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**ILLICIT DRUG TAKING AND
PROHIBITION LAWS:**

**PUBLIC CONSEQUENCES AND THE REFORM OF
PUBLIC POLICY IN THE UNITED STATES**

by

LaMond Tullis

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**United Nations Research Institute
for Social Development
Palais des Nations
1211 Geneva 10
Switzerland**

☎ (41.22) 798.84.00/798.58.50
Fax (41.22) 740.07.91
Telex 41.29.62 UNO CH

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Preface

Over the past few years, the production, trade and consumption of narcotic drugs have expanded to a point where tens of millions of persons are affected as producers, consumers or traffickers. Revenues from the sale of drugs have been estimated at several hundred billions of dollars. The activities of the various parties involved in the drug industry have far-reaching social, economic and political consequences. Many of these consequences derive from the fact that the operations of this industry are illegal in most countries of the world.

While there has been a considerable amount of discussion on the impact of the consumption of narcotic drugs and on the policy alternatives to deal with the problem in the industrialized countries, especially in the United States, very little is known about the impact of production, commerce and consumption of the drugs in the developing countries. Likewise, while policy discussions, proposals and actions have concentrated for the most part on methods to control the production and trade in drugs, much less attention has been given to efforts to influence the demand for them. It was because of these biases in the policy discussions and the relative paucity of information on the wide-ranging social and economic consequences of the production and consumption of illicit drugs in developing countries that UNRISD decided to launch research on this topic.

The first phase of the project comprised a review of the existing literature on the socio-economic and political impact of the production, trade and consumption of narcotic drugs covering both the producing and consuming countries. The intention was to prepare an annotated bibliography and a review monograph based on the literature survey. This phase has now been completed with the forthcoming publication of a book by LaMond Tullis, **Handbook of Research on the Illicit Drug Traffic: Socioeconomic and Political Consequences** (Greenwood Press, Westport). The next phase of the project, which is being carried out jointly with the United Nations University, comprises in-depth case studies of 10 developing countries with significant production facilities.

The author of this paper is the co-ordinator of the research project on drugs. He is also Associate Academic Vice President of Brigham Young University in the United States and is currently a Visiting Fellow, Center of International Studies, Princeton University. He has done research in Latin America and has published on food security, politics, social change and rural development in Third World countries.

The grave socio-economic and political consequences of widespread consumption of narcotic drugs in the industrialized

countries have spawned a vigorous debate on the policy alternatives to contain and reverse the addiction to drugs. In the United States, where the drugs issue has taken a higher political profile than elsewhere, while there is widespread dissatisfaction with the present policy régime, there is little agreement on alternative measures. In this paper, the author seeks to make a contribution to the search for an alternative policy mix to cope with the drug crisis.

The main thrust of the official policy to deal with the drug problem has consisted of efforts at supply suppression and trafficker immobilization. From the late 1980s there have been increasing attempts to reduce the demand for drugs. The current situation is characterized by "policy paralysis".

The paper first reviews the case for public intervention to control the abusive use of drugs. If the effects of drugs were confined to the consumer, there might be an arguable case for a policy of *laissez faire*. Given, however, the widespread incidence of externalities, there would appear to be a strong case for public action. The paper reviews the major user and external effects of intensive use of different narcotic drugs - cannabis, heroin and cocaine.

The "external" effects comprise impaired fetuses; disruption of family life; treatment, welfare and insurance costs; lower work productivity; impairment of mental functions resulting in more accidents and third party damage. Beyond these, there are broader effects associated with the current policy régime of illegalizing drug consumption such as organized gang and individual crime and violence, political and judicial corruption, societal militarization, civil rights abuses and the spread of AIDS. While there is disagreement on some of these effects, others are less subject to controversy.

The paper advocates a two-pronged approach involving a judicious relaxation of some of the existing laws against drug use and a more vigorous effort directed at demand reduction. A gradual partial decriminalization of drug use would enable the authorities to monitor their effects on consumption and if successful, could lay the basis for further action in this direction.

Currently the demand reduction policies rest primarily on the fear factor. At best these policies have yielded ambiguous results. The author argues in favour of greater reliance on policies based on self-interest rooted in concerns over health, family, friends, economic well-being and overall happiness. He also advocates a greater emphasis on education and on public and private efforts aimed at changing the values of the American people.

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Dharam Ghai
Director

I

For historical, sociological and, no doubt, other reasons, unrestricted trafficking in and consuming of certain psychotropic and addictive drugs is illegal in the United States.¹ The proscription includes cannabis, opiate, and coca derivatives and certain "designer drugs".

The principal efforts to discourage or control illegal consumption have focused on reducing market supplies (to create consumer disincentives through price increases or product scarcity). Two mechanisms are employed: supply suppression and trafficker immobilization. Thus, aside from law enforcement within the country, the United States sponsors multinational and international crop eradication and drug interdiction initiatives in Latin America, Asia and the Middle East where most of the drugs are produced.² Traffickers and smugglers are targeted not only with conventional police power but with complex anti-drug banking regulations and asset forfeiture laws.³

From the late 1980s, America's law enforcement has increasingly focused on drug consumers. The public's angry mood was expressed in Alaska's November 1990 vote to recriminalize the possession and consumption of marijuana.⁴ Illicit drug takers are progressively vulnerable to incarceration and forfeiture of their assets.

Supply suppression results have been quite unsatisfactory.⁵ Demand suppression results are still open. United States consumption has perhaps "peaked"⁶ but, if it has, what has caused it? Few people outside the United States government credit supply restriction. Have law enforcement pressures against illicit drug consumers begun to reduce their appetite? Perhaps, certainly among populations not inclined to run severe risks of entanglement with the police. But the impact on global consumption in the United States or the consequences deriving from it are uncertain. [Perhaps of significance are Western Europe's preparations to deal with aggravated drug problems. Crime syndicates dealing in cocaine and heroin have now turned their attention to the continent⁷ (including Eastern Europe and the European areas of the Soviet Union as quickly as national currencies have become even marginally convertible or hard currencies "disposable"). For whatever reason, illicit drug profits are higher there than in the United States.⁸ Western European drug consumption laws are generally more relaxed.⁹]

"Market transformations" notwithstanding, the socio-economic and political drug-related costs in the United States have been and continue to be staggering. These costs and the fear of more have fueled many Americans' passion for "eliminating drugs" from their society by enacting stringent anti-drug laws and vigorously enforcing them.¹⁰

What public costs and consequences derive from America's drug habit and legal efforts to paralyse it? Without considering, for the moment, "externalities" related to consumption, drug prohibition and its enforcement dynamics have clearly created a large part of the public's burden. Frequently mentioned are the financial costs of running the anti-drug law enforcement agencies themselves (sometimes consuming a substantial portion if not all of an agency's tax-allocated budget).¹¹ While notable, more important are law enforcement dynamics contributing to the development of the self-financing of organized crime from drug profits and the now linking drug producing and drug consuming nations worldwide;¹² of systemic drug-related crime against people and property (including indiscriminate and random murder);¹³ of drug gangs and turf wars (now affecting the hinterland of the United States, not just its large cities with their economic underclasses);¹⁴ of political and judicial corruption, currently penetrating some of the drug fighting agencies themselves;¹⁵ of societal militarization with all the attendant precursor events that have, in other times, fostered the development of incipient police states;¹⁶ of institutional/civil rights abuses;¹⁷ of drug transmission of AIDS (sufficient to nearly bankrupt the public health services of some cities in the United States);¹⁸ of untaxed underground economies worth billions of dollars;¹⁹ and of the growing political cynicism of the American public (based in part on government institutional hypocrisy in promoting tobacco and embracing liquor interests while almost always denying even medically supervised use of cannabis to assist in cancer chemotherapy).²⁰ All this has appeared to contribute to Americans' increasing disrespect for many of their laws.

These many consequences have heightened public discussions about whether the laws create more public ills than does the drug consumption they are designed to reduce if not eliminate - hence the current move toward "legalization". Legalization advocates offer an intellectual justification for the partial or complete removal of prohibition laws.²¹ Their position is not popular but ultimately may prevail. Here, I turn to an increasing intellectual if not public anxiety about drug consumption per se and whether that anxiety is justified no matter what happens to the laws. If it is, what prospects exist for reducing consumption independently of positive or negative effects of prohibition's laws?²²

Frequently asked is, "Should consumption even be a public concern in a free society?" Moral considerations aside, the concern is politically germane only if drug taking produces significant public costs independently of drug law dynamics. On this "public-cost" premise rests any justification for demand reduction public policies, coercive or benign. On an examination of the evidence of comparative public costs rests any validity of the premise and therefore the policy conclusions it drives. Some people want America's anti-drug laws partially or completely dismantled because of the public problems they create. Others want consumption, or at least its public costs, to decrease, voluntarily if possible, through more stringent laws and

economic disincentives if required. Considering public costs, which policy should be emphasized?

There is near universal accord that under certain conditions all psychotropic drugs can cause user self harm. Self harm is small justification for proscribing psychotropic drugs if little or no social harm accompanies their use. What of the reverse - self harms producing social harms? Qualifiers abound. What if the public harm is both significant and extensive? Would public policy initiatives be justified? If so, what kinds? More laws and better enforcement? Fewer laws? Libertarian non-restraints? Positive and negative sanctions applied to users? Efforts to change drug taking values? All are advanced.²³ A comparative analysis of the public cost premise remains largely unexplored.

To verify or refute the public cost premise and thereafter explore the public policy implications the analysis may drive, we must examine whether illicit drug consumption contributes to America's public burdens independently of the laws that proscribe it. Following this vein, we need to identify some of the **personal** consequences of drug taking- what drugs do to the user - independently of illegalizing laws and their enforcement. Then we can try to determine if those consequences have public costs of socio-economic or political significance and, if so, what policy initiatives appear to be logically connected.

Whatever consequences the literature does address are most evident when use is chronic (for example, several times a week at whatever dosage) or is high enough to produce intoxication even if used only rarely. The occasional drinking of a moderate amount of alcohol or smoking a like amount of cannabis may produce self harm but little social harm. Sufficient consumption of either to produce intoxication may lead to disasters for others as well as self. With "harder" drugs - heroin, cocaine, crack cocaine - the public implications are potentially more severe but not necessarily so. One person snorting a line of cocaine will hardly lead to the kinds of public burdens that 5, 10 or 20 per cent of a country's chronically using population could produce. By the same token, large numbers of people might use a small amount of psychotropic drug infrequently and produce little social harm, whereas a small number of people **abusing** the same drug could create socio-economic and political harms totally unacceptable to modern society. Thus, while public policy necessarily faces "continua", discussions dealing with the extremes of each help to clarify relationships while also acknowledging their "softness". Table I illustrates several common sense notions. Externalities, as shown, are thought to be highest in cell 1 where many people abuse drugs, lowest in cell 9 where a few people are no more than casual users. Cells 2, 4, 6 and 8 represent numerous possible conditions between the continua's hypothetical polar extremes.

Here I discuss public consequences stemming from dosage rates or usage frequency high enough to be "acute" or "chronic" - in

Table I
Common-sense Categories of Drug Use and Abuse
that Impose Socio-economic and Political Externalities on Society

		AMOUNT OF USE		
N U M B E R	M a j o r	Chronic, Intoxicating (Abuse)	Continua	Use (But not Abuse)
		Large socio-economic and political externalities, probably nationwide 1	↔ 2	Some public costs, no doubt, but the matter is open to dispute as to how extensive 3
	C o n t i n u a	↑ 4		↑ 6
	U S E R S	Public externalities may be significant in local areas but probably not nationwide 7	↔ 8	Few externalized costs 9

other words, **abuse**. This does not, of course, necessarily rule out similar if not attenuated consequences deriving from occasional use. The manifestations, in so far as they exist, are simply more obvious and less disputable when discussed in light of chronic or acute use.

Much of the literature, particularly before about 1980, concluded that "deleterious effects of personal drug use" were highly exaggerated if not mostly untrue, certainly

so at a "recreational user" level.²⁴ Since about 1985, increasing numbers of scientific and technical papers, particularly in the physical and mental health professions, have presented alarming conclusions about potential and real personal consequences of drug taking, particularly if ingestion is chronic or sufficient to intoxicate the user.²⁵ One ought to keep in mind that a given dosage is sufficient to produce intoxication (quite variable for specific individuals who in turn may experience variance as the "setting" of drug taking changes),²⁶ whether one is ingesting cocaine, heroin or cannabis. Of the three, cannabis is, of course, relatively but not absolutely benign.²⁷ With these matters in mind, we turn to a consideration of cannabis, heroin and cocaine to see if public harms are found in their use and, if so, whether they may be significant. Then we return to a discussion of appropriate drug policy.

II

Cannabis

Perhaps more than any other abused drug, cannabis has a diversity of experts whose research and opinion could justify almost any view. The positions start with claims that cannabis, at whatever

dosage and whatever use frequency, almost inevitably produces harmful physiological, mental, psychological and/or moral consequences.²⁸ At the other extreme are arguments that cannabis consumption not only produces little or no personal harm²⁹ but actually contributes positive results to users' lives.³⁰ Most studies appear to camp more or less on middle ground, siding with cautionary admonitions or giving subdued refutations.³¹ One conclusion from this diverse reporting is clear: the possibility of generalizing a given piece of cannabis research is highly circumscribed by non-psychopharmacological variables - culture, situation, user expectations, ethical standards, other people and, apparently, a large number of unknowns.

Disputed Evidence

- Marked impairment of short-term memory persists long after intoxication ends.
- Cannabis psychosis³² or psychological stress or panic disorder lasting a few days to a few weeks.
- "Amotivational Syndrome."³³
- Decreased serum testosterone levels.³⁴
- Abnormal menstrual cycles and lower prolactin levels.³⁵
- Chromosomal damage.³⁶
- Assured adverse affects on fetuses.³⁷
- Impairment of the immune system.³⁸
- Atrophy of the brain.³⁹
- Respiratory ills, including lung cancer.⁴⁰

Generally Accepted Evidence

- Preoccupation with the immediate present.⁴¹
- Increased work load on the heart.⁴²
- Impaired blood circulation.⁴³
- Abnormalities in sperm count, motility, and structural characteristics.⁴⁴
- Reduced aggressiveness (self acceptance and calmness).⁴⁵

With Probable Significant Externalities

- Marked impairment of short-term memory and other mental functions.⁴⁶
- Probable adverse affects on fetuses.⁴⁷
- Impaired tracking ability in sensory and perceptual functions.⁴⁸
- Strong clinical evidence of adverse psychological, emotional, and social development of children and adolescents.⁴⁹
- Indirect scientific and direct clinical evidence that classroom performance is affected.⁵⁰

Clearly, some people have used cannabis with little apparent harmful effect to themselves. However, others have been devastated if not destroyed by the psychopharmacology of the drug or its effects as developed in combination with one or more of the above-mentioned situational variables. Not clear is whether social, political and economic externalities deriving from individual use may be more pronounced among cannabis users experiencing negligible if any personal harm or among those suffering mild to profound personal traumas. The presumption, in most cases, is that the more severe the personal effect the more substantial the social, economic, or political consequences are likely to be.

Aside from the pleasurable sensory experiences that marijuana users report, a host of other effects are mentioned in the literature

- some generally accepted, some disputed - several of which are thought to produce social, economic and political externalities. In split columns above, illustrations of the variations are presented, first as disputed and second as generally accepted, with a separate section in the latter for effects likely to have externalities of interest to readers of this article.

From the "With Probable Significant Externalities" sub-section of the "Generally Accepted Evidence" list below, one surmises social, political and economic externalities on unborn children; on victims of accidents caused by drivers, pilots and sea captains impaired by cannabis; on present educational accomplishments and future productivity of children and adolescents; and on adult users' current ability to contribute economically in a high technology society. The consequence illustrations are, of course, not exhaustive. They are enough to show that these and perhaps other probable externalities deriving from generally accepted evidence may be politically, economically and socially significant.

Much of the literature of relevance to this section appears to focus on accidents caused, or likely to be caused, by the impairment of cannabis users' mental functions and psychomotor skills when intoxicated or when post-intoxication impairment may exist. Some evidence is advanced showing impairment to be of longer duration than the intoxication phase and to be measurable at lower usage levels than those required to produce acute intoxication.

Robert Petersen has reviewed considerable literature on this line of reasoning.⁵¹ As early as 1944, studies found that hand steadiness was reduced, a matter generally confirmed in later studies. Reaction time in complex situations (as opposed to simple ones) is adversely affected, directly related to dosage levels. The delays in reaction time may be accounted for by subjects inability to maintain continuous attention with complex information processing needs. In fact, almost any test (for example, tracking) that requires continuous rather than intermittent attention is adversely affected by cannabis intoxication. This raises, of course, the probable effect that cannabis intoxication has on safety-related complex tasks where continuous attention is required, such as operating heavy machinery, driving in traffic, flying airplanes or piloting ships. Among some people, attention and psychomotor deficits have been measured for as long as 10 hours after initial intoxication.⁵²

These observations have given rise to a host of driving studies, which Petersen also reviews. In simulator exercises, nearly all participants show clear psychomotor deficits that could affect driving safety. The limiting factor has been less a subject's mechanical control over the vehicle than his or her perceptual ability to drive it safely. Under driving conditions more realistic than simple simulators, however, clear deficits are almost invariably noted in subjects' ability to handle curves, judge distances, maintain safe speeds and negotiate tight traffic.⁵³

A single intoxicated or post-intoxicated, but nevertheless impaired, automobile driver may be of small concern; however, similar impairment of a train engineer, bus driver or airline pilot would evoke considerable commentary.⁵⁴ Flight simulator tests show pilots unable to judge safe distances and safely handle complex takeoff, landing and emergency exercises, even after a single nominal dose of marijuana. Normal pilot performance does not return until several hours after initial cannabis consumption.⁵⁵

The logic of this evidence would argue for a high probability of cannabis-related accidents under conditions of inherent danger requiring rapid responses to complex situations that demand continuous attention. Obviously, certain kinds of occupations and activities would be more vulnerable than others. Driving in congested traffic, piloting airplanes, safety officers' responding to emergency calls, surgeons performing operations, generals implementing preparations for war or prosecuting it, and executives poised for the next merger or takeover, would seem to qualify. "Mistakes" may destroy lives, squander the public's money and create public policy dilemmas, suggesting that in a few critical areas, under specified circumstances, significant social, political and economic consequences **could** follow.

But do they? The answer is probably yes, but the literature does not bring much direct evidence to bear on it. Attempts have been made to determine the role of marijuana in automobile accidents. However, detection techniques pioneered for alcohol - the preferred test because law enforcement training modules are already in place - are difficult to transfer. Blood cannabinoid levels drop within minutes of marijuana use. Within two hours or so they may not be readily measurable by blood sampling techniques, although urinalysis can detect cannabinoids for several days following ingestion. Nevertheless, the direct connection of cannabinoids to accidents has been a difficult one to make. Regardless, the studies indicate that cannabinoids are probably a significant factor in some kinds of accidents.⁵⁶ In so far as they are, all the political, social and economic implications of loss of life, property and productivity fall upon users and non-users alike. In these cases - if the empirical connection is true - it is incorrect to speak of all cannabis consumption as a "victimless" activity.

Similar arguments are made with respect to the additional cannabis-related items listed in the "Generally Accepted Evidence" column above that have probable significant externalities. For example, the literature cited in note 47 on probable adverse effects on fetuses detects numerous short-term impairments that are thought to be overcome within two years of an infant's birth. The nagging anxiety among some pediatricians, however, is whether the measurements and tests are adequate to assure a clean bill of health for the newborn whose mothers contaminated them *in utero*. Health costs are skyrocketing, and some of those may be associated with the care of infants born of parents who use cannabis.

The ultimate impact on adolescent users as they mature may never be entirely known. But the generally agreed upon evidence cited in notes 49 and 50 are sufficient to cause concern: school studies unassimilated; marketable skills unacquired; a high time horizon unexamined; life's goals unarticulated. Generalized to an entire country, an economic system of a complex technological society (as opposed to a simple agrarian or labour-intensive society) must ultimately suffer if large numbers of its present and future workers are acute or chronic cannabis users.

But does it suffer? Will it suffer? The data do not offer direct corroborating evidence although the circumstantial signs are highly incriminating, particularly if an "abusing threshold" were consistently maintained (large numbers of people chronically using or becoming intoxicated -table I, cell 1).

Heroin

While disputes among the experts exist regarding the effects of acute and chronic consumption of heroin, on the whole the opinions are not nearly as diverse nor the conclusions as ambiguous or disputable as with marijuana.⁵⁷ Most reviewers consider that acute or chronic consumption produces serious adverse psychological and neurobiological effects. A principal concern is with overdoses that induce death at worst and substantial hospital emergency costs at best.⁵⁸ Since 1987, in the United States heroin has ranked second only to cocaine as a problem drug in hospital emergency rooms.⁵⁹ Unclear is the proportion of hospital costs that heroin emergency-room patients bear, but I presume that most expenses are externalized to the general public as welfare costs. In these cases, a clear economic consequence is therefore tied to heroin use regardless of whether the users die. Death is, of course, a personal loss of considerable magnitude to the heroin user.

Deaths, hospital costs and related issues notwithstanding, it is widely believed that when heroin comes into a person's life, "love flies out the window". Couples have more arguments over money, drugs and sex (or its absence) resulting in bitterness, resentment and despair. All this produces, on more than isolated occasions, severe stress within families, "spouse battering" and family dissolution. The combined circumstances are particularly hard on women addicts. One study concluded that the woman addict occasionally gives up men completely and, in so doing, relinquishes "one of the few roles open to her - that of homemaker".⁶⁰ This may, of course, simply be a sexist observation. It also may reflect the reality of educational levels and employability of many women who use heroin.

As love departs and is accompanied by a decline in stable relationships, society is frequently left to pick up the pieces in welfare costs, aid to dependent children, and socialization and educational difficulties among children belonging to drug-broken families. Foster-care children enter a public-financed system already reeling under the strain of children in distress.⁶¹

Another concern deals with children exposed *in utero* to narcotics. They score significantly lower on controlled tests designed to measure neuropsychological and behavioural functioning. The inferences from these and related tests are that "in utero narcotic exposure seems to cause pervasive neuropsychological and behavioral results, primarily in the domains of perceptual-motor, memory, spacial relations, concentration, impulse control, feeling of well being and general competence to interact with the environment".⁶² In so far as these impairments persist through the individuals' maturation, heroin use cannot be judged a "self harm" isolated from the victims it produces.

Do mothers who substitute official methadone maintenance for street heroin in an effort to extract themselves from a harmful addiction nevertheless continue to injure their fetuses? The evidence is contradictory.⁶³ However, there is a statistically significant relationship between mothers' being on methadone and their requiring more assistance in parenting, being more isolated socially, and being less likely to pursue vocational and educational activities.⁶⁴ One presumes that these conditions impose certain social overhead costs on society independently of whether methadone actually harms the children. Of course, these social conditions may well exist independently of methadone maintenance and may simply be part of the complex of factors that contribute to people's becoming drug addicts in the first place.

While children whose life's chances are impaired *in utero* by their mothers are victims of drug consumption, so also is society a victim. It is deprived thereby of the full complement of the children's potential contribution. Even so, most societies can absorb a moderate number of such people. Large numbers of these children present a different public policy issue. In any event, the tendency of heroin-addicted mothers to damage their offspring while *in utero* must be understood as contributing to externalities with political, social and economic dimensions that, depending on numbers involved, can be significant. One must be reminded, perhaps, that the consequences discussed and implied here derive from consumption demand, not from the unintended effects of anti-drug law enforcement efforts.

Heroin addicts' work productivity is known to suffer, although disputed is whether it is the business of government to inquire into the social productivity of its adult citizens and attempt to oblige them to conform to a "productive mould".⁶⁵ This moves the discussion of consequences to a consideration of their significance **and** to the ethical question of objecting to social deviations let alone trying to cure them. Perhaps, again, it is a matter of scale. Few people, little problem. Enough people to undermine the economic, social and even political fabric of a nation is thought by many to be reason for legitimate concern regardless of whether a proposed solution sustains the test of liberal philosophical adequacy. Survival questions, real or alleged, hardly ever do.

Finally, whether heroin were legal or not, addicts either struggle to maintain their consumption or break their addiction. The further they move into heroin, the less able they are to hold high technology-related jobs - sometimes any job at all - independently of a given society's depriving them of legitimate income earning opportunities by economic and social ostracism. Addicts' income declines and they likely turn to petty property crime to maintain their livelihood and addiction even with vastly reduced heroin prices.⁶⁶ In so far as they do, the results obviously impose economic externalities on society.

On the other hand, those struggling to break their addiction do need and deserve assistance, thereby obligating society, for both practical and moral reasons, to continue to fund treatment centres or to find alternative means of assistance with proven success.⁶⁷ Either way there is an impact on the public treasury.

All this leaves unsaid, of course, whether the externalities deriving from demand are "better" or "worse" than those deriving from law enforcement efforts to reduce it. The point here is simply to explore the dimensions of demand-related externalities that have significant social, economic and political consequences independently of illegalizing laws or the policies that implement them. Cannabis users produce nominal consequences on society, heroin users much more. Cocaine users, because of the sheer numbers involved if not the drug's social chemistry, appear to be the greatest challenge.

Cocaine

As recently as 1975, one major connoisseur of the cocaine scene, in a heavily read and subsequently cited handbook on the history, use and effects of the drug, wrote that cocaine is non-addictive and relatively harmless and therefore should be legalized in order to be used for an enjoyment that is essentially victimless. He furthered the efforts by including in his publication appendices on how to refine, store and use cocaine.⁶⁸ Other observers were taking similar positions as late as 1979.⁶⁹

Discordant voices were heard, however. By the late 1970s disquieting evidence was accumulating about cocaine's physiological and psychological safety even though many deficiencies in the knowledge base of the drug's effects on the human organism were acknowledged to exist.⁷⁰ By the beginning of the 1980s, the evidence was more disconcerting for chronic as well as acute users,⁷¹ although it continued to be said that undesired effects on recreational (occasional) users were rare and not serious.⁷² Some held that, in any event, the positive rewards - the stimulation and the euphoria - overshadowed the negative consequences, even when such effects were dysfunctional to appetite, sleep or sexual relations,⁷³ and that these negative aspects certainly did not merit illegalizing the drug.⁷⁴

By about 1984 - and certainly by 1985 - virtually everyone writing on the effects of cocaine on human beings presented

increasingly alarming information, even for recreational users.⁷⁵ By the late 1980s, many subscribed to the idea that cocaine, at whatever dose and use frequency, is unsafe and potentially harmful.⁷⁶ Accordingly, much of the literature views cocaine consumption with considerable alarm,⁷⁷ especially for acute and chronic users, and more especially for those who "free base" or who smoke crack cocaine or cocaine paste (*bazuco*).⁷⁸

The route of administration is viewed as important in understanding cocaine's psychobiological and neurobiological effects. Intranasal ingestion and even smoking cocaine hydrochloride is viewed as producing consequences much less malignant than injecting cocaine hydrochloride or smoking pure cocaine alkaloids ("free basing") or in smoking crack cocaine or cocaine paste.⁷⁹ By virtually unanimous vote, crack cocaine is the most deleterious.

The question is, does self harm necessarily create significant social, economic or political harm? As with cannabis and heroin, we look first at generally agreed upon self harms and then try to determine which from among them would likely have significant consequences for societies and peoples.

Among examples of consequences not likely to produce significant social, economic or political externalities (except in so far as the public must pick up hospital and treatment costs) are "cocaine panic disorders" beginning among some people during recreational cocaine use but continuing after usage stops. These disorders are characterized, in part, by a rapid heart beat, faintness, shortness of breath and extreme nervousness.⁸⁰

Another example of self harm but with mixed probabilities of creating significant externalities is cocaine-related depression.⁸¹ The depression, observed to accompany panic disorders as well as develop independently of them, is particularly noted among female users. More often than males, female users have experiences with major cocaine-related depression, a condition from which they improve less rapidly than do males. Thus, they are more likely than cocaine using males to experience more personal problems, have less stability in work situations, and find less satisfaction in any treatment programmes they enter.⁸² Of course, large numbers of psychologically depressed people anywhere, for whatever reason, female or male, are quite capable of producing social and economic costs - children who are abandoned or inadequately cared-for, hospital and welfare costs of indigent or economically vulnerable abusers, productivity losses in the work place, and so forth.

Nevertheless, panic disorders and many nominal personal health problems such as mild depression are examples, on the whole, of factors that produce unremarkable externalities. Not so, however, when the health problems, usually associated with cocaine overdoses,⁸³ land either the users or their offspring in hospital emergency wards or funerary parlours.⁸⁴ If the users have ample economic resources and insurance policies, few costs may be

externalized, except the usual increase in insurance premiums for everyone as actuaries work on the "pool" and as medical insurance plans weigh their profits. But, increasingly, cocaine-related emergency ward patients appear to come from social strata that have few economic resources and little medical insurance. The public, in large part, cares for them in so far as they are cared for at all. Social overhead costs increase, as do taxes to cover them. Insurance costs rise, as do everyone's premiums. At some point, political resistance is created. In the United States, some hospitals are refusing indigent cases and the public is demanding a roll back of insurance costs and taxes.

While these points are interesting and have the prospect of becoming more so, they are still mostly side issues. The cocaine-related events that produce the most troublesome externalities are the following: cocaine alkaloids that cross the placental barrier and produce "crack" babies and other deleterious newborn outcomes; and cocaine-related violence and aggression.

Fetuses and Infants

The most frequently discussed externality is cocaine's effects on a female user's fetus, and its impact on the newborn and on pregnancy outcomes.⁸⁵ Popular descriptions abound of the hardships that newborns suffer when they enter life already addicted to cocaine.⁸⁶ Beyond these matters, however, researchers find that cocaine using women not only tend to have a significantly higher rate of spontaneous abortion than non-users, but their infants have significant depression of interactive behaviour and a relatively poor organizational response to environmental stimuli. All this suggests a potentially profound impact on the children's neurologic behaviour.⁸⁷ Additionally, their birth weight is lower.⁸⁸ And, while it is not reported whether brain size catches up after the infants are weaned from cocaine, studies do show the "intracranial hemidiameter" of fetuses of women who use cocaine to be significantly smaller than of fetuses of non-users. Moreover, parent-child bonding between such infants and their mothers is adversely affected.⁸⁹

Most of the above relate to the initial human suffering of infants addicted to cocaine (withdrawal from addiction), their eventual life's chances, and the quality of human relationships between them and their mothers. These are important human considerations. Beyond this, the eventual social costs as these children mature may be awesome. However, it is the immediate impact of placental barrier transfer of cocaine alkaloids on the public treasury that evokes the most political and economic discussion, complicated both by the rapid increase in the numbers of cocaine-addicted babies being seen in hospital intensive care units and by their staggering costs. For example, 100,000 dollars per infant is viewed as not being an unrealistic figure for care in a newborn intensive care unit, not to mention likely subsequent child abuse by cocaine-impaired parents (the violence syndrome is discussed below) that produce their own ultimate economic costs on society - family counseling, welfare,

eventual additional overhead on educational institutions, and so forth.⁹⁰

There is a ray of optimism coming from the Northwestern University Medical School for a conscientious pregnant woman: If she stops smoking cocaine soon after becoming pregnant she **might** be able to reduce the risk of physical and neurological damage to her child.⁹¹

Impaired newborns are frequently the target of the violence associated with the psychopharmacology of cocaine, especially in its "crack" form.⁹² In one of the first studies clearly linking violent behaviour and crack cocaine use, it was reported that nearly half of the callers to a nationwide cocaine hotline said they had committed violent crimes or aggressive acts, including - aside from child abuse - murder, robbery, rape and physical assaults. Two thirds of those reporting aggressive behaviour indicated they did so while using crack rather than during withdrawal.⁹³ The callers viewed crack as a "causal agent" in their violence. Most studies report strong correlations even if stopping short of declaring crack to be **the** cause.⁹⁴

Violence and Aggression

Table II
Samples of Generally Accepted and Disputed Conclusions About
Personal Consequences of Acute and Chronic Consumption

	Generally Accepted Conclusions	Disputed Conclusions
Cocaine	e.g. Overdose death; Violence; Serious psychobiological and neurobiological problems. 1	e.g. Non crack-cocaine induced violence; Cocaine psychosis. 4
Heroin	e.g. Overdose death; Damaged fetuses; Reduced control over impulses; Reduced concentration 2	e.g. Criminality 5
Cannabis	e.g. Marked impairment of short-term memory and other mental functions. 3	e.g. Cannabis psychosis; Adverse effects on fetuses; Long-term impairment of short-term memory 6

It is thought that cocaine-related stress over money, sex and violence contribute to family disintegration,⁹⁵ that cocaine using parents neglect their offspring, that cocaine using offspring frequently abuse their parents or their siblings while they impoverish their intellect and remove themselves from productive social and economic integration,⁹⁶ that many pharmacologically induced shootings and other forms of violence among teenagers are associated with cocaine and crack.⁹⁷ If real, the economic and social costs are staggering. If believed but nevertheless unreal, the political consequences are

virtually the same. Policies are enacted to deal with a perceived social condition regardless of its actual existence.

Table III
Samples of Generally Accepted Consequences of Acute and Chronic Drug Consumption Likely to Produce Significant Externalities

	Cannabis	Heroin	Cocaine
Social	e.g. Marked impairment of short-term memory and other mental functions; Probable damaged fetuses.	e.g. Impaired fetuses; Reduced control of impulses; Reduced social and family bonding; Reduced social productivity.	e.g. Impaired fetuses; Compulsiveness; Poor parent-child bonding; "Crack neighborhoods;" Violence.
Economic	e.g. Impaired sensory and perceptual functions.	e.g. Neurobiological collapse from overdose; Reduced worker productivity; Maintenance programs	e.g. Neurobiological collapse from overdose; Impaired fetuses; Hospital, welfare, and general social services costs.
Political	e.g. Adverse effect on classroom performance and psychological and emotional development of adolescents.*	e.g. Treatment models and costs; Welfare costs; Insurance rates.	e.g. Public policy initiatives on welfare and social services costs; Insurance rates.

*Notable controversies remain

Aside from self harm, crack cocaine produces victims, and the result in many cases is to create social, economic and political harms that the public must bear.⁹⁸ It is on these grounds that many writers judge cocaine consumption to be a public, not a private issue. The more people who **abuse** the drug, the more the socio-economic and political costs (as in table I, cell 1).

Clearly, consumption creates its own socio-economic harms independently of illegalizing laws and policies designed to deal with drug-taking behaviour. Mentioned in this article are damaged fetuses, children, adolescents and families; psychopharmacologically related violence; transportation and work place accidents; work place and classroom inefficiencies; increased business and social overhead; and heightened social welfare costs. There is ample reason to be anxious about these costs that largely exist independently of prohibition laws.

As discussed above and summarized in comparative tables II, III, and IV, while much of the literature offers disputed conclusions about the individual consequences of illicit drug use, there is significant agreement in critical areas that are likely to produce

public harms (as illustrated in comparative tables III and IV). These may be significant if magnitudes of people and use are high. More people using more drugs likely leads to more socio-economic and political problems. The drugs used (and the mode of administration and "setting") also contribute to the differential outcomes. Several concrete illustrations of outcomes are shown in comparative table IV.

Table IV
Sample Consequences that Impose Externalities on Consuming Societies
Independently of Criminalizing Drug Control Policies

	Victimless	Victimizing	Other Externalities
Cocaine	e.g. Overdose deaths? 1	e.g. Crack babies; Violence; severe family disorders. 4	e.g. School dropouts; Low productivity; Treat- ment and hospital costs. 7
Heroin	e.g. Overdose deaths? 2	e.g. Collapsed love re- lationships; Petty pro- perty crime; Severe fami- ly disorders; Damaged fetuses. 5	e.g. Hospital costs; Methadone maintenance costs; Other treatment costs; Reduced worker productivity. 8
Cannabis	e.g. Workers in low tech and low safety related employment. 3	e.g. Airline, rail, automobile, and indus- trial accidents. 6	e.g. Lost worker pro- ductivity in technologi- cally advanced societies. 9

III

Chronic and acute consumption of cannabis, heroin and cocaine frequently damage users medically and psychologically. As seen, some of that damage and the dynamics associated with it may spill over to burden the public through numerous kinds of socio-economic harms.

Many political costs arise when the public tries to do something about drug abuse (or use if it fears eventual abuse) - as in passing anti-drug laws and creating policies to enforce them. On the face of it, one might conclude that a prudent drug policy ought therefore to address not only the ills of consumption but the ills of the laws, probably simultaneously. Table V illustrates the logic of such a view.

While the real world is obviously more complex than a 2 X 2 table, even with the variables' continua implied, the public harms

associated with "abuse" and "low use" as laid against prohibitions' laws or their absence is instructive. For example, cell 1 lists the public costs mentioned in this article that appear to derive from chronic and acute consumption independently of illegalizing laws, and then those from the laws themselves. Relaxing the anti-drug laws might reduce the public's burden from those illustrated in cell 1 to those in cell 3. Reducing consumption could move the public externalities to those listed either in cell 2 or 4.

Table V
Externalities from Consumption and
Illegalizing Laws

		CONSUMPTION DEMAND	
		ABUSE	LOW USE
I L L E G A L I Z I N G L A W S	Y E S	<ul style="list-style-type: none"> -Damaged fetuses -Damaged children -Damaged adolescents -Damaged families -Violence (psychopharmacological) -Transportation & workplace accidents -Increased business costs -Increased social-overhead costs -Law-enforcement/judicial/penal costs -Organized crime (drug-driven) -Systemic crime (people and property) -Drug gangs and turf wars -Political and judicial corruption -Societal militarization -Institutional/civil-rights abuses -AIDS -Cynicism about the law -Underground economy 	<ul style="list-style-type: none"> -Moderate law enforcement costs -(Low consumption demand may derive from reoriented social values about drug taking or from credible risks that potential users are unwilling to take. If the latter, externality declines would not necessarily be attractive.)
	N O	<ul style="list-style-type: none"> -Damaged fetuses -Damaged children -Damaged adolescents -Damaged families -Violence (psychopharmacological) -Transportation & workplace accidents -Increased business costs -Increased social-overhead costs 	<ul style="list-style-type: none"> -Hardly anything -(Conditions here would necessarily be associated with generalized anti-drug-taking values.)

There are serious analytical and potentially alarming empirical problems attached to the above conclusions. They derive from a critical link in what as yet are uncertain (certainly unproven) assumptions about drug use and abuse and their consequences following any repeal of prohibition laws. What if use and abuse were to rise dramatically? The public's burdens could worsen. Increased

consumption could well replace its own gravities for those dismantled by a relaxation of the anti-drug laws. On the other hand, what if use and abuse did not increase, even declined? The public's burdens would be reduced drastically with an attendant decline in the overall magnitude of America's drug problem.⁹⁹ But the logic for either rests on critical uncertainties about assumptions that derive strictly from speculation, "guesstimates", historical analogies or divination. Any could prove to be right or wrong. We do not yet have the evidence. No one does.

Uncertainty is no prescription for policy inaction. Were it so, policy paralysis would exist perpetually. It is not paralysis but politically acceptable risk management **and** a substantive embrace of the demand problem advocated here.

America's present prohibition policies will unlikely continue indefinitely. There is yet time to think through all our options. An intellectual case has been made for legalization. Whatever its merits (indeed, there are many), they address only part of drugs' public costs, as we have seen. Consumption-related public stress is left to later empirical reviews. Some of us think this is too risky.

Clearly, drug policy reforms are amply called for. They ought to proceed on two fronts, tentatively but purposefully on a more risky law reform front, much more aggressively on a less risky demand reduction one.

First, a cautious, modest relaxation of some, but not all, anti-drug laws would afford an opportunity to test the hypothesis that post-reform drug abuse in America would unlikely increase or lead to significantly worse consumption-related public costs than now exist.¹⁰⁰ If the test proved positive, potentially significant reductions in law-related costs could be forthcoming by additional dismantling of prohibition laws. This would also offer an opportunity to test America's political will to hold drug users accountable for the public effects of their individual behaviour (something not yet done with alcohol or, for that matter, tobacco).

The second, less risky and potentially more productive front would be an aggressive move to reduce demand.

IV

Demand may be reduced by invoking fear, self interest or value change. A fear premise¹⁰¹ underlies America's new consumer-focused demand reduction policies - fear of jail, fear of notoriety (with attendant loss of status or employment¹⁰²), fear of property losses. Not surprisingly, fear strategies work as a function of intensity and best on people who have personal freedom, good employment and

property at risk - mostly the American middle class.¹⁰³ A fear strategy has no proven drug consumption effect on America's economic underclass where much hard core drug abuse currently transpires.

Regardless (and any effectiveness notwithstanding), as we have seen, a fear strategy plagues the American public with an assortment of socio-economic and political costs. Comparative examples at the extreme are instructive further. Malaysia, Saudi Arabia and Singapore exhibit encouraging drug consumption indicators. But liberal democracies have difficulty both in applying the attendant fear invoking penalties and in accepting all the enforcement mechanisms' socio-economic and political consequences. Thus America's fear régime, its current principal demand reduction strategy, is controversial as to philosophy, effectiveness and appropriateness. The struggle continues.

Self interest, an alternative demand reduction strategy, may also be driven by a calculus of fear (as in fear of losing one's employment). However, much self interested behaviour is driven less by fear than by a calculus of desires. Thus many drug treatment centres successfully appeal to addicts' concerns about their health, family, friends, economic well-being and happiness.

More imaginative demand-reduction efforts not requiring coercive laws could be advanced.¹⁰⁴ Micro experiences with "reward-based" systems ought to be explored in great detail, especially among youth. For example, paying children of America's economic underclass to attend a "drug-free" school and successfully complete its curriculum would probably be considerably less costly than the country's current demand reduction efforts premised principally on fear. Economic incentives appeal to instincts for short-term gratification, which is thought to consume the underclasses anyway¹⁰⁵ and which would therefore keep their attention. At the same time, such economic incentives would foster a higher horizon vision. Half the "wage" could be disbursed on a weekly basis and half banked for lump-sum payment upon successful completion of the requirements. These are simple. Acquire productive skills and be drug free. Youth volunteering for the incentives yet failing their weekly saliva tests¹⁰⁶ would forfeit their banked sums and see all or a portion of them lumped into a cohort pool for eventual payment to successful completers. At some point, even recalcitrant youth would get the idea that something of self interest importance was happening.

Significantly appealing to self interest by many means could remove large segments of new underclass generations from a drug abuse culture. Certainly, there are complex psychological issues here as well as the complications of unstable or defective family structures and few role models. But self interest properly nurtured creates its own role models. On the whole, self interested youth brushed with pragmatic alternatives are appropriately motivated.

Problems and imponderables abound, of course. Neither present nor future policies are unfree of this burden. But a substantial

public effort on a self interest strategy would produce demand reduction results. Moreover, demand reduction outcomes based on self interest as opposed to fear have the prospect of being more durable. There is an additional advantage. Many of the costs that fear régimes externalize to the larger society would be eliminated.

Obvious caveats exist. While a voluntary self interest régime will likely produce quick gains among many children of the present underclass, such gains may not be sustainable **across** generations. New efforts lose enthusiasm as novelty ages and implementing bureaucracies tend to corrupt their original goals as their work becomes "institutionalized". And demand reduction sustainability **within** a generation cohort affected by a régime of self interest will depend on the extent to which no-drug abusing, educationally prepared children from the underclass ultimately find a society that assimilates them economically, socially and politically.

Whereas self interest is judged favourably as a régime strategy to reduce drug demand, neither it nor fear will produce desirable long-term drug consumption results in the absence of value change - the general development of generations of people who desire to sustain their lives without abusing drugs. The best of America's prospects will also be the hardest to achieve.

That substantial illicit drug consumption still exists in America despite punitive laws is compelling evidence that large numbers of people have adopted strong drug taking values. As even garrison states (for example, post-Mao Zedong China) have not been able to eliminate illicit drugs completely from within their borders, it seems unlikely that America can be made completely "drug free". However, attainable, no doubt, are a vast reduction in drug abuse if not use and certainly a substantial reduction in the public's burdens deriving from individual consumption and illegalizing laws. The best long-term prospects lie in value initiatives that are credible.

The country will need to embark on a profound consideration of civilizing values that may be required to sustain it for another century and which therefore ought to be "passed on" to new generations by conscious social and political choice. For one hundred fifty years, America built upon the value strengths of its founders and immigrants, apparently assuming that the chemistry was self renewable. Educators have shied away from "value education" for nearly half a century, and the politicians who replaced the statesmen have ignored it for at least half that long. Thus the political system has been unable to influence America's ethos in ways that augur well for its continuity as a great nation.

"We shouldn't impose our values on others." Strange, is it not, that a fear strategy to reduce drug demand is thought to be value free? For long-term success, an aggressive holistic move is required to induce people to distance themselves from pro-drug taking values while simultaneously addressing whatever structural conditions give rise to or sustain them.

If, in the interest of reducing unacceptable public costs, a relaxation of anti-drug laws is to be considered, noteworthy concomitant if not prior efforts are called for to deal vigorously with drug taking values on the plausible assumption that politically acceptable ways can be engineered. Because of the public externalities, the people have a legitimate right to their interest here. Thus, some consider it time to address community values as a matter of national security¹⁰⁷ if not survival, assuming that altered values on drugs as much as national economic well-being are required for the republic's continuity. This, of course, opens the whole book on normative political philosophy regarding the relationship of the individual to the state.

Both drug taking and anti-drug taking values will require more public policy scrutiny than they have yet received, in part because campaigns among the middle class are more easily undertaken than among the underclass where drug taking values are thought to be more pervasive and, in part, because the art of "engineering" social values is unpredictable, whether from induced structural change or from its absence.

It is widely acknowledged that the systemic relationships of engineered value and structural change are inadequately understood. Contradictory examples abound. Thus, many observers agree that United States civil rights legislation contributed to a reduction in race-bias values among Americans. On the other hand, collectivization did not endear Eastern Europeans and Soviets to anyone's concept of a united order. "Drug education" has probably increased experimentation and tampering with illicit drugs more than deterred it. Yet, the anti-tobacco crusade appears to have successfully removed large numbers of smokers and prospective smokers from America's tobacco rolls.

V

These compelling reasons lead to an argument for a cautious relaxation of the régime of fear (to "test" the hypothesis that drug abuse will not increase significantly) and maximum public initiatives to invoke self interest and value change as demand reduction policies to progressively replace the present one based on fear. This combination would reduce the public's drug-related burdens without running risks that could compound present costs. When consumption evidence attached to modest law reform is in, a more vigorous review of current laws may well be called for, thereby allowing an increasing dismantling of the régime of fear. Regardless, because a large part of the drug problem is not driven by illegalizing laws but by values and conditions of life that give rise to drug abuse, we need to focus on those values and conditions while, at the same time, accumulating evidence that would validate or invalidate the advisability of more vigorous law reforms. In the meantime, if drug-taking and anti-drug taking values can be understood and thereafter acceptably

"manipulated" by public policy, a decided advantage would be achieved, for both the public ills of prohibition laws and the public ills of consumption would decline, thereby drastically reducing society's burdens. Moreover, reducing the "uncertainty factor" in public policy would itself be no small achievement.

There are plausible signs that a change in drug taking values within certain population segments may be partially responsible for the apparent drug consumption decline in the United States. If public policy dramatically and successfully assisted this value transition, a relaxation in anti-drug laws (or at least their enforcement) might be viewed as politically desirable. Relaxing the laws and developing anti-drug values could well result in the public costs listed in cell 4 of table V, where there is hardly any significant drug problem to talk about.

On political grounds if not risk avoidance ones, a "radical" legalization response to America's drug problem should be avoided until more evidence on consumption and "political will" is available. The point may be mute, anyway. The American electorate gives every evidence of being massively ill-disposed to legalization.¹⁰⁸ There is widespread fear that the "drug situation" would become worse in its wake. Small wonder a policy disagreement exists if the only trade-off - real or fancied - for dismantling anti-drug laws is increased drug consumption that produces attendant public costs. For the time being, therefore, a political stalemate exists. Thus, risk reduction prudence and pragmatic politics both recommend modest over radical drug law reform as a point of departure. This would diffuse the charged political atmosphere surrounding legalization proposals, which, in any event, obscures the important analytical issue - uncertain assumptions about drug use and abuse in a post-prohibition era and the probable extent of their public consequences.

If this analysis is correct, it is unlikely that satisfactory long-term outcomes to drug-taking in the United States will ultimately occur either by increasing or decreasing anti-drug laws independently of what happens with drug-taking values (and perhaps to conditions that are thought to give rise to them). Yet, public policy efforts to dramatically affect values promise to work in a murky mist where civics, tradition, public virtue, philosophy and religion try to sort out the philosophical appropriateness and the relative costs and benefits.

With so many imponderables, and with drug taking values lying at the core of many of America's social, political, and economic problems, are there any hopeful prospects or signs? A few. Some of the current drug prevention and treatment literature is beginning to report apparent micro successes in reducing use and abuse, mostly among children of the American middle class.¹⁰⁹ There is interesting anecdotal evidence from America's urban underclass.¹¹⁰ However, the permanency of the results is at least a generation in maturing, quite discouraging for most policy makers. Beyond, the generalized outcomes are still uncertain. But there is promise. A vigorous examination of the prospects of that promise and how it might be

realized in ways that help more than hurt the social fabric of America would seem to be a worthy cause for contemporary United States public policy. The utility of dismantling most laws that make unauthorized drug taking and the servicing of its market a crime would thereafter be more safely done as well as be more politically feasible.

Law enforcement initiatives lent themselves to "quick fix" orientations.¹¹¹ They have not worked. Radical initiatives to virtually eliminate law enforcement from the drug scene may suffer from a like rationale and produce a new round of consequences both unfortunate and unintended. Self interest and value initiatives do not promise a quick fix. They do offer a potentially viable option to reduce the costs of consumption and the laws that illegalize it without running risks that could prove catastrophic. After a long hiatus of nearly a half century, it is time for Americans to turn once again to a consideration of the values that may sustain their civilization for yet a time. Drug taking values that lend themselves to drug abuse are clearly among those requiring vigorous attention.

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1. The two best historical analyses are by David Musto [**The American Disease: Origins of Narcotic Control** (Oxford University Press, New York, 1987)] and David Courtwright [**Dark Paradise: Opiate Addiction in America Before 1940** (Harvard University Press, Cambridge, 1982)]. Daniel Kagan ["How America lost its first drug war", **Insight**, 20 November 1989, pp. 8-17] also reviews the history of drug epidemics and use in the United States and unofficial and public responses to them. In the 1970s and 1980s, several American states decriminalized cannabis consumption. Most, including Alaska, which was usually considered the most liberal in its drug consumption policies, have now recriminalized all consumption. See Eric Josephson, "Marijuana decriminalization: The processes and prospects of change", **Contemporary Drug Problems**, 10:3, 1981, pp. 291-322; Mark A. Stein, "Recriminalization: lenient pot laws going up in smoke", **The Los Angeles Times**, 29 August 1989, p. 1; and Richard Mauer, "Alaskans to vote on marijuana use", **The New York Times**, 25 October 1990, A16.
2. Crop eradication programmes to reduce supply are supplemented by additional initiatives: crop substitution, control of precursor chemicals and rural economic development. Interdiction programmes focus on seizing drugs in transit, disrupting major trafficking networks, seizing smugglers' and traffickers' assets, extradition and general surveillance of land, water and air approaches to the frontier and controls over ships and aircraft in international space. See LaMond Tullis, **Handbook of Research on the Illicit Drug Traffic: Socio-economic and Political Consequences** (Greenwood Press, Westport, 1991), chapter on "Implementation of countervailing initiatives".
3. An overview may be found in Herbert E. Alexander and Gerald E. Caiden (eds.), **The Politics and Economics of Organized Crime**, Lexington Books, Lexington, 1985. For law enforcement initiatives on money laundering, see Andrea M. Grilli, "Preventing billions from being washed offshore", **Syracuse Journal of International Law and Commerce**, 14:65, 1987, pp. 65-88; and Adam K. Weinstein, "Prosecuting attorneys for money laundering: A new and questionable weapon in the war on crime", **Law and Contemporary Problems**, 51:1, 1988, pp. 367-386. Barbara Bradley discusses stepped-up enforcement efforts in Miami and New Jersey ["Users now prime targets in U.S. antidrug offensive", **The Christian Science Monitor**, 4 May, p. 1.
4. Richard Mauer, "Alaskans to vote on marijuana use", **The New York Times**, 25 October 1990, A16.
5. Jonathan A.K. Cave and Peter Reuter, **The Interdictor's Lot: A Dynamic Model of the Market for Drug Smuggling Services**, Rand Corporation, Santa Monica, 1988; Peter Reuter, **The Public Interest**, 92 (Summer 1988), p. 51; Larry Rohter, "As Mexico moves on drug dealers, more move in", **The New York Times**, 16 April 1989, E2; Clifford Krauss,

"Anti-drug effort drags outside U.S., **The New York Times**, 25 November 1990, L9.

6. Numerous indicators abound, but interpretations vary. See "Goodbye, cocaine", **The Economist**, 8 September 1990, pp. 28-30.

7. David S. Broder, "Fearing crack invasion, Europe steps up antidrug efforts", **The Washington Post**, 20 May 1989, A15; Craig R. Whitney, "Crack use starts in fearful Europe", **The New York Times**, 27 July 1989, A7; Tom Mashberg, "Drugs in Europe: Signs of a spreading plague", **The New York Times**, 18 November 1990, L21; Gary Yerkey, "Europe heads up its war on drugs", **The Christian Science Monitor**, 21 October 1986, p.1.

8. Travellers report 40,000 dollars or more per kilogram or more in Spain and Italy, and 25,000 dollars or less in many American cities. However, as of late summer 1990, wholesale prices for cocaine had risen sharply in several cities in the United States even though demand had been falling, probably reflecting more efficient law-enforcement interdiction ["Goodbye cocaine", **The Economist**, 8 September 1990, pp.28-30].

9. Switzerland and the Netherlands are frequently cited as archetypical. Burton Bollag, "Swiss-Dutch drug stance: Tolerance", **The New York Times**, 1 December 1989, A4; Martien Kooyman, "The drug problem in the Netherlands", **Journal of Substance Abuse Treatment**, 1(1984), pp. 125-130; Govert F. Van de Wijngaart, "A social history of drug use in the Netherlands: Policy outcomes and implications", **Journal of Drug Issues** 18(3), 1988, pp. 481-495.

10. Interestingly, "cost considerations" also guide principal arguments for reforming (relaxing) the drug laws. See Richard Dennis, "The economics of legalizing drugs", **The Atlantic**, 266:5, November 1990, pp. 126-132.

11. Adam Wagstaff and Alan Maynard review the international economics literature on the cost effectiveness of anti-drug law enforcement strategies [**Economic Aspects of the Illicit Drug Market and Drug Enforcement Policies in the United Kingdom**, Her Majesty's Stationery Office, London, 1988]. Agency costs are implicated in James Inciardi's "Crucial variables in marijuana decriminalization research", **Contemporary Drug Problems**, 10:4, 1981, pp. 383-390.

12. A large body of literature is reviewed in LaMond Tullis, **Handbook of Research on the Illicit Drug Traffic: Socio-economic and Political Consequences**, (Greenwood Press, Westport, 1991), chapter on "Rise of a new genre of organized trafficker". Illustrations include Herbert Alexander and Gerald E. Caiden (eds.), **The Politics and Economics of Organized Crime** (Lexington Books, Lexington, 1985); Fenton Bresler, **The Trail of the Triads: An Investigation into International Crime** (Weidenfeld and Nicolson, London, 1980); Ian Buruma and John MacBeth, "Asia's organized-crime jigsaw and the Western Connection", **Far Eastern Economic Review**, 27 December 1984, pp.34-47; Rodney McBride, "Business as usual: Heroin distribution in the United States", **Journal of Drug Issues**, 13:1(1983), pp. 147-166; President's Commission on Organized Crime, **The Cash Connection: Organized Crime, Financial Institutions, and Money**

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13. See, for example, Douglas Anglin and George Speckart, "Narcotics use and crime: A multisample, multimethod analysis", **Criminology**, 26:2(1988), pp. 197-233; James A. Inciardi, **The Drug - Crime Connection** (Sage, Beverly Hills, 1981), pp. 29-65; Bruce D. Johnson, et al., **Taking Care of Business: The Economics of Crime by Heroin Users** (Lexington Books, Lexington, 1985); David Nurco et al., "Differential criminal patterns of narcotics addicts over an addiction career", **Criminology**, 26:3(1988), pp. 407-423; Tina Rosenberg, "Murder City", **The Atlantic**, 262:5(1988), pp. 20-30; G.Gugliotta and Jeff Leen, **Kings of Cocaine: Inside the Medellín Cartel** (Simon and Schuster, New York, 1989); and Phillip C. McGuire, "Jamaican posses: A call for cooperation among law enforcement agencies", **The Police Chief**, 20 January 1988, p. 20.

14. Marshall Ingwerson, "Jamaican drug gangs stake out turf in U.S.", **The Christian Science Monitor**, 13 August 1987, p. 1; "Slaughter in the streets; Crack touches off a homicide epidemic", **Time**, 5 December 1988, p. 32; Scott Armstrong, "Los Angeles gangs go national", **The Christian Science Monitor**, 19 July 1988, p. 3; Paul Feldman, "Drug-peddling street gang holds neighborhood in fear", **The Los Angeles Times**, 16 November 1987, II, p. 1; Michael Lyman, **Gangland: Drug Trafficking by Organized Criminals** (Charles C. Thomas Publishing, Springfield, 1989); Julie Johnson, "Drug gangs are now operating in rural states, Justice Department says", **The New York Times**, 4 August 1989, A1; and "U.S. has 43 big drug groups", **The Miami Herald**, 4 August 1989, 5A.

15. Literature is reviewed in LaMond Tullis, **Handbook of Research on the Illicit Drug Traffic: Socio-economic and Political Consequences** (Greenwood Press, Westport, 1991), chapter on "Liabilities and victims". Illustrations include Joel Brinkley, "Contra arms crews said to smuggle drugs", **The New York Times**, 20 January 1987, A1; Victoria Irwin, "Drugs and police: Cities probe the corruption connection", **The Christian Science Monitor**, 30 September 1986, p.1; Jonathan Kwitny, **The Crimes of Patriots** (W.W. Norton, New York, 1987); William Overend, "Chaotic DEA office ripe for problems in the early 1980s", **The Los Angeles Times**, 19 December 1988, p.3; and "Ex-agent on trial in drug-corruption case", **The New York Times**, 22 November 1990, A25.

16. Morris J. Blachman and Kenneth E. Sharpe, "The war on drugs: American democracy under assault", **World Policy Journal**, 7:1(1989-90), pp. 135-163.

17. Marshall Ingwerson ["Authorities target the profits of crime", **The Christian Science Monitor**, 21 September 1987, p. 3] describes civil-rights problems with forfeiture laws. Other human rights and civil rights imponderables are raised by the following: Janice Castro, "Battling the enemy within", **Time**, 17 March 1986, pp.52-61; Alvin Cohn, "Drugs, crime

and criminal justice: State-of-the-art and future direction", **Federal Probation**, 48:3(1984), pp. 13-24; Camille Hebert, "Private sector drug testing: Employer rights, risks, and responsibilities", **Kansas University Law Review**, 36(1988), pp. 823-868; Elaine Kaplan and Lois G. Williams, "Will employees' rights be the first casualty of the war on drugs?", **Kansas University Law Review**, 36(1988), pp. 755-785; and Thomas McGovern III, "Employee drug-testing legislation: Redrawing the battlelines in the war on drugs", **Stanford Law Review**, 39(1987), pp. 1453-1517.

18. Richard Conviser and John H. Rutledge, "Can public policies limit the spread of HIV among IV drug users", **Journal of Drug Issues**, 19:1(1989): pp. 113-128; Ernest Drucker, "AIDS and addiction in New York City", **American Journal of Drug and Alcohol Abuse**, 12:1&2(1986), pp. 165-181; C. Drummond et al., "Rethinking drug policies in the context of the acquired immunodeficiency syndrome", **Bulletin on Narcotics**, 39:2(1987), pp. 29-35; Harold Ginzburg et al., "AIDS, HTLV-III diseases, minorities and intravenous drug abuse", **Advances in Alcohol and Substance Abuse**, 6:3(1987), pp. 7-21; Harry W. Haverkos, "Overview: HIV infection among intravenous drug abusers in the United States and Europe", in Robert J. Battjes and Roy W. Pickens (eds.), **Needle Sharing Among Intravenous Drug Abusers: National and International Perspectives** (National Institute on Drug Abuse, Rockville, 1988); Don C. des Jarlais, "Policy issues regarding AIDS among intravenous drug users: An overview", **AIDS and Public Policy Journal**, 3:2(1988), pp. 1-5; Barry Stimmel, "AIDS, alcohol and heroin: A particularly deadly combination", **Advances in Alcohol and Substance Abuse**, 6:3(1987), pp. 1-5; and Rand L. Stoneburner, "A larger spectrum of severe HIV-1 - Related disease in intravenous drug users in New York City", **Science**, 242(1988), pp. 916-919.

19. Aside from the numerous volumes dealing with underground economies in producing countries [e.g., Hernando de Soto, **Other Path: The Invisible Revolution in the Third World** (Harper & Row, New York, 1989)], of interest to consuming countries, such as the United States, are the following: Bruno S. Frey and Werner W. Pommerehne, "The hidden economy: State and prospects for measurement", **Review of Income and Wealth**, 30(March 1984), pp. 1-23; Wulf Gaertner and Alouis Wenig (eds.), **Studies in Contemporary Economics: The Economics of the Shadow Economy** (Springer-Verlag, New York, 1983); Robert McBride, "Business as usual: Heroin distribution in the United States", **Journal of Drug Issues**, 13:1(1983), pp. 147-166; Carl P. Simon and Ann D. Witte, **Beating the System: The Underground Economy** (Auburn House, Boston, 1982); Vito Tanzi (ed.), **The Underground Economy in the United States and Abroad** (Lexington Books, Lexington, 1982); and Doug Timmer, "The productivity of crime in the United States: Drugs and capital accumulation", **Journal of Drug Issues**, 12:4(1982), pp. 383-397.

20. Arnold Trebach is particularly incensed by this [**The Great Drug War and Radical Proposals that Could Make America Safe Again** (Macmillan, New York, 1987)]. See, also, Ethan Nadelmann, "Drug Prohibition in the United States: Costs, Consequences, and Alternatives", **Science**, 245 (1 September 1989), p. 942. There have been a few exceptions over the years (two, recent AIDS cases are reported) ["U.S. is letting AIDS patient use marijuana to ease pain", **The New York Times**, 23 November 1990].

21. A contemporary rationale for legalization was initiated by Ethan A. Nadelmann ["U.S. drug policy: A bad export", **Foreign Policy**, 70(Spring 1988), pp. 97-108]. Elsewhere, Nadelmann systematically explored domestic policy options in "The case for legalization" [**The Public Interest**, 92(Summer 1988), pp. 3-31] and in "Drug prohibition in the United States: Cost, consequences, and alternatives" [**Science**, 245 (1 September 1989), pp. 939-246. Richard Dennis makes the popular case on the basis of cost-benefit economics in "The economics of legalizing drugs", **The Atlantic**, 266:5(November 1990), pp. 126-132. Strong cautions about legalization come from John Kaplan's cost-benefit analyses ["Taking drugs seriously", **The Public Interest**, 92(Summer 1988), pp. 32-51, and his **The Hardest Drug: Heroin and Public Policy** (University of Chicago Press, Chicago, 1983)]. James Q. Wilson is adamantly opposed to legalization ["Against the legalization of drugs", **Commentary**, 89:2 (February 1990), pp. 21-28], as is, perhaps to a lesser extent, James B. Jacobs ["Imagining drug legalization", **The Public Interest**, 101(Fall 1990), pp. 28-41]. Murray E. Jarvik wants to refocus the discussion around demand ["The drug dilemma: Manipulating the demand", **Science**, 250(19 October 1990), pp. 387-392.

22. In response to legalization initiatives, Murray E. Jarvik wants to refocus our attention on demand, for which he offers several implementation tactics ["The drug dilemma: Manipulating the demand", **Science**, 250(19 October 1990), pp. 387-392.

23. Obviously, from these positions one encounters contradictory signals and assumptions on laws, values and individual freedom, all of which lead to mutually incompatible (and perhaps infeasible) public policy initiatives. The contradictory signals: drug consumption is bad; anti-consumption laws and their enforcement are worse. A reduction in consumption accompanied by an appropriate change in social values is mandatory; drug consumption cannot be avoided. Anti-drug laws need to be repealed; increased law enforcement is required to force a decline in consumption and perhaps change people's attitudes about drug taking. People need to be persuaded not to take drugs; people cannot be persuaded not to take drugs. Clearly, this incompatibility dilemma creates divergent frames of reference for public policy initiatives: enact more laws, repeal the laws; persuade people, force them; majority/minority electoral decisions on facts and prejudice; drug taking values as a national security issue vs. "so what's in it for me?" hyper-individualism; supply and traffick vs. demand and consumption as the "keystone" to policy.

24. Salient examples are Richard Ashley, **Cocaine: Its History, Uses and Effects** (St. Martin's Press, New York, 1975); and Lester Grinspoon, **Marihuana Reconsidered**, 2nd ed. (Harvard University Press, Cambridge, 1977).

25. See, for example, Thomas Aronson and Thomas Craig, "Cocaine precipitation of panic disorder", **The American Journal of Psychiatry**, 143:5(1986), pp. 643-645; Louis Cregler and Herbert Mark, "Medical complications of cocaine abuse", **New England Journal of Medicine**, 315:23(1986), pp. 1495-1500; Jerry Isner et al., "Acute cardiac events temporally related to cocaine abuse", **The New England Journal of**

Medicine, 315:23(1986), pp. 1438-1443; Helen Jones and Paul Lovinger, **The Marijuana Question and Science's Search for an Answer** (Dodd, Mead, New York, 1985); and Peter Pasternack et al., "Cocaine-induced angina pectoris and acute myocardial infarction in patients younger than 40 years", **The American Journal of Cardiology**, 55(1 March 1985), pp. 847-848.

26. Norman Zinberg, **Drugs, Set and Setting: The Basis for Controlled Intoxicant Use** (Yale University Press, New Haven, 1984).

27. See the discussion by John Kaplan, "Taking drugs seriously", **The Public Interest** 92, (Summer 1988), p. 37.

28. See, for example, Lee Dogoloff, "Don't legalize marijuana", **The New York Times**, 1 December 1987, A26; Roy Hart, **Bitter Grass: The Cruel Truth About Marijuana** (Psychoneurologia Press, Shawnee Mission, 1980); Donna Hymes, "New reasons to 'keep off the grass'", **Current Health**, March 1987, p. 18; Oriana Kalant et al., **Cannabis: Health Risks: A Comprehensive Annotated Bibliography** (Alcoholism and Drug Addiction Research Foundation, Toronto, 1983); and Gabriel Nahas, **Keep Off the Grass: A Scientific Enquiry into the Biological Effects of Marijuana** (Pergamon Press, New York, 1979). Donald Macdonald ["Marijuana smoking worse for lungs", **Journal of the American Medical Association**, 259:23(1988), p. 3384] claims that smoking one marijuana "joint" is approximately four times more hazardous to health than smoking a single tobacco cigarette. On this theme see, also, "Marijuana more harmful than tobacco", **New Scientist**, 17 December 1987, p. 15.

29. A sampling of the literature in the "harmless" or "reduced risk" category includes the following: William Carter, **Cannabis in Costa Rica: A Study of Chronic Marijuana Use** (Institute for the Study of Human Issues, Philadelphia, 1980); Lambros Comitas, "Cannabis and work in Jamaica: A refutation of the amotivational syndrome", **Annals of the New York Academy of Sciences**, 282(1976), pp. 24-32; Lester Grinspoon, **Marihuana Reconsidered**; 2nd ed. (Harvard University Press, Cambridge, 1977); Leo Hollister, "Cannabis - 1988", **Acta Psychiatrica Scandinavica**, 78(1988), pp. 108-111; Shai Linn et al., "The association of marijuana use with outcome of pregnancy", **American Journal of Public Health**, 73:10(1983), pp. 1161-1164; Roger Meyer, "Psychiatric consequences of marihuana use: The state of the evidence", in **Marijuana and Health Hazards: Methodological Issues in Current Marijuana Research**, edited by J.R. Tinklenberg (Academic Press, New York, 1975); Vera Rubin and Lambros Comitas, **Ganja in Jamaica: Medical Anthropological Study of Chronic Marihuana Use** (Mouton, The Hague, 1975); Costas Stefanis et al., **Hashish: Studies of Long-term Use** (Raven Press, New York, 1977); and Paula Ikleinman et al., "Daily marijuana use and problem behaviors among adolescents", **International Journal of the Addictions**, 23:1(1988), pp. 87-107.

30. The positive benefits are usually raised within the context of a "culturally reinforcing matrix" thesis. See, for example, Ralph Bolton, "Andean coca chewing: A metabolic perspective", **American Anthropology**, 58(1976), pp. 630-634; and Janice Hayes et al., "Newborn outcomes

with maternal marihuana use in Jamaican women", **Pediatric Nursing**, 12:2(1988), pp. 107-110.

31. Examples include Ernest Abel, **Marijuana, Tobacco, Alcohol, and Reproduction** (CRC Press, Boca Raton, 1983); Ernest Abel and Robert Sokol, "Marijuana and cocaine use during pregnancy", in Jennifer Niebyl (ed.), **Drug Use in Pregnancy** (LEA and Febiger, Philadelphia, 1988), pp. 223-230; **Analysis of the Domestic Cannabis Problem and the Federal Response** (National Drug Enforcement Policy Board, Washington, D.C., 1986); B. Bower, "Day after' effects of pot smoking", **Science News**, 128(16 November 1985), p. 310; Carl Chambers et al., **Chemical Dependencies: Patterns, Costs, and Consequences** (Ohio University Press, Athens, 1987); Sidney Cohen, "Cannabis: Effects upon adolescent motivation", in **Marijuana and Youth: Clinical Observations on Motivation and Learning** (National Institute on Mental Health, Rockville, 1982); Rhea Dornbush et al. (eds.), "Chronic cannabis use", **Annals of the New York Academy of Science**, 282(1976); Rhea Dornbush and A. Kokkevi, "Acute effects of cannabis on cognitive, perceptual, and motor performance in chronic hashish users", **Annals of the New York Academy of Sciences**, 282(1976), pp. 313-333; P.A. Fried, "Postnatal consequences of maternal marijuana use", in **Current Research on the Consequences of Maternal Drug Abuse**, edited by Theodore Pinkert (National Institute on Drug Abuse, Rockville, 1985); Hamid Ghodse, "Cannabis psychosis", **The British Journal of Addiction**, 81(1986), pp. 473-478; Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use** (National Institute on Drug Abuse, Rockville, 1984); James Halikas et al., "A longitudinal study of marijuana effects", **The International Journal of the Addictions**, 20:50(1985), pp. 701-711; Herbert Hendin, **Living High: Daily Marijuana Use Among Adults** (Human Sciences Press, New York, 1987); Ralph Hingson et al., "Maternal marijuana use and neonatal outcome: Uncertainty posed by self-reports", **American Journal of Public Health**, 76:6(1986), pp. 667-669; Leo Hollister, "Marijuana and immunity", **Journal of Psychoactive Drugs**, 20:1(1988), pp. 3-8; Les Hoyt, "Effects of marijuana on fetal development", **Journal of Drug and Alcohol Education**, 26:3(1981), pp. 30-36; S. Husain and I. Khan, "An update on cannabis research", **Bulletin on Narcotics**, 37:4(1985), pp. 3-13; Helen Jones and Paul Lovering, **The Marijuana Question and Science's Search for an Answer** (Dodd, Mead, New York, 1985); Michael Lamanna, "Marijuana: Implications of use by young people", **Journal of Drug Education**, 11:4(1981), pp. 281-310; Ingrid Lanter, "Marijuana abuse by children and teenagers: A pediatrician's view", **Marijuana and Youth: Clinical Observations on Motivation and Learning** (National Institute on Mental Health, Rockville, 1982); **Marijuana and Health** (National Academy of Sciences, Institute of Medicine, Washington, D.C., 1982); Thomas Maugh, "Marijuana 'justifies serious concern'", **Science**, 215(19 March 1982), pp. 1488-1489; Madelaine Maykut, **Health Consequences of Acute and Chronic Marijuana Use** (Pergamon Press, New York, 1984); Raphael Mechoulam, "Research on cannabis: An overview", **Impact of Science on Society**, 34:133(1984), pp. 23-31; Richnger Meislin et al., "The amotivational syndrome and the college student", **Annals of the New York Academy of Sciences**, 282(1976); Doris Millman, "Psychological effects of cannabis in adolescence", in **Marijuana and Youth: Clinical Observations on Motivation and Learning** (National Institute on Mental Health, Rockville, 1982); Gabriel Nahas et al.,

Marihuana in Science and Medicine (Raven Press, New York, 1984); National Institute on Drug Abuse (NIDA), **Marijuana and Health** (NIDA, Rockville, 1982); Qutub Qazi et al., "Abnormalities in offspring associated with prenatal marihuana exposure", **Developmental Pharmacology and Therapeutics**, 8(1985), pp. 141-148; M.I. Soueif, "Differential association between chronic cannabis use and brain function deficits", **Annals of the New York Academy of Sciences**, 282(1976), pp. 323-343; D.P. Tashkin et al., "Subacute effects of heavy marihuana smoking on pulmonary function in healthy men", **New England Journal of Medicine**, 294(1976), pp. 125-129; Katherine Tennes, "Effects of marijuana on pregnancy and fetal development in the human", in Monique Braude and Jacqueline Ludford (eds.), **Marijuana Effects on the Endocrine and Reproductive Systems** (National Institute on Drug Abuse, Rockville, 1983); K. Tunving, "Psychiatric effects of cannabis use", **Acta Psychiatrica Scandinavica**, 72(1985), pp. 209-217; and Renee Wert and Michael Raulin, "The chronic cerebral effect of cannabis use", **International Journal of the Addictions**, 21:6(1986), pp. 629-642.

32. Robert Petersen, "Marijuana overview" in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use** (National Institute on Drug Abuse, Rockville, 1984), pp. 10-11; Hamid Ghodse, "Cannabis psychosis", **The British Journal of Addiction**, 81(1986), pp. 473-478; Roger Meyer, "Psychiatric consequences of marihuana use: The state of the evidence", in J.R. Tinklenberg (ed.), **Marijuana and Health Hazards: Methodological Issues in Current Marihuana Research** (Academic Press, New York, 1975); and K. Tunving, "Psychiatric effects of cannabis use", **Acta Psychiatrica Scandinavica**, 72(1985), pp. 209-217.

33. Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use** (National Institute on Drug Abuse, Rockville, 1984), p. 11; Diana Baumrind and Kenneth Moselle, "A developmental perspective on adolescent drug abuse", **Advances in Alcohol and Substance Abuse** (The Hayworth Press, Binghamton, 1985); Sidney Cohen, "Cannabis: Effects upon adolescent motivation", in **Marijuana and Youth: Clinical Observations on Motivation and Learning** (National Institute on Mental Health, Rockville, 1982); Lambros Comitas, "Cannabis and work in Jamaica: A refutation of the amotivational syndrome", **Annals of the New York Academy of Sciences**, 282(1976), pp. 24-32; Rhea Dornbush et al., "Chronic cannabis use", **Annals of the New York Academy of Sciences**, 282(1976); Herbert Hendin, **Living High: Daily Marijuana Use Among Adults** (Human Sciences Press, New York, 1987); Denise Kandel (ed.), **Longitudinal Research on Drug Use: Empirical Findings and Methodological Issues** (Hemisphere-Wiley, Washington, D.C., 1978); Richnger Meislin et al., "The amotivational syndrome and the college student", **Annals of the New York Academy of Sciences**, 282(1976); Doris Millman, "Psychological effects of cannabis in adolescence", in **Marijuana and Youth: Clinical Observations on Motivation and Learning** (National Institute on Mental Health, Rockville, 1982); Patricia Morningstar, "Thandai and chilam: Traditional hindu beliefs about the proper uses of cannabis", **Journal of Psychoactive Drugs**, 17:3(1985): pp.141-165; and Vera Rubin and Lambros Comitas, **Ganja in Jamaica: Medical Anthropological Study of Chronic Marihuana Use** (Mouton, The Hague, 1975).

34. Ernest Abel, **Psychoactive Drugs and Sex** (Plenum Press, London, 1985); and Carl Chambers and Kathryn Pribble, "Gaining some understanding of drugs and their effects", in Carl Chambers et al. (eds.), **Chemical Dependencies: Patterns, Costs, and Consequences** (Ohio University Press, Athens, 1987).
35. Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use** (National Institute on Drug Abuse, Rockville, 1984).
36. Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use**, 1984; Vera Rubin and Lambros Comitas, **Ganja in Jamaica: Medical Anthropological Study of Chronic Marijuana Use**, 1975; Helen C. Jones and Paul W. Lovinger, **The Marijuana Question and Science's Search for an Answer** (Dodd, Mead, New York, 1985); and **Marijuana and Health** (National Academy of Sciences, Institute of Medicine, Washington, D.C., 1982).
37. Katherine Tennes ["Effects of marijuana on pregnancy and fetal development in the human", in Monique Braude and Jacqueline Ludford (eds.), **Marijuana Effects on the Endocrine and Reproductive Systems** (National Institute on Drug Abuse, Rockville, 1983)] acknowledges that early studies on human pregnancies suggested that marijuana could alter the delivery process, reduce the infant's weight gain, or affect visual and neurological processes. However, she concludes that confirmation of these findings is lacking as is evidence for the effect of marijuana's direct action. Nevertheless, other authors hold that marijuana has at least a high probable impact in these categories. See the listings under "With Probable Significant Externalities" in the right hand column on p. 5 of the main text.
38. Leo Hollister, "Marijuana and immunity", **Journal of Psychoactive Drugs**, 20:1(1988), pp. 3-8; National Institute on Drug Abuse, **Marijuana and Health** (NIDA, Rockville, 1982); and Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use** (National Institute on Drug Abuse, Rockville, 1984).
39. Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use**, (National Institute on Drug Abuse, Rockville, 1984); and M.E. Pasto et al., "Ventricular configuration and cerebral growth in infants born to drug-dependent mothers", **Pediatric Radiology**, 15(1985), pp. 77-81.
40. William Carter (ed.), **Cannabis in Costa Rica: A Study of Chronic Marijuana Use** (Institute for the Study of Human Issues, Philadelphia, 1980); Donna Hymes, "New reasons to 'keep off the grass'", **Current Health**, March 1987, p. 8; Helen Jones and Paul Lovinger, **The Marijuana Question and Science's Search for an Answer** (Dodd, Mead, New York, 1985); Donald Macdonald, "Marijuana smoking worse for lungs", **Journal of the American Medical Association**, 259:23(1988), p. 3384; **Marijuana and Health** (National Academy of Sciences, Washington, D.C., 1982); "Marijuana more harmful than tobacco", **New Scientist**, 17 December 1987, p. 15; National Institute on Drug Abuse, **Marijuana and Health** (NIDA, Rockville, 1982); D.P. Tashkin et al., "Subacute effects of heavy

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41. Carl Chambers and Kathryn Pribble, "Gaining some understanding of drugs and their effects", in Carl Chambers et al. (eds.), **Chemical Dependencies: Patterns, Costs, and Consequences** (Ohio University Press, Athens, 1987), p. 29; and M.I. Soueif, "Differential association between chronic cannabis use and brain function deficits", in R.L. Dornbush, A.M. Freedman, and M. Fink (eds.), **Annals of the New York Academy of Sciences** (1976), pp. 323-343.

42. Donna Hymes, "New reasons to 'keep off the grass'", **Current Health**, March 1987, p. 18; Helen C. Jones and Paul Lovinger, **The Marijuana Question and Science's Search for an Answer** (Dodd, Mead, New York, 1985); **Marijuana and Health** (National Academy of Sciences, Institute of Medicine, Washington, D.C., 1982); and National Institute on Drug Abuse, **Marijuana and Health** (NIDA, Rockville, 1982).

43. **Marijuana and Health** (National Academy of Sciences, Institute of Medicine, Washington, D.C., 1982); and Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use**, (National Institute on Drug Abuse, Rockville, 1984).

44. Carl Chambers and Kathryn Pribble, "Gaining some understanding of drugs and their effects", in Carl Chambers et al. (eds.), **Chemical Dependencies: Patterns, Costs, and Consequences** (Ohio University Press, Athens, 1987), pp. 34-35; Ernest Abel, **Marijuana, Tobacco, Alcohol, and Reproduction** (CRC Press, Boca Raton, 1983); **Marijuana and Health** (National Academy of Sciences, Institute of Medicine, Washington, D.C., 1982); National Institute on Drug Abuse, **Marijuana and Health** (NIDA, Rockville, 1982); and Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use** (National Institute on Drug Abuse, Rockville, 1984), p. 9.

45. Robert Hendin, **Living High: Daily Marijuana Use Among Adults** (Human Sciences Press, New York, 1987); and Carl Chambers and Kathryn Pribble, "Gaining some understanding of drugs and their effects", in Carl Chambers et al. (eds.), **Chemical Dependencies: Patterns, Costs, and Consequences** (Ohio University Press, Athens, 1987).

46. Carl Chambers and Kathryn Pribble, "Gaining some understanding of drugs and their effects" in Carl Chambers et al. (eds.), **Chemical Dependencies: Patterns, Costs, and Consequences** (Ohio University Press, Athens, 1987), pp. 32-33; Donna Hymes, "New reasons to 'keep off the grass'", **Current Health**, March 1987; **Marijuana and Health** (National Academy of Sciences, Institute of Medicine, Washington, D.C., 1982); M.I. Soueif, "Differential association between chronic cannabis use and brain function deficits", in R.L. Dornbush, A.M. Freedman, and M. Fink; R.L. Dornbush and A. Kokkevi (eds.), **Annals of the New York Academy of Sciences**, 282(1976), pp. 323-343; "Acute effects of cannabis on cognitive, perceptual, and motor performance in chronic hashish users",

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47. Ernest Abel, **Marijuana, Tobacco, Alcohol, and Reproduction** (CRC Press, Boca Raton, 1983); Ernest Abel and Robert Sokol, "Marijuana and cocaine use during pregnancy", in Jennifer Niebyl (ed.), **Drug Use in Pregnancy** (LEA and Febiger, Philadelphia, 1988), pp. 223-230; P.A. Fried, "Postnatal consequences of maternal marijuana use", in Theodore Pinkert (ed.), **Current Research on the Consequences of Maternal Drug Abuse** (National Institute on Drug Abuse, Rockville, 1985); **Marijuana and Health** (National Academy of Sciences, Institute of Medicine, Washington, D.C., 1982); and Katherine Tennes, "Effects of marijuana on pregnancy and fetal development in the human", in Monique Braude and Jacqueline Ludford (eds.), **Marijuana Effects on the Endocrine and Reproductive Systems** (National Institute on Drug Abuse, Rockville, 1983).

48. Carl Chambers and Kathryn Pribble, "Gaining some understanding of drugs and their effects", in Carl Chambers et al. (ed.), **Chemical Dependencies: Patterns, Costs, and Consequences** (Ohio University Press, Athens, 1987), p.32; Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use** (National Institute on Drug Abuse, Rockville, 1984), pp. 6-8; B. Bower, "Day after' effects of pot smoking", **Science News**, 16 November 1985, p.310; R.L. Dornbush and A. Kokkevi, "Acute effects of cannabis on cognitive, perceptual, and motor performance in chronic hashish users", **Annals of the New York Academy of Sciences**, 282(1976), pp.313-333; **Marijuana and Health** (National Academy of Sciences, Institute of Medicine, Washington, D.C., 1982); and Jerome Yesavage et al., "Carry-over effects of marijuana intoxication on aircraft pilot performance: A preliminary report", **American Journal of Psychiatry**, 142:11(1985), pp. 1325-1329.

49. Sidney Cohen, "Cannabis: Effects upon adolescent motivation", **Marijuana and Youth: Clinical Observations on Motivation and Learning** (National Institute on Mental Health, Rockville, 1982); Denise Kandel, "Drugs and drinking behavior among youth", **Annual Review of Sociology**, 6(1980) pp. 235-285; **Marijuana: The National Impact on Education** (The American Council on Marijuana and Other Psychoactive Drugs, Rockville, 1982); Doris Millman, "Psychological effects of cannabis in adolescence", **Marijuana and Youth: Clinical Observations on Motivation and Learning** (National Institute on Mental Health, Rockville, 1982); Margaret Penning and Gordon Barnes, "Adolescent marijuana use: A review", **International Journal of the Addictions**, 17:5(1982), pp. 749-791; and Richard Schwartz, "Frequent marijuana use in adolescence: What are the signs, stages?", **NASSP Bulletin**, December 1985, pp.103-108.

50. Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use** (National Institute on

Drug Abuse, Rockville, 1984), p.5; Michael Lamanna, "Marijuana: Implications of use by young people", **Journal of Drug Education**, 11:4(1981), pp. 281-310; and **Marijuana: The National Impact on Education** (The American Council on Marijuana and Other Psychoactive Drugs, Rockville).

51. Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use** (National Institute on Drug Abuse, Rockville, 1984). See also B. Bower, "Day after' effects of pot smoking", **Science News**, 128(16 November 1985), p. 310; and the sections on aviation and driving in Helen C. Jones and Paul W. Lovinger, **The Marijuana Question and Science's Search for an Answer** (Dodd, Mead, New York, 1985).

52. Petersen cites H. Moskowitz, S. Sharma and K. Ziemann ["Duration of skills performance impairment, Proceedings of the 25th Conference of the American Association of Automotive Medicine, 1981]. See also B. Bower, "Day after' effects of pot smoking", **Science News**, 128(16 November 1985): p. 310.

53. In addition to Petersen's review cited above, see **Marijuana and Health** (National Academy of Sciences, Institute of Medicine, Washington D.C., 1982); Dale Gieringer, "Marijuana, driving and accident safety", **Journal of Psychoactive Drugs**, 20:1(1988), pp. 93-101; and Donna Hymés, "New reasons to 'keep off the grass'", **Current Health**, March 1987.

54. Alleged impairment contributing to such commentary occurred with an otherwise inexplicable New York train crash that killed one train's engineer. The engineer, three tower operators and the Manhattan dispatcher were tested positive for marijuana. See J. Feron, "Metro-north engineer dies in crash of 2 empty trains", **The New York Times**, 7 April 1988, B1; and James Feron, "5 Metro-north workers in crash showed drug traces, U.S. says", **The New York Times**, 11 May 1988, A1.

55. In addition to Petersen's review cited above, see Jerome Yesavage et al., "Carry-over effects of marijuana intoxication on aircraft pilot performance: A preliminary report", **American Journal of Psychiatry**, 142:11(1985), pp.1325-1329; and B. Bower, "Day after' effects of pot smoking", **Science News**, 128(16 November 1985), p. 310.

56. See Robert Petersen, "Marijuana overview", in Meyer Glantz (ed.), **Correlates and Consequences of Marijuana Use** (National Institute on Drug Abuse, Rockville, 1984); and **Marijuana and Health** (National Academy of Sciences, Institute of Medicine, Washington, D.C., 1982).

57. A principal exception to this generalization is a paragraph in John Kaplan's **The Hardest Drug: Heroin and Public Policy** (University of Chicago Press, Chicago, 1983), p. 127, in which he argues that the physical damage caused by heroin makes it a less dangerous drug than tobacco or alcohol. Still, he certainly is unwilling to give it a "clean bill of health".

58. See Ronald Kesler, "Cheaper heroin resulting in more deaths", **The Washington Post**, 14 June 1983, A6; Matt Lait, "Heroin traffic shifts to the West", **The Washington Post**, 4 January 1989, A4; and A.J. Ruttenber and

James Luke, "Heroin-related deaths: New epidemiologic insights", **Science**, 226 (October 1984), pp. 14-20.

59. Matt Lait, "Heroin traffic shifts to the West", **The Washington Post**, 4 January 1989, A4.

60. Marsha Rosenbaum, "When drugs come into the picture, love flies out the window: Love relationships among women addicts", **International Journal of the Addictions**, 16:7(1981), pp. 1197-1206; and Marsha Rosenbaum, **Women on Heroin** (Rutgers University Press, New Brunswick, 1981).

61. J. C. Borden, "Foster care system reeling, despite law meant to help", **The New York Times**, 21 September 1990, A1.

62. Don DeBoau Davis, "Neurobehavioral functions among children exposed to narcotics *in utero*: A multivariate analysis", Ph.D. dissertation, California School of Professional Psychology, Fresno, 1985, vi.

63. Don Davis's subjects [ibid.] who were born of methadone-maintained mothers scored in the more pathological direction on his scales than children exposed *in utero* to heroin. On the other hand, Tove Rosen et al. ["Long-term effects of prenatal methadone maintenance", in Theodore Pinkert (ed.), **Current Research on the Consequences of Maternal Drug Abuse**, edited by (National Institute on Drug Abuse, Rockville, 1985)] declare that there are no uniform long-term effects of pre-natal methadone maintenance on the children in their study. In the short-term (first three years of life), "methadone maintained children have a higher incidence of minor neurological abnormalities and lower scores on developmental evaluations". See also David Ausubel, "Methadone maintenance treatment: The other side of the coin", **International Journal of the Addictions**, 18:6(1983), pp. 851-862.

64. Kathleen Fiks et al., "Methadone-maintained mothers: 3-year follow-up of parental functioning", **International Journal of the Addictions**, 20:5(1985), pp. 651-660.

65. John Kaplan, **The Hardest Drug: Heroin and Public Policy** (University of Chicago Press, Chicago, 1983), p. 131.

66. See, for example, John Ball, "A selective review of the crime-drug literature with reference to future research implications", in Robert Shellow (ed.), **Drug Use and Crime: Report of the Panel on Drug Use and Criminal Behavior**, (U.S. Department of Commerce, National Technical Information Service, Washington, D.C., 1976), p. 215-229; John Ball et al., "The day-to-day criminality of heroin addicts in Baltimore: A study in the continuity of offense rates", **Drug and Alcohol Dependence**, 12(1983), pp. 119-142; John Ball et al., "The criminality of heroin addicts when addicted and when off opiates", in James A. Inciardi (ed.), **The Drug-Crime Connection** (Sage, Beverly Hills, 1981), pp. 29-65; John Ball et al., "Lifetime criminality of heroin addicts in the United States", **Journal of Drug Issues**, 12:3(1982), pp. 225-239; and Bruce Johnson et al., "A day in the life of 105 drug addicts and abusers: Crimes committed and how the money was spent", **Sociology**

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69. See, for example, J.L. Phillips and R.W. Wynne, **Cocaine: The Mystique and the Reality** (Avon Books, New York, 1980).

70. Donald Egan and David Robinson, "Cocaine: Magical drug or menace?", *International Journal of the Addictions*, 14:2(1979), pp. 231-241. Ronald Siegel ["Cocaine smoking", *New England Journal of Medicine*, 300:7(1979), p.373] asserted in 1979 that smoking coca leaf cigars and cigarettes, and even mixing cocaine hydrochloride with tobacco or marijuana cigarettes seemed to provoke little or no intoxication except for large doses that, in any event, seemed not to cause serious consequences. However, smoking cocaine alkaloid or base ("free base") presented conditions highly deleterious to one's health, producing anomalies such as "manic-like euphoria, depressive-like dysphoria, or schizophrenic-like paranoid psychosis". No doubt he would be equally alarmed at the consequences of smoking present-day "crack".

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72. Lester Grinspoon and James Bakalar, "Adverse effects of cocaine: Selected issues", *Annals of the New York Academy of Sciences*, 362(1981), pp. 125-131.

73. Ronald Siegel, "Cocaine and sexual dysfunction: The curse of Mama Coca", **Journal of Psychoactive Drugs**, 14:1-2(1982), pp. 71-74.
74. C. Van Dyke and R. Byck, "Cocaine", **Scientific American**, 246(1982), pp. 128-146.
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76. Gina Maranto, "Coke: The random killer", **Discover**, March 1985, pp. 16-21.
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84. One must assume that drug overdoses would likely decline if purity standards were established and the drugs marked accordingly, a point vigorously advanced by legalization advocates. See, for example, Ethan Nadelmann, "The Case for legalization", **The Public Interest** 92(Summer 1988), pp. 22-23.

85. Ernest Abel and Robert Sokol ["Marijuana and cocaine use during pregnancy", in Jennifer Niebyl (ed.), **Drug Use in Pregnancy** (LEA and Febiger, Philadelphia, 1988)] review and summarize information on cocaine and marijuana use during pregnancy, noting many studies with inconclusive correlations about the drugs' effects on fetuses. See, also, Monique C. Braude, "Perinatal effects of drugs of abuse", **Federation Proceedings**, 46:7(1987), pp. 2446-2453; Ira J. Chasnoff et al., "Cocaine use in pregnancy", **New England Journal of Medicine**, 313:11 (1985), pp. 666-669; Charles P. O'Hara III, **Behavioral Effects of Phencyclidine and Cocaine on Infants Exposed in Utero, as Measured by the Neonatal Behavioral Assessment Scale**, Unpublished dissertation, California School of Professional Psychology, Fresno, 1987; Jeffrey S. Rosecan and Barbara F. Gross, "Newborn victims of cocaine abuse", **Medical Aspects of Human Sexuality**, November 1986, pp. 30-35; and U.S. Congress, House Select Committee on Narcotics Abuse and Control, Hearing, "Cocaine Babies" (GPO, Washington, D.C., 1987).

86. See, for example, Bill Barol et al., "Cocaine babies: Hooked at birth", **Newsweek**, 28 July 1986, pp. 56-57; Jerry Adler et al., "Hour by hour crack", **Newsweek**, 28 November 1988, pp. 64-75; and Louis Kraar, "How to win the war on drugs", **Fortune**, 12 March 1990, pp. 70-79.

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91. Michael Abramowitz, "Pregnant cocaine users reduce risk by stopping", **The Washington Post**, 24 March 1989, A11.

92. Katie Busch and Sidney Schnoll ["Cocaine - Review of current literature and interface with the law", **Behavioral Sciences and the Law**, 3:3(1985), pp. 282-298] include in their discussion extant knowledge of the relationship between cocaine and violence as well as the forensic-psychiatric issues surrounding its use. Newborns are discussed. See also Scott Armstrong, "Crack reasserts itself across U.S.", **The Christian Science Monitor**, 14 March 1988, p. 1; Michel Marriott, "After three years, crack plague in New York only gets worse", **The New York Times**, 20 February 1989, p. 1. In 1981, Lester Grinspoon and James Bakalar ["Adverse effects of cocaine: Selected issues", **Annals of the New York Academy of Sciences**, 362(1981), pp. 125-131] argued that cocaine tends not to produce aggressive behaviour. Crack cocaine had not yet been invented.

93. See Michael Isikoff, "Users of crack cocaine link violence to drug's influence", **The Washington Post**, 24 March 1989, A11.

94. "Fighting the drug war", **The Christian Science Monitor**, 1 September 1989, p. 20; Isabel Wilkerson, "Urban homicide rates in U.S. up sharply in 1986", **The New York Times**, 15 January, A14; and Selwyn Raab, "Links to 200 murders in New York City last year", **The New York Times**, 20 March 1988, E9.

95. See, for example, Jerry Adler et al., "Hour by hour crack", **Newsweek**, 28 November 1988, pp. 64-65; Gina Kolata, "In cities, poor families are dying of crack", **The New York Times**, 11 August 1989, A1.

96. See, for example, Calvin Chatlos and Lawrence Chilnick, **Crack: What You Should Know About the Cocaine Epidemic** (Putnam, New York, 1987); Sidney Cohen, "Adverse effects of cocaine", **Consumers Research Magazine**, 68:11(1985), pp. 14-16.

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98. Social overhead costs are discussed by Louis Cregler and Herbert Mark, "Medical complications of cocaine abuse", **New England Journal of Medicine**, 315:23(1986), pp. 1495-1500; Arnold Washton and Nannette Stone, "The human cost of chronic cocaine use", **Medical Aspects of Human Sexuality**, 18:11(1984): pp. 122-130; and Nicholas Kozel and Edgar Adams (eds.), **Cocaine Use in America: Epidemiologic and Clinical Perspectives** (U.S. Government Printing Office, Washington, D.C., 1985).

99. Ethan Nadelmann, "The Case for Legalization", **The Public Interest**, 92 (Summer 1988), pp. 3-31; Richard Dennis, "The economics of legalizing drugs", **The Atlantic**, 266:5(November 1990), pp. 126-132.

100. The least risky test would be with cannabis. It could be regulated and taxed as is now done with tobacco and alcohol but with provisions for appreciably more user accountability. In order to avoid the "Amsterdam effect" (drug-user immigration because of drug availability), the test would have to be federalized so as to be equally applied in all states.

101. America's treatment programmes are thought to derive from a non-fear, demand reducing strategy. Yes and no. It is thought that ready participation in treatment programmes would not be nearly so apparent if all coercion were absent (e.g., judicial rulings that give defendants an option for treatment or jail). Regardless, America has not but much of its drug fighting money in treatment centres. The centers are perpetually starved financially and are among the first to receive budget cuts when public revenues falter.

102. For example, Miami Beach's city commission has approved an ordinance requiring the police to report drug arrests to employers ["Miami Beach's new approach in drug arrests: Tell the employers", **The New York Times**, 23 November 1990, B21].

103. Monied drug abusers are thought to be less concerned about property losses (which they may easily replace) than freedom losses. Their attorneys are well paid, frequently conceding property losses in exchange for lenient or probationary sentences for time.

104. Novel approaches are taken by Murray E. Jarvik ["The drug dilemma: Manipulating the demand", **Science**, 250(19 October 1990), pp. 389-391.

105. James Q. Wilson and Richard Herrnstein, **Crime and Human Nature** (Simon and Schuster, New York, 1985).

106. Saliva testing exceeds urine testing's costs but is devoid of many of its philosophical objections [Murray E. Jarvik, "The drug dilemma: Manipulating the demand", **Science**, 250(19 October 1990), p. 390. Some form of adequate surveillance is unavoidable [John Kaplan, "Taking drugs seriously", **The Public Interest**, 92(Summer 1988), pp. 32-50.

107. Aspects of this view are covered by Joseph Adelson, "Drugs and youth", **Commentary**, 87:5(1989), pp. 24-28; A. Carmi and S. Schneider (eds.), **Drugs and Alcohol** (Springer-Verlag, New York, 1986); Mark Fraser and Nance Kohlert, "Substance abuse and Public Policy", **Social Service Review**, March 1988, pp. 103-126; John Hughes, "Booze today, drugs tomorrow?", **The Christian Science Monitor**, 22 March 1989, p. 18; Rushworth M. Kidder, "Drug strategy within an 'ethical fairyland'", **The Christian Science Monitor**, 1989, p. 13; Tom Morganthau and Michael Reese, "Going after Hollywood: Critics call for the deglamorization of drugs", **Newsweek**, 11 August 1986, p. 20; William Raspberry, "Living - and dying - like animals", **The Washington Post**, 2 November 1988, A21, and James Q. Wilson, "Against the legalization of drugs", **Commentary**, 89:2(February 1990), pp. 21-28.

108. According to a 1988 Gallup poll, between 60 and 80 per cent of the public supported continued prohibition [George Gallup Jr. and A. Gallup, **The Gallup Poll: Public Opinion 1988** (Scholarly Resources, Wilmington), pp. 124-128. Moreover, in November 1990, marijuana consumption was recriminalized in Alaska.

109. The best micro successes have involved integrated community participation - schools, parents, religious leaders, community fathers, appropriate funding. See Robert P. Hey, "City officials fault Bush's strategy against drugs", **The Christian Science Monitor**, 24 August 1989, p. 1; Gina Kolata, "Community program succeeds in drug fight", **The New York Times**, 11 June 1989, p. 33; David K. Lohrmann and Stuart W. Fors, "Can school-based educational programs really be expected to solve the adolescent drug abuse problem?", **Journal of Drug Education**, 16:4(1986), pp. 327-339; David K. Murray and Cheryl L. Perry, "The prevention of adolescent drug abuse: Implications of etiological, developmental, behavioral, and environmental models" in Coryl LaRue Jones and Robert J. Battjes (eds.),

Etiology of Drug Abuse: Implications for Prevention (National Institute on Drug Abuse, Rockville, 1985); P. Schioler, "Information, teaching and education in the primary prevention of drug abuse among youth in Denmark", **Bulletin on Narcotics**, 33:4(1981), pp. 57-65; and M. Skrlj, "Programme base for the prevention of drug abuse in Yugoslavia", **Bulletin on Narcotics**, 38:1-2(1986), pp. 105-112.

110. See, for example, Don Terry, "Teen-agers seek a path back from the edge", **The New York Times**, 9 October 1990, A1.

111. In 1988, a House of Representatives bill under consideration, and on the basis of which a congressional hearing was held, contained a broad, sweeping mandate to the military to substantially halt the flow of narcotics into the United States "within 45 days". U.S. Congress, Senate Committee on Armed Services, Hearing, "Role of the Department of Defense in Drug Interdiction" (GPO, Washington, D.C., 1988).

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