Drugs,in a unanimous decision,the signatories agreed "The use of cannabis was dangerous from every point of view,whether mental ,physical or social" 74 nations signed the cannabis treaty and none of the signatories could make the drug legal in their country.

Nahas' experiments found that the T-lymphocytes of two-thirds of young pot-smokers were surprisingly sluggish and slow to divide when facing "an enemy force".B-Lymphocytes which engage in antibody production are definitely impaired.Nahas found that pot smokers had some lymphocytes with lowered amounts of DNA which carry the heriditary "code".

On January 25th.,1974(nearly 20 years ago) Nahas and Akira Morishma released a paper which found the first evidence that "marihuana usage induces cellular damage in man" and that marihuana affects "every cell in the human body".Twelve different research groups in the United States then did experiments and got the same results.Scientists in England,Norway and Canada also corroborated Nahas' findings.

Sir William Paton,Oxford University pharmacologist and a pioneer researcher in Europe into the effects of marihuana says:- "Many of the cellular effects of cannabis can be classified as cell pathology".Paton describes varieties of cell damage done by marihuana viz. deformed cell nuclei;sickly sperm cells;messed-up cell metabolism;abnormally-sized nuclei;abnormal bone marrow cells;disturbed production of proteins(essential building blocks of the cells);complex combinatiions of the genetic code are scrambled;impaired immune system cells;shrunken amounts of DNA and RNA."(Since Nahas' paper in 1974, over 100 scientific papers have been published showing the damaging effects of cannabis on DNA).

Dr. Dupont,Chairman of the Drug Dependency of the World Psychiatric Association and President of the American Counil on Marihuana is a most respected expert in the world on drug abuse and prevention,says:-

"In 1975 I thought marihuana was causing less problems than either alcohol or tobacco (a statement widely quoted by the pro-marihuana lobby).Today my opinion has changed completely.Marihuana combines the worst effects of alcohol and tobacco.It has the intoxicating effects of alcohol and respiratory and potential cancer-causing effects of tobacco;plus many other dangerous effects that neither of them have."

Dr. Carlton Turner says:-"Iam convinced that marihuana will prove to be one of our most dangerous drugs.The inescapable fact is,that, unless our currrent pot-smoking habits are reversed sharply,marihuana will have drastic long-term biological and psychological health effects on our young people,and, therefore, on the future of our families and our nation".

5. In summing up Nahas says:-"The hundreds of findings on various types of cell damage caused by cannabis explain all the other damaging effects of the drug----on the brain,the lungs, the sex organs, and the immune system.Furthermore pot-impaired brain cells can create harmful psychological symptoms. I call the damage done by regular pot-smoking over the years, a slow erosion of life.Because the cannabinoid build-up in the cells does occur slowly, the results may also occur slowly, so the changes may not be evident to the pot-user but will be to his family and friends." **

**When Professor Hardin Jones held his public meeting at the Boys' Grammar School,in August,1977, a young male member of the audience told the meeting that his girl-friend had only smoked a small amount of one reefer when she became quite mad and stayed that way for days.He had smoked a reefer of the same quality; but the experience was enough for him to forego smoking marihuana forever.Dr.Robert Heath also had a patient, Kathy, who smoked one joint and started screaming ..she had been in hospital 2 months with no improvement...no alcohol and no other drugs were involved....only cannabinoids.So the effects of smoking pot can be quite quick,quite sudden and long-lasting. H. Brooks.

1985 SEMINAR HELD IN SYDNEY BY THE N.S.W. DRUG AND ALCOHOL AUTHORITY

Reference "Connexions"1986.

Dr. G.Chesher:-"Marihuana impaired performance skills and would be expected to interfere with the ability to drive a motor vehicle or operate machinery with safety.Cannabis is a potentially dangerous drug and a public policy to discourage its use should continue.Cannabis use appeared to intefere with the effectiveness of pharmaceuticals in the treatment of scizophrenia.In the Montreal General Hospital cannabis-using schizophrenics proved more resistant to antipsychotic drugs.Marihuana use was associated with low infant birth weight and length.Cannabis affects the lungs and contains cancer-producing agents.

MARTIN BAKER:-"The number of patients presenting with a cannabis problem is definitely increasing.

Dr. John Sherman:-I believe that cannabis in heavy (not necessarily,see **above (H.B.)) doses can, in a lot of people,make them go mad.There are 3 categories of cannabis addicts:-

1st. category:-These are non-working people under 20 who exhibited amotivational syndrome.Heavy users suffered chronic unemployment;had no wish to work;were on sickness benefits and slept until lunchtime. They exhibited aggressive and hostile behaviour in the home and among the family which was out of character with their pre-smoking behaviour.They could be paranoic and really had a problem.

2nd. Category:-These were usually over 20,usually working,and presented themselves voluntarily.(first

group frequently came with concerned parents)They have diminished work performance;were having trouble at workand trouble concentrating;short-term memory problems and chronic health problems e.g. cough.They also had problems with personal relationships.

3rd. Category:-Those with cannabis psychosis;cannabis in heavy doses makes them go mad or psychotic.Dr.Sherman had seen 8 cases in the previous year aged between 18 and 25 and no evidence of any pre-existing psychotic illness. All exhibited signs of paranoid scizophrenia and had auditory hallucinations of accusing voices. They exhibited aggression and hostility which was usually verbal.

4th.:Category:-People with respiratory problems;gastro-intestinal problems as the result of cannabis use.Dr.Sherman said he would be fearful of the sanctions against marihuana use being removed at present.

EFFECT OF CANNABIS ON THE BRAIN:-Professor G.Nahas in the "Week-End Australian" 2/11/91. :-Nahas is a Consultant to the U.N.Commission on Narcotics and Professor of Pharmacology at Columbia University:-"Marihuana must be considered very seriously in view of its acute impairing property of cognital function and of its long-term toxic effects on the lungs and immune defences, brain and reproductive functions.We are dealing with a drug that targets and attacks the brain and yet there appears to be little interest among health professionals and G.P's in Australia about the dangers of marihuana.Clinical observations in the United States, Britain and France agree with this.

Memory loss for up to 6 weeks in adolescents leaving them with critical lapses in their education.Children of mothers using pot during pregnancy faced 10 times as much danger of developing leukaemia. Incidence of scizophrenia was 6 times greater among pot smokers----schizophrenia was the most serious irreversible form of mental illness.Dr.Nahas warned "There is a tendency for doctors,health professionals and other people in this country to consider pot relatively harmless".Professor Nahas addressed the AMA in Canberra. (This is the very city which has decriminalised marihuana! probably illegally !!..H.B.).

CANNABIS USE:SUICIDE AND BRAIN DAMAGE:- 5/5/87."Cannabis use by teenagers could be contributing to the soaring increase in youth suicide"said a visiting physician with Odyssey House Drug Rehabilitaion CentreDr.Nino-Sa-Cordero, who conducted extensive research with drug users said post-mortems show brain material of chronic cannabis users bore striking similarities to that of clinically-depressed suicide victims.

Studies conducted in Greec examined the area of the brain affected by cannabis.Scientists found the effect of pot on the arginine (an amino acid) in the brain matter was the same as chemical disorders found in endogenous depression (where people

are genetically prone to depression).

A survey carried out in Sweden reported a rising incidence of cannabis-induced mental illness despite a 5year decline in use among teenagers.Swedish clinicians believed long-term heavy cannabis exposure could be associated with brain dysfunction,indicating cannabis might not be as much a "soft" drug as some believed previously.Pot is now (1987) about 12 times stronger than 2 decades ago.

SASKATOON STAR,PHOENIX 28/12/1987:-STOCKHOLM:-A 15 year study of more than 45,000 Swedish soldiers, heavy marihuana users are 6 times more likely than non-users to develop schizophrenia.Sven Andresson of Karolinska Hospital (Stockholm) cites numerous previous studies that have found that marihuana aggravates scizophrenia or triggers psychotic episodes.
DISCOVER" MAGAZINE JUNE 1988:-Donald Tashkin, a respiratory specialist at the UCLA School of Medicine, comparing pot and tobacco smoking said pot smokers absorbed 5 times as much carbon monoxide and 4 times as much tar as cigarette smokers.

NEWS ITEM COURIER-MAIL 8/6/87 :-The N.S.W. Government has been urged to concentrate its anti-drug campaign on marihuana, not heroin.This follows warnings from the N.S.W. Health Department that the drug poses a much greater risk than most people think.N.S.W.'s chief Health Officer Dr.Tony Adams, claimed an increasing number of children were having their lives destroyed by marihuana.Dr. Adams said it was becoming increasingly clear that teenagers who gradually lost interest in school and sport and those who dropped out of school to seek alternate life styles were often in the grip of a dependence on marihuana.These children lost motivation to seek employment.Marihuana smoke is 50 times as carcinogenic as tobacco smoke; it can precipitate acute psychotic episodes in susceptible people and this problem may not always be reversible.

VOGUE AUSTRALIA MAGAZINE MAY 1992.:-(extracts from an article by Robin Powell).The author quotes a parent,Hilary Hollowes,writing to a medical magazine :-"I believe marihuana use has figured in my daughter's case. Many people believe that marihuana is a harmless drug, as I did myself, until I saw more and more evidence that it produced a psychotic state in her.Her attempt to burn us all came after smoking dope and she killed a man after inhaling marihuana from his mouth."

Elaine Walters,author of "The Cannabis Connection" and the about-to be-published book with the tentative title "Marihuana in Australia---A Crisis"., started a self-help group for families of heroin addicts.2 of the families who came to the

first meeting weren't troubled by heroin but by cannabis. Their children smoked a lot of dope and had been diagnosed schizophrenic.They believed there was a link, but had been ridiculed by professionals from whom they sought help.Elaine Walters attended an international conference in Atlanta and spent a full week discussing the effects of cannabis. "I couldn't believe," shesaid,"how far Australia was behind in this and what resistance there was in Australia to real information about cannabis In her book "The Cannabis Connection" she quotes from a pamphlet from the U.N. Commission on Narcotics:_"Marihuana is very dangerous.Extensive research has indicated that marihuana impairs short-term memory and slows learning;interferes with normal reproductive functions;adversely affects heart functions; has serious effects on perception and skilled performances and greatly impairs lung and respiratory functions.A marihuana cigarette contains more cancer-causing agents than the strongest tobacco cigarette."

DRUG FORUM, APRIL 1990.:-Results of decriminalisation of pot in Alaska were twice as many high school students used marihuana.The U.S.Attorney in Alaska stated publically :-"As a result of liberalised marihuana laws Alaska has experienced a dramatic increase in marihuana use and cultivation." The situation in Alaska became so bad the concerned community demanded that the decriminilsation laws be overturned,which they were.

As a co-signatory to the United Nations 1961 Single Convention Treaty,Australia is not free to select, for recreational purposes, any drug that has been classified as illegal,without being in violation of the convention.

Decriminilisation of marihuana has not achieved the desired results in the 11 States which introduced it.In California, for example,which decriminalised it in 1976, in the first 6 months following drug-driving offences increased by 46.2% for adults and 71.4% for juveniles.

Two years after Oregon had decriminalised it (1977) marihuana use increased from 46% to 62% in the 18-29 year old segment of the population.The Head of the State Police in Oregon's Narcotics Division said people thought it legal and were smoking it on the streets.In 1986 when Oregon had a ballot on legalisation;despite a well-finded campaign by the National Organisation for the Reform of Marihuana Laws (NORML), it was defeated 3 to 1.

PROFESSOR HARDIN JONES,AUTHOR OF "SENSUAL DRUGS":-The hypnotic effects of marihuana are, in my opinion,largely responsible for a yielding to homosexual advances.(I don't doubt that the prevalence of pot-smoking

in homosexual communities and its effect on the immune system would have contributed to the Aids epidemic H.B.) Hardin Jones research found that 90% of heroin users started with pot. 3 years of marihuana smoking is roughly equal in brain atrophy to 30 years of alcohol use.

In his Foreword to "Sensual Drugs",Oxford Professor of Pharmacology,William Paton says "To my mind,one of the deepest indictments of Western culture is, not the existence of a drug "problem" (that is an ancient phenomenon), but the fact that,for many, their use of drugs has been the most interesting thing they have yet met in life.It is because the book takes things seriously at this level that I so willingly write this foreword."

"CLEO MAGAZINE JUNE 1985. (I have included information contained in "popular" magazines in this submission because they are showing some responsibility in giving facts to readers who may not be able to otherwise be so informed.) THE MARIHUANA REPORT BY SUSAN DOWNIE:- Smoking pot is more damaging to the air passages than cigarettes, it decreases the sperm count and mobility, and is about 5 times more addictive than alcohol.Medical experts can now show that marihuana depresses your immunity, making you more susceptible to infections and, in the long term,can effect the brain and reproductive system.Smoked by pregnant women pot has been shown to affect the balance of hormones and cause changes to chromosomes, often resulting in slightly deformed babies.Smoking pot affects your ability to concentrate and remember. It is well established it affects your ability to drive a car or operate complex machinery.

In August 1982 U.S. National Institute of Drug Abuse issued a list of "known or suspected chronic effects of marihuana".They included:-short-term memory impairment and slowness of learning;impaired lung function;decreased sperm count and sperm mobility;interference with ovulation and pre-natal development;impaired immune response;possible adverse effects of heart function,by-products of marihuana remaining in the body fat for several weeks, with unknown consequences.

The Head of Research at Boston University,Dr. R.Hingston, studied pregnant women who were smoking pot during the 3 months before they gave birth.He found their babies:- were born 200-300 grams lighter than average;had a smaller than normal head circunference; were 5 times more likely to have features similar to babies born to alcoholics (known as Foetal Alcohol Syndrome) including abnormal ears and eyes similar to Mongol children.

More American research, yet to be substantiated suggests that the damage to cells caused by pot smoking is passed on genetically.Even if a child of a smoker doesn't smoke, the cell deterioration shows up in the smoker's grandchild.

Prolonged dope smoking by young people causes the "amotivstional syndrome" which is characterised by a loss of energy, diminished school performance,harmed parental relationships and other behavioural disruptions.

A joint study by the NSW Departments of Health and Education found in 1980 that, of 1350 junior high school students questioned, 27% said they had smoked marihuana--a big jump compared with 15% 2 years earlier. According to Nahas, Australia has a major drug problem that most doctors,politicians and the media,are ignoring."Australia is experiencing the beginning of an epidemic which will be disastrous unless someone reverses the escalation in use."Nahas said.(In 1993 Elaine Walters would concur with that).

In the United States, the Department of Health,Education and Welfare on Marihuana and Health, has been operating since 1970 and has produced 9 comprehensive reports, covering the chemistry and characteristics of the drug, the human effects and health implications, the Department's latest report (1982) had this summary:- marihuana is a serious public health concern; it has a broad range of psychological and biological effects, many of which are dangerous and harmful to health;approximately half of those who try the drug once go back to use it again.The age of onset use has been steadily going down over the past decade;daily or near-daily use are involved more than 1 in 10 senior high-school students and daily use is now substantially more common than daily use of alcohol;the drug has serious acute effects on perception and skilled performances; the marihuana in use today is considerably more potent than that previously available....there has been a 5-fold increase in potency during the past 5 years.

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CANNABIS USE AND ITS ASSOCIATION WITH CRIME.

!.Wolvi (near Gympie) Queensland.:-1977. A man named Lamb attacked and killed his 3 young children and a young New Zealand woman.Weapons used were garden implements (hoe,mattock,pick) and a .22 rifle.The children were disembowelled to "let Satan out". Lamb's wife was also involved. The policeman who laid charges against Lamb told me they thought they were Adam and Eve.H e also told me he thought it may well have been the most horrendous crime ever committed in Australia, certainly in Queensland. The only drug involved was marihuana---Lamb and his wife grew it on Fraser Island.Both Lamb and his wife were charged...Lamb was found unsound of mind but hung himself at Boggo Road before he could be detained at Her Majesty's pleasure in a suitable establishment.

Alexandra Headland (Sunshine Coast):-(Courier-Mail, Wednesday,July 22nd. July, 1992).Bevan Meninga was charged with the murder of Cherie Richardson (19) at Alexandra Headland on May 11th.1991. Before the murder ,Meninga Richardson and a friend,Gavin Seib,had smoked marihuana.After Richardson's body had been found, Seib said he and Meninga should go to the police. Seib had convinced Meninga that the marihuana should not be mentioned.

In the twelve months to October,1986, there have been three cases of animal mutilation and slaughter----at the Adelaide Zoo, at Bundaberg,and at a Warwick school.In the court cases that followed evidence showed,that, in each case, marihuana was smoked prior to the killings.Disembowellment was part of the assaults.(cf. Wolvi murders).

At Samford, near Brisbane,2 young men charged with the attempted murder of the parents of one of the young men,admitted to smoking marihuana prior to the assault to give them the "courage" to commit the ghastly deed. (the mother was badly injured).

The murder of a youth in a toilet block near Caboolture (north of Brisbane) was committed after the smoking of marihuana by the murderer.

Kingston,Jamaica:-Saturday,January 8th. 1977 (Brisbane Telegraph):-"Lady Sarah Roubanis, cousin of the late Sir Winston Churchill,was raped at knifepoint by one of four robbers who also shot one of Lady Sarah's houseguests in the arm. The 4 men reportedly were under the influence of MARIHUANA. The gang was probably the same that assaulted the house of former Jamaican Health Minister,Dr. Herbert Eldermire,early the same night

CANNABIS USE AND ITS ASSOCIATION WITH CRIME: (contd.)

Lady Sarah said the gunmen shot Michael Szell (her houseguest) "apparently for no reason at all".

SYDNEY MORNING HERALD :-3/10/90. The heading read- "Given drugs at 5,he was a killer at 16. A boy(name suppressed) ,charged with bashing a man to death in a toilet block at Park Street,Alexandria on January 24th.1990; was given his first marijuana bong at the age of 5 and encouraged to smoke the drug regularly, with his mother explaining to friends it was good for his asthma and helped him to sleep.

COURIER-MAIL 5th. February 1993. LONDON :- An Australian aid worker-Eileen Burger of Eastwood in Sydney and her Dutch husband Hubertus lost everything except their lives when armed troops high on marijuana and alcohol invaded their home in Kinshasa (capital of Zaire) LAST WEek.The Burgers were bashed and stabbed, their home stripped bare and their small agricultural development business reduced to rubble.Mrs.Burger said".... the soldiers were just so savage we were lucky to escape with our lives".

COURIER-MAIL 15/2/93:- Youth,17, was charged over shooting incident. Police apprehended the youth and a juvenile who was carrying a gun and driving a stolen car. A marijuana bong and marihuana were in thei possession and seized by the police.

WEEKLY EXPRESS:_ In England, the driver of the train found responsible for the Cannon Street train accident which resulted in 2 deaths and more than 500 passengers injured was found to have cannabis in his blood.

WEEKLY TELEGRAPH Issue No. 61...1992.:-Mark Paul was sentenced to life imprisonment for the murder of Oxford honours graduate John Lavender,a complete stranger to him.Paul and his flatmate roamed the streets of Battersea, South London with a baseball bat looking for a victim...Lavender....whose skull he smashed.Heleft his victim bleeding and moaning and Lavender died 12 hours later in hospital.To give him a "high" to perpetrate this crime,Paul drank 5-6 pints of lager and smoked 2 or 3 cannabis cigarettes.

NEW ZEALAND MASS MURDERS:-There have been at least 2 horrific mass murders in New Zealand in the last few years where the perpetrators of these heinous crimes were cannabis smokers and used the drug prior to the killings. This was reported in the Australian Press.

CANNABIS USE AND DRIVING ACCIDENTS 13

COURIER -MAIL 26/4/78:-Clear evidence that marihuana played a significant part in Australia's road toll was available, a Melbourne doctor said yesterday.Dr. Gerald Milner said research on road safety and marihuana smoking had been done in Switzerland, the United States and Canada.In Canada it was shown that pot users had twice the number of accidents that non-users had. A low dose of marihuana was more dangerous in a driver than a low dose of alcohol.

CANBERRA :- An American study showed of 710 drivers killed in accidents, 38% had been in contact with cannabis.A Canadian study showed that almost as many cannabis users were in accidents as were drivers under the influence of alcohol.Cannabis had a much stronger effect than alcohol on drivers' estimation of time and distance.Dr. Milner said much of the information available to the public on marihuana was a "load of nonsense" including claims that it was an absolutely safe drug.

SUNDAY MAIL (BRISBANE) 17/1/88:- In 1987 nearly 7,000 people faced charges related to cannabis use.Many drivers pulled up for erratic driving record zero alcohol readings.Officer in charge of the breathalyser unit, Senior Sergeant Brian Osbourne wants science graduates to devise a method to help trap "smoke drivers".

ALCOHOL, DRUGS AND DRIVING (University of California:- Milner 1977:_ All these studies indicate that cannabis is,as should have been anticipated,a hazardous drug for the road user....judgement,perception,mood, co-ordination and attentiveness ARE ALL affected....at this point in time marihuana and other cannabis intoxication effects would seem to be a very real hazard in our community, especially in terms of the road toll."

SATURDAY EVENING POST...SEPTEMBER 1981:-Article "Death on the 'High' Way" by Peggy Mann...Marihuana and Deadly Driving"....."The situation (road carnage) is already horrendous,but it is now clear that death on the road has received a new transfusion of tragedy in a tidal wave of marihuana users.

In researching this article I interviewed highway officials,drug treatment professionals, research scientists ,police chiefs and medical examiners from Maine to Miami, from Alaska to Texas,from Connecticut to California.They all professed profound concern about marihuana's mounting impact on our national highway problem.They also worry about the fact that many pot smokers say they often drive 'high' because they enjoy doing so.

Dr. Herbert Moskowitz, leading researcher on marihuana and simulated driving studies concludes in his findings that "T[illegible] of evidence indicaTE that marihuana impairs skills

CANNABIS USE AND DRIVING ACCIDENTS (contd.)

performance,perceptual processes,attention and tracking behaviour....all important components of driving and skills performance are thus clearly affected."Some of these components are impaired after only a low dose of marihuana...e.g. impairment of "search and recognition abilities".A low dose can result in distortion of the time/speed sense.Other findings caused by marihuana intoxication include:-

1.Impairment of peripheral vision/signal detection.
2. " " central vision/signal detection.
3. " " time reaction ,ability to brake quickly or move over..
4. " " night driving abilities on a dark country road.
5. " " short term memory function and information storage.
6. " " manipulation and co-ordination skills:difficulty in backing, turning around,passing another csr, getting onto or off a crowded 4-lane expressway.

CAR AND DRIVER,THE PRESTIGIOUS American Motoring Magazine did controlled tests on a special driving course where cannabis-affected drivers responded poorly.

COURIER-MAIL (15-1-93):-Gold COAST man charged with dangerous driving and causing the death of his 2-year-old son, had traces of cannabis in his blood.Paul Wayne Shirdon,22, had tested positive for cannabis after the accident and 3 police officers testified Shirdon was vague during questioning and had glassy eyes.There was no smell of liquor on his breath.

MARIHUANA DRIVING HAZARDS:-Dr. Gerald Milner,Alcoholics and Drug Dependent Persons Services,Dept. of Health, Victoria.Medical Jiournal of Australia 1977:-"Recent research indicates cannabis use is positively associated with the road toll.In controlled lab. studies it has been shown to adversely affect perception skills,co-ordination, braking time and other motor skills, mood,judgement and so on. In driving studies(in both controlled areas and ordinary traffic) marihuana adversely affected driving safety.Studies by Smart found that cannabis users had twice the usual frequency of traffic accidents in the 6-12 months before they were convicted for cannabis use."

COURIER-MAIL 10/6/82 :- Young drivers "high" on marihuana were causing bizarre road accidents, Hornsby Hospital accident and emergency centre director,Dr. Tony Harrison, said. He told of one accident on the Hawkesbury River tollway north of Sydney."A car turned sharply right across the median strip of the tollway....there was no reason for it....2 elderly people were killed. Then there was the driver who was negotiating a perfectly normal corner on his way home from work and his car slid into a tree.They are odd bizarre accidents."Dr. Harrison said traces of marihuana were found in the blood of both drivers.H e said they were part of a test he carried out at Hornsby Hospital on 200 injured drivers.Nearly 23% had marihuana traces in their blood.

THE CASE AGAINST THE DECRIMINALISATION OF MARIHUANA

The fact that marihuana has been proved to be a dangerous drug is now beyond dispute.That anyone would want to give this drug respectability is both astounding and alarming.Any changes to the law which would increase the use of a dangerous drug;and which would make it easily accessible to children must be challenged and resisted. As noted in this submission, in every case where decriminalisation has taken place,greater use has resulted. How foolish we would be not to gain by their experience.

History and the experience of other nations demonstrate that drug education and prevention is most effective when it is backed by strong laws and law enforcement.

As set out in "The Cannabis Connection".decriminalising marihuana so that it can be regulated by the Government (who then take over the role of "pusher".H.B.) will not stop a black market developing where stronger dope will be marketed.

The belief that drug users commit crimes solely to support expensive drug habits and that lowering the cost of drugs would reduce the level of drug-related crime has been disproved.In reality experience has shown that cheaper,legal drugs would increase the level of violence and property crime.Such is the case in Amsterdam where the increase in crime has coincided with defacto legalisation.In cities in the United States where 'crack' now(1989) sells for$3.00 per dose (a price that a legal,taxed market would find hard to beat) violent crime has risen dramatically.

The claim that people may be taught to use drugs in a responsble fashion,clearly demonstrates the lack of understanding of the compulsive character of addiction, the epidemic dynamic of mass abuse and the profit mechanism which steers the drug market. Experience shows that one cannot be pro-legalisation and hope to discourage drug use by youth..IN the period in the U.S.A. when 11 States decriminalised marihuana and support for strict law enforcement was at an all-time low,surveys showed that half of high school seniors were using,or had experimented with,marihuana, and 11% became intoxicated,'stoned' daily.Today,criminal penalties are strongly supported and the result is the use of marihuana among high school students has dropped,with daily use down to 4%.

Elaine Walters states:_"If the Australian Government is serious about curtailing the drug problem in this country and not just conducting a political exercise with "The Drug Offensive",then it must seiously consider the crucial role that marihuana plays in the Drug Culture and introduce stricter penalties for personal possession and use of all drugs,including marihuana.Such penalties could involve substantial fines,non-paid community work and compulsory

CASE AGAINST DECRIMINALISATION (CONTD.).

drug education.Also insistence that a drug-free adolescence is a desirable and possible goal provides the most consistent and potentially effective framework on which to focus prevention,intervention and treatment efforts.

The ACT Assembly decriminalised marihuana possession and cultivation last year (1992),allowing possession of 25 gm ,maximum, and 5 plants (maximum). As many as 86 joints can be made from 25gm..5 plants, harvested 4 times a year will produce 20lb. i.e. 9,000 gms. of marihuana. It is obvious these amounts are far in excess of individual needs (unless suicide is the objective) and there must be a proliferation of use of the drug and this proliferation could extend to children in the household.That is a grim prospect.Added to which,of course,this is in the nation's capital.This is where decisions are made, on our behalf, by public servants,bureaucrats and politicians.Who is to say their deliberations are not going to be influenced by a mind-altering drug?

Let's hope that we in Queensland show a more responsible attitude.Let us hope we can heed the warning given by narcotics expert,Mr. Harvey Bates(C/Mail 26/9/76).Mr. Bates,assistant secretary of the Investigations Branch of the Customs Bureau, warned against the decriminalisation of cannabis and passed the warning on to the Senate Standing Committee.

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THE MEDIAEVAL DEBATE:-In the Appendix to "Marihuana.Biological Effects--Analysis,Metabolism,Cellular Responses,Reproduction and Brain",being the proceedings of the Satellite Symposium of the 7th.International Congress of Pharmacology,Paris 22-23July,1978., Franz Rosenthal,Professor of Near Eastern literature at Yale University gave an historic account of the use of hashish in the Middle East. In the 13th Century there was concern about the effects of this drug.A group of scholars compiled a long list of the mental and physical effects caused by the drug;reddening of the eyes,dryness of mouth,excessive sleeping and heaviness in the head when the drug takes possession of the brain,as well as numbness of the extremities.Prolonged use dries up the semen(already noted by Galen) and cuts off the desire for sexual intercourse,cuts short the reproductive capacity brings forth hidden disease,harms the intestine, makes the limb inactive, causes a shortage of breath, diminishes vision in the eye and increases pensiveness in the imagination after initially causing joy; hashish produces narcosis,laziness,stupor,weakening of sense perception,foul breath, ruination of colour and complexion.

Hashish is mind changing and personality changing,causing "insanity in the habitual user","changes the mind making it absent from reality".

THE MEDIAEVAL DEBATE (CONTD.)

HABITUATION TO HASHISH IS ALSO STATED:-"Among the greatest harm caused by it is the fact that habitual users of it are hardly ever able to repent of it because of the effect it has upon their temper", says al-Zakarshi and al-Badri concurs:"The user cannot separate from it and leave it alone."Hashish is stated consistently by its adversaries to be somethimg that saps the user's energy and ability and willingness to work.Implicitly this was considered its greatest danger to the social fabric. Finally, a holyman,Sheikh al-Hariri described what may be the lingering effect of chronic hashish usage. He claimed that abstinence for a long period was necessary to overcome the long-term action of the drug in the organism."One has to give it up for 40 days,until the body is free from it, and 40 more days until he is rested from it after becoming free."

"All the destructive effects of wine
Are found in hashish many times over."

It is interesting to note that, in this same volume, in the Concluding Summary Professor William Paton's concluding sentence is:-
"Cannabis satisfies the usual criteria for an addictive drug."

Surely we've learnt something in 700 years!

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Finally, let us stop using the euphemisms and misnomens popular with the pro-marihuana lobby.Itis not a "recreational " drug (unless murder and mayhem is classified as recreation); it is not "harmless" and it is certainly not "victimless" in its association with others. I think my submission proves that.

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Hilda Brooks

69 Manchester Tce.
Indooroopilly 4068

21/2/95

SUBMISSION TO THE PARLIAMENTARY CRIMINAL JUSTICE COMMITTEE ON C.J.C'S REPORT ON CANNABIS AND THE LAW IN QUEENSLAND

HILDA BROOKS (C.A.L.M.).

While it was pleasing to know that the C.J.C. did not recommend decriminalisation of cannabis, there are aspects of the Report in need of a critical appraisal.

My general reaction to the Report is very similar to the observation made by Elaine Walters,author of "The Cannabis Connection" and "Marihuana--an Australian Crisis" who was a recipient of a Churchill Fellowship in 1988. She used the Fellowship to extend her range of research into the effects of cannabis, visiting Egypt, Sweden, the Netherlands, Spain, the United Nations in Vienna and attending a week-lomg International Conference on the effects of cannabis in Atlanta, Georgia.This world-wide quest for information led Mrs. Walters to say:- "I couldn't believe how far Australia was behind in this...how much we hadn't been told and what resistance there was in Australia to real information about cannabis." Mrs. Walters could have made a knowledgeable and valuable contribution to the C.J.C.

I feel that much available information has been ignored by the C.J.C. and I would certainly challenge some of the statements and conclusions in the Report.

On Page 25 of the Report one of the conclusions reached states :-"Cannabis has not been proven to be a significant factor in traffic fatalities." It seems to me the CJC has been very remiss in their research if they came to this conclusion.To save space in this submission I would ask the Committee to read the section on "Cannabis and Driving Accidents" in my submission to the CJC.It does not appear that the CJC used the information available from one of our leading experts in the field of the effects of cannabis on driving, Dr. Gerald Milner of the Victorian Health Department.I would like to draw the attention of the Committee to an item in the latest edition of the Sunday-Mail (16th.October,1994) headed "Cannabis link in crashes," which said, in part, "A atartling increase in the number of people caught driving under the influence of cannabis is shown in the latest accident figures,police say.

Analysts confirm that cannabis showed up in more than 90% of samples sent by police in cases where drug rather than alcohol were suspected of causing accidents or spectacularly bad driving.

.....Police believe that in more than 130 cases of death by misadventure in 12 months,cannabis was detected after post-mortem exam-

inations."

I was amazed to read on p.15 of the Report that:-Apart from possible risks of injury associated with cannabis use and driving or using machinery, there is little evidence of other public safety risks associated with cannabis intoxication.A range of studies have concluded there is no evidence that cannabis use is implicated in violence." ON THE CONTRARY there is so much evidence linking violence with cannabis use I wonder why it eluded the CJC Committee! Again,instead of reiterating what is in my submission I would draw the attention of the Parliamentary Committee to that section of my submission entitled "Cannabis Use and its Connection with Crime",which is a selection of violent crimes committed under the influence of cannabis.We can now add to that list the recent Pomery case at Kallangur when a young student was murdered in a savage stabbing attack (he was stabbed 39 times).In the subsequent court trial, as reported in the Courier-Mail, the perpetrator and his accomplice admitted to smoking cannabis before committing the heinous crime.They also admitted that the breaking and entering that preceded the crime was done to get enough money or tradeable goods to purchase cannabis. The long,long list of crimes associated with cannabis use belies the mythology indulged in by the protagonists of decriminalisation, that it is a "victimless" crime.

On p. 61 of the Report, reference is made to my submission stating that it " relied substantially on research conducted by an American academic, Professor Nahas." While I would challenge the use of the word "substantially" I was appalled that the footnote cast some aspersions on one of DR. Nahas' scientific papers.When Elaine Walters spent time with international experts,including the Secretary-General of the U.N. Commission on Narcotics she was told:-"Without exception Professor Nahas is acknowledged as the world's leading authority on prohibited psychotropic drugs and, in particular, marihuana.Government authorities should be aware of this man's outstanding credentials and his enormous contribution to drug research." One would think, that, with this kind of accolade,any opportunity to meet ant talk with this man would be eagerly sought by members of the CJC Committee.However when they had the golden opportunity to do just that earlier this year when he was visiting Australia and before the Report was published,there appeared to be no response to my letting the CJC know he was in Canberra.

On p. 50 of the Report it states that the labelling of cannsbis as a "narcotic" is"scientifically incorrect". A scientifically "correct" term was not offered.Scientists,over the years, have referred to it as a

Narcotic drug and it certainly comes under the control of the United Nations Commission on Narcotics which has classified cannabis as illegal, concluding..."the use of the drug was dangerous from every point of view whether physical,mental or social."Is the CJC questioning the dictionary meaning of hashish?

I was present at the Seminar held at the Bardon Professional Centre on Friday,5th. March 1993 entitled "Cannabis:- Use; Supply;Enforcement and Regulatory Options." I was extremely surprised when a member of the Advisory Committee on Illicit DRUGS challenged my assertion that cannabis affected short-term memory.There is well-documented evidence acknowledging this....for example...the U.N. Commission on Narcotics states.... "....MARIHUANA IS VERY DANGEROUS.EXTENSIVE RESEARCH HAS INDICATED THAT MARIHUANA IMPAIRS SHORT-TERM MEMORY AND SLOWS LEARNING. ...." In his book "SENSUAL DRUGS" Hardin Jones says,inter alia,"SHORT-TERM MEMORY DETERIIORATES" At the 7th. International congress of Pharmacology held in Paris 22nd-23rd.July 1978 where the subject was Marihuana: Biological Effects,,in his paper "Cannabis and the Brain with special Reference to the Limbic System",Loren L.Miller,Assistant Professor in Psychiatry at the University of Kentucky states, in summary,...."The major cognitive alterations which are found following cannabinoid intoxication are IMPAIRED MEMORY FUNCTIONING,lapses in attention,altered speech production and general problems with complex information processing....." This information on the effects of cannabis has been available for many years and we ignore it at our peril. That a member of the CJC Committee could so vehemently deny my statement left him without any credibility in my eyes and with little faith in the Committee's findings.

This was an opportunity for the latest research findings to be made available to the public, especially our young people,However this did not occur and it will be left to Associations like the AMA and the Salvation Army (which I believe, is starting a Drug Education Campaign in November) to fill the breach.

Sheila Brooks

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POST-SCRIPT:- For information about the effects of cannabis these are some of the books I would recommend to the Parliamentary Committee:-

Elaine Walters:-"The Cannabis Connection";"Marihuana-An Australian Crisis"

Peggy Mann:-"Pot Safari"-an excellent book which should be set reading for students.

Gabriel Nahas:- "Keep Off The Grass".

Hardin and Helen Jones :- "Sensual Drugs".

No society can survive if it condones the use of a mind-altering drug. We need all our wits about us to confront and solve our present-day problems.

H Brooks

21/2/95

MORETON CORRECTIONAL CENTRE
P.O. BOX 650
DARRA. Q. 4076
18th October, 1994

Mr Neil Laurie
Parliamentary Criminal Justice Commission
Parliament House
George St
BRISBANE. Q 4000

Dear Mr Laurie,

On September 20 this year I wrote to the PCJC asking that I be provided with a copy of the comprehensive report by the CJC to which you referred in your previous correspondence of September 8th 1994.

As you would be aware, it is almost a month since I wrote to you but as yet I have not received a copy of the report in question nor have I had my letter of request acknowledged.

You will note from my last letter that I wish to bring to your Committee's attention several matters that were not raised in my Appeal hearing and also to prove that a number of points raised by the Prosecution at my Appeal contradicted evidence that was given at my trial.

Before doing this however, I need to see what the CJC said in relation to my original submission. I am sure you will agree that this is the proper and responsible way for me to pursue this issue.

I would therefore respectfully ask that you forward to me, as expeditiously as possible, a complete copy of the CJC Report or in turn advise me in writing, why your Committee has decided to keep this report on my case a secret.

Yours sincerely,

Keith D. Boughton

Keith D Boughton

(Page 94) (Claims by the C.J.C.)

(CJC) Page 29-30 [A person charged with possessing only the smallest measurable quantity of cannabis].

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7. REPORT ON CANNABIS AND THE LAW IN QUEENSLAND USE OF POWERS DRUG MISUSE ACT 1986 (Claims by the C.J.C.)

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(CJC) Page XVIII [Recommendation - Use of Powers]

APDFY: The APDFY fully supports the Queensland police criticism of the CJC's recommended changes.

(8) REPORT ON CANNABIS AND THE LAW IN QUEENSLAND - The Need for Education

(CJC) Page XIX [Need for Education]

(CJC) Page 108 [The Need for Education]

APDFY: We totally support this statement and agree there is an urgent need for up to date scientific information on this dangerous drug to be supplied to students between grades 5 to 12.

APDFY. The three year Queensland Cancer Fund Survey of 400 school children found teenage smoking rates had returned to the high levels of prior to 1984. Executive Director Graeme Brien said according to the survey there has been a direct link between the shocking increase in teenage smoking and withdrawal of health and drug advisers within the education system in 1990.

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We can say it appears that the C.J.C. Research Branch has adopted an attitude which among scientists "would be generally regarded as unacceptable". Australia has only spent less than 1% of total pure research money over the last 20 years in researching the harmful effects of chronic cannabis use. This is so minimal as to be scandalous. More research is urgently needed in Australia, especially from objective scientists.

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We appeal to the Criminal Justice Commission to give more consideration to this dangerous drug before allowing its dangers to be trivialised by reducing the penalty.

It is obvious that Queensland policy to date has been a success, enjoying the lowest use compared to every other State in Australia. This is not to say that a great deal more should not be done. It is obvious from the C.J.C.'s own statistics that South Australian policy has failed, including the assertion that Police resources would be saved to perform other duties - this has not happened in South Australia.

If we look at the High Court of Australia, they have established that Government Departments

and Instrumentalities may be liable for damages where economic loss is sustained by persons who act on information or advice given negligently by officials. So the community may use new Federal legislation "Class action", for a civil action on the basis of negligent advice given in respect of a drug that causes that person to suffer a grievous penalty.

We are most concerned by the lack of knowledge that Australian health workers have about this drug and the misleading advice constantly given by some health professionals. Due to this, many persons who use it are confident that they do so with safety.

I hope that you will see merit in what we consider may be a tortuous action on the part of the C.J.C.

Yours faithfully

Herschel M. Baker
PRESIDENT

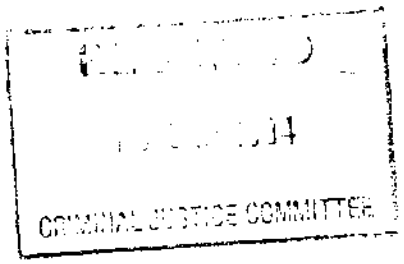
cc CJC
W. Goss
R.S. O'Reagan

DRUGS AND YOUTH:

CRISIS

Australian Parents for Drug-Free Youth

P.O. Box 73, Maryborough, Queensland. 4650
Telephone (071) 29 7267



Mr Ken Davis MLA
Chairman
Parliamentary Criminal Justice Committee
George St.
BRISBANE Q 4000

Dear Sir

I wish to question the data supplied in the reports by the Criminal Justice Commission Research Branch called ***Report on Cannabis and the Law in Queensland***.

It would appear that the C.J.C. Research Branch loses some objectivity when it comes to cannabis. I will attempt to bring a few of our* concerns to your attention in this review paper.

(1) **(CJC) Report on Cannabis and the Law in Queensland - ABOLITION OF CANNABIS PARAPHERNALIA OFFENCES** (Claims by the C.J.C.)

(CJC) Page XII [Cannabis offences generate substantial costs for the Criminal Justice System.]

(CJC) Page XVII [Recommendation - Abolition of Cannabis Paraphernalia Offence.]

(CJC) Page 8 [Abolition of the offence of possession of cannabis - related paraphernalia.]

(CJC) Page 47 A. [The cost of possession of cannabis $2 132 000; B. Cost of possession of cannabis related utensils $463 000.]

(CJC) Page 100-103 [Abolition of Cannabis Paraphernalia Offences.]
The availability of cannabis paraphernalia could be used by authorities to educate drug users regarding less harmful modes of administration.

APDFY: These statements by the C.J.C. are misleading. In fact, it seems that the C.J.C. presented a restricted range of research when the following data are available from world recognised research.

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* The Australian Parents for Drug-Free Youth. In this response the acronym APDFY will be used.

THC - Tetrahydrocannabinol - the major psycho-active ingredient in cannabis and not the only one that is harmful. It does not matter how one ingests the drug, there are no 'less harmful modes of administration' - the potency remains the same for this dangerous drug.

The multinational drug paraphernalia industry (1) has learned to use the methodology that the tobacco industry has used very successfully for quite a number of years: using drug paraphernalia to advertise their product, comic books, t-shirts, books on how to grow, books on how to use, bongs, roach clips, etc. The sole purpose of most of these items is use in the smoking of the dangerous drug cannabis. This industry emphasises educating people on how to use drugs.

There is no information in the C.J.C. report of the benefits and income gained by the community from fines and community service received by the prosecution for drug paraphernalia. In fact, this Government has published, on a number of occasions, details of the vast amounts of money saved by using community service. I'm sure the Government would have supplied the necessary figures to the C.J.C. if a request had been made and this would have produced a more balanced report.

You will see by our petition (1) to Parliament via the Minister for Police, that drug paraphernalia is already being sold through tobacconists in major shopping centres in Queensland, but with community backing we were able to stop the sale of drug paraphernalia in our city. Unquestionably the drug paraphernalia promotes drug use - there is no other conclusion.

If this law is relaxed, it will allow business enterprises to promote to the young many different and subtle ways of using drugs.

(2) (CJC) GATEWAY DRUG (Claims by the C.J.C.)

(CJC) Page 24 [Submissions from APDFY and Drug-Arm claimed that cannabis is a gateway drug. There is certainly evidence of an association between the use of various drugs, but this does not necessarily constitute evidence of causation.]

APDFY: GATEWAY DRUG

APDFY data in a research paper called *DSM - 111-R Nicotine dependence in young adults: prevalence, correlates and associated psychiatric disorders*: Our data on the association between smoking and alcohol or illicit drug disorders are in accord with previous research on adolescents and adults. (U.S.DHHS, 1991; Henningfield et al, 1990; Di Franza and Guerra 1990.)

A typical course of substance involvement has been previously described, in which use of alcohol, marijuana and cigarettes tends to precede involvement with cocaine or other harder drugs (Kondel, Marguilies and Davis, 1978; Hulea, Wingard and Bentler, 1981; O'Donnell and Clayton, 1982.)

Our finding that nicotine dependence, as distinct from smoking per se, plays a role in disorders of illicit drugs, gateway tobacco, alcohol, marijuana, speed, cocaine and other dangerous drugs.

The Gateway effect was explained by Dr Robert R Dupont Jr, former president of the National Institute of Drug Abuse (NIDA), in his book *Getting tough on Gateway Drugs*, which shows the four stages to chemical dependence and how marijuana and the consequences of chronic use fits into the gateway effect.

The paper called *The age of alcohol, onset and alcohol, cigarette and marijuana use patterns: an analysis of drug use, progression of young adults in New York State* extends the gateway theory by examining the relationship between the onset age of alcohol and the progression of drug use, alcohol, cigarettes and marijuana, among 16 to 24 Year olds. It states "A considerably large effect of alcohol-cigarette use or marijuana use is evident for both gender groups in our study."

(3) (CJC) CEIDA (1989) (Claims by the C.J.C.)

(CJC) Page 16 [**(CEIDA)** There is no evidence that occasional use of small doses of cannabis causes any permanent health damage.]

(CJC) Page 16 [In other cases the research findings were inconclusive.]

(CJC) Page 13 [Short-term effects. Those most at risk include those with heart conditions or with a predisposition to some mental disorders such as schizophrenia.]

APDFY: The old CEIDA pamphlet (1989) was used instead of the new one that became available days after the C.J.C. report. It has been well known in the health community over the last 8 months that CEIDA was researching up to date information on the harmful effects of cannabis to replace the 1989 pamphlet.

What cases are inconclusive? This is a generalisation that runs parallel with that of the tobacco industry i.e. that tobacco does not damage the respiratory system.

I'm sure CEIDA would have supplied this data to the C.J.C. research branch if they had requested it. On the other hand, the C.J.C. quotes on Page 61, Item 27:

> Dr M Christie and Dr G Chesher strongly criticise a review of the research literature on the effects of the research literature on the effects of cannabis entitled *Toxicity of Marijuana* by Nahas and Latour...

from a yet unpublished paper. The research of these two little known researchers is minimal in comparison to the vast research done by the world renowned scientist, "a man of our time", Dr Gabriel G Nahas, and dozens of others.

Also, a new book for health professionals by the Commonwealth Government called *Handbook for medical practitioners and other health care workers on alcohol and other drug problems, Drug Offensive '93*, gives a damning account of cannabis use. It appears strange that this latest data, from the Commonwealth Department of Health, was not quoted or included.

(4) (CJC) HEALTH CONSEQUENCES OF CHRONIC MARIJUANA USE (Claims by the C.J.C.)

(CJC) Page 26 ["It cannot be said with certainty that cannabis is more harmful than some legally available substances".]

APDFY: If these substances are alcohol and tobacco, then this statement is untrue according to scientific data. (References 4, A-Z) Alcohol and tobacco are not the standard by which the dangers of other drugs are measured.

Much of the language which plays down the effects of cannabis is misleading and in relative, non-specific terms, for example "do not appear", "any significant degree", "tolerance does not appear to develop after prolonged use".

(CJC) Page 19 [Users of cannabis do not appear to develop physical dependence.]

APDFY: This is refuted by NIDA in the U.S. and our own Commonwealth Health Department's *Handbook for medical practitioners and other health care workers on alcohol and other drug problems, Drug Offensive '93* (Page 52).

(CJC) Page 9 [Drug use is an important issue for our community. It is therefore important that members of the community have access to accurate information on this issue so that they can make informed judgements about cannabis.]

APDFY: The Queensland branch of the A.M.A. has quoted from a great deal of recognised scientific papers on this drug; papers which are universally accepted.

(CJC) Page 12 [The contradictory and inconclusive results of the research on the effects of cannabis, have been used to advantage by lobby groups engaged in public debate on cannabis. It is possible to selectively quote from the research literature to find support for the opposing propositions that cannabis is an extremely beneficial substance, or an extremely harmful substance.]

APDFY: We have enclosed only a small collection of research data from reputable organisations and research institutes and Governments. It would appear that the C.J.C. report is saying there is not enough data and more research needs to be done etc. Even today the tobacco industry is trying to make us believe that we need more data. We have over 13 000 research papers to date and not one gives cannabis a clean bill of health.

It is difficult to understand that the criticism the A.M.A. (Qld Branch) received when warning of the dangers of this drug is merely from a research psychologist, who hardly appears qualified to attack the vast amount of international research from many recognised papers, and does not give them the right to respond. Surely there is enough data to warn us not to allow another drug to become legal or more freely available in the community.

4 (AA) Premier Wayne Goss

4 (A) *Cannabis: Point of View W.H.O.*

4 (B) *An Update on Cannabis Research.* A symposium of over 125 scientists, held in August 1984 at a campus of Oxford University.

4 (C) *Cannabis and Mortality Among Young Men; A Longitudinal Study of Swedish Conscripts.*

4 (D) Dr Susan Dalterio, a researcher in long term effects of the children of marijuana smokers.

4 (E) *Effects of Maternal Marijuana and Cocaine Use on Foetal Growth.*

4 (F) *The Pharmacological Basis of Therapeutic Cannabinoids (Marijuana)* (8th ed., 1991). (This is a benchmark textbook of pharmacology)

4 (G) *Pot Safari* by Peggy Mann.

4 (H) *Cannabis Physiopathology and Detection.* Papers presented at the Second International Colloquium on Illicit Drugs, held at the French National Academy of Medicine in April 1992.

4 (I) National Campaign against Drug Abuse.

4 (J) *Marijuana Has No Currently Accepted Medical Use.*

4 (K) *Marijuana is Not A Medicine - Somebody Had Better Tell Your Doctor.*

4 (L) *Position Statement on Psychoactive Substance Use and Dependence: Update on Marijuana and Cocaine.*

4 (M) *Marijuana As Medicine Refuted by N.I.H. Scientists.*

4 (N) *Therapeutic Marijuana,Fact or Fiction?*

4 (O) *Marijuana Increases Disease Risk by Inhibiting White Blood Cells.*

4 (P) *Storage of Marijuana in the Body.*

4 (Q) *An Exposure of the Lies and Deceit of the Marijuana Pushers.*

4 (R) *The Marijuana Question.*

4 (S) *A Longitudinal Study of the Relationship Among Alcohol Use, Marijuana/Hashish Use, Cocaine Use, and Emotional/Psychological Functioning Problems in A Cohort of High Risk Youths.*

4 (T) *The Great Stoned Age.*

4 (U) *Drug Abuse Tragedies.*

4 (V) *NIDA Director Cites Studies That Marijuana Is Addictive.*

4 (W) *Keep Off The Grass* (5th ed.)

4 (X) *Biological And Physiological Effects* - by Dr Carlton, Turner University of Mississippi. (a former presidential adviser at the White House)

4 (Y) *Generic Code Scramble* - Sir William Paton, Oxford University, England.

4 (Z) Response by the Qld Branch of A.M.A. to the ***Report on Cannabis and the Law in Queensland.***, 30 September 1993.

(5) (CJC) DECLINE IN CANNABIS SMOKING IN USA (Claims by the C.J.C.)

(CJC) Page 61 [The submission stated that the number of cannabis users in the United States of America has been steadily declining since 1979 and that the Australian statistics show an increase in the numbers of users for the same period. However, no data was cited in support of these claims.]

APDFY: Over the period of research on cannabis by the C.J.C., we supplied a vast amount of research data on the harmful effect of chronic cannabis use to Professor John Western , Phil Dickie and via R.S. O'Reagan to David Brenton. We asked for the following to be placed in the C.J.C. Library.

(A) *Strategies for Breaking Marijuana Dependence.*

(B) Survey 1978 and 1991 by National Institute on Drug Abuse of high school seniors.

(C) *Behavioural, Psychosocial and Academic Correlates of Marijuana Usage in Adolescence.*

This should more than answer the C.J.C. statement and we can also see this by the C.J.C.'s own statistics regarding 19 to 24 year olds in South Australia and the dramatic increase in cannabis use since decriminalisation in South Australia. In comparison, current Queensland policy gives us the lowest usage statistics in Australia eg. CJC A39 and A40. ***Why should we follow the failure of South Australian policy?***

(6) (CJC) RECOMMENDATION - SCOPE OF SIMPLE CULTIVATION OFFENCE (Page 94) (Claims by the C.J.C.)

(CJC) Page 29-30 [A person charged with possessing only the smallest measurable quantity of cannabis].

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[7.3 Recommendation - Scope of Simple Cultivation Offence.]
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4/2/95

CRIMINAL JUSTICE COMMISSON

7,5 Recomendation-Abolition of Cannabis Paraphernalia Offence

1

Australian Parents for Drug-Free Youth

REFERENCES

DRUGS AND YOUTH:

CRISIS

Australian Parents for Drug-Free Youth

P.O. Box 73, Maryborough, Queensland. 4650
Telephone (071) 29 7267

1

23 May 1994

Honourable Paul Joseph Braddy LLB
Minister for Police and Emergency Services
13th Floor Forbes House
Makerston Street
BRISBANE Q 4000

Dear Sir

In early February 1994, we become aware of Drug Paraphenalia and Bongs being sold in a Tobacconist shop in the Maryborough Coles shopping complex. Upon investigation, we found that drug paraphenalia is sold throughout Queensland legally by other Tobacconists and shops.

As you can see by our letter to the owner of the Coles shopping complex (1) we expressed our concern and presented a petition to them explaining that such paraphenalia being sold is a contradictory message to young people, when we are trying to educate then to say "NO" to drugs and requested their support in this matter.

You may be interested to note that a phone call to the owners, Mr & Mrs Paton in New Zealand on the Friday afternoon brought a withdrawal of the paraphenalia from sale on the Saturday morning.

I believe this shows the concern of the general public against this type of sale and that the loophole in the Drug Misuse Act be closed immediately.

Yours sincerely,

Herschel M Baker

Herschel M Baker
(President)

Enc

DRUGS AND YOUTH:

CRISIS

Australian Parents for Drug-Free Youth

P.O. Box 73, Maryborough, Queensland. 4650
Telephone (071) 29 7267

1

26th February 1994

M Paton
29 Mahoe Avenue
Romuera
AUCKLAND 5 NEW ZEALAND

Dear Sir,

Last week we were alerted to the fact that Bongs and other Drug Paraphenalia were being sold in the Tobacconist shop in your Coles complex.

We realise that it is legal for him to sell this merchandise, there being a loophole in the Drug Misuse Act, but being a place where families are frequenting, we feel it is a totally undesirable image and not one that you would permit.

We are presently collecting names for a petition to be sent to Parliament to close the loophole in the Act and have included a copy for you, together with with a copy of one to the Smoke Shop.

This action was only taken after talking to the owner of the Smoke Shop, who refused to remove the Paraphenalia and to the Leasing Manager who is willing to support us on this matter.

We feel that it is such a contradictory message to young people when we are trying to teach them to say "no" to drugs and request your support in this matter.

Yours sincerely,

Herschel M Baker
(President)

Enc.

To:

The Honourable The Speaker and Members of the Legislative Assembly of Queensland, in Parliament assembled:

The Petition of the undersigned citizens of Queensland respectfully showeth their concern that tobacconists in major shopping centres in Wide Bay are selling Bongs and other drug paraphernalia which promote drug use. The citizens are concerned that, because of a loophole in the Drug Misuse Act, children of any age are able to buy these implements, whose sole purpose is to be used to smoke the very dangerous drug, marijuana.

Your Petitioners, therefore, Humbly Pray that the Parliament of Queensland will change legislation to protect our children from this insidious danger as soon as possible.

And your Petitioners, as in duty bound, will every Pray.

049

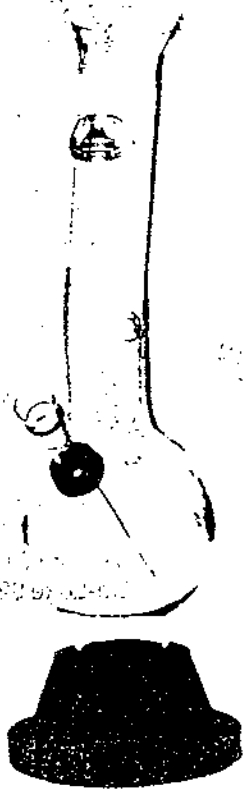
(Here follows the Signatures)

	Name:	Address:	Signature:
1	L. David Woodward	16 Hazard Street	Maryborough
2	L R B Smith	3 Buckler	Maryborough
3	M. Smith	"	"
4	R. Specht	4/163 Tedley St	"
5	[illegible]	15 Tedley St	Mbo
6	Mary McLucas	262 Alice St	Maryborough
7	[illegible]	Lot 1 Murphys Rd	Munna
8	Lucy Ammenhausen	Lot 1 Murphys Rd	Munna
9	[illegible]	12 Albury St	Maryborough
10	Kim Brooks	21 Panorama Drive	Mboro
11	Dorothy Wilkins	14 Albury St	Mbo
12	[illegible]	225 Ann St	Mbro
13	[illegible]	255 Elbin Rd	Torrington
14	[illegible]	142 Kent St	[illegible]
15	[illegible]	M/S 236	Maryborough
16	[illegible]	169 Cheapside St	Mbro
17	[illegible]	28 Feery Lane	Maryborough
18	[illegible]	130 Salmon Ck Rd	Maryborough
19	Michelle Wallace	130 Cook Rd	Mbro
20	Rob Wallace	130 Cribb Rd	Mbro
21	[illegible]	M/S 236	Maryborough
22	[illegible]	6 Carlson Ave	Maryborough

HEADQUARTERS
The Paraphernalia Specialists
est. 1982

P.O. BOX 929 BONDI JUNCTION 2022

BONDI: Shop 6, Bronka Arcad
Bondi Junction 202
N.S.V
Tel: 387-221



Glass Bent Bubble
Med. $27,
Large $37

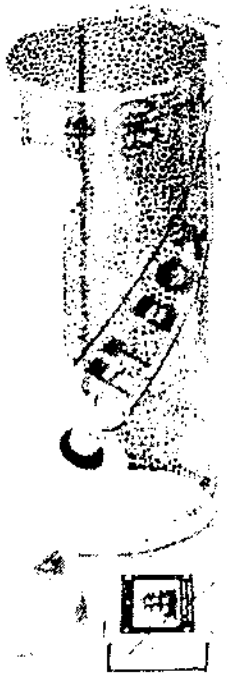
9" Straight Glass $25
12" Straight Glass $28

Ceramic Leaf $22

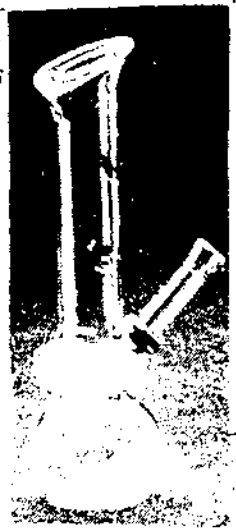
Ceramic Telephone 230mm
$30

Buddha 120mm $15
150mm $20
200mm Standing $23

210mm Ceramic Cobra $22
De-Luxe with Mull Bowl $24



170mm Ceramic Gift Pack
$16



Glass
Double Bubble
180mm $16
210mm $22

Little Bottler 130mm
$12

Ceramic Orchy
or Stubby
$15

Ceramic Tube 300mm
$22

Bamboo
200mm $15
250mm $19
330mm $22
380mm $26

Acrylic
210mm $15
260mm $17
De-Luxe $20

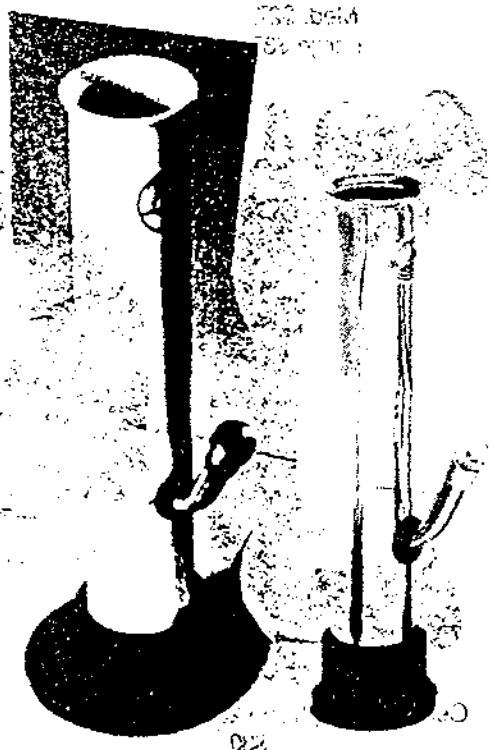
Acrylic Bubbles
200mm $16
~~280mm $18~~
~~400mm $20~~

Indian
Soapstone
$25

Indian
Wood + Brass

Steerhorn
$25

Acrylic Portable
$10
with base $11



Metal
180mm $10
210mm $15
260mm $18

Chrome
180mm $12
200mm $14
250mm $20

HEADQUARTERS
The Paraphernalia Specialists
est. 1982
P.O. BOX 929 BONDI JUNCTION 2022

BONDI: Shop 6, Bronka Arcade,
Bondi Junction 2022
N.S.W.
Tel: 387-2219

PIPES & ROACHES

90mm Small Bamboo Pipe	-5.00
140mm Medium Bamboo	-6.00
Indian Wood -Brass Pipe	-8.00
Indian Soap Stone	-6.00
Glass Shotgun	-7.00
Brass Hash Pipes	-7.00
Key-Ring-Mini Pipe	-4.00
El Cheapo Roachie	-2.50
Key Ring Roach Flick Clip	-6.00
Novelty Roaches On Key Ring	
KEY , Lady or Guitar	-5.00
Nut And Bolt Pipe	
Aluminum	-10.00
Brass	-14.00
Corn Cob Pipe	-4.00
Ear Ring Roach	-4.00

PAPERS

Wired	-1.50
Camouflague	- .90
King Size	-1.00
Club Cabaret	-1.00
Double Wide	-1.00
1 & 1/2	- .90
Twin Pack	- .65
Liquorice	- .40
Standard	- .30
Rips -Gold 200s	-1.80
Continuous	-2.80
U.S. Flag	1-00

SCALES

Pocket Scales	- 4.00
Indian 20gm	-30.00
Indian 50gm	-38.00
Indian 100gm	-44.00
Indian 200gm	-55.00
Deering 2gm Precision	-38.00
Deering 10gm	-50.00
100gm Table Balance	-75.00
200gm Table Balance	-95.00
200gm Twin Beam	-130.00

LIGHTERS

Refillable Bong/Pipe	-8.00
Refillable Flint	-4.00
Refillable Electronic	-6.00
Windbreaker	-4.00
Disposable small	- .80
large	-1.20
200ml Butane Gas	-3.00

BRUSHES

Stem	-1.80
Medium	-2.00
Bottle	-2.20
Pipe Cleaners	-1.00pkt

SEALED BAGS per 100

500 x 800	-3.00
750 x 1000	-4.00
1000 x 1200	-5.00

FOR THE CONNOISSEUR

Deering Portable Grinder	-44.00
Deering Grinder/Funnel Kit	-54.00
Glass Tooter	- 6.00
Metal Tooter	- 6.00
Gold Blade	- 6.00
Metal Spoon	- 6.00
Vial & Spoon	- 7.00
Valve Tooter	-10.00
Glass Vial	- 2.00
Snuff Kit Complete	-30.00

SMOKES

Mull Mix Plain or Mint	-2.00
~~Lettuce Opium~~	~~-10.00~~
Indian Bidis	-1.50
Indonesian Kreteks	-3.00
~~Black Russians~~	~~-2.00~~
~~Cocktail Rainbows~~	~~-3.80~~

ACCESSORIES

Stash Boxes small	-2.00
large	-3.00
delux	-7.00
Rolling Machines small	-3.90
large	-4.50
auto	-11.50
Mullamatics budget	-4.00
small	-6.00
large with mull bowl	-9.00
Bong Cleaner ~~small~~	~~2.75~~
large	-4.00
Cone Cleaning Tool	- .50
~~Enamelware Mull Bowl small~~	~~8.00~~
~~large~~	~~12.00~~
Small China Mull Bowl	-4.00
Joint Filters 100pkt	-1.00
~~Drink Can Choshers~~	~~-15.00~~
Lighter Flints	- .50
150ml Lighter Fluid	-3.00

BOOKS

Bong Etiquette	- 3.99
Indoor Cultivation	- 6.99
Outdoor Cultivation	- 6.99
Growers Guide	~~[illegible]~~ 40.00
~~Hydroponics & Lighting~~	~~-15.99~~
The Marijuana Catalogue	- 8.99
Freak Bros. Grass Roots	-21.99
Freak Bros. Comix	- 4.99
Fat Freddys Cat Comix	- 4.99
The Stoned Gourmet	- 8.99
Hashish World Book	-50.00
How To Grow With H.I.D	-40.00
Advanced Growers Guide	-14.99

INCENSE

Budget Pack	-1.00
Medium Indian	-2.00
Large Indian	-3.00
Cones	-2.20
Massage Oils	-5.50
De-Luxe Cones	-3.00
Chinese DeLuxe	-3.00
Mirror Holders	-2.00
Brass Holders:	
Small	-4.00
Large	-7.00
DeLuxe	-14.00
Ebony Holders:	
Small	-4.00
Large	-6.00
Incense Oils	-4.00

GAMES

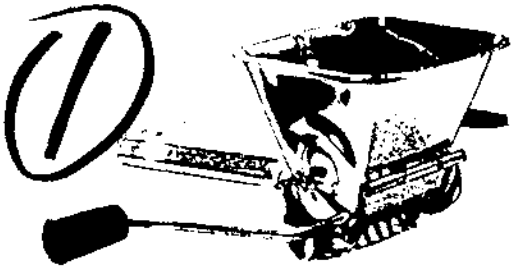
Grass Card Game	-14.00
Pot Luck Board Game	-30.00

NOVELTIES

Dope Greeting Cards (Pk 5)	-6.00
Dope Stickers (Pk 5)	-6.00
Funny Licences	-3.00
After Bong Mints	-4.00
Plastic Pot Plant	-9.99
Video:Reefer Madness/Cocaine Fiends	-39.95

PARTS

Small Aluminium Screw-on Bowl	$ 1.50
Small Brass Screw-on Bowl	$ 1.60
Medium Aluminium Screw-on Bowl	$ 2.00
Medium Brass Screw-on Bowl	$ 2.20
Large Aluminium Screw-on Bowl	$ 2.30
Large Brass Screw-on Bowl	$ 2.60
Small Aluminium Pop-in Bowl	$ 1.30
Small Brass Pop-in Bowl	$ 1.50
Large Aluminium Pop-in Bowl	$ 2.20
Large Brass Pop-in Bowl	$ 2.40
Glass Cone	small $2.50 large $ 4.00
Brass Spotting Cap	$ 2.00
Aluminium Pop-in Adaptor	$ 1.30
Brass Pop-in Adaptor	$ 1.50
Aluminium Collar	$ .80
Brass Collar	$ .90
Aluminium Divers Helmet	$ 1.80
Brass Divers Helmet	$ 2.20
Aluminium Mouthpiece	$ 1.20
Brass Mouthpiece	$ 1.50
Screens	$0.20 Ea. or $16.00 Per 100
Aluminium Connector	$ 1.00
Gatling Bowl — 6 Shooter	$14.99
Grommet	$ .50
Small Aluminium V-Cone	$ 1.20
Large Aluminium V-Cone	$ 2.20
Small Brass V-Cone	$ 1.40
Large Brass V-Cone	$ 2.40
Aluminium V-Cone Adaptor	$ 1.30
Brass V-Cone Adaptor	$ 1.50
Teak Bowl — King Size	$ 4.50
Glass Front Chamber	$12.00
Glass Chamber Connector Sm. $3.50	Lge. $ 4.50



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Budget	-160 x 140mm -21.95
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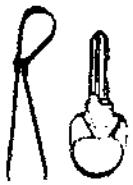
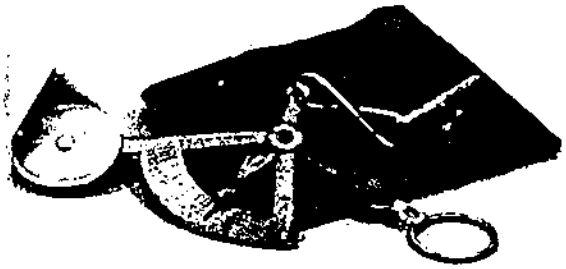
Medium	-280 x 200mm -39.95
Large	-410 x 220mm -59.95



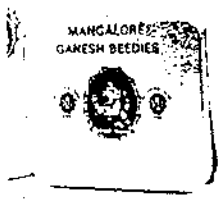


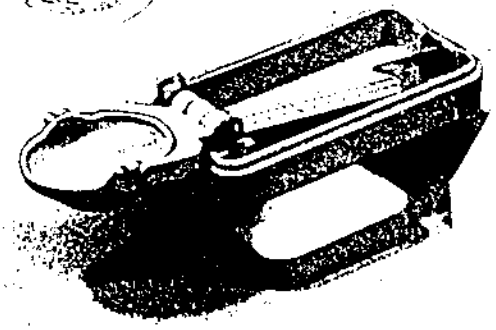
UNCLASSIFIABLE

~~Indian Cotton Shoulder Bags~~	~~6.99~~
~~Indian Cotton Scarves~~	~~4.99~~
~~Mysore Sandalwood Soap~~	~~2.50~~
Chinese Fragrant Soap	-1.20
Sunseal Stickers small	-1.95
large	-3.95
Ansell Condoms (1 Doz).....	5.00

STEMS

4cm Anodised Double Thread	$1.80
6cm Aluminium	$1.00
8cm Anodised Double Thread	$2.50
8cm Aluminium	$1.20
10cm Aluminium Bent	$1.50
10cm Aluminium	$1.50
10cm Brass	$2.50
12cm Aluminium Bent	$1.80
10cm Anodised	$2.20
10cm Anodised Bent	$2.20
12cm Aluminium Bent	$1.80
12cm Anodised Bent	$2.50
14cm Anodised Bent	$2.60
14cm Aluminium Bent	$2.00
14cm Aluminium	$1.80
14cm Anodised	$2.50
20cm Aluminium	$2.50
10cm Glass	$3.50
15cm Glass	$4.00
10cm Glass	$4.50
Flexible Brass & Plastic	$6.50





PLEASE NOMINATE 1st 2nd & 3rd CHOICES TO AVOID DISSAPOINTMENT

POSTERS $4 ea

Alice in Fenderland
Totally Ripped
Beware - Young and Old
Weed With Roots In Hell
Dope Before/After (freak bros.)
Stoned Again
Making Bongs
The Seasons Best
Freewheelin Franklin SEZ.
Hitler- My Plants Are This High

POSTERS $7 ea

Angels
Wasp
Ozzy Osborne
Iron Maiden
Van Halen
AC / DC
Motley Crue
DIO
Bon Scott
Metallica
Sammy Hagar
Jon Bon Jovi
Bon Jovi
Kiss
U2
Deep Purple
Joey Tempest
Bono
Europe
Jimmy Barnes
Led Zeppelin
INXS
John Farnhan
Michael Hutchence
Midnight Oil
Joy Division
Bob Marley
Don Johnson
Sci-Fi [Various]
Dope [Various]
A-HA
Jim Morrison
Sex Pistols
Sid Vicious
John Lydon
Devo
Prince
Mick Jagger
Rolling Stones
Elvis
David Bowie
Beatles
Sade
Pat Benatar
Whitney Houston
Stevie Nicks
Bananarama
Madonna
Bangles
Errol Flynn
Tom Cruise
Schwarzenegger
Bruce Lee
Bogart
Jack Nicholson
Blues Brothers
Rob Love
James Dean
Mel Gibson
Marilyn Monroe

CLASSIC MOVIE POSTERS $10 ea

Creature From Black Lagoon
Day The Earth Stood Still
Monster On The Campus
To Have And Have Not
Jailhouse Rock
King Creole
Streetcar Named Desire
Gone With The Wind
Attack Of The 50ft Women
The 7yr Itch
City Lights
Dial "M" For Murder
Psycho
Vertigo
Rear Window
African Queen
Maltese Falcon
Giant
Spellbound
Wizard Of OZ
Some Like It Hot
Animal Crackers
Casablanca

PLEASE NOMINATE 1st 2nd & 3rdCHOICES TO AVOID DISSAPOINTMENT

T - S H I R T S [Nominate small, medium or large.]

14.99ea	16.99ea	18.99ea
		Sleeveless-One Size
Gadaffy Duck	AC/DC Who Made Who‡	Cramps
Grim Reaper	AC/DC Angus‡	Punk Anarchy
NSW Police	Motley Crue Girls‡	Aussie Flag
Ski The Slopes	Motorhead	Bats & Crosses
Bob Marijuana	Iron Maiden-Make My Day	Bob Marley
Dead Kennedys	Iron Maiden-Eddy & Spacecar	Lou Reed
Elvis	Metallica-Master Of Puppets	Jim Morrison
Exploited‡	Metallica-Damage Inc.	Leopard Spots
Oz Dope	Harley Davidson	John Lennon
Adihash‡	Harley-Fast & Free	Marliyn Monroe
Snort Coke	Motley Crue-Alistair	Rebel Flag
James Dean‡	Stryper	R.I.P
Predator	The Phantom	Robert Smith
Jim Beam	Angels‡	Skulls
G'Day Mate	Oz Crawl	Skulls And Rats
Faulty Towers	Beastie Boys‡	Skulls And Snakes
Captain Condom	Billy Idol	Union Jack
The Misfits	Birthday Party	Remember '76
Joy Division	Black Sabbath	Slayer
Hendrix	Doors‡	Daggers
Husker Du	Bon Jovi‡	
Party Boys	Eon Fm‡	
Ramones	INXS‡	22.00ea
Oi Oi	Hoodoo Gurus‡	Shark Catchers Club
The Clash	JJJ Pink Notes‡	Crocodile " "
Psycotic Turnbuckles	JJJ Head	
Radio Birdman	John Farnham‡	
Johnny Rotten‡	Killing Joke	
Selector	Led Zeppelin‡	
The Smiths	Midnight Oil-Code‡	
The Specials	Midnight Oil-Earth‡	
Sex Pistols	Midnight Oil-Head Injuries‡	
Suicidal Tendencies‡	Midnight Oil-I.D Card‡	
Sid Vicious‡	Midnight Oil-Diesel + Dust‡	
Talking Heads	Live To Ride‡	
Thunderbirds	Pink Floyd-Moon‡	
Young Ones	Pink Floyd-Wall‡	
Dope Shirt	Pink Floyd-Collage‡	
Ozzy Osborne	P.I.L	
	2MMM	
	Ratt	
	Rose Tattoo‡	
	Simply Red	
	Spy Vs Spy	
	U2	

‡ Also Available In Singlet (One size fits all)

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Bondi Junction 2022
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HEADQUARTERS

The Paraphernalia Specialists
P.O. BOX 929 BONDI JUNCTION 2022

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Availability of some items may be limited
so ACT NOW and avoid dissapointment.

ITEM	QUANTITY	PRICE	ITEM	QUANTITY	PRICE

I enclose cheque/money order for _____ plus $ _____ post and packaging
(minimum order $10) to **P.O. BOX 929 BONDI JUNCTION N.S.W. 2022.**

VISA
MASTERCARD ☐☐☐ ☐☐ ☐☐☐ ☐☐☐☐☐☐
BANKCARD

I am over 18 years of age _____

NAME _____
ADDRESS _____
_____

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NZ, P.N.G. and O.S. by weight and at customers own risk unless insurance requested and paid.
There is a 14 day delay for clearance of all personal cheques.

Cymbal Cl[illegible]	-5.95
Music Case	-24.95
Guitar Bag Acoustic	-24.95
Guitar Bag Electric	-64.95
6m Heavy Duty Guitar Lead	-14.95
Nylon Web Guitar Strap	-6.99
Leather Guitar Strap	-19.99
Fender USA Guitar Strap	-19.99
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Tekeuchi Tremolo	-150.00
Tekeuchi Bass Tremolo	-185.00
Conductors Batons	-9.95

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Vantage: Classic	-149.95
Western	-189.95
Electric	-379.00
Bass	-359.00
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Reflex Electric Bass	-275.00
Admira Classical	-160.00
Applause Acc/Electric	-599.00

Also Available : Profile, Kohno, Westone, Epiphone, Ovation, K.Yairi And Lots More

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Marijuana in Australia

RESTRICTED PUBLICATION

NOT FOR SALE TO MINORS

AUSTRALIAN HANDBOOK for INDOOR GROWING OF Marijuana

D.R.Wakefield

1986 REVISED EDITION

The Marijuana Catalogue

A COMPREHENSIVE GUIDE TO GRASS FOR NEOPHYTE AND VETERAN SMOKERS ALIKE

BY PAUL DENNIS & CAROLYN BARRY

ILLUSTRATED

The Marijuana Catalogue

THE HISTORY OF MARIJUANA
from its early uses almost 5000 years ago to its legislative history in recent years

SCORING SOME GRASS
how to obtain it and how to get your money's worth

GROWING YOUR OWN
everything you need to know, from seeds to harvest

CLEANING, TREATING, ROLLING, AND STASHING
a step-by-step guide to preparing for use

PARAPHERNALIA
an evaluation of pipes, papers, and more sophisticated head gear

GETTING STONED
the process and the fun, plus how to avoid a bad trip

COOKING WITH GRASS
a time-honored tradition—many recipes included

THE EFFECTS OF MARIJUANA
the physical, emotional, and psychological effects of short-term and long-term use

HASHISH
a discussion of marijuana's mysterious cousin

THE POT-LOVE CONNECTION
the relationship between marijuana and human sexual response

BOOK 2 IN A SERIES ON
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AUSTRALIAN HANDBOOK
for
OUTDOOR GROWING
of
MARIJUANA

D.R.Wakefield

1986 REVISED EDITION

'The evidence before us shows that: Increasing numbers of people, mainly young, in all classes of society, are experimenting with this drug, and substantial numbers use it regularly for social pleasure.

'There is no evidence that this activity is causing violent crime or aggressive anti-social behaviour, or is producing in otherwise normal people conditions of dependence or psychosis requiring medical treatments.

'The experience of many other countries is that once it is established, Cannabis smoking tends to spread. In some parts of Western Society where interest in mood-altering drugs is growing, there are indications that it may become a functional equivalent to alcohol.'

Report by the Advisory Committee on
Drug Dependence — Great Britain, 1968

This book contains sections on:

- ★ You and the Law
- ★ Genetic Alteration
- ★ Indoor Lighting
- ★ Hydroponics
- ★ Sinsemilla

RESTRICTED PUBLICATION

NOT FOR SALE TO MINORS

The Advanced Growers Guide to MARIJUANA CULTIVATION

Other magazines include:

Marijuana Monthly
P.O. Box 44428
Panorama City, CA 91402

Head Magazine
P.O. Box 4560, Grand Central Station
New York, NY 10017

Books and pamphlets can be ordered from a catalog provided by:

And/Or Press
3431 Rincon Annex
San Francisco, CA 94119

Other things to order include a large colorful poster from Bambu—the rolling-paper people. Send $2.00 to:

Bambu Sales, Inc.
338 Westbury Avenue
Carle Place, NY 11514

Cleaning devices:

Brand X Seedglide Co.
P.O. Box 26385
Tucson, AR 85726

Rolling Bowl
P.O. Box 229
Freedom, CA 95019

We also suggest writing NORML, the Washington-based group that spends its untiring efforts attempting to reform the marijuana laws. They offer a wealth of material on the legal status of marijuana and have a membership program that begins at $10 for students, $15 for adults.

NORML
2317 M Street, N.W.
Washington, DC 20037

Other mail-order paraphernalia available from:

L. Bandel Co.
P.O. Box 79913
Los Angeles, CA 90069

U'Neek Products
3169 Barbara Ct. C.
Hollywood, CA 90068

Rare Treasures, Ltd.
30-30 Northern Blvd.
Long Island City, NY 11101

For special ceramic bongs:

Sunshine Ceramic
P.O. Box 175
Newton, KS

Or stoneware pipes:

Celebration Pipes
P.O. Box 205
Laie, HI 96762

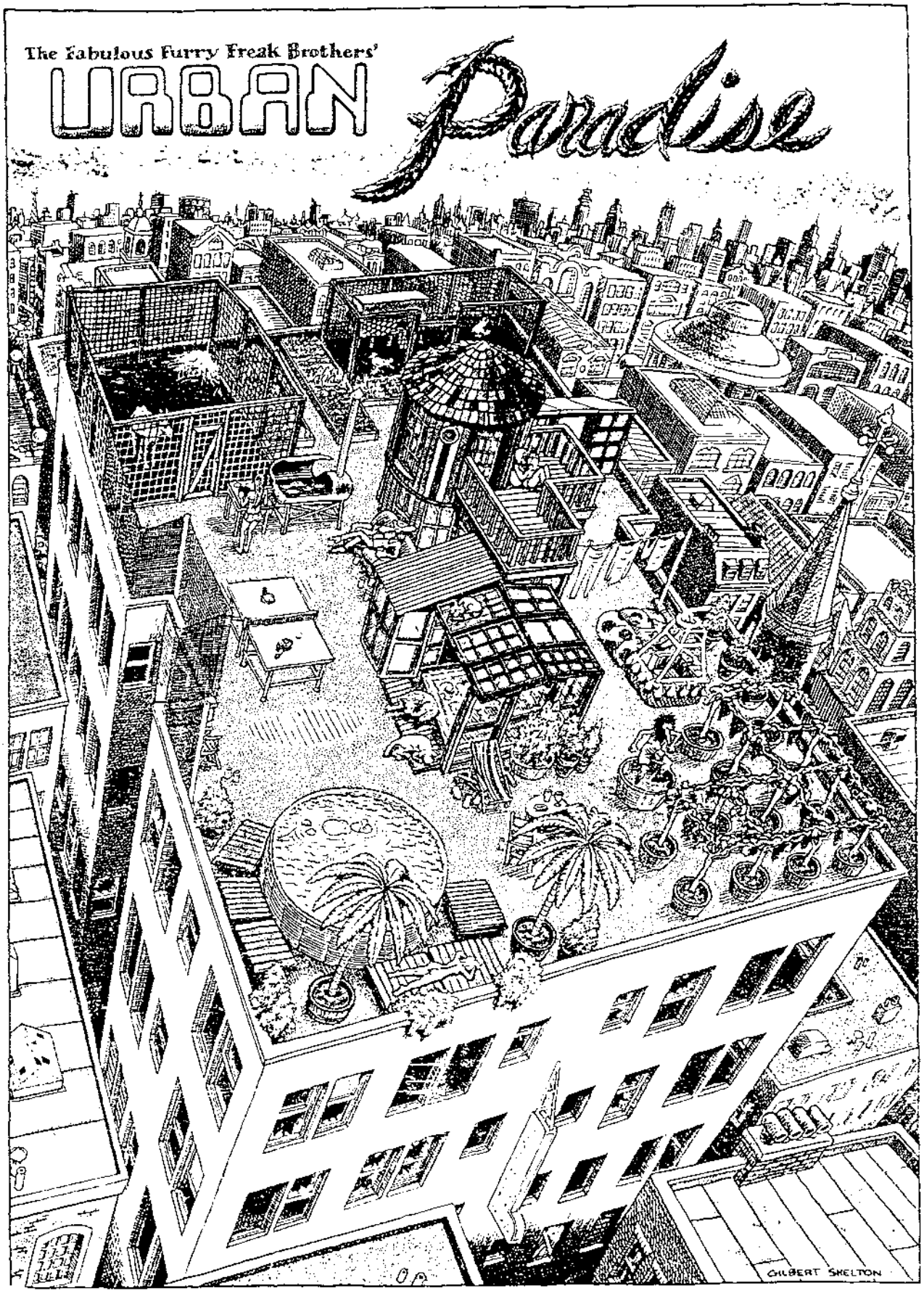
Or hand-crafted wood pipes:

T. Jasper
P.O. Box 4383
Sylmar, CA 91342

Or "factory-made" joints:

Dobbie Rollers
P.O. Box 44032
Miami, FL 33144

These companies will most probably suit your needs.



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21/2/95

help end marijuana prohibition
mackay

HEMP Mackay, PO Box 1504, Mackay Q 4740

SUBMISSION TO THE PARLIAMENTARY CJC ON CANNABIS LAW REFORM

• HEMP Mackay

Help End Marijuana Prohibition (HEMP) Mackay was formed in 1994 to campaign for an end to all forms of marijuana prohibition in Queensland and Australia.

• Introduction

Having reviewed the Criminal Justice Commission's report on cannabis and the law in Queensland, Help End Marijuana Prohibition (HEMP) Mackay believes it is evident that the recommendations made will do nothing to resolve the problems associated with cannabis use. HEMP Mackay believes that the only solution to these problems is for cannabis to be legalised and all legal sanctions on its production and use removed.

• Health Issues

The CJC's report recognises that the health risks associated with using cannabis were shown to be low, no more dangerous than alcohol or tobacco. However the report argues that decriminalisation or legalisation of cannabis would add to the problems already caused by alcohol and tobacco. Therefore the report recommends maintenance of the status quo.

HEMP Mackay believes that this is a misguided attempt to solve a health problem by applying a legal solution which causes more harm than use of the drug itself.

A large proportion of the community use the drug in spite of the law, so any potential health problems that would arise following legalisation must already be occurring.

In fact, relaxing the law in other jurisdictions has led to no significant increase in cannabis usage. In Holland, where there is a liberal attitude to cannabis, less teenagers use the drug

than in surrounding countries which take a more authoritarian approach. HEMP Mackay believes the fear of an increase in health problems following decriminalisation is unfounded.

While we support the right of society to discourage the abuse of drugs we believe that the law is not the correct tool to use. Criminal sanctions do not educate and assist the minority of people who use the drug irresponsibly.

If the government wishes to minimise the harm caused by cannabis abuse then it must remove the danger of a criminal conviction so that abusers are free to discuss their problems openly. The government could then concentrate its resources on education and treatment rather than detection and prosecution.

• Cost of Enforcement

The enormous financial and social costs paid by the community to enforce this law are unwarranted considering the minor (if any) negative impact marijuana use has on the community.

• Failure of Prohibition

Prohibition has failed. The most dangerous aspect of using cannabis is the risk of being branded a criminal, being fined and possibly gaoled, however, these strict laws achieve very little. A large proportion of the community use the drug in spite of the law.

• Moral issues

HEMP Mackay sees nothing wrong with recreational use of this drug and we feel that for the government to continue prosecuting cannabis users when it knows that their behaviour is not overtly dangerous is morally wrong.

It is not the function of the law, in a free and democratic society, to interfere in the day to day life of citizens when they are not harming themselves or others.

The law should ban behaviour if a grave threat exists. When only a minimal threat exists the law should implement controls to minimise the risks involved and leave the decision on whether to engage in the behaviour up to the individual. Clearly only a minimal threat exists with the use of cannabis.

• Consistency

Above all else the law must be consistent. The dangers involved in using cannabis are similar to those of using tobacco and alcohol so they must be treated equally by the law.

If the government continues to ban the use of cannabis on the grounds that it is too

dangerous then it must, in the interest of consistency, ban the use of alcohol and tobacco. To do anything else is a hypocritical, discriminatory restriction on those who choose to use cannabis.

• Community Attitudes

The broad support (47%) for legalisation of cannabis use indicated in the CJC report clearly shows that the law does not reflect the community's attitude on the issue.

In recent weeks the Commonwealth Government has released the report of the National Taskforce on Cannabis which shows even greater support (58%) by Australians for legalisation.

We ask the government to bring the law into line with the wishes of the community by legalising cannabis use and placing it under similar licensing controls to those imposed on alcohol and tobacco.

21/2/95

47 Pangeza Street
STAFFORD HEIGHTS Q. 4053

18th October, 1994

The Research Director
Parliamentary Criminal Justice Committee
Parliament House
George & Alice Streets
BRISBANE Q. 4000

Dear Research Director,

I wish to make a personal submission on the review of the Criminal Justice Commission's Report on Cannabis and the Law in Queensland.

(1) I enclose material from DRUG-ARM - Marijuana-The Risks.

So far as I am aware, DRUG-ARM is an organisation which has access to, and knowledge of research and surveys throughout the world, and it does have practical experience with people suffering from the ill-effects of cannabis and other drugs.

(2) From my own experience as a general practitioner for over 30 years - and more particularly in this context, over the last 10 years - I have had to deal with an increasing number of major social personal/family/community problems basically due to cannabis use. Alcohol is often cited as a basis for comparison with cannabis. While alcohol does cause medical and social problems, in my experience the number and nature of such problems pales in comparison with those due to cannabis usage.

(3) In the world scene, the violent lives and deaths, often by suicide, of rock 'music' and other "celebrities" highlights the danger of drug intake. While their violence was not directly attributable to cannabis, virtually all of them began in the drug scene by the intake of cannabis. Such "celebrities" have a major influence on the lives of the younger members of our society.

In summary, I am strongly opposed to the decriminalisation of cannabis. Such a move would, in my opinion, increase the use and abuse of cannabis and other drugs, and the Government thus would be abrogating its duty to society to maintain peace and order in the community.

Yours faithfully,

David L. Backstrom

Dr. D.L. Backstrom
M.B.,B.S., F.R.A.C.G.P.

MARIJUANA - THE RISKS

1. Short Term Health Risks

* short term memory defects persisting as long as 4 weeks
* impaired motor skills detected 24 hours after use
* serious side effects when decision making processes are needed in vehicle and heavy machine usage

2. Long Term Health Risks

* increased risk of psychosis
* alteration in patterns of pre-existing psychiatric illnesses
* reduced birth weights
* increased risk on onset of leukaemia in children of marijuana use by mothers.

3. Passive Smoking

* can produce temporary symptoms in non users
* can produce identifiable levels in urine
* cancerous side effects

124 Tooley Rd
Wellers Hill
4121
19 Oct 1994

The Research Director
Parliamentary Criminal Justice Committee

Dear Sir,

re Cannabis Inquiry in Queensland.

It is an established Principle that it is the duty of all good governments to protect those who - for whatever reason - are incapable of looking after themselves.

For example, in accordance with this principle, society has agreed that a proportion of revenue collected by taxation should be directed to the less fortunate by virtue of social welfare payments.

Similarly I put it to the Commission that it has a responsibility to recommend action that would protect those who, in the use of cannabis, would risk addiction and/or unacceptable anti-social behaviour.

This diminishes the quality of life of not only themselves, but of those around them.

We are I believe our brothers keepers.

I consider the changes recommended by the C.J.C. have gone far enough and that cannabis should not be decriminalised

Yours respectfully
J. Webb
(J. V. WEBB)

21/2/95

Submission to
The Parliamentary Criminal Justice Committee.
on
The CJC Report on Cannabis and the Law

To

The Honourable Ken Davies

Chairman

The CJC's report on cannabis prohibition is an abject failure in dealing with the cannabis black market and its associated organised crime and corruption. The cannabis crop is valued at around $600 million annually in Queensland by the CJC's own discussion paper, 70 times the $15 million prostitution industry. Commissioner Tony Fitzgerald devoted the majority of his report to investigating the level of corruption in the prostitution industry and clearly intended that the CJC continue this line of investigation into the illicit drug industry. The report glosses over any issues other than those which maintain the status quo, namely the continued criminalisation of cannabis and ignores the massive black market that this recommendation supports.

In a two page discourse evaluating the legalisation option, the authors make unfounded assumptions and omit a number of significant points. The report completely fails to address the ineffectiveness or the deleterious effects of cannabis prohibition. Furthermore the report clearly does not fulfil two of the three requirements laid down by Commissioner Tony Fitzgerald (quoted in the report's introduction) - namely the level of organised criminal activity in the illicit drug trade and the cost of **effectively** enforcing drug prohibition.

The assumption that de-criminalisation or legalisation 'would probably lead to an increase of cannabis use in the community' is terse and unresearched. The report fails to draw on the vast volume of usage data available in the global community. In the Netherlands, the USA states, California, Ohio, Oregon, Michigan and Alaska, and here in the ACT and SA where cannabis is decriminalised, usage surveys indicated no significant increase in cannabis use results from liberalising drug laws. In fact in 1976, when cannabis laws were liberalised in the Netherlands, government surveys found that teenage usage was 10%. Today teen use has stabilised at only 6%. These findings were clearly illustrated in pages 42-48 of the CJC's preliminary discussion paper, but ominously omitted from the final report.

The commission fails to recognise that the criminalisation of cannabis creates an unsafe environment in which (predominantly young) users to consume cannabis. Users are exposed to real criminals who deal in large quantities, junkies who are

supporting heroin habits with cannabis sales, unsafe rituals of consumption such as sharing joints (and germs) and the pressure to smoke more in order to remove the 'evidence'. Parents must ask themselves this question: 'If my children are going to experiment with cannabis, would I rather they were supplied by me or a dealer from the underworld?'. Furthermore the high cost of cannabis results in users not being able to consume cannabis orally, a far healthier medium than smoking.

Also omitted from the report is the fact that prohibition prevents any kind of rational education campaign regarding safe ways to use cannabis. This would include information such as that cannabis is fat soluble and remains in the body for 2-3 weeks, the dangers of excessive use, the affects on attention span, the effects on the short term memory and recommended levels of usage (such as no more than once a month for students). Prohibition also discourages users admitting use to family or friends who are able to offer support and advise those in need.

The commission fails to recognise that legalisation would allow the proper research to be conducted into the effects of cannabis use and its legalisation. With 200 different chemicals present in THC it may even be possible to distil out those which produce the euphoric effect. It may further be possible to devise a chemical which breaks down the THC from the fatty cells and reduce the time that cannabis resides in the body.

Comparing the heath care costs of cannabis abuse to the costs of tobacco and alcohol is like comparing apples to oranges. In contrast to tobacco and alcohol, cannabis is widely acknowledged to be non-addictive. This quality also gives cannabis more credibility as a recreational drug (as does its ability to induce a tranquil effect rather than the aggression typically associated with alcohol). When the annual cost of tobacco abuse, estimated at around $6.8 billion, has the tobacco tax revenue of $2.1 billion taken from it and is compared to the annual cost of drug prohibition at about $1.7 billion and the total money spent on illicit drugs, being around $5 billion p.a., drug prohibition is actually more expensive than tobacco abuse.

Last and possibly most significantly the report (and most other reports) does not

consider the likelihood that cannabis prohibition, almost certainly, engenders a forbidden fruit syndrome which encourages more young people to use the drug. Cannabis is set up as an icon of rebellion and a rite into adulthood. Prohibition makes drugs mysterious and alluring to young people. Evidence in the Netherlands suggests that as a regime becomes more liberalised cannabis users come from older age groups while use in amongst young people tapers off. Given that in Queensland 50% of cannabis users are under age 25 a lot of young people are clearly succumbing to the forbidden fruit syndrome, and be feeling a great deal of resentment towards those who would impose cannabis prohibition on them (such as the government, the police and the courts). Surely, in a civilised society this is not a desirable way to treat our youth.

If the Commission is suggesting that this liberalisation is the first step in a staged approach to full legalisation then they are not saying it. One positive aspect of the report, which must be acknowledged is the recommendation to abolish the crime of possessing implements for the purpose of consuming cannabis. If ever there was a law steeped in ignorance, it is this one. A pipe or bong is the only way to avoid using tobacco to regulate the amount of cannabis one consumes. When cannabis is smoked most users only require two or three puffs to obtain a high. When a joint is used in the absence of a pipe, cannabis must be mixed with tobacco to facilitate smoking. Cannabis users are then liable to form tobacco addictions and incur serious health damage.

Ultimately, any rational examination of cannabis prohibition must conclude that, as with alcohol and tobacco, the final decision to use cannabis is not dictated by some notion of society being 'cruel to be kind' and criminalising users just so it can 'send a message' about drugs. It must be based on an informed decision made in the context of individual preference and social acceptance. Only then can, young people, make good decisions about their use of drugs. Clearly the most serious danger associated with cannabis use is the possibility of being convicted and criminalised, and the subsequent loss of civil liberties, jobs, travel options and prestige.

The CJC's own survey found that 47% of the community support legalisation and

74% support decriminalisation. The recent National Task Force Report on Cannabis commissioned a public opinion survey with similar findings. Clearly the community wants regulation rather than prohibition when it comes to drug use. One simple solution is to give licences to certain retail outlets such as coffee shops to sell cannabis, to give small scale growers licences to produce cannabis for distribution only to these outlets and to legalise (or provide licences for) the personal cultivation of cannabis. This would dissolve the black market, allow cannabis consumption to be subject to regulation and sever the link to harder drugs.

A legal cannabis industry will never be a big industry. If Australians spend around $3 billion annually on cannabis, at $400 an ounce, we are currently consuming about 300 tons of cannabis per year. While the effort required to produce this crop would be small in comparison with the tobacco or the liquor industries, income losses could be compensated for by allowing the use of hemp as an industrial crop. Such a crop could be used to produce fibre for textiles, paper and building materials, oil, seed and plastics.

There is little likelihood that in a legal regime people would consume more cannabis as usage patterns indicate that users rarely use regularly for more than a few years due to the unnadictive nature of cannabis and the fact that cannabis accumulates in the body causing users to voluntarily dry out. One of the main user groups, the under 25 year olds, would probably use less as the element of mystery and forbidden fruit would be diminished.

Roger Brand

Help End Marijuana Prohibition
C\- PO Box 332
Albert St,
4002
Ph. 844 7499

22 21/2/95

Dr. J. C. A. DIQUE

18 Crowther Street
Windsor 4030

Submission regarding the Report on Cannabis and the Law in Queensland.

The compilers of the Report should be congratulated for producing such a detailed and comprehensive report. Merely reading through the 458 Submissions was a monumental task in itself.

The report has focussed attention on some aspects of Cannabis usage. These are listed below.

1. There is international concern regarding cannabis usage and this is increasing. The report lists a number of international agreements regarding illicit drugs to which Australia is now signatory, underling the duty of the Australian Government to cooperate in international illicit drug suppression.

2. The Report draws attention to the fact there is great concern in the general public regarding cannabis usage and mentions that many young people have "tried" using cannabis in their early years and discontinued using it later. "the 'typical' defendant appearing in court for minor drug matters is a young, single male who is either unemployed, or in an unskilled occupation". (page41.

3, Because of general concern all Australian States have enacted legislation to prevent cannabis usage.

4. Unfortunately, there has been no cooperation between States on this matter with the result that a different code of penalties has emerged between States.

5. The Report mentions the organisations which advocate that cannabis usage be decriminalised.

Negative Aspect of the Report.

The following are worth mentioning.-

1. In the list of references which the Report cites there is no mention of Professor Hardin B,Jones, Professor of Medical Physics and Physiology, University of California. His article-The dangers of cannabis smoking in the AMA Gazette April 27, 1978 should be compulsory reading for all interested in cannabis usage.

2. The recommendations of the Report were disappointing. The Report toys with the question of "legalisation" of cannabis because of advocacy by such organisations as HEMP and QCCL. The argument that "in a free society all people should have the right to engage in any activity which they desire, including self-injurious activity provided that the activity does not harm others"

loses validity when it is realised that any harm done by individuals to themselves immediately calls into action such organisations which have been put in place to provide assistance to anyone who gets into difficultie irrespective of cause. This would involve police, search parties, ambulance and other health and medical services, all funded by the public purse. People have the duty to the public not to indulge in activity which may be harmful to themselves. This situation is no different from wilfully swimming outside flagged areas on a beach where dangerous currents exist.

As the report itself acknowledges,"legalisation of cannabis would not be permissable under the various international treaties to which Australia is party".(page 74).

The Report suggests that "drug legislation define separate offences of possession and cultivation of lesser quantities of cannabis, as opposed to the current scheme in which there is one offence classification covering all cases from the smallest measurable quantity to 500 grams of cannabis or 100 cannabis plants. If it is legal to possess 100 grams of cannabis or grow ten trees, all for personal use the ultimate result is added policing to ensure that the limits are not exceeded. There can be no honest deviation from the principle that possession of cannabis or the growing of cannabis plants should be deemed to be illegal irrespective of quantity.

What is mandatory now is that the public be fully informed of the pharmaceutical results of cannabis usage; in addition a definate program should be launched in all schools to alert pupils from primary school level upwards to the dangers of cannabis. It has been frequently stated by the newsmedia that the growing of cannabis is a $40million industry. The Government should make no concession to this industry, neither should there be any argument regarding some ephemeral "good" that may result from taxation of a "legitimate" part of it. Money, if required by the Government should be obtained in an honest manner.

It is necessary to understand that crime and illhealth have from the earliest days been associated with cannabis.

Health.

While people are being exhorted to reach their full potential in academic prowess or physical performance, yet at the same time not sufficient attention is being devoted to publicising the ill effects of various harmful substances including cannabis.

The effects of cannabis are caused by a resin which is composed of about thirty ingredients the most important being tetrahydrocannbinol. The resin is fat soluble and not water soluble and it is thus thus not easily eliminated. It becomes concentrated in the fatty (myelin) insulating covering of every nerve fibre both in the brain and peripherally as well and short circuits the nervous impulse from brain cells to any part of the body. In addition it destroys the connections between nerve cells in the brain itself, Thus cannabis not only interferes with physical performance but with academic ability and causes personality changes.

The public would be cooperative in preventing cannabis usage if the harmful effects of cannabis were explained.

Crime.

In the book by noted author and traveller Dr. Stark (The Valley of the Assassins) relates how young Persian men were feasted and

intoxicated with cannabis, and then induced to cross the valley of the assassins. On the way they were suitably entertained by young women. When they arrived at their destination, having fallen into a drug induced sleep on the way they believed that they had been in Heaven.They became the willing political killers of their mentors who convinced them that they would return to Heaven when they died if they continued to obey instructions while alive.

A new word assassin was added to the English lexicon by Crusaders who became aware of the practice of using hashishns (smokers of hashish--cannabis) for political murders.

Inadequate publicity.

Ignorance of the pharmaceutical effects of cannabis has directly contributed to many people advocating its decriminalisation. Many are financially well endowed and put in an advertisment in the Australian of 30-31 October 1993. A copy is included.

Medical Mother (Lady Phyllis Cilento) wrote an informative article in the Courier Mail of 15 May 1983 on the cannabis issue. The latter part deals with the problem from a Middle East perspective--A copy is included.

Emeritus Professor of Psychiatry Dr. Samuel I.Cohen wrote a very revealing letter in the Australian of 10 November 1993. A copy is included. It is worth noting that his name does not appear among the list of references in the Report.

Recent tragedies are worth mentioning.In these cannabis contributed.

1. Daniel Yock, an Aboriginal dancer died while in a police paddy wagon on November 7, 1993. His death resulted in accusations by the Aboriginal community that he had been "kicked to death" by police, that the policemen concerned be suspended pending an enquiry. A hostile Aboriginal march was conducted against "police brutality" and an independent pathologist was appointed from another State.

It was revealed that Daniel Yock had been suffering from ischaemic heart disease. His blood contained alcohol 0.157 per cent and cannabis substance as well. Little was mentioned about cannabis in the many newspaper accounts of yock's death. A copy of a report (Australian 18-19 December 1993) is included.

2. Benjamin Candy 15 years and Jarrad Candy 13 years were killed on a railway crossing at night while on the way home after smoking cannabis which would have confused them for time and speed. Copies of reports included.

3. Aaron Troy Small 18 years was driving a car while under the influence of cannabis. His vehicle hit the back of a taxi and then crossed to the other side of the road and hit another car. A charge of being under the influence of a drug was dismissed because cannabis had been removed from the List of Drugs and put onto the List of Poisons. Copy of The Australian report 12 December 1993 report enclosed.

Conclusion.

The Report should not have advocated any concession towards cannabis usage for recretational use. It should have more strongly advocated an educational program.

M.B.,B.S.. F.R.C.P.A..

Dr. J. C. A. DIQUE

18 Crowther Street
Windsor 4030

(07) 8572523

1 October 1994

The Research Director,
Parliamentary Criminal Justice Committee,
Parliament House,
Cnr. George and Alice Streets,
Brisbane. 4000

Dear Sir,

Herewith Submission regarding the Report on Cannabis and the Law in Queensland, June 1994.

A call for public Submissions was made as per Courier Mail advertisment dated Saturday 18 August 1994.

Yours faithfully,

Dr. J.C.A. Dique.

Please acknowledge.

With the decriminalisation of marihuana a political talking point again, Lady Cilento repeats the case against it she stated in a 1978 article . . . and argues that calls for its legal use would lose popularity if the danger was realised by the public and governments.

MEDICAL MOTHER
By LADY CILENTO

MARIHUANA

FOR YEARS there has been a running battle between those who believe that smoking pot (or cannabis) has harmful effects and can even be dangerous, and those who claim it is perfectly harmless and even has beneficial medicinal qualities.

But after long-term observation, an American expert revealed its definite toxic effects on cells and cell systems in the brain and on the chromosomes which program the life of the next generation.

Dr Hardin B. Jones, Professor of Medical Physics and Physiology at the University of California, visited Australia in August, 1977.

With his wife, he wrote an article especially for doctors in the Australian Medical Association Gazette.

He had studied drug abuse in the US for years and had written many papers on the subject.

He came to Australia to observe the rapidly-spreading epidemic of cannabis use among young people here, and found the situation much like that in the US six or seven years earlier.

In the earlier days in America, pot was used mainly by students who smoked low-potency cannabis a few times a month and there were few signs that the drug had adverse effects either in short- or long-term use.

Anyhow, no one took much notice of the adverse reports made at that time.

In fact there was a great deal of misinformation about the subject.

However, since 1965, when tetra-hydrocannabinol (THC), the principal active ingredient in cannabis, was isolated, much has been discovered about its dangers, especially as there is a tendency for some cannabis users to smoke the stronger types of the drug containing high levels of THC.

In fact, cannabis should now be considered one of the most potentially dangerous drugs in use.

The trouble is that a large proportion of the drug is retained in the body for over a week and is only slowly eliminated.

It thus builds up so that the user is affected even between doses, and after.

Contrary to many reports and popular belief, cannabis has proved to be both chemically and psychologically addictive.

Withdrawal symptoms are slower and milder but much the same as withdrawal from the opium drugs — irritability, restlessness, sleeplessness.

Symptoms can be severe in heavy users, causing weight loss, nausea, diarrhoea, salivation, sweating, hot flushes, running nose and hiccups, very like heroin withdrawal.

More and stronger cannabis must be taken to obtain the same "high", and more cannabis users are now smoking daily, and using more potent forms of the drug.

Some eminent psychiatrists have observed that [illegible] cannabis, but also a high incidence of broken chromosomes in the white blood cells of users is reported.

Several groups of doctors working with monkeys and rats given commensurate doses of cannabis as humans, have found greatly increased malformations in their offspring.

Hernia, displaced organs, hydrocephalus, abnormalities of heart and blood vessels, malformations of the hip joints (a sixfold increase) were found whether the drug was taken by the father or mother.

The usual medical examination does not always reveal the pot smoker's actual condition.

But parents, relatives and those who know him well can see the change.

If the smoker himself gives up his cannabis he soon will recognise an improvement in memory, in clearness of thinking and return of sexual function.

He will feel as if a "fog has lifted".

The signs by which the doctor, the family or workmates could recognise the regular cannabis user include an inability to concentrate, inconsistent flight of ideas, poor short-term memory, a pale expressionless face, inability to blush (not uncommon in the young of today), a fine tremor of hands and fingers.

Drug use spreads largely through social contacts.

The prevalence of pot smoking and use of cannabis in its various forms has grown apace in the US.

In 1964, 50,000 people were estimated to be users, in 1970, 3 million; in 1976, 30 million.

There now are estimated to be one to two million heroin addicts, most of whom have come from the cannabis-using population.

Dr Jones noted that Australia was several years behind the United States in the spread of drug use.

At the time I wrote that I hoped we would never catch up.

However, the amount of marihuana now pouring into Australia and grown locally seems to anticipate the colossal increase in its use; but once the danger of cannabis is clearly realised by the public as well as governments a demand for its use may well lose its popularity.

We in Australia may well see repeated the political furore that shook Britain in 1972. Although in 19[illegible] the World Health Organisation, backed by [illegible] tions including Australia, banned cannabis, Lady Wootten in England produced a report favoring more permissiveness with marihuana.

The Wootten Report called forth numerous letters of protest in The Times from doctors and psychiatrists who could speak from their clinical experience of psychological dependence on the drug.

I cannot do better than quote part of the telling letter from Mr Malcolm Muggeridge on the matter: "It is generally assumed in the Wootten Report that we must await the results of properly conducted scientific research before making up our minds on the pres[illegible]

people here, and found the situation much like that in the US six or seven years earlier.

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More and stronger cannabis must be taken to obtain the same "high", and more cannabis users are now smoking daily, and using more potent forms of the drug.

Some eminent psychiatrists have observed that cannabis users suffer from changes in their whole behavior when they begin smoking pot, which only disappear months, even years, after they stop.

Long-term heavy smokers may have permanent behavioral changes caused by alteration in the brain chemistry or by actual damage to the brain cells.

Several groups of researchers in both humans and monkeys have noted that the spaces in the brain become enlarged in those who smoke cannabis, causing some cerebral atrophy and damage to the fine hair-like extensions of brain cell membranes through which brain cells communicate with one another.

THC has been found to be highly concentrated in just those areas of the brain which control the finer movements, the emotions and sexual function, affecting taste and smell and also memory, concentration and initiative.

The degree of permanent damage increases when regular use extends beyond three years.

Continual use leads to delusions, dullness of the senses and emotions.

It is the effect of THC on the genes and chromosomes, however, that makes cannabis so dangerous.

Not only the DNA and RNA (the carriers of the genetic pattern of the new life) are affected by cannabis could recognise the regular cannabis user include an inability to concentrate, inconsistent flight of ideas, poor short-term memory, a pale expressionless face, inability to blush (not uncommon in the young of today), a fine tremor of hands and fingers.

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The Wootten Report called forth numerous letters of protest in The Times from doctors and psychiatrists who could speak from their clinical experience of psychological dependence on the drug.

I cannot do better than quote part of the telling letter from Mr Malcolm Muggeridge on the matter: "It is generally assumed in the Wootten Report that we must await the results of properly conducted scientific research before making up our minds on the pros and cons of legalising this drug variously known as pot, hemp, hashish etc etc.

"My mind goes back to the late 20's when I was teaching at Cairo University. In those days the Egyptian Government under the aegis of the Narcotics Bureau of the old League of Nations and in many other institutions, public and private, was engaged desperately in trying to stamp out or any rate restrict hashish addiction. Anyone who had said that before proceeding it was necessary to demonstrate scientifically that hashish was harmful would have been told to get his head examined.

"The evidence was on every hand, especially at the university, and the League of Nations vaults at Geneva were piled high with it.

"I cannot recall a single reputable person, official or non-official, censorious or permissive, who would have questioned for a moment the desirability of ridding the Middle East and North African countries of hashish.

"Now, 40 years later, we are told there is no reliable evidence."

• Lady Cilento's next column is scheduled to appear on May 29.

ADVERTISEMENT

Decriminalisation of marijuana

— *a call for action!*

We, the undersigned, call on the leaders of Australia to make a decisive choice in favour of the better of two (2) alternatives as to what the law should do relating to Marijuana. We call upon Governments in this country to decriminalise the use of Marijuana forthwith. The community can no longer continue the existing policy of prohibition, a proven failure. Governments must opt positively for decriminalisation.

The war to stamp out personal use of Marijuana has failed, the war has been lost, respect for the law is not universal and when there is not a respect for the law, the law is held in contempt by a percentage of the community. Throughout the community enlightened opinion has been moving apace towards recognition of the fact that in terms of the balance of weights, the arguments in favour of decriminalisation dramatically outweigh those supportive of self defeating perpetuation of the prevailing prohibition policy, a policy which is not succeeding.

As with alcohol in the United States 3 generations ago, prohibition has been an economic boom beyond calculation to the worst criminal elements in the population who have profited from the illegality of Marijuana to the tune of millions and millions of dollars. There is not sufficiently strong public will to enforce the ban. The social cost of Marijuana abuse is infinitesimal compared with similar costs associated with alcohol and tobacco abuse.

We, the undersigned, do not suggest that severe overuse of Marijuana is not harmful. We do, however, say quite clearly that the present policy has not the respect of the community and needs review, needs new impetus and needs the law makers to act to ensure that there is respect for the law.

MR. PHILLIP ADAMS A.O.
THE ADDICTION STUDIES UNIT, SCHOOL OF PSYCHOLOGY, CURTIN UNIVERSITY
PROF. PETER & MRS. J BAUME A.O.
MR DON BAXTER, AIDS COUNCIL OF AUSTRALIA
MR DAVID BENNETT, Q.C.
MR BERNARD D. BRASSIL, B.A. LL.B. SOLICITOR
MR KEN BUCKLEY
PROF. PETER BROOKS M.S. B.S. M.D.
THE HONOURABLE MEREDITH BURGMANN, M.L.C.
DR SIMON CHAPMAN
DR ALEX COHEN
MR G.B. CHESHER
PROF. DONALD J. CHISHOLM M.B. B.S.
MR PETER CLEELAND, CHAIRPERSON OF THE JOINT PARLIAMENTARY COMMITTEE ON THE NATIONAL CRIME AUTHORITY
MISS SHARRON CREWS, B.A. LL.B.
MS PHYLL DANCE
DR MICHAEL DAWSON, UTS UNIVERSITY
DR MICHAEL DAWSON,
PROFESSOR RICHARD DAY M.B. B.S. M.D.
MR B.H.K. DONOVAN Q.C.
DR ERNEST DRUCKER, PH.D.
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THE HONOURABLE A.T. GIETZELT, A.O.
MR PETER GROGAN, PRESIDENT OF AIDS COUNCIL OF NEW SOUTH WALES
MS LEONE HEALY
THE HONOURABLE RICHARD JONES, M.L.C.
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MS JOAN S. KERSEY
MR PHILIP KING LL.B
MR CRAIG KNOWLES, M.P.
MR JOHN MARSDEN LL.M.
MR IAN MATHEWS, A.M.
MS ALLANAH MacTIERNAN B.A., B. JURIS. LL.B. M.L.C., J.P. M.P.
THE HONOURABLE J.R. McCLELLAND B.A. LL.B.
THE HONOURABLE MS JEAN McLEAN, M.L.C.
MS M.E. McNISH
MR GRAEME P. MONTEITH
MR MICHAEL MOORE, M.P.
DR STEPHEN MUGFORD
MR STEPHEN MURPHY, B.E. (CHEM) (HONS).
MR WILLIAM O'BRIEN, B. JURIS. LL.B.
THE HONOURABLE PAUL O'GRADY M.P.
MR W.G. PETERSEN
SENATOR MARGARET REYNOLDS
PROFESSOR BILL SAUNDERS
MR JIM SNOW, M.H.R. MEMBER FOR EDEN-MONARO
MS ELIZABETH SKINNER, DRUG REFERRAL INFORMATION CENTRE
SENATOR SID SPINDLER, AUSTRALIAN DEMOCRATS, SENATOR FOR VICTORIA
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M. WALTON AND ROBERT PULLAN
MRS MARION WATSON
PROF. IAN WEBSTER, M.D.B.S.
DR EDITH WEISBERG
DR PAUL WILSON, DEAN OF HUMANITIES BOND UNIVERSITY
ALEX & JO WODAK
MR KIM YEADON M.P.
MR PETER YELDHAM, O.A.M.
NSW YOUNG LAWYERS

AUSTRALIAN 30-31. OCTOBER 1993

Letters to the editor

Cannabis easy ticket to psychiatric ward

IT is alarming, indeed astonishing, that a professor of public health can say that "moderate use of cannabis is 'harmless'" (*The Australian*, 3/11).

The commonest causes of major psychosis in young adults nowadays, certainly in Britain and in New Zealand and probably here as well, are alcohol, cannabis and other drugs such as amphetamines.

The symptoms, which are terrifying, are often similar to and commonly mistaken for schizophrenia or mania. Complete recovery follows the stopping of these substances usually within a week.

While alcohol and tobacco are major causes of hospital admissions, as Professor Webster rightly points out, one should remember that most of the population use alcohol while fewer use cannabis. Cannabis is certainly one of the commonest reasons for admission to a psychiatric ward and is extremely costly [illegible] services.

Some people [illegible] nerable to these substances than others. There is therefore no such thing as "moderate use". The only amount that matters is the amount that makes that individual ill.

I have recently spent some weeks in New Zealand where I learned with dismay that one of the opposition parties is proposing in the election campaign that there should be a referendum to decide whether cannabis should be legalised.

The public does not yet have the information needed to make such a decision and it is most important that those like myself who see the distressing effects of cannabis on most working days should speak up. The Minister of Health, Mr Phillips, was right (as reported) to express concern at the tendency of teenagers to experiment with drugs.

SAMUEL I. COHEN
Emeritus Professor of [illegible]iatry
[illegible]ipital
[illegible]ollege
[illegible]gland

THE SUN-HERALD, November 7, 1993

Drug referrals

I DID not mention Dr Gabriel Nahas in my letter (S-H, 24/10) and therefore cannot understand why Devra Scotland is so certain it is based on his research. My letter was based on "The dangers of cannabis smoking" by Hardin B Jones. His article in the *AMA Gazette* (27/4/1973) has 33 references of which two are by Nahas; "The pharmacology of marijuana" by Richard Thomas and Gregory Cheshire, *Medical Journal of Australia* (4/8/1973). There are 11 references, none by Nahas; Materia Medica and "Cannabis and the law in Queensland" July, 1993. It has 92 references of which two are by Nahas. If Nahas had funds for research withdrawn by the US Government for work on marijuana it means nothing. Funds for research are always difficult to obtain even when the public health is important and depend on them.

DR J C A DIQUE,
Windsor

Yock's illness 'hard to detect'

By JAMIE WALKER

A TRAINED doctor would have found it difficult to tell that Aboriginal youth Daniel Yock had heart disease at the time he was taken into police custody, the inquiry into his death was told yesterday.

Government pathologist Dr David John Williams gave evidence that it would have been very easy to put Yock's condition down to drunkenness — as the police who arrested him did.

"It would be impossible to say he is definitely ill," he said.

Dr Williams reported that Yock, 18, died of cardiac failure, caused by a combination of ischaemic heart disease — blocking of the arteries — the presence of chronic inflammatory cells in his heart and a nerve abnormality.

Drug intoxication as measured by a blood alcohol level of 0.157 per cent and the presence of cannabis breakdown products was cited as a contributory cause in his death.

The Criminal Justice Commission inquiry, which is investigating the circumstances of Yock's apprehension by Brisbane police and his death on November 7, viewed video footage yesterday of the young Aborigine collapsing during an amateur boxing bout on August 11, 1990.

Statements tendered to the inquiry yesterday reveal that one of the witnesses was told that Yock, then aged 14, had stopped breathing and the attending doctor was frightened he would "lose him".

Dr Stephen Ronald Yates said in his statement that Yock did not have a palpable pulse when he reached him but regained consciousness after he pounded on his chest.

Questioned by Mr Richard Perry, for the police involved in Yock's arrest, Dr Williams said this incident was consistent with the heart problem identified in autopsies performed by himself and a second pathologist, Dr Richard Byron Collins, who carried out an independent post-mortem examination at the request of Yock's family.

Dr Williams said Yock's right coronary artery was found to be 60 per cent blocked and his circulatory system showed features similar to those of a 50-year-old "who had had a heart attack". The nerve abnormality affecting Yock's heart was the first of its kind he had encountered.

The inquiry is due to con-

thers killed in train sh used cannabis

Benjamin Candy

Jarrad Candy

TWO young brothers killed at a Wattleup railway crossing while riding a motorcycle were affected by cannabis, which would have affected their reaction times, Perth Coroner's Court was told yesterday.

Benjamin Michael Candy, 15, and Jarrad Leslie Candy, 13, died on April 20 when hit by a diesel locomotive at a crossing on Wattleup Road.

They were riding an unlicensed 80cc off-road motorcycle given to Jarrad the day before.

The brothers were returning to their home in Tomislav Place, Wattleup, from a nearby quarry when they were hit.

Two Westrail employees who were in control of the locomotive which hit the boys said the crossing was dangerous and visibility there was poor.

Forensic pathologist Clive Cooke told the court tests had revealed Benjamin had 30 micrograms of cannabis product a litre in his body, and Jarrad had 36 micrograms a litre in his body.

By TAMARA HUNTER

Dr Cooke said cannabis would have jumbled the boys' thoughts and affected their co-ordination, their reaction time and their ability to assess speed and distance.

Sen. Const. Robert Wright, who investigated the deaths, told the court he believed the drug was the primary reason for the accident.

Const. Wright said other factors were the boys' inexperience with railway crossings and the road rules, and their unfamiliarity with the motorcycle.

Locomotive driver Howard Minett told the court he already had had a couple of close shaves at the crossing.

Driver's assistant Greg Brennan said it was a blind crossing and he always sounded the horn for a long time when approaching it.

Safety features at the crossing included flashing lights but no boom gates or warning bells.

The horn was sounded twice on this occasion and the headlight was on full beam.

Mr Minett had reduced his speed from the limit of 80kmh to 75kmh

Mr Brennan said he saw the boy about 20 metres before the crossing

He said they had accelerated t try to get over the crossing. Th locomotive could not stop in time

Const. Wright said the boy would have had about a second t get across.

The boys' family has petitione Westrail to install boom gates an bells at the crossing.

The petition, which has almos 500 signatures, was shown to Co oner Michael McGuire yesterday.

Mr McGuire, who ruled that th boys died accidentally, said h would see that the petition wa passed on to the railway crossin protection committee, whic decides on the level of safety mea sures required at crossings.

Committee chairman Guy Moor told the court the committee woul take the petition into account.

He said that before the acciden the committee had believed th safety measures were adequate.

Youth, cannabis a 'potent cocktail'

CANNABIS smoking, youth and driving were a dangerous mixture that multipled the risk of traffic accidents, WA Alcohol and Drug Authority doctors have warned.

Dr Alan Quigley said those under the effect of cannabis were at risk of having accidents because they were not good at judging how long it took to stop or how fast a vehicle was travelling.

He said the drug distorted perception of both time and distance.

Youths who had not had much experience with the drug or had not been driving long were more likely to get into trouble.

Older people who smoked a lot of cannabis were used to driving under the impact of the drug and probably changed their behaviour to compensate.

By MARNIE MCKIMMIE

Dr Quigley said matters were made worse if the driver also had been drinking and his or her physical co-ordination and eyesight were impaired by alcohol.

"All these factors have a multiplying effect," he said.

Perth Coroner's Court was told this week that two young brothers killed at a Wattleup railway crossing while riding a motorcycle were under the influence of cannabis which would have affected their reaction times.

Sen Const. Robert Wright, who investigated the deaths, told the court he believed the drug was th primary reason for the accident.

Dr Quigley said the stron appreciation of music that canna bis smokers developed was evi dence the drug had a differen impact on the body to alcohol.

He said cannabis smokers ofte became anxious when they wer away from the security of the loungeroom and behind the whe of a car.

However, many did not reali they were putting themselves in dangerous position until they wer stuck in the driver's seat.

"Most people smoke sufficien cannabis to become intoxicate Dr Quigley said.

"When you are intoxicat you get these effects."

Magistrate finds pot-hole in cannabis road rules

By MADONNA KING

THE Queensland Government was forced into an embarrassing row yesterday after a magistrate ruled that a man who admitted smoking cannabis before driving could not be convicted of driving under the influence of a drug.

The magistrate's ruling that cannabis was not a drug for the purposes of the Traffic Act prompted the Goss Government to order an immediate reference to the Court of Appeal and State Opposition claims it was a "cannabis Christmas" on the State's roads.

The row followed a court case in which a magistrate agreed with a defence submission that cannabis had been removed from a list of drugs when amendments were made in 1987 to the Health Act.

The Townsville case followed a traffic accident in July when a car hit the rear of a taxi before crossing on to the wrong side of the road and hitting another vehicle.

The defence submitted that Aaron Troy Small, 18, of Townsville had no case to answer after police charged Small with driving under the influence of a drug.

Small's Legal Aid Office barrister, Mr John Thompson, said yesterday the Traffic Act relied on the Health Act to identify substances as drugs and that cannabis had been classed as a drug until changes to the Health Act put it on a list of poisons.

But Mr Thompson said the decision held "very few consequences" for other cases, with driving under the influence of a drug remaining an offence. He said the way similar charges were prosecuted was likely to be changed to call expert evidence.

Mr Thompson said he was surprised the Government had decided to launch an appeal before the court transcripts were made available.

The Premier, Mr Goss, and the Attorney-General, Mr Wells, yesterday attacked the magistrate's ruling as wrong.

Mr Wells said the case would be referred to the Court of Appeal so the legal situation could be verified.

"In the Government's opinion, the decision is wrong. Importantly, the Traffic Act defines a drug as: every substance within the meaning of the Health Acts and every other substance which deprives a person either temporarily or permanently of any of his normal mental or physical faculties," Mr Wells said.

"Clearly this includes cannabis. We are referring the matter to the Court of Appeal so they can verify the legal situation."

But Mr Wells warned motorists against breaking the law "by using cannabis and then compound it by driving under its influence".

But the Opposition latched on to the case, with the leader of the Liberal Party, Ms Joan Sheldon, claiming it was a "cannabis Christmas on Queensland roads" for "spaced-out" drivers.

A Townsville Magistrates Court spokeswoman yesterday said no comment would be made outside the court.

THE COURIER-MAIL 14-9.93

21/2/95

DRUGS AND YOUTH:

CRISIS

Australian Parents for Drug-Free Youth

P.O. Box 73, Maryborough, Queensland. 4650
Telephone (071) 29 7267

Mr. Ken Davis M.L.A.,
Chairman,
Criminal Justice Committee,
George Street,
BRISBANE. QLD. 4000.

Dear Sir,

Please find enclosed a second copy of our submission to Mr. Ken Davis, Re: Report on Cannabis and the Law in Queensland.

We regret that the original copy had a printed error, that left a line missing at the bottom of page one and the begining of page two.

Please accept our sincere apoligies.

Yours Sinderely,
Herschel M. Baker.
(President).

Mr Ken Davis MLA
Chairman
Parliamentary Criminal Justice Committee
George St.
BRISBANE Q 4000

Dear Sir

I wish to question the data supplied in the reports by the Criminal Justice Commission Research Branch called ***Report on Cannabis and the Law in Queensland***.

It would appear that the C.J.C. Research Branch loses some objectivity when it comes to cannabis. I will attempt to bring a few of our* concerns to your attention in this review paper.

(1) (CJC) Report on Cannabis and the Law in Queensland - ABOLITION OF CANNABIS PARAPHERNALIA OFFENCES (Claims by the C.J.C.)

(CJC) Page XII [Cannabis offences generate substantial costs for the Criminal Justice System.]

(CJC) Page XVII [Recommendation - Abolition of Cannabis Paraphernalia Offence.]

(CJC) Page 8 [Abolition of the offence of possession of cannabis - related paraphernalia.]

(CJC) Page 47 A. [The cost of possession of cannabis $2 132 000; B. Cost of possession of cannabis related utensils $463 000.]

(CJC) Page 100-103 [Abolition of Cannabis Paraphernalia Offences.]
The availability of cannabis paraphernalia could be used by authorities to educate drug users regarding less harmful modes of administration.

APDFY: These statements by the C.J.C. are misleading. In fact, it seems that the C.J.C. presented a restricted range of research when the following data are available from world recognised research.
THC - Tetrahydrocannabinol - the major psycho-active ingredient in cannabis and not the only

* The Australian Parents for Drug-Free Youth. In this response the acronym APDFY will be used.

one that is harmful. It does not matter how one ingests the drug, there are no 'less harmful modes of administration' - the potency remains the same for this dangerous drug.

The multinational drug paraphernalia industry (1) has learned to use the methodology that the tobacco industry has used very successfully for quite a number of years: using drug paraphernalia to advertise their product, comic books, t-shirts, books on how to grow, books on how to use, bongs, roach clips, etc. The sole purpose of most of these items is use in the smoking of the dangerous drug cannabis. This industry emphasises educating people on how to use drugs.

There is no information in the C.J.C. report of the benefits and income gained by the community from fines and community service received by the prosecution for drug paraphernalia. In fact, this Government has published, on a number of occasions, details of the vast amounts of money saved by using community service. I'm sure the Government would have supplied the necessary figures to the C.J.C. if a request had been made and this would have produced a more balanced report.

You will see by our petition (1) to Parliament via the Minister for Police, that drug paraphernalia is already being sold through tobacconists in major shopping centres in Queensland, but with community backing we were able to stop the sale of drug paraphernalia in our city. Unquestionably the drug paraphernalia promotes drug use - there is no other conclusion.

If this law is relaxed, it will allow business enterprises to promote to the young many different and subtle ways of using drugs.

(2) (CJC) GATEWAY DRUG (Claims by the C.J.C.)

(CJC) Page 24 [Submissions from APDFY and Drug-Arm claimed that cannabis is a gateway drug. There is certainly evidence of an association between the use of various drugs, but this does not necessarily constitute evidence of causation.]

APDFY: GATEWAY DRUG

APDFY data in a research paper called *DSM - 111-R Nicotine dependence in young adults: prevalence, correlates and associated psychiatric disorders*: Our data on the association between smoking and alcohol or illicit drug disorders are in accord with previous research on adolescents and adults. (U.S.DHHS, 1991; Henningfield et al, 1990; Di Franza and Guerra 1990.)

A typical course of substance involvement has been previously described, in which use of alcohol, marijuana and cigarettes tends to precede involvement with cocaine or other harder drugs (Kondel, Marguilies and Davis, 1978; Hulea, Wingard and Bentler, 1981; O'Donnell and Clayton, 1982.)

Our finding that nicotine dependence, as distinct from smoking per se, plays a role in disorders of illicit drugs, gateway tobacco, alcohol, marijuana, speed, cocaine and other dangerous drugs.

The Gateway effect was explained by Dr Robert R Dupont Jr, former president of the National Institute of Drug Abuse (NIDA), in his book *Getting tough on Gateway Drugs*, which shows the

four stages to chemical dependence and how marijuana and the consequences of chronic use fits into the gateway effect.

The paper called *The age of alcohol, onset and alcohol, cigarette and marijuana use patterns: an analysis of drug use, progression of young adults in New York State* extends the gateway theory by examining the relationship between the onset age of alcohol and the progression of drug use, alcohol, cigarettes and marijuana, among 16 to 24 Year olds. It states "A considerably large effect of alcohol-cigarette use or marijuana use is evident for both gender groups in our study."

(3) (CJC) CEIDA (1989) (Claims by the C.J.C.)

(CJC) Page 16 [**(CEIDA)** There is no evidence that occasional use of small doses of cannabis causes any permanent health damage.]

(CJC) Page 16 [In other cases the research findings were inconclusive.]

(CJC) Page 13 [Short-term effects. Those most at risk include those with heart conditions or with a predisposition to some mental disorders such as schizophrenia.]

APDFY: The old CEIDA pamphlet (1989) was used instead of the new one that became available days after the C.J.C. report. It has been well known in the health community over the last 8 months that CEIDA was researching up to date information on the harmful effects of cannabis to replace the 1989 pamphlet.

What cases are inconclusive? This is a generalisation that runs parallel with that of the tobacco industry i.e. that tobacco does not damage the respiratory system.

I'm sure CEIDA would have supplied this data to the C.J.C. research branch if they had requested it. On the other hand, the C.J.C. quotes on Page 61, Item 27:

> Dr M Christie and Dr G Chesher strongly criticise a review of the research literature on the effects of the research literature on the effects of cannabis entitled *Toxicity of Marijuana* by Nahas and Latour...

from a yet unpublished paper. The research of these two little known researchers is minimal in comparison to the vast research done by the world renowned scientist, "a man of our time", Dr Gabriel G Nahas, and dozens of others.

Also, a new book for health professionals by the Commonwealth Government called *Handbook for medical practitioners and other health care workers on alcohol and other drug problems, Drug Offensive '93*, gives a damning account of cannabis use. It appears strange that this latest data, from the Commonwealth Department of Health, was not quoted or included.

(4) (CJC) HEALTH CONSEQUENCES OF CHRONIC MARIJUANA USE (Claims by the C.J.C.)

(CJC) Page 26 ["It cannot be said with certainty that cannabis is more harmful than some legally available substances".]

APDFY: If these substances are alcohol and tobacco, then this statement is untrue according to scientific data. (References 4, A-Z) Alcohol and tobacco are not the standard by which the dangers of other drugs are measured.

Much of the language which plays down the effects of cannabis is misleading and in relative, non-specific terms, for example "do not appear", "any significant degree", "tolerance does not appear to develop after prolonged use".

(CJC) Page 19 [Users of cannabis do not appear to develop physical dependence.]

APDFY: This is refuted by NIDA in the U.S. and our own Commonwealth Health Department's *Handbook for medical practitioners and other health care workers on alcohol and other drug problems, Drug Offensive '93* (Page 52).

(CJC) Page 9 [Drug use is an important issue for our community. It is therefore important that members of the community have access to accurate information on this issue so that they can make informed judgements about cannabis.]

APDFY: The Queensland branch of the A.M.A. has quoted from a great deal of recognised scientific papers on this drug; papers which are universally accepted.

(CJC) Page 12 [The contradictory and inconclusive results of the research on the effects of cannabis, have been used to advantage by lobby groups engaged in public debate on cannabis. It is possible to selectively quote from the research literature to find support for the opposing propositions that cannabis is an extremely beneficial substance, or an extremely harmful substance.]

APDFY: We have enclosed only a small collection of research data from reputable organisations and research institutes and Governments. It would appear that the C.J.C. report is saying there is not enough data and more research needs to be done etc. Even today the tobacco industry is trying to make us believe that we need more data. We have over 13 000 research papers to date and not one gives cannabis a clean bill of health.

It is difficult to understand that the criticism the A.M.A. (Qld Branch) received when warning of the dangers of this drug is merely from a research psychologist, who hardly appears qualified to attack the vast amount of international research from many recognised papers, and does not give them the right to respond. Surely there is enough data to warn us not to allow another drug to become legal or more freely available in the community.

4 (AA) Premier Wayne Goss

4 (A) *Cannabis: Point of View W.H.O.*

4 (B) *An Update on Cannabis Research.* A symposium of over 125 scientists, held in August 1984 at a campus of Oxford University.

4 (C) *Cannabis and Mortality Among Young Men; A Longitudinal Study of Swedish Conscripts.*

4 (D) Dr Susan Dalterio, a researcher in long term effects of the children of marijuana smokers.

4 (E) *Effects of Maternal Marijuana and Cocaine Use on Foetal Growth.*

4 (F) *The Pharmacological Basis of Therapeutic Cannabinoids (Marijuana)* (8th ed., 1991). (This is a benchmark textbook of pharmacology)

4 (G) *Pot Safari* by Peggy Mann.

4 (H) *Cannabis Physiopathology and Detection.* Papers presented at the Second International Colloquium on Illicit Drugs, held at the French National Academy of Medicine in April 1992.

4 (I) National Campaign against Drug Abuse.

4 (J) *Marijuana Has No Currently Accepted Medical Use.*

4 (K) *Marijuana is Not A Medicine - Somebody Had Better Tell Your Doctor.*

4 (L) *Position Statement on Psychoactive Substance Use and Dependence: Update on Marijuana and Cocaine.*

4 (M) *Marijuana As Medicine Refuted by N.I.H. Scientists.*

4 (N) *Therapeutic Marijuana,Fact or Fiction?*

4 (O) *Marijuana Increases Disease Risk by Inhibiting White Blood Cells.*

4 (P) *Storage of Marijuana in the Body.*

4 (Q) *An Exposure of the Lies and Deceit of the Marijuana Pushers.*

4 (R) *The Marijuana Question.*

4 (S) *A Longitudinal Study of the Relationship Among Alcohol Use, Marijuana/Hashish Use, Cocaine Use, and Emotional/Psychological Functioning Problems in A Cohort of High Risk Youths.*

4 (T) *The Great Stoned Age.*

4 (U) *Drug Abuse Tragedies.*

4 (V) *NIDA Director Cites Studies That Marijuana Is Addictive.*

4 (W) *Keep Off The Grass* (5th ed.)

4 (X) *Biological And Physiological Effects* - by Dr Carlton, Turner University of Mississippi. (a former presidential adviser at the White House)

4 (Y) *Generic Code Scramble* - Sir William Paton, Oxford University, England.

4 (Z) Response by the Qld Branch of A.M.A. to the ***Report on Cannabis and the Law in Queensland.***, 30 September 1993.

(5) (CJC) DECLINE IN CANNABIS SMOKING IN USA (Claims by the C.J.C.)

(CJC) Page 61 [The submission stated that the number of cannabis users in the United States of America has been steadily declining since 1979 and that the Australian statistics show an increase in the numbers of users for the same period. However, no data was cited in support of these claims.]

APDFY: Over the period of research on cannabis by the C.J.C., we supplied a vast amount of research data on the harmful effect of chronic cannabis use to Professor John Western , Phil Dickie and via R.S. O'Reagan to David Brenton. We asked for the following to be placed in the C.J.C. Library.

(A) *Strategies for Breaking Marijuana Dependence.*

(B) Survey 1978 and 1991 by National Institute on Drug Abuse of high school seniors.

(C) *Behavioural, Psychosocial and Academic Correlates of Marijuana Usage in Adolescence.*

This should more than answer the C.J.C. statement and we can also see this by the C.J.C.'s own statistics regarding 19 to 24 year olds in South Australia and the dramatic increase in cannabis use since decriminalisation in South Australia. In comparison, current Queensland policy gives us the lowest usage statistics in Australia eg. CJC A39 and A40. ***Why should we follow the failure of South Australian policy?***

(6) (CJC) RECOMMENDATION - SCOPE OF SIMPLE CULTIVATION OFFENCE

21/2/95

CRIMINAL JUSTICE COMMISSON

2

Australian Parents for Drug-Free Youth

REFERENCE

Addiction (1994) 89, 743–754

RESEARCH REPORT

DSM-III-R nicotine dependence in young adults: prevalence, correlates and associated psychiatric disorders

NAOMI BRESLAU, M. MARLYNE KILBEY & PATRICIA ANDRESKI

Henry Ford Health Sciences Center, Detroit, Michigan, USA

Abstract

We describe the epidemiology of nicotine dependence and its association with other substance use and psychiatric disorders. Data came from a random sample of young adults, 21–30 years of age, in the Detroit, Michigan metropolitan area. The NIMH Diagnostic Interview Schedule was used to ascertain DSM-III-R disorders. Lifetime prevalence of nicotine dependence was 20%. Higher rates were observed in whites, persons with low education and persons who were separated or divorced. Males and females with nicotine dependence had significantly increased odds for alcohol and illicit drug disorders, major depression and one or more anxiety disorder, as compared to non-dependent smokers and non-smokers combined. Among smokers, lifetime prevalence of illicit drug disorders other than marijuana alone, major depression and any anxiety disorder were significantly higher in dependent than non-dependent people. Major depression was associated specifically with nicotine dependence, an association explained in part by neuroticism. This finding suggests that the personality trait of neuroticism might constitute a common predisposition for major depression and nicotine dependence.

Introduction

With the growth of scientific evidence about the link between smoking and mortality and morbidity, the prevalence of smoking in the general population has been closely monitored (US DHHS, 1988). Despite signs that the overall prevalence of smoking has declined, approximately 27% of adults in the US continue to smoke (US DHHS, 1991). Of particular concern is the recent lowering of the age at which smoking begins (MMWR, 1991; US DHHS, 1988) and the high rate of smoking in females (Pomerleau, Pomerleau & Weinstein Garcia, 1991). The refractory nature of this public health problem underscores the scientific evidence that smoking is highly addictive (Henningfield, Clayton & Pollin, 1990; Kozlowski *et al.*, 1989; Editorial, 1991). Despite this evidence, little is known about the epidemiology of nicotine dependence, as distinct from smoking *per se*.

Epidemiologic surveys reported that the prevalence of smoking varies by age, sex, race and level of education (US DHHS, 1991; Remington *et al.*, 1985). Smokers are more likely than non-smokers to use alcohol and illicit drugs. The associations with alcohol and illicit drug use

Correspondence to: Naomi Breslau, Department of Psychiatry, Henry Ford Hospital, 2799 West Grand Boulevard, Detroit, MI 48202, USA.

ment has been previously described, in which high use of alcohol, marijuana and cigarettes tends to precede involvement with cocaine or other harder drugs (Kandel, Marguilies & Davies, 1978; Huba, Wingard & Bentler, 1981; O'Donnell & Clayton, 1982). Our finding that nicotine dependence, as distinct from smoking *per se*, plays a role in disorders of illicit drugs other than marijuana alone suggest that becoming nicotine dependent might be an important component in this course.

This is the first study to report that the association between major depression and smoking, observed previously, is specific to nicotine dependence and that non-dependent smokers do not differ from non-smokers on this count. Furthermore, the strengths of the associations with major depression varied by level of severity of nicotine dependence, as reported elsewhere (Breslau *et al.*, 1991). Previous studies did not distinguish between dependent and non-dependent smokers, although when cigarette consumption was considered, higher levels of tobacco use predicted higher rates of major depression (Kendler *et al.*, 1993).

The odds for ever becoming a smoker were greater in people with higher scores on neuroticism, psychoticism and extraversion. However, only neuroticism was associated with increased odds for nicotine dependence among those who had ever smoked daily for one month or more. Previous research has provided evidence on the association of neuroticism with smoking (Eysenck, 1965) and with major depression (Hirschfeld *et al.*, 1983, 1989; Boyce *et al.*, 1991; Kendler *et al.*, 1993). We have found that both neuroticism and major depression were associated specifically with nicotine dependence and that non-dependent smokers did not differ significantly from never-smokers on either neuroticism or major depression. Furthermore, we found that the association between nicotine dependence and major depression was in part accounted for by neuroticism. Kendler *et al.* (1993) have hypothesized that genetically influenced personality traits might contribute to the association between smoking and major depression, a proposition supported in our data. Clearly, prospective studies are needed to provide a stronger test of this hypothesis.

Acknowledgements

This research was supported by research grant #48802 and a Research Scientist Development Award KO2 MH-00380 (Dr Breslau) from the National Institute of Mental Health, Bethesda, MD, and by a grant from Kingswood Hospital Ferndale, MI.

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The International Journal of the Addictions, 27(11), 1313-1323, 1992

2

The Age of Alcohol Onset and Alcohol, Cigarette, and Marijuana Use Patterns: An Analysis of Drug Use Progression of Young Adults in New York State

Jiang Yu, Ph.D.,* and William R. Williford, Ph.D.

New York State Division of Alcoholism and Alcohol Abuse, 194 Washington Avenue, Albany, New York 12210

ABSTRACT

The authors extend the gateway theory by examining the relationship between the onset age of alcohol and the progression of drug use (alcohol, cigarettes, and marijuana) among 16 to 24 year old young adults residing in New York State. Logit analysis is employed to estimate the impact of the early onset of alcohol use on the subsequent use of other drugs. The findings suggest that alcohol use increases the chance of using cigarettes and marijuana, and alcohol-cigarette use significantly increases the likelihood of using marijuana. The early onset of alcohol use affects the current use of alcohol and other drugs; the impact is the strongest when the onset is initiated in a posited critical age period between 13 and 16.

Key words. Alcohol onset; Drug use patterns; Young adults

*To whom correspondence should be addressed.

cigarettes are more important in affecting women's future drug behavior than men's (Yamaguchi and Kandel, 1984a, 1984b).

Using the logit technique to estimate the causal pattern, we note that current alcohol use is affected by the early use of alcohol; the onset between the ages of 13 and 16 increases relatively significantly the chance of current drinking.

Alcohol use and early onset age exert a small but constant impact on cigarette use. The chance of male cigarette use is increased by very early onset of alcohol (before 11), while the chance of female cigarette use is increased by the onset of alcohol at the ages about 13 and 16.

A considerably large effect of alcohol-cigarette use on marijuana use is evident for both gender groups in our study. The strongest impact of alcohol onset on the chance of using marijuana is between the ages of 13 and 16.

What stands out in the analysis is the nonlinear pattern in which alcohol use onset influences the current use of alcohol, cigarettes, and marijuana. The onset of alcohol within the age period between 13 to 16 seems to be more critical in influencing current drug use behaviors than the onset initiated in other age periods. Besides other possible explanations for this phenomenon, we consider the age period between 13 and 16 to be an important formative stage for future drug use by a young adult. During this age period, a young adult is very suggestible and eager to experiment with various adult associated behaviors, including trying drugs. Peer association and pressure may lead him/her to drink alcohol, smoke cigarettes, and use marijuana and other drugs (Krohn, 1974; Akers et al., 1979; Kornhauser, 1978). This age period may also reflect a "transitory" stage (Gibbons and Krohn, 1986) in which young adults are prone to engage in delinquent activities such as using drugs. When more mature, they are able to make more informed and rational choices and become less likely to conform to peer pressures. Thus, alcohol use that starts during this posited critical age period tends to have stronger effects on future drug use than when alcohol use begins after this age period.

The findings also raise many issues that need further research. For example, early alcohol use should be studied not only as an exogenous variable but also as an endogenous variable; its demographic, socioeconomic, and social-psychological factors deserve in-depth examination. We have used alcohol onset age to specify the temporal order in the causal modeling of the alcohol-cigarette-marijuana use progression; however, it is desirable to collect and use data of the onset age of using cigarettes, marijuana, cocaine, and other types of drugs in specifying a more comprehensive causal model on the sequence of drug use. Further, the gateway theory should be extended to include more concepts than those drug-related. Previous research has mainly focused on the sequence of the use of alcohol, cigarettes, marijuana, cocaine, etc.; nevertheless, little research has been performed to include in the model criminal

behaviors as the end results of this sequence. Efforts need to be made in the future to theorize and examine causal sequences from alcohol onset, to alcohol and other drug use, and to consequent behaviors.

To conclude, our findings, along with previous findings, imply that strategies to prevent "hard drug" use should encompass those to reduce alcohol consumption and cigarette smoking by young people. The goal of delaying the onset of alcohol use should be incorporated into all drug misuse prevention policies. Efforts should be enhanced to utilize the elementary and junior high school environment as a focal point for mounting effective education and prevention programs; the involvement of family should be regarded as an important component of effective programming. Moreover, a "no use" option message should be delivered to children at very young ages.

ACKNOWLEDGMENTS

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Smokers attracted to drugs

WASHINGTON: Teenagers who smoke cigarettes are far more likely than non-smokers to become addicted to heroin, cocaine and crack, according to a study just made public.

Former United States Health Education and Welfare secretary Joseph Califano, who heads a drug abuse programme, unveiled the new research at a Senate hearing where he urged law-makers to place at least a $US2 ($A2.84) tax on cigarettes to fund health-care reform and discourage smoking.

Mr Califano said youths aged 12 to 17 who smoked were 12 times more likely to use heroin, 51 times more likely to use cocaine and 57 times more likely to use crack.

Reuter

14.3.94

Courier-Mail

21.3.94

Fraser Coast Chronicle

'Justice to all and no monopoly'

Cigarettes open door to drugs

No matter which way we look at it, tobacco is a villain. It is also a gateway that leads our young people to the path to hard drugs. Despite fighting campaigns by powerful tobacco companies to try to persuade us that cigarettes are relatively harmless, the evidence continues to grow.

Emphysema and lung cancer patients dying today are for the most part victims of the age when cigarettes were almost the weft of our social fabric. Men were men if a roll-your-own dangled from their lips; women were sophisticated when a cigarette was part of their fashionable accessories. People — particularly young people — who did not smoke were almost oddities.

Many battles have now been won in the war against cigarettes. Mounting evidence of the physical damage cigarette smoke does to our bodies has persuaded millions to kick the habit. Our pursuit of healthier lifestyles and the enormous health costs involved in caring for patients with smoking-related diseases have combined to make smoking less socially acceptable. Not only were fewer people continuing the habit: they were also becoming indignant at having to breathe the exhaled smoke of active smokers.

Smokeless zones are spreading as community and official attitudes against tobacco harden. Airplanes have smoking bans in Australia; restaurants are segregated; there has been a revolution in the workplace.

What began as a small fire, with non-smokers asserting their rights to breathe smoke-free air at work, had petrol thrown on it with the landmark decision compensating an employee for becoming ill from passive smoking. Smokers in most indoor workplaces now have to walk outdoors to indulge their habit — a practice not always appreciated by colleagues or employers.

There is growing social distaste for cigarette smokers. The habit has well documented health risks, employment demerits and the heavily taxed product is expensive. It is difficult to understand why anyone would want to take up the habit.

It is accepted that many older smokers became addicted before the disadvantages of smoking were apparent and when the practice had an aura embodying sophistication, maturity and nonchalance. There is also merit in the argument that some people — women in particular — smoke to help keep their weight down.

It is difficult to understand, however, why so many young people today are taking up an expensive, unpleasant, unhealthy and dangerous habit. No doubt the element of rebellion is appealing but parents today should be more concerned than ever about their teenagers sneaking a fag when no-one is looking.

There is chilling evidence that teenagers who smoke cigarettes are far more likely than non-smokers to become addicted to heroin, cocaine and crack. A study in the US has shown that youths who smoke between the ages of 12 and 17 are 12 times more likely to use heroin, 51 times more likely to use cocaine and 57 times more likely to use crack. Remembering they are role models, smoker parents should contemplate that data before they light up again.

By Nancy Bates

• What do you think? Send us your opinion.

(2)

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A TEST OF ALTERNATIVE EXPLANATIONS FOR THE STAGE-LIKE PROGRESSION OF ADOLESCENT SUBSTANCE USE IN FOUR NATIONAL SAMPLES

TODD Q. MILLER
University of Texas Medical Branch

Abstract — Previous research has established that there is a stage-like phenomenon of adolescent substance use such that alcohol use usually precedes marijuana use, and marijuana use usually precedes hard drug use. The current study tests three potential explanations for this stage-like phenomenon using nonstandard log-linear models. In four national surveys dating from 1974 to 1988, the results were consistent for both sexes, ages ranging from 12 through 18, and for Whites, Blacks, and Hispanics. The results suggest that adolescents are more likely to use alcohol before marijuana, and marijuana before hard drugs because these substances are more widely used and are used at early ages. An additional reason for the stage-like phenomenon is that there is also a group of adolescents who are willing to try all types of substances and a second group who are unwilling to use any substances. Implications for future longitudinal studies are discussed.

Previous research has documented that most adolescents begin to experiment with substances in a stage-like sequence or order: first alcohol and cigarettes, then marijuana, and finally hard drugs (Kandel, 1989). Attempts to explain the stage-like phenomena have stimulated considerable controversy (e.g., Baumrind, 1983; Huba & Bentler, 1982; O'Donnell & Clayton, 1982). The current study tests several of the most frequently cited hypotheses in four national samples.

Potential explanations for the stage-like phenomena

The statistical independence hypothesis. Several researchers have suggested that differences in the prevalence rates and age of onset of different substances may account for the stage-like phenomena (Baumrind, 1983; Cohen, 1972; Hamburg, Kraemer, & Jahnke, 1975). This hypothesis has been referred to as the statistical independence hypothesis (Miller & Flay, manuscript under review) because this hypothesis does not require that the use of one substance is correlated with or predictive of the use of another substance. That is, the use of different substances may represent entirely independent processes. For example, more people may use alcohol before marijuana because people have access to alcohol at earlier ages.

The gateway hypothesis. The stepping stone, gateway, or stage hypothesis argues that initiating lower order substances such as alcohol is a necessary but insufficient condition for using higher order substances such as marijuana and hard drugs (Baumrind, 1983; Kandel, 1989; O'Donnell & Clayton, 1982). For this hypothesis, the use of different substances are correlated such that adolescents who use lower order substances are more likely to adopt the use of higher order substances.

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For the current study, the only data used were from subjects with ages from 13 to 18 (N = 1,472). For this age group, most subjects were in grades 10 through 12. The age groupings are one year older but adolescents were in the same grades as the NYS study because of the time of year that most subjects were interviewed.

To compute domain-specific average design effects, all estimates of substance prevalence in the survey were considered. Sampling weights were estimated based on the stratified, three-stage design. See Virag, Cox, and Rachel (1990) for further details.

Measures of substance use

All variables used in the current study were dichotomous indicators of lifetime use of alcohol, marijuana, and hard drugs. These substances were chosen because data were available from all four surveys. For the National High School Surveys, hard drug use was defined as cocaine or heroin use. For the NYS, hard drug use was defined as any use of amphetamines, barbiturates, heroin, cocaine, or hallucinogens. For the NHSDA, hard drug use was the use of inhalants, heroin, cocaine, hallucinogens, psychedelics, or PCP.

Statistical analysis

Testing the statistical independence hypothesis. For log-linear models, prevalence rates of substance use are referred to as marginal totals. An unsaturated log-linear model is a test of the statistical independence hypothesis because only prevalence data is used to estimate the expected frequencies. Similar to the ordinary chi-squared test, the results of an unsaturated log-linear model yield expected cell frequencies. A "cell" in a multivariate contingency table indicates the number of adolescents who are described by a particular pattern of substance use (e.g., the number of subjects who use alcohol and not other substances). Log-linear models are evaluated by a maximum likelihood-ratio goodness-of-fit (G^2) statistic. The magnitude of the G^2 is determined by the degree of discrepancy between the observed and expected frequencies.

The statistical independence hypothesis would be supported if the expected cell frequencies predict more subjects in the cells associated with the stage-like phenomena. There are four cells consistent with the stage-like phenomena (no substance use, alcohol use only, alcohol and marijuana use, alcohol, marijuana and hard drug use) and four cells inconsistent with the phenomena (marijuana use only, hard drug use only, alcohol and hard drug use, marijuana and hard drug use).

Testing other hypotheses. Each hypothesis makes different predictions regarding which cells will have more subjects than expected. The healthy group hypothesis predicts more observations will be present in the cell where adolescents do not use any substances. The problem behavior hypothesis argues there will be more subjects than expected in the cell that corresponds to subjects who use all three substances. The gateway hypothesis predicts that more subjects are expected in the no substances cell, alcohol only cell, alcohol and marijuana cell, and all three substances cell.

Nonstandard log-linear models. Nonstandard log-linear models (Rindskopf, 1990) seek to improve the fit of the model by adding parameters associated with particular cells and therefore allow more explicit hypothesis testing than with the log-linear

Similarly, the stage-like pattern was consistently found when the NHSDA data were divided by sex, age, and ethnicity. Overall, 840.5 observations were estimated by the SUDDAN program in the cells consistent with the stage-like phenomena, and only 570.8 were estimated in the cells not consistent with the stage-like phenomena. The number of expected frequencies in the cells consistent with the stage-like phenomena were 833.0. There were 787.3 expected observations in the inconsistent cells.

The no substance use cells. Consistent with the gateway and healthy group hypotheses, there were more subjects than expected in all eight "no substance use" cells corresponding to the two national high school surveys and the six subgroups from the NYS. For the 1974 National High School Survey, there were 840 subjects observed and only 514.9 expected observations. For the 1978 survey, 655 subjects were observed and there were 316.8 expected observations. For the NYS, 675 were observed and there were 560.9 expected observations.

The NHSDA data were tested on 18 subsamples that were formed by breaking the total sample down by age (age 13–14, age 15–16, age 17–18), sex and ethnicity (White, Black, and Hispanic). Across 15 of the 18 subgroups, there were more subjects than expected in the no substances cells. Overall, there were 226.6 estimated to have been present in this sample and the expected frequencies were 223.6.

The use of all three substances cells. In support of the problem behavior and gateway hypotheses, there were more subjects than expected among subjects who used all three substances. For the 1974 survey, there were 40.5 expected and 124 subjects were observed. For the 1978 survey, there were 167.1 expected and 407 subjects were observed. For the NYS, there were 85 subjects observed and only 20.3 expected. For 17 of the 18 NHSDA subsamples, there were more observations than expected. Overall, there were 193.9 estimated to be observed and 183.4 expected observations.

The alcohol only cells. The gateway hypothesis predicts that there should be more observations than expected and not less. However, there were substantially fewer adolescents occurring in the "alcohol only" cells. For the 1974 survey, 2,074 were observed and 2,332.5 were expected. For the 1978 survey, 1,365 were observed and 1,497.7 were expected. For the NYS, there were 485 subjects observed and 541.3 expected. Only 6 of the 18 NHSDA subsamples had more subjects than expected in the alcohol only cells. For 17 and 18 year-old females across all three ethnic categories in the NHSDA survey, there were slightly more subjects in the alcohol only category. Overall, there were 222 estimated to be observed and 222.5 expected.

The alcohol and marijuana use cells. As predicted by the gateway hypothesis, there were more subjects than expected among subjects who had used both alcohol and marijuana in seven of the eight cells from the National High School Surveys and the NYS. In contrast, only 4 of 18 cells from the NHSDA survey had more subjects than expected who had used both alcohol and marijuana. Across all surveys, the differences were small. For the 1974 national survey, 1,688 were observed and only 1,460.7 were expected. For the 1978 survey, 1,491 were observed and 1,426.8 were expected. For the NYS, 200 were observed and 172.9 were expected. For the NHSDA survey, 188.2 were estimated to be observed and 203.5 were expected

substances in the future (Kandel, 1989). Researchers must examine *transitions* to more or less substance use to test this aspect of the gateway hypothesis.

Nonstandard log-linear models for multi-wave longitudinal data are one potential approach (Miller & Flay, manuscript under review). For example, some cells correspond to subjects who use a lower order substance (e.g., marijuana) in a previous wave of testing before experimenting with a higher order substance (e.g., hard drugs). Researchers can use nonstandard log-linear models to test whether there are significantly more subjects in these cells.

Other issues for future research. Substance prevalence appears to play a role in substance initiation. Future research is required to examine whether prevalence is predictive of patterns of substance use because the popularity, availability, or age-related trends determine order of use. Although most research has focused on substance initiation, another important issue is level of substance use. Future research must begin to describe order of severity of substance use and abuse (Kandel, 1989).

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CRIMINAL JUSTICE COMMISSON

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3

Australian Parents For Drug-Free Youth

REFERENCES

A MAN OF OUR TIME

Gabriel G. Nahas. M.D., Ph.D.

Gabriel G. Nahas. M.D., Ph.D., an internationally-known pharmacologist, author of 15 books and monographs and some 500 scientific papers, is an important man for our times. He is a Professor of Anesthesiology at the College of Physicians and Surgeons of Columbia University, Adjunct Professor at the University of Paris and Consultant to the United Nations Commission on Narcotics.

Nahas is a highly respected research scientist with more than 500 scientific papers published in prestigious scientific journals throughout the world. His research topics ranged from perfecting an important new plasma substitute (plasma is the fluid part of the blood) to the studies of breathing and blood gases which had helped Jacques Cousteau and his diving team. Nahas was a scientific adviser to Cousteau, had made many trips on the "Calypso", and had done deep-sea-diving with Cousteau in the Mediterranean.

What Nahas had not done was to turn his scientific investigative talents to the area of illegal drugs. He had been researching the effect of legal prescription drugs on the heart and blood vessels. Suddenly, in 1969, he turned his area of research to marijuana because of the rising abuse of the drug in the U.S. After all, as a boy in Egypt, he wondered what was wrong with heavy hashish users known as HASHISHATS.

For the next few months he spent hours in medical libraries reading all the existing scientific papers he could find on the pharmacological effects of cannabis. He discovered that very little careful research had been done on this drug. Nahas soom learned that pot was not a "popular" area of research. It was hard to get money for research projects. It was also hard to find research assistants willing to work on marijuana studies. Finally, using a good deal of his own money he started investigating the subject. He was the first scientist to study the effect of THC (the psychoactive chemical contained in marijuana) on the human immune system. He went on from there, publishing one eye-opening paper after another.

He was soom considered "Public Enemy Number One" by pro-pot organizations like NORML (the National Organization for the Reform of Marijuana Laws). The magazine Playboy listed Nahas on their "10 Most Hated List." Headshops sold "Nahas dolls" along with a set of miniature spears to throw into the small stuffed figures.

Among the many insults the scientist Nahas was to endure was the Term Fascist. In fact, during World War II, Nahas at ages 22 to 24 was an organizing member of the French underground. Among other feats, he organized the escape of over 200 Allied soldiers, airmen and secret agents, including two British generals. He was arrested three times by the Nazis; thrown into prison three times, where he was tortured; and three times he managed daring and almost impossible escapes.

After the war Nahas received the three highest French awards for heroism: The Croix de Guerre with three palms, the Legion of Honor,

hometown of NORML Advisory Board members Dr. Lester Grinspoon and Dr. Norman Zinberg and the audience was obviously packed with pot sympathizers. When Nahas started testifying, he mentioned tolerance to marijuana - which meant that the user would eventually need more and more potent pot to achieve his high. The chairman of the committee interrupted, "There's no such thing as tolerance!" Whereupon Nahas turned to the audience, arms outstretched and said, "Mr. Chairman, you may be right. Boston may be the only place in the world where there is no tolerance to marijuana."

In Topeka, Kansas, March 1979, a joint state legislative committee was considering the decriminalization of marijuana. A psychiatrist had just testified that there was little or no scientific proof that marijuana was physically harmful. He went on to say that the most harmful aspect of marijuana was when a young person was arrested and made to feel criminal for his deed. This arrest could cause the young person to suffer low self-esteem, an injury to the emotional growth that may cause serious harm in the maturing process. After the psychiatrist completed his traditional line of blaming the police, courts, parents, and schools for over-reacting to marijuana, which he claimed was relatively harmless, Dr. Nahas took the witness stand. First, Dr. Nahas, in a very quiet and soft voice, apologized to the committee for his colleague who was not well informed about the harmful effects of marijuana which had been reported from scientific laboratories during the past five years. He went on to explain how the chemicals from the cannabis plant had been analyzed and the deleterious effects on various systems of the body was now quite evident. The committee was obviously fascinated with the scientific information. There was none of the usual moving around and talking from committee members or audience. Nahas had destroyed months of work by NORML in less than half an hour. Decriminalization of marijuana has not passed in Massachusetts or Kansas. Nor was it passed by the other state legislatures before whom Nahas testified: New Jersey, New York, Texas, and Connecticut.

In addition Nahas testified in numerous court cases where the defendant was trying to change the law through a court action, claiming the anti-marijuana laws were based on repressive and antiquated principles, that marijuana was an innocuous substance, and that the defendant's civil rights had been impinged on by the pot arrest. In such cases there was usually testimony from a local doctor, pharmacist or police officer. But Nahas was almost invariably the only expert marijuana researcher testifying as to the hazards of the drug. In virtually all cases in which Nahas testified, the court accepted his conclusions concerning the drug and acted upon them.

Nahas also spoke on radio and television shows and at high schools and colleges. He received put-downs, jeers, sneers, and catcalls. Nahas kept on, trying to ignore the hostile reception he encountered virtually everywhere, and trying his best to get the information about marijuana across to whomever would listen. Many of his colleagues, even those who were not pro-pot, scorned him for these attempts. A scientist, they felt, should stay in his laboratory; let someone else be the message-carrier - but who else?

Through the years, Nahas has kept on with his research, his speaking, his writing and his organizing of conferences on marijuana and on drug abuse. Gabriel Nahas' work as a pioneer marijuana researcher is

INFORMATION

- What is cannabis?
- Immediate and long-term effects
- Cannabis and the law
- More information and help

3

4

DEPRESSANT

CANNABIS

WHAT IS CANNABIS?

Marijuana, hasish and hashish oil come from this plant. It is a vigorous plant which grows in sunny climates throughout the world.

The chemical in cannabis which makes the user 'high' is called THC (Delta-9 tetrahydrocannabinol). THC affects the mood and perception of the user. It's a depressant drug, not a stimulant as many people think. THC is found in different concentrations all over the plant, and its location determines the potency. For example, the flowers have more THC than the stems or leaves.

WHAT IS MARIJUANA?

Marijuana is the most common illicit drug used in Australia. It is made from the dried flowers and leaves of the plant. Slang names include 'grass' 'mull', 'pot', 'dope', and 'yarnie'. Its colour ranges from greyish-green to greenish-brown. Its texture can be fine, like dried herbs, or coarse, like tea. Sometimes it contains seeds or twigs from the plant.

The strongest form of marijuana comes from the flowering tops, called 'heads'. Marijuana is usually smoked in hand-rolled cigarettes called 'joints' or water pipes called 'bongs'. Sometimes it is mixed with food such as cakes and cookies and eaten. Of all the cannabis products, marijuana contains the least THC and is the least potent.

HASHISH

Hashish is made from the resin of the cannabis plant. It is dried and pressed into small blocks and sold in solid pieces, which range in colour from light-brown to nearly black. 'Hash' is usually mixed with tobacco and smoked, but can also be used in food and eaten. It is more potent than marijuana and produces a more noticeable effect.

HASHISH OIL

Hashish oil is an extract of cannabis which is usually a thick and oily liquid, ranging in colour from golden-brown to nearly black. THC is very concentrated in hashish oil. A very small amount will produce marked effects. It is often spread on the tip or paper of ordinary cigarettes, and smoked. Hashish oil is the most potent cannabis product.

HOW DOES THC AFFECT YOU?

When smoking cannabis, THC is quickly absorbed into the bloodstream through the walls of the lungs. From there it is taken to the brain and this

is when the 'high' effect of the drug is felt. This can happen within a few minutes and can last up to three to five hours. The amount of THC which gets into the bloodstream will depend on the potency of the cannabis. If cannabis is eaten, the absorption of THC into the bloodstream is much slower. It can take up to one hour to experience the 'high' effect and can last up to four to seven hours.

Another important feature of THC is its storage in the body. Our bodies have a water-based disposal system using blood and urine. Alcohol is soluble in water and a single drink can be excreted within an hour or two. THC on the other hand is not very soluble in water but very soluble in fat. It is quickly absorbed into body fat deposits from the blood stream. Once in fat deposits it is released very slowly back into the bloodstream. For example, a single dose of THC can take up to one month to be eliminated from the body.

WHO USES CANNABIS?

Cannabis is the most widely used illegal drug in Australia. As it is illegal, it is difficult to know just how many people use it. The majority of people consume very little and smoke it only occasionally. A recent survey suggests that one in three persons aged between 14 to 34 have tried cannabis at least once. The 1992 survey of drug use by NSW secondary school students found that about 30% of boys and 21% of girls said they had used cannabis at some time in their lives.

EFFECTS

The effects of cannabis will vary from person to person depending on:

- the amount and strength of cannabis taken
- the way in which cannabis is taken
- the person's size, weight, health
- the person's mood
- the person's experience with the drug
- whether the drug is taken with other drugs
- and whether the person taking the drug is alone or with other people, at home or at a party, and so on.

Immediate effects

Small doses

A small dose can produce the following immediate effects:

- feeling of well-being (euphoria)
- loss of inhibitions
- loss of concentration
- increased appetite
- increased heart rate
- reddened eyes
- a tendency to talk and laugh more than usual
- impaired balance and coordination
- 'tunnel awareness' - where a person focuses their awareness on one thing and ignores all others.

These effects usually lead to calm, reflective feelings and sleepiness. They may last three to five hours after smoking.

Large doses

Larger doses make these effects stronger and may also distort or sharpen a person's perception of time, sound, colour and other sensations. Large doses of cannabis can produce:

- confusion
- restlessness
- detachment from reality
- feeling of excitement
- hallucinations
- anxiety or panic.

Cannabis also effects and impairs:

- short-term memory
- logical thinking
- motor (movement) skills
- ability to perform complex tasks e.g. driving, operating machinery.

These symptoms usually disappear when the effects of cannabis wear off.

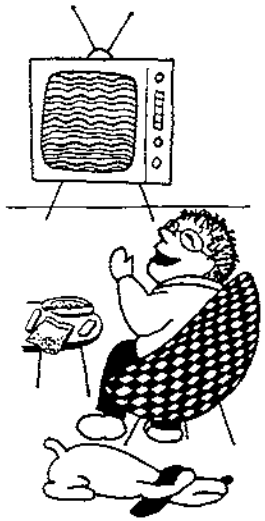
Long-term effects

The following is a list of common findings of research on long-term effects in some frequent and heavy cannabis users.

Increased risk of bronchitis, lung cancer and respiratory diseases.
Many cannabis smokers also smoke tobacco which increases their chances of health damage. Even if they only smoke cannabis, marijuana cigarettes have much more tar than tobacco. Also, cannabis smokers tend to draw the smoke more deeply into their lungs. This can be more damaging to the frequent and heavy user.

A change in motivation
Some frequent and heavy users of cannabis, especially young users, find that they begin to lose energy and drive, and interest in other activities. These symptoms may also be caused by other factors, such as puberty or boredom.

Decreased concentration, memory and learning abilities
There is evidence to suggest that long-term cannabis use may decrease a person's concentration and memory which are essential to learning. These effects can last for several months after cannabis use stops, but they do seem to be reversible.



Interference with sexual and hormone production
Some heavy users of cannabis experience a lowered sex drive, and they may have a lowered sperm count, or irregular menstrual cycles.

Psychological disturbances
Heavy doses of cannabis can produce brief and sometimes severe psychotic behaviour. This is more likely if the person already has a schizophrenic condition.

NOTE

There has been no recorded deaths where cannabis has been the direct cause.

Cannabis has been used medicinally for many centuries. In recent years, its therapeutic use includes the treatment of:

- nausea in patients receiving cancer chemotherapy
- glaucoma, a condition which damages the retina, where cannabis helps to reduce the pressure in the eye
- stimulating appetite in AIDS patients;
- epilepsy.

CANNABIS AND OTHER DRUGS

Cannabis can be dangerous when combined with other drugs, like alcohol. The effects of cannabis are intensified, often in unpredictable ways when combined with other drugs. Using cannabis and alcohol together can be much more dangerous than using either drug by itself.

There is no evidence that cannabis use automatically leads to the use of other drugs.

CANNABIS AND THE LAW

It is against the law to possess, grow, manufacture, trade or use any cannabis products. In NSW the penalties for this includes fines between $2 000 and $500 000 and/or a term imprisonment between 2 and 20 years. The penalty given will vary according to the quantity of the drug involved - the bigger the amount, the bigger the penalty. The sale, supply or commercial display of any item for administering a drug, including water pipes (bongs) is prohibited. Penalties for this are fines of $2 000 and/or 2 years imprisonment. (Needles and syringes are exempt from this.) Anyone who is convicted on a cannabis charge will get a criminal record. This can cause difficulties, in getting a job, credit and visas for overseas travel.

Cannabis and driving

Cannabis interferes with a person's motor and coordination skills, vision and perceptions of time and space. This can impair a person's ability to drive safely, especially combined with alcohol.

Cannabis use cannot be detected by a breathalyser test. If the breathalyser test is negative for alcohol and a police officer suspects other drugs, such as cannabis, then the driver can be arrested and taken to a hospital for a blood and urine test. This will confirm whether there is THC, or any other drug, present in the driver.

In NSW, it is illegal for anyone to drive while under the influence of any drugs, including cannabis. Breaking this law carries heavy penalties - disqualification from driving for a set period, fines, even imprisonment. Anyone under the influence of cannabis, who kills or injures another person while driving a motor vehicle, can be sentenced to a term in prison.

TOLERANCE AND DEPENDANCE

Frequent use of high doses of cannabis may produce mild tolerance. Tolerance means that a person needs higher doses of the drug to achieve the same effects as they used to get using smaller amounts.

Frequent and heavy users of cannabis may experience a variety of health, social, legal, financial and relationship problems. They may also become dependent on cannabis. This may lead to a mild withdrawal, which usually consists of flu-like symptoms.

Note:

- Only a small percentage of people become dependent on cannabis.
- People not dependent on cannabis can still develop problems.
- Few occasional users of cannabis seriously damage their health.

CANNABIS AND PREGNANCY

Most drugs can affect an unborn child. It is not wise to use any drugs during pregnancy. There is not much information about the effects of THC during pregnancy. It is known that THC does pass through the placenta and reach the baby. There is some evidence of a link between reduced growth of the baby in the uterus (weight and length) and the use of cannabis by pregnant women. Other studies indicate disturbed sleeping patterns amongst new-born babies. However, long-term studies of the effects of cannabis use during pregnancy are still to be assessed. THC, like many other drugs, also passes into the mother's milk. However, little is known about the long-term effects this may have on the baby.

CANNABIS QUIZ

Test your knowledge

The following 20 statements will test your knowledge about cannabis. **Answer true or false.**

1. THC is largely responsible for the 'high' one gets from marijuana, hashish and hashish oil. **t or f**
2. Hashish oil usually contains the most THC. **t or f**
3. Marijuana is usually sold in the form of a very fine powder. **t or f**
4. The effects of cannabis are felt more quickly when it is smoked than when it is eaten. **t or f**
5. Memory is not affected by cannabis. **t or f**
6. People never feel anxious or upset after having taken cannabis. **t or f**
7. Cannabis use always leads to use of other drugs. **t or f**
8. The ability to drive is not affected by cannabis. **t or f**
9. Large doses of cannabis can cause people to see things that are not there? **t or f**
10. Normal people never have a bad reaction to cannabis. **t or f**
11. Past experience with cannabis can affect how a person reacts to this drug. **t or f**
12. The effects of cannabis are the same regardless of whether or not other drugs are taken along with it. **t or f**
13. Given equal amounts, cannabis has less tar than tobacco. **t or f**
14. There is no evidence that cannabis smoking contributes to lung cancer. **t or f**
15. Large doses of cannabis can cause people to become nervous and irritable. **t or f**
16. Cannabis does not impair a person's ability to drive safely. **t or f**
17. Some frequent cannabis users experience a reduced interest in sex. **t or f**
18. It is not possible to become dependent on cannabis. **t or f**
19. There are some people who have become so dependent on cannabis that they need professional help. **t or f**
20. People can estimate distances just as well after having cannabis as they can at other times. **t or f**

Answers: 1.(T) 2.(t) 3.(F) 4.(T) 5.(F) 6.(F) 7.(F) 8.(F) 9.(T) 10.(F)
11.(T) 12.(F) 13.(F) 14.(F) 15.(T) 16.(F) 17.(T) 18.(F) 19.(T) 20.(F)

MORE INFORMATION AND HELP

In NSW, ADIS (Alcohol and Drug Information Service). They provide a 24 hours, 7 days confidential service which includes advice, information and referral to local agencies.
Ph: (02) 331 2111; country areas free call (008) 42 2599.

Community Health Centres (see main section of White Pages), general practitioners, general hospitals and private counsellors can also provide assistance and advice.

IN EMERGENCIES, CONTACT YOUR DOCTOR OR LOCAL HOSPITAL OR CALL FOR AN AMBULANCE.

ALSO AVAILABLE FROM THE CEIDA INFORMATION CENTRE:
A range of leaflets and booklets on drugs, drug-related issues and HIV/AIDS. Some of these leaflets are in languages other than English. CEIDA is also actively involved in professional development and public education and has one of the largest research libraries for the drug and alcohol professional. *Connexions*, the bi-monthly magazine on drug issues is published by CEIDA.

You can contact CEIDA on: Ph: (02) 818 5222 or 0444 (business hours) or the toll free number (008) 816 210 and ask to speak to an Information Officer.

TTY service for hearing impaired people: (02) 818 2993

Fax: (02) 818 0441

Postal address: PMB No.6 PO Rozelle NSW 2039

Street address: Rozelle Hospital Grounds, Balmain Road (opposite Cecily Street), Rozelle NSW.

The CEIDA Information Centre has wheelchair access.

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CRIMINAL JUSTICE COMMISSON

Health Consequence of Chronic Cannabis Use

4

Australian Parents for Drug-Free Youth

REFERENCE

The 4AA Courier-Mail

5.7.94

Youth health must come first: Goss

PROBLEMS with prohibition of drugs did not mean legalisation would work, Premier Wayne Goss said yesterday.

"The main worry I have have is that these trendy notions about legalisation or decriminalisation are just going to make a harmful drug more freely available," Mr Goss said.

"We are interested in the health of the community, especially young people, and we will do the right thing, not the popular or trendy thing.

"As for penalties, as for the courts processing offenders, we are prepared to have a fresh look at that when we get the Criminal Justice Commission report."

Mr Goss said he did not know how some researchers could credibly make claims about the financial impact of marihuana production on Queensland's economy.

4A

CANNABIS : POINT OF VIEW OF W.H.O.

Juhana Idanpaan-Heikkila

Division of Drug Management and Policies, World Health Organization, Geneva, Switzerland.

The World Health Organization (WHO) is an intergovernmental organization within the United Nations system. A total of 168 countries are united in WHO, working together for the attainment by all people of the highest possible level of health. A target towards this goal is the attainment by all people of the world, by the Year 2000, of a level of health that will permit to lead a socially and economically productive life, popularly known as "Health for All by the Year 2000".

WHO AND DRUG ABUSE PROBLEM

WHO has recognized that health problems related to drug abuse are of major public and political concern in a large number of countries. It is estimated that there is a total of 48 million drug abusers in the world, including some 30 million cannabis users[1]. Although a dramatic escalation in the abuse of cocaine and heroine has occurred during the last decade, cannabis still continues to be the most widely abused drug.

WHO's Programme on Substance Abuse (PSA) was established and its Strategy Document[2] published in 1990. This new programme emphasizes the crucial importance of demand reduction as part of a balanced approach to combat the drug problem. WHO works in close collaboration with governments, non-governmental organizations and all relevant UN agencies such as the United Nations International Drug Control Programme (UNDCP) and the International Narcotics Control Board 5INCB), both located in Vienna, Austria.

EXTENT OF CANNABIS PROBLEM

According to the UN statistics, and despite increased expenditure on law enforcement, the production, traffic and abuse of cannabis continue to be widespread[3-5].

The quantity of both herb and plants reported by weight increased in 1986-1987 but declined very sharply in 1989. However, the annual seizures of cannabis resin (around 400 tons) have remained almost unchanged during 1989-1990.

According to the INCB[5] cannabis is mainly produced in som African countries such as Morocco, Sudan, Nigeria, Ghana, Rwanda, Zaire and Zambia. Other important production areas are situated in Afghanistan, Pakistan, Bekaja Valley in Lebanon, Nepal, Mexico, Colombia, Jamaica and Belize. Also in the former USSR drug-related problems continue to develop in increasing proportions. The drugs frequently abused are mostly of local origin., namely opium and cannabis. Cannabis grows wild on approximately 4 million hectares in Kazakhstan, on 1.5 million hectares in the far-eastern provinces as well as on vast lands of the lower Volga river basin, in nothern Caucasus and in southern regions of the Ukraine. While many illicit poppy

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An update on cannabis research

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I. KHAN
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ABSTRACT

A symposium of over 125 scientists, held in August 1984 at the campus of Oxford University, considered the latest developments concerning cannabis research. Evidence on the mode of tetrahydrocannabinol action on the central nervous system indicates that acetylcholine turnover in the hippocampus through a GABA-ergic mechanism is of major importance, though the role of the dopaminergic or serotoninergic mechanism and involvement of prostaglandins and c-AMP is not ruled out. The use of cannabis causes prominent and predictable effects on the heart, including increased work-load, increased plasma volume and postural hypotension, which could impose threats to the cannabis users with hypertension, cerebrovascular disease or coronary arteriosclerosis. Cannabis or tetrahydrocannabinol has damaging effects on the endocrine functions in both male and female of all animal species tested. Among possible mechanisms of action, it is suggested that tetrahydrocannabinol disrupts gonadal functions by depriving the testicular cells of their energy reserves by inhibition of cellular energetics, and that it stimulates androgen-binding protein secretion, which may account for oligospermia seen in chronic cannabis smokers. In addition to these direct effects on gonads, tetrahydrocannabinol interferes with hormonal secretions from the pituitary, including luteinizing hormones, follicle-stimulating hormones and prolactin. Research findings indicate that maternal and paternal exposure to cannabinoids can influence developmental and reproductive functions in the offspring, but it is difficult to separate possible teratogenic effects from subsequent gametotoxic and mutagenic potentials of cannabinoids.

The use of tetrahydrocannabinol for the treatment of emesis and glaucoma are the only therapeutic applications of cannabinoids proven to date, though research on the possible use of cannabinoids for the treatment of convulsion, pain and anxiety is being carried out.

Scand J Soc Med 18: 9–15, 1990

A3

Cannabis and mortality among young men: A longitudinal study of Swedish conscripts

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Cannabis and mortality among young men: A longitudinal study of Swedish conscripts. Andréasson, S and Allebeck P. (Dept of Medicine, Section of Community Medicine, Karolinska Institute, Huddinge University Hospital, 141 86 Huddinge, Sweden).

Scand J Soc Med 1990, 1 (9–15).

The association between level of cannabis consumption and mortality during a 15-year follow-up was studied in a cohort of 45,540 Swedish conscripts. The relative risk of death among high consumers of cannabis (use on more than 50 occasions) was 2.8 (95% confidence interval (1.9-4.1)) compared with non-users. However, after control for social background variables in a multivariate model, no excess mortality was found. A high level of consumption of other drugs was also associated with increased mortality; the relative risk of high consumption (>50 times) was 4.6 (2.4-8.5) compared with non-users. After adjustment for social background a relative risk of 1.2 (0.8-1.9) remained; for those having used drugs intravenously more than once, the relative risk was 1.6 (0.9-2.7). Among causes of death a strong predominance was found for violent death, suicide or uncertain suicide being the single most important accounting for 34.4% of all deaths. The proportion of suicides increased sharply with the level of cannabis consumption.

Key words: Cannabis, mortality, social factors, suicide.

INTRODUCTION

Cannabis abuse is associated with psychosocial maladjustment (1-8), psychiatric illness (9-10) and other drug abuse (11-13). All these factors are in turn associated with excess mortality (14-16). High rates of mortality have been reported among drug addicts in many studies (17-28). In Scandinavia, Kringsholm & Helweg-Larsen reported a 10–15 fold increase in mortality among drug addicts in Denmark (22); Bejerot & Bejerot compared drug addicts with non-drug users in a Swedish prison population and, controlling for social background factors, found a 10-fold increase in mortality for drug addicts (23). In 1985, the Swedish National Board of Health and Social Welfare (24) reported increased 5-year mortality among drug addicts treated in psychiatric institutions, with a standardized mortality ratio (SMR) of 6.9 for men and 5.4 for women; the SMR for drug abusers aged 20 or less was 18.8. Tunving (27) found in a ten-year follow-up an excess mortality rate of 5.4 for male opioid abusers, 2.5 for male amphetamine abusers and 3.0 for multiple drug abusers.

Whether cannabis in itself is associated with increased mortality has not been reported however. In view of the fact that cannabis is the most widely used of all narcotic drugs this is an omission that needs to be rectified. To do so requires information not only on cannabis abuse, but also on other substance abuse as well as of background factors. Interaction and temporal sequence between abuse, personality characteristics, mental illness and mortality have to be established. We have found no study in which the health effects of cannabis have been considered in a multivariate framework that takes these background variables into account.

Access to data from a survey of Swedish conscripts on alcohol and drug-consumption, social factors, and personality characteristics enabled us to examine this issue. Through a linkage with the national cause of death register, mortality in the cohort, total as well as cause specific, was recorded during a 15-year follow-up period.

SUBJECTS AND METHODS

The study was based on data from a nationwide survey of young Swedish males conscripted for com-

abuse is clearly associated with psychosocial maladjustment. 29.5% of the conscripts with high cannabis consumption (>50 times) had been in contact with police or juvenile authorities more than once, compared with 3.1% among the non-users. 24.2% of the cannabis abusers had run away from home at least once, compared with 2.7% among non-users. 25.4% of the cannabis abusers had divorced parents, compared with 10.2% among non-users. 16.9% of the cannabis abusers reported an alcohol consumption in excess of 250 grams 100% alcohol per week, compared with 1.9% among non-users. 22.6% of the cannabis abusers reported abuse of solvents on more than 10 occasions, compared with 1.2% among non-users.

To a large extent the cannabis abusing group strongly resembles the group with high alcohol consumption within this conscription cohort, described in an earlier report (16), where similar high proportions were found for various negative background factors. The difference is that in the case of alcohol these background variables, although reducing the relative risk, could not explain the excess mortality in the high consuming group; a relative risk of death of 2.1 (1.4-3.2) remained. A tentative explanation for this difference is that cannabis to a lesser degree than alcohol contributes to acute, life threatening situations, e.g. accidents and suicide attempts.

Two background variables which are associated with excess mortality even after adjustment for other variables have been made, and which are pertinent to this analysis, are intravenous drug use, with a relative risk of death of 1.6 (0.9-2.7) and psychiatric diagnosis at conscription, with a relative risk of death of 1.7 (1.4-2.1). Few conscripts had used drugs intravenously at the time of conscription, furthermore the intensity of intravenous drug abuse could not be determined beyond the categories "once" and "more than once". However, among high cannabis consumers, 139/752 (18.5%) had used drugs intravenously more than once. Conversely, out of those reporting intravenous drug use more than once, 139/333 or 41.7% had used cannabis on more than 50 occasions. Very few, 134/752 (17.8%), among those reporting cannabis use on more than 50 occasions in this study had not tried other drugs as well. A previous study of suicides in this material showed a strongly increased suicide rate among intravenous drug users (34). The high proportion of narcotics-related deaths among the suicides as well as among the uncertain sucides found in the scrutiny of the forensic protocols, strongly suggests that a significant share of the mortality associated with cannabis abuse in this study is attributable to intravenous drug abuse. This would be in accordance with a "stepping stone" hypothesis, where cannabis is a first stepping stone to other and intravenous drug abuse (1,10).

56.8% of the cannabis abusers had a psychiatric disorder diagnosed at conscription, compared with 11.6% of the non-users. Out of 427 high consumers with a psychiatric diagnosis, 131 were diagnosed neurotic (17.4% among all high consumers); 183 were diagnosed as drug abusers (24.3%), out of these 114 were diagnosed as cannabis abusers (15.2%); 69 had personality disorders (9,2%). Among non-users, 1979 were diagnosed neurotic (4.5%); 94 were diagnosed as drug abusers (0.2%); 1022 had personality disorders (2.3%). These results strongly suggest a close relationship between cannabis, psychiatric illness and excess mortality. Our finding of a large proportion of suicides among high consumers of cannabis supports this. Psychiatric illness again is heavily overrepresented among those with adverse psychosocial background (Andréasson S, Allebeck P, unpublished). These findings have important implications for suicide prevention; the combination of cannabis abuse and hospital admission for mental illness should serve as an early warning signal of increased risk for suicide.

Even if the causal associations can not be grasped in detail through our statistical models, the overall picture is nevertheless clear: for many conscripts, frequent cannabis use was part of an adolescent life style characterised by poor upbringing conditions, psychosocial maladjustment and psychiatric illness. This adolescent life style as a whole led to excess mortality. It should be emphasised, however, that most cannabis abusers were not characterised by early maladjustment. Cannabis as an individual component merits attention in itself. In an earlier report we have shown cannabis to play an important aetiological role in schizophrenia (29). To the extent that cannabis precipitates psychiatric illness, it also indirectly contributes to the excess mortality associated with these disorders (15). Similarly, as a stepping stone to heavy drug abuse, cannabis indirectly contributes to the high excess mortality associated with that condition.

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We thank Lena Brandt for computer programming, Sten

EFFECTS OF MATERNAL MARIJUANA AND COCAINE USE ON FETAL GROWTH

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Abstract To investigate the effects on infants of the use of marijuana and cocaine during pregnancy and to compare the importance of urine assays with that of interviews in ascertaining drug use, we prospectively studied 1226 mothers, recruited from a general prenatal clinic, and their infants. On the basis of either interviews or urine assays conducted prenatally or post partum, 27 percent of the subjects had used marijuana during pregnancy and 18 percent had used cocaine. When only positive urine assays were considered, the corresponding values were 16 percent and 9 percent, respectively.

When potentially confounding variables were controlled for in the analysis, the infants whose mothers had positive urine assays for marijuana, as compared with the infants whose mothers were negative according to both interviews and urine assays, had a 79-g decrease in birth weight ($P = 0.04$) and a 0.5-cm decrement in length ($P = 0.02$). Women who had positive assays for cocaine, as compared with nonusers, had infants with a 93-g decrease in birth weight ($P = 0.07$), a 0.7-cm decrement in length ($P = 0.01$), and a 0.43-cm-smaller head circumference ($P = 0.01$).

To compare our findings with those of other investigators who did not use urine assays, we repeated the analyses, considering only self-reported use of marijuana (23 percent) and cocaine (13 percent). There were no significant associations between such use as determined by interviews alone and any of the measures of outcome.

We conclude that the use of marijuana or cocaine during pregnancy is associated with impaired fetal growth and that measuring a biologic marker of such use is important to demonstrate the association. (N Engl J Med 1989; 320:762-8.)

IN 1985, approximately 31 percent of American women in their late teens and early 20s reported that they had used marijuana within the past year.[1] The finding of such widespread use during the prime reproductive years raises important questions about the effects of marijuana use during pregnancy on fetal growth and development. These questions remain unanswered because the few available studies show inconsistent results.[2-8]

The inconsistent findings about the effect of marijuana on fetal growth may in part reflect difficulties in accurately identifying marijuana users. An earlier study by our research team indicated that pregnant women were more likely to underreport the use of marijuana, an illegal substance, than the use of legal substances, such as cigarettes and alcohol.[9] In the absence of the ascertainment of marijuana use through blood or urine testing, the number of marijuana users may have been underestimated and some users misclassified as nonusers.

During the course of the current study of the perinatal effects of marijuana, cocaine use greatly increased among American women.[1] Three of four preliminary studies of infants born to women with cocaine metabolites in their urine have suggested an association between cocaine use during pregnancy and reduced birth weight.[10-13] However, these preliminary studies suffer from the possibility of bias in sample selection and from the use of samples too small to allow control for potentially confounding variables such as other illicit drugs and perinatal risk factors.[14] In the present study, since we documented cocaine use in our subjects through interviews and urine assays, we had the opportunity to examine the effect of both marijuana and cocaine use during pregnancy.

The aims of our analysis were to assess the relation between the use of marijuana and cocaine during pregnancy and fetal growth and congenital anomalies, with control for other potentially confounding variables, and to determine the importance of urine assays in assessing the relation between marijuana and cocaine use during pregnancy and fetal growth and congenital anomalies.

METHODS

Recruitment of Subjects

Subjects were consecutively recruited in the Women's and Adolescent Prenatal Clinics of Boston City Hospital from July 1984 through June 1987. English-speaking and Spanish-speaking women who were willing to give informed consent and who gave birth by December 31, 1987, were eligible to participate in the study. The protocol was approved by the Human Studies Committee of Boston City Hospital. The subjects were protected from the use of the data for criminal prosecution by a writ of confidentiality obtained under Title 42 of Section 242A of the U.S. Code. To minimize attrition, participants were paid $10 for each interview.

Assessment of Mothers

All participants were interviewed during the prenatal and postpartum period by trained bilingual interviewers. A closed-ended, forced-choice interview elicited the timing and frequency of the use of cigarettes, alcohol, marijuana, cocaine, and other illicit psychoactive substances before and during pregnancy. Respondents were also asked to report on the quantities of cigarettes, alcohol, and marijuana used. The first interview was conducted in the prenatal clinic and revealed the pattern of use of psychoactive substances from three months before the calculated date of conception to the day of the interview. The postpartum interview, conducted in

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Supported by a grant (R01-DA-03508) from the National Institute of Drug Abuse.

reported cocaine use had infants who weighed 3 g less (P = 0.94), were 0.17 cm shorter (P = 0.49), and had a head circumference 0.07 cm smaller (P = 0.64) than those whose mothers did not report use.

Discussion

This study differs from earlier reports in two important respects. First, although marijuana use has been studied in large samples of women drawn from general populations receiving prenatal care, with control for confounding variables, urine assays have not previously been used to identify marijuana users. Our data suggest that, without urine assays, the number of marijuana users in these studies may have been underestimated and some users may have been misclassified as nonusers, potentially obscuring significant relations between marijuana use and fetal growth. Second, although previous investigators have used urine assays to identify women who used cocaine during pregnancy,[10-13] these studies have not prospectively ascertained cocaine use in a general prenatal-care sample, thereby introducing bias in sample selection. These studies also did not have samples large enough to allow control for potentially confounding variables. The results of the present study show that marijuana and cocaine use during pregnancy were each independently associated with impaired fetal growth when other potentially confounding variables were analytically controlled. In addition, maternal cocaine use was independently associated with a smaller neonatal head circumference, which may indicate a smaller brain.[23] Reliance solely on self-reports to ascertain marijuana and cocaine use would have obscured these significant relations.

Table 6. Positive Urine Assay for Marijuana and Cocaine during Pregnancy in Relation to Selected Perinatal Variables.*

	Marijuana		Cocaine	
	Nonuse (N = 895)	Use† (N = 202)	Nonuse (N = 1010)	Use† (N = 114)
No. of prenatal visits	9.2±3.8	7.9±4.2‡	9.2±3.0	6.5±3.2‡
Age (yr)	24.1±5.7	24.0±4.9	23.9±5.6	24.7±5.2
Weight gain (lb)§	31.0±15.4	28.1±15.1¶	31.1±15.5	23.4±14.0
Weight before pregnancy (lb)§	138±31	133±32	137±32	127±25‡

*Values are means ±SD.

†Use as indicated by a positive assay; women who reported marijuana use but had negative assays are excluded from this table.

‡Significantly different from value for nonusers (P<0.001).

§To convert to kilograms, divide by 2.2.

¶Significantly different from value for nonusers (P<0.05).

There are a number of possible mechanisms by which maternal marijuana use during pregnancy could have a negative effect on fetal growth. The main ingredient of marijuana, delta-9-tetrahydrocannabinol, crosses the placenta, more during early pregnancy than during late pregnancy.[24] Since marijuana is fat soluble[25] and has a large enterohepatic recirculation,[26] the amount ingested during one use may take as many as 30 days to be excreted, with a tissue half-life of about 7 days.[27] Thus, a single episode of marijuana use will lead to prolonged exposure of the fetus to the drug.

Smoking marijuana also may affect the fetus indirectly, by elevating carbon monoxide levels in the blood. As compared with smoking tobacco, smoking marijuana is associated with an approximately fivefold increase in the blood carboxyhemoglobin level, presumably because of the larger puff volumes, greater depth of inhalation, and longer breath-holding time.[28] Thus, like cigarette smoking, marijuana smoking may impair fetal oxygenation, with consequent impairment of growth. Fetal growth may be further impaired by the tendency of marijuana to increase the heart rate and blood pressure[28] of the mother, thus reducing placental blood flow to the fetus. In addition, cocaine and marijuana, when used together, may exert a synergistic effect on both heart rate and blood pressure.[29]

Cocaine, like marijuana, increases maternal heart rate and blood pressure and induces uterine vasoconstriction, which may cause fetal hypoxia.[30] In addition, cocaine is known to suppress the appetite.[31] In the present study sample, women who had positive urine assays for cocaine during pregnancy weighed less before pregnancy and gained less weight during pregnancy than those who did not have positive assays. To determine whether the effects of cocaine on the growth of infants were mediated by these nutri-

Table 5. Positive Urine Assay for Marijuana and Cocaine during Pregnancy in Relation to the Use of Other Substances and Selected Prenatal Variables.

	Marijuana		Cocaine	
	Nonuse (N = 895)	Use* (N = 202)	Nonuse (N = 1010)	Use* (N = 114)
	percent of group			
Cigarettes (maximum per day)				
None	69	20†	66	14†
<½ Pack	14	34	17	30
½ to <1 Pack	9	29	10	25
≥1 Pack	8	17	7	31
Alcohol (maximum per day)				
None	49	24†	46	27†
<1 Drink	46	63	49	56
1 to <2 Drinks	3	6	3	6
≥2 Drinks	2	7	2	11
Opiates (heroin or methadone)				
Nonuse	97	92‡	98	78†
Use	3	8	2	22
Sexually transmitted disease during pregnancy§	14	15	13	22¶
Primipara	51	50	52	43

*Use as indicated by a positive assay; women who reported marijuana or cocaine use but had negative assays are excluded from this table.

†Significantly different from value for nonusers (P<0.0001).

‡Significantly different from value for nonusers (P<0.01).

§Syphilis, gonorrhea, herpes, pelvic inflammatory disease, or chlamydia infection.

¶Significantly different from value for nonusers of marijuana or cocaine (P<0.05).

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4F

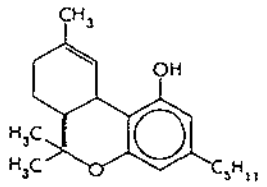
Extract from Goodman & Gilman The Pharmacological Basis of Therapeutics Eighth Edition -1991
Cannabinoids (Marihuana)

Extent of Use. Marihuana, also known as "grass", "weed" and "reefer" is still by far the most commonly used illicit drug in the United States; about 55% of young adults report some lifetime experience with the drug. Among high school seniors the use of marihuana in the month before survey has declined steadily from 37% in 1978 to 18% in 1988. The incidence of daily use among high school seniors is currently reported to be 2.7%.

HISTORY and SOURCE. Cannabis, obtained from the flowering tops of hemp plants,is a very ancient drug. Other names for cannabis or its products include hashish, charas, bhang, ganja, dagga, and marihuana. The common hemp is a herbaceous annual, of which cannabis sativa is the sole species and cannabis sativa var. indica and var. americana are two varieties. While all parts of the male and female plant contain psychoactive substances (cannabinoids), the highest cannabinoid concentrations are found in the flowering tops. In the Middle East and North Africa the dried, resinous exudate of the tops is called hashish; in the Far East it is called charas. The dried leaves and flowering shoots of the plant, containing smaller amounts of the active substance, are called bhang, and the resinous mass from the small leaves and brackets of inflorescence is called ganja. In the United States, the term marihuana is used to refer to any part of the plant or extract therefrom that induces somatic and psychic changes in man. Most commonly the plant is cut, dried, chopped and incorporated into cigarettes. Marihuana is sometimes contaminated with herbicides, with Salmonella and Aspergillus and, depending on the region in which it is grown, with mercury.

CHEMISTRY. The hemp plant synthesizes at least 400 chemicals, of which more than 60 are cannabinoids. The three most abundant include cannabinol (CBN), cannabidiol (CBD), and several isomers of tetrahydrocannabinol.The isomer responsible for most of the characteristic psychological effects of marihuana is *l*-Δ9-tetrahydrocannabinol (Δ9-THC), also referred to as *l*-Δ1-THC. The effects of *l*-Δ8-THC, which occur in minute amounts in marihuana, are similar to those of *l*-Δ9-THC.

Δ9-THC has the following structure:



Tetrahydrocannabinol (Δ9 -THC)

Most other cannabinoids are not psychoactive,but they may interact with Δ9-THC and either increase or decrease its potency. Many derivatives of tetrahydrocannabinol have been synthesized and studied; some of these are more potent than the natural plant products and may have potential therapeutic uses (see Dewey 1986; Razdan 1986). Hundreds of additional compounds are produced by pyrolysis when cannabis products are smoked. Several of these are found in tobacco smoke, and they may be important in the long-term toxicity from use of cannabis.

Pharmacological Effects in Animals. In monkeys, both Δ9-THC and Δ8-THC produce sedation, decrease in aggressive behaviour, loss of ability to perform complex tasks, and apparent hallucinations. Chronic high dosage produces a dose-related depression of ovarian function, decreases in concentrations of LH and FSH, and anovulatory menstrual cycles; tolerance may develop to these effects. Δ9-THC and several of its synthetic congeners have a number of actions not unlike the barbiturates. They exhibit anticonvulsant activity, raise the threshold for EEG and behaviour arousal, and depress polysynaptic reflexes (see Maykut,1985; Dewey,1986).

Mechanism of action. Cannabinoids have multiple action, and not all cannabinoids produce the same pattern of actions.The mechanism of action is poorly understood, but it is highly unlikely that any single receptor sight or mechanism will account for the multiple effects.

proportion may replace euphoria, often as a result of the feeling that the drug - induced state will never end. With high enough doses, the clinical picture is that of a toxic psychosis with hallucinations, depersonalization and loss of insight; this reaction can occur acutely or only after months of use. Most users are able to regulate their intake in order to avoid the excessive dosage that produces these unpleasant effects. However, peak subjective effects of smoked cannabis occur 20 - 30 minutes after inhalation, and they lag somewhat behind concentrations of Δ9-THC in plasma. Regulation of effect is thus imprecise.Because of the high prevalence of marihuana use, dysphoric reactions and psychiatric emergencies as a result of smoking marihuana are no longer uncommon. Use of marihuana can also cause an acute exacerbation of symptomatology in stabilized schizophrenics, and is an independent risk factor for the development of schizophrenia (Andreasson et al., 1987) It is one of the common precipitants of "flashback" in former users of LSD (see Hollister,1986). Although there are similarities between the subjective effects Δ9- THC at high doses and those of LSD cannabinoids are a separate and distinct pharmacological class.

Chronic marihuana users may exhibit apathy; dullness; impairment of judgment, concentration and memory; and loss of interest in personal appearance and pursuit of conventional goals. This has been called the "amotivational syndrome." It is clear that this syndrome may be due in part to factors other than the use of cannabis, and it is difficult to know the contribution of drug use in any given case. Cessation may lead to gradual improvement over a period of several weeks. At present there is no evidence to suggest that any personality changes are due to irreversible organic brain damage. However, the possibility of an adverse effect of frequent chronic low levels of intoxication developing personality cannot be dismissed, especially in view of the long-lasting structural and functional changes in hippocampal neurons that can be produced by the long-term administration of Δ9- THC to animals. Because marihuana use, especially at a early age, is highly correlated with use of other drugs, it is often difficult to dissentangle the effects of marihuana from those of other drugs.Heavy use of marihuana in adolescence strongly predicts continued use in young adulthood. Use of marihuana and illicit drugs in adolescence also predicts increased delinquency, unemployment, divorce, abortions and health problems, even when an effort is made to control for individual differences (Kandel et al 1986). Persons who use only moderate amounts of marihuana, especially females, are likely to discontinue use when they assume family responsibilities (Kandel and Raveis,1989).

Cardiovascular Effects. The most consistent effects on the cardiovascular system are an increase in heart rate, an increase in systolic blood pressure while suppine, decreased blood pressure while standing, and a marked reddening of the conjunctivae. Propranolol, a β-adrenergic blocking agent, and clonidine, α 2- adrenergic agonist, prevent or diminish the tachycardia produced by Δ9- THC, but they do not interfere with the subjective or behavioural effects. The increase in heart rate is dose related, and its onset and duration correlate well with concentration of Δ9-THC in the blood. Increases of 20 to 50 beats per minute are usual, but a tachycardia of 140 beats per minutes is not uncommon. Myocardial oxygen demand is increased. I patients with angina, exercise time to angina is decreased by nearly 50% by one marihuana cigarette (see Hollister, 1988). Long-term use of cannabis causes an as-yet-unexplained increase in plasma volume.

Immune System. Cannabinoids suppress cellular and humoral immune responses in animals and in vitro. Juvenile animals appear to be more affected than adults. The extent of the immuno-suppressive effect varies with the tissue examined.Cannabinoids can also impair synthesis of nucleic acids and proteins. Mice treated with Δ9-THC show enhanced susceptibilty to gram-negative bacteria. However, clinical experience has not yet shown that cannabis users are more susceptible to infection. There is little correlation between the potency of cannabinoids in

decline is followed by a much slower terminal phase; the half-time for elimination is about 30 hours. This is consistent with the fact that traces of Δ9-THC and its metabolites persist in the plasma of man for several days or even weeks and can be detected in the urine (see Maykut, 1985; Hollister,1988; Johnson et al., 1988). Under some circumstances, passive inhalation of smoke can result in sufficient absorption of cannabinoids to produce positive responses on sensitive tests for urinary metabolites. Consumption of repeated oral doses of Δ9-THC for several days or its daily smoking for several weeks does not seem to produce clinically detectable evidence of accumulation, although accumulation of inactive metabolites is likely. Long-term marihuana smokers metabolize Δ9 - THC more rapidly than do nonsmokers. Marihuana also alters the metabolism of barbiturates and ethanol.

Tolerance and Physical Dependence. In animals, tolerance develops to the lethal, hypothermic, and some of the behavioural effects of cannabinoids. Although in certain species the degree of tolerance is remarkable, it may not develop to all the effects of the drug. Most of the tolerance is due to functional or pharmacodynamic adaptations of the CNS, rather than to a more rapid metabolic disposition (see Maykut, 1985; Dewey, 1986).

Reports from many countries indicate that a number of regular users of hashish consume amounts of Δ9-THC that would produce toxic effects in most Western users. When volunteers are given Δ9-THC orally every 4 hours (maximal dose of 210 mg per day), tolerance develops to drug induced changes of mood, tachycardia, decrease in skin temperature, decrease in intraocular pressure, changes in EEG, and impairment of performance in psychomotor tests. Tolerance to the cardiac effects develops within a few days and decays relatively quickly (48 hours) (see Jones et al ., 1976). If, however, the total dosage used is low, subjects continue to experience a "high" after the first cigarette of the day. Experienced users may actually report more subjective effects from smoking marihuana than naive subjects. However, they generally show less impairment of perceptual and motor functions, as well as smaller increases in heart rate.

Some degree of cross-tolerance between alcohol or opioids and Δ9 - THC has been observed in animals (see Dewey, 1986). However, there is no cross-tolerance between cannabinoids and the psychedelics (hallucinogens).

A withdrawal syndrome has been observed under laboratory conditions when volunteers have taken high doses of Δ9- THC every few hours for several weeks. Signs and symptoms included irritability,restlessness, nervousness, decreased appetite, weight loss, insomnia, rebound increase in REM sleep, tremor, chills, and increased body temperature. Overall, the syndrome is relatively mild, begins within a few hours after cessation of drug administration, and lasts 4 to 5 days. The relationship between this relatively mild syndrome and cannabis-seeking behaviour, if any, is unclear (Jones et al., 1976).

Therapeutic Uses. Marihuana,Δ9-THC, and certain synthetic analogs have one established and several potential therapeutic applications. Some synthetic cannabinoids may find use as analgesics or anticonvulsants. The capacity of some natural and synthetic cannabinoids to lower intraocular pressure has had little clinical utility to date. Δ9-THC and a synthetic cannabinoid, nabilone, are now available for oral use as antiemetics (see chapter 38).They are indicated for control of nausea associated with chemotherapy when patients do not respond adequately to other regimens. Because it produces subjective effects similar to those of Δ9-THC nabilone is included in Schedule 11 of the Controlled Substances Act.

The most serious side effects of nabilone are depersonalization and dysphoria, which, while uncommon, may be especially disturbing for older patients. More common side effects include vertigo, dizziness, drowsiness, dry mouth, and difficulty in concentrating. Nabilone (and, by inference, Δ9 - THC) increases the psychomotor impairment produced by diazepam, alcohol and codeine.

"The foundation for all drug abuse prevention is knowledge—the hard facts about the dangers of drug use. The marijuana epidemic of the last two decades in the U.S. can be traced directly to the lack of clear, relevant information about the health threat posed by marijuana. That has changed today. We have the facts, and they make a devastating indictment of that "harmless giggle", pot.

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"After reading *Pot Safari* I decided that the Ontario Ministry of Education would purchase the book in sufficient numbers to provide a copy for every school with students in grades 7 to 10 in the Province. The comprehensive contents and the straightforward style in which the book is written will do much to increase the awareness of our students to the hazards of cannabis use."

Bette Stephenson, M.D.
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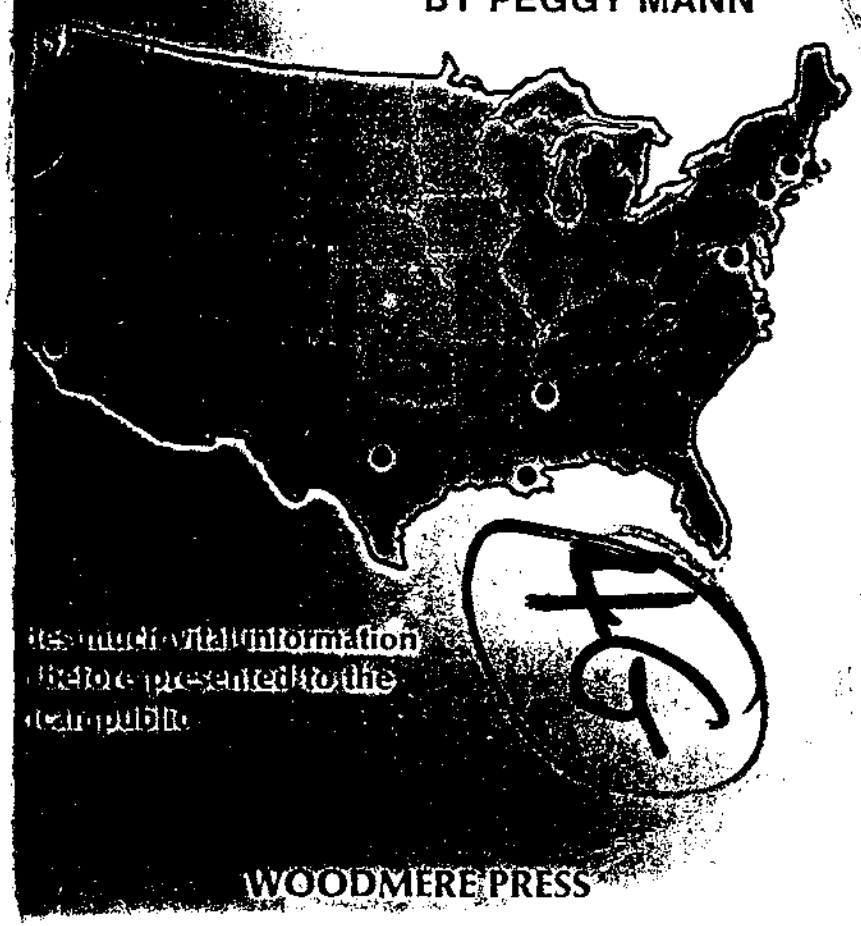
POT SAFARI

A Visit To The Top Marijuana Researchers in the U.S.

BY PEGGY MANN



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National Campaign Against Drug Abuse

REPORT ON 'MARIHUANA 87' CONFERENCE

HELD IN MELBOURNE 2-4 SEPTEMBER 1987

This was the fourth in a series of international conferences which have been held over the last twelve years. They have been organised by scientists working on various aspects of research related to cannabis. To date the conferences have either followed or preceeded the International Pharmacology Conference held every three years. The next such Conference is to be held in Amsterdam in 1990 and it is anticipated that a 'Marihuana '90' Conference will be held in Amsterdam prior to or following that Conference.

Scientists, researchers and other interested parties attended the Conference in Melbourne. Participants came from many countries including USA, Israel, Sweden, New Zealand, Japan, Thailand, England, Scotland, the West Indies, India and Switzerland as well as a small number from Australia.

Funding for the Conference came from a number of sources including Conference fees and several USA organisations. The input of funds from the USA was reflected not only by the large contingent of participants but also in the high proportion of papers which were based on research undertaken in the USA. The most significant source of funds was from NIDA (the USA National Institute of Drug Abuse).

Most of the participants were leading scientists in the field of cannabis research. Some of these researchers were biochemists working in the laboratories of large pharmaceutical companies such as Sigma, Pfizer and Roche. (The main thrust of their research being to develop medically active drugs which can be marketed.) Other participants comprised biochemists, molecular biologists, social and forensic scientists affiliated to university hospitals and/or research laboratories around the world. Some participants were from other interest groups such as N.O.R.M.L. and Pryde (the Pryde representative has been awarded a Churchill fellowship to study the history of cannabis use).

At the conclusion of 'Marihuana '87' it was agreed an international society of marihuana researchers would be formed. The organisers of 'Marihuana '87' undertook to act as co-ordinators for the formation of this society.

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July, 1992

MARIJUANA HAS NO CURRENTLY ACCEPTED MEDICAL USE

Relying on the same scientific standards used to judge all other drugs, FDA experts repeatedly rejected marijuana for medicinal use. Further hearings are unnecessary since the record is extraordinarily complete as stated in the Federal Register, Volume 57, Number 59, March 26, 1992 (copy enclosed).

Is marijuana good medicine for illnesses we all fear? The answer might seem obvious based simply on common sense. Smoking causes lung cancer and other deadly diseases. Americans take their medications in many different forms, **but never by smoking.** No medicine prescribed for us today is smoked.

- Marijuana's chemistry is neither fully known, nor reproducible.
- Adequate safety studies have not been done.
- There are no adequate, well-controlled scientific studies proving marijuana is effective for anything.
- Marijuana is not accepted for medical use in treatment by even a respectable minority.
- The published scientific evidence is not adequate to permit experts to fairly and responsibly conclude that marijuana is safe and effective for use in humans.

Beyond a shadow of a doubt, the claims that marijuana is medicine are false and dangerous. It is a cruel hoax to offer false hope to desperately ill people. Sick people can be fooled by false claims and waste precious time experimenting with marijuana while neglecting approved medications for their specific illness.

NOT ONE AMERICAN HEALTH ASSOCIATION ACCEPTS MARIJUANA AS A MEDICINE

American Medical Association
National Multiple Sclerosis Society
American Glaucoma Society
American Academy of Opthalmology
American Cancer Society

The testimony of nationally recognized experts overwhelmingly rejects marijuana as medicine as compared to the scientifically empty testimony of the psychiatrists, a wellness counselor and general practitioners presented by The National Organization of the Reform of Marijuana Laws (NORML).

BY ANY MODERN STANDARD, MARIJUANA IS NO MEDICINE.

As of June 1, 1992, there are 10,500 documented scientific research papers on file at the University of Mississippi Research Institute of Pharmaceutical Sciences (RIPS) (601/232-5914). Not even one of these documents give marijuana a clean bill of health.

progesterone, an important female hormone; causes anxiety and panic in some users because of its mind-altering effects; produces dizziness, trouble with thinking, trouble with concentrating, fatigue, and sleepiness; and impairs motor skills.

As a plant, marijuana can contain bacteria capable of causing serious infections in humans, such as salmonella enteritidis. Klebsiella pneumonaiae, group D Streptococcus and pathogenic aspergillus.

Several of these risks stand out. The immune systems of cancer patients are weakened by radiation and chemotherapy, leaving them susceptible to infection. If they experiment with marijuana to control nausea, they risk weakening their immune systems further and exposing themselves to the infection-causing bacteria in the plant. It is estimated, for example, that at Memorial Sloan-Ketting Cancer Center 60 patients die each year from pathogenic aspergillus infections.

Glaucoma patients face possible blindness caused by very high fluid pressures within their eyes. If they experiment with marijuana to lower their eye fluid pressure, it can cause dramatic drops in their blood pressure and reduce the blood supply to their heads. Glaucoma experts testified this reduced the blood supply to the optic nerves and could speed up, rather than slow down, their loss of eyesight.

MS, glaucoma and cancer patients who have undiagnosed heart problems risk heart palpitations, very rapid heart beats and sudden dramatic drops in blood pressure if they experiment with marijuana. For MS and glaucoma patients who must take medications for the rest of their lives, experimenting with marijuana poses the additional risks of lung cancer, emphysema, bladder cancer and leukemia.

Many risks remain unknown. Marijuana contains over 400 separately identified chemicals. No one knows all the effects of burning these chemicals together and inhaling the burnt mix. Are these risks outweighed by medical benefits?

There are scientific studies showing pure THC(Delta-9-Tetrahydrocannabinol), one of the many chemicals found in marijuana, has some effect in controlling nausea and vomiting. Pure THC is pharmaceutically made in a clean capsule form, called Marinol, and is available for use by the medical community. More information on Marinol can be found in the "Physicians' Desk Reference," available in most libraries.

Since marijuana contains THC, you might think marijuana also would be effective. However, the effect of taking a drug in combination with other chemicals is seldom the same as taking just the pure drug. As already noted, marijuana contains over 400 other chemicals, not just THC. There are no reliable scientific studies that show marijuana to be significantly effective in controlling nausea and vomiting. People refer to the Sallan study as proving marijuana's effectiveness. They are mistaken. The Sallan study involved pure THC, not marijuana. People refer to the Chang study to support marijuana's effectiveness. They also are mistaken. Doctor Chang tested the combination of pure THC and marijuana to treat nausea and vomiting. The preliminary results he got were probably due to the THC, not the marijuana. Because he tested the combination, we cannot tell just what effects can be attributed to marijuana alone. People cite a third study, done by Doctor Levitt, as proof marijuana is effective. They are mistaken. Doctor Levitt compared marijuana to THC in controlling nausea and vomiting, and he concluded that THC was the more effective drug.

A librarian can help locate copies of these studies should you want to see them for yourself. Sallan, et al., "Antiemetic Effect of Delta-9-Tetrahydrocannabinol in Patients Receiving Cancer Chemotherapy," 293 New England Journal of Medicine 795-797 (1975); Chang, et al., "Delta-9-Tetrahydrocannabinol as an Antiemetic in Cancer Patients Receiving High-Dose Methotrexate." 91 Annals of Internal Medicine 819-824 (1979); Levitt, et al., "Randomized Double Blind Comparison of Delta-9-Tetrahydrocannabinol (THC) and Marijuana As Chemotherapy Antiemetics," (Meeting Abstract) 3 Proceedings of the Annual Meeting of the American Society of Clinical Oncology 91 (1984).

During the 1970's and 1980's, a number of states set up research programs to give marijuana to cancer and glaucoma patients, on the chance it might help. Some people point to these programs as proof of marijuana's usefulness. Unfortunately, all research is not necessarily good scientific research. These state programs failed to follow responsible scientific methods. Patients took marijuana together with their regular medicines, so it is impossible to say whether marijuana helped them. Observations or results were not scientifically measured. Procedures were so poor that much critical research data were lost or never recorded. Although these programs were well-intentioned, they are not scientific proof of anything.

Some people refer to a study by Doctor Thomas Ungerleider as proof marijuana reduced nausea in bone marrow transplant patients. Unfortunately, Doctor Ungerleider neglected to follow responsible scientific methods in his study. Like the state

programs, it proves nothing. Doctor Ungerleider chose not to publish his study evidently because of its serious weaknesses. He admitted as much when questioned under oath.

Those who say there are reliable scientific studies showing marijuana is an effective drug for treating nausea and vomiting are wrong. No such studies exist.

Our nation's top cancer experts reject marijuana for medical use. Doctor David S. Ettinger, a professor of oncology at the Johns Hopkins University School of Medicine, an author of over 100 scholarly articles on cancer treatment and a nationally respected cancer expert, testified:

> There is no evidence that marijuana is effective in treating nausea and vomiting resulting from radiation treatment or other causes. No legitimate studies have been conducted which make such conclusions.

Doctor Richard J. Gralla, a professor of medicine at Cornell University Medical College, an associate attending physician at the Memorial Sloan-Kettering Cancer Center, and an expert in cancer research, testified:

> Most experts would say, and our studies support, that the cannabinoids in general are not very effective against the major causes of nausea and vomiting.

Doctor Gralla added:

> I have found that because of the negative side effects and problems associated with marijuana * * *, most medical oncologists and researchers have little interest in marijuana for the treatment of nausea and vomiting in their patients.

Doctor John Laszlo, Vice President of Research for the American Cancer Society, an expert who has spent 37 years researching cancer treatments, and who has written a leading textbook on the subject, "Antiemetics and Cancer Chemotherapy," testified there is not enough scientific evidence to justify using marijuana to treat nausea and vomiting. Not one nationally-recognized cancer expert could be found to testify on marijuana's behalf.

To be an effective treatment for glaucoma, a drug must: (i) Lower the pressure within the eye (intraocular pressure), (ii) for prolonged periods of time, and (iii) actually preserve sight (visual fields). Five scientific studies are cited as evidence marijuana is an effective glaucoma treatment. Those who cite these studies are mistaken. These studies tested pure THC, not marijuana. W.D. Purnell and J.M. Gregg, "Delta-9-Tetrahydrocannabinol, Euphoria and Intraocular Pressure in Man." 7 Annals of Ophthalmology 921-923 (1975); M. Perez-Reyes. D. Wagner, M.E. Wall, and K.H. Davis, "Intravenous Administration of Cannabinoids on Intraocular Pressure." The Pharmacology of Marijuana 829-832 (M.C. Braude and S. Szara eds. 1976); J.C. Merritt, S.M. McKinnon, J.R. Armstrong, G. Hatem, and L.A. Reid, "Oral Delta-9-Tetrahydrocannabinol in Hyperogeneous Glaucomas." 12 Annals of Ophthalmology 947 (1980); K. Green and M. Roth, "Ocular Effects of Topical Administration of Delta-9-Tetrahydrocannabinol in Man," 100 Archives of Ophthalmology 265-267 (1982); and W.M. Jay and K. Green, "Multiple-Drop Study of Topically Applied 1% Delta-9-tetrahydrocannabinol in Human Eyes," 101 Archives of Ophthalmology 591-593 (1983).

Three studies show very heavy doses of marijuana, taken for short periods of time, can reduce eye pressure. R.S. Hepler, I.M. Frank, and T.J. Ungerleider, "Pupillary Constriction After Marijuana Smoking," 74 American Journal of Ophthalmology 1185-1190 (1972); R.S. Hepler, I.M. Frank, and R. Petrus, "Ocular Effects of Marijuana Smoking," The Pharmacology of Marijuana 815-824 (1976); and J.C. Merritt, W.J. Crawford, P.C. Alexander, A.L. Anduze and S.S. Gelbart, "Effect of Marijuana on Intraocular and Blood Pressure in Glaucoma," 87 Ophthalmology 222-228 (1980).

Unusually large doses of marijuana were needed in these three studies to achieve the desired effect. Heavy marijuana use produces dizziness, trouble with thinking, impaired motor skills, fatigue and sleepiness. The 1976 study by Doctors Hepler, Frank and Petrus emphasized "Our subjects were sometimes too sleepy to permit measurement of intraocular pressures * * * 3 hours after intoxication." If a glaucoma patient were to smoke marijuana 8 to 10 times every day for the rest of his life, would he be alert and energetic enough to live a relatively normal life? No scientific studies exist to answer these questions. Robert Randall claims to have saved his sight by smoking 8 to 10 marijuana cigarettes every day. Under oath he admits he stays at home most days, follows no daily schedule or routine, and has not held a regular job in over 15 years. He also has avoided having a comprehensive medical examination since 1975.

No scientific studies have shown marijuana can reduce eye pressure over long periods of time.

No scientific studies have shown marijuana can save eyesight.

America's top glaucoma experts reject marijuana as medicine. Doctor Keith Green is a professor of Ophthalmology who serves, or has served, on the editorial boards of eight prestigious eye journals (Ophthalmic Research, Oftalmo Abstracto, Current Eye Research, Experimental Eye Research, Investigative Ophthalmology, American Journal of Ophthalmology, Archives of Ophthalmology, and Survey of Ophthalmology). Doctor Green has conducted extensive basic and clinical research using marijuana and THC to treat glaucoma patients. He has authored over 200 books or research articles in ophthalmology and is a highly respected expert on this subject. Doctor Green testified:

> There is no scientific evidence * * * that indicates that marijuana is effective in regulating the progression of symptoms associated with glaucoma.* * * It is clear that there is no evidence that marijuana use prevents the progression of visual loss in glaucoma. * * * The quantities of the drug required to reduce intraocular pressure in glaucoma sufferers are large, and would require the inhalation of at least six marijuana cigarettes each day. * * * Smoking is not a desirable form of treatment for many reasons * * * Marijuana...has little potential future as a glaucoma medication.

Doctor George Spaeth is the Director of the Glaucoma Service at Wills Eye Hospital in Philadelphia, the largest service in the United States devoted to researching and treating glaucoma and to teaching other doctors about this disease. Doctor Spaeth is President of the American Glaucoma Society. He is a professor of ophthalmology, the editor of a scholarly eye journal (Ophthalmic Surgery), and the author of over 200 research articles on glaucoma. He testified:

> I have not found any documentary evidence which indicates that a single patient has had his or her natural history of the disease altered by smoking marijuana.

Amputees and victims of MS can suffer from extreme muscle spasms. It is claimed marijuana is useful in treating spasticity. Three unusually small, inconclusive studies have tried using pure THC, not marijuana, to treat spasticity. D.J. Petro and C. Ellenberger, "Treatment of Human Spasticity with Delta-9-Tetrahydrocannabinol," 21 Journal of Clinical Pharmacology 413S-416S (1981) (included only nine patients). Two of the studies are mere abstracts, or short digests without much detail. Hanigan, Destee & Troung Abstr. B45, Clin. Pharmacol. Ther. 198 (1986) (included only three patients), and Sandyk, Canooe, Stern and Snider Abstr. PP 331, 36 Neurology 342 (1986) (included only three patients).

No scientific evidence exists which test marijuana to relieve spasticity.

National experts on MS reject marijuana as medicine. Doctor Kenneth P. Johnson is Chairman of the Department of Neurology at the University of Maryland School of Medicine. He manages the Maryland Center for MS, one of the most active MS research and treatment centers in the United States. He sits on the editorial boards of noted medical journals related to MS (neurology and Journal of Neuroimmunology). He is the author of over 100 scientific and medical articles on MS. Doctor Johnson has spent most of his long career researching MS and has diagnosed and treated more than 6,000 patients with MS. Doctor Johnson testified:

> At this time, I am not aware of * * * any legitimate medical research in which marijuana was used to treat the symptoms of multiple sclerosis. * * * To conclude that marijuana is therapeutically effective without conducting rigorous testing would be professionally irresponsible.

Doctor Stephen Reingold is Assistant Vice President of Research for the National Multiple Sclerosis Society, which spends over $7 million each year on MS research. Only the Federal Government spends more. Doctor Reingold testified:

> I could find no actual published research which has used marijuana * * * In the existing research using THC, the results were inconclusive * * * In the absence of any well-designed, well-controlled research * * *, the National Multiple Sclerosis Society * * * does not endorse or advocate its use * * *

Doctor Donald H. Silberberg is Chairman of the Department of Neurology at the University of Pennsylvania School of Medicine and Chief of the Neurology Service at the Hospital of Pennsylvania. Doctor Silberberg is on the editorial board of Annals of Neurology and is President of the National Medical Advisory Board for the National Multiple Sclerosis Society. He has been actively researching and treating MS for most of his career, has written over 130 medical articles on MS and is Co-Director of a large MS research center at the University of Pennsylvania. Doctor Silberberg testified:

> I have not found any legitimate medical or scientific works which show that marijuana * * * is medically effective in treating multiple sclerosis or spasticity. * * * The long-term treatment of the symptoms of multiple sclerosis through the use of marijuana could be devastating. * * * The use of (marijuana), especially for long-term treatment * * * would be worse than the original disease itself.

The only favorable evidence that could be found by NORML and DEA consists of stories by marijuana users who claim to have been helped by the drug. Scientists call these stories anecdotes. They do not accept them as reliable proofs. The FDA's regulations, for example, provide that in deciding whether a new drug is a safe and effective medicine, "isolated case reports * * * will not be considered." 21 CFR 314.126(e). Why do scientists consider stories from patients and their doctors to be unreliable?

First, sick people are not objective, scientific observers, especially when it comes to their own health. We all have heard of the placebo effect. Patients have a tendency to respond to drugs as they believe is expected of them. Imagine how magnified this placebo effect can be when a suffering person experiments on himself, praying for some relief. Many stories no doubt are due to the placebo effect, not to any real medical effects of marijuana.

Second, most of the stories come from people who took marijuana at the same time they took prescription drugs for their symptoms. For example, Robert Randall claims marijuana has saved his sight, yet has taken standard glaucoma drugs continuously since 1972. There is no objective way to tell from these stories whether it is marijuana that is helpful, or the proven, traditional medicines. Even these users can never know for sure.

Third, any mind-altering drug that produces euphoria can make a sick person think he feels better. Stories from patients who claim marijuana helps them may be the result of the mind-altering effects of the drug, not the results of improvements in their conditions.

Fourth, long-time abusers of marijuana are not immune to illness. Many eventually get cancer, glaucoma, MS and other diseases. People who become dependent on mind-alerting drugs tend to rationalize their behavior. They invent excuses, which they can come to believe, to justify their drug dependence. Stories of marijuana's benefits from sick people with a prior history of marijuana abuse may be based on rationalizations caused by drug dependence, not on any medical benefits caused by the drug. Robert Randall, for example, admits under oath to becoming a regular user in 1968, four years before he showed the first signs of, and was diagnosed as having, glaucoma. Since then he has smoked marijuana 8 to 10 times every day.

A century ago many Americans relied on stories to pick their medicines, especially from snake oil salesmen. Thanks to scientific advances and to the passage of the Federal Food, Drug and Cosmetic Act (FDCA) in 1906, 21 U.S.C. 301 *et seq.*, we now rely on rigorous scientific proof to assure the safety and effectiveness of new drugs. Mere stories are not considered an acceptable way to judge whether dangerous drugs should be used as medicines.

There are doctors willing to testify that marijuana has medical uses: NORML found over a dozen to testify in this case. We have a natural tendency to believe doctors. We assume their opinions are entitled to respect. But what if a doctor is giving an opinion beyond his professional competence? Evaluating the safety and effectiveness of drugs is a specialized area. Does the doctor have this specialized expertise? Is he familiar with all the published scientific studies? Or is he improperly basing his opinion on mere stories or anecdotal evidence? Does he really know what he is talking about? Does he have a personal motive to exaggerate or lie? Questions like these led the United States Supreme Court, in 1973, to warn about the opinions of doctors concerning the value of drugs as medicine, when not supported by rigorous scientific testing. *Weinberger v. Hynson, Etc.*, 412 U.S. 609, 639

> Impressions or beliefs of physicians, no matter how fervently held, are treacherous.

Nearly half the doctors who testified for NORML are psychiatrists. They do not specialize in treating or researching cancer, glaucoma or MS. One is a general practitioner who works as a wellness counselor at a health spa. Under oath he admits to using every illegal, mind-altering drug he has ever studied, and he prides himself on recommending drugs that would never be recommended by medical schools or reputable physicians. Another is a general practitioner who quit practicing in 1974. He admits he has not kept up on new medical and scientific information about marijuana for 18 years.

Only one of the doctors called by NORML is a nationally-recognized expert. Doctor John C. Merritt is a board-certified ophthalmologist and researcher who has authored articles on the use of marijuana and cannabinoids to reduce eye pressure.

He is in private practice and sees mostly children who suffer from glaucoma. Doctor Merritt testified, "Marijuana is a highly effective IOP-lowering drug which may be of critical value to some glaucoma patients who, without marijuana, would progressively go blind." The last scientific study using marijuana in glaucoma patients, published by Doctor Merritt in 1979, concluded:

> It is because of the frequency and severity with which the untoward events occurred that marijuana inhalation is not an ideal therapeutic modality for glaucoma patients.

One year later, in 1980, Doctor Merritt gave the following testimony, under oath, before the United States Congress, House Select Committee on Narcotics Abuse and Control:

> For me to sit here and say that the lowering pressure effects occurred repeatedly, day in and day out, I have no data, and neither does anyone else, and that is the real crux of the matter. When we are talking about treating a disease like glaucoma, which is a chronic disease, the real issue is, does the marijuana repeatedly lower the intraocular pressure? I have shown you no * * * studies, and to my knowledge there is no data to that effect.

Doctor Merritt was unable to explain under oath, the contradictory positions he has taken on this subject.

Each of NORML's doctors testified his opinion is based on the published, scientific studies. With one exception, none of them could identify under oath the scientific studies they swore they relied on. Only one had enough knowledge to discuss the scientific technicalities involved. Eventually, each one admitted he was basing his opinion on anecdotal evidence, on stories he heard from patients, and on his impressions about the drug.

Sadly, Doctor Ivan Silverberg, an oncologist from San Francisco, exaggerated while on the witness stand. At first he swore "there is voluminous medical research which shows marijuana is effective in easing nausea and vomiting." Pushed on cross-examination to identify this voluminous research, Doctor Silverberg replied, "Well, * * * , I'm going to have to back off a little bit from that." How far would Doctor Silverberg back off? Was he aware, at least, of the approximate number of scientific studies that have been done using marijuana to treat nausea? Under oath, he replied, "I would doubt very few. But, no, I'm not."

Beyond doubt, the claims that marijuana is medicine is false, dangerous and cruel.

Sick men, women and children can be fooled by these claims and experiment with the drug. Instead of being helped, they risk serious side effects. If they neglect their regular medicines while trying marijuana, the damage could be irreversible. It is a cruel hoax to offer false hope to desperately ill people.

Those who insist marijuana has medical uses would serve society better by promoting or sponsoring more legitimate scientific research, rather than throwing their time, money and rhetoric into lobbying, public relations campaigns and perennial litigation.

Clarification of Currently Accepted Medical Use

The Controlled Substances Act of 1970 divides the universe of all drugs of abuse into five sets or schedules. Drugs in Schedule I are subject to the most severe controls, because they have a high potential for abuse and no currently accepted medical use in treatment in the United States. 21 U.S.C. 812 (b)(1). Drugs of abuse which have currently accepted medical use in treatment in the United States are placed in Schedules II, III, IV and V. Regrettably, the Controlled Substances Act does not speak directly to what is meant by "currently accepted medical use."

A century before the Controlled Substances Act was enacted, the determination of what drugs to accept as medicine was totally democratic and totally standardless. Each patient and each physician was free to decide for himself, often based on no more than anecdotal evidence. This state of affairs became unsatisfactory to a majority of the American people. In 1906, Congress intervened with the passage of the Food, Drug and Cosmetic Act (FDCA). A shift began away from anecdotal evidence to objectively conducted scientific research, away from uninformed opinions of lay persons and local doctors to expert opinions of specialists trained to evaluate the safety and effectiveness of drugs, and away from totally democratic decision-making to oversight by the Federal Government.

By 1969, Congress had developed detailed Federal statutory criteria under the FDCA to determine whether drugs are acceptable for medical use. Those deemed acceptable can be marketed nationally. Those deemed unacceptable are subject to Federal seizure if marketed interstate. The FDCA is a very complex regulatory scheme not easily summarized. However, it is fair to say that drugs falling into one of four FDCA categories were accepted by Congress for medical use.

First, Congress accepted new drugs which have been approved by FDA's experts as safe and effective for use in treatment, based on substantial scientific evidence. 21 U.S.C. 321 (p) and 355 (so-called "NDA-approved drugs").

Second, Congress accepted those drugs "generally recognized, among experts qualified by scientific training and experience to evaluate the safety and effectiveness of drugs, as safe and effective," based on substantial scientific evidence. 21 U.S.C. 321(p) and 355; *Weinberger v. Bentex Pharmaceuticals, Inc.*, 412 U.S. 645 (1973). An acronym for this category is "human GRASE drugs" (Generally Recognized As Safe and Effective). These drugs achieve acceptance through rigorous scientific proof, through a past history of widespread use in treatment in the United States, and through recognition by a consensus of drug experts outside the FDA.

Third, Congress accepted for use in veterinary medicine those drugs "generally recognized, among experts qualified by scientific training and experience to evaluate the safety and effectiveness of animal drugs, as safe and effective," based on substantial scientific evidence. 21 U.S.C. 321(w) and 355. An acronym for these is "animal GRASE drugs." They achieve acceptance through rigorous scientific evidence and through recognition by a consensus of drug experts outside the FDA. Unlike human GRASE drugs, animal GRASE drugs need not have a past history of widespread use.

Finally, Congress accepted those drugs marketed prior to 1938 which had been subject to the 1906 provisions of the FDCA, provided these very old drugs retain their exact formulations and are never promoted for new uses. 21 U.S.C. 321(p) and (w). These are politically "grandfathered" drugs. They need not meet modern standards for safety and effectiveness.

A fifth group of drugs was accepted for research use only, not for use in treatment of patients. 21 U.S.C. 355(i) (so-called "IND or approved investigational new drugs").

Drugs intended for medical use and shipped interstate are subject to Federal seizure under the FDCA if they do not fit within one of the above accepted sets or groupings. It seems fair to say that seizable drugs were rejected by Congress for medical uses.

In enacting the Controlled Substances Act in 1970, could Congress have intended to create a totally new Federal standard for determining whether drugs have accepted medical uses? Or did Congress intend to rely on standards it had developed over the prior 64 years under the FDCA? There is nothing in the Controlled Substances Act, its legislative history, or its purposes that would indicate Congress intended to depart radically from existing Federal law.

Indeed, it seems likely that the core standards developed under the FDCA represent a long-term consensus of expert medical and scientific opinion concerning when a drug should be accepted by anyone as safe and effective for medical use.

Fortunately, there is a way to corroborate what Congress intended. Congress did more than just announce criteria for scheduling drugs of abuse under the Controlled Substances Act; Congress applied those criteria to an initial listing of drugs that it placed into the original five schedules of the Act.

NDA-approved drugs were placed by Congress into Schedules II, III, IV and V of the Act. For example, pethidine (also known as meperidine) received New Drug Application (NDA) approval in 1942. Congress put it into Schedule II(b)(14). Methamphetamine had an approved NDA. Congress put it into Schedule III(a)(3). I am not aware of any drug with an approved NDA that Congress originally put into Schedule I.

Drugs with medical uses, but without approved NDA's also were placed by Congress into Schedules II, III, IV and V. For example, cocaine was put into Schedule II(a)(4). Codeine combinations were put into Schedule III(d)(8). Phenobarbital was put into Schedule IV(11). Barbiturates were put into Schedule III(b)(1). Amphetamines were put into Schedule III(a)(1).

The Court of Appeals for the First Circuit was correct when it decided in *Grinspoon v. DEA*, 828 F.2d 881 (1987) that NDA approval is not the only method by which drugs can achieve Federal recognition as having medical uses. Congress put both GRASE drugs and pre-1938-grandfathered drugs into Schedules II, III, IV and V of the CSA.

Drugs recognized under the FDCA for research use only, not for use in treatment, such as alphacetylmethadol and marijuana, were placed by Congress into Schedule I.

Unfortunately, Federal records are not complete enough to do a comprehensive mathematical mapping, tracing every drug in the initial Controlled Substances Act schedules back to its legal status under the FDCA. Nevertheless, determining legislative intent does not require mathematical

certainty. Probability based on circumstantial evidence, on samplings, and on inductive reasoning can suffice, especially when there is nowhere else to turn.

The pattern of initial scheduling of drugs in the Controlled Substance Act, viewed in light of the prior legal status of these drugs under the FDCA, convinces me that Congress equated the term "currently accepted medical use in treatment in the United States" as used in the Controlled Substances Act with the core FDCA standards for acceptance of drugs for medical use.

This is not to say that every FDCA requirement for GRASE status, or for NDA approval, is pertinent to scheduling determinations under the Controlled Substances Act. There are differences. But the core FDCA criteria appear to have guided the Congress in the decisions it made concerning the initial scheduling of drugs in the Act.

These same core FDCA criteria served as the basis for an eight-pint test used by my predecessor as Administrator to describe drugs with currently accepted medical uses. 54 FR 53783 (December 29, 1989):

1. Scientifically determined and accepted knowledge of its chemistry;

2. The toxicology and pharmacology of the substance in animals;

3. Establishment of its effectiveness in humans through scientifically designed clinical trials;

4. General availability of the substance and information regarding the substance and its use;

5. Recognition of its clinical use in generally accepted pharmacopeia, medical references, journals or textbooks;

6. Specific indications for the treatment of recognized disorders;

7. Recognition of the use of the substance by organizations or associations of physicians; and

8. Recognition and use of the substance by a substantial segment of the medical practitioners in the United States.

Some uncertainty remains over the precise meaning and application of parts of this test. Therefore, the Court of Appeals for the District of Columbia Circuit remanded these proceedings for a further explanation. In addition to addressing those parts of the test that concerned the Court of Appeals, it would be useful to clarify this entire test, pinpoint its origins, and identify which elements are both necessary and sufficient to establish a prima facie case of currently accepted medical use. This is not an effort to change the substantive law. The statutory meaning of currently accepted medical use remains the same as enacted by Congress in 1970. My purpose simply is to clarify this Agency's understanding of the law.

A. The Drug's Chemistry Must Be Known and Reproducible

The ability to recreate a drug in standardized dosages is fundamental to testing that drug and to using it as a medicine. Knowing the composition, properties, methods of production, and methods of analysis of a drug is essential to reproducing it in standardized dosages. To be GRASE or to receive NDA approval, a drug's chemistry must be known and reproducible. See *e.g.*, 21 CFR 314.50(d)(1) and 314.126(b)(7)(d); *Dorovic v. Richardson*, 749 F.2d 242, 251 (7th Cir. 1973). The listing of a drug in a current edition of one of the official compendia normally satisfies this requirement. 21 U.S.C. 321(j); 21 CFR 314.50(d)(1).

The first element of our eight-point test, namely, "scientifically determined and accepted knowledge of its chemistry," should be clarified to read:

> The substance's chemistry must be scientifically established to permit it to be reproduced into dosages which can be standardized. The listing of the substance in a current edition of one of the official compendia, as defined by section 201((j) of the Food, Drug and Cosmetic Act, 21 U.S.C. 321(j), is sufficient generally to meet this requirement.

Acceptance of this knowledge will be discussed elsewhere.

B. There Must Be Adequate Safety Studies

No drug can be considered safe in the abstract. Safety has meaning only when judged against the intended use of the drug, its known effectiveness, its known and potential risks, the severity of the illness to be treated, and the availability of alternative therapies. *Hess & Clark Division of Rhodia, Inc. v. FDA*, 495 F.2d 975, 993 (D.C. Cir. 1974). To know the risks, there must be adequate studies, by all methods reasonably applicable, to show the

pharmacological and toxicological effects of the drug. 21 CFR 314.125(b)(2). This includes animal studies and clinical trials in large numbers of humans. 21 CFR 312.21. The studies need not be well-controlled, but they must be adequate. *Edison Pharmaceuticals Co. v. FDA*, 600 F.2d 831 (D.C. Cir. 1979). Short term (acute) studies of a drug intended to treat long-term (chronic) illnesses, such as glaucoma or MS, are clearly inadequate. *United States v.* Naremco, Inc., 553 F.2d 1138, 1143 (8th Cir. 1977). The second element of our eight-point test, namely, "the toxicology and pharmacology of the substance in animals," should be clarified as follows:

> There must be adequate pharmacological and toxicological studies, done by all methods reasonably applicable, on the basis of which it could fairly and responsibly be concluded, by experts qualified by scientific training and experience to evaluate the safety and effectiveness of drugs, that the substance is safe for treating a specific, recognized disorder.

It must be emphasized that while the existence of adequate safety tests is a separate analytical question, the ultimate determination of whether a drug is safe for a specific use is not a distinct issue. Safety and effectiveness are inextricably linked in a risks-benefits calculation. A determination that a drug is ineffective is tantamount to a determination that it is unsafe. *United States v. Rutherford*, 442 U.S. 544 (1970).

The scheduling criteria of the Controlled Substances Act appear to treat the lack of medical use and lack of safety as separate considerations. Prior rulings of this Agency purported to treat safety as a distinct factor. 53 FR 5156 (February 22, 1988). In retrospect, this is inconsistent with scientific reality. Safety cannot be treated as a separate analytical question.

C. There Must Be Adequate and Well-Controlled Studies Proving Efficacy

Since 1962, Congress has prohibited the FDA to approve an NDA unless the applicant submits adequate, well-controlled, well-designed, well-conducted, and well-documented studies, performed by qualified investigators, which prove the efficacy of a drug for its intended use. 21 U.S.C. 355(d); 21 CFR 314.126. Similarly, a drug cannot be considered GRASE unless it is supported by this same quantity and quality of scientific proof. 21 CFR 314.200(e)(i); *Weinberger v. Hynson, Etc.*, 412 U.S., 609, 629 (1973).

Studies involving related, but not identical drugs are irrelevant. *United States v. Articles of Food & Drug*, 518 F.2d 743, 747 (5th Cir. 1975). Studies involving the same drug combined with other drugs are irrelevant. *United States v. Articles of Drug * * * Promise Toothpaste, 826 F.2d 564, 570 (7th Cir. 1987). Incomplete studies are insufficient. United States v. Articles of Food & Drug, supra.* Uncontrolled studies are insufficient. 21 U.S.C. 355(d); *Cooper Labs v. FDA*, 501 F.2d 772, 778 (D.C. Cir. 1974). Statistically insignificant studies are insufficient. 21 CFR 312.21, 314.50(d)(6) and 314.126(b)(7). Poorly designed studies are insufficient. 21 CFR part 58 -Good Laboratory Practices. Poorly documented studies are insufficient. 21 CFR 312.58 and 314.200(e)(4). Studies by investigators who are not qualified, both to conduct and to evaluate them are insufficient. 21 U.S.C. 355(d). Moreover, since scientific reliability requires a double examination with similar results, one valid study is insufficient. There must be two or more valid studies which corroborate each other. See 1 J. O'Reilley "Food and Drug Administration" 13-55 n.12 (1985).

Lay testimonials, impressions of physicians, isolated case studies, random clinical experience, reports so lacking in details they cannot be scientifically evaluated, and all other forms of anecdotal proof are entirely irrelevant. 21 CFR 314.126(e); *Weinberger v. Hynson, Etc.*, 412 U.S. 609, 630 (1973).

Element three of our eight-point test, namely, "establishment of its effectiveness in humans through scientifically designed clinical trials," should be restated as:

> There must be adequate, well-controlled, well-designed, well-conducted and well-documented studies, including clinical investigations, by experts qualified by scientific training and experience to evaluate the safety and effectiveness of drugs, on the basis of which it could fairly and responsibly be concluded by such experts that the substance will have the intended effect in treating a specific, recognized disorder.

D. Acceptance by Qualified Experts Is Required

The opinions of lay persons are totally irrelevant to whether a drug is GRASE or meets NDA requirements. The observations and opinions of medical practitioners who are noted experts in evaluating drugs also are irrelevant to whether a drug is GRASE or meets NDA requirements. *Weinberger v. Hynson, Etc.*, 412 U.S. 609, 619 (1973). By explicit requirements in the FDCA since

1938, the only body of opinion that counts is that of experts qualified by scientific training and experience to evaluate the safety and effectiveness of drugs. 21 U.S.C. 321 and (w).

From this, one would conclude that expert acceptance of a drug as safe and effective for its intended use is essential to a drug having a currently accepted medical use under the CSA. How widespread must this expert acceptance be?

To be GRASE, a drug must be "generally recognized" among experts as safe and effective for its intended use. The drug must be known or familiar to the national community of relevant experts. *United States v. Articles of Drug * * * Furestrol Vaginal Suppositories,* 294 F. Supp. 1307, 1309 (N.D. Ga. 1968) *aff'd,* 415 F.2d 390 (5th Cir. 1969). To determine if a drug is known to the community of experts, courts have looked to whether there is widely available scientific literature about the drug, *Premo Pharmaceutical Laboratories, Inc. v. United States,* 629 F.2d 795, 803 (2d Cir. 1980), whether it is widely taught in medical schools, *Lemmon Pharmaceuticals Co. v. Richardson,* 319 F.Sup. 375, 378 (E.D. Pa. 1970), and whether it is widely discussed by experts. *United States v. Bentex Ulcerine,* 469 F. 2d 875, 880 (5th Cir. 1972).

The recognition of a drug as GRASE need not be universal. General recognition is sufficient, *United States v. 41 Cartons * * * Ferro-Lac,* 420 F.2d 1126, 1132 (5th Cir. 1970). The Supreme Court has interpreted this to mean a consensus of experts is familiar with and accepts a drug as safe and effective. *Weinberger v. Hynson, Etc.,* 412 U.S. 609, 629 (1973). However, if there is a serious dispute among the experts, a drug cannot be considered GRASE, *United States v. An Article of Food * * * Caco Rico,* 752 F.2d 11, 15 (1st Cir. 1985); *Merrit Corp. v. Folsom,* 165 F. Supp. 418, 421 (D.D.C. 1958).

During the NDA process, the FDA may reach out to the expert community for its views. 21 CFR 314.103(c). The FDA need not determine that a drug is generally known and accepted by the expert community. Nor must the FDA develop a consensus of opinion among outside experts. The FDA has both the experts and the statutory mandate to resolve conflicts over the safety and efficacy of new drugs. *Weinberger v. Bentex Pharmaceutical, Inc.,* 412 U.S.C. 638, 653 (1973).

In drafting the Controlled Substances Act, Congress appears to have accommodated, rather than chosen from these different FDCA standards. Clearly, the Controlled Substances Act does not authorize the Attorney General, nor the delegation to the DEA Administrator, to make the ultimate medical and policy decision as to whether a drug should be used as medicine. Instead, he is limited to determining whether others accept a drug for medical use. Any other construction would have the effect of reading the word "accepted" out of the statutory standard. Since Congress recognized NDA-approved drugs as having currently accepted medical uses, without any need for a national consensus of experts, FDA acceptance of a drug through the NDA process would seem to satisfy the Controlled Substances Act. And, since Congress recognized GRASE drugs as having currently accepted medical uses, without the need for NDA approval, acceptance of a drug by a national consensus of experts also would seem to satisfy the Act.

When a drug lacks NDA approval and is not accepted by a consensus of experts outside FDA, it cannot be found by the Attorney General or his delegate to have a currently accepted medical use. To do so would require the Attorney General to resolve complex scientific and medical disputes among experts, to decide the ultimate medical policy question, rather than merely determine whether the drug is accepted by others.

Because the recognition of a drug by non-experts is irrelevant to GRASE status, to NDA approval, and to currently accepted medical use under the Controlled Substances Act, points seven and eight of our eight-point test should be combined and restated as follows:

> The drug has a New Drug Application (NDA) approved by the Food and Drug Administration pursuant to the Food, Drug and Cosmetic Act, 21 U.S.C. 355. Or. a consensus of the national community of experts, qualified by scientific training and experience to evaluate the safety and effectiveness of drugs, accepts the safety and effectiveness of the substance for use in treating a specific, recognized disorder. A material conflict of opinion among experts precludes a finding of consensus.

This restatement also incorporates the component of part one of our eight-point test concerning "accepted knowledge of its chemistry."

E. The Scientific Evidence Must Be Widely Available

Nothing in the FDCA, nor in FDA's regulations, requires that scientific evidence supporting the NDA be published. This stems from the fact that a consensus of experts outside FDA is not required

for NDA approval. In contrast, most courts have held that a drug cannot be considered GRASE unless the supporting scientific evidence appears in the published scientific and medical literature. Without published studies, it would be difficult for the community of experts outside FDA to develop an informed acceptance of a drug for medical use. *Cooper Labs Inc. v. FDA*, 501 F.2d 772, 786 (D.C. Cir. 1974).

Point four of the eight-point test focuses, in part, on the "general availability of information regarding the substance and its use." This should be clarified to read:

> In the absence of NDA approval, information concerning the chemistry, pharmacology, toxicology and effectiveness of the substance must be reported, published, or otherwise widely available. In sufficient detail to permit experts, qualified by scientific training and experience to evaluate the safety and effectiveness of drugs, to fairly and responsibly conclude the substance is safe and effective for use in treating a specific, recognized disorder.

F. General Availability of a Drug Is Irrelevant

The second component of point four of the eight-point test involves the "general availability of the substance" for use in treatment. The second component of point eight focuses on "use of the substance by a substantial segment of the medical practitioners in the United States." These elements justifiably concerned the Court of Appeals, leading to the remand in this case.

Under the FDCA, a human GRASE drug must have a material history of past use in treatment in the United States. 21 U.S.C. 321(p)(2) (which has * * *, otherwise than in such investigations, been used to a material extent or a material time); *Weinberger v. Hynson, Etc.*, 412 U.S. 609, 631 (1973). Rigorous scientific proofs and current unanimous acceptance by the medical and scientific community are not enough for a human drug to be GRASE. *Tri-Bio Labs, Inc. v. United States,* 836 F.2d 135, 142 n.8 (3d Cir. 1987). The general availability of a drug for use in treatment is a factor courts have considered to determine if a human drug is GRASE.

In contrast, a drug can achieve current acceptance for human medical use through the NDA process without a past history of use in treatment. Also, animal drugs can become accepted as GRASE without any past history of medical use. Given this conflict in FDCA standards, which did Congress choose when drafting the CSA?

As the Court of Appeals points out, requiring a material history of past use in treatment before recognizing a drug as having a currently accepted medical use, would permanently freeze all Schedule I drugs into Schedule I. 930 F.2d at 940. Clearly, Congress did not intend this result. Moreover, the use of the word "currently" before the term "accepted medical use" would indicate Congress rejected the human GRASE requirement of past material use in treatment. I conclude that the general availability of a drug is irrelevant to whether it has a currently accepted medical use in treatment within the meaning of the Controlled Substances Act.

G. Recognition in Generally Accepted Texts Is Irrelevant

Point five of the eight-point test deals with "recognition of its clinical use in generally accepted pharmacopeia, medical references, journals or textbooks." The listing of a drug in an official compendium is sufficient to show its chemistry is scientifically established. This appears in my clarification to point one. The requirement that information concerning the chemistry, pharmacology, toxicology and effectiveness of the substance be reported, published or otherwise widely available, is explained adequately in revised point four. To the extent the scheduling of a drug directly influences its recognition in publications, this element is subject to the same criticism identified by the Court of Appeals concerning point four. Therefore, this should not be treated as a distinct requirement.

H. Specific, Recognized Disorders Are the Referent

It is impossible to judge the safety and effectiveness of a drug except in relation to a specific intended use. A drug cannot obtain NDA approval or GRASE status except in relation to the treatment of a specific, recognized disorder. This is an essential aspect of whether a drug has currently accepted medical use. Rather than standing alone, this requirement will be more clearly understood by incorporating it into the other critical elements.

To summarize, the five necessary elements of a drug with currently accepted medical use in treatment in the United States are:

> (i) The Drug's Chemistry Must Be Known and Reproducible
>
> The substance's chemistry must be scientifically established to permit it to be reproduced into dosages which can b e standardized. The listing of the substance in

a current edition of one of the official compendia, as defined by section 201(j) of the Food, Drug and Cosmetic Act, 21 U.S.C. 321(i), is sufficient generally to meet this requirement.

(ii) There Must Be Adequate Safety Studies

There must be adequate pharmacological and toxicological studies done by all methods reasonably applicable on the basis of which it could fairly and responsibly be concluded, by experts qualified by scientific training and experience to evaluate the safety and effectiveness of drugs, that the substance is safe for treating a specific, recognized disorder.

(iii) There Must Be Adequate and Well-Controlled Studies Proving Efficacy

There must be adequate, well-controlled, well-designed, well-conducted and well-documented studies, including clinical investigations, by experts qualified by scientific training and experience to evaluate the safety and effectiveness of drugs on the basis of which it could fairly and responsibly be concluded by such experts, that the substance will have its intended effect in treating a specific, recognized disorder.
(iv) The Drug Must Be Accepted by Qualified Experts

The drug must have a New Drug Application (NDA) approved by the Food and Drug Administration, pursuant to the Food, Drug and Cosmetic Act. 21 U.S.C. 355. Or, a consensus of the national community of experts, qualified by scientific training andexperience to evaluate the safety and effectiveness of the substance of use in treating a specific, recognized disorder. A material conflict of opinion among experts precludes a finding of consensus.

(v) The Scientific Evidence Must Be Widely Available

In the absence of NDA approval, information concerning the chemistry, pharmacology, toxicology and effectiveness of the substance must be reported, published, or otherwise widely available in sufficient detail to permit experts, qualified by scientific training and experience to evaluate the safety and effectiveness of drugs, to fairly and responsibly conclude the substance is safe and effective for use in treating a specific, recognized disorder.

Together these five elements constitute prima facie evidence that a drug has currently accepted medical sue in treatment in the United States. In the interest of total clarity, let me emphasize those proofs that are irrelevant to the determination of currently accepted medical use, and that will not be considered by the Administrator:

(i) Isolated case reports;
(ii) Clinical impressions of practitioners;
(iii) Opinions of persons not qualified by scientific training and experience to evaluate the safety and effectiveness of the substance at issue:
(iv) Studies or reports so lacking in detail as to preclude responsible scientific evaluation;
(v) Studies or reports involving drug substances other than the precise substance at issue;
(v) Studies or reports involving the substance at issue combined with other drug substances;
(vii) Studies conducted by persons not qualified by scientific training and experience to evaluate the safety and effectiveness of the substance at issue;
(viii) Opinions of experts based entirely on unrevealed or unspecified information;
(ix) Opinions of experts based entirely on theoretical evaluations of safety or effectiveness.

Bad Medicine by Any Standard

My predecessor as DEA Administrator developed an relied upon an eight-point test to determine whether marijuana has accepted medical uses. 54 FR 53783 (December 29, 1989):

1. Scientifically determined and accepted knowledge of its chemistry;
2. The toxicology and pharmacology of the substance in animals;
3. Establishment of its effectiveness in humans through scientifically designed clinical trials;
4. General availability of the substance and information regarding the substance and its use;
5. Recognition of its clinical use in generally accepted pharmacopeia, medical references, journals or textbooks;
6. Specific indications for the treatment of recognized disorders;
7. Recognition of the use of the substance by organizations or associations of physicians; and
8. Recognition and use of the substance by a substantial segment of the medical practitioners in the United States.

The Court of Appeals remanded the decision of my

predecessor for clarification of what role factors (4), (5) and (8) of the initial eight-point test played in his reasoning. For ease of discussion, these factors can be divided as follows:

(4)(a) General availability of the substance ***
(4)(b) General availability of * * * information regarding the substance and its use;
(5) Recognition of its clinical use in generally accepted pharmacopeia, medical references, journals or textbooks.
8)(a) Recognition * * * of the substance by a substantial segment of the medical practitioners in the United States; and
(8)(b) Use of the substance by a substantial segment of the medical practitioners in the United States.

I have found no evidence indicating initial factors (4)(a) or (8)(b) played any role in my predecessor's decision. In light of my understanding of the legal standard involved, these factors are irrelevant to whether marijuana has a currently accepted medical sue.

My predecessor emphasized the lack of scientific evidence of marijuana's effectiveness, and the limited data available on its risks, as reflected in the published scientific studies. He also emphasized the importance of this data to the conclusions reached by experts concerning the drug. 54 FR 53783. I take this to mean that, under initial factor (4)(b), he believed the information available to experts is sufficient for them responsibly and fairly to conclude the marijuana is safe and effective for use as medicine.

Marijuana is not recognized as medicine in generally accepted pharmacopeia, medical references and textbooks, as noted by my predecessor. 54 FR 53784. I take this to mean, under initial factor (5), that he determined that marijuana's chemistry is neither known, nor reproducible, as evidenced by its absence from the official pharmacopeia. Finally, my predecessor concluded, under initial factor (8)(a), that the vast majority of physicians does not accept marijuana as having medical use. 54 FR 53784. Along the way, he found highly respected oncologists and antiemetic researchers reject marijuana for use in controlling nausea and vomiting, 54 FR 53777; that experts experienced in researching glaucoma medications reject marijuana for use in treating glaucoma, 54 FR 54779, and that noted neurologists who specialize in treating and conducting research in spasticity reject marijuana for use by MS patients. 54 FR 53780. I take this to mean my predecessor found no national consensus of qualified experts accepts marijuana's value as medicine.

Certainly I cannot know my predecessor's unstated reasoning. However, I have reviewed the entire record *de novo,* and I am convinced that his application of the initial eight-point test to this record correctly resulted in the conclusion that marijuana has no currently accepted medical use in treatment in the United States.

Therefore, I adopt in their entirety the findings of fact and conclusions of law reached by the former Administrator in his final order of December 21, 1989, 54 FR 53787.

Pursuant to the remand of the Court of Appeals, I have condensed and clarified the initial standard into a five-point test. My application of the refined, five-point test to this record is set out briefly below:

First, marijuana's chemistry is neither fully known, nor reproducible. Thus far, over 400 different chemicals have been identified in the plant. The proportions and concentrations differ from plant to plant, depending on growing conditions, age of the plant, harvesting and storage factors. THC levels can vary from less than 0.2% to over 10%. It is not known how smoking or burning the plant material affects the composition of all these chemicals. It is not possible to reproduce the drug in dosages which can be considered standardized by any currently accepted scientific criteria. Marijuana is not recognized in any current edition of the official compendia. 23 U.S.C. 321(j).

Second, adequate safety studies have not been done. All reasonably applicable pharmacological and toxicological studies have not been carried out. Most of the chronic animal studies have been conducted with oral or intravenous THC, not with marijuana. Pharmacological data on marijuana's bioavailability, metabolic pathways and pharmacokinetics is inadequate. Studies in humans are too small and too few. Sophisticated epidemiological studies of marijuana use in large populations are required, similar to those done for tobacco use. Far too many questions remain unknown for experts fairly and responsibly to conclude marijuana is safe for any use.

Third, there are no adequate, well-controlled scientific studies proving marijuana is effective for anything.

Fourth, marijuana is not accepted for medical use in treatment by even a respectable minority, much less a consensus, of experts trained to evaluate drugs. The FDA's expert drug evaluators have rejected marijuana for medical use. No NDA has been

approved by FDA for marijuana. The testimony of nationally recognized experts overwhelmingly rejects marijuana as medicine as compared to the scientifically empty testimony of the psychiatrists, a wellness counselor and general practitioners presented by NORML.

Fifth, given my conclusions on points one, two and three, it follows that the published scientific evidence is not adequate to permit experts to fairly and responsibly conclude that marijuana is safe and effective for use in humans.

A failure to meet just one of the five points precludes a drug from having a currently accepted medical use.

Marijuana fails all five points of the test.

NORML has argued, unsuccessfully, that the legal standard for currently accepted medical use should be whether a respectable minority of physicians accepts the drug. The key to this medical malpractice defense is that the minority opinion must be recognized as respectable, as competent, by members of the profession.

In the absence of reliable evidence adequately establishing marijuana's chemistry, pharmacology, toxicology and effectiveness, no responsible physician could conclude that marijuana is safe and effective for medical use. To quote Doctor Kenneth P. Johnson, Chairman of the Department of Neurology at the University of Maryland, and the author of over 100 scientific and medical articles on MS: "To conclude that marijuana is therapeutically effective without conducting rigorous testing would be professionally irresponsible."

By any modern standard, marijuana is no medicine.

Under the authority vested in the Attorney General by section 201(a) of the Controlled Substances Act, 21 U.S.C. 811(a), and delegated to the Administrator of the Drug Enforcement Administration by regulations of the Department of Justice, 28 CFR 0.100(b), the Administrator hereby orders that marijuana remain in Schedule I as listed in 21 CFR 1308.11(d)(14).

Dated: March 18, 1992.

Robert C. Bonner
Administrator,
Drug Enforcement Administration
FR Doc. 92-6714
Filed 3/25/92; 8:45 a.m.

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DRUG WATCH

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The original Committees of Correspondence was started by Samuel Adams in 1772 in Boston, MA. At that time in history, the Committees was formed to exchange information and ideas and to build unity among the colonies. Riders on horseback carried printed publications to members in other towns. In 1774, The Committees summoned the First Continental Congress which led to the signing of the Declaration of Independence in 1776.

In 1980, the Committees of Correspondence was revived to exchange information and ideas on drug prevention issues. We must unite once again; this time, to fight the pervasive drug abuse epidemic in our country.

The Committees was incorporated as a 501-C3 non-profit organization and a founding member of the National Federation of Parents for Drug Free Youth. Over the past twelve years, we have maintained a close, cooperative relationship with the national grassroots parent movement, including PRIDE, National Families in Action and the American Council for Drug Education.

Through one central office, the Committees maintains a national computer data base to coordinate and network members through telephone contact, letter writing, and exchanging publications. The Committees maintains a research library on "Who's Who In The Drug Culture" to identify those who have infiltrated and influenced government, education and media.

Philosophy: NO ILLEGAL USE OF ALCOHOL OR OTHER DRUGS.

Statement of Purpose:

* Prevent youth alcohol and drug use through education.
* Promote drug-free communities.
* Support existing national and international laws governing the use and control of illicit drugs.
* Discourage any efforts to legalize illicit drugs or escalate their use.
* Publish Quarterly Newsletters and Action Alert Notices as needed.

We encourage everyone to join us in our efforts to eradicate drug use.

Each person is an important part of the solution.

Stand up and be counted!

****

Drug Watch International will be an expansion of the Committees of Correspondence existing network of individuals and organizations who share concerns regarding illegal drug use. The drug culture movement is trying to change the perception of illegal drugs in general, and marijuana in particular. They are especially active and more organized than ever.

We need you to write letters and make telephone calls. A small amount of your time would make a great difference. The voices of those against the legalization of drugs need to be unified - there is strength in numbers.

We invite you to support our work with a tax deductible contribution. Newsletter subscriptions are $23 per year. We will provide you with informtaion and you can make up your own mind as to what you would like to do.

THE FUTURE OF OUR COUNTRY IS IN YOUR HANDS!

"Write Makes Might"

Committees of Correspondence/Drug Watch
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Write Makes Might
Write Makes Right

October 1993

MARIJUANA IS NOT A MEDICINE. SOMEBODY HAD BETTER TELL YOUR DOCTOR!

Dan Brookoff, M.D., Ph.D.

I give people dangerous drugs.
I am responsible for a lot of people using narcotics.
I am an oncologist.
I do not recommend Marijuana.

IS MARIJUANA A MEDICATION?

My definition of a medication is a drug treatment that is aimed at one of the following three goals:

1. the prolongation or preservation of life
2. the support of functioning
3. the relief of discomfort

The use of drugs for other purposes is not medicine.

My guiding principle in caring for a patient is that any medication that I use must be the best available treatment for that particular situation. Because of this, marijuana cannot be considered a medication.

IS MARIJUANA NOT A MEDICATION BECAUSE IT IS TOXIC?

Some of the drugs we use in the medical treatment of cancer have toxic side effects. The toxic effects of a drug don't necessarily disqualify it as a medication. Sometimes it is worth using a very toxic medication if the potential benefits are great. For example, many cases of leukemia can be cured but at the cost of severe side effects. In some cases, the severe side effects are not a risk -- they are a certainty.

IS MARIJUANA NOT A MEDICATION BECAUSE IT IS UNCONVENTIONAL?

Just because a treatment is not "conventional" doesn't disqualify it as a medication, either. Sometimes, there are no conventional treatments available for a particular problem. After weighing the risks and benefits of an unusual treatment, my patient may feel that he or she wants to undergo an alternative therapy. If I am sure that my patient is fully informed, is not forgoing a treatment that has a better potential for success and is not exposing himself or herself to needless risk, I (and many physicians) will help the patient gain access to that treatment. I have certainly done that for several of my patients with AIDS and, frankly, I am glad that I did.

BUT MARIJUANA CAN RELIEVE CHEMOTHERAPY-INDUCED NAUSEA, ISN'T THAT AN IMPORTANT PROBLEM?

When one of my patients has a cancer problem that may be helped by treatment with chemotherapy medications, I will recommend that we proceed with treatment. Many of these drugs have serious side effects that we must take into consideration and be prepared to manage. Often, I will also recommend the use of medication to alleviate symptoms caused by the cancer (such as the judicious use of narcotic

ɔdications for the relief of pain). I will also use medications to relieve the symptoms caused by emotherapy treatments, such as nausea.

henever I recommend that a patient undergo chemotherapy treatment, I always make sure that we have ot of time to discuss the effects of a particular treatment and how they will be managed. I find that the ɔrd "chemotherapy" usually evokes a lot of anxiety. People facing the prospect of chemotherapy invariably ow of someone who underwent cancer treatment and suffered a great deal of discomfort. The most ghtening symptom that people associate with chemotherapy is not pain but rather uncontrollable nausea d vomiting. While this is not a problem with many types of chemotherapy treatments, it has been common ıough over the years to give rise to a lot of legitimate fear. The good news is that within the last ten ars, safe and effective treatments for chemotherapy-induced nausea and vomiting have made this fear thing of the past.

THERE EVER A CIRCUMSTANCE IN WHICH MARIJUANA IS THE BEST AVAILABLE TREATMENT FOR HEMOTHERAPY-INDUCED NAUSEA AND VOMITING?

never recommend that my patients use marijuana. I want to explain why in the most balanced and ɔmpassionate way I can. To understand why I feel the way I do, it is important to understand some of the ıedical details about chemotherapy-induced nausea and vomiting. Chemotherapy drugs cause nausea by timulating an area of the brain called the chemotherapy trigger zone. Typically, nausea and vomiting begin inety minutes to three hours after the administration of the chemotherapy and can last for up to six hours. or certain chemotherapy medications, such as platinum and intravenous cyclophosphamide, the onset of ausea may be delayed for up to eighteen hours and may have a somewhat more prolonged course of up ɔ four days. Patients whose nausea and vomiting have been poorly controlled can become conditioned into eveloping anticipatory nausea, which can begin even before the treatment begins. Since there are several ifferent chemical receptors in the brain which control the sensation of nausea, several different types of rugs have proven effective in its treatment. All of these medications need only be used for very limited ɔeriods of time.

he most successful group of anti-nausea drugs has been the recently introduced medications which block erotonin receptors in the chemoreceptor trigger zone, such as ondansetron. These medications have proven ɔ be safe and effective for both adults and children and generally have only mild side effects. Another ıroup of drugs which has proven safe and effective for the treatment of chemotherapy-induced vomiting re medications which block dopamine receptors, such as metoclopramide and haloperidol. Other dopamine-ɔlocking medications such as the phenothiazine medications (which include Thorazine and Compazine) are omewhat effective but are inferior and remain "third choice" medications. Other medications such as ɔertain steroids and minor tranquilizers have proven safe and effective for the treatment of chemotherapy-nduced nausea and vomiting, usually when used in conjunction with another anti-nausea drug.

WHAT ABOUT DRUGS DERIVED FROM MARIJUANA?

A class of drugs derived from marijuana called the cannabinoids has also been shown to have some anti-ıausea effects, but this activity is no greater than that of third-choice drugs. Cannabinoids also cause more ɔide effects than the other anti-nausea drugs (sedation, dizziness, low blood pressure, and an unpleasant ɔensation called dysphoria). A purified form of the cannabinoid delta-9 THC has been available on the American market for eight years under the brand name Marinol. Despite its availability it has found limited ɹse, because it generally doesn't work. If you look at the advertisements for Marinol placed in the medical ournals by its manufacturer (Roxane Laboratories), it is touted as "more effective than Compazine", which is a third-choice medication for the treatment of chemotherapy-induced nausea and vomiting.

IS MARIJUANA MORE EFFECTIVE THAN THE DERIVATIVES THAT ARE CURRENTLY ON THE MARKET?

Every few years, the lay press brings up the issue of using inhaled marijuana for the treatment of chemotherapy-induced nausea. For physicians, this issue was settled ten years ago when Dr. M. Levitt and colleagues conducted a randomized double-blind comparison of delta-9 THC and marijuana for the treatment of chemotherapy-induced nausea and vomiting. (This is published in the 1984 Proceedings of the American Society of Clinical Oncology, volume 3, page 91.) What they found was that neither agent was Particularly useful (75% of patients in both groups suffered significant nausea and vomiting), and among patients expressing a preference, delta-9 THC was chosen the best agent. Inhaled marijuana has nothing to add to the limited benefits of purified delta-9 THC. It does carry added risks due to its method of delivery and its impurity. This includes toxic effects on the lungs, additional side effects, and the danger of infection from fungus which is often found in marijuana cigarettes. Marijuana is never the best available treatment for a patient, and that is why it is not a medication.

IF MARIJUANA ISN'T A MEDICATION, WHY AREN'T PHYSICIANS UP IN ARMS ABOUT THE CURRENT MOVEMENT TO LEGALIZE ITS USE FOR CANCER PATIENTS?

Most physicians are unaware that this is really an issue, for them the issue was settled years ago. Years ago, when there were no effective medications on the market for the treatment of chemotherapy-induced nausea and vomiting, the American Medical Association considered the therapeutic potentials and hazards of marijuana. As they examined its emerging therapeutic possibilities, they found more and more evidence that marijuana was hazardous to health. (Journal of the AMA, Oct 16, 1981 volume 246 pages 1823-1827)

Nonetheless, many physicians (including me) had patients who participated in treatment trials using inhaled marijuana in the late seventies and early eighties because, at the time, there was no better alternative. With the therapeutic potential of marijuana eclipsed by safer and more effective drugs, we have come to the conclusion that there is no therapeutic use for marijuana. All we are left with are the hazards. These include lung disease, cardiac dysfunction, brain damage, genetic damage, immune disorders and psychomotor impairment.

HOW CAN PHYSICIANS' NON-RESPONSE TO THE ISSUE OF THE MEDICINAL USE OF MARIJUANA BE EXPLAINED?

I have to admit that when I was first confronted with the issue of "medical marijuana" by my friends in the prevention field, I couldn't get very excited about it. I felt that the facts obviously showed that there was no medicinal use for inhaled marijuana and, as such, it was not a subject worthy of serious concern. As I mentioned to a friend, I classed the medical use of marijuana right up there with the issue of therapeutic bathing in Drano! I was against that too, but I couldn't see that anybody could seriously be in favor of it.

HASN'T THERE BEEN RECENT SCIENTIFIC EVIDENCE TO SHOW THAT MARIJUANA CAN BE USEFUL AS A MEDICATION?

If you look up "marijuana" in the last few years of the journal used by most clinical oncologists (Journal of Clinical Oncology) you'll find only one mention of marijuana (a sign that it's not a hot topic for us). That mention is made in an article by Richard Doblin and Mark Kleiman of Harvard University that reports a survey that they conducted of physicians and that purports to "suggest that support for rescheduling marijuana is indeed present in at least a significant minority of our population (of oncologists).

Vhile this article did not have much of an impact on oncologists, mention of it was made in letters to many ıedical journals -- letters written by Doblin and Kleiman. These letters were generally ignored by physicians. his would almost be funny if all these references weren't being used by pro-marijuana forces to convince l-informed government officials that there is medical evidence to support the use of marijuana.

VHAT ABOUT THE BOOK ON MARIJUANA WRITTEN BY A PROFESSOR AT HARVARD MEDICAL SCHOOL?

nother source cited as evidence of the therapeutic effects of marijuana is a book that was recently written y Dr. Lester Grinspoon of the Harvard Medical School ("Marijuana, the Forbidden Medicine"). The book poorly written, unscientific, and makes some absolutely bizarre claims for the use of marijuana. (For xample, Dr. G. says it promotes safe driving!) Many people in the prevention field were justifiably angered vhen they read this book. I read the book, and I found it very disturbing. I must say that my predominant motional reaction was to feel sorry for Dr. Grinspoon.

r. Grinspoon was obviously moved to write this book because of his experience with his young son Danny. anny had leukemia, and his treatments caused severe nausea and vomiting that did not respond to the ıedications that were available at that time. Danny could barely tolerate his chemotherapy treatments, and m sure that his parents could barely stand to watch him suffer. Nonetheless, they must have thought that e chemotherapy treatments held some potential benefit for Danny, so they urged him to continue.

1971, Danny found that smoking marijuana helped him tolerate his treatments. His doctors, feeling that ıis was the best available treatment, supported Danny's smoking and conducted research which eventually d to the development of Marinol. Dr. Grinspoon writes that, during the remaining year of his life, Danny ;ed marijuana before his chemotherapy treatments and because of his marijuana use, Danny and his parents 'ere all much more comfortable. Because of this, Dr. Grinspoon must have some strong positive ;sociations with marijuana, and he has become an advocate for its use as a medication. Marijuana is not medication. Marijuana was a medication when Danny used it. At the time it was the best available eatment, and he used it in a medical, life-affirming way. He did not use it to escape his life. He used it) help him undergo treatment so that he could continue his life.

ım sure that Dr. Grinspoon would not recommend that people undergo the same leukemia treatment that anny underwent over twenty years ago. There are now new treatments that are more effective and safer. 'hese days most children with the type of leukemia that Danny had are cured.) I think that the same holds ue for Danny's anti-nausea treatment. These days, no oncologist would recommend marijuana, because ıere are safer and more effective treatments.

MEDICAL MARIJUANA A SERIOUS ISSUE?

he thing that really frightens me is that some people will use Dr. Grinspoon's tragedy to construct an even rger tragedy. I worry that the well-financed advocates of the recreational use of marijuana -- e.g. the eople that want to sell it to my kids-- are using this wedge of false medical evidence to open the door for ıe legalization and wider recreational use of marijuana. The glibness with which our new (and obviously ıinformed) Surgeon General has come out in favor of using inhaled marijuana is scary and shows that even ome doctors (though I'm sure it's very few) don't always think before they speak. This is a serious issue, ıd I am worried that most doctors won't get involved until it is too late.

aniel Brookoff, M.D., Ph.D., is certified by the American Board of Internal Medicine with a Subspecialty Certification in Medical ncology. He is a member of the American College of Physicians: American Medical Association: American College of Emergency ıysicians: American Pain Society: Society for Academic Emergency Medicine. Dr. Brookoff is Assistant Professor of Medicine, niversity of Tennessee, and has published numerous papers on hematology-oncology, pain management, emergency medicine, ıd drug complications. His special interests include drugged driving and the medical complications of drug abuse. He has special xpertise in the distinction between proper and improper use of controlled medications.

Position Statement on Psychoactive Substance Use and Dependence: Update on Marijuana and Cocaine

is statement is an adjunct to the position statement on sub- e abuse published in the June 1981 issue of the American al of Psychiatry, *which emphasizes diagnosis and treatment. It ces the position statement on marijuana laws published in the 1979 issue of the* American Journal of Psychiatry. *The state- was prepared by the Committee on Drug Abuse* of the cil on Psychiatric Services and was approved by the Assembly vember 1986 and by the Board of Trustees in December 1986.*

misuse of psychoactive substances is the nation's foremost c health challenge. The use and abuse of alcohol, cigarettes, drugs (heroin, cocaine, marijuana, etc.), and licit drugs (seda- and tranquilizers) are by far the largest cause of preventable premature illness, disability, and death in our society. The al economic cost of alcohol and drug abuse has been estimated $136 billion, over four times that of cancer and nearly a third er than that of cardiovascular disease (1). Illicit drug use has ased so rapidly over the past 25 years that it may be difficult for one over age 50 to comprehend the extent to which drugs have eated our society. Experience with illicit psychoactive drugs restricted to 2% or less of the population in most areas of the try in the early 1960s (2). In contrast, the 1982 household y (3) found that almost a third of the household population in Jnited States age 12 and older had had some experience with drugs. Almost 60 million household residents had tried mari- a, and an estimated 20 million were current users. In 1982, it stimated (4) that over 20 million had tried cocaine and over 4 on were current users. The prevalence of cocaine use and abuse ncreased dramatically in the ensuing 4 years (4).

icit drug use is most prevalent in young adults. Typically, ren begin experimenting with drugs of abuse by trying alcohol cigarettes in early adolescence. By the time they complete ndary school, they have established attitudes toward drugs and rns of use that will carry them through much of their lives. t adults addicted to nicotine through smoking cigarettes estab- d regular smoking in their teens. Adult users of cocaine and tes generally began drug use in adolescence and may have been y marijuana users (5). In addition to exposing themselves to the of drug use (automobile accidents, overdose, or impaired ical, emotional, and psychological development), adolescents stablishing attitudes toward and actual patterns of use that have ound long-term consequences on health. By the time they uate, more than half (54%) of high school seniors have tried juana and a fourth (26%) are current users. Cocaine use tends gin a few years later than marijuana use, and heavy marijuana use is an important risk factor for cocaine use. Nevertheless, cocaine use now is increasing among our high school population. In the 1985 national survey of high school seniors (6), it was found that 17% had tried cocaine and almost 7% were current users.

In addition to statistics on the prevalence of use, there are now data from National Institute of Mental Health (NIMH) catchment area studies (7) on the lifetime prevalence of substance abuse disorders, which was found to vary from 15.0% to 18.1% among the three sites reported. These rates were significantly higher than the lifetime prevalence of any other group of disorders (except for phobic disorders at one site).

SOCIAL CONSEQUENCES OF USE OF MARIJUANA AND OTHER DRUGS

Young people may use drugs in an attempt to alleviate problematic family relationships. Over the short term, drugs may allow the young person temporarily to ignore intrafamilial strife, including developmental adjustments between child and parents and among siblings. Regular or heavy drug use undermines the adolescent's ability to work through these problems with other family members, thereby exacerbating family problems over the long term. The heavy drug user may withdraw socially from other family members, refuse to consider their needs and concerns, and put his or her own needs above those of the family. Theft from other family members (to obtain drugs) and lying (to hide drug use) undermine the trust necessary for coexistence within the family. Angry outbursts, property destruction, and intrafamily violence can ensue. Alienation of the drug user from the family, once present, is difficult to repair (8). Adult substance abusers also exert powerful effects on their families. Families react variably but often go through stages of denial, overprotection, personal mental illness, and family disruption. The effects on children in such families have been so profound that a national movement, the Adult Children of Alcoholics, has recently emerged to provide support and understanding (9–11).

Heavy drug use can precipitate financial problems in two ways. First, drugs themselves cost money; drug expenses are proportional to the cost of the drug, frequency of use, and dose consumed. Such costs mount as tolerance develops, habitual use becomes established, and larger amounts of drug are consumed more often. A second source of financial problems is unemployment or job loss. Early drug use may seem to facilitate work by alleviating fatigue or boredom or helping the user tolerate work-related stresses. Eventually, continued drug use undermines the person's energy, ambition, concentration, problem-solving abilities, performance, productivity, and social skills in dealing with co-workers and supervisors. Drug-induced paranoia, if present, further exaggerates interpersonal dissensions. In addition to individual financial loss, theft and unpaid loans from other family members can cause financial difficulties for the entire family.

The heavy drug user may resort to criminality to finance support the drug habit. Theft and illicit drug selling are the most

: Committee on Drug Abuse includes Edward Kaufman, M.D. airperson), Edward Khantzian, M.D., Joseph Westermeyer, D., Dorynne Czechowicz, M.D. (consultant), Steven Mirin, D. (consultant), and Roger Meyer, M.D. (former member).

DRUG WATCH INTERNATIONAL

DRUG WATCH

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MARIJUANA AS MEDICINE REFUTED BY NIH SCIENTISTS

by Janet D. Lapey, M.D.

In June 1991, the U.S. Public Health Service ordered a study of the issue of medical marijuana by the nation's top scientists at the National Institutes of Health. In March 1992, at the completion of their long thorough review, the NIH scientists issued a report stating that there were better, safer drugs available than marijuana cigarettes. The report contained specific factsheets concerning cancer chemotherapy, the AIDS wasting syndrome, multiple sclerosis, pain, and glaucoma.

These factsheets stated that "Marijuana cigarette smoke contains a complex mixture of over 400 compounds including polyareomatic hydrocarbons which are carcinogenic. This would be a concern for anyone, but especially for patients with chronic disorders and/or impaired immune systems."

The National Eye Institute Factsheet on the Therapeutic Use of Marijuana for Glaucoma states that the NEI did research on marijuana from 1978 to 1988, and "none of the studies demonstrated that marijuana or any of its components could safely and effectively lower intraocular pressure enough to prevent optic nerve damage from glaucoma." Undesirable side effects were produced by smoking marijuana, such as elevated blood pressure and dry eye. It was noted that these patients would also be at risk for respiratory damage. Furthermore, marijuana smoking is not an optimal drug delivery system, lacking a standardized product and method of assuring the bioavailability of its active ingredients. There are 24 FDA approved drugs for the treatment of glaucoma. In conclusion, "there is no scientifically verifiable evidence that marijuana or its derivatives are safe and effective in the treatment of glaucoma."

The National Cancer Institute factsheet noted that the FDA has approved synthetic THC (Marinol) and a related synthetic drug, Cesamet, for use in chemotherapy patients who have failed to respond to other anti-nausea agents. However the NCI scientists believe that marijuana-related compounds probably are not as effective as certain other antiemetics or combinations of emetics in controlling nausea and vomiting. Moreover, inhaling marijuana smoke is a health hazard. Other antiemetic agents such as ondansetron, metoclopramine, droperidol, etc. have been shown to be more useful than marijuana-related compounds as first line therapy.

The National Institute of Neurological Disorders and Stroke factsheet stated that there is no evidence that marijuana is effective in modifying the course of multiple sclerosis and that only anecdotal reports of benefit have been reported. The report mentioned that a suppository formulation of THC is being tested on human beings and that this promises better bioavailability than the oral form.

The National Institute of Dental Research factsheet reported that no controlled studies of the effects of marijuana on acute or chronic pain exist, thus there is insufficient evidence to recommend marijuana as treatment for pain.

The National Institute on Allergy and Infectious Diseases factsheet reports that studies of the effect of oral THC on the HIV-wasting syndrome are underway. Also the suppository THC is being tested in normal volunteers. Again it is mentioned that marijuana cigarette smoke would be a concern for patients with compromised immune systems.

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July 1992

THERAPEUTIC MARIJUANA
FACT or FICTION

By: Sandra S. Bennett, President, Oregon Federation of Parents for Drug Free Youth, with appreciation to Committees of Correspondence for their technical help. June 1992

WHO'S BEHIND THE CURRENT MOVEMENT TO LEGALIZE "POT" UNDER THE GUISE OF THERAPEUTIC USE

Sequence of Events

1. **DEC 1989** - Administrator of DEA issued a final order concluding the plant material marijuana has no currently accepted medical use, and denying the petition of NORML (National Organization for Reform of Marijuana Laws) and the Alliance for Cannabis Therapeutics (ACT) (two pro-legalization organizations) to reschedule marijuana from Schedule I to Schedule II of the Controlled Substances Act.

2. FEB **1990** - On behalf of ACT and NORML, **Rick Doblin**, a graduate student in government, and **Mark Kleiman**, a lecturer in public policy (both with the John F. Kennedy School of Government at Harvard University), conduct a "study" on the use of marijuana by oncologists in treating cancer patients.

   Rick Doblin, heads his own activist group called MAPS (Multidisciplinary Association for Psychedelic Studies, Inc., which he also calls "The People's Psychedelic Pharmaceutical Company"). MAPS has the support of Timothy Leary, guru Baba Ram Dass (a Leary protege) and other leaders of the psyschedelic movement. Doblin is especially interested in legitimizing the hallucinogenic drug MDMA or "ecstacy."

   Mark Kleiman is an advocate of drug legalization and has close ties to MAPS often speaking at and helping to put on their conferences. He also has close ties to NORML and the Drug Policy Foundation, another well-known pro-legalization group, frequently appearing as a guest speaker at their conferences.

3. **APR 1991** - Per petition filed by NORML and ACT with the Federal Appeals Court the Dec.1989 ruling is sent back to DEA for "an explanation as to how all three factors (general availability, use by a substantial number of doctors, and recognition of its use in medical texts) were utilized by the Administrator in reaching his decision.

4. **APR 1991** - LETTER, signed "psychedelically yours," from Rick Doblin to MAPS members re NORML and ACT's petition to the Federal Appeals Court states:

> "If the court decides that the proper standard to determine whether marijuana should be available for prescription is whether or not there is a "significant minority" of oncologists whos accept its medical use, then the medical use of marijuana is assured. I've got a letter coming out in the *Annals of Internal Medicine* reporting on my survey of oncologists about their experiences and attitudes regarding the medical use of marijuana. The survey shows that a very significant proportion of oncologists want to see marijuana be available by prescription."

5. **APR. 1991** - LETTER, written by Mark Kleiman and Rick Doblin of the Harvard school of Economics,claiming they have done a "study" which shows that 40% of doctors would prescribe "pot" to their patients, is published in the prestigious *ANNALS OF INTERNAL MEDICINE revealing neither the bias of Kleiman and Doblin toward legalization nor their affiliation with drug culture activist groups nor the fact that a paper on this study was previously published by the Alliance for Cannabis Therapeutics.* Media coverage of the purported study results, under the aegis of Harvard, is extensive and misleading and timed to coincide with the NORML/ACT suit against the DEA.

6. **APR. 26, 1991** - NORML (National Organization for Reform of Marijuana Laws) files suit against the DEA for denying its petition to reschedule (reclassify) marijuana and asking for clarification of the DEA's interpretation of the term:

> "currently accepted medical use in treatment in the United States" (Alliance for Cannabis Therapeutics v. DEA, 930 F.2d 938)

RESOLUTION: MARIJUANA SCHEDULING PETITION - DENIAL OF PETITION, REMAND, MAR 26 , 1992 Federal Register, Department of Justice:

Quotes from the summary:

- "The answer might seem obvious based on common sense. Smoking causes lung cancer and other deadly diseases...no medicine prescribed for us today is smoked."

- "...marijuana has been rejected as medicine by the American Medical Association, the National Multiple Sclerosis Society, the American Glaucoma Society, the American Academy of Ophthalmology, the American Cancer Society. Not one American health association accepts marijuana as medicine."

• "Relying on the same scientific standards used to judge all other drugs, FDA experts repeatedly have rejected marijuana for medical use."

• "There are significant short-term side effects and long-term risks linked to smoking marijuana. Marijuana is likely to be more cancer-causing than tobacco; damages brain cells; causes lung problems such as bronchitis and emphysema; may weaken the body's antibacterial defenses in the lungs; lowers overall blood pressure which could adversely affect the supply of blood to the head; causes sudden drops in blood pressure (orihostatic hypotension), rapid heart beat (tachycardia), and heart palpitations; suppresses luteinizing hormone secretion in women, which affects the production of progesterone, an important female hormone; causes anxiety and panic in some users because of its mind-altering effects; produces dizziness, trouble with thinking, trouble with concentrating, fatigue and sleepiness; and impairs motor skills."

• "There are scientific studies showing pure THC (Delta 9 Tetrahydrocannabinol) one of the many chemicals found in marijuana, has some effect in controlling nausea and vomiting. Pure THC is pharmaceutically made in clean capsule form, called Marinol, and is available for use by the medical community. (ed. note: the petition was for reclassifying the smokeable form of marijuana.)"

• "The only favorable evidence that could be found by NORML and DEA consists of stories by marijuana users who claim to have been helped by the drug...many stories are no doubt due to the placebo effect."

• "Second most of the stories come from people who took marijuana at the same time they took prescription drugs for their symptoms...Mere stories are not considered an acceptable way to judge whether dangerous drugs should be used as medicines."

• "Third, any mind-altering drug that produces euphoria can make a sick person think he feels better."

• "Fourth, long-time abusers of marijuana are not immune to illness. Many eventually get cancer, glaucoma, MS and other diseases. People who become dependent on mind altering drugs tend to rationalize their behavior."

• "Nearly half the doctors who testified for NORML are psychiatrists. They do not specialize in treating or researching cancer, glaucoma or MS. One is a general practitioner who works as a wellness counselor at a health spa. **Under oath he admits to using every illegal mind-altering drug he has ever studied, and prides himself on recommending drugs that would never be recommended by medical schools or reputable physicians.***

• "Each of NORML's doctors testified his opinion is based on the published scientific studies. With one exception none of them could identify under oath the scientific studies they swore they relied on. Only one had enough knowledge to discuss the scientific technicalities involved. Eventually, each one admitted he was basing his opinion on anecdotal evidence, on stories he heard from patients and on his impressions about the drug."

• Sadly, Dr. Ivan Silverberg, an oncologist from San Francisco, exaggerated while on the witness stand. At first he swore 'there is voluminous medical research which shows marijuana is effective in easing nausea and vomiting.' Pushed on cross examination to identify this voluminous research, Doctor Silverberg replied,'Well..., I'm going to have to back off a little bit from that.' How far would he back off? Was he aware, at least, of the approximate number of scientific studies that have been done using marijuana to treat nausea? Under oath, he replied, 'I would doubt very few. But no, I'm not.'"

• "Beyond doubt, the claims that marijuana is medicine are false, dangerous and cruel."

• "The statutory meaning of 'currently accepted medical use' remains the same as enacted by Congress in 1970..."

"A. The Drug's Chemistry Must Be Known and Reproducible."

"B. There Must Be Adequate Safety Studies."

"C. There Must Be Adequate and Well-Controlled Studies Proving Efficacy."

"D. Acceptance by Qualified Experts Is Required."

"E. The Scientific Evidence Must Be Widely Available."

"F. General Availability of a Drug is Irrelevant."

"G. Recognition in Generally Accepted Text is Irrelevant."

"H. Specific Recognized Disorders Are the Referent."

• "There are no adequate well-controlled scientific studies proving marijuana is effective for anything."

• "Marijuana is not accepted for medical use in treatment by even a respectable minority, much less a consensus, of experts trained to evaluate drugs."

• "In the absence of reliable evidence adequately establishing marijuana's chemistry, pharmacology, toxicology and effectiveness, no responsible physician could conclude that marijuana is safe and effective for medical use.

What do Reputable Experts in the fields of Ophthalmology, Cancer, MS, Cardiology, etc., have to say about using marijuana in the treatment of disease?

1. "I am chagrined to see that the forces supporting the medical use of marijuana have chosen to imply that its use in the management of glaucoma is a major health benefit which is being denied the public. That marijuana can produce a lowering of intraocular pressure is unquestioned. That it can do so *only if taken in doses sufficient to cause psychotropic* effects is also unquestioned. If any of the standard methods of treating elevations of intraocular pressure had side effects similar to those induced by therapeutic levels of marijuana they would never be allowed to see the light of day by the FDA...to propose such a use works a cruel hoax on the public and especially those with a chronic ocular disease..."

   (William T. Shults, M.D., Devers Eye Institute, limited to Neuro-ophthalmology, Mar. 17, 1992)

2. "Marijuana still has no practical use in the therapy in glaucoma. The psyschotropic effect remains coupled with the hypotensive effect, requiring the sufferer to maintain the psychotropic high in order to keep the intraocular pressure reduced . . .alcohol also produces a profound reduction in aqueous humor formation and intraocular pressure. The recommendation to use marijuana is exactly analogous to the recommendation to ingest alcohol and maintain a state of drunkenness to treat glaucoma . . . What is needed in glaucoma would be drugs that improve outflow, and marijuana has no such affect."

   E. Michael Van Buskirk, MD, Directsor of Glaucoma Service, Chairman. Dept. of Opthalmology, Devers Eye Institute, Jan 16, 1992.

3. "All of the 'old' arguments apply to marijuana, i.e., lack of standardization, the multiplicity of ingredients that vary with habitat, non-uniformity of response, unacceptable side effects (even in young, healthy volunteers, that would not necessarily be as mild in an older, glaucomatous population), requirement for continuous smoking on a daily basis for life that is counter to the smoking cessation efforts of many (and certainly against the maintenance of overall general health), and the absence of evidence of long-term (or even short-term) beneficial effects of marijuana on visual field."

   Keith Green, Ph.D., D.Sc., Regents' Professor of Ophthalmology, Director of Ophthalmic Research, The Medical College of Georgia, Oct. 28, 1991)

4. As you know, oral THC and THC taken as marijuana (smoked) are not equivalent. Patients receiving chemotherapy for cancer are very commonly compromised immunologically by the therapy itself. These individuals are therefore extraordinarily sensitive to invasion by bacterial and fungal organisms that would otherwise be resisted. It is known that marijuana is irritating to the airway and can cause chronic bronchitis. It has also been demonstrated that infectious agents can be found on marijuana leaves (e.g., Aspergillus species). Therefore, not only would I be unwilling to prescribe marijuana (smoked) in patients undergoing chemotherapy, I would attempt to dissuade such a patient from utilizing it and to persuade them to use Marinol instead."

Grover C. Bagby, Jr., M.D., Psofessor of Medicine and Molecular and Medical Genetics, Head, Division of Hematology and Medical Oncologyl, Oct. 2, 1991).

5. "The bottom line: Marihuana is effective in decreasing intraocular pressure. The problem is that the side effects of it are such that patients on an effective dosage to control their intraocular pressure would not be able to work around machinery, would have difficulty in any fine hand-eye coordination, and a significant number would be dysfunctional in the work place."

F. T. Fraunfelder, M.D., Prosfessor and Chairman, School of Medicine, Casey Eye Institute, Sep. 16, 1991)

6. "I see absolutely no place for marijuana use in the treatment of medical conditions at this time. ...my most frequent contact is with patients with AIDS. I cannot support the use of marijuana to treat patients with this condition. Furthermore, I would maintain that its use is contraindicated because marijuana smoke is extremely irritating to the airways and may add additional pulmonary problems in these very susceptible individuals. Marijuana smoke is even more irritating to the airways than tobacco smoke and leads to severe inflammation, mucus secretion and bronchitis."

A. Sonia Buist, M.D., Professor of Medicine, Head, Pulmonary and Critical Care Medicine, Oregon Health Sciences Univeresity, Sep. 10, 1991

7. "Studies in both animal models of asthma and healthy young adults indicate that marijuana smoke can: 1) induce airway irritation with increased numbers of inflamatory cells; 2) impair host defenses of the lung by limiting their ability to protect against infections and noxious insults; and 3) produce significant changes in lung function similar to the functional manifestations of early chronic obstructive airway disease... There are a number of studies which demonstrate a high prevalence of allergy to marijuana pollen in allergic individuals."

Emil J. Bardana, Jr., M.D. Professor of Medicine, Head, Division of Allergy and Clinicsal Immunology, Oregon Health Sciences University, Mar. 16, 1992)

AN ANALYSIS OF THE KLEIMAN/DOBLIN SURVEY

In a copy of a letter to the *Annals of Internal Medicine* commenting on the Kleiman/Doblin letter and their "survey results," Dr. Richard Schwartz, Clinical Professor of Pediatrics, Georgetown University School of Medicine in Washington, DC, writes:

"Doblin and Kleiman acknowled the *'possibility of response bias'* and that their results '*only roughly estimate the views of oncologists.*' In fact, 57% did not return their questionnaires, and the number of questionnaires returned unanswered is not stated. Furthermore, instead of including both the number and percent of respondents who filled out the survey but who indicated no opinion on the question (30% of the respondents), the authors simply stated '*of the respondents who expressed an opinion, a majority (54%) thought marijuana in the smoked form should be available by prescription.*' After all the exclusions, this *'majority'* can be no more than 15% of the original sample and is probably much less."

The sole purpose of the Kleiman/Doblin study was to convince the DEA that smokeable marijuana met the criteria of being:

- "currently accepted medical use in treatment in the United States" (Alliance for Cannabis Therapeutics v. DEA, 930 F.2d 938)

And the media advisory on the purported results of the study (under the Harvard banner) was timed to coincide with the filing of the NORMAL/ACT suit against the DEA to maximize its impact.

Though their ploy failed to sway the DEA decision, the media has not only disregarded the statistical flaws in the study, but has ignored contrary data in thousands of research papers and opinions of highly respected medical researchers, continuing to quote in article after article that " A Harvard study shows that 40% of physicians would prescribe marijuana to their patients." The result, if not the intent, of this type of irresponsible reporting is that society is being mislead with an untrue and very dangerous message. We need to ask why and demand accountibility.

OREGON'S THERAPEUTIC USE OF MARIJUANA INITIATIVE

This initiative allows cultivation of marijuana by nearly anyone, i.e.:

"(3) Pending receipt of sufficient supplies of therapeutic marijuana from the National Institute on Drug Abuse for any patient's use under this section, that patient's therapeutic use orf marijuana shall be governed by ORS 475 as amended below:

475.0054 [21] (22) "Ultimate user" means a person who [lawfully] possesses or manufactures a controlled substance for the therapeutic or other lawful use of a member of the household of the person or for administering to an animal owned by the person or by a member of the household of the person."

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April 1989

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Reprint

MARIJUANA INCREASES DISEASE RISK BY INHIBITING WHITE BLOOD CELLS

Smoking marijuana may impair the body's immune system by preventing complete development of certain white blood cells. This may cause the immune system to function less effectively, making marijuana users more susceptible to disease.

Although some people claim smoking marijuana makes them feel better, scientists believe that "pot" smokers may end up feeling worse. For some time, scientists have known that marijuana depresses the body's immune system, making smokers more susceptible to disease. But until recently, no one knew why.

Biologists at Argonne National Laboratory have shown that marijuana may play a role in limiting the development of certain white blood cells. These cells are key components of the immune system, which protects the body from disease. With partially developed cells, the system functions less effectively.

Having identified the cells that marijuana influences, we can now focus on the mechanism by which the drug acts. This work could lead to the creation of marijuana derivatives that control cell maturation, which would affect the management of organ transplants and cancers such as leukemia.

Cannabinoids, the active ingredients in marijuana, stimulate partial development of a white blood cell called the monocyte. In the bloodstream, mature monocytes produce substances that stimulate other immune cells and kill invading microorganisms. When exposed to the main psychologically active substance in marijuana, tetrahydrocannabinol (THC), immature monocytes develop to a certain point, but no further. Because these cells do not reach functional maturity, fewer working cells are produced, and the body's resistance to disease weakens.

Our research shows that monocytes were affected when exposed to levels of THC similar to those in the blood of marijuana smokers. In general, the higher the concentration of THC, the more severe the effect. Similar results were found with cannabinol (CBN) and cannabidiol (CBD), two other components of marijuana that closely resemble THC.

continued

Immature monocytes exposed to these cannabinoids exhibited both external and internal changes that show they began developing, but then stopped. Monocytes typically go through three main stages of development: immature "precursor" cells, intermediate-stage cells and mature cells. Exposed cells differed from both immature and fully mature monocytes in several ways. They possessed different identifying markers on their surfaces, produced different types and amounts of proteins and enzymes, and behaved differently in culture dishes.

Exactly how marijuana causes these changes is unknown, but the doses of THC that affect cells do closely resemble concentrations of certain hormones in the blood. Hormones control cell development, which suggests that cannabinoids may cause similar effects by masquerading as hormones. They might do this by attaching to specific receptors found on the surface of cells. Such receptors would act as gateways, letting the cannabinoids into the cell where they have their effect.

For this research, we used immature monocytes derived from human leukemia cells. We studied leukemic monocytes because they exist mainly in a very early stage of development and therefore are a fairly homogenous culture of young cells. In contrast, monocytes from normal human bone marrow represent many stages of development, making them unsuitable for a study in cell maturation.

The cell cultures were first inoculated with THC, CBN, or CBD, and then incubated for a period of one, two, four or six days. The cannabinoid-treated cells displayed several markers of maturing monocytes. However, three physical characteristics marked them as developmentally arrested. First, their shape and size showed they developed only to an intermediate stage, not to functional maturity. Second, the exposed monocytes did not attach to the culture dishes as mature cells would do. Finally, unlike fully developed monocytes, they did not stop dividing.

Other tests demonstrated that although the cells never reached full maturity, some development was initially stimulated by cannabinoid treatment. The tests indicating partial maturation involved protein, antibody and enzyme markers.

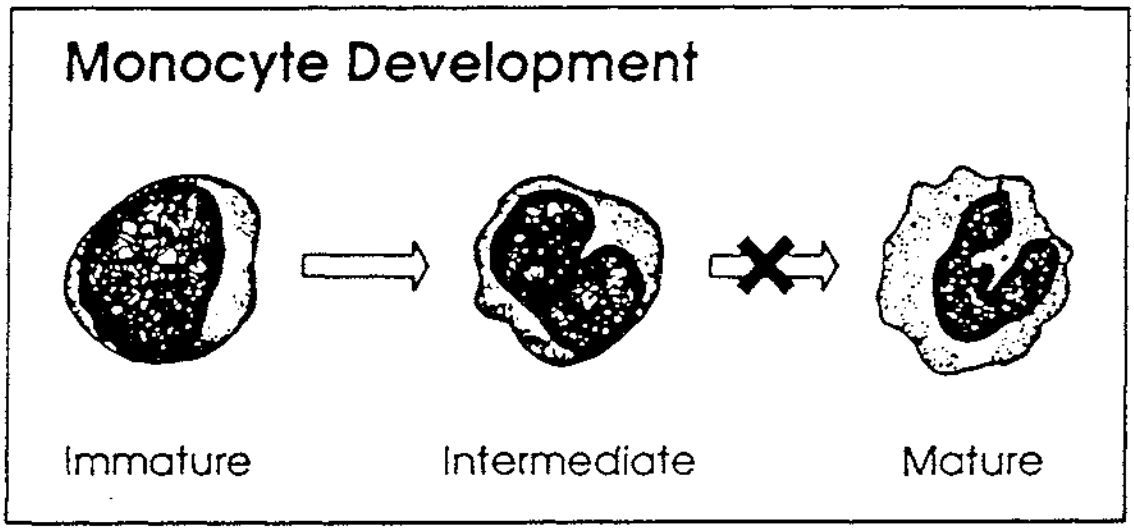
We used radioactive sulfur to label proteins in monocytes treated with THC for one day. The type and amount of protein present was then analyzed.

We found that THC caused changes in protein synthesis that made young monocytes resemble more mature cells. Thus, THC initially stimulated development in monocytes, although the cells never completed the maturation process.

Treated cells also were screened for external changes. The surface of every cell contains certain identifying proteins called antigens, which typically change as the cell matures. Like ships bearing enemy flags, invading cells with antigens unknown to the body's immune system are destroyed because of these identifying markers.

The type of antigen on the cell surface can be determined by exposing monocytes to specific antibodies and noting the reaction. An antibody is a protein that helps cause cell death by binding to an antigen in a lock-and-key fashion. We treated the cannabinoid-exposed cells with three antibodies, all of which bind to antigens found mainly on mature monocytes.

Exposure to THC for two to six days caused a two-to-fourfold increase in the number of cells with "mature" surface antigens. THC stimulated about half that number of cells in just one day. In greater concentrations, CBN and CBD caused effects similar to THC. Thus, cannabinoids appear to stimulate early monocytic development.



Cannabinoids such as THC stimulate early development of moncytes, but prevent them from completing the maturation process, thus impairing the immune system.

The activity of "nonspecific esterase," an enzyme found mainly in mature monocytes, was also measured. When cells exposed to THC for four days were examined, the number of cells containing the enzyme rose three-to-fourfold compared to the number of unexposed cells. At higher concentrations, CBN and CBD caused similar results.

Overall, exposure to cannabinoids caused a two-to-fivefold increase in the number of cells displaying some markers of early maturity, but the cells never displayed all the markers of full maturity. Thus, marijuana appears to stimulate the development of monocytes from point A to point B, but stops them from proceeding to step C. This process results in an abundance of partially mature cells and a lack of fully developed ones.

To see if we could complete the maturation process in the cannabinoid-treated cells, we exposed them to two different stimulators, the active form of vitamin D and PMA (phorbol myristate acetate). Monocytes responded normally to both PMA and the vitamin D derivative, developing into mature cells. This experiment provided insight into how cannabinoids are able to stop cell development.

Marijuana may stop cell maturation by causing the cell to follow an abnormal developmental path or by simply blocking normal paths at an intermediate stage. Because maturation stimulators are able to reverse the effects of THC, we believe that a block in the normal process may be present due to the effects of THC. These enhancers of maturation would probably not affect an abnormal pathway because they would not recognize it.

Cells exposed to THC for two days needed a higher dose of PMA or the vitamin D derivative to complete maturation than those exposed to THC for only one hour. This finding suggests that longer exposure produces more blocking agent, which we believe is a newly made protein. Synthesis of new proteins is not complete in one hour, but a large amount of the protein blocker could be made in two days.

Direct exposure to cannabinoids, the active components in marijuana, causes a disturbance in monocytic development. Cannabinoids stimulate only partial cell maturation, which results in a decreased number of mature cells. This decrease adversely affects the immune response.

THC, the most psychologically active component in marijuana, was also the cannabinoid that most altered cell development. This effect may be due to a block or an abnormality in the maturation pathway of the white blood cell. The alteration, however, can be removed or circumvented by cell maturation stimulators such as PMA and vitamin D.

By learning how components of marijuana affect cell development, we may gain insight into the cell maturation process. This could aid in understanding the lack of cell development seen in leukemia.

In the future, we may be able to use cannabinoid derivatives to stimulate immature leukemic cells into maturity, or to suppress the immune system for organ transplants, by controlling the maturation of white blood cells.

Thus, an understanding of the effects of marijuana on white blood cell development could have far-reaching implications in both basic and medical research.

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STORAGE OF MARIJUANA IN THE BODY

George Biernson

Marijuana, known scientifically as cannabis sativa, contains 61 chemicals unique to it, called cannabinoids. Its primary psychoactive ingredient is delta-9 tetra-hydro-cannabinol, abbreviated delta-9-THC, or simply THC.

THC is strongly fat soluble, it is called *lipophilic*, meaning "*fat-loving*". Because of this property, THC is very slow acting. It is stored for many weeks in the fatty tissues of the body, which act like time-release capsules, steadily feeding THC into the blood. Since it is not water-soluble, it is not soluble in the blood. Hence, after entering the body it leaves the blood very rapidly, and so very little reaches the brain at the time of the *high*.

This report presents experimental data associated with the storage of THC in the body. The data show that THC is extremely potent, but appears to be mild because it is very slow acting.

Experimental Data on Man

In Fig 1, the solid curve shows the THC concentration in the blood of man following an injection of THC, measured by Hunt, et. al [1]. The right-hand scale gives the percentage of the injected THC carried in the blood. It shows that THC leaves the blood very rapidly during the first few minutes, dropping to 1% of the injected dose in 20 minutes. Most of this THC that leaves the blood is stored in body tissues, which later release it back into the blood. After 20 min., the THC concentration in the blood decreases much more slowly, because the THC flow from tissues back to the blood becomes significant.

As blood passes through the liver, part of the THC is metabolized, to form other chemicals called *metabolites*, which are eventually excreted from the body. THC itself is not excreted. The metabolization process is very complex; more than 80 metabolites of delta-9-THC have been identified [6] (p. 92). During the first 20 minutes after THC enters the body, about 15% of the THC is metabolized, and the rest is sequestered in body tissues.

In presenting the experimental data, weight is measured in grams and volume in liters. A liter is 1.057 quart. A cigarette weighs approximately one gram. A kilogram, which is 1000 grams, is 2.2 lbs. For small quantities, these units are prefaced by milli- (meaning thousanth), micro- (millionth), and nano- (billionth). A milliliter, which is 1/1000 liter, is the volume of a cube, 1-centimeter on a side.

Figure 2 shows the psychological effect produced by injecting 1 milligram of THC into the blood of a casual marijuana smoker. The subjects smoked no more than 1 joint of marijuana per month. They were familiar with the effect of marijuana, but presumably had not smoked enough to develop appreciable tolerance to it. The subjects reported that this one-milligram injection evoked a moderate *high* sensation. The data, obtained by Lemburger, et. al., [2] (Fig. 3) are averages of the responses from 6 subjects. The *psychological high* plot shows the ratings made by the subjects of the level of *high* they were experiencing. The *symptom score* is the result of a psychological test of the degree of intoxication. The data in Fig. 2 were obtained by normalizing the plots given by Lemburger, et. al, with maxima set at 100%, and the average responses produced by placebos set at zero.

The plots in Fig. 2 show a time delay of 15 minutes, following the THC injection, before maximum *high* is experienced. The primary cause of this delay is the blood-brain barrier, which is a protective sieve of capillary walls and membranes. This sieve isolates the brain from the main blood supply, and helps to protect the brain against toxic substances. Since the lipophilic THC molecules tend to stick to this sieve, the flow of THC molecules to the brain is slow.

As shown in Fig 1 (right-hand scale), by the time enough THC molecules have worked their way through the blood-brain barrier to produce the maximum *high* (15 minutes), the concentration of THC in the body blood is reduced to 1.8% of the initial value. The concentration of THC in the blood of the brain at this time must be less than this.

The two plots in Fig 2 show that 50% of maximum *high* is experienced about 130 min after the THC injection. At this time, Fig 1 shows (point 2) that the blood concentration of THC is 0.28% of the initial value. The THC concentration is varying so slowly, we can assume that the blood-brain barrier is in equilibrium, and so the concentration of THC in the blood of the brain is essentially the same as that in the main blood supply. Hence, a brain-blood THC concentration of 0.28% of the initial body-blood concentration evokes 50% of

maximum *high*. From this, it is reasonable to assume that twice this value (0.56%) evokes a maximum *high*.

This assumption is corroborated by noting from Fig 2 that the *symptom score* measure of intoxication level is constant from 15 to 45 min, and begins to drop after 45 min. At 45 min, Fig 1 shows that the THC blood concentration varies slowly. Hence, it is reasonable to assume that the brain-blood concentration of THC at 45 min is approximately equal to that of the main blood supply. At this time, point 1 in Fig 1 shows that the THC blood concentration is 0.58% of the initial dose. This should be the THC concentration in the brain at the time of the maximum *high* sensation.

Averaging these values (0.56% and 0.58%) indicates that the maximum concentration of THC in the blood of the brain is 0.57% of the initial blood concentration following the THC injection. Since the injection is 1.0 milligram, this is equivalent to 0.0057 milligram, or 5.7 microgram of THC spread throughout the complete blood supply. This concentration of THC in the blood of the brain is sufficient to produce a moderate *high* in a casual marijuana smoker.

To place this result in perspective, pull a strand of hair from your head. Snip from that strand a piece that is only 1 mm long (about 1/32 inch). That piece of hair will weigh approximately 5.7 micrograms. An amount of THC no larger than that tiny bit of hair, spread over the complete blood supply, is sufficient to produce a moderate *high* sensation. Clearly, THC is an extremely potent drug.

The data for the solid curve of Fig 1 were measured by Hunt, et. al. [1] (Fig 1), following an injection of 2 milligrams of THC. Their measurements of THC concentration in the blood plasma were divided by 2 to obtain the values read from the left-hand scale, which gives the blood-plasma concentration of THC normalized relative to a 1-milligram dose.

This plot in Fig 1 is the THC concentration in the plasma, which is about 60% of the total blood volume. We have no direct measurement of the THC concentration of the remainder of the blood, which consists of red and white cells. However, we can assume it is approximately the same as in the plasma. In the plasma, very little THC is in solution; practically all of it is bound to protein molecules. In the remainder of the blood, THC is probably bound to blood cells in a similar manner.

Assuming that the concentration of THC in the blood-cell portion of the blood is the same as in the plasma, the total amount of THC carried in the blood is equal to the concentration in the plasma multiplied by the volume of the blood. The blood volume for man is approximately 5 liters (or 5.3 quarts). Hence the left scale of Fig 1 is multiplied by 5000 milliliters (5 liters) to obtain the total THC contained in the blood, shown on the second right-hand scale. For example, a THC concentration of 1 nanogram per milliliter of blood plasma is equivalent to 5000 nanograms (or 5 micrograms) carried in the total 5000 milliliter blood supply. The values of this scale are divided by the normalized injected dose (1 milligram or 1000 micrograms) to obtain the fraction of injected THC in the blood, and then multiplied by 100% to obtain the percentage of injected THC in the blood, given by the right-hand scale.

Experimental Data on the Dog

The data for the solid curve in Fig 1 were measured on humans using radioactive labeled THC. The accuracy of this experiment was limited, because radioactivity must be kept low in human experiments. Much greater accuracy can be obtained from animal experiments, where radioactivity levels can be set much higher.

Figure 3 shows measurements made by Garrett and Hunt [3] (Fig. 9) of the concentration of THC in the blood of the dog following a THC injection. These measurements were taken over a concentration range of 10,000 to one, to provide data with reasonable accuracy out to 3500 minutes, or 2.4 days.

The blood plasma concentration is expressed as a *percentage* of the injected dose per *liter* of plasma; whereas the data in Ref. [3] was expressed as a *fraction* of the injected dose per *milliliter* of plasma. Hence the scale in Ref. [3] was multiplied by 100% to convert from fractional part to percent, and then by 1000 to convert from milliliters to liters.

The effective volume of blood in the dog (relative to THC) is of the order of 1000 milliliters (1 liter). Consequently the plots of Fig 3 give roughly the percent of injected dose carried in the blood. Hence, the plots cover a THC range in the blood from about 100% to 0.01% of the injected dose.

Two experiments were performed at the following dosages of THC: 0.5 milligram (mg) per kilogram (kg) of dog weight (shown by the open circles), and 2 mg/kg (closed circles). The dog weight was somewhat different during the two tests, the average being 13.6 kg (30 pounds). The data from the two experiments nearly superimpose on one another, which indicates that the process is not dose-dependent.

The solid curve in Fig 3 is a theoretical smooth curve that matches the 0.5 mg/kg data. This theoretical curve is the sum of the five dashed straight lines, labeled (1) to (5). The parameters of these five dashed lines were adjusted to minimize the mean-square error between the smooth curve and the measured data points. The slopes of the five dashed lines are described in terms of their half-life values. To understand the significance of this, let us consider the meaning of *half life*.

Assume, for example, a radioactive isotope with a half life of 10 days, and that a particular sample of this isotope emits radiation, as measured by a Geiger counter, at a rate of 80 counts per second (count/sec). When the radiation count rate is plotted over a period of time, it varies as shown in Fig. 4. The count rate is plotted on a logarithmic scale, with time on a linear scale, because this results in a straight-line plot. Since the half life is 10 days, the count rate drops from 80 count/sec to 40 count/sec in 10 days, to 20 count/sec in 20 days, and to 10 count/sec in 30 days. Thus, the count rate continually drops to half every 10 days.

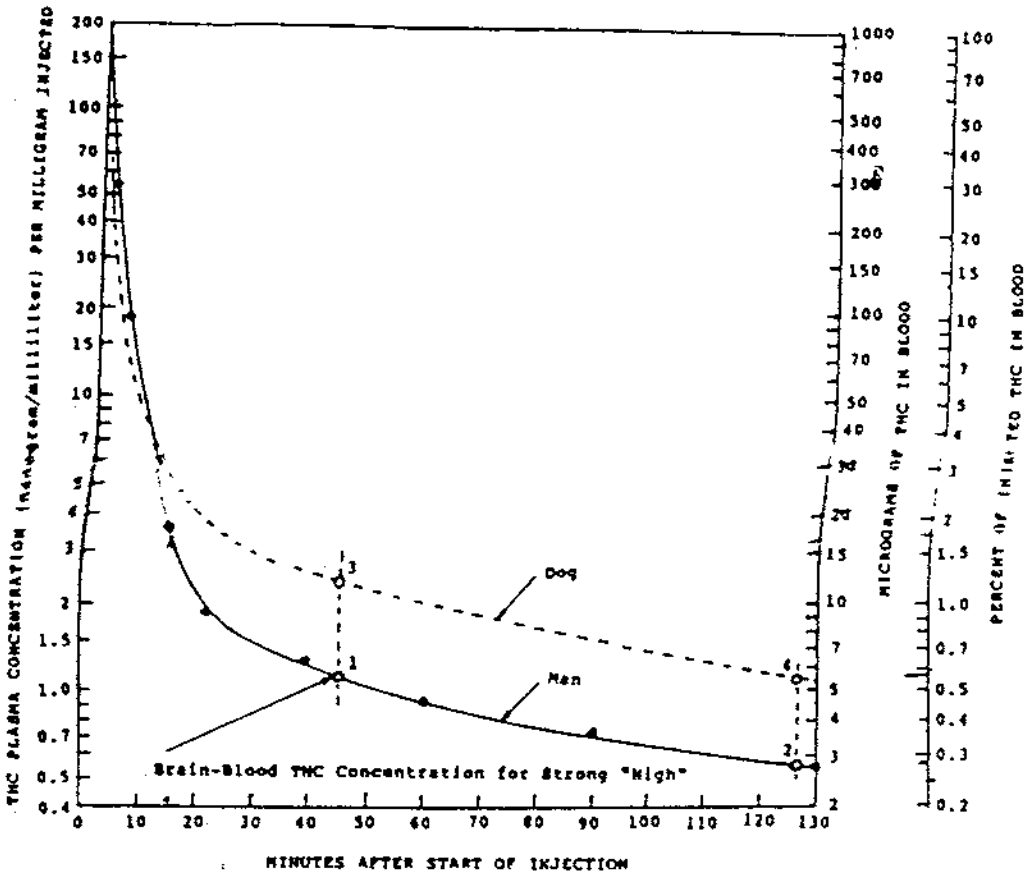

FIGURE 1: Relative concentration of delta-9-THC in blood plasma of man, vs. time after start of i.v. injection of delta-9-THC; from Hunt, et. al, [1]. (Compared with data for dog from Fig 3.)

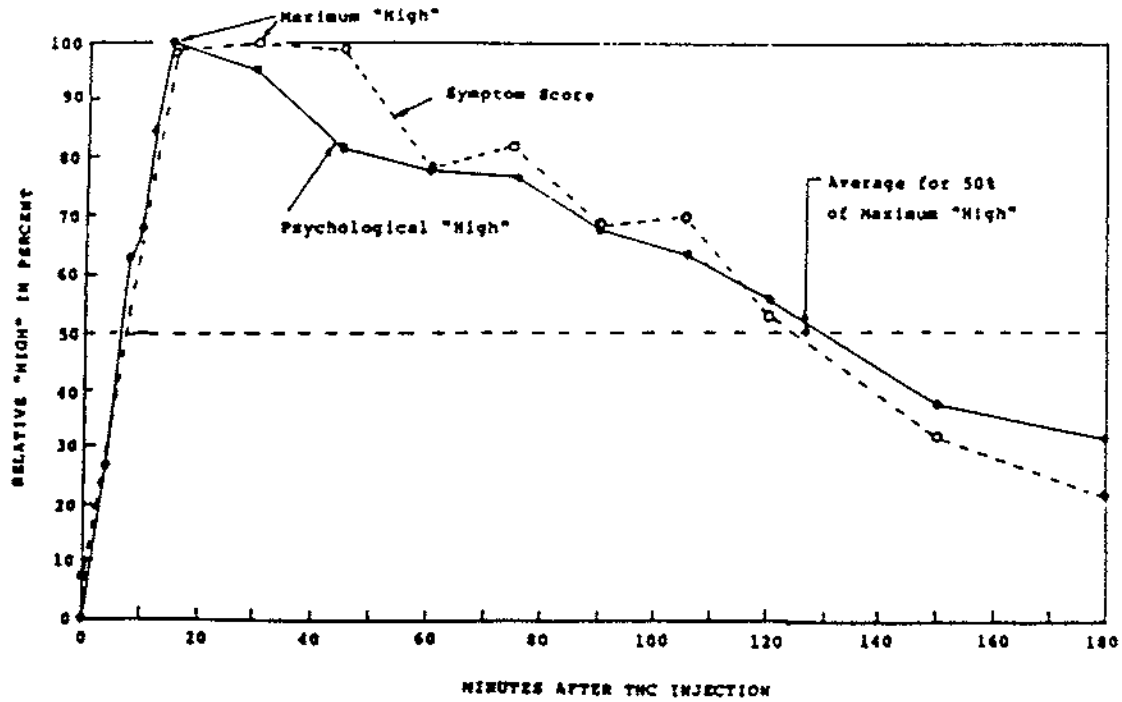

FIGURE 2: Psychological measures of intoxication after i.v. injection of 1-milligram delta-9-THC; average for six casual marijuana smokers; from Lemburger, et. al., [2] (Fig. 3).

The reason that the radiation decreases in this manner is that the isotope atoms have a fixed probability of disintegrating in a given time interval. Hence, the count rate (or rate of disintegration) is proportional to the number of radioactive atoms that are present. During an interval equal to the half life, half of the radioactive atoms disintegrate, and so at the end of that interval the number of radioactive atoms is reduced to half. Hence, at the end of the half-life interval, the count rate is half the rate at the beginning. Many basic physical and biological processes behave in a similar way, and so can be characterized by a half life.

The solid curve in Fig. 3 is not a straight line, because it represents the combined effect of several basic processes. By separating this curve into the five straight lines, one can dissect the complex process into its basic components.

The parameters of the five dashed lines in Fig. 3 are shown in Table 1. Column *(b)* shows the half-life value that characterizes the slope of the line. Column *(c)* gives the amplitude of each component, which is its value at time = 0. The sum of these values is 151.22% of the dose per liter of plasma. Dividing the values of column *(c)* by 1.5122 gives the normalized values in column *(d)*, which are the amplitudes as a percentage of the dose. Since 1/1.5122 = 0.66, the effective volume of the blood (relative to THC storage) is 0.66 liter.

Component	Half Life	Amplitude	
		percent/liter	percent
(1)	0.706 minute	137.0	90.6
(2)	4.85 minutes	11.3	7.47
(3)	59.8 min (1.0 hours)	2.70	1.79
(4)	592 min (9.9 hours)	0.190	0.126
(5)	10,190 min (7.1 days)	0.027	0.018
	Total:	151.22	100.00
(a)	(b)	(c)	(d)

Table 1: Parameters of Straight-Line Components of Figure 3

After 3000 minutes, the response should closely follow component (5), which characterizes the *terminal phase* of the process. Unfortunately, the data from this experiment is not able to measure the half-life of this terminal-phase component with reasonable accuracy. This half life was determined from Fig. 5, which was obtained from Ref. [3] (Fig. 4). This is a plot of the total concentration of THC plus its metabolites (the total cannabinoids) in the blood plasma for 23 days following an injection of THC. The total cannabinoid concentration can be measured much more accurately than that of THC alone, because (1) it is appreciably higher, and (2) it can be measured much more simply.

Since the injected THC is radioactive, one can find the total cannabinoids derived from it by measuring the radioactivity in a sample of blood plasma. However, to determine the fraction that is delta-9-THC, one must process the sample to separate delta-9-THC from its metabolites, a complicated operation.

As shown in Fig 5, after about a day the total cannabinoid concentration decays with a half life of 7.1 days. Experiments proved that the mixture contains many different cannabinoids, most of which have short half lives and are excreted rapidly from the body. The 7.1-day half life is the result of the slow release of a basic cannabinoid, from which most of the mixture is derived. What is this basic cannabinoid with the 7.1-day half life? Is it delta-9-THC, or one of its metabolites?

The answer to this question is provided in an experiment by Kreux and Axelrod [4]. They measured the storage of delta-9-THC and its metabolites in the body of the rat, by injecting delta-9-THC into the blood every other day, for a total of 13 injections over 26 days. They found that the primary site for storage of cannabinoids was the body fat, and that the major cannabinoid stored was delta-9-THC. Along with delta-9-THC, they found appreciable amounts of the strongly psychoactive metabolite 11-hydroxy-THC, and the non-psychoactive metabolite 8,11-dihydroxy-THC. The maximum concentrations, expressed in nanograms (ng) of the substance per gram (g) of fat tissue were: delta-9-THC, 40 ng/g; 11-hydroxy-THC, 9 ng/g; 8,11-dihydroxy-THC, 14 ng/g.

The cannabinoid concentrations were measured in fat tissue 44 hours after the first and last (13th) dose. The concentration of delta-9-THC after the first dose was 8.7 ng/g, and after the 13th dose was 40 ng/g. Hence, the ratio for 13 doses, relative to a single dose, was

$$Ratio = 40/8.7 = 4.6$$

It can be shown that the increase of delta-9-THC in the fat after 13 doses, relative to that for a single dose, should be

$$Ratio = 1 + A + A^2 + A^3 + \cdots + A^{12}$$

The constant A is equal to

$$A = 2^{-d/h}$$

where d is the time between doses (2 days), and h is the half life for storage of THC in the fat. The value for the half life h that satisfies these equations is 6 days. At this value of h, the parameter A is equal to 0.794, and the *Ratio* is equal to 4.6, in agreement with the experimental data. Hence, the build-up of THC in fat tissue corresponds to a half life of 6 days.

Therefore, the experiment by Kreux and Axelrod [4] shows that the primary cannabinoid being stored in the body is delta-9-THC, which is stored in the fat tissue with a half life of approximately 6 days. This provides strong evidence that the 7.1-day half life indicated in Fig 5 is due to the slow release of delta-9-THC from fat tissue.

This conclusion was used to establish the half-life slope of the dashed component (5) of Fig. 3, which was set at 7.1 days. With this parameter established, the remaining parameters of components (1) to (5) were constrained strongly by the data. Hence, we have high confidence that the values of Table 1 are approximately correct.

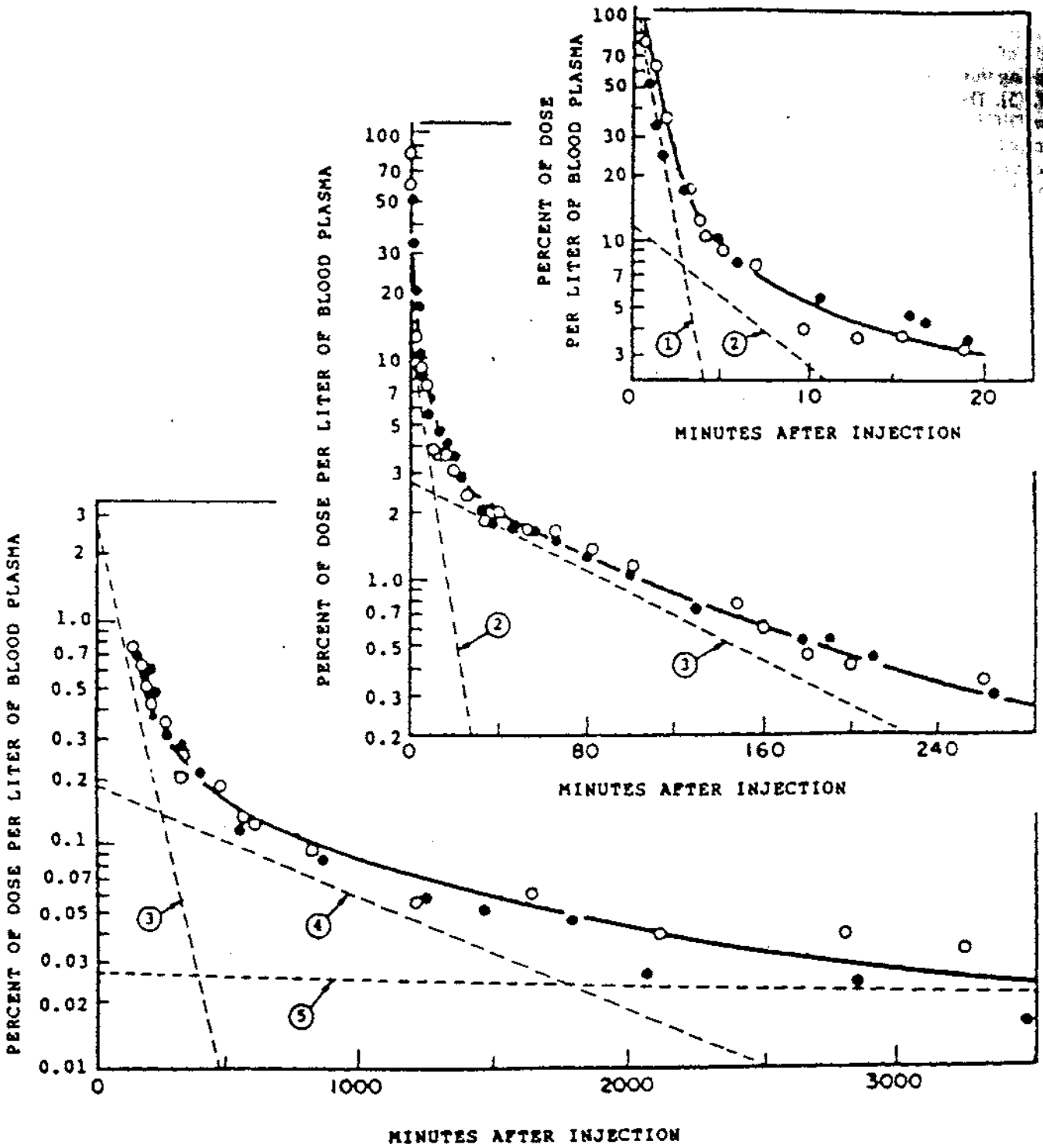

FIGURE 3: Relative concentration of delta-9-THC in blood plasma of dog, versus time after i.v. injection of delta-9-THC. Dose: points (o), 0.5 mg/kg; (•), 2.0 mg/kg; dog weight, 13.6 kg. Data from Garrett and Hunt [3] (Fig. 9, dog B).

From data equivalent to that of Table 1, the writer derived the parameters of a model describing the storage of THC in the body of the dog. The analysis and computer program for deriving this model, along with its parameters, are given in Ref. [5]. The model provides a quantitative explanation of how THC is stored and metabolized in the body. It shows that (except for the blood) there are four distinctly different storage processes in the body, which provide fast, medium, slow, and very slow storage of THC. The fast storage has significant effect during the first 10 minutes, the medium storage during the first hour, and the slow storage during the first 12 hours. After one day, the THC storage is controlled almost entirely by the very slow storage process, which characterizes the *terminal phase*.

Application of Data

The terminal half life of delta-9-THC in man was determined by Hunt, et. al. [1], who measured the total cannabinoids in blood plasma at 96 hours after a 2-mg injection, and 10 days later. From these two readings, a terminal half life of 8.2 days was found, with a standard deviation of 0.57 days. Thus, the data for man is reasonably consistent with the 7.1-day half life measured on the dog.

Table 1 shows that the normalized amplitude of the terminal-phase component (5) is 0.018%. This value applies to the dog. To find the corresponding terminal-phase amplitude for man, we can compare the curves in Fig 1 for man and the dog. The dashed curve for the dog was obtained from the data in Table 1. The plots are nearly the same after 25 minutes except that the dashed curve for the dog is approximately a factor of 2 greater than that for man. (Initially the response for the dog drops faster than that for man because the THC dose for the dog was injected rapidly; whereas it was injected over a 2-minute period in man.) Based on this result, we can estimate the amplitude of the terminal-phase component for man to be half that for the dog. This should be a conservative estimate; the actual amplitude for man may be higher.

Hence, we divide the amplitude 0.018% (component (5) in Table 1) by 2 to obtain the relative amplitude of the terminal-phase component in man, which is 0.009%.

To apply this result, let us consider a specific example: a man smoking one joint of marijuana per day, having 3% THC content. (Most street pot today has more than 3% THC content, with some as high as 14%.) Since a standard marijuana joint weighs 1 gram, the amount of THC in one standard joint is 0.03 gram, or 30 milligrams (mg).

As shown by Nahas [6] (p. 92), only 20% of the THC in a marijuana joint is actually absorbed through the lungs into the body. The rest is lost. The reason for this poor efficiency is that it is difficult for the blood in the lungs to absorb the fat-soluble THC. Taking 20% of the 30 mg in the marijuana joint gives 6 mg as the THC dose absorbed by the body.

We multiply this 6-mg dose of THC by 0.009% to obtain 0.00054 milligram (mg), or 0.54 microgram. This is the amplitude of the terminal phase component from smoking one marijuana joint.

Associated with *half life*, there is a parameter called the *time constant*, which is equal to 1.44 times the half life. For a 7-day terminal-phase half life, the time constant is 10 days.

When a person smokes marijuana regularly, the THC contributions from successive joints accumulate in his fat. The more THC that is stored in the fat, the greater is the steady level of THC in the blood. After about a month of regular marijuana smoking, the steady THC level in the blood is equal to the amplitude of the terminal-phase component for one marijuana joint, multiplied by the average number of joints smoked during the 10-day time constant.

Since our assumed subject smokes one marijuana joint per day, he smokes 10 joints during the 10-day time constant. Hence the steady level of marijuana in his blood is

$$\text{Steady Level} = 10(0.54 \text{ microgram}) = 5.4 \text{ micrograms}$$

where 0.54 microgram is the amplitude (given previously) of the terminal phase component from smoking a single joint. The blood-brain barrier is in equilibrium relative to this steady THC level, and so the steady THC concentration in the brain is the same as in the rest of the body.

Thus, when a person smokes one marijuana joint per day of 3% THC content, he has a steady THC level throughout the blood (including the brain) equal to 5.4 micrograms of THC spread over the blood supply. We showed earlier than an injection of 1-milligram of THC into the blood evoked a moderate *high* in a casual marijuana smoker, and resulted in a maximum concentration of THC in the brain equivalent to 5.7 micrograms spread over the blood supply. Hence, we conclude that a daily marijuana smoker has a steady level of THC in his blood sufficient to evoke a moderate *high* in a casual marijuana smoker.

The daily marijuana smoker is not continually *high* from this steady THC level, because he develops strong tolerance to THC by the time he reaches this rate of smoking. Nevertheless, he is continually sedated; his brain is in a perpetual fog.

The peak change of THC concentration in the blood of the brain after one smokes a marijuana joint of 3% THC is equal to 0.57% multiplied by the amount of THC absorbed from a single joint, which is 6 milligrams. This gives 6(0.0057) milligram, which is 34 micrograms, spread over the blood supply. This value is only about 6 times greater than the steady THC concentration (5.4 micrograms).

Thus, after the daily marijuana smoker consumes a joint, the change of THC in his brain is only 6 times greater than the steady THC level, and the peak THC level is only 7 times greater. Since he has developed tolerance to the steady THC level, the peak level does not evoke much of a *high*. To experience a strong *high*, the daily marijuana smoker often uses other drugs (including alcohol). Nevertheless, he generally continues to smoke marijuana, as he uses the other drugs, because marijuana makes him "feel good all the time".

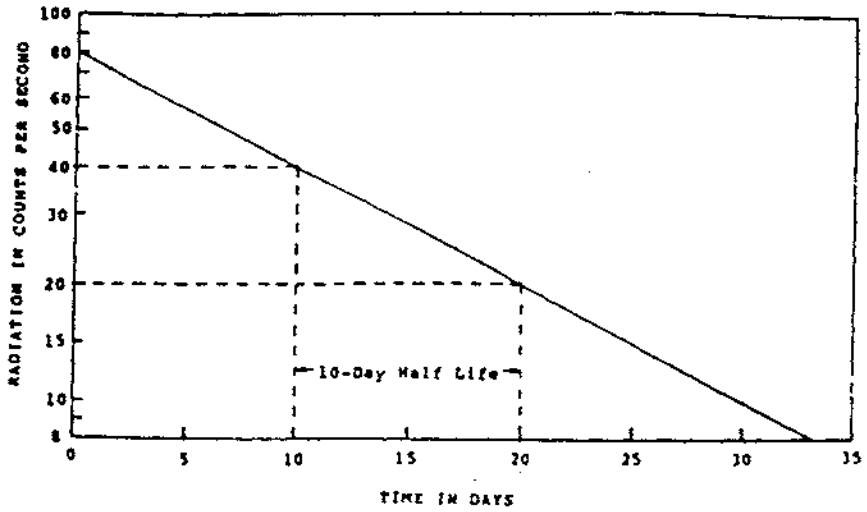

FIGURE 4: Variation with time of radiation level from a sample of radioactive material with a 10-day half life.

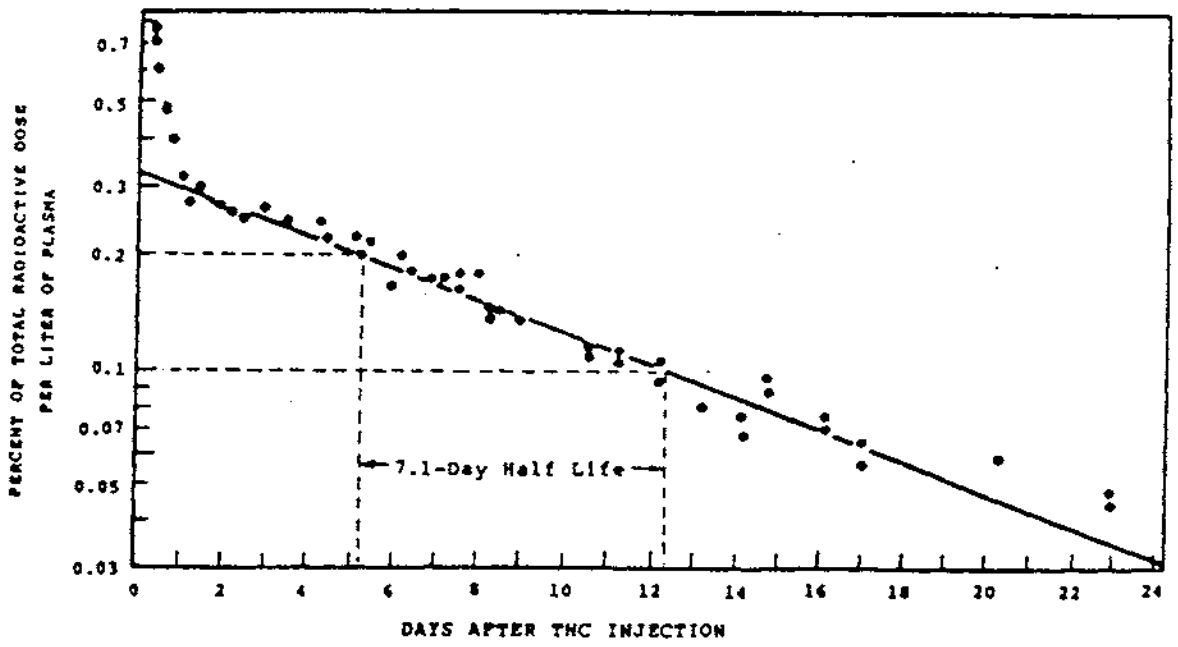

FIGURE 5: Plot of total concentration of delta-9-THC and its metabolites in blood plasma of dog, relative to injected dose, for 23 days after injection; from Garrett and Hunt [3] (Fig. 4).

Need for More Experimental Data

The calculation of the half life of the terminal-phase component (5) was indirect. Clearly, one would like a better measurement. In 1976, Garrett and Hunt [3] performed their extremely thorough study of THC storage in the dog. Up until 1987, Dr. Garrett made several requests to the National Institute of Drug Abuse (NIDA) for funding a follow-up study to measure accurately the terminal-phase component of THC in the blood of the dog. This could be achieved by giving the dog a series of THC injections over many days. Appreciable THC would accumulate in the fat, and so its slow release into the blood could be readily measured. Unfortunately, NIDA repeatedly refused to fund this very important study.

This is not an isolated incident. There are many such examples that can be quoted, showing a severe lack of scientific competence by NIDA in funding marijuana research. (See, for example, Ref. [7], which discusses NIDA's termination of funding for the extremely important research of the effect of marijuana on the monkey brain, performed by Dr. Robert Heath. This work is explained by Peggy Mann in Refs. [8, 9].) If NIDA had been doing a competent job, the issues discussed in this article would have been thoroughly covered years ago.

Summary

At the time of the *high* the peak concentration of THC in the blood of the brain is only 0.57% (about 1/2 of 1%) of the THC absorbed by the body, spread over the body blood supply. Only 1/5 of the THC in a marijuana joint that is smoked is absorbed by the body. Hence, The peak concentration of THC in the brain at the time of the *high* is approximately one-thousanth of the THC contained in the joint, spread over the blood supply of the body.

When a person smokes one joint of marijuana per day, having 1% THC content, the blood of his brain has a steady THC level that would be sufficient to evoke a moderate *high* in a casual marijuana smoker. He is not continually *high*, because he develops strong tolerance to THC by the time he reaches his rate of smoking. The peak THC level in the blood of his brain after smoking a joint is only 7 times greater than the steady level. Consequently, the *high* he experiences is mild, and so he thinks he is using a low-potency drug.

The steady THC level in the blood is proportional to the average number of marijuana joints consumed in a 10-day period. A person smoking 2 joints on a weekend has 2/7 of the steady THC level of the daily marijuana smoker; a person smoking 2 joints per day has twice that level.

When a person stops smoking marijuana, it takes one week for the steady THC level in his blood to drop to 1/2, two weeks to drop to 1/4, three weeks to 1/8, etc. Since his body is tapered off gradually from the drug, withdrawal symptoms are mild. Consequently, he thinks that marijuana is not addictive.

These conclusions are not new. They have been understood qualitatively for hundreds of years. As explained by historian Franz Lowenthall, Professor of Near Eastern Literature at Yale University (Ref. [10], pp. 739-745), marijuana is an old problem to Arab society. The Arabs have struggled for centuries against the devastating effects of marijuana (or in their words, *hashish*). A thirteenth century religious leader, Sheikh Ali al-Hariri, gave the following advice to a hashish user:

> "He has to give it up for 40 days, until his body is free from it, and for 40 more days until he has rested from it after becoming free."

This conclusion, made 700 years ago, is remarkably consistent with our analysis of THC storage in the body.

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DRUG WATCH

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57 Conant Street, Room 113,Danvers, MA 01923
(508) 774-2641

NIDA DIRECTOR CITES STUDIES THAT MARIJUANA IS ADDICTIVE

by Thomas J. Gleaton, President, PRIDE

In 1978, Sir William D.M. Paton addressed the 7th International Congress of Pharmacology in Paris concerning the biological effects of marijuana. Paton stated that, "Cannabis satisfies the usual criteria for an addictive drug. Characteristic withdrawal symptoms develop; these are less striking in that, because of the slow elimination of cannabis from the body, withdrawal from the tissue must be slow. Psychic dependence is shown by the fact that consumption is not merely to avoid withdrawal symptoms but to maintain the psychic effect."

Ten years after Paton's discussion of the physically addictive potential of marijuana, I received a letter from Dr. Charles R. Schuster, director of the National Institute on Drug Abuse, acknowledging that current research indicates that marijuana is physically addictive. In the letter, Dr. Schuster states:

> "...The fact that there are over 77,000 admissions a year to treatment programs for marijuana use and that annually almost 8,000 persons require emergency hospital care for marijuana use is sufficient evidence of the drug's dangerousness. The danger of a drug should not simply be defined in terms of its ability to induce addiction."

> "But for those who will still require evidence of addiction, there are studies that will satisfy their needs. Physical dependence , which is what most people mean by addiction, has been scientifically demonstrated. The abstinence syndrome, (the indicator of physical dependence) can occur when a state of marijuana intoxication is maintained over a prolonged period of time and then abruptly discontinued (Jones, Benowitz & Bachman, 1976; Jones, Benowitz & Herning, 1981). Anorexia, anxiety, agitation, depression, restlessness, irritability, tremor, severe insomnia, sweating, exaggerated deep tendon reflexes, nystagmus, tremulousness of the tongue and extremities, and dysphoria have all been observed when marijuana use is rapidly withdrawn (Jones & Benowitz, 1976; Mendelson, Mello & Lex, 1984). It is important to note that these effects occur after only a few weeks of constant use and at dosages that would be common among street users."

The following references were used by Dr. Schuster in his statement on marijuana addiction:

Jones, R.T., & Benowitz, N. (1976). The 30-day trip - Clinical studies of cannabis tolerance and dependence. In M.D. Braud & S. Szara (Ed.), *Pharmacology of Marijuana, Vol 2* (pp. 627?-642). New York: Raven Press.

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Jones, R.T., Benowitz, N.L. & Herning, R.I. (1981). *J. Clin. Pharmacol., 21,* 143S-152S.

Mendelson, J.H., Mello, N.K. & Lex, B.W. (1984). Marijuana withdrawal syndrome in a woman. *Am. J. Psychiatry, 141,* 1289-1290.

With the growing body of knowledge on the harmful health impact of marijuana, along with the admitted physically addictive nature of the chemicals in marijuana there are questions that need answers. Why has our U.S. Surgeon General not come forth with a statement of the dangers involved in marijuana use? Is it important for the American people to know that the cancer causing agents in marijuana are twice the amount of those found in tobacco? Must we continue to hear Timothy Johnson, M.D., medical advisor to ABC, claim on national television that marijuana is not physically addictive?[1] Are our government health agencies and institute's unconcerned, uncaring or uniformed? When will there be a national campaign to destroy the "myth of harmlessness" which continues to surround marijuana?

1. *American Broadcasting Companies, Inc. (1986). The Koppel Report.*

Committees of Correspondence

Drug Prevention Newsletter
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Write Makes Might
Write Makes Right

June 1987

4 V

MARIJUANA INCREASES DISEASE RISK BY INHIBITING WHITE BLOOD CELLS

by Eliezer Huberman, Ph.D.,
Director, Argonne National Laboratory, Argonne, IL

Smoking marijuana may impair the body's immune system by preventing complete development of certain white blood cells. This may cause the immune system to function less effectively, making marijuana users more susceptible to disease.

Some people claim smoking marijuana makes them feel better, but scientists believe that "pot" smokers may end up feeling worse. For some time, scientists have known that marijuana depresses the body's immune system, making smokers more susceptible to disease. But until recently, no one knew why.

Biologists at Argonne National Laboratory have shown that marijuana may play a role in limiting the development of certain white blood cells. These cells are key components of the immune system, which protect the body from disease. With partially developed cells, the system functions less effectively.

Having identified the cells that marijuana influences, we can now focus on the mechanism by which the drug acts. This work could lead to the creation of marijuana derivatives that control cell maturation, which would affect the management of organ transplants and cancers such as leukemia.

Cannabinoids, the active ingredients in marijuana, stimulate partial development of a white blood cell called the monocyte. In the bloodstream, mature monocytes produce substances that stimulate other immune cells and kill invading microorganisms. When exposed to the main psychologically active substance in marijuana, tetrahydrocannabinol (THC), immature monocytes develop to a certain point, but no further. Because these cells do not reach functional maturity, fewer working cells are produced, and the body's resistance to disease weakens.

Our research shows that monocytes were affected when exposed to levels of THC similar to those in the blood of marijuana smokers. In general, the higher the concentration of THC, the more severe the effect. Similar results were found with cannabinol (CBN) and cannabidiol (CBD), two other components of marijuana that closely resemble THC.

Immature monocytes exposed to these cannabinoids exhibited both external and internal changes that show they began developing, but then stopped. Monocytes typically go through three main stages of development: immature "precursor" cells, intermediate-stage cells and mature cells. Exposed cells differed from both immature and fully mature monocytes in several ways. They possessed different identifying markers on their surfaces, produced different types and amounts of proteins and enzymes, and behaved differently in culture dishes.

Exactly how marijuana causes these changes is unknown, but the doses of THC that affect cells do closely resemble concentrations of certain hormones in the blood. Hormones control cell development, which suggests that cannabinoids may cause similar effects by masquerading as hormones. They might do this by attaching to specific receptors found on the surface of cells. Such receptors would act as gateways, letting the cannabinoids into the cell where they have their effect.

For this research, we used immature monocytes derived from human leukemia cells. We studied leukemic monocytes because they exist mainly in a very early stage of development and therefore are a fairly homogenous culture of young cells. In contrast, monocytes from normal human bone marrow represent many stages of development, making them unsuitable for a study in cell maturation.

The cell cultures were first inoculated with THC, CBN, or CBD, and then incubated for a period of one, two, four or six days. The cannabinoid-treated cells displayed several markers of maturing monocytes. However, three physical characteristics marked them as developmentally arrested. First, their shape and size showed they developed only to an intermediate stage, not to functional maturity. Second, the exposed monocytes did not attach to the culture dishes as mature cells would do. Finally, unlike fully developed monocytes, they did not stop dividing.

Other tests demonstrated that although the cells never reached full maturity, some development was initially stimulated by cannabinoid treatment. The tests

indicating partial maturation involved protein, antibody and enzyme markers.

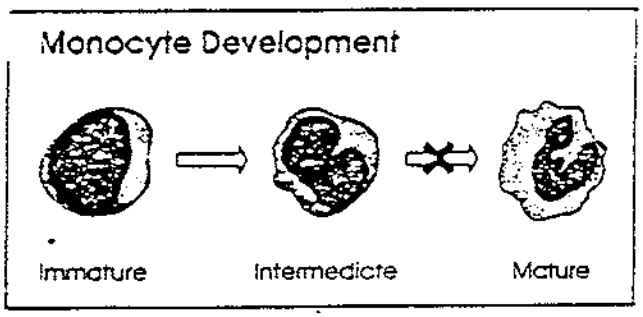
We used radioactive sulfur to label proteins in monocytes treated with THC for one day. The type and amount of protein present was then analyzed.

We found that THC caused changes in protein synthesis that made young monocytes resemble more mature cells. Thus, THC initially stimulated development in monocytes, although the cells never completed the maturation process.

Treated cells also were screened for external changes. The surface of every cell contains certain identifying proteins called antigens, which typically change as the cell matures. Like ships bearing enemy flags, invading cells with antigens unknown to the body's immune system are destroyed because of these identifying markers.

The type of antigen on the cell surface can be determined by exposing monocytes to specific antibodies and noting the reaction. An antibody is a protein that helps cause cell death by binding to an antigen in a lock-and-key fashion. We treated the cannabinoid-exposed cells with three antibodies, all of which bind to antigens found mainly on mature monocytes.

Exposure to THC for two to six days caused a two-to-fourfold increase in the number of cells with "mature" surface antigens. THC stimulated about half that number of cells in just one day. In greater concentrations, CBN and CBD caused effects similar to THC. Thus, cannabinoids appear to stimulate early monocytic development.



Cannabinoids such as THC stimulate early development of monocytes, but prevent them from completing the maturation process, thus impairing the immune system.

Cannabinoids such as THC stimulate early development of monocytes, but prevent them from completing the maturation process, thus impairing the immune system.

The activity of "nonspecific esterase," an enzyme found mainly in mature monocytes, was also measured. When cells exposed to THC for four days were examined, the number of cells containing the enzyme rose three-to-fourfold compared to the number of unexposed cells. At higher concentrations, CBN and CBD caused similar results.

Overall, exposure to cannabinoids caused a two-to-fivefold increase in the number of cells displaying some markers of early maturity, but the cells never displayed all the markers of full maturity. Thus, marijuana appears to stimulate the development of monocytes from point A to point B, but stops them from proceeding to step C. This process results in an abundance of partially mature cells and a lack of fully developed ones.

To see if we could complete the maturation process in the cannabinoid-treated cells, we exposed them to two different stimulators, the active form of vitamin D and PMA (phorbol myristate acetate). Monocytes responded normally to both PMA and the vitamin D derivative, developing into mature cells. This experiment provided insight into how cannabinoids are able to stop cell development.

Marijuana may stop cell maturation by causing the cell to follow an abnormal developmental path or by simply blocking normal paths at an intermediate stage. Because maturation stimulators are able to reverse the effects of THC, we believe that a block in the normal process may be present due to the effects of THC. These enhancers of maturation would probably not affect an abnormal pathway because they would not recognize it.

Cells exposed to THC for 2 days needed a higher dose of PMA or the vitamin D derivative to complete maturation than those exposed to THC for only 1 hour. This suggests that longer exposure produces more blocking agent, which we believe is a newly made protein. Synthesis of new proteins is not complete in 1 hour, but a large amount of the protein blocker could be made in 2 days.

Direct exposure to cannabinoids, the active components in marijuana, causes a disturbance in monocytic development. Cannabinoids stimulate only partial cell maturation, which results in a decreased number of mature cells. This decrease adversely affects the immune response.

THC, the most psychologically active component in marijuana, was also the cannabinoid that most altered cell development. This effect may be due to a block or an abnormality in the maturation pathway of the white blood cell. The alteration, however, can be removed or circumvented by cell maturation stimulators such as PMA and vitamin D.

By learning how components of marijuana affect cell development, we may gain insight into the cell maturation process. This could aid in understanding the lack of cell development seen in leukemia.

In time, we may be able to use cannabinoid derivatives to stimulate immature leukemic cells into maturity, or to suppress the immune system for organ transplants, by controlling maturation of white blood cells.

An understanding of the effects of marijuana on white blood cell development could have far-reaching implications in both basic and medical research.

WHAT THE SCIENTISTS SAY...

Dr Carlton Turner, University of Mississippi
"There is no other drug, used or abused by man which stays in the body as long as marijuana and there is no other drug, legal or illegal which affects every major organ of the body, and every system of the body and every cell of the body.
I now consider marijuana to be the single biggest health problem in our nation.
Kicking the habit is going to be a life and death struggle.
Marijuana will have long term drastic biological and physiological health effects on our young people, the future of our families and our nation.

Sir William Paton,
Oxford University of England
Deformed cell nuclei, sickly sperm cells, messed up cell metabolism, abnormal bone marrow cellss, impaired immune systems, complex combinations of the genetic code are scrambled; contributes to cancerous lesions.

Dr E. Sassenrath, University of California
You may not be able to have a child (male or female) or if you can they may be born with mental and physical abnormalities.
All the marijuana pregnancies had characteristics which put them into the category of high risk pregnancies. There was a wide spectrum of subtle abnormalities in marijuana mothers.

HEALTH DEPARTMENT (Victoria, Australia)
Marijuana is Australias most used illegal drug. 21% of all Australians have tried it.

NOTE: After spending $100,000,000 on a National Drug Offensive there is NO Australian research on the lethal drug MARIJUANA.
We must listen to and take heed of reputable researchers and ignore the liars, the pushers, and the self appointed experts.

IF YOU DON'T OR CAN'T BELIEVE THE STATEMENTS MADE IN THIS LEAFLET - CONTACT THESE ADDRESSES FOR FULL REPORTS:

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"POT SAFARI"
by Peggy Mann
(WOODMERE PRESS)
Available from P.R.Y.D.E. (above)

R & J McTaggart, Hervey Bay

AN EXPOSURE OF THE LIES AND DECEIT of the MARIJUANA PUSHERS

*Anyone who says **Marijuana** is harmless - is a **LIAR!***

*Anyone who says **Marijuana** is safe - is a **LIAR!***

*Anyone who says **Marijuana** is no worse than tobacco - is a **LIAR!***

*Anyone who says **Marijuana** is no worse than alcohol - is a **LIAR!***

WHY ARE THEY LIARS?

Because a vast collection of scientific research on human marijuana users from around the world proves they are liars.

WHO ARE THE LIARS?

(1) Know-all kids at school who think they are smart.
(2) Growers who make big bucks from the misery of those who fall for the lies.
(3) So called "experts" who won't read, haven't read, or won't believe the truth.
(4) Politicians who see quick votes in pandering to criminals and those they deceive.

Who Says They Are Liars?

(1) Parents who watch their kids throw away brilliant futures for the sake of a few joints.

(2) Hundreds of reputable research scientists who have proved beyond all doubt that marijuana is one of the most dangerous drugs in the world today.

(3) Doctors and Nursing staff in hospitals and maternity wards who see and handle the miscarriages and deformed babies of marijuana users.

(4) Psychiatrists who treat the schizophrenic marijuana users.

(5) Police who see the crims who grow and push grass and get rich on the misery of users.

(6) Teachers and Educators who watch school and university students go down the tube in a cloud of marijuana smoke.

(7) Doctors who treat mouth and lung cancer in young marijuana users.

(8) Welfare workers who try to pick up the pieces of the wrecked lives of marijuana users.

(9) Economists who plan to provide the money to provide rehabilitation for those who use marijuana.

(10) Honest pot smokers who know, admit and live to regret the fact that they fell for the lies.

During 1960/1970 only animal studies were available.
Now in the 1990's real life studies in human beings prove beyond all doubt the disasterous results of using marijuana.

CANCER - Donald P.J.
Marijuana and upper aerodigestive tract malignancy in young patients. (1991) reported twelve cases of advanced head and neck cancer in young patients with an average age of 26.
One was only 19 years old.

ABNORMALITIES (BIRTH DEFECTS)
Researchers Q.M. Quasi, E. Mariano, D.H. Milmun, R. Hingston, J.J. Alpert, N. Day and E. Dooling all reported anomolies in newborn babies exposed to marijuana during the smokers pregnancy as early as 1985. These studies have since been confirmed in 1986 by E.E. Hatch and M.B. Bracken, in 1987 by B.M. Lester and M.C. Dreher, in 1989 by B. Zuckerman, R. Hingston and D.A. Frank.

BRAIN DAMAGE
N.K. Varner, A.K. Malhutra and R. Dang reported in 1988 on the lasting damage done to the brain's biochemical mechanisms by marijuana. More compelling evidence was reported by V.O. Leirer, and J.A. Yesruace in 1991 in regards to the carry-over effect of marijuana in the brains of airline pilots.

ROAD ACCIDENTS
American National Transport safety board officers reported a higher incidence of marijuana use than alcohol in fatal road accidents.

SCHIZOPHRENIA
S. Anderson, P. Allebeck and A. Engstrom, in a study of 55,000 otherwise fit young people discovered that marijuana users had a six time higher risk of becoming schizophrenic than non-users.

EX-ADDICTS SAY...

"I was angry that nobody had told me the truth about "pot". I now realise I was wasting my life, hurting my family.
I didn't know it would make me only half the man I could have been.
It's affected my thinking powers, my brain.
My life now is empty ... nothing but visits to the doctors..."

"Pot makes you close your mind if anyone says anything bad about it."

ADDICTS FRIENDS SAY...

"My friend was killed driving home from a pot party.
He didn't realise his responses and reactions would be dulled by pot."

"My sister used to be fun, but now she is so different.
Moody, rude, bad language.
I wish she hadn't got hooked on pot."

THE MARIJUANA QUESTION

JONES & LOVINGER

Todd Mead

THE MARIJUANA QUESTION

AND SCIENCE'S SEARCH FOR AN ANSWER

Helen C. Jones & Paul W. Lovinger

THE MARIJUANA QUESTION

Helen C. Jones
and Paul W. Lovinger

Foreword by Surgeon General C. Everett Koop, M.D. Sc.D.

To millions of young people in the sixties, marijuana became a harmless herb of ecstacy. But some contemporary critics, examining scientific evidence, see in cannabis smoking a practice combining hazardous features of both tobacco and alcohol with pitfalls of its own. This book, the first of its kind, tells what scientists have found, what they agree on, and how they disagree. It is a story of an enigmatic drug and a quest for knowledge of the drug.

Describing hundreds of scientific experiments, the book sheds light on many prominent but misunderstood studies and presents new and hitherto unpublicized research. It makes striking disclosures—about fatal disease in laboratory animals and accidents in air and surface transportation, for example. And it raises disturbing questions about marijuana's effect on the vital systems of the body, on the brain and mind, on immunity and resistance, on sex and reproduction. It addresses such problems of society as hazards to nonsmokers, crime and the law, and the effect of widespread smoking among the military including atomic weapons personnel. In addition, one of the other unique features of the book is the

narijuana loosening the superego, said Kolansky and Moore (both affiliated with the child analysis division, Philadelphia Association for Psychoanalysis).

They were struck by marijuana's accentuation of "the very aspects of disturbing bodily development and psychological conflicts which the adolescent had been struggling to master . . . the inconsistencies of behavior, the lack of control of impulses, the vagueness of thinking and the uncertainty of body identity." While the adolescent struggles "to master new physical, intellectual, and emotional strengths, he is hampered by marihuana. This leads to further anxiety."

Their impression was that their study demonstrated the "possibility that moderate-to-heavy use of marihuana in adolescents and young people without predisposition to psychotic illness may lead to ego decompensation ranging from mild ego disturbance to psychosis.

"Clearly, there is, in our patients, a demonstration of an interruption of normal psychological adolescent growth processes following the use of marihuana; as a consequence, the adolescent may reach chronological adulthood without achieving adult mental functioning or emotional responsiveness."[53]

By 1972 Kolansky and Moore had developed a belief in "a specific pathological organic response in the central nervous system" to cannabis, "identified by a group of uniform symptoms common to all which seem unrelated to individual psychological predisposition."

They described thirteen adults, aged twenty to forty-one (their patients, 1969–71), who had smoked cannabis intensively (three to ten times weekly) for sixteen months to six years. All demonstrated symptoms that began with cannabis use and disappeared within 3 to 24 months after cessation of drug use."

They contended that the chemical effect of the drug on cerebral functioning, rather than purely psychological factors, was primary. They saw no difference in the symptoms of adolescent and adult chronic cannabis smokers.

Having regularly smoked three to ten or more times a week, the patient was apathetic and sluggish in mind and body, and usually unkempt and without goals. Though he boasted emotional maturity and insight, questioning of his new ways easily disrupted his "pseudoequanimity." If anyone threatened his cannabis supply, "the peaceful facade quickly gave way to irritability or outbursts of irrational anger." Most patients looked thin and older than they were. Often they felt tired, sleeping by day and awake at night. Headaches were common.

"The symptoms of mental confusion, slowed time sense, difficulty with recent memory, and the incapability of completing thoughts . . . seemed to imply some form of organicity either of an acute biochemical nature as noted in cases with shorter histories of cannabis use or, one might hypothesize, structural encephalopathy [brain damage] when found in cases with prolonged heavy marihuana use," wrote Kolansky and Moore. They grouped the thirteen cases in three categories:

"1. Biochemical Change." Less use of cannabis; symptoms gone within six months after drug use ended.

"2. Biochemical Change With Suspected Structural Change." Chronic intensive use of cannabis; no symptoms found after nine months. (The reason for the suspicion was not spelled out.)

"3. Biochemical Change With Possible Structural Change." Chronic intensive cannabis use; residual symptoms present nine months or more after drug use ended.

They maintained that they had established "a definite correlation between the presence of symptoms and cannabis use."

They described personality and occupational deterioration in nine men (advertising executive, architect, real estate agent, tree surgeon, veteran, and four teachers) and four women (dental assistant, housewife, social worker, and student). One man was an English professor who smoked marijuana daily for four years, encouraged students to smoke it during class "to think more clearly," and thought he was the reincarnation of Hamlet, conversing with his dead father during night walks on campus. Eventually he left his job, wife, and children. Joining an Eastern religion, he slowly gave up marijuana and improved mentally, although one year after quitting he still had difficulty with memory, concentration, and speaking. At thirty-eight, he looked fifteen to twenty years older.[54]

The news media reported the 1971 article in detail with commentary from professionals skeptical that the case histories had incriminated marijuana. Some questioned whether the thirty-eight cases were representative. But even skeptics agreed the report was a warning signal to be taken seriously.[55]

It attracted two letters to the AMA journal. Dr. Doris H. Milman of Brooklyn, New York, wrote that many physicians were unaware of marijuana's adverse effects because they did not think to make the association. Were they "as aware and keenly observant as Dr. Kolansky and Dr. Moore, the documentation of the dangers of marihuana would be more than sufficient to satisfy the sceptics."[56]

Dr. Victor M. Benson of Redondo Beach, California, wrote that "the basic deficiency of this paper is its lack of a control group." The authors had failed to consider numerous adolescent psychotics who never used drugs, he said.[57]

In publishing the second article, *JAMA* editorialized: "Spokesmen who

tory hallucination of a little lady dancing toward them in a fear-provoking experience that sounded like an initiation rite. The experience seemed to be exciting as well as frightening, but the subjects knew that they had only to hold their ground and open their eyes wide for the vision to disappear. They seemed to feel that they were being tested, and one subject said that his mother had told him that if his mind were not strong, he would go mad."

The three beheld this vision upon their first use of *ganja*. They numbered among thirty Jamaican cannabis smokers and thirty controls given psychiatric examinations by Michael H. Beaubrun and Frank Knight of the psychiatry department at the University of the West Indies.

Altogether ten smokers reported having had hallucinatory experiences, compared with two controls. Of the smokers, "more than half" (the number was not mentioned) had these experiences only once, when they began taking the drugs as youngsters.

One man from each group had a personal and family history of mental illness. "The smoker had been hospitalized for a schizophreniform illness that might have been provoked by heavy cannabis use." Eight smokers had histories of mental illness in their families, compared with two controls. Given such family histories, the fact that the smokers themselves showed little mental illness suggested to Beaubrun and Knight "that cannabis smoking may play a role in preventing psychosis in predisposed individuals."

Four smokers and three controls had past problems of alcoholism, while respectively seven and three gave family histories of alcoholism. Beaubrun and Knight stopped short of constructing a theory that cannabis prevents alcoholism, but they did point out that two smokers reported they had reduced their alcohol intake and "seemed to relate this to cannabis use."

Little or no differences between the two groups emerged in tests of neuroticism, extroversion, and childhood deprivation. The smokers impressed the staff in the hospital where they were examined as more "affable and popular," but they seemed motivated to prove that their habit was not harmful. No mental abnormalities transpired from examinations. No one avowed taking any drug besides cannabis, outside of alcohol and tobacco.[62]

The results of the controlled studies did not agree with clinical observations. In 1976 Knight told a scientific conference in New York, "Clinical observation suggests that cannabis is implicated in some types of psychiatric disturbances." Figures that he cited from six Jamaican hospitals—where *ganja* smoking figured in scores of diagnoses a year—

"lend support to the idea of causation of illness or modification of existing illness" by cannabis.

For instance, of seventy-four males admitted in one year to the psychiatric unit at the University Hospital of the West Indies, twenty-nine, or two-fifths, had a history of cannabis usage. Ten of them were diagnosed as suffering from "ganja psychosis." The diagnosis for four others was "marijuana-modified mania."

"Ganja psychosis" is a term used by psychiatrists and nurses in Jamaican psychiatric units to describe "disturbed, sometimes aggressive, behavior after several days of unaccustomed cannabis use" (either first-time use or the taking of a larger dose than ever before) with "schizophrenic features" and persistence for several weeks after supposed elimination of the drug from the body.

In explaining the variance between the results of the controlled Jamaican studies and the clinical observations, Knight said he considered such a discrepancy inevitable. He explained that the thirty smokers tested for any permanent effects from cannabis "are really in a different category from those in whom clinical observation incriminates cannabis as a cause of psychiatric illness and adverse psychologic effects." Of the many who expose themselves to the drug, only a few—presumably those with "constitutional liability"—fall into the latter category.

"In considering the carefully controlled studies on long-term use, the question could arise as to the status of these users; whether, in fact, the samples may be biased from the beginning because the subjects chosen could be seen as the *survivors*, as it were, of many years of cannabis use."

Of 223 patients admitted for functional psychoses to the psychiatric unit of Jamaica's Cornwall Regional Hospital in twelve months, 54 patients or 24 percent had a history of cannabis usage, which according to Knight was "a contributory factor." Meanwhile at three other Jamaican rural general hospitals, cannabis smoking was held to be a contributory factor in a total of 57 or two-fifths of 144 cases of psychosis. Of 106 males admitted (nearly consecutively) to Bellevue Psychiatric Hospital in Kingston, 26 were heavy *ganja* smokers (smoking at least daily) while 7 were light users.

Symptoms appearing to be part of schizophrenia stemmed from cannabis in so many cases that the provisional diagnosis of "schizophreniform reaction" came into frequent use at Cornwall Regional Hospital, where 37.5 percent of patients so diagnosed in a twelve-month period had a history of cannabis use, Knight said.[63]

• • •

In the Greek study (1976) the absence of any diagnosis of organic psychosis, after thorough mental, neurological, and brain tests, made it clear to the inves-

espouse tolerance toward 'occasional' or 'moderate' use of marihuana should be mindful of the possibility that, for whatever reasons, occasional may become 'frequent' and moderate may become 'intensive,' with forbidding consequence. . . .

"If marihuana ever were given the same legal status as alcoholic beverage, nothing could be said except 'Buyer beware.' "[58]

In a 1975 commentary in the AMA journal, Kolansky and Moore went beyond merely raising "the possibility" of brain damage. ". . . We presumed that with intensive cannabis use, biochemical and structural changes occurred in the central nervous system."[59]

Among three physicians writing to the journal in response to the second article, one from New Hampshire denied that the patients might have suffered "permanent structural changes in the cerebral cortex" because the majority regained their mental functions. Another, from Washington, D.C., disputed the claim of a unique, stereotyped syndrome of uniform symptoms because all of the case reports did not contain thirteen symptoms listed as features of the syndrome. A third, from San Diego, said a statement that symptoms of all patients "disappeared within 3 to 14 months after cessation of drug use" contradicted a case description of a teacher, twenty-five, who "left town before we could determine the presence or absence of symptoms after six months."[60]

Tennant and Groesbeck, West Germany, 1972: "Hashaholics"—that's what some U.S. soldiers in Europe were called. Hashish was cheap and they smoked mammoth amounts of it. They burned it several times a day, usually in pipes and often mixed with tobacco.

Medical corps officers who treated GIs for respiratory troubles stemming from hashish told of psychiatric and neurologic problems it had precipitated as well. Of a group of 720 hashish smokers who visited the U.S. Army Hospital in Würzburg, Germany (1968–71), nearly half, 328, suffered from serious mental ills.

Two thirds of these mental patients (218) had acute or persistent psychoses—with disorientation, hallucinations, delusions, paranoia, and so on—which in many cases required hospitalization. The majority of them took other mind-altering substances besides hashish.

The remaining third (110) were strictly "hashaholics," living in a perpetually stoned state, consuming 50 to 600 grams a month (about 2 to 21 ounces). They exhibited "apathy, dullness, and lethargy . . . impairment of judgment, concentration, and memory . . . intermittent episodes of confusion, and inability to calculate . . . poor hygiene . . . slightly slowed speech." Many had lost interest in their appearance, properating, and personal affairs—often enmeshing themselves in legal or social trouble.

Majors Tennant and Groesbeck followed nine of them before, during, and after periods of severe hashish abuse, lasting up to two years. The above symptoms developed after two or three months of smoking. After quitting hashish, six of the nine soldiers regained their faculties. "Three of the nine patients, however, exhibited intermittent residual symptoms analogous to those of organic brain disease . . . intermittent periods of memory loss, confusion, and inability to calculate and concentrate. Episodes lasted from several hours to days, and sometimes hospitalization was required due to extreme confusion. With passage of time, these intermittent episodes became less severe and less frequent."

Twenty-three others quit hashish. Even after being "detoxified," 10 of them continued to exhibit the same symptoms shown by the above three. The remaining 78 (of the 110) continued smoking until discharge from the army—which in 70 cases came prematurely because the soldiers could not function.

Simultaneous abuse of hashish and alcohol and/or other drugs resulted in acute psychosis in 85 cases (hashish used three to seven times a week, 10 to 50 grams a month) and persistent schizophrenic symptoms in 112 others (hashish used several times daily, 25 to 200 grams a month); the 112 patients all were sent to the United States for long-term psychiatric hospitalization. Eighteen acute psychotic cases (occasional use, under 25 grams a month) and three schizophrenic reactions (three to seven times a week, 10 to 50 grams a month) occurred with hashish use alone; the 21 patients required brief hospitalizing.

The eighteen included five novice users who suffered "panic reactions characterized by a feeling of impending death and/or loss of mental function . . . resolved with reassurance and mild sedation" plus thirteen with toxic psychosis resulting from smoking a large amount of hashish—usually 5 to 30 grams—within a few hours. The main clinical findings of the toxic psychosis were "disorientation, delusions, anxiety, depersonalization, and confusion"; "paranoia and hallucinations" appeared in most cases. The symptoms disappeared in three days after treatment with antipsychotic agents like Thorazine.

The 110 in the chronic intoxicated state took monthly between 50 and (rarely) 600 grams of hashish, which, according to Tennant and Groesbeck, had a THC content of 5 to 10 percent. On the basis of 10 percent THC this dose range would equal between 500 and 6,000 one-gram marijuana cigarettes with 1 percent THC—or about 17 to 200 a day.

Figures presented by Dr. Tennant at a Senate committee hearing in 1974 indicated that about an eighth of drug hospitalizations in ten U.S. Army, Europe, hospitals through 1971 and half of 1972 (657 of 5,093) were for adverse reactions to hashish; and that of 5,044 GIs in Germany anonymously surveyed in 1971, 35 percent reported taking hashish there, 25 percent taking two or more illegal drugs, and 15 percent using hashish at least weekly.[61]

Beaubrun and Knight, Jamaica, 1972; also Knight, 1976: "Three subjects from one area of Jamaica reported a first-time visual and audi-

tigators that such dementia was "not a usual accompaniment of high-dose, chronic hashish use."

Three cannabis users (6 percent), and no nonuser, did prove psychotic, suffering "paranoid schizophrenia" unrelated to fear of arrest for hashish possession). For two of them it developed after they took up hashish smoking. Because they showed no clinical signs different from those of schizophrenia, the researchers could draw "no conclusions" as to the existence of a specific cannabis psychosis.[64] In addition, the smokers described occasional panic reactions during their long-term use.[65]

• • •

Whether cannabis triggers true psychosis and, if so, whether it does so just in those predisposed to mental ills was argued at the New York Academy of Sciences (1976). G. S. Chopra described experiments in India: "We had certain individuals suffering from toxic psychosis due to hemp abuse, and they had the disease for about one month and . . . it subsided. When we asked the patients to take hemp again, the psychosis appeared again." That demonstrated a specific psychosis precipitated by hemp drugs.

When Dr. Chopra listed symptoms such as confusion, disorientation, aggressiveness, and talkativeness, Dr. Costas Stefanis said, "In that sense, every marijuana smoker has an organic psychotic syndrome . . . whenever he is intoxicated. . . ." The smoker is bound to have some consciousness disorders, disorientation, and other manifestations. But as for a steady mental condition resulting from chronic use, "we didn't find any such evidence" in studies of Greek hashish users.

Dr. Reese T. Jones of San Francisco said, "From our experience, almost anybody given the right dose and in the right setting can exhibit . . . a schizophrenia-like set of symptoms." But there is a predisposition in some people. In one abnormally sensitive subject, "Every time we tried to exceed a fairly modest dose of cannabis . . . which was tolerated by all of our other subjects, this young man would develop delusions, disturbed aspect, and visual distortions."[66]

PART III

CANNABIS AND SOCIETY

included in the model. Based on the results of the fit of the model to the data across gender groups shown in Fig. 5, this analysis specified all parameters and variances to be invariant across the two groups with the two exceptions. The constraints of invariant relationships among the endogenous variables and their variances were relaxed. This analysis produced a nonsignificant chi-square [$\chi^2(11) = 14.29$, $p = .22$] indicating a good fit of the model to the data. Further, the inclusion of race did not greatly affect the results shown in Fig. 5. However, it is important to note that, for male youths, significant, positive relationships remain between physical abuse and emotional/psychological functioning as measured at the initial interview, and between physical abuse and frequency of cocaine use during the follow-up period; no significant relationships between these variables appeared for the female youths (see Note 2).

The Influence of Socioeconomic Status (SES)

The socioeconomic status of the youths' families/households has low or near zero magnitudes of association with the variables in the alcohol use, marijuana/hashish use, and cocaine use models for both gender groups. In addition, 14% of the cases had missing or uncodable information on this variable. Hence, this variable was a poor candidate for the analyses that were completed involving the variable of race.

Discussion

The results of the structural analyses examining the influence of the youths' physical abuse, sexual victimization, and alcohol and other drug use on their emotional/psychological functioning problems and alcohol/other drug use over time support the hypothesized model for both gender groups—with the one exception discussed earlier regarding cocaine use (see also: Dembo, Dertke, La Voie, Borders, Washburn, and Schmeidler, 1987a). The coefficients of determination (analogous to the squared multiple correlation of least squares solutions) for the emotional/psychological functioning-alcohol use (0.24), -marijuana/hashish use (0.51), and -cocaine use (0.40) models over time range from moderate to high in value.

Comparing the results of the fit of the model for male and female youths' use of alcohol (Fig. 2), marijuana/hashish use (Fig. 3), and cocaine use (Fig. 5) over time indicates that their physical abuse, sexual victimization, and previous substance use are interrelated experiences. Physical abuse relates to emotional/psychological functioning problems as measured at initial interview in each of the substance use analyses; physical abuse is associated with emotional/psychological functioning problems at follow-up in the alcohol and marijuana/hashish use analyses. Emotional/psychological functioning problems as measured at the initial interview relates to emotional/psychological functioning problems as measured at follow-up interview. Further, the previous use of alcohol, marijuana/hashish, and cocaine is associated with the use of each respective drug during the follow-up period. In addition, the previous use of alcohol and cocaine are each associated with emotional/psychological functioning problems as measured at initial interview. Finally, emotional/psychological functioning problems at follow-up is separately related to the use of alcohol, marijuana/hashish, and cocaine (for males only) during the follow-up period.

Two important child abuse-drug use direct effects are highlighted in Figs. 3 and 5. Sexual victimization is associated with marijuana/hashish use during the follow-up period. Physical abuse is related to cocaine use during the follow-up period. Neither physical abuse nor sexual victimization is associated with the use of alcohol during the follow-up period.

Several race effects were identified in our analyses. Black youths tend to be less involved in alcohol use and to have higher levels of emotional/psychological functioning than White youths—although all these differences are not consistent across both data collection periods. These findings are consistent with the relevant literature, which indicates that Whites tend to be more involved in the use of various substances than Blacks (see Tucker, 1985). Further, there is evidence to suggest that involvement in delinquency/crime is more of a normative departure for White than for Black youths (Wilson and Herrnstein, 1986; Harris and Lewis, 1974). In line with the literature among youths who are involved with the juvenile justice system, the prevalence rate of emotional/psychological problems can be expected to be higher among White than Black youngsters (also see: Dembo et al., 1988).

With respect to cocaine use, including the variable of race into the analyses resulted in nonsignificant relationships between physical abuse and emotional/psychological functioning problems at initial interview, and between physical abuse and frequency of cocaine use during the follow-up period, for the girls but not the boys. While the reasons for this differential effect of race are unclear, physical abuse is highlighted as a potent influence on emotional/psychological functioning problems and later cocaine use among males regardless of race.

In contrast to the alcohol and cocaine use results, race was a factor of key importance in understanding the marijuana/hashish use relationships. As Figs. 4(a) and 4(b) show, and as we discussed earlier, although there are similarities in the results, substantial differences exist in the structural parameters for the White and Black youths in our study (see under Structural Analysis of Marijuana/Hashish Use Across Gender Groups Over Time). Taken together, these findings suggest that involvement in marijuana/hashish use among the non-Black youths use studied is associated with a higher degree of emotional/psychological dysfunction than is the case for the Black youths.

Additional analyses of the data support this line of interpretation. Compared to Black youths, non-Black youths reported experiencing more different modes of physical abuse in their lives ($t = 2.34$, $df = 273.96$, $p < .02$), claimed a higher frequency of use of marijuana/hashish prior to initial interview ($t = 8.28$, $df = 280.01$, $p < .001$) and during the follow-up period ($t = 6.88$, $df = 286.99$, $p < .001$), and had a higher emotional/psychological functioning problem score at initial interview ($t = 3.08$, $df = 285.51$, $p < .01$). Further, non-Black youths had a significantly higher EMIT test positive rate for cannabinoids at the time of their initial interviews, than Black youths (49% for non-Black youths vs 18% for Black youths: $\chi^2 = 30.00$, $df = 1$, $p < .001$); and, among the 201 youths for whom we had follow-up urine test data, non-Black youths had a more than 6 times higher positive rate for cannabinoids at follow-up interview, than Black youths (54% vs 8%, respectively: $\chi^2 = 41.97$, $df = 1$, $p < .001$).

It is important to note that the SCL-90-R protocol, measuring emotional/psychological functioning problems was initially administered within 48 hours after the youths' admission to the detention center. During the follow-up phase of the study, the instrument was administered at the time of the follow-up interview, and this procedure included youths who were in a variety of circumstances, as we discussed earlier. In spite of these conditions of administration, we believe these data are valid. The youths' emotional/psychological functioning problem scores at the initial and follow-up interviews are significantly related to each other; and the correlates of the youths' emotional/psychological functioning problems are consistent with the relevant literature (see Elliott and Huizinga, 1984).

Our findings that the youths' alcohol/other drug use and mental health problems relate to themselves and each other over time provide a disturbing reminder that these difficulties will continue to be salient features of the lives of the youths we studied, and perhaps their counterparts in other areas. The practical implications of these results are clear.

The youths we studied need to be seen in holistic terms. Focusing on them in terms of one problem at a time provides, at best, a limited insight into the difficulties which they are experiencing and which must be resolved if they are to lead more salutary lives. A major result of this study is that there are important relationships among these problems.

A serious long-term investment of resources in quality intervention programs is needed to help the many troubled youths who enter the juvenile justice system. Such an investment is not only humane but in the long-term interests of society. If not helped, many of these youths will become more involved in substance use and pursue adult criminal careers.

The results of our analyses have a number of implications for the assessment of high-risk youths entering the juvenile justice system, staff training, establishing criteria to evaluate intervention programs, and the temporal demands of effective interventions for multiproblemed, substance-using youths.

First, it is important that youths entering the juvenile justice system undergo a comprehensive screening to identify problems in four major areas: (1) emotional/psychological functioning, (2) experience of physical abuse or (3) sexual victimization, and (4) alcohol and other drug use (see, for example, Dembo, Washburn, Broskowski, Getreu, and Berry, 1986). These evaluations should be completed by skilled, sensitive staff, who are able to establish trust and rapport; and troubled youths and their families should be referred to relevant agencies for assistance.

Second, it is important that staff be properly trained to work with high-risk youths. Staff need to see these youths in a comprehensive manner, and not in one problem at a time terms. In addition, staff skills need to be developed in identifying youths experiencing various psychosocial problems, and in successfully negotiating verbal encounters with these youngsters.

Third, intervention efforts involving multiproblemed youths need to be deep reaching and involve a prolonged service commitment. For seriously troubled youths, service relationships ideally should begin at an early age and continue through adolescence and into early adulthood if their lives are to be directed in more salutary ways.

Fourth, evaluation criteria to assess the impact of these long-term interventions need to reflect the complex, interconnected nature of these youths' problems, which often trace to their childhood. In developing these criteria, emphasis should be placed on documenting, not only the reduction of particular problems, but improved competencies in a variety of personal, interpersonal, and specific skill (e.g., vocational skills, educational achievement) areas. Formulating appropriate assessment criteria constitutes an exciting challenge to the field.

Many of the young people we studied were born into austere life circumstances, often involving families who neglected or abused them, or in other ways failed to provide for their nurturance and wholesome development. At an early age, they came to the attention of an overburdened and underresourced public service system, which was unable to provide the youths and their families with quality, deep-reaching services over a protracted period. It is not surprising that these youths experienced difficulties in directing their lives in more salutary directions and became involved in delinquent activities. Had society invested in effective services for these youths and their families early in their lives, much human potential could have been saved and the personal and social costs of their delinquent/criminal behavior could have been reduced substantially. It is hoped that the painful lessons we have learned from the past and are currently experiencing will lead to more enlightened social policies in the future.

APPENDIX B: CORRELATIONS (r), MEANS, AND STANDARD DEVIATIONS OF VARIABLES INCLUDED IN THE MODEL FOR MARIJUANA/HASHISH USE FOR NON-BLACK AND BLACK YOUTHS

Variables	Non-Black (n = 172 or 173) Mean	*SD*	Correlations: Non-Black/Black Youths 1	2	3	4	5	6	Black youths (n = 122 to 125) Mean	*SD*
1. Physical abuse	0.10*	0.87		.04	.32***	.37***	.25**	.11	-0.13*	0.83
2. Sexual victimization	0.34	0.48	.18*		.12	.13	-.03	.31***	0.32	0.47
3. Marijuana/hashish use prior to initial interview	4.13***	2.58	.17*	.23**		-.04	-.01	.32***	1.74***	2.36
4. Emotional/psychological functioning (T_1)	0.14**	1.02	.24***	.11	.19*		.45***	.16	-0.20**	0.89
5. Emotional/psychological functioning (T_2)	0.08	1.01	.18*	.16*	.02	.37***		.18*	-0.11	0.91
6. Marijuana/hashish use during follow-up period	3.31***	2.51	.13	.22***	.41***	.10	.13		1.44***	2.61

Note. The physical abuse and emotional/psychological functioning factor scores were calculated in such a manner that the higher the score, the more the experience or behavior reflected in the factor. Sexual victimization was coded as no = 0, yes = 1. Marijuana/hashish used as measured at T_1 and T_2 was coded as follows: never used = 0, used 1 or 2 times = 1, used 3 to 5 times = 2, used 6 to 10 times = 3, used 11 to 49 times = 4, used 50 to 99 times = 5, used 100 to 199 times = 6, used 200 or more times = 7.
Two-tailed test significance levels: $*p < .05$; $***p < .01$; $***p < .001$

NOTES

1. We would like to thank Dr. Delbert Elliott (1986) for suggesting we use this protocol.
2. We appreciate that sexual victimization is a nominal-level variable, whose inclusion as an endogeneous variable in the ethnicity runs might have affected the parameter and variance estimates. (As Joreskog and Sorbom [1983] discuss, nominal-level predictor variables can be used as exogeneous variables in LISREL.) However, we do not believe this to be a significant problem in the ethnicity results for the following reasons: (1) in the ethnicity-alcohol use runs, the relationships among the endogeneous variables were not affected, (2) with few exceptions, a similar situation occurred in the ethnicity-cocaine use runs; further, the affected variable relationships did not involve sexual victimizations, and (3) in the examination of the fit of the model across the Black and non-Black (predominantly White) youth groups, pooling the data for the two gender groups, sexual victimization was significantly related to marijuana/hashish use for each ethnic group.

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Cite all TABLES and FIGURES in the text. Tables should have titles, and figures should have brief legends. In tables, give each column a heading. Indicate units of measure in parentheses in the heading for each column. Do not use vertical rules. Do not use horizontal rules other than those in the heading and at the bottom. Submit PHOTOGRAPHS as glossy prints, untrimmed and unmounted; identify each with pencil lightly on the back and indicate top.

ARTWORK will not be returned unless specifically requested, and will be disposed of three months after publication.

REFERENCES in the text should be enclosed in parentheses and include the author's surname and the date of the item cited. Keep footnotes to a minimum. Footnotes should be collected at the end of the manuscript in their numerical order of appearance.

The BIBLIOGRAPHY (double-spaced) should be given at the end of the article in alphabetical order. Journal references should include authors, title, name of journal abbreviated according to *Chemical Abstracts List of Periodicals*, inclusive page numbers, and date. Book references should include authors, title, place of publication, publisher, and date.

KEW WORDS: Include up to five words/concepts for indexing purposes.

STYLE: Living organisms are or can be abused; objects are either used or misused. The *International Journal of the Addiction's* style preference is for use/misuse, drug users, drug misusers, and not drug abuse or drug abusers.

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CHRONICLE (Toowoomba)
3 June 1994
page no 1

The great stoned age

The question of decriminalising cannabis has been in the news this week. Reporter JOHN MORRIS researched the subject and talked to marihuana addicts. He was surprised to find that this "soft" drug is dangerous, addictive and lethal. It not only destroys the brain but affects the body and impairs sexual functions.

REGULAR pot smokers from the late teens to mid-twenties have been found to have the kind f brain atrophy that occurs in peole of 70 to 90 years of age.

A substance in marihuana imairs the ability of brain cells to dede which one of thousands of mesges not to pass on so that the mind not in a constant state of con-sion.

A substance in marihuana imairs the ability of brain cells to dede which one of thousands of mesges not to pass on so that the mind not in a constant state of consion. .

That is why the marihuana user ay become engrossed in detail, a rocess the pot smoker regards as ind expansion. .

This is a reversion to the way inants see their surroundings when eir brain cells can't discriminate tween important and unimporant information.

When brain cells die they are one forever.

Dark fatty granules invade the cleus of the brain cells. These anules are usually found in old ople and are a sign of senility. But ey are found more among young ot smokers than older ones beuse the developing brain is more lnerable to its effects than the lly developed adult.

No other drug creates these oldge symptoms in the young brain.

According to US drug researcher r Lawrence H. Wharton, the first search papers on marihuana writn in the 1960s said that marihuana as a relatively harmless drug and d not produce any lasting probms.

He said the dangerous substance marihuana is called THC which is sorbed into the fatty tissues of the dy and it takes a minimum of 45 ys to get rid of the THC absorbed one joint or smoke.

THC clogs up the connecting rves or synaptic clefts in the brain nich relay messages from one part another.

"All we know is that the synaptic clefts are getting clogged up with this black tarry substance which does not seem to go away," Dr Lawrence said.

The brain requires both chemical and electrical stimuli to send messages, to function smoothly.

Compare it to a car battery which has cells using chemicals to create electricity which in turn starts a motor. The same applies to the brain.

It has an orderly network of strands that manufacture chemicals necessary for message transmission.

Smoking two joints a day twice a week for six months will disorganise the chemical-producing strands. As a weekend smoker becomes a heavy smoker there will be even more chaos among the strands.

THC clogs the complex brain mechanism affecting memory and clear thinking as well as causing a slow-down of comprehension, reaction and evaluation time.

Early tests in California by a Dr Powelson gave a large group of students who did a tremendous amount of mathematics in their undergraduate work an exceedingly complicated problem that only a few could eventually work out.

Then he gave each one of these students one joint of marihuana three times a week for three months.

At the end of the three months Dr Powelson gave the group the same problem and none of these very bright students could work it out.

Here is the frightening part:

He gave the test at intervals and after five years they still could not do the same problem.

Marihuana causes brain cell death at four times the rate of that caused by alcohol.

University students who smoked or had smoked marihuana were shown this research. Quite a few were disbelieving at first but later admitted that their learning ability had been impaired and that they were not achieving at the same level.

Research groups have done many tests on people in controlled situations and the results are consistent.

A group of pilots with thousands of hours flying time to their credit were put in a flight simulator and allowed to fly a course as many times as they wanted until they could do it with ease.

Each of the pilots was given one joint of marihuana and then asked to fly the same course.

Not one of the pilots was capable of flying the course without making at least one fatal error because a person under the influence of the drug cannot process information from different sources at the same time.

The pilot has to maintain air speed, maintain altitude and direction, and work in a three-dimensional world which requires processing information from a number of different sources at the same time.

Under the influence of marihuana they cannot do this.

The peddlers of marihuana are telling today's users that it is a harmless drug and even quoting authoritive research to back their arguments.

The trouble is that the research backing this argument is about 30 years old.

Marihuana or cannabis came into vogue in the 1950s in the days of the flower children, who copped out and took to drugs.

"Now, you're going to have to understand this. The marihuana they had to deal with at that time was one tenth the potency of today's marihuana," Dr Wharton said 10 years ago when presenting the latest research to Californian doctors.

He said the research was done by the same team that had 20 years before said that marihuana was innocuous.

"Most of these researchers have done a 180 degree turn in their attitude," he said.

Ten years later, in 1994, growers are continuing to improve the strength of the plant because their customers demand stronger and stronger doses.

The mind-altering drugs in marihuana or cannabis are fat-soluble, even fat loving. They settle in the fatty organs of the body, among them the brain, which is one-third fat.

Four US doctors who have done more recent studies on marihuana said that unlike water-soluble drugs such as alcohol that leave the body in a day, drug traces (cabanoids) leak back into the blood stream very slowly until they finally exit the body in excreta and urine.

According to Dr Wharton an individual who smokes as few as three joints a week is chronically stoned.

Up-to-date research says that even if a marihuana reefer is smoked once every three weeks the cabanoids will collect in the body. The chronic pot user is never drug free.

"I'm not saying chronically high. The effect is still going on and the individual will not be able to work or study at the same level as before. It will be a minimum of 45 days before getting back to normal," Dr Wharton said.

Dr Wharton said that society has developed into people who have come to expect that "there is no need to ever feel bad".

"And the drug companies have done a beautiful job of supplying us with the kind of medication that we can use so that people don't have to feel bad," he said.

Loma Linda University

School of Medicine
Department of Orthopedic Surgery

Mr. George W. French
Listen America Foundation Inc.
Riverside, CA 92502

Dear George:

All of the evidence is not in on Marijuana! I am not a research scientist, but a clinician, so I would like to use this letter to acquaint you with the work of some of the scientists doing Marijuana research.

Chromosome breaks have been proven to occur in humans who smoke Marijuana as shown by tissue cultures by Dr. Morton Stenchever of the University of Utah and Dr. Gabriel Nahas of Columbia University.

Animal experiments have shown that 20% of newborn animals born to mothers who were given Marijuana had many deformities including amputated limbs, phocomelia, and syndactyly as reported in Lancet by Persaud and Ellington. Dr. Susan Dalterio from the University of Texas noted congenital defects that were passed through the second generation, indicating genetic mutations.

Other scientists have reported malformed children born to parents who used LSD and Marijuana. Dr. Hecht from Oregon reported on a baby with a missing hand and forearm. Dr. Carukushansky from New York described a child with webbing of the hands, lack of nails and club foot who was born to a mother who used Marijuana.

Ethel Sassenrath at the University of California, Davis, reported increased malformations in the off-spring of monkeys exposed to cannabis. One of the surprising findings was hydrocephalus. Doctor's Jacobson and Berlin from George Washington University showed that heavy users of LSD also produced children with hydrocephalus. Many of these individuals also used Marijuana.

It is my impression that the use of Marijuana is responsible for a type of birth defect of the hands and feet.

As I question the parents of children born with abnormalities, I note the ever increasing use of Marijuana by one or both of the parents. Not all parents who use Marijuana are going to have a malformed baby. Not all children with these defects have had parents that smoked grass. It seems that only a small percentage of pregnant women will develop a deformed baby. This minority may have an enzymatic or genetic defect. Or, there may be some defect in the absorption or excretion systems of certain of these individuals. However, in my practice over the last ten years I am seeing more and more of these deformed children.

The evidence is frightening. I simply urge all thinking people to wait for the evidence before they blow their minds or the minds and bodies of their children.

Thank you Listen America, for letting me share my observations and my fears with the American Public.

Very important

Sincerely,

Virchel E. Wood

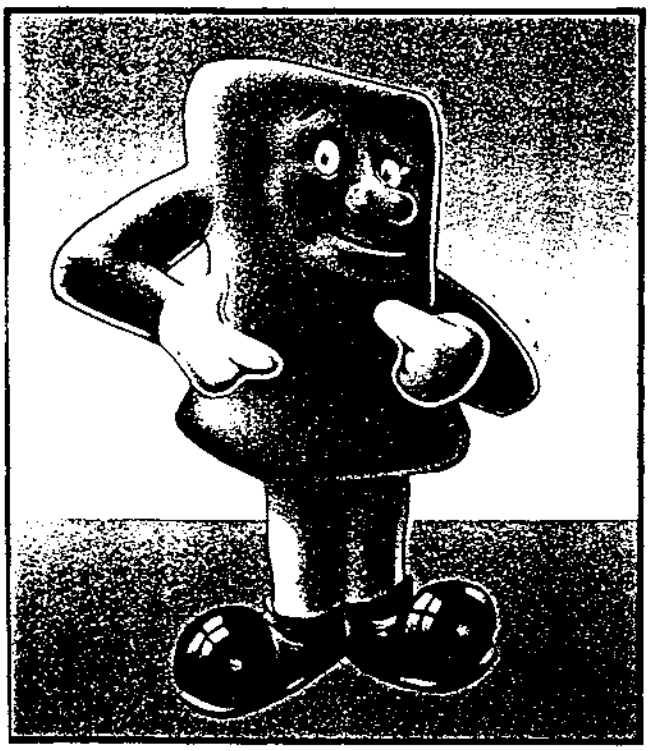
Virchel E. Wood, M.D., F.A.C.S.

Virchel E. Wood, M.D., F.A.C.S., A.A.O.S., A.S.S.H., is an orthopedic surgeon and an associate professor in the Department of Orthopedic Surgery and Rehabilitation, Loma Linda University School of Medicine, Loma Linda, California. During the last 18 years, Dr. Wood has been widely published in major scientific journals, and is considered an authority in the field of hand surgery.

BIRTH DEFECTS: *(A Simplified Explanation)*

Few of us ever take the time to think about how our bodies work. In fact, for most of us our bodies are like the air we breath; we know it's there, but we just don't make a big issue of it.

Although we learn about physiology, anatomy and hygiene while we're in school, what the teacher draws on the overhead projector just doesn't seem to apply to us.



HEALTHY CELL

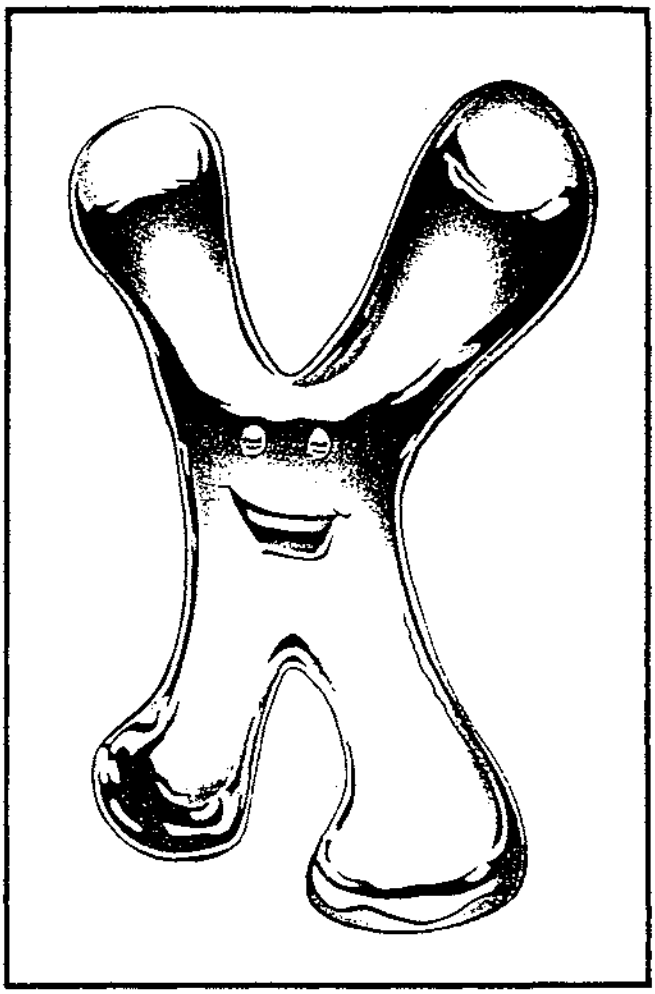
This is especially true when it comes to our body's cells. Everything in our bodies — hair, bone, skin — consists of billions of cells. These cells live for various lengths of time, die, and are quickly replaced by others. Yet, because the naked eye can't detect them, we seldom think of their importance or wonder how they function.

After we twist an ankle while playing basketball or roller skating, no one has to sit down and think to himself, "Ankle, start replacing those cells I just bruised." Even if we tried to do that, it really wouldn't make much difference because as soon as an injury occurs, the cells immediately begin the necessary procedures for healing.

So how does the body know what kind of cells it needs and where to send them?

Inside of every cell there are 46 chromosomes. (In order to visualize them it might help to think of them as little chrome X's). Chromosomes are important because they house the genes and it is from inside the chromosomes that the genes are able to direct the cell's growth. Thus, cells receive the instructions from the genes that assign them to replace the old cells in our hair, stomachs or any other body parts.

Obviously, genes are the deciding



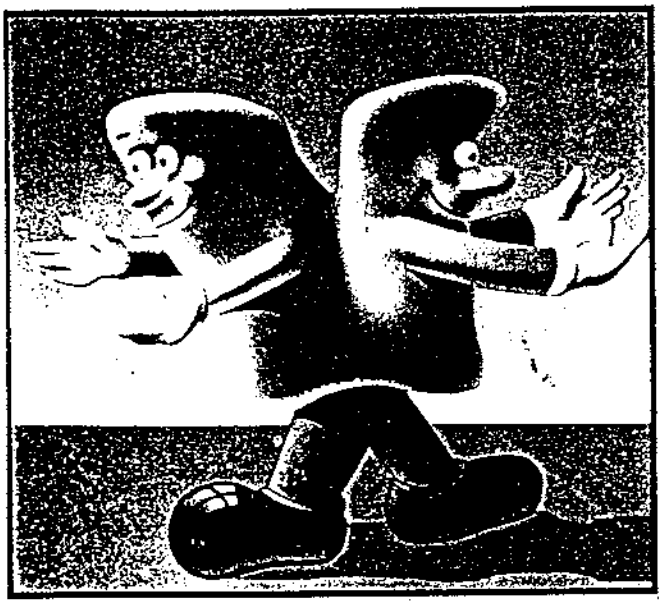
HEALTHY CHROMOSOME

factor when it comes to how our body functions. Everything, as far as our body is concerned, depends on our genes. When we examine our faces in the mirror, most of what we see was determined by our genes.

Genes also control cell reproduction. When the time comes to create a new cell,

the entire parent cell - chromosomes included - divide completely in half, producing a total of two new cells. And thanks to the genes, the two cells are identical to the original cell. This process of cell reproduction continues within the body as long as life lasts.

Now that we've recognized that genes play a significant role in our bodies, let's ask



CELLS DIVIDING

the question, "What would happen if the genes malfunction?" Since we already know that genes guide the cells' reproduction, it doesn't take much effort to see that damaged genes would create damaged cells.

Generally, genes can become damaged in two ways. First, certain illnesses like cancer alter genes so that the cell instructions, but when the cell follows them, it actually becomes an agent of harm, working against the body, instead of trying to help it.

The second method of damaging genes comes in the form of drugs. Certain drugs can actually alter the genes and create some very negative results.

One such drug is thalidomide. At one time people thought that thalidomide could harm no one. Drug stores in several countries sold the medication for use as a sleeping pill. No one recognized the drug's capabilities for damaging genes.

It didn't take long before expectant mothers who had used thalidomide gave birth to babies with some grim defects known as

TYPICAL THALIDOMIDE DEFECT

phecomelia. In place of arms and feet, the newly-born children had seal-like flippers.

A great deal of research took place over the next several years to determine the cause of these birth defects.

While studying the effects of thalidomide, scientists found that if it was given to animals while pregnant, they also had babies born with flippers.

thalidomide at the exact time during pregnancy as the animal mothers, also gave birth to babies with the same type of birth defects.

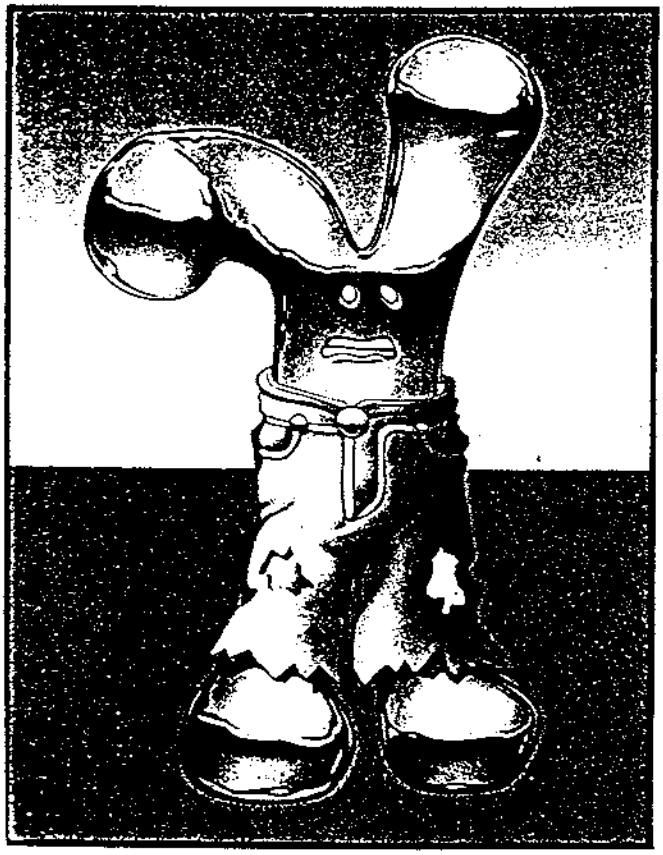
The thalidomide caused the damaged genes, so instead of making normal hands and feet, they made those sad little flippers.

Today, people are wondering a lot about marijuana. Even though, like thalidomide, marijuana is illegal, people still find ways to purchase and use it. These people

BIRTH DEFECTS: (A Simplified Explanation)

claim that the drug doesn't cause any damage to the body.

However, scientists are trying to find out more about marijuana. They aren't so sure that it's safe, and they don't want to see problems like the ones thalidomide caused happen again.



CHROMOSOME WITH DAMAGED GENES

One characteristic of marijuana that nakes scientists uneasy, is the way it stays in he body for long periods of time.

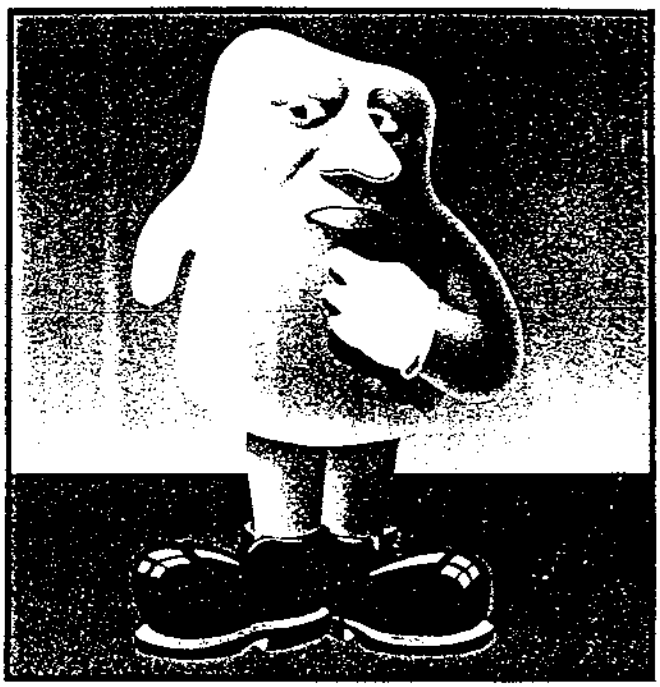
Even after marijuana's sensation goes ıway, some of the chemicals stay in the)ody for weeks. And the more of it a person :mokes, the more the chemicals build up in ıis body.

Marijuana's chemicals build up par- icularly in the sex organs. Scientists think hat since these organs create the cells for)roducing another human being, a buildup)f marijuana's chemicals might cause birth lefects.

In order to check their theory, scientists took some mice and blew marijuana smoke into their cage for 3 minutes a day during a 10-day period. That really wasn't very much, even for mice, but when these mice produced young, 1 out of 5 offspring had birth defects.

The experiments also included administering marijuana to female mice. Later on, when the researchers examined the inside of the mice ovaries, 75% of their egg cells were dead or damaged. This surprised the scientists because mice seldom have this problem. They could only conclude, once again, that the results were due to marijuana.

But what about people? Can marijuana hurt us? Because marijuana varies so widely in strength, a scientific study may take years to complete, but some preliminary results of a



DEFORMED CELL

study on men show that marijuana caused the chromosomes in their sex organs to break apart 3 times more than normal.

When a chromosome is broken, some of the genes get lost. Then when a baby is produced, it too is missing some genes and finds its growth stunted in various ways.

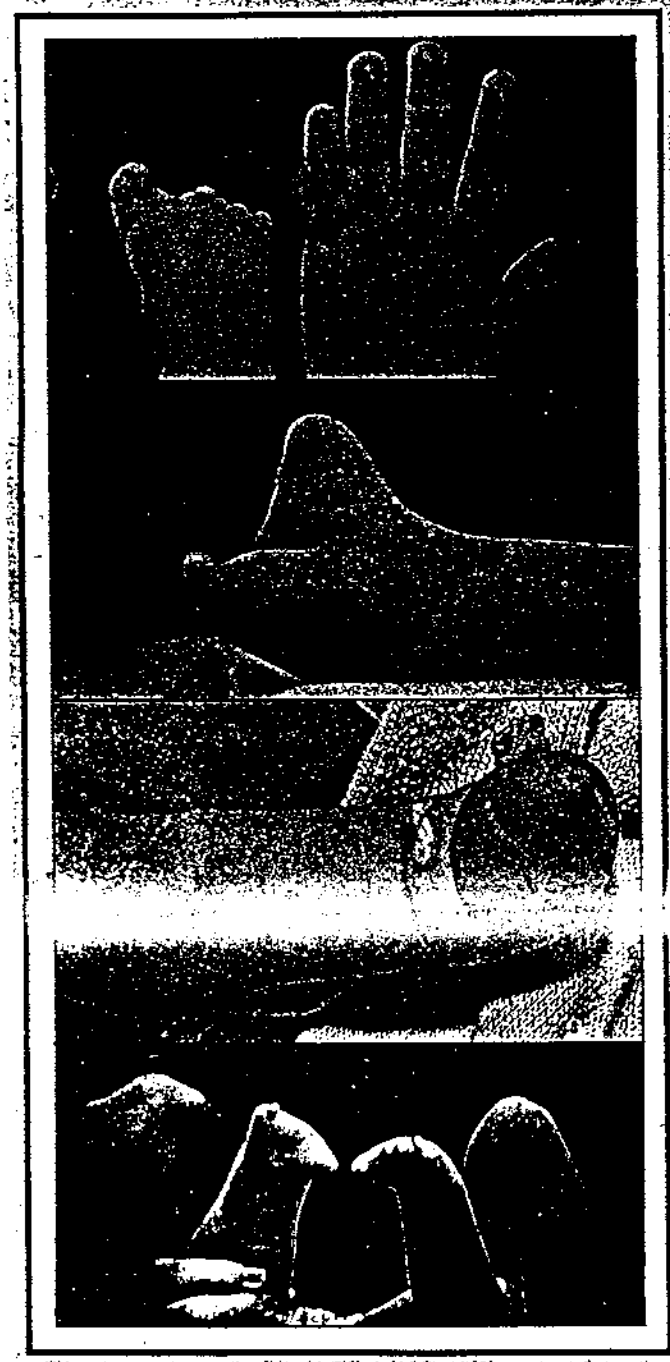
Scientists found out that people who take drugs had 18 times more birth defects

BIRTH DEFECTS (A Simplified Explanation)

than the general population. The drug most often used was marijuana.

Just as thalidomide causes birth defects of a predictable type (seal flippers), Dr. Wood feels that birth defects of the feet and particularly the hands (like those pictured) are a type caused by either the father or the mother smoking marijuana.

Such birth defects might look like these. The hands and feet did not develop like they were supposed to because not all of the genes were there to give the orders.



Marijuana

Let's add up the facts:

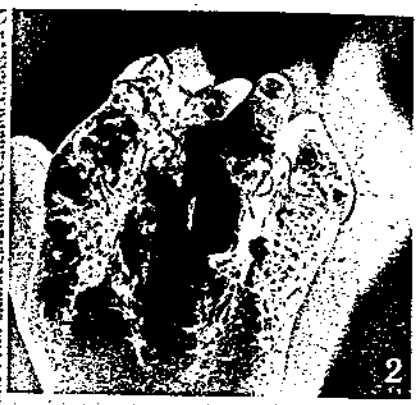
- Marijuana collects in the sex organs.
- The sex organs contain the chromosomes that make babies.
- Men who smoke marijuana have somes in their sex organs.
- People who use marijuana and other drugs have 18 times more birth defects.
- The birth defects from parents who smoke marijuana look very much alike.

CASE HISTORIES

The following case histories are typical of the ones Dr. Wood feels are caused by either the mother or father smoking marijuana.

A lot of us grow up worrying about problems like acne and dandruff, but they are nothing compared to the problems of a person who has to live his entire life with a birth defect. And the terrible thing about birth defects is that once they get started, the genes keep passing them on from generation to generation.

We hope that knowing how birth defects can happen and how marijuana might affect your body, will help you make sure that some day you'll have children with normal hands and feet.



This is a boy Dr. Wood operated on with a birth defect called Acro Syndactily. The fingers are fused together making them useless. It takes several lengthy operations to make fingers that can be used. Picture No. 4 shows his hand during the final operation.

We do not believe in scare tactics

If you've seen the two-hour Listen America TV Special, which gives recognition to one hundred igh school students for the positive and constructive things they are doing in their communities, you'll now we didn't produce this booklet thinking we could scare you into not using drugs.

That's not what Listen America is all about — besides, we know it won't work.

But we do think *everyone* should see these tragic case histories, and be aware of Dr. Wood's ndings. Then *you* can decide for yourself.

WHAT IF YOU'VE BEEN SMOKING POT?

If you've been smoking pot and have already quit, *Great!* However, there is no sense in worrying ourself sick about whether your children will be born with birth defects. What is done is done, and there nothing you can do to help your body repair any chromosome damage you might have.

We would also certainly hope that you will never smoke grass again. And of course, if you haven't it yet, *PLEASE QUIT NOW!* The longer you use marijuana, the greater the chances are that your ildren could have these same kinds of birth defects.

If you've tried to quit, but you've had a rough time because all your friends are "using," write to at Listen America and we'll send you information on the exciting new Listen America program. If ere isn't a Listen America Club in your school, we'll help start one. Just write to:

Listen America
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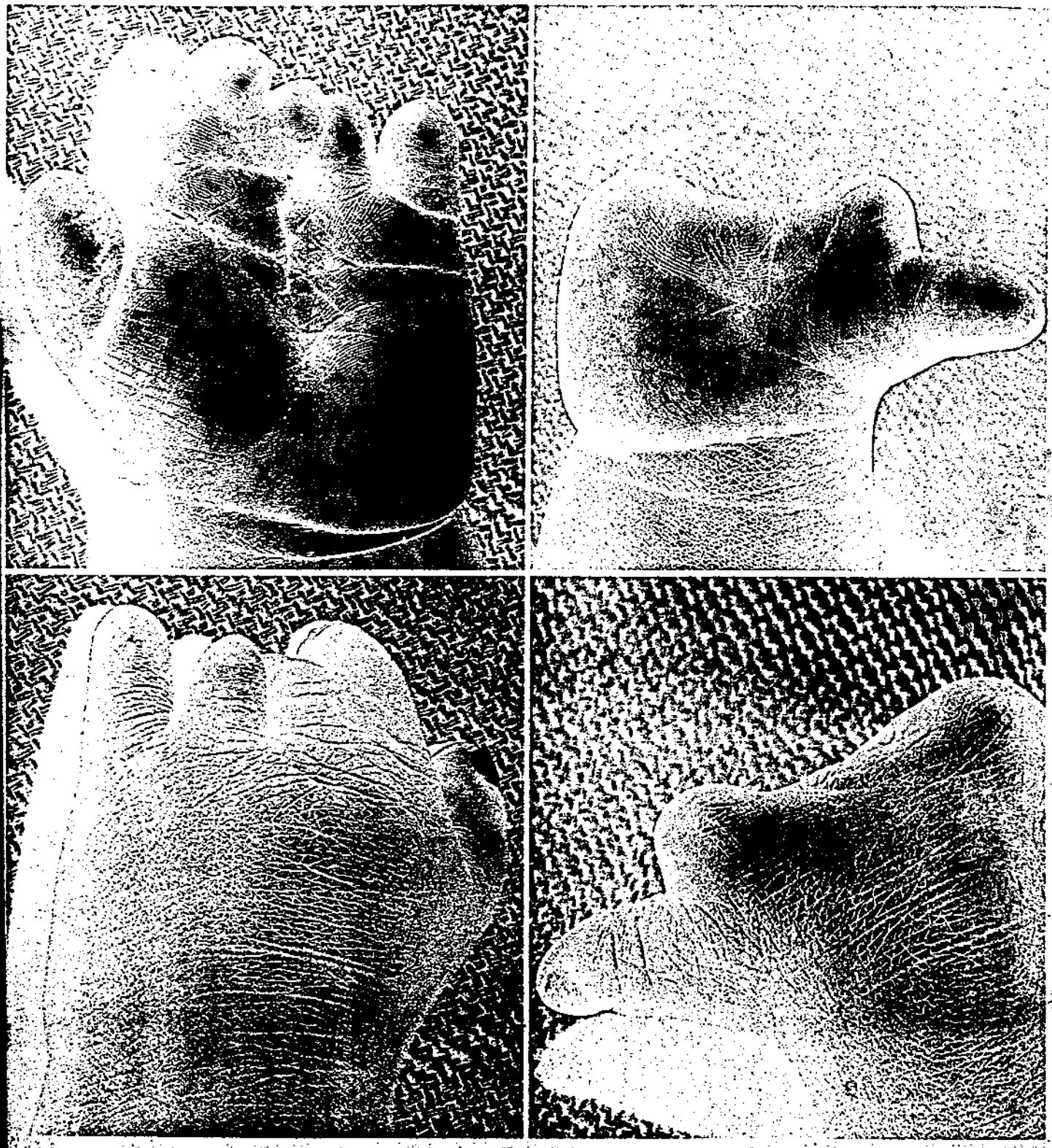
Riverside, California 92502

To Order

To order extra copies of this booklet, or to receive information on prices for purchasing in volume for use in schools, please write to Listen America at the above address.

CASE HISTORIES (Continued)



Both hands of this girl are deformed almost beyond help. Again, this is typical of a child whose parents were known drug users.

Are a few hours of being high worth taking a chance that your children or grandchildren might have to go through life with hands like these?

42

RESPONSE BY THE QUEENSLAND BRANCH OF AUSTRALIAN MEDICAL ASSOCIATION TO THE DISCUSSION PAPER ON 'CANNABIS AND THE LAW IN QUEENSLAND'

30 SEPTEMBER 1993

SUBMISSION BY THE
QUEENSLAND BRANCH OF AUSTRALIAN MEDICAL ASSOCIATION
ON

'CANNABIS AND THE LAW IN QUEENSLAND'

Discussion Paper prepared by the

ADVISORY COMMITTEE ON ILLICIT DRUGS

SUMMARY

The evidence that cannabis has adverse effects on health with significant personal and social impact is irrefutable. In view of this, it is the firm opinion of the Branch that there should be no relaxation of the current restrictions on its use.

Further, the Association would endorse any restructuring of the legal system that would both limit the wider use of the drug and more effectively target those persons who market it.

Copies of references used as a basis for the following comments are attached.

for aggravation of the foetal alcohol syndrome by cannabis abuse (Leditschke, 1993).

Respiratory Effects

There is a proven risk of contracting lung cancer from inhaling unfiltered burning plant material, hence there is a potential threat to the human respiratory system associated with chronic heavy cannabis smoking. The data that marijuana may be a worse risk than refined tobacco are inconclusive. However, the risk from inhaled marijuana is not less than that of tobacco (Hitchins, 1993).

Otorhinolaryngological Effects

The lack of longitudinal data has compounded results in this area. However it is well known that cannabis is often consumed with alcohol and tobacco and that these cause head and neck cancer (Darling & Arendorf, 1992). Additionally, there are several proven cannabis associated oral effects which include xerostomia, severe gingivitis, oral mucosal disease (Darling & Arendorf, 1992).

Psychological and Psychiatric Effects

Manifestations of pathophysiology and toxic psychosis due to marijuana smoking are widely reported in the literature (Wodak, 1988; Nahas & Latour, 1992), for example;

Schizophrenia

The results of research undertaken by Andreasson et al, 1987 cited in Alroe (1993) which indicated a 600% increase in the incidence of schizophrenia in army recruits are of great concern. Thornicroft (1990) has also noted that

'Amotivational syndrome'

It is clear from clinical observation that cannabis induces the 'amotivational syndrome', a state characterised by diminished drive and ambition (Wodak, 1988). Whilst this has not yet been established as a distinct syndrome, the conditions of cannabis dependence is recognised (see below), bringing with it impairment of occupational and social functioning and being associated with symptoms such as lethargy, lack of drive, attentional and memory problems and a depressed demeanour. (Fredericks, 1993). Certainly, the potential of cannabis to have such deleterious effects should not be discounted.

Delinquent Behaviour

Marijuana use has also been significantly related to both minor and violent delinquency (Watts & Wright, 1990).

Dependence

Whilst cannabis dependent individuals represent only a small minority of the population of cannabis users, it is a substance upon which dependence can be developed. Indeed a psychiatric diagnostic category of cannabis addiction now exists.

Therapeutic Uses

THC has been utilised as an antiemetic for patients receiving cancer chemotherapy. However it is widely accepted within the profession that there are more efficacious antiemetics available (Hitchins, 1993).

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Matthew, R.J., Wilson, W.H., Humphreys, D., Lowe, J.V., Weithe, K.E. (1993) 'Depersonalisation after Marijuana Smoking'. in Biol. Psychiatry. Vol 33., No. 6., pp 431-441.

ATTACHMENT

TI: Effects of cannabis smoking on oral soft tissues.

AU: Darling-MR; Arendorf-TM

AD: Faculty of Dentistry, University of the Western Cape, Mitchells Plain, South Africa.

SO: Community-Dent-Oral-Epidemiol. 1993 Apr; 21(2): 78-81

ISSN: 0301-5661

PY: 1993

LA: ENGLISH

CP: DENMARK

Head neck

AB: The oral effects of cigarette smoking have been well documented but the effects of [illegible] have been poorly documented. Three-hundred [illegible] were examined. Two control groups consisting of [illegible] and 189 non-smokers respectively were examined similarly. Health of the oral tissues and oral dryness was recorded. Lesions present included leukoedema, leukoplakia and numerous others. The only significant differences between lesions and conditions noted in cannabis users and controls occurred with respect to leukoedema, dry mouth and traumatic ulcer.

MESH: Adult-; Chi-Square-Distribution; Leukoplakia,-Oral-etiology; Methaqualone-; Middle-Age; Mouth-Diseases-etiology; Mouth-Mucosa-pathology; Smoking-adverse-effects

MESH: *Leukoedema,-Oral-etiology; *Marijuana-Smoking-adverse-effects;

TI: Reduced binocular depth inversion as an indicator of cannabis-induced censorship impairment.
AU: Emrich-HM; Weber-MM; Wendl-A; Zihl-J; von-Meyer-L; Hanisch-W
AD: Max Planck Institute for Psychiatry, Munich, Germany.
SO: Pharmacol-Biochem-Behav. 1991 Nov; 40(3): 689-90
ISSN: 0091-3057
PY: 1991
LA: ENGLISH

[illegible] a stereoscopic slide projection with [illegible] before and after cannabis intake. [illegible] inversion represents an illusion occurring in the perception of semantically meaningful objects projected in a 3-D inverted fashion, the hypothesis can be tested that cannabis-induced "psychedelic states" represent a condition in which the human CNS is unable to correct implausible perceptual hypotheses. The data demonstrate a strong cannabis-induced impairment of binocular depth inversion.
MESH: Adult-; Depression,-Chemical; Tetrahydrocannabinol-blood
MESH: *Depth-Perception-drug-effects; *Marijuana-Smoking-psychology; *Vision,-Binocular-drug-effects
TG: Human-
PT: JOURNAL-ARTICLE
RN: 33086-25-8
NM: Tetrahydrocannabinol
AN: 92220845
UD: 9207

TI: Drug preferences of alcoholic polydrug abusers with and without panic [see comments]
CM: Comment in: J Clin Psychiatry 1990 Oct;51(10):440
AU: Jensen-CF; Cowley-DS; Walker-RD
AD: Department of Psychiatry, Seattle VA Medical Center, Washington 98108.
SO: J-Clin-Psychiatry. 1990 May; 51(5): 189-91

ISSN: 0160-6689
PUB: 1990
LA: ENGLISH
CP: UNITED-STATES
AB: Manifestations of anxiety, including panic disorder, are more common in the alcoholic population than in the general population. Alcoholics frequently abuse other drugs. The authors hypothesized that alcoholic subjects with panic attacks would abuse anxiolytic drugs more and panic-inducing drugs less frequently than nonanxious alcoholic subjects, and that their abuse of panic-inducing drugs would predate the age at panic onset. Findings indicate that alcoholic subjects with panic attacks (but not panic disorder) abused opiates and sedatives to a greater degree than nonanxious alcoholic subjects and abused marijuana, a panic-inducing drug, at a younger age. More alcoholic subjects with panic disorder than with panic attacks abused cocaine. The prevalence of abuse and the ages at onset of abuse of other drugs were similar for both the panic and the nonpanic group.
MESH: Adult-; Aged-; Alcoholism-complications; Anxiety-Disorders-complications; Anxiety-Disorders-epidemiology; Barbiturates-; Benzodiazepines-; Cocaine-; Comorbidity-; Marijuana-Abuse-complications; Marijuana-Abuse-epidemiology; Marijuana-Abuse-psychology; Middle-Age; Narcotics-; Prevalence-; Substance-Dependence-complications; Substance-Dependence-epidemiology; Tranquilizing-Agents,-Minor
MESH: *Alcoholism-psychology; *Anxiety-Disorders-psychology; *Fear-; *Panic-; *Substance-Dependence-psychology
TG: Comparative-Study; Human-; Male-; Support,-Non-U.S.-Gov't
PT: JOURNAL-ARTICLE
RN: 0; 0; 0; 50-36-2
NM: Benzodiazepines; Narcotics; Tranquilizing-Agents,-Minor; Cocaine
AN: 90243604
UD: 9008

TI: Marijuana carry-over effects on aircraft pilot performance.
AU: Leirer-VO; Yesavage-JA; Morrow-DG
AD: Decision Systems, Stanford, CA 94305.
SO: Aviat-Space-Environ-Med. 1991 Mar; 62(3): 221-7
ISSN: 0095-6562
PY: 1991
LA: ENGLISH
CP: UNITED-STATES
[illegible] carry-over effects of a moderate social dose of marijuana on a piloting task. In separate sessions, nine currently active pilots smoked one cigarette containing 2% of delta 9 THC and one Placebo cigarette. Using an aircraft simulator, pilots flew just before smoking, and 0.25, 4, 8, 24, and 48 h after smoking. Marijuana impaired performance at 0.25, 4, 8, and 24 h after smoking. While seven of the nine pilots showed some degree of impairment at 24 h after smoking, only one reported any awareness of the drug's effects. The results support our preliminary study and suggest that very complex human/machine performance can be impaired as long as 24 h after smoking a moderate social dose of marijuana, and that the user may be unaware of the drug's influence.
MESH: Adult-; Cognition-drug-effects; Reaction-Time-drug-effects; Tetrahydrocannabinol-blood; Tetrahydrocannabinol-pharmacology
MESH: *Aerospace-Medicine; *Marijuana-Smoking-physiopathology; *Task-Performance-and-Analysis
TG: Human-; Support,-U.S.-Gov't,-P.H.S.
PT: JOURNAL-ARTICLE
CN: DA03593DANIDA; 2R44AGO695702AGNIA
RN: 33086-25-8
NM: Tetrahydrocannabinol
AN: 91190032
UD: 9107

AU: Leon-Carrion-J
AD: Human Cognitive Neuropsychology Laboratory, University of Seville, Spain.
SO: Psychol-Rep. 1990 Dec; 67(3 Pt 1): 947-52
This title is owned by this library
ISSN: 0033-2941
PY: 1990
LA: ENGLISH
CP: UNITED-STATES
AB: Mental performance of 23 male chronic cannabis users was measured on the 1958 Wechsler Adult Intelligence Scale and compared with scores of a control group. Analysis showed significant differences on nine of the 14 scores especially those indicating capacity for compromise, the elaboration of adequate judgments, and the capacity of verbalization

[illegible] Chronic-Disease; [illegible] Marijuana-Abuse-psychology; [illegible]-Scales
TG: Human-; Male-; Support,-Non-U.S.-Gov't
PT: JOURNAL-ARTICLE
AN: 91142319
UD: 9105

MEDLINE (R) 1990 85 of 123
TI: MMPI characteristics of drug abusers with and without histories of suicide attempts.
AU: Craig-RJ; Olson-RE
AD: West Side VA Medical Center, Chicago, IL 60612.
SO: J-Pers-Assess. 1990 Winter; 55(3-4): 717-28
This title is owned by this library
ISSN: 0022-3891
PY: 1990
LA: ENGLISH
CP: UNITED-STATES
AB: Compared to drug addicts without histories of suicidal attempt (n = 50), drug addicts who have attempted suicide (n = 50) were characterized by higher levels of maladjustment--particularly in the areas of depression, feelings of alienation, and use of projection and externalization--and were more emotionally withdrawn. Certain Minnesota Multiphasic Personality Inventory (MMPI) codetypes appeared in the attempt group that were not present in the no history group. Drug addicts with suicidal ideation but no history of attempt (n = 13) were not significantly different from the other two groups, and their inclusion as a comparison group masked the real differences between the other two groups. The MMPI results suggest it may be possible to identify a suicide attempt group in substance abusers but not when contrasted with a suicidal ideation group. Treatment implications are considered.
MESH: Adult-; Alcoholism-diagnosis; Alcoholism-psychology; Alcoholism-rehabilitation; Cocaine-; Heroin-Dependence-diagnosis; Heroin-Dependence-psychology; Heroin-Dependence-rehabilitation; Marijuana-Abuse-diagnosis; Marijuana-Abuse-psychology; Marijuana-Abuse-rehabilitation; Personality-Disorders-diagnosis; Personality-Disorders-rehabilitation; Psychometrics-; Retrospective-Studies; Substance-Abuse-diagnosis; Substance-Abuse-rehabilitation;

TI: The human toxicity of marijuana.
AU: Nahas-G; Latour-C
AD: Department of Anesthesiology, College of Physicians and Surgeons, Columbia University
SO: Med-J-Aust 1992 Apr 6; 156(7): 495-7
Title owned by this library and Ipswich Hospital
ISSN: 0025-729X

macromolecules. In animals, marijuana or delta 9-tetrahydrocannabinol (THC), the intoxicating material it contains, produces symptoms of neurobehavioural toxicity, disrupts all phases of gonadal or reproductive function, and is fetotoxic. Smoking marijuana can lead to symptoms of airway obstruction as well as squamous metaplasia. Clinical manifestations of pathophysiology due to marijuana smoking are now being reported. These include: long-term impairment of memory in adolescents; prolonged impairment of psychomotor performance; a sixfold increase in the incidence of schizophrenia; cancer of mouth, jaw, tongue and lung in 19-30 year olds; fetotoxicity; and non-lymphoblastic leukemia in children of marijuana-smoking mothers.
MESH: Accidents,-Traffic; Airway-Obstruction-etiology; Carcinogens-; Head-and-Neck-Neoplasms-etiology; Infant,-Newborn; Leukemia-etiology; Marijuana-Smoking-physiopathology; Memory-drug-effects; Mutagenicity-Tests; Mutagens-toxicity; Pregnancy-; Prenatal-Exposure-Delayed-Effects; Tetrahydrocannabinol-toxicity
MESH: *Cannabinoids-toxicity; *Marijuana-Smoking-adverse-effects
TG: Animal-; Female-; Human-; Support,-Non-U.S.-Gov't

Committees of Correspondence

Drug Prevention Newsletter

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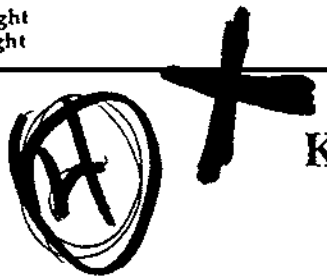

KEEP OFF THE GRASS

by Gabriel Nahas, M.D., Ph.D.

Preface to the fifth edition

This title, first published in 1976, was written to illustrate the damaging effects of marijuana on mind and body, at a time when the Columbia University Encyclopedia of 1975 stated: "most evidence indicates that marijuana does not induce mental or physical deterioration". Such a statement reflected, at that time, the general opinion in Academia, which was amplified by a complacent media extolling the pleasant properties of this mild intoxicant. And yet a careful analysis of the biological properties of marijuana in experimental animals and in man, reported in the 1975 Helsinki Symposium, pointed out the probable long term damaging effects of the drug on the brain, learning and behavior, immunity system, reproductive functions and fetal development (pp. 168-173). At the same meeting, it was pointed out that "the human pathology of marijuana smoking could only be written after several decades, when long term studies of the marijuana smoking population will have been completed". Fifteen years later, the damaging effects of marijuana on some of the most vital functions of man have been scientifically documented: Brain function, fetal growth, and immunity system are impaired by this drug.

Damaging Effects of Marijuana on Brain Function and Behavior

The acute impairment of marijuana on mental performance is well recognized: a stoned individual is incapable of thinking straight. Professor Soeulf, from Cairo University, reported in the fifties that this impairment was present well beyond the period of acute intoxication; but many American psychologists refused to admit the carefully documented measurements performed by Souelf on several hundred chronic hashish users (p. 80-81). These psychologists referred to a Costa Rican study by Professor Fletcher of Miami University, who had reported in 1973, that heavy marijuana users scored as well as non-smokers on several tests of learning and memory. In a 1984 follow-up study, Fletcher and his colleagues performed a new battery of psychological tests on the same cohort of Latin American marijuana users and of non-smoking controls. Selective cannabis impairment of short term memory skills and attention was recorded, contradicting the results obtained ten years before. In 1988, a study by Varma also reported short term memory impairment in heavy marijuana smokers studied in India. Finally, in 1989, Dr. Richard Schwartz of Georgetown University reported the results of an exceptionally well controlled study of persistent short term memory impairment in a group of primarily white, American, middle class adolescents. Their median age was 16, and they had at least 8 years of education. Their performance was compared with that of a group of controls matched for age and I.Q. Schwartz began his study after he noticed that cannabis dependent adolescents who have just entered a rehabilitation program, experience difficulties in recalling newly learned rules as well as remembering conversations and exchanges in their group therapy sessions. These adolescents report that such memory deficits persist for at least 3 to 4 weeks after their last use of cannabis.

When initially tested, the cannabis dependent boys and girls did much worse on short term memory tests than the control group, and after six weeks of supervised abstention from intoxicants, they still presented short term memory deficits. "Marijuana mangles memory", says Schwartz, "and memory loss poses one of the main problems with kids who smoke pot. They think they are losing their minds for good!" Marijuana use hits hardest those

teenagers who do poorly in school. For them, remedial teaching without concurrent abstention from marijuana is ineffective. While the brightest might compensate for a while, the average hardly get by, and the low I.Q. devastated by it.

The study of Schwartz proves the universal property of marijuana to impair in a lasting fashion memory storage, a function of the brain which is an essential part of the learning process. Such impairment has now been observed on such subjects from North and South America, India and Egypt. All of these effects of marijuana on man might have been predicted from studies on animals reported in the former editions of *Keep Off The Grass* (p. 225-226). Confirming these earlier studies, Dr. Merle G. Paule and his colleagues from the National Center for Toxicological Research in Jefferson, Arkansas, reported in 1989 the disruptive effects of chronic marijuana smoke exposure on the complex behavior of rhesus monkeys. The animals were exposed daily or twice a week for 1 year to the smoke of one marijuana cigarette. Both exposures resulted in impairment of their response to standard tests of acquired or conditioned behavior, which were adequately performed by control animals exposed to smoke without THC. The data conclude, the authors indicate, that chronic marijuana exposure, whether daily or on weekends only, produces deficits in complex behavior.

All of these observations on animal and man illustrate the long term damaging effects of marijuana on the brain's biochemical mechanisms involved in memory storage. Their integrity is essential for adequate performance of all tasks which require rapid coordination and recall of past memories. The lingering effects of marijuana on memory storage results from a basic neurochemical alteration which has not been identified. But the residual consequences of marijuana smoking on the performance of complex tasks in our modern technological society have become too apparent.

The most striking report of the lingering effects of marijuana on aircraft piloting was reported in 1985 by Dr. Jerome Yesavage and colleagues of Stanford University. The investigators recruited ten experienced private pilots with a Class III medical certification. They had a mean age of 29 years and a man of 303 hours of flying experience. They had all smoke marijuana before, but none was a daily user, and they agreed to abstain from drug use for the test period. The subjects were trained eight hours on a computerized flight simulator, to perform a simple piloting task. They were told to take the test as if they were on an FAA examination flight, and to perform to the maximum of their abilities. The test started one morning with a "baseline" flight. Each then smoked a marijuana cigarette containing 19 mg THC, a good "social dose". The simulated landing was repeated one, four and twenty-four hours later. The worst performances compared with baseline occurred one hour after THC inhalation. But 24 hours later, the pilots still experienced significant difficulty in aligning the computerized landing simulator, and landing it at the center of the runway. There were marked deviations from the proper angle of descent in the last 6,000 feet of the approach to landing, and one of the pilots landed off the runway. "In actual flight, where there is wind and turbulence, such errors can easily lead to crashes", concludes Yesavage. The pilots, however, reported no awareness of any marijuana after effects on their performance, mood or alertness.

It is not known how ling it takes before people can perform complex tasks at baseline levels after smoking marijuana, but we know that THC remains in the brain for more than 24 hours. The present day widespread use of the drug suggests that pilot performance should be more closely studied, adds Yesavage. More down-to-earth tasks, such as operating complicated heavy equipment or railway trains, may also be susceptible to a "day after" marijuana effect.

THC-positive urine screens have been found among railroad crews responsible for train accidents, notes Yesavage, and the pilot in a 1983 commercial air crash at Newark (N.J.) Airport, which involved landing misjudgment, was found to have smoked marijuana 24 hours before the accident. The results of this study was widely publicized by the media, but it did not convince everyone of the risks inherent in marijuana smoking. Dr. David Greenblatt, chief of the Division of Clinical Pharmacology at New England Medical Center in Boston, claimed that Yesavage's study was incomplete, since it was not performed under "double blind" conditions. In such studies, the effects of an active medication must be compared with those of an inactive one or "placebo", and both investigators and study participants must be unaware (blind) of the nature of the medication administered. Dr. Greenblatt fails to recognize that when a drug which changes brain chemistry and induces euphoria is absorbed, the subject cannot help but "peek through the double blind". Anyone can recognize the difference between the effects of

a glass of champagne or carbonated water, even if it is given in a double blind fashion.

However, several major railroad accidents dramatized the impairing effects of marijuana on the performance of complex tasks. In January, 1987, a freight train rammed at full speed into the Metroliner traveling from Washington to New York, 16 dead and 48 injured were recovered from the remains of the passenger train. The conductor of the train ignored three red signals before the crash. Cannabinoids were detected in his body fluids. The liability settlement of Amtrak to the victims of the crash totalled 68 million dollars, a very high price for a joint of marijuana. A year later, marijuana was detected in the system of a 30 year old switchman who had fled his post in a control tower after a train derailment in Chester, Pennsylvania. The switchman had failed to take an incoming train off a stretch of track undergoing maintenance, and where a work vehicle was stationed. In the ensuing crash, 25 people were injured. A few months later, in May of 1988, tests on five employees involved in the fatal crash of a commuter train in Mt. Vernon, near New York City, showed traces of drugs after the accident. The 17 year old engineer who died in the accident had marijuana traces in blood and urine. Samples of a tower operator contained marijuana, two other tower operators had amphetamines in their samples, and the dispatcher had traces of codeine and morphine. After the Mt. Vernon accident, John Riley of the Federal Railroad Administration stated that over the past 16 months, there was on the average one major rail accident every ten days, with more than 375 people killed or injured. In the last two years, added Riley, drug positive results were found in one of every five railroad accidents where drug detection tests were performed, and 65% of the fatalities occurred in accidents where one or more trainmen tested positive for alcohol or drugs. And Riley called for random testing of train personnel.

A study issued in February of 1990 by the National Transportation Safety Board, offered the most extensive evidence linking fatal accidents among truck drivers to illicit drugs. The study covered 182 accidents involving 86 trucks in which 210 people were killed. One third of the victims whose bodies were examined, had recently used alcohol or drugs. The highest percentage (12.8%) had used marijuana, next came alcohol (12.5%), then cocaine (8.5%), over-the-counter stimulants (7.(%) and amphetamines (7.3%). As these percentages indicate, many drivers used more than one substance. All of this massive evidence puts to rest earlier studies published in Science and Scientific American in the sixties, claiming that marijuana did not impair driving performance.

Very little is known about the biochemical steps which are associated with memory or information processing in the brain. Decreases in mental performance due to marijuana may be a function of decrements in attention, filtering, encoding, confrontation with past memories, retrieval and output of information, which occurs nearly simultaneously in different parts of the brain. In order to pinpoint these mechanisms, most complex studies on animals, using the newest imaging techniques (nuclear magnetic resonance, NMR, and positron emission tomography, PET), have to be performed. However, the knowledge of the effects of marijuana on the molecular mechanisms of memory will do little to define policies aimed at decreasing marijuana consumption, through efforts aimed at prevention.

Since marijuana can impair in a lasting fashion the neurochemical mechanisms of memory, one might surmise that its long term heavy use could also damage in a durable way other brain biochemical pathways, and lead to severe mental incapacity and plain madness (p. 253). Throughout recorded history, in the past 2000 years, cannabis has been associated with mental disturbances ranging from distorted perceptions to hallucinations and dementia (schizophrenia). The acute state of mental confusion, or "acute psychotic episode" which may result from heavy hashish use, was masterfully described by the French psychiatrist Joseph Moreau one hundred and fifty years ago, in his treatise *"Hashish and Mental Illness"* (p. 16, 194). He described the "temporal disorganization" or (alterations in the order sequence and goal orientation of mental processes), delusional like ideas (feelings of grandiosity or persecution), panic reactions (feeling of impending death or of becoming insane), acute brain syndrome or toxic psychosis (delirium with confusion, prostration disorientation and hallucinations). All of these temporary malfunctions of the brain are short lived, and recede spontaneously after a few days, and were not frequent enough in the United States to become a serious public health concern.

However, for some physicians like Professor J. Griffith-Edwards, from Maudsley Hospital in London, marijuana induced acute psychosis should not be discarded as a minor consideration, but

deserves scrutiny. "Will cannabis", asked Griffith-Edwards, "which can produce acute disabling mental disturbance, have any likelihood to produce long term mental disorders, such as schizophrenia, especially if taken regularly in large amounts?"

This question, raised in 1975, was positively answered in 1981 by Professor Doris Milman from Downstate Medical Center and Professor Jose Carranza from the University of Texas, who reported prolonged psychotic episodes in young marijuana smokers. However, the possibility still remained that the use of marijuana had merely triggered an underlying psychosis in "predisposed patients." But now Professor Ulf Rydberg from Karolinska University in Stockholm reported, in 1989, a 15 year long term follow-up study on Swedish conscripts. The relative risk for developing schizophrenia among high consumers of cannabis (use on more than 50 occasions) was six times greater than in non-users.

The property of cannabis to induce long lasting mental disturbances in Western man, has now been scientifically documented, and confirmed older anecdotal reports from medieval Islam (1396), India (1878-1972), Egypt (1843-1925), Brazil (1955), Bahamas (1970), and Jamaica (1976). Cannabis induced psychosis provides evidence that the repetitive and pleasant disturbance of brain neurotransmission carries the most serious risk of impairing lastingly the basic biochemical neural mechanisms which control coherent behavior.

Furthermore, it appears that the chemical induction of pleasure and euphoria by cannabis, will lead the user to experiment with drugs likely to induce more rapid and more profound gratification. The risk of progressing from marijuana to heroin and cocaine is now well documented. The observations of Kandel, and of Clayton and Voss (p. 284), describing such an escalation, were confirmed in 1988 by Professor of Psychiatry Herbert Kleber from Yale University, who reports that 75% of frequent marijuana users have consumed cocaine at least once. It is a fact that the major epidemic of cocaine consumption besetting the country since the mid-eighties, was proceeded by the marijuana epidemic of the seventies.

Damaging Effects of Marijuana on Human Fetal Development

The unabated progression of the social acceptance of marijuana use as a soft, recreational drug in American society has not only damaged millions of bright young American brains, in addition, tens of thousands of unborn children whose mothers smoked marijuana during pregnancy have been impaired. Yet it was known since the early seventies that the "cannabinoids", or specific compounds contained in marijuana impaired the formation of chemicals like DNA and proteins which are essential for proper division of cells (pp. 120-121, 130-134, 153-156). I was the first of many scientists who made this observation, and in reporting our finding issued the following warning (p. 14)k: "It is urgent to find out to what extend chronic marijuana use will impair the genetic equilibrium of dividing cells and possibly affect adversely the offspring of the marijuana user." For issuing this statement to the presses, I was fiercely attacked by the marijuana lobby (p. 142) and criticized by many of my colleagues in the scientific community. Subsequent experiments performed in the seventies by a score of researchers, and among these Professor Harris Rosenkrantz from Clark University (p. 222-223) and Professor Ethel Sassenrath from the University of California at Davis (p. 181-187, 222-223), demonstrated that marijuana was toxic to fetal development in all species studied. These included fish, birds, rodents, hamsters, rabbits, dogs and monkeys. Sassenrath concluded her studies by stating "The patterns of reproductive failure in female primates treated with THC indicates that this drug is toxic to the embryo and fetus" (p. 222). The experiments performed by Rosenkrantz in rodents (p. 222), supported this conclusion.

However, all of these experimental studies on animals did not impress the marijuana experts funded by the National Institute on Drug Abuse. To study the effects of marijuana on man, one of them, Professor of Psychiatry Reese Jones from the University of California at San Francisco, stated the following in a review on "Cannabis and Health" published in the *Annual Reviews of Medicine* in 1983, "Data are inadequate to document subtle functional impairment of the very low level of teratogenicity (due to cannabis) in the newborn (man). Jones adds, "The clinical significance of most effects of cannabis is not known, and probably will only be determined by controlled studies of large human populations."

Jones was merely echoing the conclusion of the 1982 Institute of Medicine, National Academy of Science Report on Marijuana and Health, which stated (p. 224), "Marijuana crosses the placental barrier, but there is no evidence as yet of deleterious effects on

the human fetus." So in the name of scientific objectivity, a clear public warning against the use of marijuana during pregnancy could not be issued in 1982 by the most prestigious scientific body in the nation. I failed to understand the disregard of my colleagues for the massive experimental evidence accumulated in the seventies, and which demonstrated the damaging effects of cannabis on cell division and metabolism, and fetal development of seven animal species. All mammals have in common very similar fundamental biological and physiological mechanisms when it comes to reproduction.

Two years after the noncommittal conclusion of the Institute of Medicine's Report, Professor of Pediatrics Doris Milman from Downstate University in Brooklyn reported, in 1984, abnormalities in newborn babies exposed to marijuana during their mother's pregnancies, and Professor Ralph Hingson from Boston University also described deficits in babies born from marijuana smoking mothers, i.e. they had smaller head circumference and were of lighter weight (p. 252). These studies illustrated the damaging effects of cannabis on the growing human fetus, were confirmed later by three independent groups of investigators; in 1986 by Professor Elizabeth Hatch from Yale University, in 1987 by Professor Melanie Dreher from the University of Miami, and in 1989 by Professor Barry Zuckerman from Boston University. Dreher used a new technique of high speed computer voice analysis to assess the maturity of new born infants. The cries of infants born from marijuana smoking mothers in Jamaica showed a much higher percentage of voice anomalies than cries of infants from non-smokers. According to this investigator, the results suggest possible teratologic effects of marijuana smoking during pregnancy.

In 1989, Zuckerman and colleagues published the "definitive" paper on the subject in the prestigious New England Journal of Medicine. It was a long term study of 1226 mothers from Boston followed during their pregnancy. Marijuana use was documented by urinalysis in 16% of the prospective mothers (of the 202 women whose samples were positive for marijuana, 53, or more than a quarter, denied use). Infants born to marijuana smoking mothers were shorter, weighed less and had a smaller head circumference. Zuckerman notes that "In addition to the fetal toxicity of cannabis itself, one must also consider the elevated carbon monoxide level in the blood produced by marijuana smoking." As reported in 1988 by Professor Donald Tashkin from the University of California, marijuana, compare with tobacco smoking, produces a threefold increase in the amount of tar inhaled, and a five times increase in carbon monoxide which binds to blood hemoglobin. As a result, there will be a decrease in blood oxygenation with subsequent impairment of fetal growth.

The fetotoxicity of marijuana in the human has finally been scientifically proven, ten years after it had been firmly established on rodents and monkeys by Rosenkrantz and Sassenrath in 1979. In the meantime, tens of thousands of infants were born throughout the land, with deficits which they will never be able to overcome. Some progress has been made however in the scientific forecasting of drug induced fetal damage, since it took seventy years to document "scientifically" the damaging effects of maternal tobacco smoking on the growing human fetus.

Damaging Effects of Marijuana on Immunity

In the late sixties, when I became interested in studying the debilitating effects of marijuana, it occurred to me that this drug might impair the immunity system (p. 97). This intricate network of communicating white blood cells allows the organism to preserve its integrity and fight off the bacteria and viruses attacking the internal environment, as well as the abnormal cancer cells. At the time of our original studies, there were only crude methods to assess the integrity of the major components of the immunity system, which consists of groups of specialized cells with specific functions: The macrophage are scavenger cells, the T lymphocyte cells recognize any substance foreign to the body and the B lymphocytes make antibodies to neutralize the invaders. We first reported that marijuana products impaired the function of T cells, sampled from "street marijuana users", decreasing their ability to divide when stimulated by substances foreign to the body. We attributed this impairment of the division of T lymphocytes by marijuana, to its property of preventing the formation of DNA, the chemical in the nucleus of the cells. Other investigators reported that the ability of the B lymphocytes to produce antibodies was impaired by marijuana, and so was the property of the macrophages to migrate to the site of an infection. Our general conclusion was that marijuana depressed the immunity systems of man, and probably rendered him more vulnerable to infection. "Over periods of prolonged usage of marijuana," we said (p. 158), "the [resulting] slow cellular erosion

might well become clinically apparent if a serious disease would develop." Our findings were immediately attacked by the marijuana lobby (NORML) as the "great Nahas red herring" (p. 142).

Some investigators were not able to duplicate our observations on T lymphocytes, while others did, and extended the impairing properties of marijuana on immunity to the B lymphocytes and to the migration of macrophages. A long period of controversy ensued concerning the exact interaction of marijuana on the immunity system.

After attending, in December 1989, a meeting on Drugs of Abuse and Immunity System, organized by Professor Herman Friedman of South Florida University in Tampa, I believe that the damage due to marijuana on this system is now well grounded. Friedman and his groups, applying the newer techniques used to study cells of the immunity system, demonstrated that THC suppresses the natural activity of the human "killer cells" which destroy the foreign substances present in the body. Friedman also reported that cannabinoids interfere with the production of interleukins and interferon, substances produced by white blood cells to neutralize infectious agents. Professor Guy Cabral of the University of Virginia, reported that THC impairs the competence of the macrophage to destroy virus infected and tumor cells. In patients with a compromised immunity system, by prolonged marijuana use, the macrophages may still attract and incorporate the bacteria, but instead of killing them, carry them around throughout the body. In addition, Cabral's group demonstrated that marijuana decreased the capacity of the body to resist genital herpes virus infections, and that even casual smoking of one or two marijuana cigarettes will cause a much more severe intoxication: more virus will be produced at the site of infection, and the infection will be much more severe, with more rapid onset, and longer duration. These observations, first documented by Cabral on experimental animals, were subsequently reported on marijuana smokers, who developed severe herpetic lesions of the genitalia, and which had a high rate of recurrence. "There is an additive effect of THC on the infectivity certain viruses", says Cabral. The immunodepression produced by marijuana, will be compounded by that of the virus, and as a result infectivity of the latter will be specially severe. The property of cannabis to weaken immune defenses and increase infectivity of certain viruses, most likely applies to the HIV virus of AIDS, though it has not yet been scientifically proven. Other investigators from Friedman's group reported that THC impaired the immune response to treponema, the infectious agent of syphilis. This observation might account for the report from Costa Rica (p. 176). A positive blood test for syphilis was observed among 25% of the marijuana smokers versus 9% for the control non-smoking group.

What might possibly be the most dramatic consequence of the immunosuppression effect of marijuana smoking was presented at the Tampa meeting by Professor Paul Donald, Chairman of the Department of Head and Neck Surgery at the University of California at Davis. Donald reported eight cases of advanced head and neck cancers in young patients with an average age of 26, one as 19. All were daily marijuana or hashish smokers since high school or college, but did not smoke tobacco or use much alcohol. They all had fast growing tumors of the tongue or jaw, which Donald had only seen before among subjects sixty years of age or older, who had been heavy drinkers and tobacco smokers for decades. "Such cases do not prove scientifically a cause effect relationship", says Donald, "but they are unprecedented in this young age group." Dr. James Endicott, Chairman of Head and Neck Surgery at South Florida University reported similar observations on twenty young marijuana smokers, who developed tumors of the mouth, larynx and upper jaw. Let's not forget that it took 70 years to link scientifically cancer of the lung to heavy tobacco cigarette smoking. With the improvement of diagnostic methods, one might surmise that it will take less time, ten more years maybe, to establish an acceptable scientific link between marijuana smoking and cancer of the mouth. Meanwhile the observations of Donald (first reported in the medical literature in 1986, but ignored by the media) and the more recent ones of Endicott, constitute additional evidence of the health hazards of marijuana.

Conclusion

The first scientifically documented long term damage due to marijuana consumption in man are now part of the medical record. They were predicted fifteen years earlier by many experimental studies on animals, which some medical scientists elected to disregard in the name of scientific objectivity. But today it is not tenable for a scientist to declare "A verdict of no verdict" concerning the health hazards of marijuana, and "that marijuana can not be exonerated as harmless, neither can it be

convicted of being as dangerous as some have claimed." This statement appeared in the New England Journal in 1982 under the signature of its editor Dr. Arnold Relman (see Appendix). Unfortunately, such a pronouncement was used by others to draft widely circulated statements about marijuana which were at best misleading, and even erroneous. For instance, the 1989 edition of the Columbia Encyclopedia defines "marijuana" as "a relatively mild, non-addictive drug...Adverse reactions are relatively rare, and most can be attributed to adulterants frequently found in marijuana preparations." The "Merck Manual" of diagnosis and therapy, 1987 edition, used by hundreds of thousands of physicians throughout America and the world says the following about marijuana: "Cannabis can be used on an episodic but continuous basis without evidence of social or psychic dysfunction...There is little evidence of biologic damage even among relatively heavy users."

Scientists and physicians should not support all of the onus of the trivialization of marijuana use in our society. Drug abuse in not a matter for science to resolve, but a social problem. Marijuana use in a society is determined not by the scientific merits of the case, but by society itself. In a democracy, society reflects the majority of its citizens who, in the last analysis, define the society in which they wish to live, namely the values which they are willing to fight for, and the wars they wish to wage. "War", said the French statesman Clemenceau at the height of the First World War, "is much too important to be left to the sole discretion of the generals." One could say today that the "War on Drugs" is a matter much too important to be left to the sole discretion of scientists. Because the drug wars will be an unending fight, and as Franz Rosenthal said about hashish (p. 274) after its use was banned by Islamic religious leaders in the 16th century, "The conflict between what was felt to be right and socially good and what human nature craves in its search for play and diversion went on."

But today, the biological and medical indictments of marijuana described in these pages (pp. 209-222, 243-250), written during the seventies, have finally been solidly established; they will unfortunately be still further documented in the years ahead because of the widespread usage of this drug in the past and present decade. These indictments should constitute the cornerstone of a medical consensus which is essential for the reinstatement of a social refusal for this most deceptive weed, so that all citizens may be required to obey the law which restricts its use.

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Decline in Cannabis Smoking in U.S.A.

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5

Behavioral, Psychosocial, and Academic Correlates of Marijuana Usage in Adolescence

A Study of a Cohort Under Treatment

Richard H. Schwartz, MD,*‡ Norman G. Hoffmann, PhD,† Richard Jones, MD*

In 1985 approximately 120,000 American high school seniors smoked marijuana daily. We interviewed 35 middle-class, cannabis-dependent adolescents with a mean age of 16 years who were patients in a drug treatment program. The patients also completed a lengthy self-assessment questionnaire designed to elicit information on drug-related problems. Our results show that family harmony, school attendance, and school achievement deteriorated once these young people began to use marijuana at least 4 days a week. The following behaviors were noted: remaining away from home without permission or parental knowledge for at least 7 consecutive days (29%), a D or F grade on the last report card before they entered the drug treatment program (43%), involvement in a motor vehicle accident when the driver was under the influence of marijuana (26%), suicide attempts (20%), and convincing a "marijuana-naive" younger sibling to smoke the drug (20%). Despite such seemingly apparent signs of possible drug use by these 35 adolescents, a mean time of 12 months elapsed before parents suspected their children of marijuana abuse. In many cases mental health professionals consulted by a number of the children when they were using drugs were likewise unaware of the marijuana abuse.

THE PROPORTION of high school seniors who admit to smoking marijuana daily has declined from a peak of 10.8 percent in 1978 to five percent in 1985.[1] Thus, 120,000 seniors in American high schools intoxicate themselves daily by smoking marijuana. The average age of first-time users of marijuana is currently between 13 and 14 years. Of all young people who smoke marijuana even once, an estimated 10 percent will progress to daily use of the drug.[1]

Previous claims that marijuana is not injurious to health were based in large measure on the results of studying the effects of relatively low-potency *Cannabis* smoked by large numbers of young adults between 1960 and 1975. Today, ordinary marijuana, at 3.6% Δ9-tetrahydrocannabinol (THC), has four times the potency of the marijuana generally smoked during the 1970s.[2] Indeed, marijuana is now a bit more potent in Δ9-THC than hashish, at least in the United States.[2] Sinsemilla (seedless marijuana), which adolescent "aficionados" prefer and use almost exclusively when available, contains an average of 7% Δ9-(THC).[2] This is approximately six times the concentration of most marijuana smoked in 1975 and twice the concentration of Δ9-THC in hashish.

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TABLE 1. *Effects on Family and School Life of Frequent Marijuana Use in 35 Adolescents*

	No. of Children	%
Family problems		
Serious problem getting along with parents	32	91%
Violent family arguments	20	57%
4 to 10 times	5	14%
>11 times	16	45%
School problems		
D or F final grade average	15	43%
Truancy		
One class per week	8	23%
One class per day	12	34%
Several classes per day	6	17%
Suspension		
At least one time	25	71%
>5 times	15	42%

of the 35 adolescents (97%) preferred highly potent sinsemilla, when available, to "street pot." They smoked this type of marijuana at least 4 times a week for at least 4 months and continuously up to 3 consecutive years (median 1.25 years). The majority of the young people in this study (74%) had experimented with cocaine, and nine (26%) had snorted cocaine between 10 times and 25 times. All were daily marijuana smokers before cocaine use began. The patients spent an average of $21 per week for marijuana. Twenty-six patients (74%) had obtained money to buy their marijuana from parents or from part-time employment. Nine, however, (26%) obtained money for marijuana primarily by stealing, dealing in drugs, or both.

Results of Urine Toxicology

The urine specimens of 17 of 23 patients who had continued to smoke marijuana immediately prior to admission were positive for cannabinoids. This gave objective evidence of recent cannabis use. Urine was negative for cannabinoid in six adolescents (22%) who had continued to smoke cannabinoids until 1 or 2 days before admission. The cut-off point for the EMIT-st cannabinoid assay, 100 ng/ml, was set too high to detect approximately one in four daily marijuana smokers who had smoked their most recent "joint" 1 or 2 days before admission.

Problems Occurring in Conjunction with Cannabis Abuse Family and School Problems Parallel to Marijuana Abuse

Family and school problems were almost universal among these patients. These difficulties, rather than hard evidence of drug abuse, were the reasons that compelled parents to have their children evaluated at a drug treatment facility (Table 1). Almost all of the drug abusers (91%) had had frequent shouting or cursing conflicts with their parents, often over trivial issues such as restrictions on use of the family car. Twenty (57%) had had frequent, physically violent altercations. These quarrels increased in frequency and intensity as the use of marijuana escalated.

Marijuana users' school performance deteriorated markedly after frequent use became established. Almost one third of the adolescents (31%), reported having had serious academic problems (defined by two or more D or F grades on the sixth grade report card) before marijuana abuse. Of those with academic problems prior to marijuana abuse, six (17%) were diagnosed as learning disabled. However, after marijuana use became frequent, 60 percent had more than two D or F grades per marking period. Forty-two percent of the 37 adolescents had earned a D or F final grade average (mean number of D or F grades = 3.5) on the last report card before they entered the drug treatment facility. These grade averages were validated by the parent(s) during an interview by the drug counselors on the day of admission. Truancy and/or skipping classes was a daily behavior for 51 percent of the young people in this study. Seventy-one percent of the study population had been suspended and nine percent had been expelled from a school. Four adolescents had dropped out of school—three of these were employed.

Run-away Episodes

Almost half of the 35 subjects had run away from home and failed to return for at least 24 hours: 10 (29%) remained away for at least 1 week. Usually they found shelter at the home of a marijuana-using friend. These episodes were often precipitated by violent quarrels about the adolescent's irresponsible behavior, but they were sometimes the result of an impulsive action to seek adventure or avoid punishment.

Depression and Suicide Attempts

Seven of the adolescents (20%) stated that they felt chronically depressed *before* they began to abuse marijuana. However, 21 of the 35 adolescents (60%) reported chronic depression *following* frequent use of marijuana. Those with chronic depression engaged

TABLE 3. *Adolescents' Self-Assessment of Problems Before and After Frequent Marijuana Use*

	Before Marijuana		After Marijuana	
	No.	%	No.	%
Poor school grades	11	31	31	89
Vandalism	6	17	14	40
Conflicts with parents	16	46	32	92
Depression	6	17	21	60
Explosive temper	6	17	20	57
Feeling of worthlessness	6	17	20	54
Suicide attempt	0	0	7	27
Visit to psychiatrist or other mental health professional	11	31	24	60

TABLE 4A. *Results of Self-assessment*

	No.	%
All 14 items impaired	9	26
11–13 items impaired	12	34
10–11 items impaired	5	14
7–9 items impaired	6	17
Improvement noted	3	9
Total	35	100

Delays in Diagnosis and Denial of the Problem

Denial is evidently a coping mechanism used by many young people. Only 16 of the adolescents (45%) reported that they believed that they had a drug problem on the day of admission into the drug treatment facility. From the time of progression to frequent marijuana use by the study group, an average of 12 months elapsed before the parents became aware of the problem.

Discussion

Although multiple studies conducted since 1975 have documented the progressive increase in the use of marijuana by adolescents in the United States,[1,3–5] the drug has only recently been recognized as having a major negative impact on adolescent development and psychosocial functioning.[6–13] Continued use by sometimes successful and outgoing young adult role models may have masked the possible disastrous consequences when it is used by emotionally and psychologically immature and therefore more vulnerable adolescents.

The results of this study do not imply that every adolescent who smokes marijuana, even with frequency, will exhibit the same behavioral, psychosocial, and academic problems as did the young people in this study. Nevertheless, we do believe that the consistent pattern of associated problems reported here may be of value and interest to other clinicians who treat young people.

All of the young people in our study were cared for medically by pediatricians or family practitioners before they were admitted to the drug treatment facility. Parents, physicians and the adolescents themselves did not seek help specifically for a possible drug problem for 1 year or more after the emergence of serious behavioral problems. Initially, many

TABLE 4. *Self-assessment of Long-term Effect of Marijuana on Cognitive or Emotional Functioning of Adolescents*

Qualities Assessed	Improved	Impaired	No effect
1. Ability to cope with and solve life's problems	—	—	—
2. Physical health	—	—	—
3. General self-confidence	—	—	—
4. Ability to concentrate	—	—	—
5. Work performance, including schoolwork	—	—	—
6. Relations with employers and teachers	—	—	—
7. Ability to think clearly	—	—	—
8. Memory	—	—	—
9. General level of energy	—	—	—
10. Dependability and trustworthiness	—	—	—
11. Ambition	—	—	—
12. Judgment	—	—	—
13. Handling anger	—	—	—
14. Family relationships	—	—	—

Instructions: Using drugs sometimes leads to changes in people's lives. For each item listed above, check whether you think drugs have *proved, impaired,* or had *no effect* on your life. What we are asking about here is the long-term effects (not the effects you experience just after using drugs).

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Products of New Biotechnologies Approved by the FDA*

Several products manufactured by means of new biotechnology were approved in 1986. Some of these represent major therapeutic advances, while others offer important alternatives to traditional therapies. It is anticipated that there will be additional biotechnology products of significance to the medical profession. One of these products is described below.

Hepatitis B Vaccine. A genetically engineered hepatitis B vaccine (Recombivax HB) has been licensed and is the first genetically engineered vaccine approved for human use.

Although it offers no known therapeutic advantage over the conventional hepatitis B vaccine (Heptavax B) licensed in 1981, it may become more widely used for a number of reasons. Because the original vaccine is made from the plasma of chronic carriers of hepatitis B, many of whom are also at high risk for acquired immunodeficiency syndrome (AIDS), there has been concern that Heptavax B might transmit HIV, the virus that causes AIDS. Although research has found this concern to be unsubstantiated, some persons at risk of hepatitis have still been reluctant to receive the vaccine. It is thought that the genetically engineered vaccine will be more acceptable to these persons. In addition, due to its source, the supply of the conventional vaccine is limited.

Recombivax HB will be marketed by Merck & Co., and became available in January 1987. It is made by genetically programming common yeast cells to produce large quantities of the antigen portion of the virus contained in its outer coat. In developing the genetically engineered vaccine, Merck worked with researchers at the University of California at San Francisco, the University of Washington, and the Chiron Corporation of Emeryville, Calif.

Three injections of the vaccine are recommended for those at substantial risk of contracting hepatitis B, including dental and medical workers, male homosexuals, drug users, and pregnant immigrants from hepatitis-endemic areas, such as Asia.

* FDA Drug Bulletin 1986 16:19.

Strategies for Breaking Marijuana Dependence

JOAN ELLEN ZWEBEN, PH.D.* & KATHLEEN O'CONNELL, PH.D.**

As cultural attitudes and workplace policies shift, and new information emerges about the untoward social and physiological side effects of marijuana abuse, more and more people appear to be deciding to stop smoking marijuana. Many factors seem to be involved, including the increasingly widespread use of urinalysis in the workplace, which can reveal to the unsuspecting user that marijuana is indeed a dependence-producing drug. The introduction of policies permitting drug screens motivates workers who are able to stop smoking to do so, in order to protect their jobs. Others decide to stop in response to pressure from significant others. Increasingly, those who find that they cannot stop smoking on their own are seeking help from treatment facilities. Since the early 1980's, more clients have been presenting at drug treatment facilities asking for help *primarily* for marijuana dependence (Tennant 1986b).

Users with other primary drug preferences, who are expected (by treatment personnel) to give up the use of all intoxicants, provide thought-provoking reports. For example, many who initially seek treatment for cocaine dependence state that giving up marijuana is in some ways more difficult, partly because it has been a part of their lives for a much longer time and is interwoven in ways that they did not recognize. These clients comprise a large group who have been observed by clinicians in inpatient and outpatient settings. Observing their changes as they move into the later stages of recovery has piqued interest because of some of the unanticipated changes in cognitive processing and emotional expression that unfold over time.

There are a variety of other reasons why people are questioning their marijuana use. Some who have been smoking 15 to 20 years begin to be alarmed at the consequences to their respiratory systems, as they suffer more frequent and severe ailments. Adult children of alcoholics painfully take inventory of their own alcohol and other drug use, and begin to opt for abstinence. Parents of adolescents with obviously damaging alcohol and/or other drug problems conclude that their own modeling is relevant and reexamine their involvement with this so-called harmless drug, which many have been smoking since the 1960's. These are some of the subgroups who are beginning to change their beliefs and practices.

Some present because they feel that long-term use of the drug causes them difficulty in expressing emotions like anger, and experiencing feelings of intimacy and closeness with their partner. Still others present with a sense of dissatisfaction in achieving life goals, especially in the area of career. Many of these people appear functional and even successful in the outside world, but in their internal experience they do not feel that they measure up to their original hopes and plans for their lives. Chronic users often describe a mild boredom, lack of zest, or a low-level depression that they rarely connect to their use of marijuana, but which dissipates when they become abstinent. These patterns, which are visible in the treatment situation, are the

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subject of increasing discussion among clinicians, but little is known about how pervasive they are among marijuana smokers as a whole.

Marijuana has a complex chemistry, and consists of 400 known chemicals (Verebey, Gold & Mulé 1986); 60 of which are cannabinoids. Marijuana breaks down into 2,000 chemicals when smoked (DuPont 1984), and this complexity does not facilitate a simple explanation for marijuana's mechanisms of action, which is why it may be some time before its long-range effects are understood. Cohen (1986) indicated that early research was done on samples with a potency of one to two percent tetrahydrocannabinol (THC). Some of the marijuana that exists today (e.g., the sinsemilla that is grown in northern California) may range from seven to 15 percent THC, which is roughly equivalent to the hashish on which research was conducted in the 1960's (Tennant 1986b). Hence the first group of studies (e.g., Grinspoon & Bakalar 1981; National Commission on Marihuana and Drug Abuse 1972) suggested that marijuana was relatively benign. Later studies utilized increased potency and improved methodology (Cohen 1985). Marijuana research techniques have developed to a point where new data may yield a better understanding of this drug during the next few years.

TREATMENT OF MARIJUANA DEPENDENCE

For the pruposes of this article, marijuana dependence exists when someone is using regularly and cannot stop once they choose to. Since the drug's metabolites are stored in the body for long periods of time, resumption of use within the first 90 days of abstinence raises questions about dependence. This article is written from the perspective of helping those who want to stop, for whatever reason, and find it difficult to do so.

Management of withdrawal phenomena plays a key role in the treatment process for marijuana dependence, because improving retention is the key to improving treatment outcome (Craig 1985; De Leon 1984). It appears that those who engage in recovery-related activities over a period of time show improvement across a wide range of treatment modalities. The most dropouts occur during the first 30 days of treatment, when withdrawal phenomena are most intense. Although other factors certainly play a role, easing the stresses and discomforts of the withdrawal period increases the likelihood of the client remaining in treatment and provides a way to build a therapeutic alliance. The skilled clinician uses this opportunity to build a relationship with the client while discouraging the common conviction that the most difficult work of recovery is over once the client is fully detoxified from drugs.

Very few specific strategies have evolved for the management of marijuana withdrawal. The most effective approaches will ultimately derive from a full understanding of the pharmacokinetics of marijuana and the subjective and behavioral correlates. However, clinicians today must operate despite the crudeness of the map. Pharmacological adjuncts are available for alcohol, opiates, and cocaine withdrawal, but not specifically for marijuana. The present article will describe current propositions about withdrawal, review behavioral and other psychological strategies, and comment on how pharmacological adjuncts might prove useful. When possible, strategies that are specifically (or potentially) useful for marijuana will be described. In addition, a number of nonspecific strategies will be described that are generally used by clinicians working in the alcohol and other drug dependence treatment arena.

The Withdrawal Process

Education about the effects of drugs and the recovery process is a key part of treatment (Zweben 1986). Informing the client about the withdrawal process (e.g., what s/he may usually expect, known hazard points, and the time frame within which discomfort is likely to abate) provides reassurance and a good basis for problem solving to meet the expected challenges. For the purposes of this article, the withdrawal process includes both the phenomena associated with clearing the drug from the body, and those associated with the body's reconstituting to a normal, or predrug, state. This latter phase can be quite prolonged, a feature that can be emphasized to clients who become overconfident and are then tempted to terminate their efforts prematurely. Also, many clients interpret their cravings as a sign of failure or lack of motivation. Information on the lengthy withdrawal process can be reassuring, and encourages clients to plan ways to cope with it.

Along with information, a sense of hope can be planted that reinforces the sense of reward that abstinence brings. This sets up a positive reinforcement loop in which the client builds hope upon success upon hope, a loop that grows as it spirals back up on itself through the weeks and months of abstinence. This is important because some clinicians doing long-term work are beginning to suspect that the *full* flowering of the benefits of abstinence does not occur until 15 to 18 months into recovery. There are many signposts along the way, some of which are subtle, and the therapist can share observations with the client about such improvements. For example, the client's ability to concentrate on a theme for a period of time or sustain concentration when doing visualizations or meditations within the treatment session usually increases with abstinence. Some clients report tackling more difficult reading material or developing increased self-discipline or being less accident prone once they are abstinent for six months or more. The source of such changes is difficult to systematically assess, but the growing number of such reports certainly indicates

marijuana users as well, if there is reason to think that they are ACAs. Preliminary clinical observations suggest that this is certainly worth systematic study.

l-Tryptophan has been regularly used in drug dependence treatment programs to help patients cope with the insomnia that is characteristic of withdrawal from any abused drugs. Although Wesson (1987) is currently the only person studying the systematic application of *l*-tryptophan, other researchers have suggested that it is indeed helpful to those with sleep disturbances, without impairing performance (Spinweber 1987; Schneider-Helmert & Spinweber 1986; Hartmann 1982-83; Hartmann 1977). *l*-Tryptophan is thought to be of value because it is a precursor of serotonin and hence would influence behavioral changes in the direction of improved sleep, diminished craving, and less depression (Blum & Trachtenberg 1986; Young, Chouinard & Annable 1981). A major unresolved question is how much *l*-tryptophan is actually absorbed by the body, and practitioners suggest that it be taken in conjunction with high carbohydrate loading (e.g., with a sweet drink, such as fruit juice) to facilitate utilization.

Tennant (1986a) commented that there is currently no recognized medical withdrawal regimen for marijuana dependence, and he and others have noted that patients who do not receive short-term withdrawal medication tend to drop out of treatment more frequently. In this respect, amino acid supplements may be a useful compromise.

IMPROVING PHYSICAL WELL-BEING

Exercise

The consensus among many practicing clinicians is that exercise is usually seen by clients as being very helpful. Inpatient chemical dependence treatment programs often include it as part of the daily regimen, and outpatient therapists encourage it as well. Clients report that regular exercise reduces drug hunger and seems to level out their moods. To the observing clinician, it appears to normalize the body chemistry more rapidly. Its efficacy may also be related to the fact that exercise gives the client something specific to do, and hence a nonchemical means of modifying feeling states.

What is usually recommended is regular aerobic exercise; no less than 30 minutes, at least four days a week. Aerobic exercise involves accelerating the heart rate to 75 to 80 percent of age-predicted maximums (a workable approximation can be obtained by subtracting the client's age from 185) for 15 to 20 minutes. It is important that the client add on time to warm up and cool down.

Clients are urged to list the types of exercise they engage in, and to schedule times in their appointment books and calendars for exercising. If the client's choice of exercise requires a gym or pool, s/he is asked to check schedules while making the exercise plan. Structure and specificity is especially important to clients who are trying to detoxify, as they tend to have difficulty being consistent even under the best of circumstances.

Clinicians have noted an interesting phenomenon reported by clients who have been abusing phencyclidine (PCP) or marijuana. With both of these drugs, vigorous exercise *may* result in the release of metabolites into the bloodstream, causing the client to feel high. In the case of PCP, psychotic behavior characteristic of the intoxicated state may be manifest. This latter phenomenon has been observed by clinicians in residential programs, who have more opportunity to observe it closely. Smith (1987) has suggested that this phenomenon may be an instance of subacute intoxication, in which release of the metabolites from the fatty tissues causes a low level of intoxication, but the relationship between this and subjective effects has not been systematically studied. In any case, if a client experiences this phenomenon, s/he can be reassured that it is usually transitory and of manageable intensity.

Eating Patterns

Counselors need to be attentive to the client's eating patterns, as it is common for clients who are detoxifying to unthinkingly adopt eating patterns that simulate the rushes and crashes of drug use. Others simply eat erratically, exacerbating the possibilities of irritability and depression. Still others substitute addictive eating patterns for those previously used with drugs. Counselors should inquire about eating patterns whenever the client complains of unusual discomfort or extreme mood variability during the detoxification period.

Clearing the Lungs

There are several approaches that can be utilized by the therapist both for assessment and treatment, one of which is to focus on pulmonary congestion. Postural drainage, a technique used to clear the lungs after surgery, can be easily taught in the office. It requires a second person for implementation, and hence is generally practiced by couples. The recovering person is instructed to lie on his/her stomach, positioned so that the trunk and head are lower than the lower body, in order to facilitate drainage by gravity of material trapped in the lower and middle lung lobes. The partner then begins to gently tap on the middle of the back, gradually working in an upward direction toward the upper back for several moments. This produces the release of old material that has been trapped in the lowest mid-pulmonary lobes for some time. It not only increases the profusion of oxygen to the lower lungs, but also demonstrates to the patient the kind of insidious long-term physical side effects of smoking marijuana (and/or tobacco). As a result, this procedure can break through a

others, who still may be recovering from the shock of what they discovered once the clouds of denial were lifted. This source of interpersonal tension may persist for many months, even years, as relationships are repaired.

Urinalysis is often welcomed in such circumstances by parents and adolescents as well as couples who view it as a chance for the user to restore credibility. When viewed as a way to document successful abstinence, it is greeted with enormous relief by those seeking to solidify the basis for trust. Clients for whom urinalysis is not mandated by an employer or the criminal justice system often voluntarily enter a urine monitoring program to remove the question of abstinence as a source of tension form their intimate relationships. In this situation, the client can be told to give a urine *only* if drug free; or otherwise voluntarily inform the counselor (and any others previously agreed on) that a slip has occurred. The user often reports that a regular urinalysis strengthens his/her support structure. Clients often report that monitoring makes the option to use less acceptable, and thus it provides an obstacle to impulsive use.

12-Step Programs

Twelve-step programs are an enormous asset to people in recovery, offering a wide range of resources at no cost. Introducing the client to such programs and helping him/her to make productive use of them on an ongoing basis can be seen as one of the key activities of the clinician (Zweben 1987). Unfortunately, primary marijuana users have been among the hardest to connect with these programs, because the more subtle effects of marijuana abuse seem to impede all but the highly sophisticated from making a strong identification. Because the adverse effects are more gradual and less dramatic than some other drugs, individuals may feel that the groups do not hear "their story." However, in the spring of 1987, 12-step groups for marijuana abusers started to emerge. As of early 1988, there were five such meetings of Marijuana Addicts Anonymous (MAA) in the San Francisco Bay Area, and there are probably meetings now appearing in other communities.

CONCLUSION

Marijuana dependence, though less dramatic in its effects, is certainly a phenomenon to be taken seriously. Because THC is lipophilic, traces may remain in the tissues for a long period of time, with effects that remain to be examined systematically. Although this article focuses mainly on the initial period of breaking the dependence cycle, the marijuana abuser can expect that this dependence is not easily ended, and a sustained effort will be required. Hopefully, the next decade of research will clarify the pharmacokinetics of marijuana so that even more specific approaches can be devised.

ACKNOWLEDGMENTS

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WHY IS "PERCEIVED HARM" SO IMPORTANT

1. A clear example of the importance of perceived harm in affecting drug usage can been seen in the decline in teenage Marijuana use in the USA over the past 14 years, as

demonstrated in all surveys. The Michigan High School Senior survey shows a dramatic correlation between decline in Marijuana usage corresponding to an increasing perception in the risks of smoking Marijuana. Dr Lloyd Johnson, University of Michigan states "These findings show that perceived risk is an important factor driving actual behaviour. When kids change their beliefs about how harmful a drug is they do in fact change their behaviour." (Appendix 1 and 2)

2. The 1989 National Gallup survey of teenagers in USA aged 13-17 years reveals that the one thing most in their minds for skills today to fight drugs was "Teach us the facts."

3. The clearest example of perceived health consequences affecting drug using habits can be found in the changes in attitudes to cigarette smoking. This followed recognition by the public of their health being affected by other people's drug use.

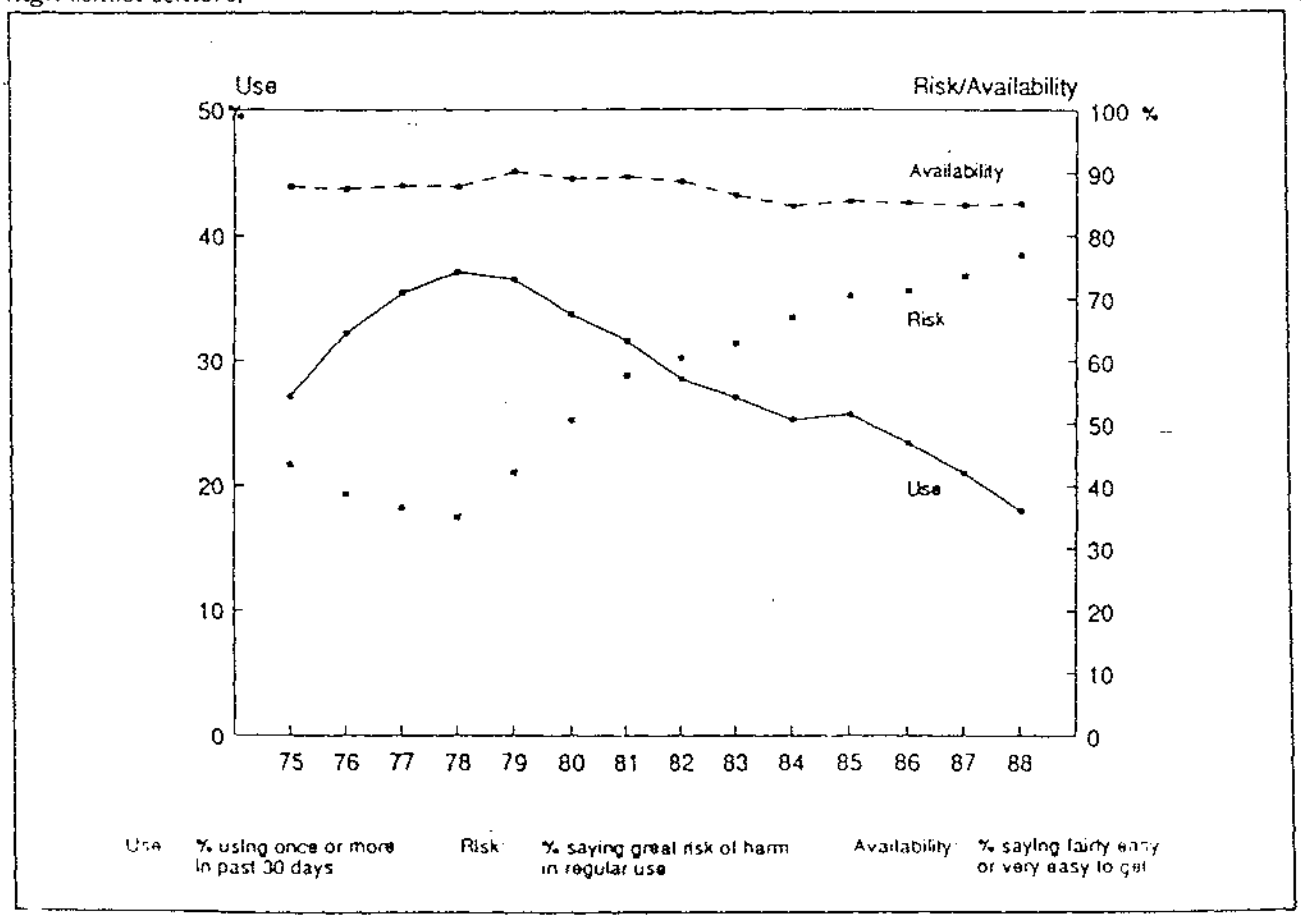
earlier. "What's happening in one age group is not necessarily what's happening in another. This is because there's a strong cohort effect. If a cohort, a particular class group for example, establishes a high rate of smoking at an early age, it will tend to continue to carry that high rate of smoking throughout the life cycle. So what we are observing among seniors may not be what's happening among junior high school kids or among college students. The improvement we saw among seniors in the late 70s actually began among younger age groups in the early 70s."

An explanation for the decline in marijuana use can be found in the chart showing changes in beliefs about the risk of marijuana smoking, Johnston said. The number of seniors who say they believe there is great risk in smoking marijuana has gone up dramatically in the last 10 years, which is the period which has seen a decline in daily use. "From the prevention point of view this may be one of the most important findings in the study — that perceived risk is an important factor driving actual behavior," he said. *(Figure 1)*

He pointed out that when risk was identified previously with the heavy use of cocaine, there was not a commensurate decline in cocaine use; because most cocaine users think of themselves as light or moderate users, a belief that only heavy use is dangerous would therefore not influence their behavior. Later surveys showed a shift toward the belief that even experimental or occasional use of cocaine carried a great risk, and this shift of belief did coincide with a downturn in use of the drug. *(Figure 2)*

"When kids change their beliefs about how dangerous a drug is, they do in fact change their behavior. What causes them to change their beliefs is of course another question," Johnston said. He noted also that peer norms about illicit drugs, especially marijuana, have been changing since the late 1970s, with more youths disap-

Figure 1. Trends in marijuana availability, perceived risk of regular use, and use in past 30 days by high school seniors.




OUR OFFICIAL POSITION IS: "THIS SCHOOL DOESN'T PROMOTE OR SUPPORT DRUG USE IN ANY WAY, SHAPE OR FORM."
HARM REDUCTION EDUCATION
... AND POT SMOKERS SHOULD SMOKE WITH FRIENDS... CLEAN OUT ALL SEEDS... USE A WATER PIPE TO COOL THE SMOKE ...
DRUG SAMPLES
UNH
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THE

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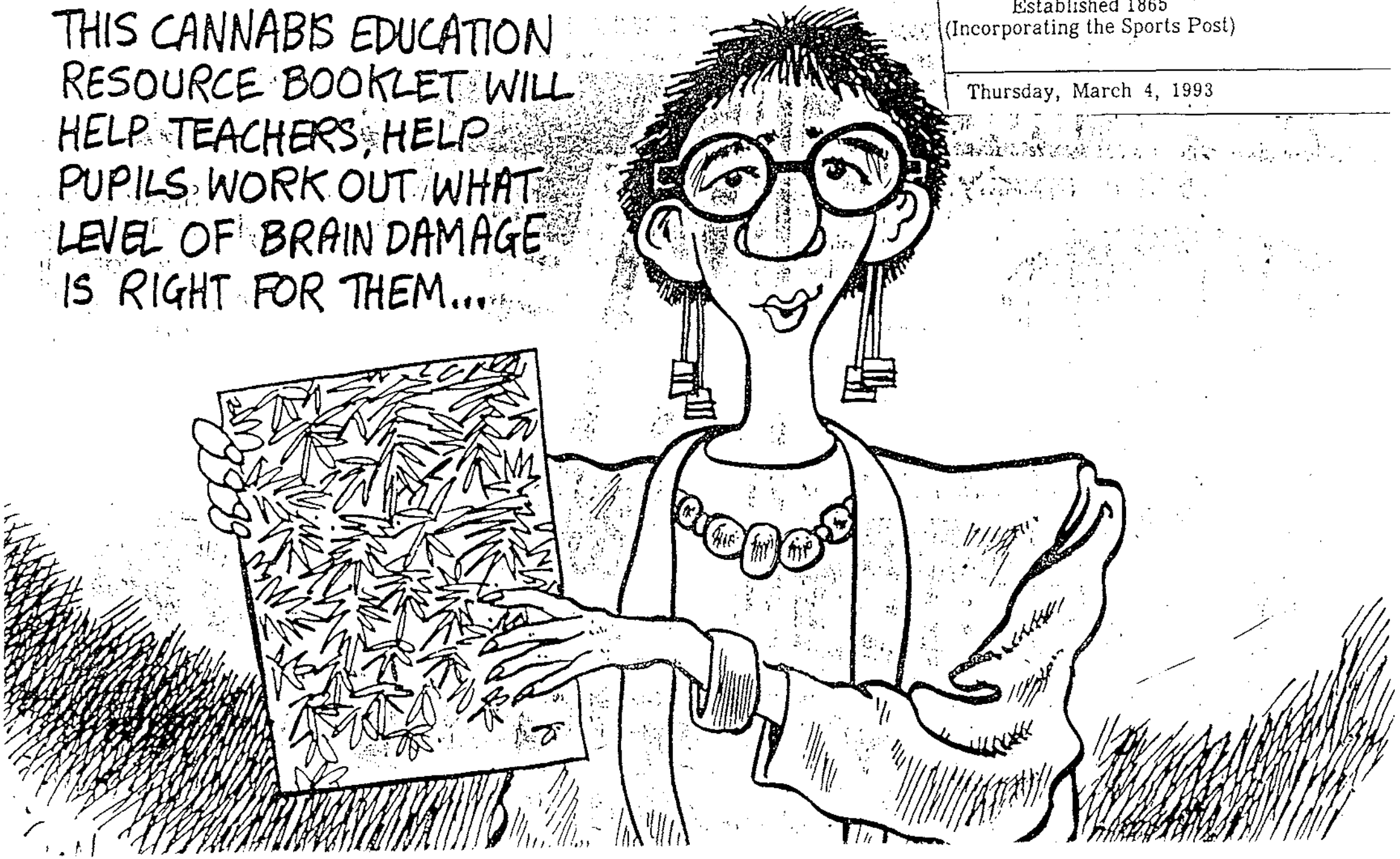
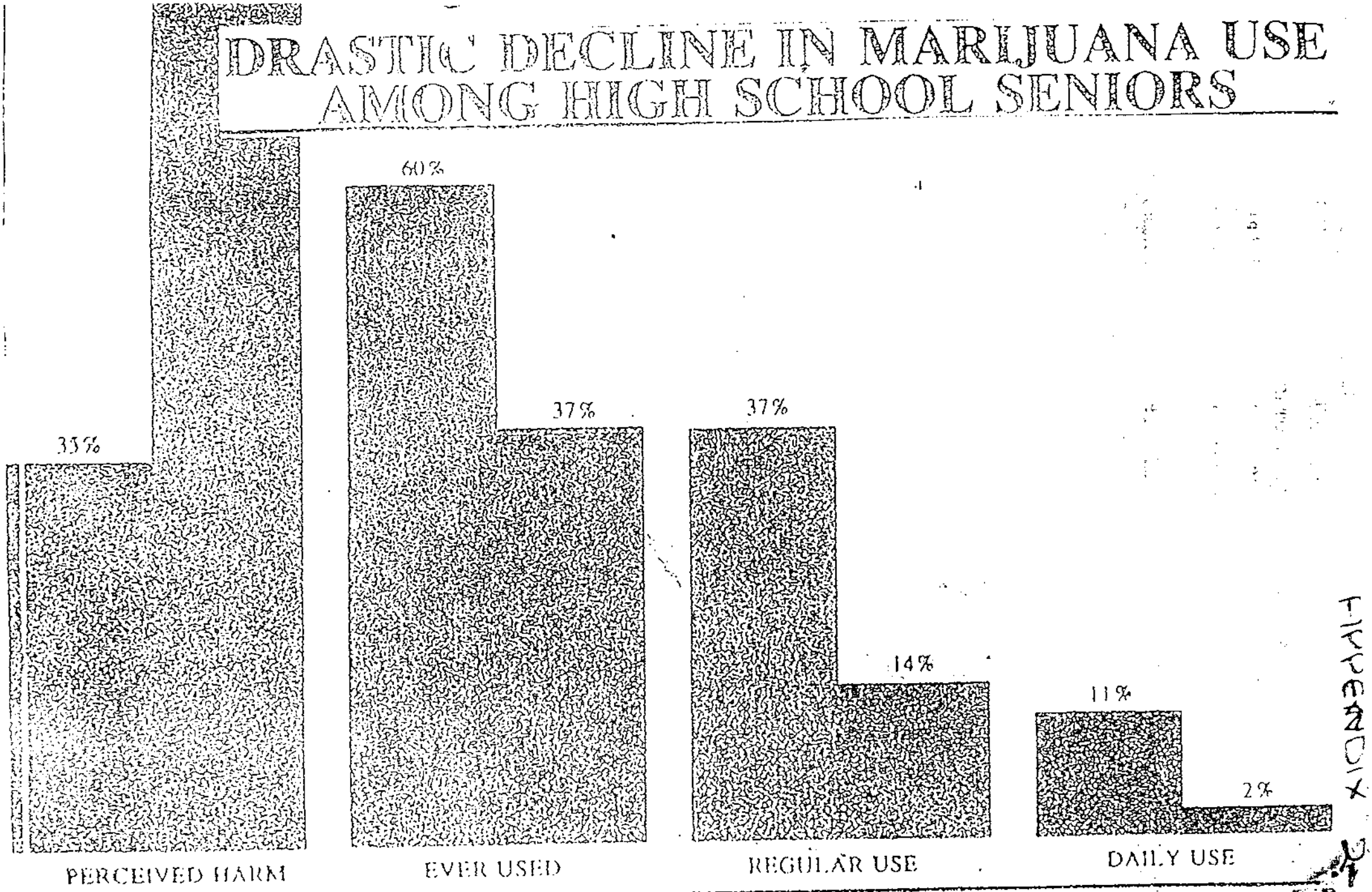
Thursday, March 4, 1993



DRASTIC DECLINE IN MARIJUANA USE AMONG HIGH SCHOOL SENIORS



SOURCE: NATIONAL INSTITUTE ON DRUG ABUSE, HIGH SCHOOL SENIOR SURVEYS, 1978 AND 1991

EXHIBIT 1

5

Do Liberal Marijuana Laws Affect Drug Use Preva

Recent statewide surveys from Texas, Maryland, and Virginia show prevalence of marijuana and cocaine use comparable to those of the National Institute on Drug Abuse (NIDA) Senior Survey of 1989. Surveys from Alaska and Oregon which had, at the time of the survey, the most liberalized marijuana laws for personal use by adults, show a considerably higher rate of marijuana and cocaine use by their high school students. Student use prevalence in California falls in the middle of the two groups.

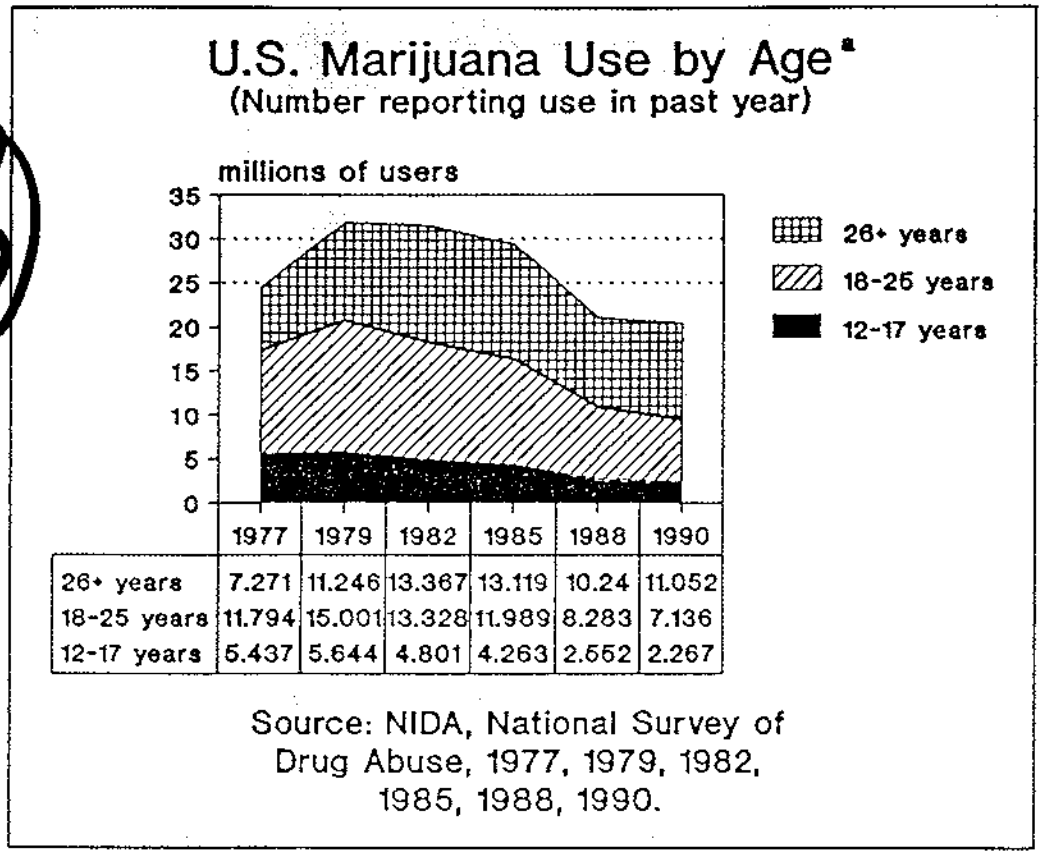
National vs. Statewide Surveys of Marijuana Use by 12th Graders

	NIDA[1] 1989	Alaska 1988	Oregon[2] 1988	Calif.[2] 1989	Texas 1988	Maryland 1989	Virginia 1989
Ever tried	43.7%	68%	54%	(NA)	45.7%	43%	37.2%
Used that year	29.6%	53%	43%	33%	15.2%	(NA)	26.6%
Used past month	16.7%	45%	27%	(NA)	13.9%	15%	15%
Used daily	2.9%	(NA)	5.4%	4.3%	(NA)	5.7%[3]	(NA)

National Vs. Statewide Surveys of Cocaine Use by 12th Graders

	NIDA[1] 1989	Alaska 1988	Oregon[2] 1988	Calif.[2] 1989	Texas 1988	Maryland 1989	Virginia 1989
Ever tried	10.3%	29%	17%	(NA)	11.6%	10.6%	3.9%
Used that year	6.5%	14%	13%	11%	4.2%	(NA)	2.6%
Used past month	2.8%	7%	6%	1.2%	4.2%	3%	1.6%
Used daily	0.3%	(NA)	1.6%	0.4%	(NA)	0.7%[3]	(NA)

1. National Institutes of Health Senior Survey (NIDA)
2. 11th graders
3. Includes those who used several times a week.



*See Note 10

Figure 17

fallen (see Figures 14 and 16) consistent with a reduced U.S. market. This may be compelling evidence that new markets in other countries are not being opened rapidly, or that crop eradication practices are taking their toll.

Whether cannabis use is beneficial, prejudicial, or simply benign with respect to individuals and society is an ever-continuing debate. Thus the cannabis use literature is highly diverse. Some of it points to historical use patterns in given cultural or subcultural settings, thereby raising arguments that may be specific to history and culture. For example, cannabis use in Jamaica, in Costa Rica among some of the country's lower classes, and among some groups in Greece, Africa, and India has long been sanctioned by attitudes about ritual, social exchange, or empirical medicine that are strongly imbedded in the cultural psyche of the respective peoples.[11] By contrast, although some countries have exhibited a more subdued embrace of cannabis, their social fabric has nevertheless exhibited a "culture of tolerance" which, while not as tenacious as drug use encouragement deriving from religio-cultural symbolism, has nevertheless encouraged the use of cannabis and perhaps other illicit drugs. For example, in the United States, some drug use has been culturally sanctioned. Until recently, tobacco smoking was a cultural practice of widespread acceptance; it continues to be so in Mexico and Russia. In all three countries alcohol consumption is generally legal, although of an increasing public concern. Such "cultural allowances" blur the boundaries under discussion here.

In cultures that disapprove of mind-altering drugs, chronic cannabis users are viewed negatively and take on the social status of cultural outcasts.[12] When social attitudes are less critical of drug use, negative perceptions of

17,000 H.S. students / current use

TABLE 3
Trends in Thirty-Day Prevalence of Twenty Types of Drugs

	Percent who used in last thirty days															
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	'89–'90 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	
Any Illicit Drug Use[a]	30.7	34.2	37.6	38.9	38.9	37.3	36.9	33.5	32.4	—	—	—	—	—	—	—	
Adjusted Version[b]	—	—	—	—	—	—	—	33.5	30.5	29.2	29.7	27.1	24.7	21.3	19.7	17.2	−2.5***
Any Illicit Drug Other Than Marijuana[c]	15.4	13.5	15.2	16.1	16.2	15.4	21.7	19.2	18.4	—	—	—	—	—	—	—	
Adjusted Version[b]	—	—	—	—	—	—	—	17.0	16.4	15.1	14.9	13.2	11.5	10.0	9.1	8.0	−1.1*
Marijuana/Hashish	27.1	32.2	36.4	37.1	36.5	33.7	31.5	28.5	27.0	25.2	25.7	23.4	21.0	18.0	16.7	14.0	−2.7***
Inhalants[d]	NA	0.8	1.3	1.5	1.7	1.4	1.5	1.5	1.7	1.9	2.2	2.5	2.8	2.6	2.3	2.7	+0.4
Inhalants Adjusted[e]	NA	NA	NA	NA	2.3	2.7	2.6	2.5	2.5	2.8	3.0	3.2	3.5	3.0	2.7	2.9	+0.2
Amyl/Butyl Nitrites[f,g]	NA	NA	NA	NA	2.4	1.8	1.4	1.1	1.4	1.4	1.6	1.3	1.3	0.8	0.6	0.6	0.0
Hallucinogens	4.7	3.4	4.1	3.8	4.0	3.7	3.7	3.4	2.8	2.8	2.5	2.5	2.5	2.2	2.2	2.2	0.0
Hallucinogens Adjusted[h]	NA	NA	NA	NA	6.3	4.4	4.6	4.1	3.5	3.2	3.3	3.5	2.8	2.3	2.9	2.3	−0.6
LSD[f,g]	2.3	1.9	2.1	2.1	2.4	2.3	2.5	2.4	1.9	1.5	1.6	1.7	1.4	1.3	1.3	1.3	+0.1
PCP[f,g]	NA	NA	NA	NA	2.4	1.4	1.4	1.0	1.2	1.0	1.4	1.3	0.6	0.3	1.4	0.4	−1.0***
Cocaine	1.8	2.0	2.9	3.9	5.7	5.2	5.5	5.0	4.9	5.3	6.7	6.2	4.3	3.4	2.5	1.9	−0.9***
"Crack"[i]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.3	1.5	1.4	0.7	−0.7***
Other cocaine[j]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.1	3.2	1.9	1.7	−0.2
Heroin	0.4	0.2	0.5	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	−0.1
Other opiates[k]	2.1	2.0	2.3	2.1	2.4	2.4	2.1	1.8	1.8	1.8	2.3	2.0	1.8	1.6	1.8	1.5	−0.1
Stimulants[k]	8.5	7.7	8.8	8.7	8.9	12.1	16.8	13.7	12.4	NA	NA	NA	NA	NA	NA	NA	NA
Stimulants Adjusted[b,l]	NA	NA	NA	NA	NA	NA	NA	10.7	8.9	8.2	8.3	8.5	6.2	4.6	4.2	3.7	−0.5
Crystal Methamphetamine[f]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.8	NA
Sedatives[k,m]	5.4	4.5	5.1	4.2	4.4	4.8	4.6	3.4	3.0	2.8	2.4	2.2	1.7	1.4	1.8	1.6	−0.2
Barbiturates[k]	4.7	3.9	4.3	3.2	3.2	3.2	2.8	2.0	2.1	1.7	2.0	1.8	1.4	1.2	1.4	1.3	−0.1
Methaqualone[k,m]	2.1	1.8	2.3	1.9	2.3	3.3	3.1	2.4	1.8	1.1	1.0	0.5	0.6	0.5	0.5	0.2	−0.4*
Tranquilizers[k]	4.1	4.0	4.5	3.4	3.7	3.1	2.7	2.4	2.5	2.1	2.1	2.1	2.0	1.5	1.3	1.2	−0.1
Alcohol	68.2	68.3	71.2	72.1	71.8	72.0	70.7	68.7	69.4	67.2	65.9	66.3	66.4	63.8	60.0	57.1	−2.9*
Cigarettes	36.7	36.5	38.4	36.7	34.4	35.5	29.4	30.0	30.3	29.3	30.1	29.5	29.4	28.7	28.6	29.4	+0.8
Steroids[f]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.8	1.0	+0.2

NOTES: Level of significance of difference between the two most recent classes: * = .05, ** = .01, *** = .001. NA indicates data not available.

[a] Use of "any illicit drugs" includes any use of marijuana, hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (excluded in 1990), or tranquilizers not under a doctor's orders.

[b] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[c] Use of "other illicit drugs" includes any use of hallucinogens, cocaine, and heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (excluded in 1990), or tranquilizers not under a doctor's orders.

[d] Data based on four questionnaire forms in 1976–1988; N is four-fifths of N indicated. Data based on five questionnaire forms in 1989–1990; N is five-sixths of N indicated.

[e] Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[f] Data based on a single questionnaire form; N is one-fifth of N indicated in 1976–1988 and one-sixth of N indicated in 1989 and 1990.

[g] Question text changed slightly in 1987.

[h] Adjusted for underreporting of PCP. See text for details.

[i] Data based on two questionnaire forms in 1987–1989; N is two-fifths of N indicated in 1987–1988 and two-sixths of N indicated in 1989. Data based on six questionnaire forms in 1990.

[j] Data based on a single questionnaire form in 1987–1988; N is one-fifth of N indicated in 1987–1988 and one-sixth of N indicated in 1989. Data based on four questionnaire forms in 1990; N is four-sixths of N indicated.

[k] Only drug use which was not under a doctor's orders is included here.

[l] Data based on two questionnaire forms; N is two-sixths of N indicated.

[m] Data based on five questionnaire forms in 1975–1988, six questionnaire forms in 1989 and one questionnaire

CRIMINAL JUSTICE COMMISSON

7.2 Recommendation: Scope of simple possession Offence
7.6 Recommendation: Use of Powers eg Drugs Misuse Act
The Need For Education Page 108

6,7,8

Australian Parents For Drug-Free Youth

REFERENCE

It's flower powerful

COME IN, SPIN OUT!

New super-strength dope blows cops' mind

By Peter [illegible]

POTHEADS are fooling police all over Oz with a new cannabis plant that looks like a carnation bush *– but is so heavy-duty its nickname is skunkweed!*

It took Queensland police ages to work out why loads of long-haired types with bloodshot eyes were laying around clutching bouquets of the flower, normally popular only at weddings and with old ladies.

"This plant is unlike any other seen in Queensland," said Det Sgt Dunn of Brisbane, one of the first cops to encounter it.

"Its leaves are different and, to look at, it appears to be a small stocky shrub.

"But this plant is more stocky than the marijuana plant."

What he's saying is that it's a hopped-up, sexually mutated dwarf devil's weed straight from the sordid streets of Amsterdam's red-light district.

Crafty Dutch wacky-baccy fiends carefully cultivated a bastard strain of the gaga-inducing drug to look like the harmless bud.

Tulips from Amsterdam? Not on your nelly, missus.

This new weed is said to be more powerful than the regular gear, and costs up to 50 per cent more to buy on the street.

It's sometimes called skull cap, woodbine or indiana, but is best known as skunkweed.

But police smelled something was up when the electricity board noticed huge surges in power usage **from an address in Capalaba, a coastal suburb of Brisbane.**

The equipment used to nurture the hydroponically-grown plant uses massive amounts of electricity.

To account for their you-must-be-fucking-joking-sized "flower" power bills, growers invent cover firms to make dopes of the authorities.

But neighbours complained that their lights were dimming and were suspicious when occupants of the house mysteriously boarded up its windows.

When police raided the house, they found enough puff to give half the crowd at Woodstock dizzy sensations and fits of the giggles.

But even the veteran plodders didn't know what they were looking at.

Making sure to leave no stoned unturned, they finally blew the pot plot after sending the plant for tests and finding it was possible to make funny fags from it.

Northern NSW marijuana grower "Bob" says the new drug is starting to catch on in a big way.

"Skunk is really starting to happen," he said, "particularly in Melbourne where it's grown on a large scale.

"Commercial cultivation has quickly become very sophisticated – one mob in Sydney spent over $100,000 on equipment. Another group of people rented five houses in Sydney."

But he warns: "There are dope users who don't want anything to do with it. Some people think it's too strong and too physical.

"It knocks you around too much and users get sick of it after a while."

In other words, it may look like a carnation but you won't be wearing it with a white sports coat.

In fact you'll be thanking your lucky stars if you somehow manage to get dressed at all!

STEPHEN [illegible]/AUSTRAL

[illegible]

Cannabis 1988

Old Drug, New Dangers

The Potency Question

TOD H. MIKURIYA, M.D.* & MICHAEL R. ALDRICH, PH.D.**

The story of the new, allegedly stronger and more dangerous marijuana was rebirthed in January 1986 by the late Sidney Cohen, M.D., Professor of Psychiatry at UCLA: ". . . material ten or more times potent than the product smoked ten years ago is being used, and the intoxicated state is more intense and lasts longer." In addition, Cohen (1986) asserted that "the amount of THC [tetrahydrocannabinol] in confiscated street samples averaged 4.1 percent THC during 1984. The sinsemilla varieties were about 7 percent with some samples reaching 14 percent. . . . all marijuana research to date has been done on 1 or 2 percent THC material and we may be underestimating present day smoking practices."

The average potency of marijuana samples seized by the Drug Enforcement Administration (DEA) increased from 0.5 percent THC in 1974 to 3.5 percent in 1985-1986, with sinsemilla (seedless marijuana) at 6.5 to 12 percent, announced Dr. Richard Hawks of NIDA later that year (Kerr 1986: 1). "Parents who experimented in their youth are not aware that the potency is much higher," added Donald M. Delzer, Chairman of the National Federation of Parents for Drug Free Youth (Kerr 1986: 18).

"Now perceived as a hard drug, marijuana has increased 1,400 percent in potency since 1970," proclaimed the flyer of a national conference on marijuana (Henry Ohlhoff Outpatient Programs 1986). Drug abuse treatment professionals soon elaborated on the outcry. Tennant (1986) asserted that the drug of the 1970's contained one to three percent THC, while that of the 1980's contained five to 15 percent. Furthermore, the brain registers the difference exponentially, so the difference between one percent and 10 percent THC was not nine percent, but more like 900 percent (Garcia 1986: 3). Smith (1987) stated that Cohen "taught us that marijuana was a lot more dangerous than we originally thought, particularly with the use of more potent preparations by young people." Inaba (1987) added that "this new, stronger marijuana has a more disruptive effect on brain chemistry and body physiology than we had imagined previously," and mentioned heretofore undescribed side effects among athletes: "Baseball players who get beaned a lot admit to smoking marijuana. It impairs their ability to follow the ball."

In a column for drug abuse counselors, Meyers (1987) advised "supportive therapy" for the effects of the "new" marijuana, which were described as "depersonalization, disorientation, derealization, changes in perception, and alterations in body image . . . acute brain syndromes with temporary clouding of mental processes . . . a change of time sense—where minutes seem like hours—slowed thinking, and feared perception of brain damage." Schick Shadel Health Services drug abuse treatment clinics (Unsigned 1987) now advertise that "marijuana has increased THC content from one percent THC in 1975 to six to fourteen percent THC in 1985 due to hybridization techniques. . . . For those who have become addicted to marijuana, whether it was years ago, or recently, treatment is necessary—even more critical today."

Despite the respectability of these authorities, none of these alarming claims are new, and neither is the potency issue. There are several claims intertwined: (1) that the marijuana available today is much stronger than that available previously, particularly since the early 1970's; (2) that

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**Curator, Fitz Hugh Ludlow Memorial Library, San Francisco, California.

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Developmental and Behavioral Pediatrics

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Original Articles

60- and 72-Month Follow-up of Children Prenatally Exposed to Marijuana, Cigarettes, and Alcohol: Cognitive and Language Assessment

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ABSTRACT. Cognitive and receptive language development were examined in 135 60-month-old and 137 72-month-old children for whom prenatal exposure to marijuana, cigarettes, and alcohol had been ascertained. Discriminant Function analysis revealed an association between prenatal cigarette exposure and lower cognitive and receptive language scores at 60 and 72 months. This paralleled and extended observations made with this sample at annual assessments at 12 to 48 months of age. Unlike observations made at 48 months, prenatal exposure to marijuana was not associated with the cognitive and verbal outcomes. Relatively low levels of maternal alcohol consumption did not have significant relationships with the outcome variables. The importance of assessing subtle components rather than global cognitive and language skills to detect potential behavioral teratogenic effects of the drugs being examined is discussed. *J Dev Behav Pediatr 13:383–391, 1992.* Index terms: *marijuana, cigarettes, alcohol, pregnancy, cognition, language, children.*

Three nonmedicinal drugs extensively used by women during pregnancy are cigarettes, marijuana, and alcohol. The consequences of such use have been shown, to various degrees for the different substances, to affect the cognitive performance of offspring when assessed during early childhood.[1–3] For all three drugs, however, the results are not entirely unequivocal both in terms of outcomes and in terms of interpretation. Procedural differences, particularly the fairly frequent failure to take into account potentially important prenatal and postnatal factors, play a major role in the discrepant observations.

The majority of reports published in the 1970s and early 1980s, have reported negative relationships and possible trends between cigarette smoking during pregnancy and cognitive outcomes in early childhood.[4] These studies have been criticized by Streissguth et al[1] as usually failing to consider the possible confounding effects of prenatal alcohol exposure, which often is correlated with cigarette use. Based on their findings that, after adjustment for alcohol use and other covariates, there were no significant smoking effects on 4-year-old IQ but there were alcohol-related effects, the investigators[1] argue that the early studies[2,5,6] may have falsely attributed to cigarettes what actually was due to alcohol.

More recent reports have carefully controlled for social levels of alcohol consumption during pregnancy. In these studies, an association between prenatal exposure to tobacco and effects on cognitive functioning in young children has been noted. Sexton et al[7] compared 3-year-old children from mothers who had quit smoking in pregnancy (70% by the 20th, 80% by the 25th, and almost all by the 30th week of gestation) with offspring of mothers who continued to smoke throughout pregnancy. After controlling for a host of environmental (including alcohol consumption) and fetal maturity factors, it was observed that children whose mothers quit smoking during pregnancy, relative to children whose mothers persisted in smoking, performed at a statistically significantly higher level on cognitive tasks, particularly in the language domain. In work reported from our own laboratory, we have noted that at 3- and 4-years of age,[3] prenatal exposure to cigarette smoking was significantly associated with poorer language development and lower cognitive scores after controlling for confounding factors including alcohol.

Nonalcoholic levels of alcohol consumption (i.e., social, nonabusive)[8] during pregnancy have been reported by some workers to be associated with lowered cognitive measures in young children. Streissguth et al[1] reported that an average consumption of three drinks a day during pregnancy was

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Judge lashes out at 'filthy trade'

By JAMES WOODS
legal reporter

A SUPREME Court judge has blasted drug dealers as peddling in a "filthy trade" that [illegible] ton said selling drugs was destructive to the community and drug users were "shells of people, you can see that they are doomed.

"You look into their eyes and there is almost nobody there and this is what this dealing does to people," he said.

Justice Derrington made the comments in Toowoomba last week while sentencing nine people on drug-related charges, many the result of an undercover police operation last year.

A 29-year-old mother jailed for six months for supplying dangerous drugs was told she was headed for a "lifetime of destruction" and was a "terrible example to your children".

"It is a shocking thing for a parent to be behaving in a way that will put their own children in danger when they see what their mother is doing," Justice Derrington said.

He told one man, whom he jailed for two years for supplying dangerous drugs, of the effect of marijuana on people — "drives them mad".

"They are just not human beings, unfortunately.

"They are poor, very poor people, suffering very badly with madness."

Commenting on heroin addicts he said: "You look into their eyes ... and there is nobody home.

"They are just living from one needle to the next.

"The courts have to protect the community against the drug trade ... a filthy trade."

children, valuing par- Malanda.

Crime statistics

I READ with amazement and anger, Mr Dickie's column, "Watching" (Mar 20).

Amazed by his assertion that those who would expose problems in our society (as he once so successfully did) are themselves culpable. And angry that he dare ask the question, "Is the crime rate really accelerating?"

He is too young to have experienced the good old days of freedom when house windows had no bars, when doors were seldom locked, and when the car key was left almost permanently in the ignition.

Naughtiness, he says, is an inherent, often encouraged, feature of our society.

Does he class the crimes that happen daily, the destructive vandalism, the break-ins, the robberies with violence, the brutal assaults, and the rapes, as naughtiness?

It seems that Mr Dickie did not use the word naughty as a euphemism, but, rather, to emphasise his gross cynicism. Certainly the victims of naughtiness would consider his choice of word to be inappropriate.

In keeping with the peculiar attitude that rates criminals as naughty, police are referred to as wallopers, and defenceless grannies get neither sympathy nor understanding.

I found Mr Dickie's arguments confusing, at times disproving what I thought he was trying to prove. Perhaps he, too, is confused?

Bill Nye, Minyama.

the

The Courier-Mail

SATURDAY, JULY 30, 1994

Judge fears soft penalty an attraction

A JUDGE yesterday said it was undesirable if interstate criminals were attracted to Queensland because they believed the punishment was more lenient than in other states.

Brisbane Supreme Court Justice John Byrne adjourned the sentencing of three men involved in one of Queensland's biggest organised crime marijuana crops to enable the prosecution to obtain interstate comparative sentences.

Pasquale John Romeo, 31, of Griffith in New South Wales, Joseph Paul Zucchelli, 31, of Canberra, and Warren Stuart Thomas, 40, of the Gold Coast, all pleaded guilty to unlawfully producing marijuana between May 1 and November 16, 1993, at Yuleba, near Roma.

Prosecutor Paul Rutledge described the cultivation, on a property called Kemsley Park, as one of the biggest ever detected in Queensland with 8100 marijuana plants grown on 38,500sq m — more than five times the size of Lang Park.

Justice Byrne said if penalties in Queensland were less than those in other states for equivalent crimes it would "encourage sophisticated and organised criminals to come here rather than remain or go to New South Wales".

"It would be unfortunate if those who are minded to commit offences of this sort are attracted to commit them in Queensland because, if detected, their punishment would be less than in other places," he said.

Mr Rutledge said Romeo and Zucchelli were involved in crop growing and Thomas played a smaller part.

They were arrested and charged late last year along with 10 other men whose activities had been under surveillance by the National Crime Authority for four months.

Those involved came from Queensland, Sydney and Griffith in New South Wales.

"There was enough irrigation pipe to run a pipe from this court room to QEII or the SCG Stadium," Mr Rutledge said.

When police raided the plantation 3940 cannabis plants were found and 71kg of drying cannabis material in a house on the property.

From surveillance, it was revealed that some plants, which included overseas hybrids from seed purchased for $80,000, had been harvested early while others failed or were removed because they were male plants.

The plants were well fertilised, each having its own drip-irrigation system fed by two dams.

A police scanner and radio tuned in to the local police frequency was also found in the house.

"It's clear from the network or web that the cultivation was part of an organised-crime exercise with links to Sydney and Griffith," Mr Rutledge said.

Mr Rutledge urged Justice Byrne to impose a minimum sentence of eight years imprisonment on Romeo, six years for Zucchelli and a suspended sentence for Thomas.

But Tony Glynn, for Romeo, said a sentence of eight years was completely inconsistent with Queensland comparatives and the true range was four to possibly six years.

Judge Byrne adjourned sentencing until a date to be fixed and remanded Romeo and Zucchelli in custody.

Thomas was allowed bail on his own undertaking.

The Courier-Mail

BRISBANE, JULY 15, 1994

DRUG LAW

Policing a measured response

AMENDING the form of the law to match the facts of policing and judicial policy is in most circumstances sensible policy. There is very little point in having one law on the statute book and another for application. Prima facie, then, the Criminal Justice Commission's recommendations on cannabis law reform are common sense and very far from radical. The CJC simply suggests that once first-time users of cannabis are usually fined but left with an unblemished record — their conviction not being recorded — then this should be what the law formally requires: not exactly decriminalisation, but a softer approach that recognises the facts of much cannabis use.

It is certainly true that the police have better ways to spend their time than chasing individuals who might be doing themselves harm by smoking an illegal substance. The Police Service, however, is unhappy with the CJC's proposal that police powers of entry and search should be further limited where cannabis abuse is suspected. Under the CJC recommendation, power to enter and search premises without a warrant would go where the only drug suspected is cannabis. The Police Commissioner, Mr Jim O'Sullivan, says this restriction would hinder the fight against crime. He has a point, which should be considered carefully. But it is not necessarily supportable where cannabis alone is concerned. It is true that in some instances cannabis use runs side by side with abuse of hard drugs. What needs to be judged objectively is the extent to which the present illegal status of cannabis draws it and its users into the criminal network.

Mr O'Sullivan, rightly, wants to catch criminals. It is also correct — though not necessarily right, the very point around which the cannabis debate revolves — that cannabis is an illegal drug. The community, broadly, wants it to remain so. Activists who light up outside the CJC's Toowong headquarters, [illegible], are making a point a majority of Queenslanders does not accept. But neither do people, generally, feel particularly happy with the prospect of unwarranted raids on private homes. There is room for compromise. The State Government, if it accepts the CJC's cannabis proposals, should look very seriously at accepting the consequent proposition that suspected cannabis should not be grounds for police entry into private property. The police, however, must be helped, and not hindered in their job of enforcing the law. If — as Mr O'Sullivan suggests — the illegal nature of the drug trade makes cannabis to be regarded as no less serious than other drugs, then the present powers of entry and search, which no longer apply to cannabis for individual use, remain in force and could be used by police on the existing grounds of reasonable suspicion.

The argument, at this level, is one about police powers, not the level of criminality to be associated with cannabis offences. In general, police powers should be sufficiently wide as to reduce to an absolute minimum the potential for criminals to escape justice, but narrowly defined so as to protect citizens' rights. In any debate over such powers, it is to be expected that the police will argue for greater powers than the community might feel disposed to accept. Mr O'Sullivan shows a commendable grasp of reality in saying he has no difficulty with lighter penalties for first-time cannabis users. On that score, he is arguing for sensible community regulations. On the police powers front, he has a more difficult position to maintain. If first-time cannabis users are such small fry that they are judged not to require effective criminal sanctions, where is the justification for raiding their places of residence? Harder evidence of the alleged ubiquitous links between cannabis and other illegal drug suppliers will have to be advanced before reasonable people can accept the glaring dichotomy in this argument.

8

Parents 'need to be aware of drugs'

Parents needed to learn about the traits of children involved in drugs, Det. Sgt Steve Davis of the Maryborough district CIB said yesterday.

"A lot of parents are writing off the behaviour of their adolescent children as just a stage they are going through, when it could be a sign of drug abuse," he said.

"There is a serious drug problem in the region and we know there are drugs available in schools in Hervey Bay and Maryborough and among our youth."

He said that recent meetings

By Joanna Bulleid

initiated by Maryborough mother Trudy Williams and Nichole McKewen of the Maryborough Aboriginal Corporation for Housing and Cultural Development had resulted in the formation of a community group of citizens for drug-free youth.

"A committee has been elected with me as president, to arouse parental and community awareness of the drug problem, to find ways to make parents aware of the traits exhibited when people were abusing drugs, to liaise with school authorities, and to contact health and welfare agencies with a view to establishing some facilities for support counselling and care of people affected by drugs."

He said the group would meet tonight at the Neighbourhood Centre in Bazaar Street, Maryborough, at 7pm, and all interested people were invited.

"I'd like to stress that the meetings are an open forum across the board — just because the original push came from members of the Aboriginal community doesn't mean the group was formed to assist that part of the community alone.

"It's a widespread problem and everybody is welcome," he said.

LETTERS

THE COURIER-MAIL, GPO BOX 130, BRISBANE, QLD, 4001.
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29.4.96

Middle Australia doesn't want marijuana

I AM sick of the pro-marijuana lobby insisting the public is behind its push to decriminalise the drug. I am sure this is not the wish of middle Australia.

There is increasing evidence that not only does this drug cause similar long-term health problems to tobacco and is similarly addictive, but it often leads to severe psychological problems for the user (schizophrenia and suicide being widely reported examples).

The hoary old chestnut handed out regularly by this small group of addicts is that prohibition never works, to wit alcohol prohibition in the 1920s. This is a flawed argument. Alcohol had been an accepted part of most Western civilisations for centuries. To attempt a prohibition on its consumption was folly from the outset.

Marijuana, however, has never been widely used in our culture. Although it will be present at most teenage parties, most teenagers are law-abiding and the knowledge that it is an illegal substance prevents its use.

Decriminalisation of this drug will be irreversible. When, like alcohol and tobacco, we know fully the devastating effect it has on individuals and society it will be too late; at that point, prohibition will not work.

The only fair way to judge the mind of the people on this issue would be by national referendum, where any thoughts of decriminalisation would be laid dead in the water.— **Max Scholefield, Beerwah.**

April 14

7.6.94.

Help our stoned kids: teacher

SOUTHPORT: High school students as young as 13 had prostituted themselves in exchange for drugs and many attended classes "stoned", a Gold Coast teacher said yesterday.

Southport State High School teacher Yvonne Breitkreutz said she had decided to speak out on the issue after calls by some politicians and the Australian Medical Association for the decriminalisation of marijuana.

She said students aged 12 and up attended her classes intoxicated by the drug every day.

"It's not just at the school where I'm teaching and I certainly don't think it's restricted to state schools. It's happening everywhere and it's getting worse," she said.

"Perhaps if the politicians spent a day in the classroom of any secondary school they would change their minds on decriminalisation, or do something to help those students whose lives are dominated by drug dealers."

Mrs Breitkreutz, a teacher for 32 years, said her experiences with "stoned" students had included seeking counselling for two male students in Brisbane, both of whom had been prostituting themselves in exchange for marijuana.

She said a 13-year-old Gold Coast schoolgirl she had taught had prostituted herself to her sister's boyfriend, who in turn supplied her with drugs.

Mrs Breitkreutz, 53, said Education Department administrators did not deny the problem but did not want anyone to know about it "because they don't want to spoil the good name of their schools".

"The people who are copping it all the time are the teachers . . ." she said.

Mrs Breitkreutz said between two and 10 students in her classes of about 30 pupils were affected by marijuana in some way every day.

Education Minister Pat Comben was not available for comment last night.

Queensland Council of Parents and Citizens Associations spokesman David Lloyd said Mrs Breitkreutz's comments did not come as a complete surprise.

"We need to tackle the issue head-on," he said.

YVONNE Breitkreutz . . . 'teachers are copping it.'

8

Legal aims 'unreal'

PEOPLE expect too much from the legal system, High Court of Australia Chief Justice Sir Anthony Mason says.

Sir Anthony said some litigants had unrealistic expectations, partly because of too much focus on individual rights in the community and not enough on responsibilities.

He said the "rights revolution" had displaced an older society which concentrated on "obligations, responsibilities and duties".

"I'm inclined to think that the expectations that have been engendered of the courts in the community are too high," Sir Anthony said.

"People do expect too much from the legal system and that something ought to be done to lower those expectations.

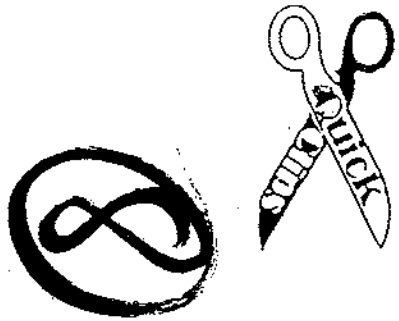
"Certainly the community cannot afford to provide a system whereby everyone who sustains loss or injury will be able to sue and get compensation from someone else — at no cost.

"It is unrealistic to expect that the community could afford compensation on that basis."

7.6.94 Courier Mail

Dope before class

GOLD COAST. — A Gold Coast high school teacher yesterday said about one in six of the students in her classes was intoxicated by marijuana every day at school. Yvonne Breitkreutz, who said she had complained to the Queensland Education Department "about 35,000 times," said she believed the level of marijuana use at Southport High School was the same as other schools on the Gold Coast and in Australia. She said some of the affected students, "depending upon the time of day," were either "fairly well asleep" or aggressive.



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Mrs Breitkreutz, 53, said Education Department administrators did not deny the problem but did not want anyone to know about it "because they don't want to spoil the good name of their schools".

"The people who are copping it all the time are the teachers and we can't do anything about it because nobody wants to face it," she said.

Mrs Breitkreutz said between two and 10 students in her classes of about 30 pupils were affected by marijuana in some way every day.

"Not all these kids are bad — they just need some help," she said.

Education Minister Pat Comben was not available for comment last night but a spokeswoman said he was very concerned about the seriousness of the allegations.

Queensland Council of Parents and Citizens Associations spokesman David Lloyd said Mrs Breitkreutz's comments did not come as a complete surprise.

"We need to tackle the issue head-on," he said.

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