

Shifting the main purposes of drug control: from suppression to regulation of use Reduction of risks as the new focus for drug policy[☆]

Peter Cohen *

CEDRO Centrum voor Drugsonderzoek, Universiteti van Amsterdam, Nieuwe Prinsengracht 130, 1018 Amsterdam, Netherlands

Received 15 October 1995; received in revised form 2 April 1999; accepted 30 April 1999

Abstract

I believe that the original aims of (almost full) prohibition of substance use, as it is applied according to the NY Single Convention of 1961, are unattainable. Instead, I want to present some arguments and ways of looking at drug use that support a far reaching revision of the current aims of drug control. Drug policy goals should shift, from suppression of use to regulation of use.¹ In this article I will present drug use data collected in Amsterdam that in my view support such a shift. Ten years of drug use data in the population of Amsterdam show a remarkable level of control and stability in drug use patterns in a policy environment that allows relatively easy access to drugs. Internal controls on drug use can be expected to play a much larger part in structuring these patterns than classic drug policy theory allows for. © 1999 Dr. Peter Cohen. Published by Elsevier Science B.V. All rights reserved.

Keywords: Drugs; Risks; Amsterdam

1. Cannabis and cocaine in Amsterdam

Full or almost full suppression of particular drugs is not very difficult to legislate and to maintain as a principal aim as long these drugs are not or rarely used. For the Netherlands this is well researched (Gerritsen, 1993; Leuw and Hean Marshall, 1994; De Kort, 1995). Problems begin when prohibited drugs start to be part of new life styles in which the reasons for their suppression are irrelevant. This irrelevance creates political/ethical problems as well as practical problems for society

[☆] Paper presented at the Euro-Ibero-American Seminar, 8–9 October, 1998, Palacia da Bolsa, Porto, Portugal, promoted by the President of Portugal. The anonymous reviewer and Ernie Drucker Ph.D (New York) made important remarks that improved this version of the Oporto paper

* Tel.: + 31-20-525-4278; fax: + 31-20-525-4317.

E-mail address: pcohen@popmail.ic.uva.nl (P. Cohen)

¹ In a recent article, Caulkins et al. (1997) choose the concepts of ‘use reduction’ and ‘harm reduction’ as a pair of opposite policy goals. They conclude their article by stating that use reduction is part of harm reduction, although not at any price. They thereby integrate both objectives. In my view, the concepts of suppression versus regulation of use generate a clearer debate about policy aims.

Table 1

Percentages of cannabis and cocaine use, of the Amsterdam population aged 12 years and older, 1987 ($n = 4377$), 1990 ($n = 4443$), 1994 ($n = 4364$) and 1997 ($n = 3798$), (weighted)

Drug	Lifetime prevalence (%)				Last year prevalence (%)				Last month prevalence (%)			
	1987	1990	1994	1997	1987	1990	1994	1997	1987	1990	1994	1997
Cannabis	23.2	25.2	29.8	36.3	9.5	10.2	11.2	13.1	5.6	6.1	7.2	8.1
Cocaine	5.7	5.7	7.0	9.3	1.6	1.3	1.9	2.6	0.6	0.4	0.8	1.0
	Incidence (per population) (%)				Last month continuation (%)				>25 times (per reported life time)			
	1987	1990	1994	1997	1987	1990	1994	1997	1987	1990	1994	1997
Cannabis	1.1	1.0	1.2	1.1	24	24	24	22	–	47	44	44
Cocaine	0.3	0.2	0.3	0.6	10	7	11	10	–	24	30	27
	>20 times (per reported last month) (%)				Mean age of first use				Unweighted reported life time			
	1987	1990	1994	1997	1987	1990	1994	1997	1987	1990	1994	1997
Cannabis	23	22	19	23	20.2	20.3	20.2	20.3	995	1096	1272	1285
Cocaine	16	0	9	4	24.5	24.7	25.2	24.5	245	245	297	321

as a whole. Another cause for problems is that new drugs take time for ‘enculturation’. The ‘enculturation’ of a new drug is the development of rules around use and dose, and the creation of images of what to expect of these drugs by those who do not (yet) use them.

In this paper I focus on cocaine and cannabis use in Amsterdam—two drugs that are used by small but significant parts of the population (last month use of cannabis is less than 10%, and of cocaine not more than 1% of the population of 12 years and older, Table 1). By studying patterns of use over time and the environments in which these drugs are used, we may increase our ability to understand if risks related to use of these drugs occur or for what proportion of users these risks apply.

Amsterdam is a relevant area for the study drug use because of its higher level and longer history of enculturation of drug use

then any where else in the Netherlands. (Langemeijer et al., 1998; Abraham et al., 1999). I will then try to apply knowledge, gained from both population surveys and in depth studies on careers of drug consumers, as background for ‘risk assessment’ of drug use. I will show that most community based drug use is highly ‘controlled’, and add some practical insights into what ‘control’ means in the daily reality of drug use. These insights are relevant for those who are looking for alternatives to our present system of prohibition.

2. Methods: what knowledge is useful?

Our population surveys and our more detailed user surveys supply different kinds of knowledge for the relative risk assessment of drug use. Population surveys allow estimations of probabilities for relatively broad

variables, like continuation rates, average age of onset for different drug use, combinations of drug use. Our consumer studies allow better views on the dynamics of patterns of drug use within individual drug use careers, and the prevalence of certain health or social risks among serious drug users.

The most important risk commonly attached to the use of illicit drugs is that initiation into drug use will automatically (or very often) lead to repetition of use and eventually heavy use. Large enough population surveys of good quality give the empirical basis to verify the veracity of this fear.

Another risk that is commonly associated with the use of drugs, above all with the use of cannabis, is that initiation into cannabis will be followed by heavy use patterns of other drugs that are considered even more dangerous. Here again, large population surveys enable us to find out if such risks occur, and if so, how often. We can look at our data from a perspective of differential risk evaluation: ultimately we would like to answer the question if drug use prevention should have top priority (an idea that underlies current policies), or that policies should shift to risk prevention and leave the decision to use or not to use within the realm of individual autonomy.

3. Measures

Our population surveys in Amsterdam shed light on the risk, that users of illicit drugs will develop into heavy drug users. Table 1 contains the essential indicators that are needed to assess level, intensity and frequency of use, and the development of these indicators over a period of ten years in the population of Amsterdam of 12 years and older. These indicators are:

- life time prevalence,

- last year prevalence,
- last month prevalence,
- incidence of drug use in the population,
- last month continuation rate, i.e. the proportion of life time users than continue to use monthly,
- rate of experienced users, i.e. the proportion of life time users that reaches a minimum experience of 25 times of (life time) consumption,
- proportion of last month users that uses daily or almost daily (more than 20 times per month), and average age of initiation.²

With these indicators we can look into the characteristics of drug use in a population, beyond the superficial indicators of mere prevalence.

3.1. *Cocaine and cannabis*

We have studied cocaine and cannabis use in the Amsterdam and other city populations since 1987 (Sandwijk et al., 1988, 1991, 1995; Langemeijer et al., 1998) and in the Netherlands as a whole since 1997 (Abraham et al., 1999). For this article the Amsterdam data are used, because they allow observation over a ten year time span. To interpret the data we collected one should know that in Amsterdam individual drug use is not seen as a high priority for suppression. In other words, legal constraints are in effect, but hardly bother users. Cocaine is distributed via house-, street- and disco dealers. Cannabis is mostly distributed via retail outlets with the name of 'coffeeshop'. Availability of cocaine is low and not easy for the general population. Only those who are in the user circuits know how to find it. For them there are many ways to obtain cocaine. The availability of cannabis is

² In our own drug use reports we give all or some of these indicators also per age cohort, per socio-economic level, level of education, ethnic group, city area and household composition (see e.g. Abraham et al., 1998).

almost the same as it is for legal substances like tobacco or alcohol.

We know that lifetime prevalence (LTP) of cocaine use in Amsterdam has increased. In 1987 we found an LTP of 5.7% in all of the population of 12 years and older, in 1997 this has risen to 9.3%. However, LTP is a deceptive statistic, because the use of a drug is experimental or very infrequent for a large part of the user population. Last month prevalence gives a more reliable indicator for ongoing drug use in a population. So, looking at last month prevalence, we find a figure of 0.6% in 1987 and 1.0% in 1997. The relation between life time use and last month use can be viewed as a last month continuation rate and expresses what proportion of life time users reports last month use as well. The last month continuation rate of cocaine has remained very stable between 1987 and 1997, at 10%. Cocaine incidence—which means new starters or initiators—in the population is low and very stable as well, it varies between 0.3 and 0.6%/year.³ We have developed some other indicators to study the dynamics of drug use patterns, and they all show how amazingly stable cocaine use patterns are in Amsterdam in the epidemiological sense (Abraham et al., 1998). We have the same indicators for cannabis, and apart from the slow rise in prevalence measures we observe the same stability in the epidemiological indicators as with cocaine (see Table 1).

Large surveys can not be used to collect more detailed information on how drugs are used. One needs special surveys among experienced users to really develop knowledge about how, when and why a drug is used, and how drug use may vary over the user career. Also, to collect useful information on the types of risks users identify and how they

deal with them is only feasible by dedicating parts of surveys to these topics among experienced users. We did this for cocaine between 1987 and 1991 (Cohen, 1989; Cohen and Sas, 1993, 1994, 1995, 1996) and for cannabis in 1995 and 1996 (Cohen and Sas, 1998a,b).

This allows us to combine the knowledge gathered from large epidemiological surveys with the knowledge from large samples of experienced drug users.⁴

In user surveys we can also measure the actual prevalence of certain health risks. A very extensive overview of potential health risks of high dose cocaine is given in Wolters (1989). Wolters does not discuss the prevalence of these risks within the population of users, or per level of use. The prevalence of certain health risks of cocaine use in community based samples and the discussion of their seriousness can be found in Cohen (1989), Waldorf et al. (1991) and in Erickson et al. (1994). A useful and inclusive discussion of potential and actual health risks of cannabis is given by Morgan and Zimmer (1997a,b), see also WHO, 1997; Hall and Solowij, 1998. Although it is still possible to discuss health risks of drugs in the scientific community, the arena of 'health risks' has become a favoured playground for political activity.⁵

³ Confidence intervals for these values overlap, i.e. these differences are not statistically significant.

⁴ To make the knowledge of the latter category generalisable for the majority of drug users one has to select samples from the community, and not from the clinics. The same would be true for investigations into the details of alcohol use. It is possible to select users that are treated in alcohol treatments institutions, but the knowledge one would collect that way about patterns of use would be hard or impossible to apply to the large number of community based alcohol users who never are alcoholic or who have only limited periods of heavy drinking.

⁵ Therefore, in the eyes of most of the public this issue has moved beyond the boundaries of rational discussion into an arena where 'drug experts' play the role of gladiators fighting for opposing drug policy ideologies.

4. Specific findings

4.1. *Overview of trends in cannabis and cocaine use in Amsterdam: 1987–1997*

For cocaine and cannabis we find that, even in the city where both drugs can be easily bought by users (cannabis easier than cocaine), small minority parts of the population of 12 years and older even try these drugs. Of those minorities, a minority will develop into at least monthly users (for cannabis 22%, for cocaine 10%). Not even half of all life time users has an experience with these drugs of 25 times lifetime, or more.

And of the last month users (as said, small minorities for both drugs) about 23% uses cannabis on more than 20 days/month (daily or almost daily) and for cocaine this is under 10% (because of the small numbers, last month cocaine data in Table 1 will vary over the years). Our conclusion is, that in a regime of drug control that does not emphasise suppression and prosecution of individual drug use, drug use is not only quite infrequent, but also of low intensity. We can confirm this over a 10 year time series of four different measurements (independent random samples), which is an important asset in comparison to simple year prevalence data. It seems that the risks of heavy use, developing under a regime of non-prosecution of individual drug use, are very small.

We also published an analysis of the risk that users of cannabis in Amsterdam's liberal regime will develop into users of other illicit substances, or even heavy users of those illicit substances (Cohen and Sas, 1997). This analysis should teach us if 'gateway' effects appear in a community-based sample.

Cocaine is the second most popular illicit drug in Amsterdam with life time prevalence of 9.3% of the population in 1997 (see Table 1). In an earlier analysis of our 1990 and

1994 survey data we looked for signs of cannabis being a 'gateway drug'. Our main findings were that of all people who have life time experience with cannabis, 22% will develop life time experience with cocaine (which means they try it at least once during life time), on average 5.6 years later than they first tried cannabis. Therefore, over 75% of those who have ever used cannabis will never develop some experience with cocaine. We measured the length of the cocaine use career of the 22% who did: 2.9 years is the average time span between first and last cocaine use.

For some observers, 22% of life time experience with cocaine among all cannabis users may seem much or too much. This impression, however, should be analysed in a careful way in the light of what we know of people who have life time experience with cocaine (Table 1). Of this knowledge the most important element is that life time experience with cocaine in reality is no more than floating and experimental contact for most. Or, in the words of the Toronto based Erickson et al. (1994), "Most use is infrequent and self-limiting".

Just 2% of the life time users of cannabis in Amsterdam will develop into current users of cocaine (at least once per month). Frequent current use of cocaine—more than 20 times per month—among cannabis users in Amsterdam occurs with one per mill (2 respondents out of 2368). Although these figures are limited to the registered population of Amsterdam, missing some heavy polydrug use patterns among, e.g. homeless, these figures should illustrate that the figure of 22% life time prevalence of cocaine among life time users of cannabis does not represent an indicator of heavy or irresponsible cocaine use among cannabis consumers.

Heroin experience is almost non existent among life time cannabis users, so it is ignored here. (LTP of heroin is 4.2% and LYP 0.7%; Cohen and Sas, 1997.)

Table 2

Level of cocaine use in three periods. for experienced cocaine users in Amsterdam, 1991^a

Level of cocaine use*	First year of regular use ^b		Period of heaviest use ^c		Last 3 months prior to interview	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
None	–	–	–	–	71	26
Low	232	87	134	50	168	63
Medium	29	11	82	31	20	7
High	5	2	50	19	7	3
Unknown	2	1	2	1	2	1
Total	268	100	268	100	268	100

^a Source: Cohen and Sas (1994).^b Average duration of use since first regular use: 5 years.^c Average duration of period of heaviest use: 19.4 months.

* Low: <0.5 g/week; medium: 0.5–2.5 g/week; high: >2.5 g/week.

From our in depth cocaine and cannabis users surveys we collected enormous amounts of information. Because we are able to measure the representativeness of our samples of cannabis and cocaine users, we know that our data are generalisable to the category of experienced users of both drugs (for cocaine in Amsterdam, for cannabis in Amsterdam and smaller cities).

The full questionnaires of the user surveys are available in Cohen (1989), (cocaine) and Cohen and Sas (1998a) (cannabis).

4.2. Trajectories of drug use in experienced users of cocaine and cannabis

In Tables 2 and 3—which show data from experienced users (and not the general population), the changes in levels of use of cocaine and of cannabis are shown between first year of regular use and the three months prior to interview (Figs. 1 and 2 give the same information as graphs). On average this period spans 5 years for the cocaine users (range 0.5–20 years) and 10 years for the cannabis users (range 1 month–43 years). We identify (for Tables 2 and 3) three points within a user career: first year of regular use, top period of use and last 3 months prior to interview.

We can see that at top period, of all cocaine users 19% develop into high level users (more than 2.5 g/week), and of all cannabis users 35% (more than 10 g/month).⁶ At the moment we interviewed these users, high level use was rare: we found it with 11% of the cannabis users and 3% among cocaine users.

From Table 2 it is also apparent that after the average 5 year career of cocaine use, 89% of the sample is either abstinent or using at low levels (of less than 0.5 g of cocaine/week). In Table 3 it is shown that after a mean of ten years of cannabis use, the category of those who are abstinent or at a low level of use (less than 2.5 g of cannabis/month) is 65% of all respondents. For the cocaine users we did a 4 year follow up investigation, on average 10 years after first year of regular use. High level use was not observed, and the proportion that is abstinent (no use during last three months) has grown from 26% after 5 years to 66% after 10 years after the first year of regular cocaine use (Cohen and Sas, 1993).

⁶ The ways we computed level of use over time from different indicators is explained in Cohen and Sas (1994) and in Cohen and Sas (1998a).

Table 3

Level of cannabis use in three periods, for the total number of experienced cannabis users in Amsterdam, Utrecht, and Tilburg, ± 1996

Level of cannabis use*	First year of regular use ^a		Period of heaviest use ^b		Last 3 months prior to interview	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
None	–	–	–	–	214	34
Low	328	52	127	20	195	31
Medium	198	32	246	39	138	22
High	69	11	221	35	69	11
Unknown	30	5	31	5	9	1
Total	625	100	625	100	625	100

^a Average duration of use since first regular use: 10 years.

^b Average duration of period of heaviest use: 31.3 months.

* Low: <2.5 g/month; medium: 2.5–10 g/month; high: >10 g/month.

The normative patterns for the cannabis and cocaine users we investigated typically include a tendency (during their full career of consumption) towards progressively lower levels of use—often to abstinence. Most cocaine and cannabis users apply forms of self-limitation in their drug use (see also Harrison, 1994). This does not contradict the fact that excess and frequent cannabis or cocaine use does occur for extended periods (Waldorf et al., 1991; Reilly et al., 1998), especially in focused samples of such users or by surveying persons that are treated in drug and alcohol clinics. But such users are not the norm.

Apart from the risks of excess patterns of use, other risks related to drug use exist.

With the help of our questionnaires we are able to give information on a highly varied amount of other ‘risks’, like driving under the influence of a substance, engaging into anti social behaviour, phenomena of ‘dependence’, etc. All these risks occur, but always for small minorities of the total user group. It is interesting as well that these risks are often self limited and mitigated by the user. For an abundance of information on the prevalence of all sorts of risks, and their management

over time, see our cocaine and cannabis publications and many publications by others.⁷

5. Control of drug use

Why do the large majority of drug and alcohol users not develop into compulsive alcoholic type users? The answer is: control.

The notion of control may be strange to those who see the use of drugs as a sign of loss of control ‘per definition’. But one may indeed discover that most drug users apply all sorts of self imposed controls. These controls are very similar for all drugs one studies. They are learned within life styles and environments in which the prohibition of drugs—and the legal constraints that come with it—has become utterly irrelevant. In

⁷ Information from other authors that confirm and detail our findings that the large majority of community based users apply ample powers of control, see for cocaine Harrison (1994) or the complete special issue of *Addiction Research*, 1994, Ditton and Hammersley (1996), Waldorf et al. (1991), Erickson et al. (1994), and Reinerman and Levine (1997). For cannabis, good examples of vivid and realistic use pattern descriptions are Goode (1970), Rubin et al. (1975), Kleiber and Soellner (1998); for risk management relating to cannabis and traffic, see the excellent studies of Robbe (1994, 1997).

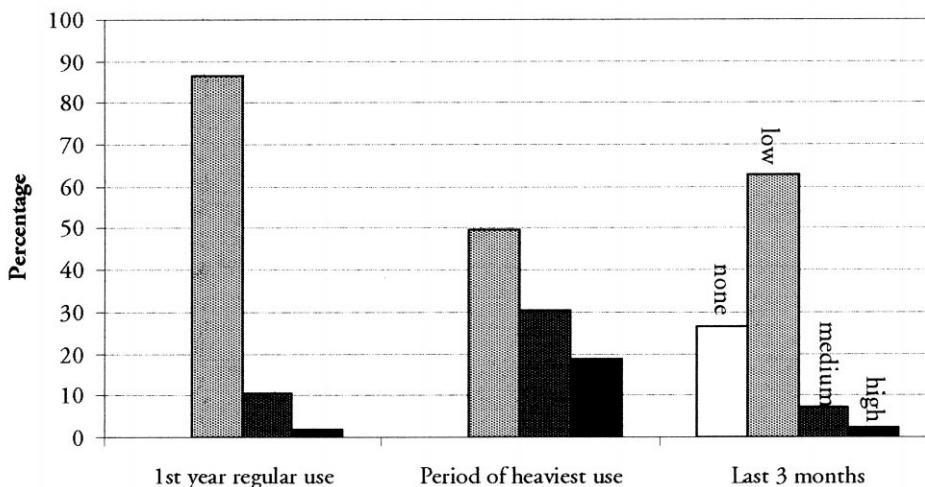


Fig. 1. Level of cocaine use in three periods, for experienced cocaine users in Amsterdam, 1991.

these life styles drug use is functional and plays a role in the construction and maintenance of collective norms (social control), pleasures and identities.

In our studies, controls on drug use are defined as self imposed behaviours or rules that regulate the selection of locations of drug use and companions of the user, normatively determine the amount of drugs used, moods fit for use (or unfit). Controls will also influence the selection of occasions of purchase and the amounts one purchases per day or week.

On a higher level of abstraction, we could define controls over drug and alcohol use as those behaviours that allow the user to locate (or structure) any drug use within a much wider field of life engagements. The result of this is that the user after some time has learned to distinguish between useful and detrimental functions of episodes of drug and alcohol use. This knowledge expands the navigational skills that are needed to live an every day life.

People have to read the paper, prepare a meal, go to the movies, raise the kids, maintain a sense of purpose and social belonging,

manage their bank managers, feed the cats, go to church, pay their bills and divide their time between sleeping and waking hours. (This selection is arbitrary.) As Waldorf et al. (1991) say “stakes in conventional life and identity remain important for any theory attempting to explain the broad patterns of use and abuse of cocaine”. As is true of another potentially high risk drug, alcohol, the large majority of users of cocaine or cannabis succeed in structuring the use of these drugs within their complicated and busy lives. In fact, one could see the complexity of these lives as the main engine of control over drug and alcohol use. Individual and social control mechanisms are not simply shut off when people start to use illicit drugs. Control over drug use implies that if drugs start to be non-functional or even dysfunctional within the complexity of life, drug use is changed, mitigated or abandoned. And this is exactly what we observe for a very large majority of users in our studies.

I want to stress here that control over drug use is not some kind of chance result that just happens to apply to a majority of users. Analysing drug consumption, and the types

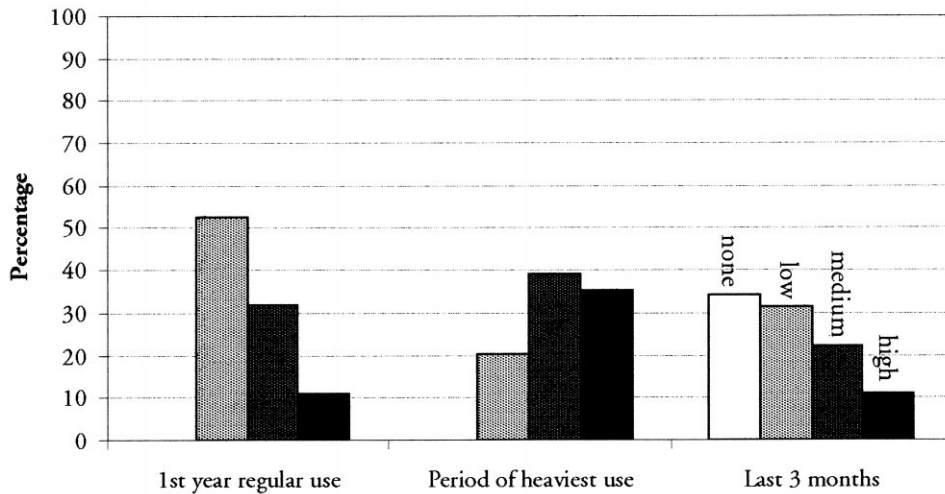


Fig. 2. Level of cannabis use in three periods, for the total number of experienced cannabis users in Amsterdam, Utrecht and Tilburg.

of controls that people apply, reveals that drug use is seen as only functional in particular circumstances. And that outside those circumstances drug use is perceived as counter productive or disturbing in its effects—i.e. not nice, even dumb. In other words, applying user based rules of control is the only way to maintain the reasons and the pleasures of drug use. This makes the application of controls an integral part of most human drug use. Only a heuristic view on drug use can reveal this. Pharmacocentric perspectives on human drug consumption based on animal models of ‘addiction’, without social scientific knowledge of real life drug use in humans, will result into quasi knowledge.⁸

⁸ Pharmacological notions about effects of drugs in the brain have always been used to maintain that drug addiction is not only biologically and neurologically based, but also explained. This feeds a disastrous process of medicalisation of drug problems. I maintain that pharmacology teaches us very little about ‘addiction’ but even if I were wrong here, ‘addiction’ is not what most drug use is about. Whatever theory one may favour about addiction, it is useless to explain the bulk of drug and alcohol use. See for an interesting and unconven-

6. Conclusion

These findings suggest that it would be better to legally regulate drug consumption and not to impede drug users to control their own drug use, than to try to prevent drug use by its prohibition. In so far as a state has a role in drug control, it should focus on the prevention of risks. The state can play an important role in fostering user based controls on drug use. A state can do so by letting conditions emerge that allow the user of drugs to maximise his or her considerable powers of control. Public health and social agencies might advertise reliable information about risks and the contexts in which drug use errors occur, or about ways to maximise drug efficiency at the lowest dosage. Drug potency, drug price and drug distribution have to be regulated in order to do so. Further, information can be given and constantly refreshed through interaction with users and drug scholars. This information might consist of ways to reduce harm (e.g. no intoxicated

tional critique on the medicalisation of drug problems (Polak, 1994).

driving, consider treatment or counselling if your drug—or alcohol use—surpasses certain boundaries, or results in specific effects, etc.).

In contrast, many state drug control systems based on prohibition are focused predominantly on destroying conditions for individual drug use control. Such prohibition regimes assure the continuation of massive marginalisation, incarceration, and discrimination of users and suppliers.⁹ Communicative structures of drug users are constantly threatened, reducing their efficiency as vehicles of safe use knowledge.

No where has this system been successful in preventing drug use and its growing prevalence, or serious drug use harm. Nor has its lack of success resulted in serious efforts to change it. Outdated Victorian and mostly pharmacocentric theory of drug use (opium and other drugs can not be controlled by human consumers) inspired the global drug treaties and are still dominant (Cohen, 1994). Until now, the experience gained in 'addiction' clinics or in impoverished underclass areas (that derives from a small sub-sample of all drug users), has been emphasised to substantiate this obsolete theory. We need modern social scientific methodology and theory to confirm for a variety of drug use cultures that most drug use is controlled, and associated with low risk for the large majority of drug users. It is through such research that we can hope to obtain a state of knowledge about drugs that ultimately liberates us from myth and myth-based drug ideology.¹⁰

⁹ See for a fact filled overview of the destructive effects of drug prohibition for developing countries (Tullis, 1995).

¹⁰ The building blocks of this mythical drug ideology are grossly exaggerated and sometimes even invented health risks and other potential consequences of drug use that are advertised aggressively. People are led to think this is objective 'knowledge' that is applicable to all drug use. The tragic problem here is that we can not expect that most members of

This will bring, I hope, at the same time liberation from the ever growing influence of national and international bureaucratic bodies that thrive on the global maintenance of drug myths. Scientists have a role to play here, but a small one compared to politicians.¹¹

References

- Abraham Manja, Cohen Peter, van Til Roelf-Jan, Langemeijer Marieke. Licit and illicit drug use in Amsterdam III. Developments in drug use 1987–1997. Amsterdam: CEDRO 1998. On-line: < <http://www.frw.uva.nl/cedro/library/prevasd3.pdf> > .
- Abraham Manja, Cohen Peter, de Winter Marielle. Licit and illicit drug use in the Netherlands; Results of the first national drug use survey in the population of 12 years and older. Amsterdam: CEDRO 1999 (forthcoming).
- Boekhout van Solinge Tim. The Swedish Drug Control System. An In-Depth Review and Analysis. Amsterdam: CEDRO/Mets, 1997.
- Caulkins Jonathan P, Reuter Peter. Setting goals for drug policy: harm reduction or use reduction? *Addiction* 1997;92(9):1143–50.
- Cohen Peter. Cocaine use in Amsterdam in non deviant subcultures. Amsterdam: Department of Human Geography, University of Amsterdam, 1989. On-line: < <http://www.frw.uva.nl/cedro/library/dis/0.html> > .
- Cohen Peter. Re-thinking drug control policy. Historical perspectives and conceptual tools. Paper presented at the United Nations Research Institute for Social Development (UNRISD) Geneva, 7–8 July 1993, Palais des Nations, Symposium The Crisis of Social Development in 1990's. In: Böllinger Lorenz, editor. *De-Americanizing Drug Policy*. Peter Lang Publishers, 1994, pp. 189–198. On-line: < <http://www.frw.uva.nl/cedro/library/geneva/genevaus.html> > .

the public, politicians included, can distinguish between propaganda and fact (see for the construction and functionality of a largely propagandistic system of drug control, Boekhout van Solinge, 1997).

¹¹ The dilemmas that politicians have to face in this arena, are obvious. For a politician, drugs is a low cost but splendid tool to show where his loyalty to the common normative 'good' lies, as long as he is willing to not deviate from the paths of superstition and convention. Such a tool is for a politician just as important as the scientific forum is for the scientist. Only the greatest of politicians are able to lead and survive without such tools.

- Cohen Peter, Sas Arjan. Ten years of cocaine. A follow-up study of 64 cocaine users in Amsterdam. Amsterdam: Department of Human Geography, University of Amsterdam, 1993.
- Cohen Peter, Sas Arjan. Cocaine use in Amsterdam in non deviant subcultures. *Addiction Res.* 1994;2(1):71–94. On-line: < <http://www.frw.uva.nl/cedro/library/AR/AR.html> > .
- Cohen Peter, Sas Arjan. Cocaine use in Amsterdam II. Initiation and patterns of use after 1986. Amsterdam: Department of Human Geography, University of Amsterdam, 1995.
- Cohen Peter, Sas Arjan. Les usages de cocaine chez les consommateurs insérés Amsterdam. In: Ehrenberg A, editor. *Vivre avec les drogues. Régulations, politiques, marchés, usages.* Communications 62. Paris: Editions du Seuil, 1996, pp. 195–221. On-line: < <http://www.frw.uva.nl/cedro/library/AR/ARFrans.html> > .
- Cohen Peter, Sas Arjan., Cannabis use, a stepping stone to other drug use? The case of Amsterdam. In: Böllinger Lorenz, editor. *Cannabis Science/Cannabis Wissenschaft.* Frankfurt am Main: Peter Lang Verlag, 1997, pp. 49–82. On-line: < <http://www.frw.uva.nl/cedro/library/ASC95/ASC95.html> > .
- Cohen Peter, Sas Arjan. Cannabis Use in Amsterdam; Patterns of Consumption among 216 Experience Cannabis Users, 1998a. On-line: www.frw.uva.nl/cedro/library/cannabis/canasd.pdf.
- Cohen Peter, Sas Arjan. Cannabis gebruik in Tilburg en Utrecht. Amsterdam: Cedro, University of Amsterdam, 1998b.
- Ditton Jason, Hammersley Richard. A very greedy drug. Cocaine in Context. New York: Harwood Academic, 1996.
- Erickson Patricia G, Adlaf Edward M, Smart Reginald G, Murray Glenn F. *The Steel Drug. Cocaine and Crack in Perspective.* Second Edition Lexington: Lexington Books, 1994.
- Gerritsen Jan-Willem. De politieke economie van de roes. De ontwikkeling van reguleringsregimes voor alcohol en opiaten. Amsterdam: Amsterdam University Press, 1993.
- Goode Erich. *The Marihuana Smokers.* New York: Basic Books, 1970.
- Harrison Lana. Cocaine using careers in perspective. *Addiction Res* 1994;2(1):1–19. Special Issue. Cocaine in the community: International perspectives.
- Hall Wayne, Solowij Nadia. Adverse effects of cannabis. *Lancet* 1998;352:1611–1616.
- Kleiber Dieter, Soellner Renate. *Cannabiskonsum. Entwicklungstendenzen, Konsummuster und Risiken.* Weinheim: Juventa Verlag, 1998.
- De Kort, Marcel. Tussen patient en delinquent. Geschiedenis van het Nederlandse drugsbeleid. Hilversum: Verloren, 1995.
- Langemeijer Marieke, van Til Roelf-Jan, Cohen Peter., *Het gebruik van legale en illegale drugs in Utrecht en Tilburg.* Amsterdam: CEDRO, 1998.
- Leuw Ed, Hean Marshall Ineke. *Between Prohibition and Legalization. The Dutch Experiment in Drug Policy.* Amsterdam: Kugler, 1994.
- Morgan John P, Zimmer Lynn. Exposing Marihuana Myths. A review of the scientific evidence. In: Böllinger Lorenz, editor. *Cannabis Science/Cannabis Wissenschaft.* Frankfurt am Main: Peter Lang Verlag, 1997a, pp. 101–126. On-line: < <http://alf.zfn.uni-bremen.de/~bisdro/boellinger/cannabis/08-zi-mo.pdf> > .
- Morgan John P, Zimmer Lynn. *Marijuana myths, marijuana facts: A review of the scientific evidence.* New York: The Lindesmith Center, 1997b.
- Polak Freek. The medicalization of (problematic) intoxicant use and the medical provision of psychoactive drugs. In: Böllinger Lorenz, editor. *De-Americanizing Drug policy. The Search for Alternatives to Failed Repression.* Frankfurt am Main: Peter Lang Verlag, 1994.
- Reilly David et al. Long-term cannabis use: characteristics of users in an Australian rural area. *Addiction* 1998;93(6):837–846.
- Reinarman Craig, Levine Harry. *Crack in America. Demon Drugs and Social Justice.* Berkely: University of California Press, 1997.
- Robbe Hindrik WJ. Influence of marihuana on driving. Dissertation. Maastricht: Institute of Human Psychopharmacology, University of Limburg, 1994.
- Robbe Hindrik WJ. Cannabis and car driving. In: Böllinger Lorenz, editor, *Cannabis Science/Cannabis Wissenschaft.* Frankfurt am Main: Peter Lang Verlag, 1997, pp. 127–137.
- Rubin Vera, Lambros Comitas. *Ganja in Jamaica. A Medical Anthropological Study of Chronic Marihuana Use.* The Hague: Mouton, 1975.
- Sandwijk JP, Westerterp I, Musterd S, *Het gebruik van legale en illegale drugs in Amsterdam. Verslag van een prevalentie-onderzoek onder de bevolking van 12 jaar en ouder.* Institute voor Sociale Geografie, Universiteit van Amsterdam, 1988.
- Sandwijk JP, Cohen PDA, Musterd S, *Licit and illicit drug use in Amsterdam. Report of a household survey in 1990 on the prevalence of drug use among the population of 12 years and over.* Amsterdam, Department of Human Geography, University of Amsterdam, 1991.
- Sandwijk JP, Cohen PDA, Musterd S, Langemeijer MPS, *Licit and illicit drug use in Amsterdam II. Report of a household survey in 1994 on the prevalence of drug use among the population of 12 years and over.* Amsterdam, Department of Human Geography, University of Amsterdam, 1995.
- Tullis Lamond. Unintended consequences. Illegal drugs and drug policies in nine countries. Volume four of 'Studies on the impact of the illegal drug trade', a project of the United Nations Research Institute for Social Development (UNRISD) and the United Nations University (UNU). Boulder, 1995.
- Waldorf Dan, Reinarman Craig, Murphy Sheighla. *Cocaine Changes: The Experience of Using and Quitting.* Philadelphia: Temple University Press, 1991.

WHO. Programme on Substance Abuse. Cannabis: A Health Perspective and Research Agenda. Geneva: Division of Mental Health and Prevention of Substance Abuse, 1997.

Wolters Eric. Biomedical and neuropharmacological issues. In: Cohen Peter, editor. Cocaine Use in Amsterdam in Non Deviant Subcultures. Amsterdam: Department of Human Geography, 1989, pp. 159–168.