1

Old and new: Persistence, revival and innovation in European drug issues

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Although substances like opium and cannabis have been taken in Europe for centuries – both to treat physical ailments and to produce psychoactive effects (Berridge & Edwards, 1987; Fankhauser, 2008) – a distinctly new situation has emerged in recent decades. In no small measure, this can be attributed to the criminalisation of drugs during the 20th century. The criminalising process, which took place at different times in different countries, would lead to far-reaching changes in the ways the supply side of the drug market was organised and structured. An additional development has been the expanding variety of available drugs. Whereas the 19th century mainly saw new adaptations of natural substances (most prominently in the form of cocaine and heroin), from the early 20th century onwards synthetic drugs like LSD and MDMA (ecstasy) were increasingly being concocted, and sooner or later they found their way to illicit drug markets.

At first, the criminalisation of drugs was often mainly a question of formal compliance with international obligations; provisions had to be incorporated into national penal codes, whether or not as specific narcotics legislation. Yet since the rapid spread of drug use and the consequent expansion of drug trade from the 1960s onwards, drastic changes can be seen in the ways such penalties are actually applied. There were sharp increases in the numbers of drug users and drug dealers in European prisons. At the same time, successful and unsuccessful appeals have been made for the decriminalisation of illicit drugs, cannabis in particular.

The growing numbers of drug users and drug addicts have also prompted intensified health care and prevention efforts, which gained particular momentum after HIV and AIDS began to spread among injecting drug users. This gave rise

to two major harm reduction interventions – opioid substitution treatment and needle exchange programmes. Although some European countries were quicker than others to opt for harm reduction to curb infectious diseases among drug users, and although the current social, cultural and legal responses to drug use are still widely varied across Europe, a considerable convergence of national policies on harm reduction is evident (Hedrich, Pirona & Wiessing, 2008).

Parallel to the dynamics of supply and demand and the varying government policy responses to drugs, there have also been significant developments in drugs research. Powerful advances in biomedical and neuropsychological research have delivered more and more information about genetic aspects of drug use and addiction and about the actions of drugs on the brain (Muscat, 2006; Carter et al., 2009). As a consequence, drug addiction is being increasingly redefined as a brain disease, and highly optimistic predictions are being made about new pharmacological treatment potentials. At the same time, concerns are expressed about ethical issues that arise from the findings and expectations of neurobiology (Carter et al., 2009). Unrest has also resurfaced about how cannabis use might be related to psychosis (Vuillaume, 2008).

Drugs are more than just chemical substances that influence individual human behaviour through their effects on the brain. As Zinberg (1984) showed, a drug user's personality, attitudes, expectancies and motivations – and particularly the settings in which drug use occurs – have a greater influence on both the user and his or her drug-taking patterns than a drug's pharmacological properties. These are issues that lie squarely in the realms of sociology, anthropology, psychology and criminology.

1 Old problems, new approaches and concepts

Amid such dynamics and innovations, some perspectives persist. Perhaps the clearest example is the 'gateway' or 'stepping stone theory', which has persisted since modern drug use emerged after the Second World War. In its simplest form, this theory argues that smoking cannabis leads to heroin addiction. The empirical inaccuracy of this reasoning is obvious; one only has to consider the wide gap between the prevalence rates for the use of these two drugs: for decades now, the number of cannabis users who have never tried heroin has been a multiple of the number who have. But such a conclusion is perhaps too facile. Numerous studies have found that, in a statistical sense, cannabis users indeed have a higher risk of 'hard drug' use. The crucial question is whether there is a *causal* connection between smoking cannabis and taking other drugs. And if so, one may ask what consequences that should have for drug policy. Would curtailing cannabis supply or demand help to curb hard drug use, or

would that be counterproductive? In a challenging essay, the Austrian and German researchers *Uhl and Kraus* (chapter 2) deconstruct the gateway theory and give a step-by-step critical analysis of the assumptions that either underlie or derive from this theory in terms of their logical consistency and their empirical tenability. To say the least, they arrive at some sobering conclusions.

Although harm reduction is steadily gaining ground in European drug policies, the implementation of such measures in prisons lags far behind. This is an uneasy topic for politicians, given the popular desire to avenge crime and incapacitate criminals. After all, if prisons are supposed to be drug-free zones, what purpose is served by providing substitution treatment and needle exchange there? If only it were so simple. From both an ethical and a legal point of view, prisoners have rights, and these include the right to proper health care and to protection from infectious diseases. If prisons are a danger to health, that is contrary to medical ethics. There is also a practical argument: prisoners with contagious diseases form a threat not only to other prisoners, but also to prison employees, and hence to the general public. Despite this, prison management and staff in many European countries continue to oppose harm reduction services for drug-using and drug-addicted prisoners. On the basis of data collected in a European project, *Stöver, Lines and Thane* (chapter 3) analyse their arguments and examine strategies for overcoming barriers to harm reduction for imprisoned offenders.

The usual word for people who sell illicit drugs is *dealer*. But what are dealers, actually? They can be classified by the types of drugs they sell, or also by the quantities they sell, as in 'lower-', 'middle-' and 'upper-level drug dealers'. Drug users themselves often distinguish between 'real dealers' and 'not real dealers'; informal peer networks, for example, often play significant roles in supplying cannabis or ecstasy to consumers. On the basis of a literature review, the British criminologist *Potter* (chapter 4) explores retail-level or end-use drug distribution at the intersection of supply and demand. He argues that the structures of drug markets are shaped by the drugs dealt within them, by the characteristics of the customers they serve, and by the cultural contexts in which the markets exist. He questions whether the current legal frameworks, and the concepts and definitions used within them, do sufficient justice to the everyday reality of transactions at this end-use level of the drug market.

2 Old and new drugs

After the timid re-entry of cannabis as a psychoactive substance in the 1950s and early 1960s, the use of the drug accelerated, and from the late 1960s it was an increasingly collective phenomenon. Other drugs appeared on the Euro-

pean market alongside cannabis, including LSD in the 1960s, cocaine in the late 1970s and ecstasy in the late 1980s. Drugs have social meanings, both for users and for non-users. Not only can the same substance have different meanings at the same time, but the social meaning of a particular drug may also change drastically over time (Fountain & Korf, 2007).

Coinciding with the growing popularity of cannabis, the non-medical use of LSD also soared. In the 1960s and early 1970s, it was strongly associated with an internationally oriented, socially radical youth subculture that came to be known as the counterculture. After a quieter interlude from the mid-1970s, the rise of the techno and rave culture in the 1990s triggered a comeback in LSD and other psychedelic drugs such as hallucinogenic mushrooms (though the scene was characterised mainly by 'party drugs' like ecstasy). On the basis of a multimethod comparison of the use and users of psychedelic drugs in the countercultural and present eras, the German sociologist *Prepeliczay* (chapter 5) concludes that the use of psychedelic drugs is far less widespread today than in the former period, although the two periods otherwise show similar consumption patterns and a similar sociodemographic user profile (well-educated young adults). One crucial difference is that the political engagement of the countercultural generation seems virtually absent among the LSD users of today.

Cocaine is an unusual substance in that, unlike most other illicit drugs, it is both used for recreational purposes (and could thus be labelled a party drug) and is taken – either in powder form or as crack – in combination with heroin in hard drug subcultures. Ecstasy, by comparison, still enjoys the status of party drug and is not generally associated with problem drug users. When cocaine and ecstasy are taken as party drugs, social science research has typically portrayed European users as affluent young people. *McCrystal* (chapter 6) now reports that in Northern Ireland these drugs are increasingly being taken by school-aged adolescents. Is this an omen of a general trend in Europe, or is it a regionally specific phenomenon to be understood in the context of political transition in Northern Ireland and the accompanying structural changes in the drugs market there?

3 New approaches

Great progress has been made in recent years in European social science research on drugs and drug use. In an impressive and still growing number of countries, the European School Survey Project on Alcohol and Other Drugs (ESPAD) now documents prevalence and trends in the use of alcohol, tobacco and illicit drugs among 15- and 16-year-olds (Hibell et al., 2009). No less important is the increasing accessibility of the ESPAD data for secondary analysis.

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) has also made considerable progress in standardising data collection at national levels within the EU, enabling a broader understanding of the nature and scale of drug use, both in the general public and in specific populations of 'problem users' (EMCDDA, 2008). Yet new challenges continue to emerge, and these call for critical reflection on existing methodologies and new orientations in social drug research.

Roy's critical analysis (chapter 7) of the participation of diverse and different communities in social drug research is doubtless informed by the postmodern Anglophone discourse on diversity, but that makes it no less relevant to other European countries. He scrutinises philosophical and practical challenges and argues compellingly that ethnically and sexually diverse communities need to be actively engaged throughout the research process – from the research design to the data collection and analysis to the reporting of findings. Communities must be enabled to take part in social drug research in ways which build on their own agendas and strengths and which support the personal aspirations and objectives of the individuals within them.

Heroin is seen as an 'old drug' in many European countries, taken by a steadily shrinking, fast ageing group of users. In some countries, however, this trend has reversed in recent years, and recent indicators suggest a gradual increase in new heroin users (EMCDDA, 2008). In an innovative contribution, *Mayock, Cronly and Clatts* (chapter 8) explore the potential of combining classical ethnography and new methods with epidemiological investigations. Their own experiences in an Irish study on heroin initiation lend strong support to the approach known as *ethno-epidemiology*. With their insightful theoretical perspectives and empirically rich data, they take a new step in bridging the gap between quantitative and qualitative social drug research in Europe.

References

Berridge, V. & Edwards, G. (1987). Opium and the people. London: Yale University Press.

Carter, A., Capps, B. & Hall, W. (Eds.) (2009). Addiction neurobiology: Ethical and social implications. Luxembourg: Office for Official Publications of the European Communities.

European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) (2008). The state of the drugs problem in Europe. Lisbon: EMCDDA.

Fankhauser, M. (2008). Cannabis as medicine in Europe in the 19th century. In: S. Rödner Sznitman, B. Olsson & R. Room (Eds.). A cannabis reader: Global issues and local experiences. EMCDDA Monographs, 8 (Volume I) (pp. 3-14). Lisbon: EMCDDA.

Fountain, J. & Korf, D. J. (Eds.) (2007). Drugs in society: European perspectives. Oxford: Radcliffe.

Hedrich, D., Pirona, A. & Wiessing, L. (2008). From margin to mainstream: The evolution of harm reduction responses to problem drug use in Europe. Drugs: Education, Prevention and Policy, 15 (6), 503-517.

Hibell, B., Guttormsson, U., Ahlström, S., Balakireva, O., Bjarnason, T., Kokkevi, A. & Kraus, L. (2009). The 2007 ESPAD report: Substance use among students in 35 European countries. Stockholm: CAN.

Muscat, R. (2006). Biomedical research in the drugs field. Strasbourg: Council of Europe.

Vuillaume, D. (2008). Changing scientific perspectives on cannabis use. In: D. J. Korf (Ed.), Cannabis in Europe: Dynamics in perception, policy and markets (pp. 15-29). Lengerich: Pabst Science Publishers.

Zinberg, N. E. (1984). Drug, set and setting: The basis for controlled intoxicant use. New Haven: Yale University Press.

2

Reassessing the gateway theory and its implications for drug policy

Alfred Uhl & Ludwig Kraus

Abstract

The gateway theory is used by policy activists in their fight for stricter drug policies. They argue that using less problematic drugs, such as tobacco, alcohol or cannabis makes individuals susceptible to the use of stronger and potentially more harmful drugs. The theory relates 'gateway drugs' to 'harder drugs', implying that any intervention effective to alter the use of gateway drugs (product A) will causally affect the use of harder drugs (product B) into the same direction (concordant changes). In other words: Any increase (decrease) of product A will be followed by an increase (decrease) in product B. This chapter develops theoretical models explaining possible relationships between using two drugs, thereby considering the nature of drug and the type of intervention. Gateway and harder drugs are perceived – at least by some individuals concerning some aspects – as functionally equivalent. Since the demand for functionally equivalent products according to the models can be expected to change concordantly as a reaction to demand reduction measures and discordantly as a reaction to supply reduction measures, the gateway theory in its present formulation must be rejected. A much more detailed and sophisticated theoretical approach considering different kinds of interventions and context is needed.

1 Introduction

Our everyday life is characterised by associative and intuitive thinking. Systematic rational thinking only plays a minor role. To be sceptical in everything we hear and do, to analyse all our decisions in detail, would create an immediate collapse of all our life routines. Only if matters concerning private and/or public decisions seem important enough and if investing much energy into rational thinking is justified by the expected improvements, it makes sense to invest

much effort into systematic scientific analyses (economy principle in research, Peirce, 1879, cit. in Wirth, 1999).

Going beyond association and intuition through dealing with matters scientifically requires, firstly, to define the implicit assumptions and propositions precisely, and secondly, to systematically scrutinise the empirical and logical evidence backing these assumptions. In addition, this approach requires the ability to tolerate ambiguities. Ambiguity tolerance is particularly important at the beginning of any research process and to a lesser degree when results start to take shape. Precise, unequivocal answers to research questions are unfortunately the exception rather than the rule.

The expert role of researchers often creates pressures to immediately formulate convincing conclusions. The temptation to fall back on sloppy, associative and intuitive thinking is understandably high under such conditions, especially when sufficient empirical evidence is lacking, when adequate rational models have not yet been developed and when chances are high, that the persons formulating methodologically inadequate conclusions get away without much criticism.

The central theme of this chapter is to demonstrate that the gateway theory, or synonymously labelled 'stepping stone theory', is primarily routed in associative and intuitive thinking. If it is, however, subjected to empirical and logical scrutiny, the theory does not seem to withstand.

2 The Gateway Theory

There are many different statements and claims related to the gateway theory which in part are not formulated precisely and contradict each other. The central idea in all formulations is that using less problematic drugs, such as tobacco, alcohol or cannabis, makes individuals susceptible to the use of potentially more harmful drugs[1]. The most prominent example is the assumption

[1] We differentiate between 'less problematic drugs' (sometimes called 'soft drugs') and 'harder drugs' uncritically in line with the emotional rating a majority of people share. This differentiation is central for the gateway theory. We are very much aware that scientifically speaking it makes little sense to assign a specific risk level to certain drugs. The risk connected to certain drugs depends on the quantities used, the frequencies of use, some characteristics of the users and many other context variables. Besides, these risks cannot be sensibly measured unidimensionally: There are many different dimensions of risk, like the risk of physical harm, the risk to become dependent, the risk of social harms, etc. Particularly inappropriate is to label socially integrated drugs like alcohol and tobacco as 'soft drugs' since their addictive potential and health damaging properties are far too high to portray them as relatively harmless (Roques, 1998; Hall et al., 1999; Nutt et al., 2007).

that someone using cannabis is more likely to go on to use heroin or cocaine. Apart from simply predicting that

1) someone using 'gateway' drugs will more likely progress with the use of 'harder' drugs, the formulations commonly hypothesise
2) a dose response relationship, i.e. more frequent and more intensive users of gateway drugs will be more likely to go on with harder drugs, and
3) a relationship between age and progression and intensity of drugs, i.e. the earlier someone starts his/her gateway drug use, the more likely he/she is to progress to harder drug use and the more frequent and intensive harder drug use will become (Earleywine, 2002).

These predictions are based on numerous observations showing that the likelihood of adolescents to experiment with cannabis without prior consumption of alcohol or tobacco is low and that the majority of those who use heroin or cocaine started with the use of cannabis (Fergusson & Horwood, 1997; Kandel, 2002; Kandel & Faust, 1975; Kandel & Yamaguchi, 1985; 1993; Kandel & Logan, 1984; Kandel, Yamaguchi & Chen, 1992; Yamaguchi & Kandel, 1984). High correlations between frequent use of cannabis and heroin and/or cocaine use later in life were reported in a cohort study in New Zealand (Fergusson & Horwood, 2000). In comparison with non-cannabis users the risk for consuming harder drugs in cannabis users who used the drug one or two times in the last 12 months was 3.5 times elevated, while frequent cannabis users (50 + in the last 12 months) had a 142 times elevated risk for harder drug use. With respect to age of onset, Robins and Przybeck (1985) followed-up 222 Afro-American pupils until the age of 33 years and found that male students who had their first use of cannabis before age 20 were more likely to use heroin later in their lives than peers who initiated cannabis use at a later age. Based on a birth cohort study in New Zealand, Fergusson and Horwood (1997) also reported that early onset cannabis users (prior to 16 years) had significantly higher rates of illicit substance use later in life.

The hypotheses related to the gateway theory are based on observations and correlations, and research has proposed a number of mechanisms to explain these associations[2]:

1) gateway drugs could provide a taste for the reward the user might expect from more powerful drugs;
2) the user may have become tolerant to the gateway drug and thus needs stronger and more powerful drugs in order to obtain the same effects;

[2] Explaining an association is not identical to explaining a causal relationship. While some of the mechanisms mentioned below suggest a causal pathway, others explain a spurious association via third variables.

3) the interaction with peers using or dealing gateway drugs may lead to greater opportunity or social pressure to take stronger drugs as well;
4) personal or environmental factors may influence the individuals' propensity or the availability of gateway drugs in a way that facilitates progression to harder drugs;
5) genetic disposition may be responsible for a higher vulnerability to take both gateway and harder drugs (for an overview see Hall & Pacula, 2003).

While some researchers argue for a causal relationship between gateway and harder drug use (Wickelgren, 2002; Wagner & Anthony, 2002), other researchers claim that the relationship is artificial (spurious correlation) and can be explained by uncontrolled common factors related to gateway drug use as well as harder drug use (Morral, McCaffrey & Paddock, 2002; Lynskey et al., 2002; Lynskey et al., 2003). This led to a highly controversial discussion whether these associations may be interpreted causally or not (Earleywine, 2002; Hall & Pacula, 2003; Kandel, 2003).

We assume that the term 'gateway theory' unconditionally implies a causal relationship between gateway and harder drug use. Such a causal interpretation of the gateway theory can be derived from the way the theory is exploited by policy activists. They treat the theory as conclusive argument to justify any interventions to curb gateway drug consumption, expecting that these will ultimately affect harder drug use accordingly.

Spurious correlations therefore do not support the gateway theory but they are not without practical meaning though. The information that heavy or early cannabis users are a particular risk group for future harder drug consumption, may be helpful for early intervention concepts warranting specific preventive actions focusing on early gateway drug users (predictive value). But only causal hypotheses allow predicting how externally induced changes in gateway drug consumption will impact on consumption of harder drugs (intervention value).

3 Functional equivalence as inappropriate argument for concordant changes

A common attempt to prove a concordant causal relationship between gateway and harder drug consumption is to produce evidence suggesting that the effects of gateway drugs on the brain resemble those of harder drugs such as heroin (Wickelgren, 2002). Further evidence suggesting functional equivalence between cannabis and opiates is provided by neurobiological studies in animals showing that repeated exposure to cannabinoids induces behavioural sensitisation to opiates (e.g. Cadoni et al., 2001). It is argued that the observed

cross-sensitisation between Δ9-tetrahydrocannabinol (Δ9-THC) and morphine may explain the postulated role of cannabis use in the vulnerability of opiate abuse by priming the brain to seek substances like heroin that act in a similar way (Robinson & Berridge, 2003). Furthermore, Δ9-THC was found to release the neurotransmitter 'Dopamine' in the nucleus accumbens (the reward centre in the forebrain) as the exposure to nicotine or morphine (Tanda et al., 1997). Moreover, emotional stress during cannabis withdrawal triggers the release of the neurotransmitter 'Corticotrophin-Releasing Factor (CRF)' in the amygdale (a brain region playing a primary role in the processing and memory of emotional reactions) as has been shown for withdrawal from alcohol, opiates and cocaine (De Fonseca et al., 1997). The above mentioned results suggest that gateway drugs such as cannabis manipulate the brain's stress and reward system in the same way as more potent drugs, in other words that they are 'functionally equivalent' in this aspect.

The basic logical flaw behind taking functional equivalence as an argument to support the gateway theory is that producing a scarcity in one product normally does not result in a decline in functionally equivalent products. On the contrary, it produces an increase in functionally equivalent products to compensate the shortage. We will demonstrate in section 11 that specific interventions aiming at demand reduction can nevertheless under certain circumstances produce concordant changes in functionally equivalent products.

4 Advocacy vs. research

The job of advocates supporting certain policy options is to convince the audience about these options. What counts is not empirical foundation and logical consistence but plausibility of arguments. Appealing to emotions by working with emotional association of relevant terms (connotations), i.e. shedding a negative or positive light on them, is very effective in convincing people. Quite the contrary, the job of a scientist is to attain as much independence as possible from connotative contents by focussing on denotations (the literal meanings of words), and to assemble empirical facts and logical arguments to consistent models, allowing to predict how certain interventions will impact on relevant outcome variables. Due to these different perspectives advocacy and research are largely incompatible. In this context, the current tendency in alcohol policy research, where researchers and advocates working for anti-alcohol-NGOs strongly cooperate to fight against the influence of the alcohol industry[3] has to be considered critically (Uhl, 2005).

[3] See next page.

5 Demand Reduction vs. Supply Reduction

The distinction between 'supply reduction' and 'demand reduction' is central when different measures to curb substance related harm are classified (EMCDDA, 2001). 'Demand reduction' is a general term used to describe policies or programmes directed at reducing the consumer demand for psychoactive drugs. It is applied primarily to illicit drugs, particularly with reference to educational, treatment, and rehabilitation strategies. The complementing term is 'supply reduction' used to refer to policies or programmes aiming to interdict the production and distribution of drugs, particularly law enforcement strategies for reducing the supply of illicit drugs (WHO, 1994). In line to the widespread '4-pillar-model of drug policy' consisting of the pillars 'prevention', 'treatment', 'harm minimisation' and 'repression', the term 'demand reduction' encompasses prevention, treatment and harm minimisation while the term 'supply reduction' is synonymous with 'repression'.

Since supply reduction measures aim at forcing substance users to abstain or cut down through draining substance supplies, reactance towards the policy is often inevitable and illegal endeavours to circumvent the restrictions and to search for functionally equivalent alternatives are likely. If on the other hand demand reduction measures are successful, reactance and striving towards functionally equivalent alternatives is much less likely.

6 The Gateway Theory – an advocacy tool

In everyday life, the gateway theory is a popular advocacy tool for persons in favour of rigorously fighting alcohol, tobacco and cannabis consumption with strict controls and sanctions. On the other hand, those opposing such drastic measures usually strongly reject the gateway theory. Both advocates and opponents interpret the gateway theory in a causal sense, i.e. that reducing gateway drug use will automatically reduce harder drug use as well. In Europe, the drug preferably depicted as gateway drug is cannabis, in other regions like the USA, alcohol, tobacco and cannabis are equally labelled 'gateway drugs'.

[3] Two specific advocacy training workshops were launched in the context of two large EU-projects 'Bridging the Gap' (2004-2006) and 'Building Capacity' (2007-2009). These projects aimed at creating an alcohol policy network through involving government officials, scientists and members of NGOs concerned with alcohol issues. The explicit focus is to support a restrictive alcohol control policy as laid down in the book 'Alcohol no ordinary commodity' written by some of the most renowned alcohol epidemiologists supporting massive price increases, a systematic reduction of alcohol availability, systematic control and more enforcement thereby flatly denouncing prevention and treatment to be not cost-effective at all and of little effectiveness considering the population level (Babor et al., 2003).