

Warning: This book contains 1 swear word.

A Cannabis User's Harm Reduction Handbook

By Steve Liebke

**"I recommend this book to anyone who uses cannabis or knows anyone
who does, and that is all of us"**

Timothy Moore – Redfern Legal Centre Drug Policy Project

While every effort has been made to ensure the accuracy of the information contained herein, I cannot definitively vouch for the sources I have made use of. I can, and do, however, take full responsibility for the personal opinions and ideas expressed.

Steve Liebke, 2001.

This work is dedicated to the two wonderfully motivated people who made it possible, one of whom is far sexier than the other.

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1. Forward by Timothy Moore, Redfern Legal Centre.

Cannabis is not a soft drug. No drug can, in fact, be considered 'soft'. For example, it is well known that alcohol and tobacco, this nation's two favourite drugs, cause the vast majority of our drug-related deaths (68%). Nicotine has been found to be at least as

well as general assault. If it cannot be considered strange that these two drugs are legal, then it should at the very least be viewed as odd that other drugs are not.

Although the health hazards of our licit drugs are well known, the same cannot generally be said for those with illicit status. This is, of course, a direct result of them being illegal, and their users being vilified by the media and general public. Cannabis, while considered by many to be relatively harmless, has a plethora of both physical and psychological effects that users, and those around them, should be aware of. Although no person can be said to have died directly from an overdose of cannabis, it should be made clear that this drug can be implicated in physical effects ranging from reduced fitness to heart disease and cancers. Similarly, though the risk is relatively low, users should be aware that cannabis dependency is real, as are a number of other psychological conditions associated with its ingestion.

It is abundantly clear to many in positions that have close contact with cannabis use and its myriad of detrimental effects (including those stemming from possession and usage criminal charges) that, until the government decides on a rational approach to regulation, the harms associated with the drug can only become more prevalent. In the years since cannabis was criminalized in Australia, the hundreds of millions of dollars expended and the thousands of charges laid have done absolutely nothing to stem the rise in usage or to reduce the harms it causes. Costing enormously and having no measurable benefit, prohibition has proven to only be harmful to society.

The cannabis industry is worth an estimated \$5,000,000,000 per year in untaxed profit that serves to fuel the illegal activities of organized crime. Marijuana is uncontrolled in its quality and the street price is determined by anyone but the consumer.

The impact of cannabis' illicit status on the otherwise innocent user cannot be overstated. Those charged with minor cannabis offences suffer impacts on their employment, relationships, pockets, travel opportunities, education, accommodation, etc. At times, incarceration is seen as fitting for these 'criminals'. Prison, at it exists, can rarely be seen as a fitting punishment, particularly for illicit drug users and the criminal activity illicit status makes necessary (such as burglary).

Until this county's government sees fit to produce a sensible approach to cannabis and other drugs, and therefore issue comprehensive and visible information to users, works such as this handbook will be the standard by which drug users and those around them can educate themselves, and practically alter their patterns of consumption to reduce the harm to, not only themselves, but society at large. And that's social responsibility.

I recommend this book to anyone who uses cannabis or knows anyone who does, and that is all of us.

2. A Few Words From the Author

Of Australia's youth: "those aged 14-19 are more likely to be recent cannabis than tobacco users (35% vs 25%)." Drug & Alcohol Review (2000).

This book has not been written in order to condone the use of an illegal drug. The information contained herein is intended to educate with regard to the dangers of using (and in particular smoking) cannabis as well as offering some alternatives for those who

information, a chapter is dedicated to websites, organizations, etc that have a concern with cannabis and the issues surrounding it's use and abuse.

Different people will acquire a copy of this book for different reasons. Concerned parents may pick it up in an effort to understand the possible and probable dangers of what their kids are up to. Adolescents may peruse it out of curiosity or perhaps to have a bit of fun in the kitchen and try out a novel new way of getting stoned. Zero Tolerance proponents may think my home address is in here somewhere. Some readers may actually be genuinely concerned with minimising the harm associated with their (or other's) marijuana use.

Whatever the reason, I hope some good can be achieved through its publication. The focus is *genuinely* on harm minimisation (however misguided I may be) on an individual basis. By individual, I mean what is appropriate for each user, as determined by a simple, sensible self-analysis. What may be a suitable approach to cannabis use for one individual may be completely inappropriate for another. The emphasis here is on an honest self-appraisal of a person's health status and psychological profile. As examples, an asthmatic would orally ingest, rather than smoke the drug. Someone under severe acute and/or chronic stress would be advised to closely monitor intake and those prone to schizophrenia should probably not use cannabis at all.

I strongly believe that the prohibitionist approach to recreational drug control is a complete fallacy, at least in its current and recent forms, particularly considering the glaring hypocrisy of alcohol's licit status. Despite this, I am not a campaigner for marijuana (or other illicit drug) legalisation solely for the sake of an individual's right to choose to be intoxicated. My personal emphasis is on constructive public debate that is motivated by what's best for our population, and in particular our youth. I certainly don't have the answer to reversing this (and other) country's drug problems, and I'm not sure anyone does. The only way we can achieve the desired result is by leaving our dogma and so-called morals (a tautology?) at the door and casting an open mind over the information to hand, as well as actively seeking new information and alternatives to current pervasive attitudes.

History plainly shows that experimentation with intoxicants is a normal component of the human psyche. Drug abuse is not. To this end, I believe our mission is to find a balance whereby we can safely use intoxicants in a moderation that is suitable to the individual and those around them.

The answer, I believe, may well lie in the relevant education of our kids and, of course, their parents. By relevant, I mean to the outcome of well-adjusted adults. Based on weight of evidence and experience, I don't think it can be said that the current western philosophies and practices of education are conducive to a happy and genuinely fulfilled adulthood. Advanced maths and geography (purely as examples) will not teach my children what is required to avoid excessive or harmful drug use. Life skills, such as stress management, conflict resolution and impulse control (all components of a personal development curriculum) will.

Over my years of contact with cannabis, I have found it to be a largely misunderstood drug. Naturally occurring (in both our environment and our bodies), cannabinoids have been reviled by some, held up as the earth's saviour by others and simply ignored by others still. My view of cannabis encompasses elements of all these extremes, as well as a healthy dose of realism. While many kiddies believe pot is harmless, I have much

So you see, this book is about harm minimisation via education first (and foremost). If a few individuals (young and/or old) happen to derive a little fun from certain sections, so be it. Similarly, no apologies for any offence caused (be it unintentional or otherwise).

I sincerely hope that this book can reduce the smoking (at least) of cannabis by particularly our youth, although I'm under no illusions as to the reality of young people grabbing a copy for the purpose of improving their health. I also hope that for those who use the drug on a regular basis this book will reopen the exciting world of experimentation and save some lung tissue in the process. For those who have a predisposition for uncontrolled use and dependence, whether it be due to internal and/or external influences, I trust the mention of psychological dangers (apart from the many physical risks) may at least raise awareness of warning signs to seek help or impose a regimen of self-regulation.

To those who feel the need to flay me alive for my disseminating this information, if you think about it long and hard enough, it might just make sense. Besides, anyone with motivation and/or an internet connection will find the contents of this book are largely freely available. For those who still find the topic of illicit drug harm minimisation socially corrupt (or otherwise unacceptable), I invite you to sit yourself down over a whiskey and a cigarette and write me a nasty email.

Urban Myths

For one reason or another (I suspect illegality has something to do with it), some of the methods for reducing harm outlined here have their basis in anecdotal evidence only. This is certainly not to cast doubt on them, just caution. I have attempted to discern between those that exhibit an air of reality and those that appear embedded in the placebo effect of urban myth (though it's worth remembering that a placebo effect is still a *real* effect). Consequently, unless otherwise indicated, all the practices contained herein are valid and, I believe, viable for the vast majority of users.

A Note on Hemp

A problem I encounter on an all-too-regular basis is that of the distinction between hemp and marijuana. There is a prevalent notion amongst the general populace that the two are inseparable and I commonly hear people half-joking about smoking a pair of hemp pants and such. Hemp is an industrial crop, is devoid of intoxicating levels of THC and other cannabinoids, and should be in greater commercial production in Australia (and elsewhere). Hemp is as good to get high on as wheat and corn. Marijuana (I predominantly use the term cannabis) is a completely different kettle of fish. Although they are encompassed by the same genetic umbrella, hemp and cannabis, for the sake of an intoxicating drug argument, are as similar as ecstasy and camomile tea (or, if you like, as an opium poppy and common garden-variety poppy). Only with increased recognition of this fact can an infinitely beneficial hemp industry be successfully established in Australia.

3. Who Uses Cannabis in Australia?

As the following statistical overview indicates, cannabis consumption is by no means limited to a particular section or minority of the general Australian population, though it is certainly a drug of choice for many young people.

Since cannabis emerged once more from relative obscurity and into popular culture in the 1960's and 70's, its use has increased steadily to the present and looks set to continue this trend into the foreseeable future. In 1973, approximately 20% of 14-19 year olds had tried cannabis. A report by the National Drug Strategy puts that figure in 1995 at 80%. In the same period, lifetime use amongst 20-29 year olds increased from approximately 12% to about 45% and to nearly 70% in 1998. The 30+ age group has experienced an increase from 2-3% to about 23% (1995).

In 1998, nearly 40% of the Australian population had ever tried cannabis. This figure peaked for males in the 20-29 years age group at 68%. Translated into real numbers, in 1998 approximately 5.8 million Australians had used cannabis within their lifetime, with over 2.6 million having used it in the previous twelve months.

Cannabis Use by Age & Sex, Ever Used, 1998.

Cannabis Use by Age & Sex, Used in Last 12 Months, 1998.

Age group	Males %	Females %	Both Sexes %	Numbers (approx.)
14-19	44.5	44.8	44.6	705,140
20-29	67.9	59.2	63.6	1,803,200
30-39	59.9	53.8	56.8	1,652,140
40-49	54.1	30.0	41.6	1,125,940
50-59	20.8	15.3	18.0	366,990
60+	3.7	4.3	4.0	120,545
Total	43.7	35.1	39.3	5,773,955

Age Group	Males %	Females %	Both Sexes %	Numbers (approx.)
14-19	35.0	34.2	34.6	547,000
20-29	43.7	29.3	36.5	1,034,800
30-39	24.1	16.3	20.2	587,500
40-49	16.6	6.3	11.3	305,900
50-59	5.6	7.6	6.6	134,600
60+	1.1	1.2	1.1	33,200
Total	21.3	14.7	17.9	2,643,000

In 1996, 19.5% of Australian secondary school students had used cannabis in the previous month. 12% had used it within the previous week.

Estimated Numbers of Current Cannabis Users, Aged 14+, 1995.

Daily Use	253,000
Once a week +	455,000
Once a month +	354,000
Every few months	303,000
Once or twice per year	404,000
Less often	303,000
Total	2,072,000

From a total population of 14,440,000, this identifies 14.3% of Australians over 14 years as current cannabis users (1995). With increases in population and cannabis usage in the last five years (as well as underreporting due to illegality), it could be expected that this figure would now be approaching (if not beyond) 2.5 million individuals.

State & Territory Cannabis Use, Ever Used, 1995.

Queensland	30%
Victoria	32%
Tasmania	33%
New South Wales	33%
South Australia	36%
Western Australia	37%
ACT	39%
Northern Territory	52%

Cannabis Use by Occupation, Ever Used, 1995.

Retired	5%
Home Duties	20%
Non-manual Labour	38%
Manual Labour	43%
Unemployed	49%

Cannabis Economy

It was estimated that, in 1995, Australians spent over \$5 billion on retail (street) cannabis purchases, twice that spent on wine and _ of the total beer expenditure. The figure for marijuana was extrapolated from a mean price of \$450 per ounce. I doubt that many users would be paying more than about \$350 an ounce these days, though this would still represent national spending of around \$4 billion, not accounting for increases in use since 1995 and those users who buy smaller, relatively more expensive, 'deals'. From this enormous industry the government reaps \$FA (and outlaid \$329 million in 1991-92 on cannabis law enforcement). The new tax system will alter this slightly (even pot dealers have to pay GST on their legal spending), though illegal commercial cannabis operators (and, to a lesser extent, small backyard growers) continue to monopolise the gross profits.

4. Cannabis Harm Reduction

Principals of Harm Reduction

It may be that much of the criticism aimed at harm reduction strategies, policies and persons proposing HM for illicit drug users is borne of ignorance of the basic goals of the issue. HM (which attempts to reduce harm, as opposed to use) is designed to

practiced in WA, NSW and Queensland (as examples), are contradictory to HM practices.

In order to present the ideals behind HM, I have decided to quote from the Harm Reduction Coalition (HRC), which is based in the US. The HRC states that true harm minimisation (with my italics):

- "Accepts, for better and for worse, that licit and illicit drug use is part of our world and chooses to minimise its harmful effects rather than simply ignore or condemn them.
- ... acknowledges that some methods of using drugs are clearly safer than others.
- Establishes quality of individual and community life and well-being, not necessarily cessation of all drug use, as the criteria for successful intervention and policies.
- Ensures that drug users and those with a history of drug use have a real voice in the creation of programs and policies designed to serve them.
- *Affirms drug users themselves as the primary agents of reducing the harms associated with their drug use*, and seeks to empower users to share information and support each other in strategies which meet their actual conditions of use.
- *Recognises that the realities of poverty, class, racism, social isolation, past trauma, sex-based discrimination and other social inequalities affect both peoples' vulnerability to and capacity for effectively dealing with drug-related harm.*"

[to paraphrase, that drug abuse is symptomatology of the ills modern society has created for organic beings designed to have a symbiotic relationship with the earth, not an adversarial one.]

In addition, the HRC makes another valid point, thus:

- "Most [I would argue many] therapeutic services for drug users, including drug treatment, are designed to serve the priorities of providers (and legislators) instead of the needs of consumers."

Current prominent examples of this are the issues of safe injecting rooms and prescribed heroin.

Though these HM guidelines originate from the US, whom of course we love to hate, we have to accept that the vast majority of our attitudes to licit and illicit drugs come from this source. Consider the fact that both countries have pervasive attitudes of pharmaceutical pill-popping and yet seek to marginalise users of (illegal) drugs that are quite often made with the same chemicals pumped out by these legitimate drug companies, and are often used for precisely the same purpose (i.e. pain avoidance). These corporates then, in turn, provide medications to help rehabilitate what are, in reality, their own customers. This practice also occurs, though of course more overtly, with those addicted to prescribed medications. In the case of cannabis and heroin, we are still prosecuting users of a drug our own AMA is desperately keen to trial and use for medical applications. Perhaps we should be looking to this entrenched and insidious practice of self and professional medicating as one possible source of illicit drug use and abuse in our respective communities.

The aim of any industry is to increase both its number of customers and the amount of profit that can be gleaned from each. The medical industry is no different. In the same vein as banks, insurance companies, etc., pharmaceutical companies (and corporatised

then, by definition, are squeezed when the service/s the companies provide were originally altruistically motivated. An insurance company's function is to provide relief to those who have suffered misfortune and yet, due (at least in part) to the shareholder system, are required to reject claims and procrastinate as a matter of protocol. So to, drug companies operate on a premise of societal care, only to find themselves in the business of maximising the number of sick and how much they make from each. The irony, of course, is that all those shareholders and company directors are customers (and patients) also.

Federal Drug Policy

The Australian Federal Government has, since the early eighties, had an illicit drug policy that focuses, supposedly, on harm minimisation. While this may be a stated "fact", and written indelibly into legislative preamble, the reality is that policy makers, in many instances, have placed themselves in a position dominated by apparent contradictions. On the one hand, Australia (and other countries including New Zealand) is a signatory to international treaties that specify an obligation to assist global (read US) efforts to control or eliminate cannabis cultivation and distribution. On the other hand, our Federal Health Minister, Dr Michael Wooldridge, has stated a need to "ensure that drug enforcement activities are consistent with a harm reduction approach". For my mind, and I'm quite sure I'm not Robinson Crusoe, this would indicate that personal users should, at the very least, never find themselves in a position open to criminal prosecution.

Interesting then, that approximately 90% of all cannabis charges laid in this country are for minor, predominantly possession/use offences. This figure comprises 70-75% of *all* drug offences.

It is perfectly clear that dishing out criminal records for users and/or self-sustaining cultivators of cannabis is counterproductive to harm reduction strategies. For one, it reduces normal social behaviour (on a par with having a few drinks with friends) to a criminal, abnormal activity. Secondly, it is chronically punitive, burdening the unfortunate pot user with a record of their so-called criminal behaviour for life.

The federal government is well aware of the consequences of a drug-related conviction, the National Drug Strategy Committee having commissioned a report into this very issue. The paper compares the ramifications for the cannabis user of a civil fine received in SA, and a criminal conviction, in this case received in WA. A number of statistics derived from this report paint a clear picture of the ongoing implications for marijuana users of a criminal record.

32 percent of WA respondents reported a negative employment consequence arising from their cannabis conviction compared with less than 2 percent of SA respondents, who received a fine only. 20 percent from WA reported negative relationship consequences versus 5 percent for South Australians. There were no apparent accommodation consequences for SA offenders although 16 percent of WA respondents reported problems associated with securing housing. As far as further negative contact with the law is concerned, 32 percent from WA believed their original cannabis conviction had lead to consequent police contact. None of those in the SA sample believed this to be the case. Interestingly, 49 percent of WA respondents stated they were less trusting of police and 43 percent were more fearful of police following their arrest and subsequent conviction. The figures for SA fine recipients were 18 percent and

If this report has stirred federal legislators into action, it is far from apparent. Logic would suggest that such statistics indicate a need to, if not reform, at least reassess a judicial system that criminally prosecutes cannabis users. This is particularly pertinent in light of a Commonwealth Government report published in 1994 recommending legislative options besides that of total prohibition be investigated for validity and viability. While I understand that illicit drug legislation is the domain of the states and territories, the disparity creates a cross-border situation verging on the ridiculous. For example, the ACT is a virtual island of cannabis legislative (if not practical) acceptance in a sea of NSW prohibition.

I recall some years ago John Howard being asked if cannabis would be legalised at some point. Without hesitation (or apparent thought), he replied, "Not while I'm Prime Minister". This prevalence of dogmatic thinking amongst policy makers who have one eye on the polls and the other on their backs (and no third eye whatsoever) will only serve to exacerbate the shit fight that the "war on drugs" has always been. Morality is one thing, voluntary ignorance is another, and I simply cannot see how pushing cannabis users (I'm not talking about major dealers) through the courts, or treating them to the suggestion of criminality, is in any way assisting in the achievement of a goal of harm reduction.

While South Australia, the ACT and the Northern Territory have decriminalised small amounts of cannabis for personal use and 'allow' the cultivation of a modest crop, the laws accommodate police discretion to either fine or charge. In addition, the legislation is under regular attack from (usually) illicit drug-free quarters that would purport to know something of the issues involved.

Personally, I believe the issue (and this is becoming something of a cliché) is one of health (and, more specifically, Western culture) as opposed to criminality. Reductions in alcohol and tobacco use (as statistics would indicate) have come about due to the education of the public, the breaking down of social norms, and programs that specify harm reduction outcomes. It's worth considering the societal consequences of alcohol as opposed to marijuana abuse (even just the incidence of alcohol-related violence), and then juxtaposing this with the relative laws and subsequent differences in the provision of support services.

I am not a proponent of marijuana legalisation per se (although I believe an intelligent system of government regulation has definite merits and the self-governing ACT may be the perfect place to pilot such a program). Instead, my immediate focus is on the implementation of a national strategy to genuinely reduce the physical and psychological harm associated with cannabis use, via education, discussion, debate and the absence of personal (moral) judgement.

Statistics from the Anti-Cancer Council of Victoria indicate that over 55 percent of 17 year-olds have tried cannabis and up to 17 percent of 16 year-olds are using on a weekly basis. With use either stable or rising amongst both adolescent and adult populations, and the average age of first-time users continuing to fall, it would appear that it may well be past time to place long-held assumptions and dogma at the door and concentrate on an eclectic, pragmatic and innovative approach to what is rapidly becoming a prominent public health issue.

This is not to say that there aren't groups and individuals who are concerned with the

concerned parent, etc.) to source the information themselves. Obviously, this situation leaves the vast majority of those who could benefit from such information in a position of ignorance, whether it be voluntary or otherwise.

If little-known phone numbers, brochures and websites are to be the medium for public distribution of cannabis and other illicit drug harm reduction (non-propagandist) information, then this is indeed a sad indictment on the commitment of the federal government to the health of the populace, in particular when considering that up to 15% of the Australian population (or around 2.5 million individuals) are cannabis users. The emphasis must be on government sanctioned public education through the utilisation of various mediums, including the education system, television, radio and popular culture. The statistics for cannabis usage by Australia's adolescents should be all the justification required to allocate spending.

As mentioned, it is my belief that a comprehensive regulatory program could prove to be an extremely useful harm reduction model (see appendix). It would allow the government to conduct worthwhile, well-targeted and far-reaching educational programs with relative moral impunity. It would supply statistics of use and abuse that are currently unavailable due to prohibition and would greatly assist in the design and implementation of rehabilitative and support services. It would also allow for quality control and educational product packaging such as that seen in the instance of cigarettes. The real incentive for the polities of course, is the capturing of all those millions in tax dollars they're currently missing out on. In addition, many criminal organisations associated with the production and supply of black market cannabis would lose a great deal of business, being unable to compete with government pricing and reliability of quality and service.

Of course, regulation has many inherent hurdles to overcome, probably too many for our over(t)ly conservative government to contemplate. As such, it may well be up to another country, or future Australian government, to exercise the progressive sensibility required to explore this option. In the meantime it is the realm, it seems, of small groups and individuals to disseminate information useful to our socially normal, cannabis-using population.

Drug Testing

Australia has a record of sorts for inappropriate drug use, such as that occurring in the work place, school or prior to driving a motor vehicle. As such, drug testing has become a reality for many, in whatever form.

Workplace and school drug testing, while catching those using illegal or otherwise debilitating drugs at work, also ensnares the innocent casual user who has indulged on the weekend, in the evening, or on holiday. THC can be detected in urine for up to five days in the casual cannabis user, and for more than 6 weeks in a regular user. If the aim of workplace drug testing is to catch those using drugs at work, then the current situation is akin to picking an Indian Minor Bird out of a flock of Gang Gangs with a shotgun.

There are a host of companies whose anti-testing (pro human rights, rah, rah) products claim to beat any drug test. They largely originate from the US and are available over

magazine (amongst other publications). As I've never had the need, I can't vouch for their efficacy.

5. Basic Cannabis Pharmacology

Chemical Constituents

In order to fully appreciate some aspects related to harm minimisation, specifically those concerning maximising cannabis potency, it is necessary to have an idea of the chemical compounds contained in the plant.

Marijuana typically contains in the order of 80 different cannabinoids (depending on your source), the chemical compounds that are exclusive to the cannabis genus of plants. Each has their respective functions, although only a relative few induce a state of intoxication. Some of these chemicals detract markedly from the stone effect and therefore, if maximum potency is the desired outcome, are to be avoided in the final product. Chapter 9, Cultivation & Storage to Maximise Potency, presents some ideas for obtaining productive ratios of intoxicating to counterproductive cannabinoids.

The main psychoactive (high inducing) agent is delta-9-tetrahydrocannabinol. This compound is found in relatively high concentrations (3%-15%) in marijuana that is commonly sold commercially. Although present in much smaller amounts, delta-8-tetrahydrocannabinol also contributes to the state of intoxication. Together, these constituents are often collectively referred to simply as THC.

Cannabidiol, or CBD, is usually present to some degree although this depends on such factors as the strain of cannabis as well as cultivation, harvesting, storage and preparation techniques. CBD tends not to contribute to the high although it does have relaxant properties. Cannabis that is relatively high in CBD will direct the user more towards a stupor than an animated buzz and so, generally, may warrant being avoided. On the plus side, CBD can extend the period of intoxication though it may also delay the onset of the initial high.

Another main component of cannabis relating to intoxication is Cannabinol or CBN. This chemical is actually not a product of the plant's biological processes as such, but rather is produced by the degradation of THC via exposure to heat and light. CBN has only about 10% of the psychoactivity of THC. It may be responsible for increased disorientation but has little to contribute to the intoxicant potency of cannabis.

Two other compounds that appear to contribute actively to intoxication, and are found in some of the more potent varieties of cannabis, are Tetrahydrocannabivarin (THCV) and Cannabichromene (CBC). Although not as well documented as THC, CBD and CBN, these chemicals are thought to either produce intoxication of their own accord (THCV) or act in a synergistic fashion (CBC) with THC to intensify the high.

Cannabinoids & the Human Body

Due to the pervasively illegal status of cannabis since the 1930's, it is only relatively recently that researchers have taken a renewed interest in cannabis and its bodily effects. The evidence to date is complex and generally polarised according to views of its medical usefulness (reflecting the direction of research). To form an accurate opinion therefore, it would be necessary to involve yourself in a plethora of rather heavy reading. For those who are interested, as a starting point I can recommend a book entitled "Cannabis Culture – A Journey Through Disputed Territory" by Patrick Matthews, specifically the chapter "The Hard Science". Details of this publication can be found in the reference section at the back of this book.

Types & Varieties

Over its long history, the cannabis genus of plants has been subjected to a level of selective breeding that has all but obscured the original varieties. Due to its many uses, including fibre, seed, oil, medicine and intoxication, users of the plant have refined and enhanced certain properties through endless processes of benefit selection. Despite this, the many thousands of varieties that are now grown all over the planet can be classified generally by either appearance and cultivation climate (variety), or by content and combination of cannabinoids (type).

Varieties

Cannabis Sativa: Although commonly regarded as *the* cannabis genus, Sativa is in fact only one of the three main sub-species. This variety is typically common to temperate regions and is characterised by its height (up to 20 feet or about 7 metres) and loosely branched structure. Much of the cannabis that is grown outdoors in Australia (and in many other areas) is of this variety. Commercial industrial hemp strains are dependent on height for fibre production and so are exclusively Sativas.

Cannabis Indica: Indicas tend to be much shorter and denser than Sativa varieties and therefore lend themselves easily to indoor cultivation. They are generally about 3 to 4 feet (1-1.5 metres) in height and have a higher yield of flowers per unit of plant volume than the sativas. Indicas are well-suited to outdoor growing in subtropical and tropical regions such as the central and northern latitudes of Australia and South East Asia and are typically higher in intoxicants than Sativas.

branches, Ruderalis is unsuitable as a commercial drug or hemp crop and is largely confined to the wilds.

Types

Type I: Traversing both the Sativa and Indica varieties, type I plants are high in THC and relatively low in CBD content. They generally produce the greatest intoxicant effect of the 5 types. Pretty much all Indica varieties fall within this classification. A type I indica, originating from latitudes within 30 degrees of the equator (Coffs Harbour in the east to about 200km north of Perth in the west), will, if well-cultivated, usually produce the strongest pot and, in cooler climates, these species are best suited to indoor cultivation.

Type II: Also traversing Sativa and Indica varieties, type II plants are typified by relatively high THC and CBD. Though not as high-producing as type I, these species are quite intoxicating nonetheless. Many "outdoor" Sativas will fall into this category.

Type III: Generally considered as non-drug, type III plants are commonly used for industrial hemp purposes. They are low in THC and often relatively high in CBD and are therefore of little or no use to the high-focused cannabis user.

Type IV: These species are less common than type I and II varieties although they do contain high amounts of both THC and CBD and may also contain significant levels of THCV. As such, they are highly desirable for their intoxicant effect although they are relatively difficult to come by, particularly in Australia. Travellers to areas such as India, Pakistan and Nepal may be able to sample type IV cannabis plants.

Type V: In an intoxicant capacity, type V plants deserve little mention. They appear to be the domain of Ruderalis varieties and are found naturally in limited areas in northern (northern hemisphere) countries. Low in high-inducing cannabinoids, type V species are not used for commercial drug cultivation.

From the above, it can be seen that type I, II and IV are the most desirable cannabis varieties, particularly if they fall within the Indica classification. Choosing which species to use and /or grow, therefore, should be based on this information, the point being that the stronger the effect, the less cannabis you will need to use and, practically, the less harm you do yourself (specifically if you are a smoker).

High THC Cannabis

It should be noted that some recent concerns have centred on the psychological impact of increased THC cannabis. With apparent (though debated) rises in THC levels over the past 30 years, and particularly more recently, there has been an increase in the number of cases of schizophrenia and a condition loosely referred to as cannabis-induced psychosis (encompassing a number of varied symptoms). While this is far from indicative of a causal relationship (rates of cannabis use, as well as other confounding factors such as environmental chemicals, etc. have also increased over the same period) it is certainly worth a mention. To further confuse the issue, the Dutch experience of recent years is that, while cannabis use has either remained stable or increased, cases of schizophrenia have decreased significantly.

Cannabis is a relatively *powerful and complex drug* and, particularly on a psychological level, deserves the appropriate respect. (This warning is repeated in Chapter 9 Cultivation & Storage to Maximise Potency).

6. Physiological & Psychological Effects of Cannabis Use.

If you are going to use a drug, be it natural, synthetic, legal or illicit, perhaps the intelligent approach is to do so via *informed choice*. Quite simply, this involves being aware of the risks, as well as the benefits. Cannabis is a substance, like many others, that produces differing results over a cross section of the population. It is therefore important to understand how cannabis is likely to affect you, both physically and mentally. While there are some *very* rare individuals who can use cannabis on any scale with relative impunity (don't think you're one of them), there are others who should avoid it completely. Somewhere in between (with a decent spread) are the vast majority.

Presented here is an overview of some of the possible health implications of using marijuana. I have taken the liberty of including a number of conditions that have been found to be associated with tobacco use and not specifically with cannabis. My reasoning is the fact that cannabis smoke contains many of the toxic substances found in tobacco (though, admittedly, not the additives), while also observing that there is a general practice amongst many pot smokers to mull up with cigarettes.

Physiological Effects.

Long & Short Term Effects

The greatest physical effects from cannabis are due to smoking as a method of administration. Some individuals believe, quite erroneously, that because marijuana is a naturally occurring substance, it is relatively safe. Tobacco would similarly fall into this 'natural' classification (though it is heavily processed by the time it reaches the consumer), as would alcohol, opium, psilocybin, etc. In reality, cannabis can deposit up to four times the tar in a smoker's lungs than tobacco. Also, cannabis smoke tends to affect the larger airways of the respiratory tract, whereas tobacco smoke has more of an effect on the smaller airways. The smoking of both, therefore, be it together or separately, has an additive effect which is apparent in research findings.

A number of studies have found long-term marijuana users to be comparable in health to the general populace. This result, of course, is dependent on the individuals examined, their cannabis smoking habits, their general state of health and their physiological history, amongst other things. It is not my place to refute such findings, rather to reiterate the aspect of individually-based harm minimisation. What may be insignificant for one may spell serious consequences for another.

Smoking cannabis and/or tobacco has been causally linked to the following conditions and diseases:

- Chronic bronchitis – coughing, excessive sputum production, wheezing
- Exacerbation and/or onset of asthmatic conditions
- Lung cancer
- Throat cancer
- Tongue cancer
- Cervical cancer
- Stomach cancer
- Bladder cancer
- Kidney cancer
- Cardiovascular disease
- Emphysema
- Pulmonary infections
- Disabling shortness of breath
- Dementia
- Alzheimer's disease
- Macular degeneration (blindness)
- Pneumococcal disease
- Lung bullae
- Thyroid disease
- Alcoholism.
- Myocardial infarction (heart attack)

While not intended to be comprehensive (new causal links between smoking, drug use and disease are regularly discovered), the above list does present an indication of the serious consequences that can arise from inhaling cannabis smoke, or using cannabis generally. Users should note that some (the minority) of these causal relationships are grounded in new and largely non-replicated studies. As such, their validity cannot be confirmed. However, despite any question marks, the majority of the listed effects are the result of well-documented, ongoing research and are based in fact. If you're interested in being on the safe side, assume all the above are at least a possibility, and some a probability with chronic use.

It is interesting to note that of all the physical effects listed above, the only one directly related to oral ingestion is the last. Cannabis use, in any form, will raise the heart rate by up to 40 beats per minute. The remainder of effects are specific to smoking as a method of THC delivery.

Other, more innocuous (short term) physical effects may include dry mouth, red eyes, an urge to poo and a full tummy.

Overdose

Despite extensive global use of cannabis and its extracts, an incident of lethal overdose has never been recorded (though this is not to say that a *relative* overdose is not possible, many users being testimonials). In fact, cannabis is quite possibly the safest drug known (in terms of direct mortality of users).

A measure of a drug's clinical safety is what is known as the LD₅₀ (Lethal Dose 50%), or the amount of a drug required to effect death in 50% of recipients. When compared with a therapeutically effective dose a safety factor can be determined. For example, the safety factor for alcohol is 4-10, indicating that a lethal dose is only 4 to 10 times that of a medicinally effective dose. Barbiturates, such as Secobarbital, have a safety factor of between 3 and 50.

As no death from cannabis has been documented, its safety was originally estimated from experiments with laboratory mice. This process yielded a safety indicator of about 40,000. However, subsequent to these experiments, a similar procedure was conducted on primates, who are obviously closer in genetic structure to humans than mice. The results indicated that a 65kg human (eg. a low-weight adult male) would have to ingest 8.45kg of pure THC intravenously to have a 50% chance of dying. Assuming that this much THC would equal about 7-8 litres of liquid (1 litre of water weighs 1 kg), this would mean that an average human male (who has about 5-7 litres of blood in their body) could replace his entire circulatory system with pure liquid THC and still would not perish of a drug overdose (but would most surely from lack of blood). Depending on what constitutes an effective dose, these figures give THC (or cannabis generally) an LD₅₀ of between 400,000+ and 28,000,000!

Essentially, by conceivable methods of administration, it is impossible to fatally overdose on pot. Having said that, take note of the psychological effects of cannabis use. Too much (and this may be *any* amount) under the wrong conditions and you may *think* you're dying, or at least going insane.

For Those With Compromised Immunity

Whether it be from eating or smoking cannabis, individuals with compromised immune systems should be aware of certain factors related to cannabis use.

Some laboratory studies have indicated that certain constituents of cannabis may have an immunosuppressant effect, decreasing resistance to infection. While replication of these studies has proven difficult and the jury is still very much out, it is worth taking note of, particularly for those infected with HIV. Conversely, cannabis has proven benefits for AIDS sufferers, including weight gain through appetite stimulation and as an anti-emetic (anti-nauseant).

Apart from cannabis itself, some risks may be present in the form of microbiological contaminants. Most of these are a result of post-harvest handling and storage and are not part of the cannabis per se. The most practical method of removing any harmful bacteria and/or fungi is by 'baking' your pot at about 150 degrees C for 5 minutes. Be careful not to leave it any longer as THC will be degraded to CBN, compromising the final potency. If cooking with your cannabis, this process will be largely unnecessary, as

For Those With Cardiac Conditions

As mentioned, recent studies have found that using cannabis (in any form) increases heart rate by about 40 beats per minute for the first hour or so. For those with cardiac conditions, such as hypertension, etc., this equates to a five-fold increase in the risk of heart attack in the first hour, and a 1.7 times increase in the second hour. Smoking the drug may further increase the risk by concurrently reducing the supply of oxygen to the heart. To quote Australian Doctor magazine, "for a sedentary person, marijuana use [is] twice as dangerous as sex, an angry outburst or an anxiety attack." For my mind, it's rather appropriate that drug use is more dangerous than sex (but that's a matter of perspective).

Passive Smoking

Being aware of those who don't want to passively smoke pot is a basic consideration. All of the physical effects of smoking apply to those who inhale passively, though the implications for children are potentially higher than for adults.

Pregnancy

Cannabinoids have the ability to cross the placental barrier to the foetus and are detectable in the breast milk of mothers who use cannabis. This said, the immediate dangers to the developing baby appear (from research to hand) to stem from smoking as a method of administration, as opposed to cannabinoids themselves, though there is a lack of research on the foetal effects of THC, etc. The main risks appear to be low birth weight and an increased risk of infant leukaemia.

While on the subject, it is interesting to note that a recent study found that endogenous (naturally occurring in the body) cannabinoids are found in high concentrations in mothers' milk the day/s immediately following birth. Investigating this phenomenon with mice, it was discovered that if cannabinoids were blocked during this crucial time, the babies refused to feed from their mother. They either died or had to be hand fed and subsequently developed slowly. Treatment with delta-9-THC of the survivors allowed them to commence normal feeding and development.

Psychological Effects

Psychological effects of marijuana use can essentially be broken down into long-term effects and short-term effects. The former relate to impairment of cognitive functioning, usually with prolonged use while the latter are more concerned with the acute effects of intoxication.

Short Term Effects

As this book is concerned with harm reduction, I won't delve much into the effects perceived to be desirable but will rather concentrate on those most users would want to minimise or eliminate. Bear in mind that cannabis is a wily animal and will play on such

mind and surroundings. For example, a first time or inexperienced user who is in an anxious state (for whatever reason), in a setting in which they are not comfortable and are smoking high THC pot via a bucket bong are at an *extremely* high risk of suffering adverse psychological effects. In addition, the level of intoxication and actual intoxicant effects will vary according to the total cannabinoid content and the relative percentages of cannabinoids. Conversely, an experienced user who is having a relaxed choof at home with close friends is far more likely to have a positive experience.

Cannabis can produce the following short-term psychological effects:

- Confusion
- Anxiety
- Paranoia
- Agitation
- Distorted reality
- Tiredness (mental & physical)
- Loss of motor control
- Memory impairment

I recall an incident in which a good friend of my wife's and mine was visiting for dinner. We were unaware of the severity of his depressed, anxious state until he had a small toke on a bong. A relatively experienced, though occasional smoker, he suffered an extreme panic attack, culminating in his belief that we had invited him over to drug, ridicule and ultimately kill him. We eventually drove him home (placating him the whole way), where he reportedly wept uncontrollably for an hour or more before spending the remainder of the night working fervently on a paper for his MBA. Hardly an enjoyable experience!

The moral is to be aware of your capacity to ingest cannabis, based on the circumstances you find yourself in. If you feel uncomfortable in any way, you're better off abstaining. **If you use cannabis and are having an unpleasant experience or are just simply too stoned, try changing your environment and/or having something to eat.** It is anecdotally reported (by a large number of users) that eating can calm the effects and/or reduce the level of intoxication.

In the interests of simple awareness, other psychological effects include euphoria, hilarity, increased sensitivity to stimulation (i.e. things seem bigger, better, faster, slower, more colourful, tastier, etc.), and a very healthy appetite.

It is worth remembering that, like alcohol and other drugs, cannabis has a 'down' side. Being coned over is a fact for many cannabis users and is a condition characterised by vagueness, poor memory, irritability, apathy, and perhaps some intestinal disturbances (though this may at least in part be due to munchies-related over-eating). Essentially, a hangover without the nausea and splitting headache.

Beware of Additives

Occasionally, unscrupulous (to be kind) dealers will taint their stock with after-harvest chemicals. While this kind of activity is uncommon, the consequences of using marijuana that has been 'spiked' can be serious. I have personally known of veterinary sedatives being added to pot, sentencing the consumer to a confusing and dysphoric night melted into the couch. In addition, I have heard tell of cannabis containing

obviously, could be quite devastating. It doesn't happen often, but it does happen (read in a shrill Kiwi accent).

A Brief Note on Sex

Due to the combination of intoxication, reduced inhibitions, increased sensory awareness, possible poly drug use and perhaps even a party atmosphere, cannabis consumption may incline you towards sexual experiences. The usual sensibilities apply here, including appropriate preparation and actually *using* that condom you're carrying (apologies for any platitudes present in this book – it would appear that occasionally some quite obvious points need to be reiterated ad nauseum, which was certainly the case for my adolescent self).

Long term Effects

In keeping with its individual nature, cannabis has varied long term effects that may manifest in some users and not others. Nearly all chronic users, however, experience some form of cognitive impairment, though it is often quite subtle. The main areas affected are memory, particularly short term, attentional abilities and cognitive organisational skills. The longer the period over which cannabis is used, generally the more pronounced are the effects. Occasional and 'one-off' users may notice few, if any, long-term implications.

It is still not clear from research to date if continual abstinence will realise improvement of impaired higher cognitive functioning. It is, however, anecdotally reported that chronic users, upon quitting, experience higher energy levels, increased motivation and improved retention of information. A large number of reformed habitual users also report the return of dreaming, and indicate that these dreams are intense and easily recalled. This factor alone may make occasional abstinence for chronic users an attractive option.

Psychosis and Schizophrenia

It has long been suggested that (usually) chronic cannabis use can cause schizophrenia and/or psychosis. It would appear from recent studies that cannabis can act as a 'trigger' for schizophrenia in those predisposed to the condition, but does not cause it per se. In addition, use of marijuana can speed progression of the illness, heighten symptoms and lead to increased incidents of relapse. For these reasons, it is strongly recommended that sufferers avoid cannabis as much as is possible, though for many this proves to be extremely difficult due to the need to self-medicate.

The issue of cannabis-induced psychosis is separate to schizophrenia in that a number of researchers indicate a mental state similar to schizophrenia, but apart from it, can be directly induced by the use of marijuana. This is difficult to quantify in the face of poly (multiple) drug use and other conditions that exhibit similar symptoms. Suffice to say that there is a possibility cannabis use can lead to a condition of psychosis, though the vast majority of casual users are unlikely to experience such extreme effects.

Dependence

Cannabis dependence, or addiction, has been hotly debated in some quarters, though the vast majority of researchers in the area will testify to its existence. In my own mind, there is no doubt as to the possibility of long term (and some short term) users

The main reason for a lack of recognition in the past, as archaic as it seems, has been the absence of a definable pattern of withdrawal. This is largely due to cannabis being predominantly psychologically, as opposed to physically, addictive. Chronic heavy users have reported a number of symptoms of withdrawal (including irritability, insomnia, anger, frustration, muscular cramping, loss of appetite and anxiety) though they pale when compared to, say, heroin or alcohol withdrawal (the latter of which can be fatal). It has been estimated that up to half of daily cannabis users can expect to experience a level of dependence, even if the period of heavy use is relatively short (a number of weeks).

The following factors are indicators of drug dependence and regular users should be aware of the signs that their cannabis habit has gotten out of hand.

- Large amounts are being consumed over a longer period than intended.
- There is a persistent desire to use cannabis.
- Efforts to reduce use are unsuccessful.
- Excessive time is spent obtaining, recovering from, under the influence of and thinking about the drug.
- Intoxication occurs, despite work or social obligations.
- Use occurs prior to or during hazardous situations, such as driving or operating machinery.
- Important and/or enjoyable activities are reduced or avoided due to use.
- Continued use despite an obvious pattern of abuse.
- Tolerance to the intoxicant effects of cannabis (i.e. using more to achieve the same, or lesser, effect).
- Symptoms of withdrawal upon abstaining (see above).
- Use to avoid withdrawal symptoms.
- Hiding the extent of use from friends and family.
- Regular use to avoid stress (in particular if a source of stress is cannabis-related).

It is estimated that about 10% of cannabis users, be they casual or heavy consumers, will develop some degree of dependency over the time they use the drug. The relative risk of dependence increases with the amount of cannabis being used, the period over which it is used and any personal factors that may indicate a predisposition to dependence. If you are stressed, depressed, displaced, etc. or otherwise have a tendency to overindulge in less than salubrious pursuits, you may want to think very carefully about your cannabis use.

Positive Peer Pressure

Peer pressure (particularly the adolescent variety) has received some pretty bad press over the years, and at times with very good reason. Despite this, it is obvious that peer pressure can be applied for positive outcomes also. Peer groups, whether they be adolescent or adult, tend to share similar interests. When drug use is one such pursuit, it makes common sense for friends to watch out for each other. Teenagers who are well educated with regard to the risks associated with their drug use and that of their friends are in an excellent position to recognise warning signs and exert positive pressure if they feel the need.

7. Practical Strategies for Smokers

There are some simple strategies that can help to reduce the harm associated with smoking marijuana. The most obvious is to find an alternative method of administration, in particular eating the stuff (see following chapter, Cannabis Cooking). This avoids all smoking-related dangers and has some attractive spin-offs as well (eg. convenience, intoxicant effect, duration of intoxication, etc.). Many cannabis users have an aversion to throwing their buds in a saucepan with some butter due to the cost involved (it probably is cheaper to smoke your pot). Other pros of smoking may be the social aspect, desire for a quick high, etc. Whatever the reasons, despite the logic of oral consumption, the majority of users will continue to smoke their cannabis.

Harm reduction strategies associated with smoking risks are centred around maximising the ratio of THC to tar in the smoke that enters the lungs. Quite simply, this means the more THC compared to tar the better. The following pointers are aimed at achieving such a result, amongst others:

- Avoid mixing cannabis with tobacco. While pot contains high amounts of tar (more than tobacco), it doesn't have all the added chemicals that commercial tobacco suffers from. In addition, a recent paper from the UK indicates that nicotine has addictive qualities rivalling those of heroin and cocaine so regular users (at least) might want to be mindful of exposing themselves to the risk of both cannabis *and* nicotine dependence. To make matters worse, tobacco smoke and cannabis smoke appear to compliment one another in their deleterious effect on the lungs.
- Smoke unfiltered joints. Bongs are generally badly designed and allow water vapour to enter the lungs. In addition, a dirty bong is a haven for disease, mould, etc. Bongs also tend to filter more THC than tar, requiring you to inhale more toxins to reach the desired high. This is also the reason for not using commercial cigarette filters in joints. Studies have shown that the best THC:tar ratio is achieved by smoking unfiltered joints. A piece of rolled cardboard in the end is fine (and probably desirable), although unbleached, non-printed is best. Bear in mind that the favourable ratio is achieved via non-filtration of THC. not because

- If using a bong or pipe, avoid plastic, rubber, wood and aluminium, which can give off toxic fumes when subjected to heat. Glass, stainless steel and brass are considered OK. It should be noted, while on this issue, that the cone is subjected to the greatest amount of heat and it may be unlikely for the chamber of a bong to become hot enough to give off fumes of any kind. I've heard of ceramic bongs getting quite mouldy, even when cleaned regularly. In addition, choose a bong which has the mouthpiece at least 20cm away from the water surface. This will ensure water vapour doesn't enter the lungs.
- Choose a variety and type of marijuana high in THC. The higher the better (no pun intended) as you will obviously have to smoke less to achieve the desired result. In turn, you will also have to be aware of your limitations and/or carefully titrate your 'dose'. Also be mindful of possible adverse psychological effects of high THC cannabis (see Chapter 9, Cultivation & Storage to Maximise Potency).
- Only mull up with flowers. Discard stem, leaf and seed material. Again, this is to maximise THC content (see Chapter 9 under "Potency and Plant Parts").
- Take small, shallow tokes or pulls. About 95% of THC in cannabis smoke is absorbed in the first few seconds so breath holding is quite pointless. All it really achieves is a far greater amount of tar being deposited in the lungs.
- Minimise paper usage in joints. The less burning paper the better.
- Smoke joints like you would a chillum if sharing with friends. To do this, place the end of the joint between the first and second knuckles of the fore and middle fingers. Cup your hands together to form a chamber. Create an opening for your mouth and inhale. This will minimise the possibility of sharing pathogens.
- If smoking hash, try spotting with hot knives or similar. You will avoid toxins from mixing with tobacco and wastage is kept to an absolute minimum. Be mindful of the fact that this can be dangerous and you must be in a fit state to conduct such activities.

A Note on Oral Ingestion

Besides the obvious health advantages of eating or otherwise orally ingesting cannabis, there are a number of other factors involved that users may want to consider.

- The intoxicant effect achieved through smoking will last for 1 to 2.5 hours (generally). Eating or drinking cannabis extractions will produce an effect that usually lasts for between 4 and 12 hours, sometimes longer.
- Despite the unfiltered joint's performance versus the other smoking methods, overall it's level of THC delivery rates poorly. According to the National Drug & Alcohol Research Centre, an unfiltered joint will only deliver to the bloodstream between 5% and 24% of the THC contained in the cannabis being smoked.
- Oral ingestion has been found to result in far greater quantities of 11-hydroxy-THC in the bloodstream, when compared with smoking as a method of administration. This compound is reported to be 20% more psychoactive

- The effect from eating cannabis is widely reported as differing from that of smoking. It is often described as more of a "body stone" than a "head stone".

Due to the above factors, which could generally be considered advantages, there are a number of precautions and/or warnings that should be taken note of. The following chapter will outline these.

Polydrug Use

As has been widely documented ever since people started using recreational psychoactive substances, ingesting more than one drug at a time can increase the effects of intoxication and the associated dangers. In the case of cannabis, the most common interaction occurs with alcohol, often with debilitating effects. There's an old saying that goes "mull and beer, have no fear, something, something, something." The fact that I can't recall the remainder is indicative of the repressed horror I carry deep within at the very thought of getting pissed and then having a decent smoke.

Being drunk often carries with it the burden of paying for your reduced inhibitions and lack of forethought. While I understand this comes across as just a tad bloody obvious, I have a genuine concern for the young and foolhardy (or old and foolhardy, as the case may be) who butcher their night out, or whatever, by overindulging. I certainly believe in knowing one's limits, but it's not necessarily appropriate (or safe), in certain instances, to test them.

Besides alcohol, cannabis use can have implications when used in combination with other recreational drugs. Although often used as a softener or 'come-down' drug when under the influence of stimulants, it should be remembered that cannabis increases heart rate. Stimulants, such as speed, cocaine, ecstasy and neo LSD (does anyone besides the producers really know what's in it?), also increase heart rate and blood pressure. These drugs combined with cannabis could have serious implications for those with cardiac anomalies and/or high blood pressure. This is aside from the fact that cannabis can heighten the effect of some of these (and other) drugs, at times inducing an uncomfortable level of intoxication.

8. Cannabis Cooking

The cannabinoids in marijuana are extractable by, or soluble in fats (and oils) and alcohol (ethanol). Utilising this information to make your own cannabis extracts is simple and safe, so long as common sense prevails.

As far as harm minimisation is concerned, cooking with your marijuana is quite possibly the best way to go. While you still expose yourself to short and long-term psychological effects, as well as the drug-specific physical effects, you will remove any dangers related directly to smoking. As is the case with pretty much all forms of drug use, there are some warnings that should be taken note of when orally ingesting cannabis.

Things to be aware of.

Eating cannabis tends to produce different intoxicating effects to smoking. The high may be similar although more intense than smoking and usually lasts far longer. While the effects of smoking are felt within minutes (if not seconds), the initial stage of intoxication from eating (or drinking) may take up to an hour or more to be noticed. The sensation tends to come as a realisation that you're starting to feel a little light headed, and intensifies from there on in. Generally, if after ingesting a cannabis preparation, you start to feel as though you're not sure if you're getting stoned or not, you're on your way. Prepare yourself for a fairly long ride (particularly if eating butter) – it may take as long as 2-3 hours to reach the peak of the high.

The major implication of this phenomenon is that it may be difficult to accurately judge your dose. Therefore, it is best to start with a small amount of whatever preparation you have and wait up to 90 minutes before having any more. If you're an experienced eater and/or drinker of marijuana, and are familiar with your preparations, you may feel your judgement is sound enough to bog in. Failing this, it's best to take it easy, at least at first. The worst case scenario is having eaten a small amount, not felt any effects within a relatively short space of time and consequently pigged out, then found yourself having to deal (or not deal) with an overly intense and debilitating intoxication some time later.

The high from orally ingested cannabis tends to last for between four and twelve hours, depending on the dose and quality (potency) of the preparation, as well as how rapidly your body assimilates and disposes of the cannabinoids. This should be taken into account when planning your day, evening, etc. If you will be required to function under conditions of physical and/or mental clarity, you may want to either take it easy on the cookies or rethink your strategy of intoxication completely.

On the plus side, an intoxicant effect that outlasts smoking by up to 6 or more times can be a distinct advantage when you will be in a situation where the high is desired and top up joints, pipes, etc would be inappropriate (eg. movies, social sport [oops], well-policed gigs, etc.).

For those who are not regular tobacco smokers, or are only very occasional pot smokers, an oral preparation will avoid distress (and wastage) due to improper inhalation or

eating a chocolate mud muffin is far more pleasurable than sucking on a bong or joint and it can most definitely be as social (afternoon tea, anyone?).

Spikes

A major concern with regard to cannabis preparations intended for oral consumption is that spiking of the unwary is relatively easy. This practice is simply mean and I fail to see how a vindictive (or naïve) spike is in any way amusing. Even a simple joke amongst friends can go horribly wrong when a spike is involved. While it might be a lark to hand your half-drunk mother a small (emphasis here) piece of mull cake at your wedding, it is definitely not funny when the victim has an adverse experience with no idea of what is happening to them. The situation can be particularly damaging if the affected person finds themselves in an environment inappropriate for their confused, intoxicated state.

Butter Preparations

Being fat soluble, some of the best methods for extracting cannabinoids from the raw material involve the use of butter. Margarine seems not to be as effective as good old animal fat but, considering the levels of trans-fatty acids in most margarines, you probably won't be compromising your nutritional health too much by employing butter. Better still is ghee (if you can get it). This is clarified butter intended specifically for cooking (impurities have been removed), so you get a slightly more concentrated final product, minus the extra 'stuff' contained in normal butter.

There are two most commonly used methods for preparing cannabutter. One involves the use of water, the other does not. Personally, I highly recommend the water option as you can prepare more concentrated butter and there is little risk of overheating the cannabis and subsequently ending up with a product high in CBN and relatively low in THC.

Any part of the cannabis plant (bar the roots and seeds) can be an effective addition to the extraction melting pot (see Potency and Plant Parts, chapter 9). Chopping the raw cannabis into small pieces will maximise the surface area exposed to the butter, thereby ensuring the largest percentage of extracted cannabinoids.

Without Water

Melt a stick of butter in a frying pan and throw in as much raw cannabis as can be almost totally immersed in the butter. Be sure to use a low heat setting as this will allow you to leave the cannabis in for longer and thereby extract more of the desired compounds. Heat gently for at least ten minutes (the longer the better), stirring occasionally. When finished (be sure this is before the cannabis becomes in any way crispy), simply strain into a heatproof container. I use a strainer (colander) and throw

After the butter (which is now a nice flouro green to almost black/brown colour) has run off the marijuana, I put a different container under the colander and run boiling water over the mushy, foul-smelling cannabis in the strainer, squeezing out the remaining butter with a vegetable masher or similar. When it appears the job is done, toss out the cooked cannabis and place both containers (one with butter only and the other butter and water) in the fridge. The butter extracted with boiling water will set on the surface and can be lifted off. Throw out the water. THC is *not* soluble in water and I would suggest that your stomach may resist any attempt to drink such a brew.

With Water

Same method as above, but use a large saucepan and plenty of water. Heat water to boiling, add butter and allow to melt. Add marijuana and simmer for anywhere between _ hour to all day. It *will* stink up your kitchen (and possibly your entire abode) so best to ventilate adequately and choose a day your housemates, parents, etc. are not around. How much cannabis to use? My general rule of thumb is *at least* one ounce of decent leaf per stick (250g) of butter. This will, of course, depend on the potency of the cannabis to be used (see Chapter 9 under "Potency and Plant Parts") and the desired intoxicating effect of the final product. The more water you use, the more marijuana can also be used.

When simmering is complete, pour the saucepan's contents into a colander over a large heat-proof container. Make use of a masher and boiling water to reclaim as much butter from the drained cannabis as possible. When done, get rid of the used marijuana and place the container in the fridge so the butter can set. When this has occurred, lift from the water the holy green fat and place it in a separate, smaller container. Throw that filthy, stinking water out (onto your vege patch?).

The majority of cannabutter cooks propose freezing as a method for increasing the potency of the butter. While this may well be an urban myth of sorts, the anecdotal evidence is quite strong so it's probably worth giving it a go. Most proponents suggest a freezing period of between a week and several months. I suppose the reality is closely linked to the level of anticipation of the cook (and his or her friends).

If you're keen for a potent batch of butter, you can repeat the extraction process, using the same cannabutter with fresh cannabis. While you will lose some of the original butter, this next batch will be more intoxicating.

As an aside, it appears to make little, if any, difference as to whether fresh or dried cannabis is used. If not utilising water, you would be best served using fresh material, as this will minimise the chance of the cannabis burning.

Using Your Cannabutter

The only aspect restricting what you can use your butter for is the taste. Being kind, it's nasty. If you're the type of person who drinks Tabasco for a laugh or eats rancid yoghurt to make money off your friends (or, more worryingly, for the intrinsic value), you might want to try simply spreading your butter on some toast. Barring such anomalies, the best methods I've found for ingesting cannabutter utilise a taste-masking recipe, such as a nice, full-on chocolate mud muffin mix, a curry, an authentic Thai dish (or similar), or even a good strong Horlicks with honey and an appropriate spoonful of mull butter.

Originally, I planned to include a recipe section for utilising cannabutter. My decision not to was motivated by two factors. I'd only be transcribing someone else's recipes because, after all, your cannabutter can be used for anything normal butter is (keeping in mind the taste of course) and besides, I'm no naked chef. In addition, a recipe section could skew this work into the category of commercial exploitation in the minds of many (I don't mind this being the case in the minds of a few). To these ends, your use of cannabutter is entirely up to your own imagination (or lack thereof).

How Much?

Though I've emphasised the importance of careful titration of cannabis extracts based on the experience, mind set, surroundings, etc. of the user, it is often useful to provide a rough guide in order to put some ballpark perspective on the issue.

Personally, from butter made with 2 – 2 ½ ounces of decent quality leaf per 375g tub of ghee (about 1 ½ ounces per 250g stick of butter) I would start with one muffin from a batch of twelve made with 60g of cannabutter. Now, assuming the original concentration of THC and other active cannabinoids in the raw material was 3.5%, how much THC (in milligrams) would each muffin contain? Anyway, the point being that one muffin containing about 5g of cannabutter as prepared using the water method described is enough to get an experienced user well on their way. Not an experienced user? Start with less.

A Quick Note on Muffin Mixes

I know this sounds ridiculously obvious (and it's a small thing really) but I feel the need to mention it simply because I've made the mistake more than once. If you're intending to use a muffin or cake mix, get one that requires *the addition of butter or oil*, at least 60 grams for a decent end-product (Greens', an Australian family company, make a ripping mud cake mix that needs 155 grams of added butter!).

We can't have all our health conscious cannabis consumers unnecessarily lining the pockets of international confectionary companies, now can we?

Alcohol Extraction

Readers under the age of 18 may want to respect the law and not purchase or otherwise acquire alcohol (ethanol) for the purposes of extracting intoxicants from cannabis, or for any other purpose. I would support them in their choice.

To repeat an earlier warning (Chapter 7. Practical Strategies for Smokers), mixing alcohol and cannabis is quite often a poor option. To this end, the alcohol employed in this section is best viewed simply as a medium of extraction, as opposed to an intoxicant itself. Producing a potent extraction will minimise the amount of alcohol required to achieve the desired cannabis high.

Although there are a number of alcohol extraction methods being bandied about, in the interests of harm minimisation, I'll cover just one. For interest, alcohol extraction of cannabinoids can either be passive (safe) or active (not so safe). Using the passive

Often known as 'Green Dragon', the cannabis/alcohol tincture is simple and effective. It's probably best to use a high proof (high alcohol content) spirit of some sort. As long as the label says ethanol and not methanol, you should be right. The final product (which may taste a bit, uh, strong) can then be mixed with fruit juice or put in cocktails, etc. I'd be pretty loathe to use something you usually enjoy for the taste, like Southern or Midori (to name a couple of sticky examples). Besides, these drinks tend to be relatively low in alcohol content and not as effective as good old hard-core spirits (or even rubbing alcohol – ethanol remember!).

Choose a non-absorbent, sealable container, such as a glass jar or old sauce bottle. Fill it loosely (or, alternatively, pack it extremely tightly) with finely chopped cannabis flowers, tips and leaf (or any combination – it's probably best to leave any stems you have for a batch of butter). Pour in your choice of liquor, seal, give a good shake, protect from light if required (say, in a paper bag) and store in a cool, dark spot for 1 week to 1 year (depending on your levels of patience and fanaticism). I think between 3 and 4 weeks should be enough for a good result.

When you feel suitable time has elapsed, strain the liquid through a coffee or tea strainer (or similar) into the sink. Weep at your mistake. Repeat the whole procedure, only this time, strain your extract into another container. You can either toss out the spent cannabis or use it for another extraction (particularly if you're a pack-tighter). Enjoy your tincture, cautiously at first (perhaps 10-15ml for starters or if you're not familiar with the potency factor), with fruit juice or in any other way you might (legitimately) ingest alcohol.

Other Cannabis Extracts/Ideas

There is a veritable host of methodologies for extracting cannabinoids from marijuana, many of them simple variations on a common theme. Most of the processes that produce an extremely potent end product involve the use of dangerous liaisons, such as those initiated by fire and alcohol, or chemicals/chemistry equipment and a lack of appropriate knowledge.

Other, less laboratory oriented, procedures include THC-content beer (cannabis is related to the hop family and books on the subject are available), and the simple process of making hash. By dissolving hash into normal butter over heat (even on a spoon with a lighter, but don't get caught doing this, it looks really bad), it is easy to produce cannabutter in seconds. This can be added to pretty much anything, with the tendency towards a better taste than that of cannabutter made from raw plant material.

The simple extraction processes described in detail should be more than enough to provide alternatives to the smoking of marijuana. In the event that this is not the case (and you want to look further), my only advice would be to exercise genuine caution when putting the protocols of an unknown into action. Simply put, and referring largely to the net, anyone can present (or post) information, regardless of their knowledge and/or experience of the subject. If you want to attempt something that you're not absolutely sure about, get someone with relevant experience involved, whoever it is.

9. Cultivation & Storage to Maximise Potency

High THC Cannabis

It should be noted that some recent concerns have centred on the psychological impact of increased THC cannabis. With apparent (though debated) rises in THC levels over the past 30 years, and particularly more recently, there has been an increase in the cases of schizophrenia and a condition loosely referred to as cannabis-induced psychosis (an apparently generic term for otherwise unclassifiable conditions where cannabis use is prevalent). While this is far from indicative of a causal relationship (rates of cannabis use, as well as other confounding factors such as environmental chemicals, etc. have also increased over the same period) it is certainly worth a mention. Cannabis is a relatively powerful and complex drug and, particularly on a psychological level, deserves the appropriate respect. (This point is first raised in Chapter 5. Basic Cannabis Pharmacology).

A Note on the Practice of Home Growing

For those who consider self-sustainability through cultivation of cannabis a fundamental "wrong" – no complaining please next time your TV and video get ripped off (or your computer, mobile phone, camera, etc.). The majority of property crime is conducted under an umbrella of desperation for money to buy drugs. Whether it be smack or pot, the cost of black market drugs for regular users is often prohibitive. If the government won't act on regulation of such socially corrupt systems of distribution, it should surely be the right of the individual to reduce their own (and our) financial burden through self-sustaining production (where possible).

Cultivation & Harvesting

Obviously, the major consideration when attempting to maximise potency via cultivation is in the initial choice of plants. Whether starting from seed or cuttings, it is

on. Keep in mind however, that you will most likely want to maximise THC as opposed to CBD so try to get hold of a good type I or type IV (if you can get it) indica (see Chapter 5. Basic Cannabis Pharmacology). It might be worth sampling a few varieties before you make your final decision. If you're stuck for sources, try typing "cannabis seeds" into a search engine. Any ensuing processes may not be terribly legal but you might get what you're looking for. Apart from that, there are obviously people around who know about this kind of thing – you've just got to find them.

Apart from making an educated (or fortunate) initial choice of varietal type, you will need to ensure that your plants are well looked after. It is possible to involve yourself in cannabis cultivation just as much (or more so) as other (legal) crops and it is therefore best to get hold of a comprehensive growing guide. While there are a few around, for sheer volume of information you can't go past "Marijuana Grower's Guide" by Frank & Rosenthal. The text is specific to the North American market but can be extrapolated to Australian conditions. I'm sure the authors won't mind the plug, just as they won't mind me utilising some of their published information here.

Potency & Plant Parts

If growing, it is important to understand the various potencies of different areas of the cannabis plant. My philosophy is generally one of smoking female flowers only (if you must smoke) and throwing the rest into edible preparations. Below is the hierarchy for the relative cannabinoid content of various sections of the marijuana plant.

1. Female flowers (buds, heads, colas, etc.) without seeds (Sinsemilla) are highest in THC. If seeds are present, its best to remove them. They don't contribute to drug content and they can pop unexpectedly when burnt, redistributing your nicely packed cone in the process.
2. Male flowers. Yes indeed, those rangy, pesky males are good for something. If you have males, allow them to flower but harvest them just prior to the flowers opening. A male cannot seed females unless the flowers open and disburse the pollen inside. Remain calm in the presence of males, wait for the flowers to form a little and then harvest them.
3. Tips or growing shoots. Prior to flowering, these are the most THC active parts of the plant. On quite potent plants these can be worth smoking although my advice would be to, unless desperate, save them exclusively for the kitchen.
4. Leaves. As a general rule of thumb, the smaller the mature leaf, the more potent it is likely to be. Leaves on flowers are best, branch leaves next and stalk leaves bring up the rear. Smoking leaf generally means you're inhaling large amounts of toxins and small amounts of cannabinoids. Leaves tend to go best with butter or alcohol.
5. The rest. Barring seeds and roots, the rest of the plant can be used for cooking. Large main stems may be a waste of time and a hassle to chop up. Seeds and roots are pretty much devoid of cannabinoids although chewing seeds will improve your nutritional profile.

As most cannabis users know, potency follows the physical stature of the plant. Cannabinoid content will increase from the base to the tip of the plant, with the top cola/s being the most intoxicating.

Life Cycle

generally holds true for plants of up to about 10 months old, though it will depend on the particular variety being grown. Being an annual crop, with a normal life cycle of between about 3 and 6 months, cannabis is susceptible to abnormalities if forced to grow for too long.

It is relatively simple to dictate the various growth phases with an indoor set-up, but not so easy if growing a la natural. If you want to keep your outdoor plants growing past their usual seasonal boundaries, you will need to expose the entire plant to an appropriate light source during the night, every night until you are ready to let them flower. Moving a fluorescent light around the plant for a minute or so between the hours of midnight and 3am should do the trick. This process will interrupt the flowering cycle, which is activated by shortening of daylight hours, enough to prolong the growth phase. Be careful doing this if your region is susceptible to frosts.

Growing Tips

There are a number of ways in which the potency of cannabis can be increased during the growth and flowering phases, though some tend to be rather speculative. Overall, the best idea is to cultivate your plants as organically as possible, thereby not only ensuring maximum vitality but also avoiding any chemical residues that may be the result of using synthetic products and methods. Bear in mind that you can grow organically indoors. The only difference to outdoors is that lights replace the sun and pots replace the vege patch. Hydroponics is the methodology of commercial production, but usually not that of the intrinsically motivated grower.

Below are some ways in which you can maximise the THC in your harvest.

1. Fertilisers. As mentioned, make use of appropriate organic products. Every plant has an ideal nutrient profile and cannabis is no exception. By conducting a little homework, you'll find the ideal ratio of such nutrients as nitrogen, potassium, phosphorus, calcium and magnesium. Phosphorus, nitrogen and calcium all have been found to have positive correlations with potency. Essentially, deficiencies of these three nutrients will have a negative impact on cannabinoid content.
2. Sunlight. Cannabis responds well to full sun conditions or, more specifically, high UV-B exposure. For outdoor growing, if possible, choose a spot that receives full sun all day. Unfortunately, full sun can often mean fully visually exposed. Indoors, make use of lighting that maximises UV-B, being mindful of not burning your plants. Some indoor growers believe different light spectrums are best for growth and flowering stages. Consult an honest reliable hydro expert for further advice.
3. Plant shape. Cannabis appears to produce the greatest quantities of flowers when grown under conditions that encourage compact growth. These include large amounts of sunlight (as mentioned), warm conditions (but not hot) and a dry atmosphere (low humidity). Indoor growers take note – warm, dry conditions can only be achieved via *excellent* ventilation.
4. Stress. This is the most contentious issue. While some cultivators stress their plants as a matter of course, others believe anything but optimal conditions to be sheer folly. Some of the theory behind stressing relies on the premise that a plant's size may be compromised but not cannabinoid production, thereby producing a smaller but more potent harvest. Some methods of stressing include

splitting the stem and crowded planting. The latter is possibly the most reliable and least damaging to the plant/s.

Harvesting

Cannabis reaches peak potency during the flowering phase after which the levels of cannabinoids begin to fall. The trick then, is to know how to recognise that your plants are at their best and are ready for harvesting. There are a number of schools of thought on the issue although one appears to be grounded in fact to a greater degree than others. As stated, for males the best time to harvest is just prior to the flowers opening. Females are ready when about half of the stigmas (little white hairs) in the flowering clusters (buds) have withered (turned brown). Neither the opening of male flowers nor the maturing of female flowers will occur with uniformity over the whole plant. To this end, it is advisable to monitor your plants and harvest only those flowers that have fully 'ripened', rather than harvesting the lot when the top of the plants are ready (unless, of course, it is prudent to do so).

After the harvest, be sure to manicure the flower clusters of leaf material. This will maximise the potency of the finished product although is not necessary if the cannabis is to be used for cooking or other extraction purposes.

During handling of the harvested material hands often become sticky with resin. By rubbing your hands together, you can roll this resin into something that closely resembles hash, in both appearance and intoxicant qualities. If you like this idea, it might be best to wash your hands thoroughly before you get started.

Curing & Storage

The main idea behind curing is quite simply to turn raw (wet) flowers into something that is suitable for smoking via drying. The majority of growers dry their pot by utilising air curing or, more practically, putting their nicely trimmed harvest away in a cool, dark and well ventilated area and retrieving it when it feels dry enough. Often, using this method, the cannabis is laid flat between layers of newspaper, or similar. Others use quick-dry methods facilitated by a conventional oven or microwave (amongst other devices). A problem that can arise from the quick-dry lies in the fact that THC is degraded by heat. Being over-exuberant with the forced drying, therefore, may only serve to decrease the potency (and the taste and aroma) of the cannabis. You will also find that smoking very dry pot can be rather harsh on the throat and lungs. For an enjoyable, smooth smoke with plenty of flavour and aroma, a slow-dry technique is highly recommended.

Subsequent to drying is water curing, a method of actually increasing THC content by weight and thus increasing potency. The use of dry ice in curing has also been reported to assist in producing a more potent end-product.

Water Curing

The process of water curing is designed to eliminate water-soluble substances

absorbent container (such as glass or glazed ceramic) and covering with warm water. Do not use hot water as this can release oils containing THC. Stir occasionally over a couple of hours, then change the water and repeat the process. When completed, dry the material again to ready for use.

Dry Ice Curing

This method is said to be effective in increasing THC content though by what mechanism I cannot say (where are you Dr Karl?). The material to be cured (usually fresh or partially dried) is placed in a container with a similar amount of dry ice. The lid, which is punctured to allow gas to escape, is replaced and the container put in a freezer to extend the process. Apparently, when the dry ice has evaporated, the cannabis is dried but not crispy.

Storage

The correct storage of dried cannabis is absolutely essential to retaining favourable THC levels. Cannabinoids will degrade in the presence of heat and light. Under these conditions, THC will convert to CBN, a compound that has around 10% of the psychoactivity of THC. This rule applies regardless of what form your cannabis takes (or what substance it is preserved in), be it hash, oil, buds, butter or alcohol. In fact, if you have extracted your cannabinoids, they will degrade more rapidly than if retained in the original material (i.e. marijuana) and so it becomes even more important to follow correct storage protocols.

Dried raw material should be kept in a cool (below room temperature), dark place, preferably with minimum exposure to air. Ideally, this would be an opaque, airtight container in a fridge or freezer. If storing for prolonged periods, go for the freezer option as mould can invade marijuana unless it is comprehensively dried (which makes for a very harsh smoke). A cupboard (or similar space) that stays cool is fine for short periods of time (up to a couple of weeks). Oils and extracts should be stored in a fridge or freezer. Butter is best kept in the freezer.

As an adjunct, there is extensive anecdotal evidence to suggest that storing cannabis in a freezer, in any form, is beneficial to THC content. The only problem I've encountered with this is the possibility of fresh (undried) material converting to mush upon thawing. Makers of quality cannabutter have repeatedly espoused the virtues of extended freezer storage and vodka proponents obviously wouldn't have it any other way.

A Note on Handling

Relevant to not only prepared cannabis but also flowering plants is the issue of handling. Cannabinoids are stored in resin glands and, as such, have their own natural protection from the factors that cause degradation. Damaging these glands through rough, frequent or prolonged handling can greatly increase the rate of decline of THC levels via conversion to CBN. Additionally, cannabinoids will stick to your hands and anything else that touches or brushes against the cannabis. It's best not to lovingly caress your juicy buds, whether they are on the plant or dried and ready for use. Minimal handling equals maximum THC.

10.Cannabis & Australian Law

Australian laws for minor cannabis offences vary widely throughout the states and territories. As examples, Western Australia and NSW practice total prohibition, whereas South Australia and the ACT have systems incorporating non-criminal fines for minor possession and cultivation offences. Despite this, usage rates remain nationally consistent (with the exception being the NT). That is, pretty much the same percentage of the population are cannabis users, regardless of the presiding local laws.

In the interests of harm minimisation, regardless of your respect for (or interest in) local cannabis laws, it is prudent to at least know what penalties apply to your activities if you're "detected". While on the subject, it is worth noting that the deterrence effect of a law is directly related to the perceived risk of apprehension, in many cases regardless of the possible or probable punishment/s. In the case of minor cannabis offences, this is extremely low.

Following is a breakdown of the laws as they apply to minor cannabis offences in each state and territory in Australia. Victoria's case is interesting in that the state Parliament recently (May 1999, revised March 2000) received a commissioned report from the National Drug and Research Institute (Curtin University of Technology) outlining a revised model for legislation pertaining to minor cannabis possession, use, cultivation and supply offences. The recommendations for minor supply offences, if adopted, may empower a cottage black industry, denying some profits to organised crime. The recommended model is outlined in greater detail under "Victoria".

For definitional purposes, a summary offence (or an offence dealt with summarily) does not involve a full trial and judgement is executed by a magistrate alone. Indictable offences (or those dealt with on indictment) are assessed by a jury at trial. Statistics quoted for consumer offences (eg. possession and use) are typically low due to the fact that, in most areas, cultivation offences are automatically treated as provider (i.e. dealer) offences. There is a percentage, therefore, of self-sustaining growers that should be included as consumer, as opposed to provider, offences.

It should be mentioned that the following largely outlines cannabis offences regarded by law as minor, omitting more serious offences involving quantities that most users would not often find themselves in the presence of.

Total Prohibition (criminal law applies to minor offences).

Western Australia

convicted are under 30 years of age. Only one percent of finalised charges resulted in a gaol term, while 92% had fines issued. In 1995, 79% of finalised cannabis charges (lower court) were for possession/use or possession of implements (bongs, etc.).

Western Australia is (at the time of writing) conducting a limited trial of formal cautioning for first offenders. With a view to discouraging further use, the pilot employs educational intervention as a preclusion to further legal action.

Under the **Misuse of Drugs Act 1981**, minor cannabis offences are:

- Possession, <100g cannabis or <20g cannabis resin (hash, etc.)
- Use
- Cultivation, <25 plants
- Possession of implements for using cannabis

The first three offences (possession, use, cultivation) attract a maximum penalty of a \$2,000 fine and/or 2 years gaol. Possession of implements is (strangely) more severe with a maximum \$3,000 fine and/or 3 years imprisonment, though I suspect you'd have to murder someone with a bong to cop anything close to a throwing of the book.

New South Wales

90 percent of minor cannabis offenders in NSW found guilty receive a criminal conviction. Of these, approximately 80% receive a fine, 2.4% a detention order and 2.4% a community service order.

Of those arrested in NSW for cannabis offences, almost 80% are for possession (as opposed to provider/supplier) offences. About half of all recorded NSW drug offences are for possession/use of cannabis.

According to the **Drug Misuse & Trafficking Act 1985**, offences relating to cannabis use are:

- Possession <200g cannabis leaf (sic)
- Self administration (use)
- Possession of implements for administering cannabis
- Cultivation

Possession, use and possession of implements are summary offences, carrying a maximum penalty of \$2,000 and/or 2 years gaol. Cultivation, as an indictable offence, imposes maximum fines of between \$5,000 and \$10,000 and/or a maximum gaol term of 2 years.

Queensland

The sunshine state's archaic cannabis laws fail to distinguish between possession of small amounts (anything from 1 to 30 grams, ranging in price from \$25 to \$350) and larger, saleable quantities of up to 500 grams (almost 18 ounces and about \$4,000 to \$5,000 worth). In addition, all offences barring those regarding paraphernalia (bongs, etc.) are indictable (though may be dealt with summarily).

Approximately 80% of all cannabis related offences in Queensland are for consumer discretions.

- Possession <500g cannabis
- Production (cultivation) <500g aggregate weight or <100 plants
- Possessing implements in connection with using cannabis (summary offence)

Maximum penalties for indictable offences are 15 years in the big house and/or \$300,000 fine. Summary offences (or offences dealt with summarily) carry maximum penalties of 2 years gaol and/or \$6,000 fine.

When cultivating in Queensland, take note of the weight limit, rather than the plant limit, for the above "minor" offences. Even one small plant can easily weigh over 500 grams. If the weight is of smokable material only, there's still no chance of having anything close to 100 plants and staying under 500 grams (those crazy sun-stroked legislators!).

Prohibition with Cautioning

Victoria

In September 1998, a pilot cautioning program for minor cannabis possession offences was formalised to include the entire state. Though the system allows for first and second time offenders to be cautioned and not receive a fine or charge, the legislation has room for police discretion to caution or charge, and cannabis possession and use remain criminal activities.

In 1998, adults (over 18's) accounted for 93% of cannabis charges laid. In 1997, 75% of all cannabis charges were for possession/use while a further 24% were for cultivation.

The statistic for adult representation would suggest that minors, who comprise a large percentage of total cannabis users, are dealt with far more leniently than their adult counterparts. This would appear to be antithetical to a policy of discouragement of use by young people. I make this point to highlight the inconsistencies of many current illicit drug policies, certainly not to encourage the prosecution of our youth.

Under the **Drugs, Poisons and Controlled Substances Act 1981**, in Victoria the following are criminal offences:

- The use or attempted use of cannabis (summary offence)
- Possession of less than 50g cannabis not for trafficking
- Possession of 50g-250g cannabis not for trafficking
- Cultivation of <10 cannabis plants not for trafficking
- Trafficking in cannabis

More than 10 plants or 250g of harvested material are considered to be evidence enough of trafficking. Obviously then, if you have just harvested your couple of plants which are to last you the next 6 months or so, you may well be considered a trafficker, regardless of your intentions.

Possession of 50 grams or less for personal use carries a maximum fine of \$500 (and a criminal conviction). Being caught with 50-250 grams not for sale attracts a maximum fine of \$3,000 and/or 1 year imprisonment. Cultivation not for trafficking carries maximum penalties of \$2,000 and/or 1 year gaol.

Those caught for possession or use offences in Victoria may be formally cautioned on a maximum of 2 occasions if 17 years or over. Previous drug offenders are not cautioned, but charged. First time cannabis offenders appearing in court may be given a reprieve in the form of a bond. If the bond conditions are met, no conviction is recorded.

The National Drug & Research Institute's Recommended Model

In March 1998, the Drugs and Crime Prevention Committee (DCPC) of the Parliament of Victoria called for tenders to produce a document outlining "...the model of regulation of cannabis use, possession and supply that emerges as the most appropriate for Victoria on the weight of the available evidence and arguments." It should be noted that the umbrella of the model would encompass minor offences only (i.e. small scale possession, cultivation and supply).

The tender was won by the National Drug and Research Institute, and an outline of their recommended model follows.

As use of a drug implies possession of it, the NDRI recommend abolishment of use as an offence. For the purposes of possession, cultivate and supply, small quantities of cannabis are defined as 25 grams or less (tier 1 infringement) and 50 grams or less (tier 2 infringement). One gram of cannabis resin (hash, oil, etc.) is, for these purposes, deemed to be the equivalent of 5 grams of unrefined material (i.e. 1 gram of hash, oil, etc. = 5 grams of buds, leaf, etc.).

Notices are issued for the cultivation of 10 plants or less, of which no more than 3 are flowering or greater than 0.5m in height (a loophole possibly being the "sea of green" growing method). Infringement notices issued for cultivation will either be tier 1 or 2 depending on the quantity of usable material also detected. For example, cultivation only, with no dried material discovered, would attract a tier 1 notice (\$50 fine), as would cultivation *and* possession of less than 25g of harvested cannabis. Possession of between 25g and 50g of harvested material attracts a tier 2 penalty (\$150), whether detected with an "allowable" number of plants or not. You can, therefore, only receive one notice at a time for cultivation *and* possession, and that being determined by the amount of usable pot, as opposed to the number of plants.

Additionally, and rather importantly, supply of small amounts of cannabis (as defined above) to persons over 17 years of age, whether it be for profit or no, would attract the same penalties as possession and cultivation. This system would serve to create a smaller scale, less organised local system of supply, the intention being to somewhat destabilise large commercial criminal operations.

Infringement notices would be payable within 28 days by either:

1. Payment in full
2. Payment by instalments
3. Attendance of a cannabis education session

Defaulters would not receive an automatic conviction for the original offence (as is the case in SA), but would instead be treated as owing a debt to the state (as is the case in the NT) and would therefore be susceptible to non-criminal sanctions (car deregistration, loss of driver's licence, etc.).

Final recommendations on cannabis legislation, derived from the NDRI's report amongst other information, are due towards the end of 2000. It should be reiterated that the above is a *model only* and, I feel, unlikely to be adopted as it stands, particularly on the point of decriminalisation of small amounts for supply.

As a personal recommendation, it may be prudent to look at setting a tier 1 upper limit of 30 grams, against 25 grams. An ounce (28 grams) is both a standard industry sale unit and an amount that a personal user could be expected to have in their possession. A limit of 30 grams would allow for both inaccurate scales and generous dealers.

Tasmania

Tasmania introduced a discretionary cautioning system in 1998 for first time offenders. Prior to the system being introduced, cannabis use and possession charges comprised over 60% of all drug charges. In the 97-98 financial year, approximately 80% of cannabis arrests were for consumer offences.

Under the **Poisons Act 1971** the following constitute cannabis offences:

- Possession
- Use
- Cultivation
- Possession of implements

Cultivation carries a maximum penalty of a \$4,000 fine and/or 2 years gaol. Possession and use has a maximum fine of \$3,000 and/or 2 years in prison. Possession of implements is a non-gaolable offence, with a maximum fine of \$2,000.

In order to highlight the anachronistic nature of some drug laws, the following limits for the above offences are quoted from "Maximum permissible quantities for the purposes of sections 44 and 47"

- Indian Hemp (otherwise than separated resin or individual plants or in individual preparations) – 25.0 grams
- Indian Hemp (individual plants) – 5 plants
- Indian Hemp (individual preparation) – 40 [eg. joints]
- Indian Hemp Resin or any preparation containing such resin – 5.0 g

If we take this law literally, intoxicating cannabis is fine. If you happen to have a secret stash of hemp from India, you're in trouble (I wonder if this includes the pants a friend brought back for me). The trouble is, when it suits, the law regards intent, as opposed to actual written content, as pervasive. Because it appears the codgers who devised it thought Indian Hemp was the all-encompassing term for marijuana (even in 1971!), the legislation then recognises their intent (if not their worrying lack of knowledge).

Prohibition With Civil Penalties (infringement notices)

Northern Territory

Prior to the implementation of an on-the-spot fine system for cannabis users in 1995, almost 70% of drug charges laid in the NT were for simple possession and/or use of the drug. Despite the expiation system currently in place, over 400 cannabis-related arrests were made during the 1997-98 financial year, 85% of which were considered to be consumer offences.

Under the **NT Misuse of Drugs Amendment Act 1995**, a fine of \$200 can be issued for possession of up to the following amounts of cannabis:

- Oil 1 gram
- Plant material 50 grams
- Resin 10 grams
- Seed 10 grams
- Plants 2 plants

If not paid within the specified period, a warrant will be issued on the grounds of fine defaulting and the individual can be detained (gaoled) until the fine is paid or is reduced at the rate of \$50 for each day of detention. Fines can be contested in court if the individual believes they are not guilty of the offence, though the risk of a conviction and subsequent criminal record is real.

Amounts greater than those listed constitute a criminal indictable offence and are processed via the courts. As alluded to above however, individuals may be arrested

scheme. Being a smartarse to a copper is probably an excellent method of bypassing the expiation system and heading straight to court.

Under the **NT Misuse of Drugs Act 1990**, the following cannabis offences are listed:

- Possession
- Cultivation
- Self administration
- Possess implements for the use of cannabis

Cultivation and possession in a public place are indictable offences carrying maximum penalties of a \$5,000 fine or 2 years gaol. Possession in any other case has a maximum fine of \$2,000 (no gaol term). Self administration and posses implements have maximum penalties of either a \$2,000 fine or 2 years imprisonment.

South Australia

SA has proven to be the most progressive (or regressive, depending on your point of view) with regard to minor cannabis infringements, having introduced a scheme of expiation notices in 1987. The law allows for relatively large amounts for personal use, though a recent reduction in the number of allowable plants, I imagine, would make it difficult for self-sustaining growers to be just that.

Though the expiation system appears to be accommodating to cannabis users, those receiving a CEN (Cannabis Expiation Notice) should be aware that, if not paid in full, automatic conviction of the original offence is the most likely outcome, with the end result being an indelible criminal record. This is in contrast to the system in the NT where those not paying their fines are treated as defaulters and are not tried for the original cannabis offence.

According to **SA Cannabis Expiation Notice Scheme 1987**, individuals over the age of 18 years are subject to the following conditions of cannabis infringement:

- Possession of <25g \$50 fine
- Possession of >25g, <100g \$100 fine
- Possession of resin <5g \$50 fine
- Possession of resin >5g, <20g \$150 fine
- Private use of cannabis \$50 fine
- Cultivation of 3 plants or less \$150 fine
- Possession of implements
 - o In connection with another offence \$50 fine
 - o By itself \$10 fine

The rate of expiation (payment) of notices is annually steady at approximately 45%. This indicates that, despite decriminalisation of small amounts of cannabis, manv

out of fear of losing their licence, and yet will not save themselves the debilitation of a criminal record I cannot understand. I suspect many are unaware of the consequences of non-payment of a CEN which, it could be safely assumed, is the responsibility of the issuing police officer. Approximately 93% of unpaid CENs result in a conviction for the original offence.

ACT

The ACT has had a system of decriminalised use, possession and cultivation of small amounts of cannabis since 1992. On average, approximately 250-300 SCONs (Simple Cannabis Offence Notices) are issued annually. Personally, I have received two, the second of which required a dawn raid by no less than five uniformed (uninformed) and excited police officers who spent at least three hours making accusations and threats only to eventually issue me with a \$100 fine and leave. In the meantime, my neighbours (and many others) are wondering why three police cars are parked on my front lawn. I was not involved in any criminal activity, though it was certainly made to look as though I was. I was originally under the impression the SCON system was introduced at least partly to reduce the burden of policing cannabis users.

Approximately 50% of SCONs go unpaid, these then being referred back to the issuing officer. It is then discretionary as to any further action being taken. It is possible for fine defaulters to be summonsed to answer the original offence as a criminal charge in court, though I understand this is unlikely.

Under the SCON system, an individual (adult or juvenile) can be fined (or, it should be noted, charged if the attending police officer/s are so inclined) \$100 for the following:

- Possession of <25g cannabis
- Cultivation of 5 or less plants

Also under the **ACT Drugs of Dependence Act 1989**, it is a criminal offence to:

- Participate in sale/supply of cannabis
- Possess cannabis for sale/supply
- Attempt sell/supply of cannabis
- Sale/supply of a trafficable/commercial quantity of cannabis
- Possess trafficable/commercial quantity of cannabis for sale/supply
- Sale/supply of cannabis to a person under 18
- Participate in sale/supply of cannabis to under 18
- Possess cannabis for sale/supply to under 18
- Possess commercial/trafficable quantity of cannabis for sale/supply to under 18

SCON indiscretions fall easily into a number of the above criminal offence categories (hence police discretionary powers). An average of approximately 50 such offences are heard annually in ACT adult courts. Juveniles are rarely tried for cannabis offences (an average of about 5 per year for the past 9 years).

A Note on Dealing With Police

Police officers, being human beings, are subject to good days, bad days, work and other stressors, etc. They also have to deal with a large number of wankers on a daily basis. To this end, it is best to always treat police with respect, regardless of the situation you find yourself in. You may feel like giving a copper a good old serve, though it is unlikely to make the situation any less damaging to you. Compliance, acceptance and a friendly demeanour are generally the behavioural traits police will respond positively (and, perhaps, benevolently) to, if not perhaps with a little confusion.

11. Further Information

The following sources of information are provided as a cross section of what is freely available (and are far from exhaustive). Some "facts" may disagree with others, depending on how far you look into the murky subject of cannabis. To form a balanced view, I would suggest believing everything you read, see and hear (about everything).

All email addresses and websites have hyperlinks attached.

Australian Organisations

Redfern Legal Centre
73 Pitt St, Redfern NSW 2016
Ph: 02 9698 7277
www.rlc.org.au

Australian Drug Foundation
409 King St, West Melbourne Victoria 3003
PO Box 818 North Melbourne Victoria 3051
Ph: 03 9278 8100
www.adf.org.au

National Drug Research Institute
GPO Box U1987, Perth WA 6845
Ph: 08 9426 4200
www.curtin.edu.au/curtin/centre/ndri/

Australian Institute of Criminology
GPO Box 2944 ACT 2601
Ph: 02 6260 9200
www.aic.gov.au

Alcohol and Other Drugs Council of Australia
Ph: 02 6281 0686
www.adca.org.au

Australian Institute of Health and Welfare
Ph: 02 6211 0000

The Centre for Education and Information on Drugs and Alcohol
Ph: 02 9818 0444
www.ceida.net.au

National Drug and Alcohol Research Centre
University of New South Wales
Sydney, 2522
Ph: 02 9398 9333
www.med.unsw.edu.au/ndarc/

Next Step Specialist Drug & Alcohol Services
PO Box 126, Mt Lawley WA 6929
Ph: 1800 198 024
Fax: 08 9442 5020
www.nextstep.health.wa.gov.au

The Centre for Harm Reduction
PO Box 254, Fairfield Victoria 3078
Ph: 03 9282 2169
Fax: 03 9482 3123
Email: crofts@burnet.edu.au
www.chr.asn.au

Dedicated Internet Sites

By following links from only a couple of major web sites, it may well be possible to access every cannabis page on the internet (AltaVista lists about 640,000). The three below are perhaps the biggest and best as far as volume of information is concerned. There is certainly a bias in favour of the holy weed, though outright propaganda is kept to a relative (relieving) minimum. Other sites are overtly attempting to bring down governments in order to secure the right to get high, and in so doing use a number of the tactics they protest so loudly against.

The three sites below harbour a wealth of information, including FAQ's, research papers, etc.

www.marijuana.com

www.cannabis.com

www.marijuana-hemp.com

Extended Reading

The following pages of this book contain a comprehensive listing of the sources I have made use of. If for some strange reason you have a thirst for cannabis knowledge beyond the little provided, the reference section will certainly help you on your way.

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Marijuana Grower's Guide by Mel Frank & Ed Rosenthal. Red Eye Press, 1990.

Understanding Troubled Minds by Bloch & Singh. Melbourne University Press, 1997.

Australian Government, University & Related Organisations Papers, Reports, etc.

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Cannabis – Beating Dependence. Connexions Magazine, 12/97 – 1/98. Centre for Education & Information on Drugs & Alcohol (CEIDA).

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A Comparative Appraisal of the Health and Psychological Consequences of Alcohol, Cannabis, Nicotine and Opiate Use. National Drug and Alcohol Research Centre (World Health Organisation Project on Health Implications of Cannabis Use), 28/8/95.

Drug Statistics. Australian Drug Foundation website – www.adf.org.au

The Health and Psychological Consequences of Cannabis Use. National Drug Strategy monograph series, #25.

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Scientific, Medical (and other) Reports, Papers, Articles, etc.

Adverse Effects of Cannabis by Hall and Solowij. The Lancet #352, 11/1998, pp 1611-1616.

Born With the Munchies. New Scientist, 8/7/00.

Boozing Rats Blame Benders on Cigarettes. Medical Observer, 31/3/00.

Cannabis dependence. The Harvard Medical School Mental Health Letter, 11/87.

Cannabis: Hero and Villain in New Studies. Medical Observer, 12/5/00.

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For Potheads, Brain Remains Impaired Long After the Buzz is Gone. The Medical Post, 5/3/96.

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Nicotine as Addictive as Heroin. Australian Doctor, 10/3/00.

Smoking Fuels Pneumococcal Risk. Australian Doctor, 24/3/00.

Smoking Increases Thyroid Risk. Australian Doctor, 31/3/00.

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Miscellaneous

The British Pharmaceutical Codex 1934.

Easy THC Extraction.

How to Make Hashish.

Isomerisation.

A Treatise on the Alchemical Method of Isomerisation of THC.

The Sputnik Drug Information Zone, www.nepenthes.lycaenum.org

Principals of Harm Reduction.

The Need for Harm Reduction.

Harm Reduction Coalition, www.harmreduction.org

Tincture of Cannabis. www.ukcia.org/highlife/eat

Marijuana in Beer by Greg Kitsock. Southwest Brewing News, Aug/Sep 1997.

Comments & Questions

I would welcome any comments or questions readers may have. Whether you can fill holes I've left, clarify points, need something clarified, or simply wish to abuse or congratulate me, all feedback is welcome.

Steve Liebke

harm_reduction@email.com

Appendix - An Oversimplified Model For Cannabis Regulation

As I have pointed out in the preceding pages of this handbook, it is my belief that the most rational approach to the cannabis "problem" is most likely to be a system of government regulation. By regulation, I am referring to government-controlled production, processing and sale of marijuana.

While many may find an exponent of drug harm minimisation espousing cannabis regulation somewhat antithetical in nature, the realities of the current situation alone warrant at least a very close look at approaches that are absolute in their deviation from the 'norm'.

Regulation would not involve a Dutch-style network of cannabis cafes. It would not tolerate public use of cannabis, nor driver intoxication, work-place use, etc. It would not put cannabis in the face of any who have an aversion to it (unlike our societally-ingrained preoccupations with alcohol and tobacco). It might upset a few people aligned to traditional dogma but, so what.

Regulation *would* involve the growing of specific cannabis varieties known for their cannabinoid content and, therefore, their potency and largely predictable effects. It *would* ensure that cannabis is of a far less substantial financial cost to the consumer, thereby alleviating hardship for dependents and medical users (most importantly) as well as the recreational user. It *would* significantly reduce property crime, with obvious widespread implications. It *would* end the current criminal monopoly of the cannabis industry, with the black market unable to compete on price and reliability of quality and supply. It *would* allow relevant government departments and organisations to design and target education and rehabilitation programs with much increased validity and efficacy. It *would* pave the way for intensive, transparent research into the many medical uses of cannabis. It *would* afford a valuable hemp industry greater credence and acceptability in the eyes of a largely uneducated public. It *would* (is this the true clincher?) pour millions, and probably billions of dollars into government coffers and save millions more in cannabis law enforcement. The government not only stands to make an income from the sales procedure, but also from the issuing of buyer's 'licenses', probably on an annual basis.

At this point, let me state the bleeding obvious. The kind of model I'm presenting here is not just applicable to cannabis. The same basis can (and perhaps should) be used for every drug considered "illicit" under the current regime.

The scenario looks like this. Cannabis can be bought legally from designated government outlets. These 'shops' sell marijuana according to weight at established, consistent prices. Each variety is clearly labelled with cannabinoid content and appropriate health warnings. Various forms of cannabis are available such as the most popular dried flowers (buds, heads, etc.), hash and non-smokable extracts. Non-propagandist information in the form of booklets, pamphlets, CDROMs, etc. is available free to anyone with an interest, of any age. Use of cannabis is not permitted on or near the premises (the local chamber of commerce breathes an audible sigh of relief).

Buyers of legal age are registered by a simple process similar to opening a bank account. Appropriate forms of identification are sighted, forms are filled out detailing the person's demographics, reasons for use, etc. This information is held in strict confidence in order to provide accurate profiling of cannabis use and therefore improve services to users and abusers. The newly-registered buyer is issued with a plastic card displaying nothing other than an individual bar code (or similar anonymous identification code). When purchases are made, the code is read and the government employee is provided with an on-screen photo of the cardholder, along with, say, their date of birth and a password or PIN. No other details are given to the employee at the time of purchase, including the buyer's name. Details of the sale are entered into the database and the buyer is on their way.

Such a scenario as this has (for my mind) the following spin-offs for the Australian government, previously viewed in different circles as a lackey to American global policy. Our legislators receive world-wide applause for their courageous, innovative and profoundly sensible approach to cannabis law. The United States voices its extreme concern and disapproval, prompting a wry smile from the Australian political party that has had the cojones to sell it locally and ultimately see it through. Many countries view the period following regulation with intense interest, culminating in contracts for the Australian government to aid in the implementation of similar legislation elsewhere. The US drug policy wizards suffer a deepening overt neurosis and lose sleep and hair at an alarming rate (as they should anyway), etc, etc.

Appropriately, if our trans-Tasman neighbours can take a stand against the Big Bully (and international drug treaties be damned), why can't we?

In addition to the regulation of cannabis in the way described above, I believe it would be prudent to seriously consider making available community centres for those who use cannabis for legitimate medical purposes. At the very least, those suffering medical conditions that have been shown (or even anecdotally reported) to be alleviated by cannabinoids should have the basic right to make use of medication that, in many cases, has far fewer harmful side-effects than their (often) less effective pharmaceutical alternatives. Even if approached from a purely economic viewpoint (which is the political norm), allowing patients to use cannabis would help alleviate the burden of disease (including that on the PBS), particularly if such patients could be medicinally self-sufficient.

Sure, it is possible to throw a number of cons at the ideas expressed here, and some of them would be based in reality, though it is clear to Blind Freddy that there are many legitimate and far-reaching pros. This can hardly be said for the all-encompassing war on drugs.

