

**THE BECKLEY FOUNDATION
SOCIETY & DRUGS: A RATIONAL PERSPECTIVE**

WEDNESDAY 19TH FEBRUARY 2003

**A DINNER DISCUSSION HOSTED BY THE BECKLEY
FOUNDATION AT THE ROYAL SOCIETY**

The Role of Drugs in Society

This document reports two sessions within the same evening. The first was a talk involving three speakers sponsored by The Royal Society and the Institute of Contemporary Arts, entitled “Narco-odysseys.” This was followed by a dinner, hosted by the Beckley Foundation, with discussion stimulated by further presentations under the heading, ‘Can drugs be safe?’ Summary notes on the talks are recorded here, together with key points, questions and answers.

The speakers were Dr. Kary Mullis (Nobel Laureate for Chemistry), Professor Leslie Iversen (Professor of Pharmacology at King's College London and at the University of Oxford), Professor Ciaran Regan (Department of Pharmacology, University College Dublin), Simon Jenkins (Former Editor of The Times), and Professor Gustav Born (William Harvey Research Institute, London). The discussion was chaired by Professor Colin Blakemore (Waynflete Professor of Physiology, University of Oxford).

Kary Mullis	The Role of Drugs in Society
Les Iversen	Can Recreational Drugs Be Safe?
Ciaran Regan	Are Drugs Here to stay?
Simon Jenkins	How Can Society Best Deal with Drugs?
Gustav Born	Future Drugs... Designing Safer Drugs

The Role of Drugs in Society

Kary Mullis

- Kary Mullis has taken LSD for recreational and intellectual purposes and his interest lies in the effect of psychoactive drugs on the mind.
- Psychoactive drugs can be used as tools, their transient effects on the brain enabling occasional users to acquire a greater understanding of the capabilities of their minds.
- Experimentation can increase awareness of the larger picture, thereby making users feel more humble about their role, in turn encouraging a more liberal and tolerant attitude.
- As long as psychoactive drugs are taken in a controlled environment, e.g. users not operating machinery or having access to weapons, there is little danger and no reason why these drugs should not be freely available.
- Drugs tend to be much more expensive to buy than to produce (especially cocaine and heroin) ensuring that criminal organisations that control the supply of these substances make massive profits.
- Sales of illegal drugs fund dangerous militant groups, which are able to arm themselves using the money raised from the trade, which is estimated globally to be in excess of \$500 billion a year.
- The high sales prices in consumer countries determined by an illegal supply, lead to increased crime levels because people are forced to steal to support habits formed by using addictive drugs.
- Government prohibition does not prevent sales of recreational drugs but the laws have massive effects both internally in the consumer countries and on the poorer manufacturing countries of the world.
- The social problems caused by prohibition necessitate changes in legislation.
- Kary Mullis recommends that all drug laws be abolished; accepting that due to years of prohibition there will be an initial period of chaos, which will ultimately be superseded by a significant improvement over the present situation.
- If drugs were legalised, the number of users and total intake is unlikely to change drastically, still only a small percentage of the population choosing to use them.
- Historically, society tolerated drugs with few problems arising, e.g. opium was very popular in the 19th century and many great works of literature were inspired by its effects. When it became illegal, making it expensive to buy and promoting cheaper and quicker methods of delivery, (e.g. intravenous use of heroin), the problems that we associate now with drug use and addiction emerged.

Questions & Answers

What is wrong with present legislation?

The present Misuse of Drugs Act, created because of the alarm caused to society by the use of recreational drugs and the associated illegal trade, has not resulted in people not using drugs. An unwanted side effect of the ban is the creation of a massive crime wave. Large numbers of people are imprisoned for drug-related crimes creating massively overcrowded prisons. On release back into society, these same people

receive no support, increasing the likelihood that they will re-offend. Ideally, we would be in a position where members of society do not feel the need to use drugs. In a society where people do feel this need, should they be allowed to use drugs simply because they have a desired effect? The large numbers of regular ecstasy users every weekend in Britain indicates the laws restricting their use are ineffective and there is a whole culture that are not deterred by their illegal status.

Is society ready for the unleash of drugs?

Although many of the things we desire are bad for our health, their use is not restricted. There is no drug more dangerous than alcohol, which holds legal status. All drugs, hard or soft, legal or illegal, cause social problems to some degree. A common misperception is that heroin causes very large numbers of fatalities but the figure is minute compared to alcohol. In fact, heroin addicts often have very high tolerance levels and what tends to kill them is the summation of multiple different drugs resulting in death by overdose. The drugs themselves tend not to be the problem but the way that they are dispensed and sold. Cannabis use causes very few social problems and many successful and productive people use cocaine regularly, however the illegal status of these drugs pushes the sales market into the hands of violent criminals.

Are the present social problems relating to the sale of recreational drugs a result of the current Government ban? Would they still exist even if sales were legalised?

The clients will still be approximately the same, but practice and trade will change through legalisation. Legalisation would mean that people could buy drugs but only through legal sources, removing a major criminal resource and significantly reducing crime levels. In Holland where the sale of marijuana has been legalised, illegal sales still go on, mainly as a result of cannabis production still being illegal. Those making money now are unlikely to give up their markets easily, so black market trade will continue but the profit margins will be significantly reduced. Criminals will move to other illegal sales, e.g. from drugs to tobacco. Drug barons are likely to find alternative means of laundering money, such as the sale of stolen diamonds.

Is it correct to assume that a controlled legal market is easier to maintain than an uncontrolled black market?

When prohibition of alcohol was abolished in the US, gangs initially tried to take over the sale of alcohol and the associated profits but eventually it returned into the hands of the lawmakers. Initially, it would be necessary to provide drugs at a lower market price than illegal dealers by taxing drugs less than nicotine and alcohol are presently. When this has wiped out competition from illegal sources, taxes could start to be increased. It is important to avoid a situation in which the white market coexists with the black market, which could happen if the taxes levied were disproportionate. This presently occurs within the tobacco market with criminal organisations illegally importing massive quantities of cigarettes.

In terms of legislation, is decriminalisation or legalisation preferable?

Legalisation is preferable but drugs should be given moral approbation rather than be endorsed. If certain activities start to cause social problems, the state will have to intervene but many drugs are thought to cause problems simply because they are illegal. If the money presently spent on law enforcement could be ploughed into

treatment and education, the health and social problems associated with drug use would be dramatically reduced.

Is It Possible To Have Recreational Drugs Which Are Relatively Safe?

Les Iverson

- There have been no deaths to date caused by the use of cannabis.
- Cannabis should be legalised not just decriminalised because it is comparatively less dangerous than legal drugs alcohol and tobacco.
- In Canada, a recent governmental drug review stated that “cannabis should be treated not as a criminal issue but as a social and public health issue. It is less harmful than alcohol and should be regulated in the same way as wine and beer”.
- Many powerful psychoactive substances have relatively simple chemical structures so can be easily produced by any competent chemist.
- In Burma, the single largest source of foreign currency comes from the manufacture of methamphetamine, which is being produced in vast quantities to transport to Thailand where there is a rapidly growing problem of methamphetamine addiction.
- The use of amphetamine is tolerated for military purposes to keep military personnel awake on bombing missions but is illegal to use recreationally.
- Chemists Alexander Shulgin and Ann Shulgin have manufactured large numbers of phenethylamines with similar chemical structures to illegal psychoactive substances, testing their effects on human volunteers. Their book, PIHKAL (Phenethylamines I Have Known And Loved) describes the production of and experimentation with 169 different phenethylamines. They also produced and experimented with other classes of chemicals, writing another book titled TIHKAL (Tryptamines I Have Known And Loved).
- Modafinil is a new drug being marketed as a safe form of amphetamine and receiving strong military interest. It is a synthetic molecule used to treat narcolepsy, which also allows healthy human subjects to stay awake for up to 60 hours without any notable side-effects. This raises the question of whether purportedly safe performance-enhancing drugs should be freely available.

Questions & Answers

Does cannabis use cause psychosis?

There is a greater risk of psychosis in frequent cannabis users but this does not signal cause and effect. People with susceptibility to psychotic disorders may just like to experiment more so their illness may predispose them to drug use rather than their drug use predisposing them to mental illness.

Is it conceivable to have a nation in which the use of certain drugs is compulsory?

A small dose of psychostimulant has a therapeutic effect on children with attention deficit hyperactivity disorder (ADHD). It acts as a cognitive enhancer, increasing their attention span and allowing them to focus and concentrate better on the task at hand. Cognitive enhancers may also be used by pilots to enhance performance so it is

possible to conceive of a time when the customer could insist on drugs being taken to ensure optimal performance.

If there are hundreds of drugs, why are only a dozen in common use?

There is a funneling of drug use based on the effects of certain drugs being desirable. All ecstasy-type drugs have the effect of activating the so-called pleasure centers of the brain, the dopamine pathways. Many people say that the first time taking ecstasy was the most pleasurable experience of their life. Illegal supply results in a lack of quality control, so the drugs we are taking in the clubs may not be the pure forms produced in the laboratory.

What is the best way to go about changing legislation?

Some important international lessons can be learnt from the Dutch. Drugs can not be completely legalised without violating the UN charters, so the possession of drugs remains illegal, while drug use is permitted. The Dutch government has allowed the set-up of coffee shops which are legally allowed to sell small quantities of cannabis but no other drugs. These cafes provide pleasant and controlled environments in which to take cannabis and this system has worked well over last 30 years. The issue of drugs policy is extremely complicated and one that is likely to elicit considerably more debate.

Can we predict the effects of the drug from its structure and does this help us legislate for it?

To deal with each drug correctly and for society to be able to make educated decisions, we need to be able to characterise drugs based on factors such as possible effects, and risk relating to morbidity, health, and crime. Drug effects are dependent on the substances' structure and chemical group organization. If you take an existing drug and modify it slightly, you may get an effect very similar to the original drug. Alternatively, slight modifications in chemical structure can result in drastically altered and unpredictable effects. There are some structure-activity rules, predicted through the drug action on chemical transmitters and their receptors in the brain. Psychedelics tend to interact predominantly with the serotonin pathways while the psychostimulants mainly affect the dopamine pathway. However, drug-outcome predictability is very far off in the future. The cascade of physiological effects and pathways affected are not yet understood to any great depth, so can not yet form a basis for a new approach to drugs and legislation restricting their use.

Are Drugs Here To Stay? Cieran Regan

- Drugs are here to stay and society needs to learn to live with them. As with issues like stem cells and GM foods, consensus must be gained through discussion and concession as once legislation is in effect, it is very difficult to make changes.
- It is proving difficult to establish why people need these pharmacological fixes. If drug use is an attempt to adjust our minds to live in society, it may indicate that society needs to adjust to us instead.
- Addiction is the major health issue associated with drug use and is of primary concern.

- The brain of an addict is fundamentally different from that of a non-addict.
- Learning underlies addiction, explaining why drug effects can be blocked and symptoms treated but relapse remains a problem. Novel treatments must target relapse as it is the most damaging characteristic of drug taking.
- Addiction is comparable to suffering from a chronic relapsing disease, so it is necessary to treat addicts in the same way as people with any other disease are treated.
- It is impossible to predict from animal studies the effect of drugs on the human brain because the brains of different species are not comparable and the doses used are usually significantly different.
- In the PIHKAL experiments, the new drugs being manufactured were tested on human associates of the authors and appropriate doses used, so the findings appear more informative but are more subjective than animal studies.
- The development of “safe” recreational drugs which do not have ill effects on the brain is a possibility but even if they can be developed pharmaceutically, it is unclear who will fund their development.

Questions & Answers

Do we have evidence of genetic variability within people resulting in different drug actions? Would it then be possible to have drugs tailored for us?

There is no known DNA sequence that predisposes certain people to particular drug effects. The presence of a specific allele structure can result in a much better response to a cognition improving drug but knowledge of these kind of effects is limited. Pharmacogenomic techniques attempt to tailor a drug to the individuals’ genotype but drug effects and disorders like schizophrenia are very complex and result from multiple target action.

What are the dangers associated with novel drug development?

Care must be taken as toxins can cause lasting effects. A chemical structure synthesized accidentally in the production of one batch of heroin was found to induce Parkinsonian characteristics, causing permanent damage to the brain. When experimenting with novel drugs, the best approach is to start with very small incremental doses. Many of the physiological effects of ecstasy have been explained by studies done on animals but there are species differences. It is not possible to determine long term drug effects in humans because these drugs have often not been used on a long term scale.

How can we do tests to provide people with accurate information on how best to take drugs?

There is already considerable evidence on the realistic dangers of most drugs. For example, there exists large amounts of evidence that the intermittent use of opiates is relatively safe as its practice over several centuries suggests. It is not possible to extrapolate the subjective and pharmacological effects of drugs from findings in animals. Only with human research can the real effects be established but there are considerable methodological problems associated with self-testing. The human mind is enormously suggestible so it is not objective to self-administer in order to test psychopharmacological effects.

How can society best deal with drugs?

Simon Jenkins

- It is apparent that the worldwide laws on drugs are manifestly wrong so it is not immediately obvious why they are so unsusceptible to change.
- There exists a stable equilibrium in which a consistent market is continually supplied; a vast production network is required to meet the continuing demand in developed and undeveloped countries alike.
- There is a huge worldwide market for substances, which many people use at some point in their lives, supplied largely outside of the law.
- Those in authority are unwilling to admit an addiction to control, and the existence of a system where nothing really changes because people are more or less satisfied with, and not worried significantly by, the low-level drug dealing behaviour seen in this country. If the level of criminal organisation that exists in the manufacturing countries was seen in the UK, change would occur rapidly.
- It is necessary to shift the margins of the present equilibrium. Current changes in legislation like the new Home Office document continue to chip away at the margins of drug policy but make no radical changes.
- People have been aware of drugs and their effects for centuries but still do not like the idea of substances which can alter the minds of their children being so readily available.
- Society has adjusted to the toxicity of tobacco and alcohol but paradoxically people still want the police to be keeping drugs off of the streets.
- The media approach targets the underlying worries and feelings of the general public, increasing the difficulty of relaxing drugs policy and making policy-making in this area extremely problematic.

Questions & Answers

Why does the public fear the presence of mind altering substances in society?

There is a lack of education in our society about how mind-altering substances work and their effects. Most psychoactive drugs are imported and not produced nationally, so there is also a fear of foreign and impure substances. Alcohol, the most publicly acceptable of all drugs, is brewed in Britain and most people are aware of the production process. Generally, it is the older generation who feel uncomfortable dealing with drug related issues. Cannabis and ecstasy are no longer alien to young people in the UK, with an estimated 43% of under 30s having taken recreational drugs at some point in their lives.

How can we progress drug policies to best benefit society?

Society is fragmented by drug culture. Addicts are stereotyped and it is often difficult for them to reintegrate into society, a significant contributing factor to high relapse rates. The introduction of an effective throughcare system for these individuals would improve their chances of regaining normal lives. Health and social problems associated with drug use are of most concern and there is a significant poverty of help in these areas due to diversion of funds. The resources to deal with the problems of drug (including alcohol and tobacco) addiction are not available, between 70% and 90% of the money pledged by the government to deal with the drugs problem going to the criminal justice system. It is essential that the money presently going to arresting

and jailing users of drugs is instead invested in the treatment of drug addicts and education of young people about the real effects and dangers of drug taking.

Why are the existing drug laws so resistant to change?

Even though certain tabloids, such as The Daily Mail, are in favour of drug laws being changed, the horror of legalizing drugs to the public must not be underestimated. Often those members of the government, whose role it is to deal with drug issues, remain in the position for no longer than 6 months, so do not have sufficient time to gain a full understanding of the 'real' issues. An increasing number of MPs have privately admitted the need for changes in legislation but are wary of expressing this view in public. They tend to blame the press for sensationalising the issue.

Future Drugs...Designing Safer Drugs

Gustav Born

- Making drugs safer is desirable but whether this would effect their legal status is questionable.
- Many successful people have used drugs at some point during their life without significant detrimental effects.
- Drugs and drug taking is one of the basic problems of society. It interlocks with the problem of social deprivation, evident from the numbers of young people from disadvantaged backgrounds that become addicts or are arrested on drugs charges.
- The complexity of drug effects ultimately results from the complexity of receptor specificity. MDMA has considerably different effects from methamphetamine with just a small molecule added to its structure.
- All drugs have intrinsic actions and intrinsic side-effects caused by their receptor specificity so the issue of whether drugs can be made safe is an issue of whether the desired effects can be dissociated from the undesired effects.
- The creation of a drug which dissociates morphine-like analgesia effects from addiction supports the potential for safe drug design.
- When witnessing the impact that drugs have on society and the social problems caused by the addictive drugs, it is easy to see why politicians are scared to talk about these issues.

Questions & Answers

Could a legal market lead to the development of more powerful and potentially more dangerous drugs?

If we were to adopt a free market approach to all illegal drugs, we must be wary of people developing and selling even more powerful and dangerous drugs than those already on the market. For instance, people may start to sell fentanyl rather than heroin, which is stronger and potentially more lethal. The chemical know how to develop better opiates than those available on the illegal market, which are already a major cause of addiction now, already exists.

Do we have the pharmacological know how to develop safe drugs?

Chemistry is so advanced now that thousands of different molecules can be produced in three-dimensional space, all having different effects resulting from receptor specificity, so there is the potential to develop safe or safer drugs. We can already

produce many variants on different drugs, so we can develop drugs which have fewer and fewer side effects. Ecstasy is a very simple molecule yet has fantastic effects. With pharmacological development progressing at the current rate, it may well be possible to modify drugs to make them safe.

Are politicians in touch with public views about drugs?

Politicians are lagging behind public with respect to their views on drugs. When recently canvassed, the public deemed cannabis to be less dangerous than both alcohol and tobacco. While politicians may be scared of changing legislation in a controversial area, the public may have already accepted that certain drugs such as cannabis really pose little danger, both in terms of health and society, and do not warrant their illegal status.

THE BECKLEY FOUNDATION

THE ROYAL SOCIETY 19TH FEBRUARY 2003: CAN DRUGS BE SAFE?

GUESTS

Prof. Colin Blakemore	<i>Waynflete Professor of Physiology, University of Oxford. Director of the Oxford Centre for Cognitive Neuroscience, Chairman of the British Association for the Advancement of Science, and President of the Physiological Society</i>
Dr. David Boak	<i>Director of Communications, The Royal Society</i>
Prof. Gustav Born	<i>William Harvey Research Institute, London</i>
Rudi Fortson	<i>Barrister at Law, and Author of 'Misuse of Drugs Act'</i>
Dr. Daniel Glaser	<i>Institute of Cognitive Neuroscience, University College London</i>
Tony Hall	<i>Head of Drugs Legislation Section, Drugs Strategy Directorate, Home Office</i>
Paul Hayes	<i>Chief Executive, National Treatment Agency for Substance Misuse</i>
Prof. Leslie Iversen	<i>Professor of Pharmacology at King's College London and at University of Oxford. Author of 'The Science of Marijuana'</i>
Simon Jenkins & Gayle Hunnicutt	<i>Former Editor of The Times, and Member of the Independent Inquiry Into the Misuse of Drugs Act 1971</i>
Lori Karnath	<i>Pharmacologist</i>
Peter Lilley, P.C., MP	<i>Former Conservative Minister, Author of 'Common Sense on Cannabis'</i>
Lord Mancroft	<i>Spokesman on drugs in the House of Lords. Chairman of Mentor UK Chairman of the Drug and Alcohol Foundation</i>
Baroness Massey	<i>Chairman of the National Treatment Agency for Substance Misuse</i>
Emily Miles	<i>Policy Directorate No. 10 Downing Street</i>
Dr. Kary Mullis & Nancy Mullis	<i>Nobel Laureate for Chemistry</i>
Amanda, Lady Neidpath	<i>Director, The Beckley Foundation</i>
Jamie, Lord Neidpath	
Prof. David Nutt	<i>Professor of Psychopharmacology and Head of Department of Clinical Medicine, University of Bristol</i>
Prof. Ciaran Regan	<i>Department of Pharmacology, University College Dublin and Author of 'Intoxicating Minds'</i>
Dr. Jim Thomas	<i>Royal Society Research Fellow</i>

