

WORLD WAR D

The case against prohibitionism
A roadmap to controlled re-legalization
JEFFREY DHIYWOOD

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A roadmap to controlled re-legalization*

**JEFFREY
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Advance reviews

"I find that Mr. Dhywood has written one of the best and most comprehensive books on the drug problem that I have read. He builds a strong case for legalization and regulation with a very convincing argumentation; I subscribe to it entirely."

Gustavo de Greiff, Attorney General of Colombia from 1992 to 1994

World War-D is a rigorous, authoritative, entertaining and comprehensive treatise on prohibitionism and psychoactive substances, that will become a reference on the topic.

It is a thorough and well-documented compilation, a global overview of all the issues revolving around the war on drugs, prohibitionism and psychoactive substances. It offers a methodical, well-argued and compelling case against prohibitionism and a realistic and pragmatic roadmap to global legalization.

Anyone genuinely interested in understanding this failed war and its negative impact on the World should begin by reading this book.

Santiago Roel, Crime Prevention consultant pioneering government reform in Mexico since 1991. Author, lecturer - www.prominix.com

"I believe your book will be extremely helpful to those who have the power to reverse the existing draconian drug laws. Hopefully it will be a roadmap to a sane conclusion. When the rulers of our land eventually exchange prisons for medical clinics, the bible handbook that will be used to EDUCATE the citizen in need of help should be your book. It shows how and why we humans react as we do to outside substances.

I'm still blown away by the incredible amount of detailed information.

What an extraordinary work of literature! Congratulations."

Arthur Torsone, author of "Herb Trader"

"I am fairly amazed by the content, as I read pieces; this is impressive. There is nothing out there like that."

John P., typesetter, while working on book layout.

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Introduction

Some issues seem intractable until one realizes that they are intractable only because of the way we approach them. The War on Drugs is one of these issues. After 100 years of a failed prohibitionist regime, and despite 40 years of the worsening War on Drugs debacle, despite the ever-escalating financial, economic, geopolitical and human costs, the international community sticks to its worn-out official mantras, led by the US, its prohibitionist-in-chief.

It appears, though, that we are reaching a Galilean moment. In spite of all the censorship and propaganda, a wave of revolt against the failed policies of the War on Drugs is rising throughout the world, calling louder and louder for a paradigm shift. The wave of support for drug policy reform keeps growing as the concept of legalization moves rapidly from fringe lunacy to the mainstream. From church groups to retired law enforcement officers, to the NAACP, to Kofi Anan, George Shultz, Paul Volcker, and a string of former Latin American and European heads of state, a broad range of personalities and organizations from around the world keep adding their voices to the chorus. “World War-D” is adding its own voice, hoping to become a major contribution to the case for legalization.

This book is an invitation to step back and look at the big picture from a different perspective, freed from the ideological and moralist morass where the issue has been enmeshed from the onset, freed also from the often myopic US-centric point of view that tends to dominate the debate. “World War-D” looks at all the major issues raised by the War on Drugs from a global perspective with a pragmatic, evidence-based and science-based approach, with an innovative and enlightening outlook. It offers a reasoned critic of the prohibitionist model and its underlying ideology with its historical and cultural background. It repositions the issues of illicit drugs into the wider and more relevant context of mind alteration and psychoactive substances. It addresses the issue of legalization head-on.

“World War-D” revolves around the simple but fundamental question: “Can organized societies do a better job than organized crime of managing and controlling psychoactive substances?” This, really, is placing the bar extremely low when you think about it. I obviously believe they can, and I explain why and how. After all, the vast majority of psychoactive substances, including the two deadliest, are already legal and more or less efficiently controlled.

Going beyond the simplistic characterizations of the War on Drugs rhetoric, “World War-D” clearly demonstrates that prohibition is the worst possible form of control. The so-called “controlled substances” are effectively out of control; or rather, they are controlled by the underworld at a staggering and ever-growing human, social, economic and geopolitical cost to the world.

“World War-D” lays out a concrete, pragmatic, and realistic roadmap to global re-legalization founded on a multi-tiered *“legalize, tax, control, prevent, treat, and educate”* approach with practical and efficient mechanisms to manage and minimize societal costs. Far from giving up and far from an endorsement, controlled legalization would be finally growing up; being realistic instead of being in denial; being in control instead of leaving control to the underworld. It would abolish the current regime of socialization of costs and privatization of profits to criminal enterprises, depriving them of their main source of income and making our world a safer place.

The War on Drugs has made illegal drugs a global problem and therefore it must be addressed globally, from production to distribution and consumption. Only global, internationally concerted re-legalization can efficiently remove organized crime from the psychoactive marketplace.

The world’s psychoactive landscape is going through profound transformations. With the advent of hydroponics and small-scale production, marijuana production is out of control, as acknowledged by the UNODC 2010 report. Far more worrisome, thanks to the Internet and “kitchen counter chemistry,” amphetamine-type stimulants (ATS) are also out of control worldwide. ATS use now surpasses cocaine and opiates combined and is growing alarmingly. Narco-violence, narco-terrorism, and narco-corruption are spreading like cancer, destabilizing one country after another in every corner of the world. Substance

addiction is reaching epidemic proportions throughout the developing world, fueled by rapid urbanization and the ensuing social dislocation. Children are especially at risk as War on Drugs foot soldiers and cannon fodder. Emerging countries do not have the resources to fight such a plight under the current War on Drugs policies and it would be folly for them to follow the failed US policies. The global economic crisis that is currently shaking the foundations of the world's economies runs the risk of further exacerbating and spreading narco-related violence and instability. A drastic change of course is sorely needed.

At a time when the current and two former US presidents have admittedly indulged, as have politicians of all stripes from Al Gore to Newt Gingrich and Sarah Palin and over 50% of the adult US population, the credibility tipping point of the War on Drugs propaganda has long been passed. All that appears to be missing is the political courage to admit failure and move on to more realistic and efficient policies. What will it take for decision makers to display the wisdom and garner the courage to end the disastrous War on Drugs and responsibly take charge of drug production and trade instead of leaving it in the hands of extremely dangerous and powerful international criminal organizations?

I wrote this book with a sense of urgency as the 2012 presidential elections in Spain, France, Mexico, and finally the US (and even in India) represent an unusual alignment of political events with considerable geopolitical significance, offering an opportunity to bring the debate to the forefront. Drug policy debate is very likely to dominate the Mexican presidential elections, while marijuana legalization initiatives are likely to be placed on the ballots in several states in the US.

Methodology:

As much as possible, throughout the book I used data and statistics from official governmental or international sources: UN, UNODC, WHO, UNESCO, World Bank, European Union, NIDA, FDA, DEA, US Department of Justice, etc. I am fully aware that such data and statistics are often self-serving and that their accuracy and their interpretation have been contested. However, even these arguably self-serving statistics spell out loud and clear the dismal failure of the War on Drugs.

Section

1

A contrasted history of the
War on Drugs

Foreword to Section 1

“The pretense that the workings of the mind, like the actions of the body, are subject to the control of laws, does not seem sufficiently demolished. ... The legitimate powers of government extend to such acts only as are injurious to others.”¹

Thomas Jefferson, Founding Father of the United States

“From now on it will be the function of the doctor to save humanity from vice, as it formerly has been that of priest... Mankind considered as creatures made for immorality, are worthy of all our cares. Let us view them as patients in a hospital; the more they resist our efforts to serve them, the more they have need of our services.”

Dr. Benjamin Rush, Founding Father of the United States,
founder of American psychiatry

Ever since its founding, the United States of America has been torn between radically different and dramatically competing visions of government, one minimalist libertarian, as embodied by Jefferson, the other paternalist totalitarian, as articulated by Benjamin Rush. The cards are often trumped and paternalist totalitarians regularly pose as minimalist libertarians. Such was the case with Ronald Reagan and George H. W. Bush, and even more so with his son George W. Bush. Curiously, economic minimalists are often totalitarian moralists.

The War on Drugs sealed the victory of doctor Benjamin Rush over Thomas Jefferson, except that the hospitals in Rush's vision were turned into prisons. Ronald Reagan, hailed as a champion of deregulation and free enterprise, self-proclaimed defender of freedom throughout the world, once declared: “Government exists to protect us from each other. Where government has gone beyond its limits is in deciding to protect us from ourselves.” It would be ironic if it was not such a tragedy that the same Ronald Reagan presided over the staunchest attack on civil

1). “The correspondence of Benjamin Rush and Granville Sharp, 1773-1809.”

liberties at home, resulting in a 500% increase of the incarcerated population. In his attempt to protect drug users from themselves with his “tough-on-crime/drugs-are-evil” posturing loaded with ulterior motives, he turned the US into a de facto police state.

Up until the early 1900s, all known psychoactive substances, including those now classified as “controlled substances,” were legally and readily available all over the world and did not need a black market. Users were pretty much everybody; use was mostly medicinal, at least in the West; abusers were rare and mostly accidental. Fast forward 100 years. Thanks in large part to the US single-handed leadership, the so-called “controlled substances” bring in untold hundreds of billions of dollars in revenues to a flourishing, dangerous and destabilizing black market; they cost tax payers hundreds of billions of dollars worldwide every single year. They sustain a tentacular War on Drugs bureaucracy terminally addicted to its own policies and numbering hundreds of thousands of bureaucrats worldwide. They foster a prison-industrial complex that jails tens of millions of people worldwide. They kill hundreds of thousands of people every year, tens of thousands in gang warfare alone, most of the rest as a direct result of the perverse effects of the policies of the War on Drugs bureaucrats. They sustain endemic corruption in many parts of the world, starting in the US. From Lucky Luciano to Ahmad Wali Karzai, the US secret services have been embroiled since World War II, directly or through proxies, with drug trafficking and drug traffickers to finance covert operations, destabilize other countries, or secure the illusory support of enemies.

How did we get there?

Chapter 1:

The political, ideological and historical background of prohibition

Prohibitionism is based on the premise that citizens will refrain from behaviors that are deemed immoral or harmful if such behaviors are decreed unlawful and criminal, even though such behaviors do not harm or unreasonably endanger others without their informed consent. Prohibitionism stems from totalitarian paternalism, an ideology rather prevalent among governing elites around the world, based on the presumption that people are feeble, foolish and irresponsible, needing constant protection from themselves.

The origin of prohibitionism in the US can be traced to the rise of the temperance movement, inspired by the 1785 essay “The Effects of Ardent Spirits on the Human Body and Mind” authored by founding father Dr. Benjamin Rush of Pennsylvania, who advocated “a new species of federal government for the advancement of morals in the United States.”¹ Dr. Benjamin Rush is considered the founder of American psychiatry and his portrait is embossed on the official seal of the American Psychiatric Association. Dr. Rush is quoted as saying: “Terror acts powerfully upon the body, through the medium of the mind, and should be employed in the cure of madness.”² To his credit, Rush was also a fervent abolitionist.

The temperance movement was one of the numerous so-called “reform movements” that flourished in the US at the beginning of the 19th century and united a broad coalition ranging from evangelists of

- 1). Benjamin Rush, “Essays, Literary, Moral & Philosophical,” Philadelphia, Printed by Thomas and Samuel F. Bradford, 1798.
- 2). Benjamin Rush, “Medical Inquiries and Observations Upon the Diseases of the Mind,” 1813.

the Second Grand Awakening to secular humanists and social liberals. The reform movements primarily aimed at correcting perceived social injustice and perfecting American society. They were instrumental in bringing about some fundamental (and much needed) transformations to the US political system, chief among them, of course, the abolition of slavery in the Northern states, which precipitated the secession war. Women's rights, child labor, public education, and prison reform were some of the leading causes promoted by the reform movement. Unfortunately, reformists tended to be rather self-righteous and over-zealous sometimes and in their over-zealousness, wanted to deliver the sinners from the enslavement of their own vices, even, and I should say, especially against the sinners' own wishes. To paraphrase Dr. Rush, the more the sinners resisted the reformists' efforts to serve them, the more they had need of their services.

The problem was compounded by the advent of hard liquors that really took off with colonization. En route to the New World, boats were loaded with all the necessary supplies for a long journey, including large quantities of alcoholic beverages, mostly wine and beer initially. After a few boats loaded to the beams had sunk on their way, wine and beer were replaced by less bulky distilled spirits, which created a real epidemic of alcoholism, a "disease of nutritional excess" as we shall see in the chapter about alcohol. Once on terra firma, the settlers stuck to their hard liquors and by the turn of the 19th century, the alcoholic epidemic was near its peak, with women and children as the primary and most helpless victims. By 1818, production of whiskey, rums, and other hard liquors was the third most important industrial activity in the US. Understandably, women became the foot soldiers of the temperance movement. Alcohol prohibition ended up being the wrong solution to a very real problem. Likewise, the War on Drugs is still to this day the wrong solution to a real problem.

Prohibitionism, a 19th century totalitarian ideology

Let's step back and divert for a while to the philosophical roots of the reform movement and prohibitionism. With the advent of humanism and the age of enlightenment in the 18th century, human beings broke

away from supreme religious authority and were placed in charge of their own destiny with a general belief in individual rights and freedom, coupled with an aspiration to the betterment of humanity through reason and virtue. Religious humanism was inspired by the Protestant Reformation movement that promoted religious individualism, self-sufficiency, and self-control, while secular humanism was inspired by the Philosophers. Humanism climaxed with independence in the US and the French Revolution in Europe. Following the heady days of independence, the US witnessed a rise in popular politics as the most enlightened citizens were eager to put to test their newly gained freedom in support of those who had been left out. They formed coalitions with the excluded, mostly women and slaves, leading to the reform movements. In the pursuit of their noble goals, secular humanists often allied themselves with austere Protestants.

Meanwhile, the Industrial Revolution was being launched in the UK. Workers were transplanted en masse from their traditional rural settings to their new sordid urban settings. Massive drinking was their usual escape from their 14-hour workdays in filthy and often lethal working environment and their squalid living conditions. While socialism saw exploitation of the masses as the root of the evils that befell the working class, the temperance movement saw alcohol as the source of those evils.

As they gained political power, some reformists shifted from moral suasion with a goal of voluntary acceptance through persuasion, to forced compliance through legal or political coercion as a means to expedite the perfecting of humanity and eradicate its perceived misery. This perversion of humanism led to totalitarianism, the belief in coerced societal transformation, i.e. the belief that human nature can be forcibly transformed through coercive means. Communism wanted to put the common good above personal interests through forced collectivism and elimination of classes. Nazism, national-socialism, and fascism wanted to create a hegemonic race of superior human beings who derived their strength and sense of destiny from subordination of the individual to collective identity through obedience, discipline, dedication, and pride. Prohibitionism viewed coerced morality as a means to improve society. Prohibitionists wanted

to legislate ethics and eradicate vice, a broad term under which were dumped all kinds of perceived immoral and sinful behaviors, the cardinal vices being gambling, alcohol abuse, and sexual depravity – pornography, prostitution, and homosexuality. Substance abuse was added later on, almost as a footnote. The temperance movements arose from overzealousness in the US, and from social blindness in the UK.³

As for capitalism, the elephant in the closet, it is founded on a general belief in private property and laissez-faire economics. Based on the belief that free enterprise will naturally nurture a harmonious merit-based society of ever-increasing prosperity, capitalism doesn't overtly pursue the betterment of humanity as societal improvement should inevitably ensue, or at least, so the theory goes. Nonetheless, the Industrial Revolution needed reliable workers and the newly emerging and largely fictional homo economicus had to be sober. Needless to say, prohibitionism violates the basic principles of capitalism (as well as the US Constitution) and, as we will see, it took a swelling succession of moral panics and deceptive maneuvers to shove prohibition down the throats of unsuspecting and frightened Americans.

The three major totalitarianisms were to blossom and bear their poisonous fruits throughout the 20th century, leaving a trail of devastation that is unprecedented in history, as victims numbered in the hundreds of millions. I will be the first to admit that prohibitionism is by far the most benign form of the ideological evils that haunted the 20th century; it is nonetheless clearly a totalitarian ideology with its propaganda machine, its censorship, its massive incarceration of deviants, and victims numbering in the millions over the last hundred years. And it is just as failed as the other two totalitarianisms. Alcohol prohibition failed; gambling is legal; homosexuals are out of the closet; the sexual revolution has brought overt sex splashing on every billboard and TV screen. Having lost most of its battles and severely weakened despite its pretense at world dominance, prohibitionism is also the last remnant, a fossil of an era that we would just as well leave behind. After

- 3). Peter Cohen "Re-thinking drug control policy – Historical perspectives and conceptual tools," Paper presented at the United Nations Research Institute for Social Development (UNRISD) Geneva, 7-8 July 1993.

its bruising defeat by alcohol thanks to alcohol's unassailable position as a dominant psychoactive of Western civilization, prohibitionism fell with a vengeance on substances that were then minor psychoactive substances without any real constituency to support them, barely an afterthought on the prohibitionist agenda, collateral damage.

The War on Drugs was in many ways a cultural war and controlled substances were essentially traditional psychoactives of non-Western cultures or their derivatives. Coca leaf has been used by the Andean natives for thousands of years while cannabis is the traditional psychoactive of India, the Middle East and North Africa; opium was probably discovered in Mesopotamia and has been the prevalent psychoactive in Iran, Turkey, and Central Asia ever since. The increased cultural cross-pollination that started with the 20th century led to the growing popularity of non-Western psychoactives in Western countries, chief among them cannabis. The so-called "controlled substances" gained a constituency as lifetime use among Western adults reached anywhere from 25 to 50% and regular use reached 5 to 15% depending on countries. Control systems became grossly inadequate; or rather, control was turned over to the underworld. This last battle of the prohibitionist agenda is increasingly being lost as drug culture pervades pop culture and overflowing jails cannot contain the flood of users. Ironically, substance prohibition probably nurtured the drug culture.

Like all totalitarianism, prohibitionism led to propaganda, censorship, massive incarceration of deviants, and the establishment of a de facto police state. The vampire-like drug addict was for most of the 20th century the perfect scapegoat, the source of all evils, the boogeyman to dust off and pull out in time of crisis. The irony of course is that the War on Drugs, as drug prohibition came to be called, created the very monster it was calling for in Frankenstein-like poetic justice.

While secular totalitarian ideologies have now been largely discredited, religious totalitarianisms are taking over at the dawn of the 21st century, with yet unpredictable consequences, a development that can hardly be hailed as progress.

Settlement patterns and prohibitionism

We are still left with the riddle of why, of all places, prohibitionism took roots with such vigor in the US, why mind alteration through substances or otherwise is so threatening to US society? For an answer to that question, we must go back to the early settlers of the New World.

The extreme corruption of the Roman Catholic Church and the dissolute life of its leaders led to the Protestant Reformation in the 16th century, breaking Western Christianity apart and giving birth to numerous religious sects which often faced persecution by religious and political authorities. Protestant Reformation took hold mostly in binge-drinking Northern Europe⁴ and temperance became a cardinal virtue of Protestantism, probably as a reaction to the dominant drinking pattern and its associated excesses. Protestantism promoted self-sufficiency and self-control, based on religious individualism and religious humanism.⁵

The Church of England, the Anglican Church, was founded in 1534 by King Henry VIII as a scheme to get rid of his wife Catherine of Aragon and marry Anne Boleyn. It was mostly a ploy, a political tool and was just as corrupt as the Catholic Church. The Puritan movement wanted to purge the Anglican Church from its Catholic influence and align it with Protestantism. Needless to say Puritans were not particularly liked by British rulers and they started emigrating en masse to the New World, fleeing persecution. They were joined by scores of members of various religious sects and other religious dissenters facing persecution across Europe at that time. The religious dissenters settled mainly in the northeast, from Pennsylvania to New England.

The indentured servants, who agreed to work in exchange for their passage, formed another category of New World settlers. These were mostly impoverished English farmhands evicted from their lands as large landowners were switching from agriculture to less

4). See Chapter 8 – Alcohol.

5). Harry G. Levine, "Temperance Cultures Concern about Alcohol Problems in Nordic and English-speaking Cultures," 1993.

labor-intensive sheep-raising for wool production. Indentured labor was actually a form of temporary slavery; indentured servants were sold to their masters upon arrival in the colonies. The churn rate was horrendous. Up to 90% of newcomers perished before completing their tenure and regaining their freedom, but a few made it through. Indentured servants mostly settled in the Chesapeake area, Maryland, Virginia, and the Carolinas. These settlers were eager to start anew with a can-do attitude of self-made men and women. At the same time, they lacked the sense of moral rectitude and social justice of the Northern settlers and were more than willing to work with the infamy of slavery, even though some of them had originally been quasi-slaves themselves. Here, in the settlement pattern, lay the seed of the Civil War that was to engulf the country by the middle of the 19th century.

A third category of settlers were the convicted felons that, thanks to the 1718 Transportation Act, the Crown dumped unto the New World by the boatload, mostly in Maryland, Virginia, and Pennsylvania. They were sold on arrival like the indentured servants. Indentured servants were typically required to work for four years, while convicts had to work seven or fourteen years, depending on the severity of their sentences.⁶ The fourth category of migrants, the slaves, was denied any opportunity to freedom well into the 19th century and the Civil War, and even then, their rights wouldn't be fully recognized until the 1960s and still fail to be fully implemented to this day. Over half a million migrants settled in the colonies from 1700 to 1775; almost half were slaves, 18% were indentured servants, and 9% were convicts. Thus, almost three quarters of the immigrants were deprived of their freedom upon landing. Those who paid for their passage and landed as free men and women were given a plot of land on arrival and typically bought a few indentured servants, convicted felons, or slaves to help them work their land.

The ascetic Protestants and the industrious former indentured servants were laboriously tilling their lands and setting up warehouses and businesses while the ex-convicts went on opening saloons, gambling dens, and whorehouses, to the dismay of the former. To the

6). Bruce Kercher, "Perish or Prosper: The Law and Convict Transportation in the British Empire, 1700-1850"

budding capitalist self-made men as well as to the ascetic puritans, self-control was a cardinal virtue and any type of mind alteration was highly suspect as a risk of losing control; they had the ex-convict boogeyman to reinforce this view. Protestantism flourished mostly in binge-drinking Northern Europe, where mind alteration is rarely mild and intoxication almost inevitably leads to total loss of control. So strong is the fear of loss of control among the religious dissenters that even celebrations must remain dignified, stodgy, sober, austere. The ascetic Protestant festivity contrasts with the often boisterous, rowdy, and heavily ethylic but chaotically controlled Southern European celebrations.⁷

The temperance movement

The United States, especially its northeastern region, was therefore a particularly fertile ground for the temperance movement. Not surprisingly, that is where it started. The first modern temperance society was founded in 1808 in New York by two of Dr. Rush's disciples, Dr. Lyman Beecher and Dr. B. J. Clark, as the "Society for the Suppression of Vice and the Promotion of Good Morals." New England remained a hotbed of the temperance movement throughout its existence.

The temperance movement was not confined to the US; soon temperance movements followed in Ireland, Scotland, England, and other parts of Northern Europe, though it never had much appeal in Southern Europe. The first world temperance convention was held in London in 1846.

The "Whole World's Temperance Convention" held at the Metropolitan Hall in the city of New York on Thursday and Friday, Sept. 1 and 2, 1853, had about 1,000 attendees from the United States, Canada, and England – a rather parochial whole world. The opening address by a certain Mr. Burleigh gives the tone of the high-spiritedness that animated the temperance movement at that time:

"We must show, from the observation and experience of the world, the evils which have arisen from the vice of

7). See Chapter 8 – Alcohol.

intemperance, and contrast them with the blessings proceeding from Temperance. These blessings we must scatter broad-cast over the land, till there shall not be on the broad earth a single victim to the deadly vice, or a single wailing mourner over its sad consequences. [Applause.] We are to prosecute this enterprise, moreover, upon the most stringent principles of reform-no compromise with the adversary-we take our ground upon this stand-that the use and preparation of intoxicating beverages is a moral wrong, and therefore the whole business of the manufacture, the sale, and the use ought to be assaulted with exterminating warfare. "No quarter," is our motto-we ask none. We ask none, because we stand upon truth as our stronghold. Our fortress is impregnable, our panoply is irresistible. The sword which we wield is like that which the archangel swayed; it is so tempered that nothing is so solid as to resist its edge. We have no occasion to ask for quarter; therefore we claim no credit for heroism. We desire to put an end to this traffic; we recognize that alcoholic drinks are not fit articles for commerce, and are not fit to be found anywhere in domestic use. Anything short of this full recognition opposes our operations. The moment we begin to compromise with Temperance, to go down to any lower ground, to adopt any half-way measures, at that instant we give up any power which we possess of ensuring our ultimate success."⁸

One of the most prominent temperance movements of the time, the Order of the Good Templars, was founded in 1851 and rapidly spread over the world. It was followed by the National Prohibition Party (1869), the Woman's Christian Temperance Union (1874), and the Anti-Saloon League (1895). The original Society for the Suppression of Vice was founded in London in 1802 and "laboured unremittingly to check the spread of open vice and immorality,"⁹ while its US namesake was founded in 1873.

- 8). The Whole World's Temperance Convention, held at Metropolitan Hall in the city of New York, Sept. 1st and 2nd, 1853, Fowlers And Wells, Publishers, Clinton Hall, 131 Nassau Street, 1853, Compiled from the Reports in Tribune, Times and Herald; principally from the Tribune.
- 9). The Leisure Hour, 13th January 1872.

Maine was the first state to adopt alcohol prohibition, in 1851. By 1855, 13 of the 31 states had adopted some type of alcohol prohibition. But even though the fight for alcohol prohibition was the mother of all battles for the temperance movements, temperance advocates sought prohibition of all intoxicants in general.¹⁰

The psychoactive landscape at the dawn of prohibition

According to colonial laws in the 1600s, farmers were required to grow hemp for the production of ropes and sails. By the 1700s, hemp was the primary crop grown by George Washington, and was also a valuable crop for Thomas Jefferson; both men exchanged smoking blends that may have contained cannabis. The Declaration of Independence was drafted on hemp paper.

Napoleon declared a total prohibition on hashish in 1798, which probably bolstered its popularity amongst the French intelligentsia. The early 19th century “club des Hashischins” counted among its members Théophile Gautier, Alexandre Dumas, Victor Hugo, and Eugène Delacroix.

In the 1800s, virtually every household in the US and Europe owned various types of opium preparations that were commonly used to cure all kinds of diseases, from diarrhea to tuberculosis, cough, neuralgia or menstrual pains, laudanum and paregoric being by far the most popular. Opium and its derivative, morphine, together with quinine, were often the only medicine available during the Civil War in the 1860s. Opium was handed out liberally to treat malaria, diarrhea, and all sorts of battlefield ailments, while morphine was used extensively as an anesthetic during surgeries to remove broken limbs and treat other war injuries, of which there were plenty. According to other sources, alcohol ingestion and chloroform inhalation were the anesthesia methods of choice.¹¹ War on Drugs lore has it that by

10). See also for this section: Mark Lawrence Schrad, “The Political Power of Bad Ideas: Networks, Institutions, and the Global Prohibition Wave,” Mar 24, 2010.

11). http://www.encyclopediavirginia.org/Medicine_in_Virginia_During_the_Civil_War.

the end of the Civil War, 400,000 addicted war veterans were roaming the country with their hypodermic needles and morphine, afflicted by the “soldier’s disease.” Despite its popularity among drug experts, this legend was a late fabrication of the War on Drugs propaganda to illustrate the perils of opiate use. There are no records in the National Archives and just a few mentions of post-war addiction issues in the literature until World War I, 50 years after the facts. One would think that 400,000 addicts out of a population of 31 million (including 4 million newly-freed slaves who most likely were not addicted) would have left some more noticeable imprint.¹²

When they were first discovered, morphine, heroin (the heroic drug), codeine, and cocaine were invariably hailed as miracle drugs and universal panacea. They were of course far more powerful than anything else used by medicine at that time. This led to another “disease of excess.” While opium had been safely ingested throughout the world for thousands of years and coca leaves had been safely chewed by South American Indians for about as long, the technological improvement that led to the isolation of the active principle of these two substances had dramatic consequences on the effects of their uses. It is noteworthy that a first technological improvement, smoking opium, marked the beginning of an epidemic of opium addiction, starting in China in the 18th century. This addiction epidemic largely spared India, where opium was traditionally chewed. Just like tobacco smoking, opium smoking significantly shortens delivery time to the brain, resulting in much quicker and more acute effects.

Up until the turn of the 20th century, the commerce of drugs was part of the legitimate economy. Psychoactive substances, mainly cannabis, cocaine and opiates (opium, morphine, heroin, codeine), were unregulated and available in any drugstore. The Sears & Roebuck catalogue, a fixture of millions of Americans homes at that time, offered a Bayer heroin kit, complete with a syringe, two needles, and a carrying case for around \$1.50 that was marketed as an opium and morphine addiction cure!

12). Jerry Mandel, “The Mythical Roots Of Us Drug Policy: Soldier’s Disease And Addicts In The Civil War,”
<http://www.druglibrary.org/schaffer/history/soldis.htm>.

The pharmacopeia was dominated by psychoactive substances, as opiates and cocaine were among the major ingredients used in medicine, while alcohol was the basis of numerous medicinal tinctures, wines, elixirs and liquors. By 1905, there were 28,000 preparations, the so-called “patent medicines” sold anywhere from mail order catalogs, department stores and drugstores to the infamous snake oil doctors and their medicine wagons.

The German laboratory Bayer, the first of the world’s pharmaceutical giants, built its original fortune on heroin and aspirin, both discovered by Heinrich Dreser, head of Bayer laboratory. Merck, another German laboratory and pharmaceutical giant, built its fortune on morphine, codeine, and cocaine. The French cocaine-laced “Vin Mariani” that later inspired Coca Cola was endorsed by Thomas Edison, Emile Zola, Queen Victoria, US President McKinley, and no less than three different popes, among other celebrities. Pope Leo XIII even awarded Mariani a gold medal and was prominently displayed in the wine advertising. Up until 1916 in the UK, people could buy at Harrods “A Welcome Present for Friends at the Front” kit containing cocaine, morphine, syringes and spare needles. And of course, the iconic Coca Cola contained cocaine until 1903 and was marketed as a temperance drink, an alternative to alcohol.

Addiction began to spread, prompting the US government to pass the Pure Food and Drug Act of 1906, requiring labeling of contents on foods and drugs. It signaled the beginning of the end of the patent medicine era as medicines containing addictive substances were required to bear a warning label. The Pure Food and Drug Act also helped curb addiction by protecting patients from unsuspected psychoactive use.

With increased awareness of the potential dangers of opiates and cocaine, and more careful prescription by doctors, addiction started to decline at the turn of the 20th century while substance abuse moved down the social ladder to the urban poor and spread to the working class and the underworld, especially the prostitutes. While recreational use of psychoactives was acceptable and tolerated, even fashionable, as long as the stereotypical addict was a white, middle-aged upper to middle class

white woman, it turned into dreadful evil when it moved to the working class or worse, to minorities and the underworld.¹³

The use of psychoactives was not restricted to their therapeutic applications. Their recreational use was actually quite fashionable among artists, writers and the intelligentsia, as well as the aristocracy and the upper class in general, especially in Europe. Sherlock Holmes is famous for his heroin and cocaine addiction. Freud was an enthusiastic cocaine user. Alice in Wonderland is most likely the product of multi-substance experiences. From Balzac, Théophile Gautier and Baudelaire to Gauguin, Van Gogh or Picasso, from Robert Louis Stevenson to Thomas de Quincey, Lord Byron or Edgar Allen Poe, the popularity of opium and hashish was widespread amongst the avant-garde.

A few facts are worth noticing here:

- The technological improvements that allowed the isolation of the active ingredients from opium and coca leaves into morphine, heroin and cocaine caused an addiction epidemic, just like the invention of distillation led to an epidemic of alcoholism and the introduction of opium smoking led to an epidemic of opium addiction.
- The typical abusers of that time were health practitioners (nurses, doctors, pharmacists, etc.) and their wives as well as middle-aged rural housewives who had been over-prescribed by their physicians or had bought their potions at the local drugstores or from the back of traveling wagons, having no idea that the stuff they were using might be addictive.
- Abusers started abusing mostly by ignorance; addicts, in a way, were accidental, unsuspecting addicts. Over-prescription by careless physicians was one of the major causes of addiction.
- Addiction receded rapidly around 1900 as physicians and users became more educated about the potential dangers of addictive substances, which may indicate that some of these substances were not that addictive after all. Truthful labeling helped a lot of course.

13). Stephen R. Kandall, M.D., "Women and Addiction in the United States – 1850 to 1920."

- The vast majority of users, which was pretty much the entire population, never abused and the vast majority of abusers kept on living normal, productive lives.
- While alcohol use was mostly recreational, opiate, cannabis and cocaine use was mostly medicinal among the general population. Their recreational use was rare and mostly confined to some ethnic minorities and the avant-garde artists, the intelligentsia, and the European aristocracy.

Addiction estimates at that time vary wildly between 200,000 and 3 million addicts, 250,000 being the generally agreed number. Most of the addicts were victims of over-prescription.

Chapter 2:

The build-up to the War on Drugs

Moral panics and the build-up to the Harrison Tax Act of 1914

No single chain of events led to drug prohibition in the US and, from there, to the rest of the world. Global prohibition was rather the outcome of a confluence of disparate factors and a web of mismatched interests. Let's run through the major trends and events that led to these doomed policies.

Opium smoking was introduced to China in the 18th century and soon opium addiction started spreading, fueled by British smuggling of Indian opium. From 1839 to 1842 and from 1856 to 1860, the British Empire fought and won two opium wars against China to impose opium trade in that country and protect the interest of the East India Company and its opium monopoly. This was a humiliation that China hasn't forgotten to this day. Up to 27% of the adult Chinese male population may have been addicted at the turn of the century. Although these events might seem unrelated to drug prohibition in the US, we will see that they were critical to the inception of the first international drug control laws.

The American Medical Association (AMA) was founded in 1847. The American Pharmaceutical Association (APhA) soon followed in 1852 "to as much as possible restrict the dispensing and sale of medicines to regularly educated druggests (sic) and apothecaries." Both associations aimed to control the medical marketplace, taking away the practice of medicine and the distribution of medicinal preparations from healers and herbalists.

The first drug prohibition law, the Opium Den Ordinance, enacted in San Francisco in 1875, banned public smoking of opium. They

specifically targeted “filthy, idolatrous” Chinese immigrants, setting the tone for future laws to come, claiming that “many women and young girls, as well as young men of respectable family, were being induced to visit the Chinese opium-smoking dens, where they were ruined morally and otherwise.”¹ This first law failed, dens went underground, and the added zest of illegality boosted their popularity, which didn’t prevent more cities and states from jumping on the bandwagon. By 1900, opium den bans had been enacted in 22 states and territories. As the issue grew further, immensely magnified by the hyperbolic embellishment of the Hearst-dominated sensationalistic press, the federal government stepped in, outlawing the import of opium for smoking in 1887 and banning Chinese people from the opium trade altogether. These laws concerned only the low potency opium used for smoking. Higher potency edible opium, and of course its numerous preparations and derivatives such as morphine and codeine, remained legal.

This launched a string of moral panics that climaxed with the alcohol prohibition of 1919 and was largely fueled by the hysterical and hate-mongering sensationalist media empire of William Randolph Hearst, the Rupert Murdoch of his time. From the Inquisition, to the witch-hunts of the 16th to 18th century, to pogroms and purges, to McCarthyism and the War on Drugs, moral panics have been frequent tools of government to curtail civil liberties and discriminate against minorities. Moral panics are commonly orchestrated as a diversion from real and more pressing problems. Under the pretext of addressing perceived deviance and eradicating activities deemed immoral, they are often a disguise for scapegoating, discrimination, racism and xenophobia. Under the pressure of moral panics, people suspend sound judgment and rationality to be bullied into accepting intrusions into their private lives and encroachments to their liberties that would be deemed intolerable under normal circumstances. Totalitarian regimes are typical experts at moral panicking. Last but not least, moral panics are especially efficient in times of crisis, as we will see throughout this chapter.²

A cocaine scare was rapidly gaining momentum in the US, targeting African Americans. It was rumored that some employers were

1). H. H. Kane, *Opium Smoking in America and China*, New York, 1882.

2). Creig Reinerman, “The Social Construction of Drug Scares.”

supplying cocaine to their Negro workers. A 1900 editorial published in the *Journal of the American Medical Association* claimed: “Negroes in the South are reported as being addicted to a new form of vice – that of ‘cocaine sniffing’ or the ‘coke habit.’” Hamilton Wright, one of the architects of American drug policy in the early 1900s who was appointed as the first Opium Commissioner of the United States by Theodore Roosevelt in 1908, testified before Congress in 1910: “cocaine is often the direct incentive to the crime of rape by the Negroes of the South and other sections of the country.” Cocaine was rumored to give superhuman powers to Negroes and make them impervious to bullets, which prompted Southern sheriffs to increase the caliber of their weapons from .32 to .38. By 1906, nearly half the states restricted the sale of cocaine to medical prescriptions while moral panic kept on picking up speed.

Enacted on May 7, 1906 with the support of the AMA and APhA, the District of Columbia Pharmacy and Poisons Act prohibited the sale of habit-forming drugs such as opium, morphine, or cocaine without a doctor’s prescription. The act applied only to the District, but was devised as a model for other states and was the first in a succession of anti-drug laws that would ultimately culminate in the Harrison Act of 1914.

As a result of the 1898 Spanish-American War, the US acquired the Philippines where opium addiction was a significant problem. Incidentally, the war produced an accidental hero, Captain Hobson, whose addiction to fame proved quite useful to prohibitionists. The first Episcopal bishop of the Philippines, Charles H. Brent, set up a Commission of Inquiry, known as the Brent Commission, that recommended international control of narcotics. To counter British opium imports, China had become by then the world largest opium producer, but was looking for better ways to solve its opium problems. Meanwhile, American missionaries in China were complaining about the damages of British opium in the Chinese population while American traders claimed that an opium-free China could be a sizeable market for American goods. These views were endorsed by President Theodore Roosevelt, who convened the International Opium Commission, held in Shanghai in 1909. Dr. Hamilton Wright and Bishop Brent headed the US delegation. Wright was fired shortly thereafter for alcohol abuse. The US hoped to get access to the huge

Chinese market in exchange for US support of China against its British sworn enemies. Although it didn't accomplish much more than vague recommendations, the Shanghai conference is widely recognized as marking the beginning of the world War on Drugs and was celebrated as such by the UNODC.³ The Shanghai conference marked the entry of the US onto the world scene at the beginning of the American century. It was shortly followed by World War I, which planted the seeds of Nazism in Germany, and by the Russian revolution, which established communism in that country. Thus, the three major totalitarianisms of the 20th century were launched almost simultaneously.

Unlike most European countries, Turkey, and Iran, the US did not have any commercial interests in the drug trade at that time, which facilitated its adoption of drug prohibition. Furthermore, the push for prohibition served burgeoning US commercial interests on the world scene by striking points against its major commercial competitors.⁴

A second conference was held at The Hague in 1911, leading to the International Opium Convention, which was ratified in The Hague in 1912, amended in 1914, and incorporated into the Treaty of Versailles in 1919. The Convention provided that "The contracting Powers shall use their best endeavours to control, or to cause to be controlled, all persons manufacturing, importing, selling, distributing, and exporting morphine, cocaine, and their respective salts, as well as the buildings in which these persons carry such an industry or trade." The convention had plenty of loopholes to accommodate the conflicting demands of the British and their still flourishing opium trade, the Germans who were the leading producers of manufactured drugs (cocaine, heroin, morphine), and the opium producers (Turkey and Iran). Despite intense US bullying, Switzerland (another major producer of manufactured drugs), Turkey, Peru, and Bolivia, among others, refused to ratify the convention while Germany dragged its feet, so that enforcement remained half-hearted at best.

3). UNODC World Drug Report 2009 – Preface by Antonio Maria Costa, UNODC Executive Director, http://www.unodc.org/documents/wdr/WDR_2009/WDR2009_eng_web.pdf.

4). Philip Keefer and Norman Loayza, "Innocent Bystanders: Developing Countries and the War on Drugs," A World Bank publication, May 2010.

Back in the US, pressure was on to comply with international regulations and adopt federal rules for the control of “narcotics” as these substances were improperly called, cocaine being a stimulant. Moral Panicker in Chief Dr. Wright led the crusade and, no stranger to hyperbole, he claimed in a March 12, 1911 article published in the New York Times: “Of all the nations of the world, the United States consumes most habit-forming drugs per capita. Opium, the most pernicious drug known to humanity, is surrounded, in this country, with far fewer safeguards than any other nation in Europe fences it with.” He repeated his claims about cocaine-crazed Negro rapists and filthy Chinamen seducing innocent white women into opium addiction and coercing them into prostitution. Dr. Wright had plenty of allies, from the AMA and the APhA eager to consolidate their monopoly on the medical marketplace, to right-wing extremists and racists, to the labor movement who felt threatened by migrant workers, and of course to the temperance movements. Temperance advocates were themselves, as we have seen, a disparate coalition ranging from evangelists to idealistic social liberals.

Thus the Harrison Tax Act came into law on December 17, 1914, as a product of moral panic fueled by bigotry, prejudice and greed. It was passed as a deceptive maneuver, masquerading as a tax act. The Harrison Tax Act was misleading and was a prohibition law in disguise. According to its title, it just claimed to be: “An Act to provide for the registration of, with collectors of internal revenue, and to impose a special tax on all persons who produce, import, manufacture, compound, deal in, dispense, sell, distribute, or give away opium or coca leaves, their salts, derivatives, or preparations, and for other purposes.”⁵ Enforcement was under the jurisdiction of US Treasury and at no point did the Act mention prohibition. Had lawmakers understood that its real intent was prohibition, it would have most likely failed, as the country was probably not quite ready yet for such an overt violation of its Constitution, especially as virtually every household in the country still had opium or cocaine preparations in their medicine cabinets.

5). “Harrison Narcotics Tax Act, 1914,” Public Acts of the Sixty-Third Congress of the United States, available at <http://www.druglibrary.org/schaffer/history/e1910/harrisonact.htm>.

The Harrison Act allowed doctors to distribute opiates or cocaine “in the course of their professional practice only.” This was interpreted in 1917 that doctors couldn’t prescribe to addicts as addiction was not a recognized disease, a position upheld by the US Supreme Court in 1919. The feared narcotic agents of the Treasury Department targeted mostly physicians and pharmacists. Had they wished to promote a flourishing black market, they wouldn’t have acted otherwise. Between 1920 and 1930, 30,000 physicians and 8,000 pharmacists were jailed for prescribing or dispensing opiates to undercover agents posing as addicts, creating a panic among health practitioners.⁶ Even worse, addiction treatment centers were closed one by one. The crackdown on medical professionals and the ensuing disruption of the psychoactive marketplace gave rise to a flourishing black market as, if nature abhors a vacuum, so does market economy.

The noble experiment

Meanwhile, the temperance movement was gearing up for the mother of all battles and moral panic went in shrill mode, fueled by anti-German sentiment and the fear of papists. Spanish-war hero Captain Hobson was one of its most eloquent proponents. Following the triple traumatic shocks of WWI, the Russian Bolshevik revolution and the Mexican revolution, the 18th amendment of the United States Constitution, along with the Volstead Act, were ratified on January 16, 1919, establishing alcohol prohibition in the US.

The evening of Jan. 16, 1920, hours before Prohibition descended on America, former baseball star turned evangelist Billy Sunday preached to his ecstatic followers: “The reign of tears is over. The slums will soon be only a memory. We will turn our prisons into factories and our jails into storehouses. Men will walk upright now, women will smile, and the children will laugh. Hell will be forever rent.” That’s when all hell broke loose as the Dry New World left organized crime in charge of alcohol production, distribution, and sale with disastrous consequences. President Hoover lamented that prohibition had caused “a complete breakdown in Government.”

6). Rufus King, “The drug hang-up: America’s fifty-year folly,” 1972.

Temperance activists went as far as hiring scholars to rewrite the Bible in order to remove all references to alcoholic beverages. Incidentally, if the rosy predictions of the prohibitionists remind you of the brave new worlds prophesied by the Hitlers, Stalins, Maos, or Fidel Castros of the world, they should, as any attempts to forcibly tamper with human nature inevitably ends in catastrophe. As French philosopher Blaise Pascal once said, “Man is neither an angel nor a beast, and calamity would have it that whoever wants to play at being an angel will act like a beast.”

The infamous gangster Arnold Rothstein, who inspired the character of Meyer Wolfsheim in *“The Great Gatsby”* and is credited as being the founder of organized crime in America, was particularly skilled at spotting potential talent. He recruited and mentored the who’s who of the pre-war underworld: Bugsy Siegel, Meyer Lansky, Jack “Legs” Diamond, Charles “Lucky” Luciano, Frank Costello, Lepke Buchalter, and Dutch Schultz, among others. Rothstein had pretty much the entire New York political, police and judicial system under his control to secure the smooth operation of his organization. Although he entered into legend for fixing the 1919 World Series, Rothstein built his prosperous empire mostly on bootlegging. His trainees Luciano and consorts all owed the launch of their successful careers to prohibition. Al Capone reigned supreme over Chicago. Organized crime took over the country by storm and amassed considerable and long-lasting influence.

As prohibition was coming to an end, criminal organizations branched out of their traditional turf of prostitution, extortion and gambling to take control of anything from trade unions, import/export and customs clearance to garbage collection, especially dangerous waste disposal. They routinely dumped toxic waste on construction sites all the way down to Florida – where they also controlled local real estate development. Organized crime took over Cuba, where their incestuous relationship with the brutal and appropriately corrupt Bautista regime led to the Cuban revolution. They turned a sandy piece of desert into a huge adult entertainment center, a Disneyland for grown-ups in the faraway state of Nevada. From Massachusetts to Florida, from New York and New Jersey to California, and through Illinois of course, organized crime had far-reaching influence over

the US political life up to the sixties and seventies, routinely rigging elections and buying candidates.

Jails were overflowing; the justice system was overburdened by small-time offenders while the big guys were bribing their way out of trouble. The population's overwhelming response was ignorance of the law, as prohibition led to massive civil disobedience, and a general sense of lawlessness spread over the country. Alcohol, the dominant psychoactive of Western civilization and its de facto official drug, was more than temperance advocates could chew, as the rapport of America to alcohol is like a rapport with its own soul, a fight with its own demons. The "noble experiment," as it was nicknamed, was a general fiasco of such magnitude that the 18th amendment was promptly repealed by the 21st amendment in 1933, the only US amendment to have ever been repealed.

The prohibition of opiates and cocaine stayed unscathed as these substances had only marginal constituency at the time, at least for their recreational uses. It is remarkable and a telling sign of how insignificant a problem drug abuse was at the time that the experience of alcohol prohibition did not lead anyone to question prohibitionism in general. Only a handful of people realized that the "noble experiment" was the blueprint for further disasters still to come.

Cannabis was still legal; its medicinal uses were limited, its recreational uses virtually unknown to the Caucasian population. Outside the Mexican community, hardly anybody knew what marijuana was. Actually, hemp was a weed, growing by the side of the roads, and it didn't occur to most people to smoke it.

Moral panic revisited: Harry Anslinger and the 1937 Marihuana Tax Bill

Captain Hobson in search of a new pulpit found in heroin a worthy demon to assail and started spreading the image of the drug addict as some kind of boogeyman, a wrecked zombie, a contagious vampire intent on infecting his entourage. This Dracula-like image was deeply drilled into the nation's subconscious thanks to radio waves, the all-powerful media of the time. It helped that heroin was mostly a German

import. Heroin tampering was suspected in all things German, from toothpaste to face powder.

Rothstein was just as quick to recognize an opportunity as he was at recognizing talent and seized on the power of the Harrison Act for the growth of his criminal empire, founding the modern illegal drug trade in the 1920s as an added franchise to his thriving bootlegging business.

Rumor has it that Rothstein partnered in this venture with Belgian Captain Alfred Lowenstein, the third richest man in the world at the time, who disappeared mysteriously in 1928, mistakenly opening the back door of his private plane to go to the bathroom, if the official version is to be believed.⁷ Rothstein bought a shipping company and sent some employees to Europe to buy large amounts of cocaine, morphine and heroin from Bayer and Merck in Germany and Hoffman-La Roche in Switzerland to feed his networks on the ground, amassing a considerable fortune.⁸ While Levi Nutt was heading the Narcotic Division of the Treasury Department in charge of implementing the Harrison Act, his son and his son-in-law were both on Rothstein's payroll, as was discovered when Rothstein was murdered on November 4, 1928. As a result of the ensuing scandal, Nutt was replaced in 1930 by a law-and-order prohibitionist crusader, Harry Anslinger, who had been dedicated body and soul to alcohol prohibition, a battle that left him frustrated, badly bruised and in search of revenge. The Narcotic Division morphed into the Federal Bureau of Narcotics (FBN).⁹

The Harrison Act went through several tougher and tougher incarnations while the US kept pushing for ever harsher international regulations. By the 1930s, a new moral panic was brewing, orchestrated once again by William Randolph Hearst. Hearst had acquired 800,000 acres of timberland in Mexico for pennies on the dollar, timberland that had been confiscated during the 1910 Mexican revolution. Hearst

7). David Pietrusza, "Rothstein: The Life, Times, and Murder of the Criminal Genius Who Fixed the 1919 World Series."

8). Michael Woodiwiss, "Organized Crime and American Power: A History," 2001.

9). Mike Gray, "Drug Crazy: How We Got Into This Mess and How We Can Get Out."

hated the Mexicans and wanted his revenge. Hearst was also a paper and timber mogul, owning most of California timberland, which gave him a significant edge over his rivals. A 1916 USDA report titled “Hemp Hurds as a Papermaking Material”¹⁰ claimed that higher-quality paper could be produced from hemp fiber at a quarter of the cost of paper from wood pulp, using far less harmful chemicals.¹¹ Hemp paper is far more resistant and durable than wood-pulp paper. It is still used to produce cigarette paper, banknotes and specialty papers, or to print bibles in view of its light weight and high durability. Being naturally white, hemp paper requires far fewer chemicals for processing.¹²

Hearst teamed up with Pierre DuPont, who owned the wood-pulp-to-newsprint making process, and his banker Andrew Mellon. Andrew Mellon, a successful banker and one of the richest men of his time, was Secretary of the US Treasury from 1921 to 1932 and as such appointed Anslinger as secretary of FBN in 1930; Anslinger’s wife, Martha Denniston, happened to be Andrew W. Mellon’s niece. DuPont also owned a patent for nylon. Although nylon was actually meant to compete with silk, DuPont might have had the ulterior motive of removing another natural fabric from his competition.

Anslinger enlisted a select club of pharmaceutical companies that he controlled through the issue of narcotic manufacturing licenses: Merck, Mallinckrodt, Hoffman La Roche, New York Quinine, Parke-Davis, Sharpe & Dohme, Eli Lilly, and Squibb. Captain Hobson, the Glenn Beck of his time, was pulled out once again, capable of bringing tears to the eyes of his listeners and fear to their hearts with gory tales of the ravages inflicted by marijuana, a drug even worse than heroin.¹³

- 10). “Hemp Hurds as Paper-Making Material,” United States Department of Agriculture, Bulletin No. 404, October 14, 1916, <http://www.gutenberg.org/ebooks/17855>.
- 11). I refer my readers to the section on cannabis in Chapter 4 for more details on the industrial uses of hemp.
- 12). Small, E. and D. Marcus, 2002, Hemp: A new crop with new uses for North America, p. 284-326. In: J. Janick and A. Whipkey (eds.), Trends in new crops and new uses, ASHS Press, Alexandria, VA.
- 13). Mike Gray, *ibid*.

Hearst started to spread fear about marijuana through his media empire, using the Mexican name so that people wouldn't recognize the hemp plant that was grown for rope and clothing across the US. Marijuana was mostly smoked by migrant Mexican workers at that time, and with unemployment lines stretching from New York to Los Angeles, Mexican migrants were not exactly popular. So Hearst pulled out his old tried and true formula and the Hearst media empire became the sounding board for Anslinger's outrageous ranting and outlandish racism, repeated ad infinitum by Hobson through the radio waves. One of his most famous quotes pretty much sums it up: *"There are 100,000 total marijuana smokers in the US, and most are Negroes, Hispanics, Filipinos, and entertainers. Their Satanic music, jazz, and swing, result from marijuana use. This marijuana causes white women to seek sexual relations with Negroes, entertainers, and any others."* But I am sure you will appreciate the consistency and logic of the following: *"Marihuana leads to pacifism and communist brainwashing"* and *"You smoke a joint and you're likely to kill your brother."* Or *"Marijuana is the most violence-causing drug in the history of mankind."* Make up your mind Harry!

After two years of secret preparations, Anslinger presented his "Marihuana Tax Bill" to Congress in April 1937, backed by his lurid accounts of marijuana-intoxicated ax murderers and marijuana-crazed Mexicans macheting people's heads off, without forgetting of course the innocent white women seduced to perdition. All supporting evidence consisted of a stack of newspaper clippings, most of them Hearst-produced and of his own inspiration. The AMA had wised up since the Harrison Act and did not want any more encroachments to the practice of medicine; their legal counsel, Dr. William C. Woodward, vehemently opposed Anslinger's bill to no avail. Anslinger declined to call for testimony the Public Health Service experts, as the Assistant Surgeon General had concluded a few months before: *"Cannabis indica does not produce dependence... it probably belongs in the same category as alcohol."*

The hearings lasted less than three days and were a farcical, almost caricatured display of Anslinger's ranting and bullying over congressional crass ignorance and incompetence; the Speaker of the House introduced the bill on the floor: *"I don't know. It has something*

to do with a thing called marihuana. I think it's a narcotic of some kind." The Marihuana Tax Act imposing prohibitive taxes on marijuana/cannabis became the law of the land on August 2, 1937 after less than three minutes of floor debate, disguised once again as a Tax Act.¹⁴ "In a vote they didn't bother to record, on a matter of little interest, a handful of Congressmen forwarded a bill that would one day fill the nation's prisons to the roof beams."¹⁵

Hemp farmers discovered a little too late that congress had voted them out of business. As Japan invaded the Philippines, by then the main source of hemp fiber for the US, the law was relaxed during WWII to accommodate the needs for tents, parachutes, and other hemp fiber products. The USDA even produced the propaganda film "Hemp for Victory" to incite farmers to grow hemp.

Methadone was synthesized in 1937; Albert Hofmann synthesized LSD (lysergic acid diethylamide) in 1938.

Narcotics and the mob

In the early 30s, one of Rothstein's star protégés, Lucky Luciano, together with his legendary buddies Bugsy Siegel, Meyer Lansky, Frank Costello, and Dutch Schultz, set up the "National Crime Syndicate," or the "Commission," and its rule enforcement branch, Murder Inc., led by Louis Lepke Buchalter. The Syndicate organized the main crimes bosses throughout the US, awarding and managing territories and activities, chief among them narcotic trafficking, prostitution and gambling. Murder Inc. is credited with over 500 murders.

The Syndicate recruited an impressive stable of politicians, cops and judges, delivering votes, buying juries and other favors arranged by "Prime Minister" Frank Costello in exchange for impunity. Even FBI director J. Edgar Hoover, who claimed for years that the Mafia didn't exist in America, was not immune. Rumor has it that he owed the Syndicate some winning streaks on the racetrack. Following the

14). <http://www.drugwarrant.com/articles/why-is-marijuana-illegal/>.

15). Mike Gray, "The Devil and Harry Anslinger,"
<http://www.commonensedrugpolicy.org/>.

footsteps of his mentor Rothstein, Lucky Luciano kept the narcotic franchise for himself and turned it into a booming business. Luciano was arrested and condemned in June 1936, but kept running his empire from his jail cell.

During WWII, Luciano struck a deal with the US secret service, the Office of Strategic Services (OSS), to prevent sabotage of East Coast ports and secure the help of the Mafia for the 1943 US invasion of Sicily. Mussolini had made a personal vendetta of the fight against the Mafia which was almost wiped out by then and seething for revenge. The US Army appointed Don Calogero, the uncontested chief of the Sicilian Mafia and Luciano's close friend, mayor of his fiefdom Villalba. This unholy alliance went on after the war. The OSS sought the help of the Sicilian Mafia to break trade unions and contain the communists who had become a major political force in Italy. The OSS and the French secret services struck deals with the Corsican Mafia to do the same in France, especially in Marseille, breaking two strikes and financing their operation with heroin production. Luciano won early release in 1946 for his wartime services, to be exiled to Italy. The US government deported over 100 more Mafiosi to Sicily, allowing Luciano to rebuild his syndicate. Luciano promptly moved to Cuba to keep running his empire with Meyer Lansky and their Miami contacts, the Trafficante family, under the protection of Cuban dictator Batista. They launched the famous French Connection with the Corsican Mafia to move heroin from Turkey and Lebanon to the US via Marseille and Corsica in the early 1950s. The OSS also worked closely with the Chinese mafia in the Golden Triangle (Burma, Laos, Thailand, China's Yunnan Province).¹⁶

After the Maoist victory, the US and the CIA forged alliances with drug warlords along the Southern Chinese border from Burma to Laos in the early 50s in order to contain the spread of communism in Asia, a pattern that has been repeated over and over since WWII. They

16). Alfred W. McCoy, "The Politics of Heroin in Southeast Asia," Jan 1, 1973.
"A Tangled Web: A History of CIA Complicity in Drug International Trafficking,"
Institute for Policy Studies, Intelligence Authorization Act For Fiscal Year 1999,
House of Representatives, May 07 1998.

supplied logistical support, weapons, ammunition and air transport. The US was flooded with South-East Asian heroin.¹⁷

Meyer Lansky started investing in an up and coming young Californian lawyer named Richard Nixon through his agent in Southern California, Mickey Cohen, investing in Nixon's 1946 campaign and pouring \$75,000 in his 1950 senate race, which put him on the map to become Dwight Eisenhower's vice presidential running mate in 1952. Murray Chotiner, Nixon's campaign manager and political adviser throughout his entire political career, was also Meyer Lansky's lawyer and defended no less than 249 mobsters between 1949 and 1952. His close ties to organized crime were investigated by Robert Kennedy in 1966. Nixon was also a very close friend of Bebe Rebozo, a Florida gangster and businessman who worked for Meyer Lansky.¹⁸

In 1938, the Federal government seized 558 kg of marijuana, 18,000 marijuana cigarettes, 674 kg of opium, 12 kg of morphine, 94 kg of heroin, and 417 g of cocaine (less than ½ kg).¹⁹ On November 4, 1955, 14 kg of pure heroin were seized by Federal narcotics agents in New York, the largest amount of heroin ever seized in the US at that time. The US had 20,000 heroin addicts at the end of World War II, growing to 60,000 in 1952 and 150,000 by 1965.²⁰

FBN statistics on US drug addiction in the 1950s varied between 40,000 and ½ million addicts, depending on whether the FBN wanted to prove its efficiency or whether it was seeking a budget increase. By contrast, according to a Times 1955 editorial, in the whole of Britain where heroin was still legal, there were 317 addicts to "manufactured" drugs, almost half being medical professionals, including 47 heroin addicts, and the vast majority of them were living rather normal lives. The "British System" of dealing with drug addiction was an embarrassment to Anslinger and the US, and they put considerable pressure on the British to adopt the supposedly more efficient US

17). Alfred W. McCoy, *Ibid.*

18). Anthony Summers, "Arrogance of Power: The Secret World of Richard Nixon."

19). David T. Courtwright, "The rise and fall and rise of cocaine in the United States – Freud's Role."

20). Alfred W. McCoy, *ibid.*

system.²¹ The British resisted US bullying until 1971, when much tougher laws were enacted, more in line with US regulations as the addict population surged thanks in large parts to the counterculture movement and peaked at a relatively modest few thousand.

Early dissenters

Voices of dissent started to emerge early on about the wisdom of the incipient War on Drugs and the prohibition in disguise. Most notable was the 1944 “La Guardia Committee Report on Marihuana,” concluding that there was no evidence that marijuana was addictive or led to violent behavior. The report was promptly trashed by Anslinger who tried to discredit its authors.²²

Congressman John M. Coffee from the state of Washington was the lone congressional opponent to Anslinger’s policies from 1937 to 1946, fighting in vain with arguments that are still strikingly valid:

“In examining the Harrison Special Tax Act we are confronted with the anomaly of a law designed (as its name implies) to place a tax on certain drugs, and raise revenue thereby, resulting in reducing enormously the legitimate importation of the drugs in question, while developing a smuggling industry not before in existence. That, however, is only the beginning. Through operation of the law, as interpreted, there was developed also, as counterpart to the smuggling racket, the racket of dope peddling; in a word, the whole gigantic structure of the illicit-drug racket, with direct annual turnover of upward of a billion dollars. ... Why should persons in authority wish to keep the dope peddler in business and the illicit drug racket in possession of its billion-dollar income?”²³

21). Jonathan Duffy, When heroin was legal, BBC News Magazine, 25 January 2006.

22). Mayor’s Committee on Marihuana, by the New York Academy of Medicine, “The La Guardia Committee Report: The Marihuana Problem in the City of New York,” City of New York, 1944.

23). Rufus King, “The drug hang-up: America’s fifty-year folly,” 1972.

While investigating the legitimacy of mandatory minimum sentencing called for by the Boggs Act, Rufus King, chairman of the American Bar Association's Criminal Law section, checked the background of anti-narcotics legislation and was appalled by his findings as he realized that the Harrison Tax Act had been implemented well beyond its stated original intent. The ABA joined forces with the AMA and a Joint Committee was created in 1956, chaired by Rufus King and funded by a small grant from the Russell Sage Foundation. "The Joint Committee commissioned a survey of existing data to provide a basis for recommending research projects, or, if it proved possible, to support conclusions drawn from existing source material. Simultaneously a review of drug laws and policies elsewhere in the world was undertaken."²⁴ Rufus King recalled: "I was representing the ABA, so I was able to see top officials in England, Belgium, Holland, France, Italy, and the Scandinavian countries. When I asked about the drug problem, they'd say 'What problem?' I found out that this whole thing was made in America."

Strapped for funds, the Committee issued an interim report prepared by judge Ploscowe in 1957 "suggesting that severity of punishment might not be the only or even the best way to deter addiction, that nobody could be sure of the number of addicts, though the problem had remained a vexing one for forty years, and that criminality associated with addiction might spring more from the need to get money to pay the peddlers' prices than from inherent evil in the affliction itself. Analyzing the nature of addiction (with a copious sampling of authorities), judge Ploscowe concluded that addicts should be regarded primarily as sick persons, sometimes drawn to drugs by underlying personality disorders rather than by lack of character or criminal inclination, and that the spread of drug abuse was due to complex sociological factors rather than solely to the malevolent "contagious" nature of the addict."²⁵

A copy of the preliminary report was sent to Anslinger who went totally berserk and promptly issued a 186-page booklet by his own

24). Rufus King, *ibid.*

25). Rufus King, *ibid.*

experts entitled “Comments on the ABA-AMA Interim Report,” trashing the ABA-AMA report and its authors. The comments were printed with the same ink, paper and font as the interim report itself and were distributed with the interim report encased within the report, to make it look like the comments were part of the report. The Russell Sage Foundation was pressured to cut all further financing and the Committee was disbanded.

Anslinger served as FBN commissioner until 1962, when JKF fired him upon hearing tapes of Anslinger’s ranting and raving.²⁶ Under his leadership, narcotic laws were gradually further tightened. Mandatory sentences were introduced with the Boggs Act of 1951. Anslinger jumped into the McCarthyism bandwagon, throwing Yellow Peril and communist conspiracies into the narcotic lot, which led to the Narcotics Control Act of 1956, recommending the death penalty for sale to minors. He was the driving force behind the 1961 United Nations Single Convention Treaty on Narcotics promoting criminalization of users and enshrining prohibition in domestic law across the globe. The convention’s stated goal was marijuana eradication within 25 years, which would have been 1986. Instead, in 1986, according to official government statistics, over 50% of the adult population had indulged at least once in their life, in what can only be labeled as a case of massive civil disobedience.

In his 1961 biography, “The Murderers,” Anslinger refers to an addict who was “one of the most influential members of the Congress of the United States. He headed one of the most powerful committees. His decisions and statements helped to shape and direct the destiny of the United States and the Free World.” He arranged to supply morphine to the senator. “The lawmaker went on for some time, guaranteed his morphine because it was underwritten by the Bureau ... On the day he died I thanked God for relieving me of my burden.”²⁷ This addict is widely rumored to have been Senator Joseph McCarthy himself.

26). Mike Gray, “Drug Crazy: How We Got Into This Mess and How We Can Get Out.”

27). Harry J. Anslinger and Will Oursler, “The Murderers: The Shocking Story of the Narcotic Gangs,” New York, Farrar, Straus and Cudahy, 1961.

Chapter 3:

Anslinger's legacy from Nixon to Clinton: Drug panics forever

"For decades, the CIA, the Pentagon, and secret organizations like Oliver North's Enterprise have been supporting and protecting the world's biggest drug dealers.... The Contras and some of their Central American allies ... have been documented by DEA as supplying ... at least 50 percent of our national cocaine consumption. They were the main conduit to the United States for Colombian cocaine during the 1980's. The rest of the drug supply ... came from other CIA-supported groups, such as DFS (the Mexican CIA) ... [and] other groups and/or individuals like Manual Noriega."

Ex-DEA agent Michael Levine

The Big White Lie: The CIA and the Cocaine/Crack Epidemic

"In my 30-year history in the Drug Enforcement Administration and related agencies, the major targets of my investigations almost invariably turned out to be working for the CIA."

Dennis Dayle, former chief of an elite DEA enforcement unit.

FROM: Peter Dale Scott & Jonathan Marshall

Cocaine Politics: Drugs, Armies, and the CIA in Central America

Berkeley: U. of CA Press, 1991, pp. x-xi

With the Harrison Act, the Marihuana Tax Act, the ensuing Narcotics Control Act of 1956, and the 1961 United Nations Single Convention Treaty on Narcotics, the foundations of the War on Drugs were now firmly established. All the basic dogmas of the War on Drugs, the schemes and strategies, the stereotypes had been articulated during Wright and Anslinger's tenure. Nixon, Reagan, G.H.W. Bush, Clinton and G.W. Bush just kept building on his legacy – fear-mongering, moral panics and silencing of opponents – to push for more of the same policies – harsher and harsher sentencing, higher

and higher budgets – and produced more of the same results – higher incarceration, higher and more violent crime, more corruption, more drugs, more affordable, of better quality and more easily available. All the while, the US secret services, undoubtedly with at least the tacit blessing of the commander in chief, stayed embroiled directly or through proxies with drug trafficking and drug traffickers to finance covert operations, destabilize other countries, or win the illusory support of enemies.

As the 60s rolled on, the French Connection was in fast expansion mode. Mauricio Rosal, the Guatemalan Ambassador to Benelux, was smuggling morphine base from Beirut, Lebanon, to Marseilles to the tune of 200 kg per year in the early 60s. Lots of heroin navigated through the diplomatic route at that time, taking advantage of diplomatic immunity, and diplomatic pouches were often filled to the rim with questionable content. The Federal Bureau of Narcotics estimated that the French Connection smuggled 1,200 to 2,300 kg of heroin per year into the US in 1960 and supplied 80 to 90% of US heroin by 1969. Meyer Lansky, now living in Miami after the Cuban revolution, was still the US liaison, with Florida Gang Boss Santo Trafficante Jr.

In the early 60s, the Kuomintang (KMT) took control of opium trafficking from Burma to Thailand with CIA protection. Starting in 1965, Air America, the CIA's private airline, began transporting opium to the laboratories in Laos and Northern Thailand. Heroin flooded marine bases in Viet Nam and a heroin epidemic spread like wildfire in the US army.

The Brotherhood of Eternal Love, makers of the legendary “Orange Sunshine” LSD, set up shop in Laguna Beach, California, and started to build their proselytizing empire offering the highest quality marijuana, hashish and LSD in the US. George Jung, alias Boston George, moved further north to Manhattan Beach in 1967, when the hippie scene was just picking up. He soon became quite successful at local drug dealing and came to realize the market potential of his native East Coast. Wanting to cut the middleman, he hooked up with the son of a Mexican general and started moving plane-loads of marijuana from Mexico to the US and then trucking the pot to New England.

The Monterey Pop Festival held in June 1967 gathered 50 to 90,000 people around such pop legends as Jimi Hendrix, Janis Joplin, The

Who or Otis Redding and launched the “Summer of Love” further North in San Francisco. The Monterey Pop Festival kicked off a wave of mega-festivals that culminated as half a million people converged on Max Yasgur’s dairy farm in Bethel, NY, to the legendary Woodstock Festival, three days of drugs, sex and rock ‘n roll in the mud and under a cloud of marijuana smoke from August 15-18, 1969. 150,000 people gathered two weeks later for the Isle of Wight Festival in England.¹

Nixon era

With the counterculture explosion of the 60s, drugs, especially marijuana and LSD, became symbols of rebellion while the Vietnam War and the antiwar movement created a state of quasi insurrection in the US. Following the dramatic assassination of Robert Kennedy, Nixon won the 1968 presidential elections, promising to restore law and order. Drugs represented all that Nixon feared most and were the perfect target. Nixon refurbished the entire arsenal of anti-drugs propaganda and strategic tools. The vampire-like addict stereotype was dusted off and given a fresh coat of paint. For the War on Drugs to work, the drug fiend, the addict had to be depicted as a bogeyman, a villain of utmost proportion and to even doubt its existence was tantamount to high treason. There is just no way it could have worked if there had been the slightest hint that addiction was a disease.

The CIA was shuffling around heroin from the Golden Triangle to finance its covert operations in Siam and Laos. Body bags filled with pure heroin were unloaded at military airports within the US. Meanwhile, Nixon and his team fomented yet another moral panic on a traumatized nation over the communist conspiracy aimed at poisoning the minds of US youths with the double scourge of heroin and marijuana, partners in crime once again.

Nixon launched Operation Intercept on September 21, 1969, along the entire Mexican border, submitting every person or vehicle entering the US from Mexico to extensive searches for smuggled marijuana, which of course created chaos and produced hardly any significant drug

1). PBS-Frontline Interview with George Jung conducted in 2000. See also the 2001 film *Blow*, starring Johnny Depp.

seizures. The operation was dropped a few weeks later after extracting more anti-drug cooperation from the Mexican government. It was followed by Operation Condor in 1970, spraying “Agent Orange” over Mexican marijuana fields, which launched a flourishing marijuana growing cottage industry back in the US. Marijuana has since grown into the largest cash crop in California, ahead of second place grapes.

Congress consolidated all drug legislations into the comprehensive Drug Abuse Prevention and Control Act, passed on October 27, 1970, which gave Congress the authority to regulate interstate commerce for drugs and established five schedules to classify controlled substances; marijuana was tossed in with heroin for the sake of consistency. The War on Drugs was officially declared by President Nixon on June 17, 1971. The DEA was created on July 1, 1973, consolidating all federal anti-drug forces into a single unit within the Department of Justice. It was charged, among other things, with coordinating Federal, State, local, and foreign cooperation in the War on Drugs. New tools like warrantless searches and arrests and suspicion-based asset forfeiture without notice were thrown in for good measure. The foundations of a police state were firmly set in place, with an anti-narcotic alibi.

The 1971 United Nations Convention on Psychotropic Substances expanded on the 1961 convention. Due to the emergence of new drugs such as LSD, MDMA, amphetamines, and PCP, it facilitated the inclusion of virtually any new psychoactive that would hit the market.

The “National Commission on Marijuana and Drug Abuse” was appointed by Nixon and headed by Republican hardliner Governor Raymond Shafer of Pennsylvania (“the Shafer Commission”). According to recently released transcripts, Nixon warned Shafer on May 26, 1971: “You’re enough of a pro to know that for you to come out with something that would run counter to what Congress feels ... and what we’re planning to do would make your commission just look bad as hell.” The commission nonetheless concluded on March 22, 1972: “Neither the marihuana user nor the drug itself can be said to constitute a danger to public safety ... Therefore, the Commission recommends ... [the] possession of marijuana for personal use no longer be an offense, [and that the] casual distribution of small amounts of marihuana for no remuneration, or insignificant remuneration no

longer be an offense.”² Needless to say, the report was promptly swept under the carpet.

Incorporated in Luxembourg and headquartered in London, the Bank of Credit and Commerce International (BCCI) was founded in 1972 by a Pakistani named Agha Hasan Abedi. BCCI grew into one of the largest banks in the world, catering to the who’s who of organized crime, dictators, arm dealers, terrorist organizations, and secret services agencies, including of course the CIA. George H.W. Bush had a BCCI account while CIA director, in the good company of his protégés Noriega and Saddam Hussein, as well as Ferdinand Marcos, the Colombian drug cartels, and all the dictators in search of a safe haven to hoard the loot of their own country. The bank had “a clandestine division ... called the ‘black network,’ which functioned as a global intelligence operation and a Mafia-like enforcement squad.” BCCI collapsed in 1991. Considering the secrecy in which the bank was shrouded and the involvement of so many secret services, it is doubtful that we will ever find out what really happened. It was one of the largest bank failures of the 20th century.³

In a prelude to the BCCI scandal, the Nugan-Hand Bank was founded in Australia, staffed by retired intelligence operatives, including former CIA director William Colby and Admiral Yates. The Nugan-Hand Bank acted as the CIA’s private bank, handling its covert operations – including Air America operations in the Golden Triangle – through a network of offshore banks, and was probably the only international bank in the world to have a branch in the Golden Triangle. The bank collapsed in 1980 when its co-founder Frank Nugan was found dead with Colby’s business card in his pocket.⁴

- 2). The Report of the National Commission on Marihuana and Drug Abuse, “Marihuana: A Signal of Misunderstanding,” Commissioned by President Richard M. Nixon, March 1972.
- 3). Jonathan Beaty and S.C. Gwynne/New York, Cathy Booth/Miami, Jay Branegan/Hong Kong, and Helen Gibson/London, “B.C.C.I.: The Dirtiest Bank of All,” July 29 1991.
- 4). Jonathan Kwitny, The Crimes of Patriots, <http://video.google.com/videoplay?docid=-7308560786734734745&hl=en#>, 1982 CBS video, the only TV news in USA that covered Nugan-Hand Scandal.

The French Connection started unraveling on January 4, 1972, when US and French narcotic agents seized 50 kg of heroin at the Paris airport and traffickers Jean-Baptiste Croce and Joseph Mari were arrested in Marseille. Six major heroin laboratories were dismantled in the suburbs of Marseille. On February 29, 1972, 415 kg were seized on the shrimp boat *Caprice des Temps*, en route to Miami. Investigation exposed a massive corruption scheme within the NYPD (New York Police Department), the extent of which was never fully uncovered. As an aftermath, hundreds of kilos of seized heroin and cocaine disappeared from the NYPD property/evidence storage room at 400 Broome Street, NY, replaced with flour and cornstarch, which were discovered when bugs started eating away the bags.⁵

The demise of the French Connection marked the end of an era in drug trafficking and the rise of a new generation of drug lords. It didn't even make a dent in the heroin supply as heroin production had already diversified into South East Asia and Mexico. Although the pizza connection filled part of the void created by the demise of the French Connection, no single criminal organization would ever so completely dominate the heroin market thereafter.

Following the Watergate scandal, Nixon was impeached and driven out of the White House in 1974, leaving behind a hugely inflated anti-drug apparatus. Vice President Gerald Ford took over. His son admitted to smoking pot.

Build-up to the 1980s cocaine craze

George Jung (Boston George) was arrested in 1974 in Chicago for smuggling 300kg of marijuana and was sent to a federal prison in Connecticut. His bunkmate was a Colombian named Carlos Lehder. They coached each other, Lehder coaching Jung in the cocaine business, while Jung was coaching Lehder on smuggling. Lehder was an avid learner, picking his fellow inmate's brains all day long to perfect his criminal training, especially on money laundering and smuggling. They joined forces upon release and Lehder introduced Jung to the Medellín

5). Gregory Wallance "Papa's Game."

Cartel and Pablo Escobar. They were soon flying planeloads of cocaine from Escobar's ranch to the Caribbean and then the US. Cocaine exploded onto the US drug scene, and Boston George and Lehder may have supplied as much as 90% of the market at some point.

In 1976, Jimmy Carter campaigned on the decriminalization of up to one ounce of cannabis to align federal laws with several state laws, as eleven states had decriminalized possession by then. His drug czar, Dr. Peter Bourne, had helped open the Haight-Ashbury Free Clinic and for once knew what he was talking about. He knew the system didn't work and wanted to reform it. On August 2, 1977, the President told Congress, "Penalties against possession of a drug should not be more damaging to an individual than the use of the drug itself." Unfortunately, Dr. Bourne got embroiled in a controversy and was promptly discredited and buried by his hardliner opponents. This was the one and only time the US came close to some kind of relaxation of its anti-drug policy.

Appalled by the erosion of individual rights, ultra conservatives such as William F. Buckley and Nobel laureate Milton Friedman started calling for drug legalization. These were lone prominent voices to rise against the increasing encroachment on civil liberties. After Carter's demise, for the next two decades nobody on either side of the political spectrum dared to even suggest that something might be terribly wrong with the War on Drugs.

Fueled in large part by Escobar, Lehder and Jung, the cocaine craze was in full swing and cocaine was served by the spoonful or even the platter at any decent social venue from Hollywood to Wall Street and the infamous Studio 54 or even to the White House.⁶

In 1978, Carlos Lehder started buying as many properties as he could on the small Norman's Cay Island in the Bahamas and kicked out the remaining residents. With Bahamian Prime Minister Lynden Pindling on his payroll, he built a 1,000-meter runway protected by radars and fortified the islands, bringing in heavily armed security and surveillance cameras. Cocaine was brought in by the jet-load day and night to fuel the voracious demand of the US market. Lehder had bypassed George

6). Maxine Cheshire, *Drugs and Washington, D.C.*, Ladies Home Journal, December, 1978, Vol. 95.

Jung who was now sidelined. Lehder fell into megalomania and high paranoia, comparing himself to Hitler and Che Guevara “and hoped that he might facilitate the demise of the United States by importing large quantities of cocaine” according to court papers.⁷

At the end of the 70s, in one of the most bizarre episodes of the Lehder saga, Jack Carlton Reed, an associate and former pilot, bought a 55-acre farmhouse equipped with an airstrip in Oktibbeha County, Mississippi. Reed had his dog treated at the Mississippi State University veterinary school and “left a locked suitcase with Dr. Greg Boring, a person with whom Reed had been only briefly acquainted,” promising to retrieve it within three months. Reed abandoned the house when he realized that it was under police surveillance and sent various people to try to retrieve the suitcase, but Dr. Boring refused to release it without Reed’s permission. The suitcase was seized one year later in August 1981.⁸ It proved to be a real gold mine as it contained Reed’s detailed life history. On September 18, 1981, Lehder and Reed, though still at large, were charged in an eleven-count indictment.

Meanwhile, the US started spraying “Agent Orange” over Mexican poppy fields. Production in Iran, Afghanistan and the Pakistani Tribal Areas picked up. In a now familiar pattern, the CIA was financing Afghan drug warlords fighting the Soviet occupation, supplying them with the usual weapons and ammunitions, training and logistical support. The CIA people thought they were being smart, sticking it to the Soviets and giving them their own Vietnam.

Klaus Barbie and the Bolivian cocaine coup

On July 17, 1980, a violent coup fomented by the Bolivian narco-elite led by drug lord Roberto Suárez brought General Luis García Meza to power. Suárez’s cousin, Colonel Luis Arce Gómez, was appointed

7). United States of America, Plaintiff-Appellee, v. Carlos Enrique Lehder-Rivas, a/k/a Joe Lehder, Defendant-Appellant. United States of America, Plaintiff-Appellee, v. Carlos Enrique Lehder-Rivas, a/k/a Joe Lehder, Jack Carlton Reed, Defendants-Appellants. United States Court of Appeals, Eleventh Circuit. March 25, 1992.

8). Ibid.

Minister of Interior and started emptying the jails of their narco-convicts.⁹ The coup was backed by fugitive Italian neo-fascist Stefano Delle Chiaie and infamous Nazi Klaus Barbie, the “butcher of Lyon.”¹⁰ The US Army Counter-Intelligence Corps (CIC) had recruited Klaus Barbie in 1947 for his interrogation expertise. To evade French prosecution, they sneaked him out of Europe to Bolivia in 1951 under the name of Klaus Altmann. In Bolivia, Altmann/Barbie, putting to proper use his Nazi experience, got involved in internal security and counter-insurgency for a succession of governments.¹¹ He was involved in a string of CIA-sponsored military coups in Bolivia that brought to power in 1966 General Barrientos; Barrientos initiated the Bolivian government’s involvement with cocaine trafficking. Altmann/Barbie kept running counter-insurgency and remained involved in secret services under a string of Bolivian dictators, including the brutal Hugo Banzer. He was named director of Transmaritima Boliviana and ran a successful arms and cocaine smuggling business with Perú-based Friedrich Schwend, Hitler’s master counterfeiter and head of the famed Operation Bernhard during World War II.¹² Altmann/Barbie boasted to have devised the CIA strategy for the capture of Che Guevara in 1967.¹³ He was responsible for the creation and training of the infamous Bolivian death squads “Los novios de la muerte.”¹⁴

- 9). Michael Levine and Laura Kavanau-Levine, “The Big White Lie: The Deep Cover Operation That Exposed the CIA Sabotage of the Drug War : An Undercover Odyssey,” 1994.
- 10). Madeline Barbara Léons, Harry Sanabria, “Coca, cocaine, and the Bolivian reality.”
- 11). Wherever They May Be, 1972, The Beate Klarsfeld Foundation.
- 12). “Schwend had specialized during World War II in distributing forged British pounds to help finance intelligence operations of the Reich Security Main Office. Inmates at the Sachsenhausen concentration camp had been forced to produce such notes - a now well-known Nazi enterprise code-named Operation Bernhard.” <http://www.archives.gov/iwg/declassified-records/rg-263-cia-records/rg-263-report.html>. See the 2007 film written and directed by **Stefan Ruzowitzky** “The Counterfeiters.”
- 13). David Smith, “Barbie ‘boasted of hunting down Che’ The CIA made use of a Nazi war criminal’s anti-guerrilla skills,” The Observer, Sunday 23 December 2007.
- 14). Manuel Salazar, Serie del Crimen Organizado, Capítulo V, Los novios de la muerte en Bolivia, Miércoles 8 de agosto de 2007, La Nación Domingo.

He enjoyed CIA tacit protection well into the 1970s and the agency always refused to release the documents that would have identified him positively. A new Bolivian government finally extradited Barbie to France in 1983.

Reagan era

On November 4, 1979, a group of Islamist militants took over the American Embassy in Teheran and held 52 US citizens hostage in what was called the “Iran Hostage Crisis.”

On December 24, 1979, the Soviet Union invaded Afghanistan, partly trapped by the US. A jubilant CIA began pouring money and weapons into the Afghan resistance. Opium cultivation and drug trade caught up to finance covert operations.

In November 1980, Reagan was landslided into the White House, flying a tough-on-crime/drugs-are-evil ram-stick and advocating a take-no-prisoner approach. Persistent rumor has it that ex-CIA director and vice-presidential candidate George H.W. Bush struck a secret deal with Iran to delay the release of the Embassy hostages until after the November election in return for future covert arms sales through Israel. According to a French secret intelligence report, the deal was arranged by Osama’s older brother, Salem bin Laden. It is of course a mere coincidence that the hostages were released on January 20, 1981, within minutes of Reagan being sworn in. Israel started secret weapon shipments to Iran shortly thereafter.

On the War on Drugs front, funding for drug treatment was slashed while funding for enforcement went through the roof. Minimum sentences were jacked up a few notches. The jailed population increased fourfold. Whatever was left of the US Constitution was trampled over in a stampede, the Constitution reduced to a doormat. The War on Drugs was placed on steroids.

Suspicion-based asset forfeiture was further extended so that any asset that could be suspected of being remotely connected with drug trafficking could be seized without warning, without indictment, trial, or conviction for any offense, even if their owner had nothing to do

with drug trafficking. A landlord who rented a property suspected to have been used for drug trafficking could have it seized by the DEA.

While it has somewhat been toned down to eliminate the most egregious abuses, suspicion-based asset forfeiture is still the law of the land. Anonymous denunciation is sufficient for asset forfeiture and is even encouraged. The burden of proof and related legal costs rests on the asset owner. Even if suspicions prove unfounded, the asset owner still has to sue the DEA to claim his property back, and he has to sue again to get his legal fees taken care of. Worse, law enforcement agencies share in the bounty and can spend the proceeds pretty much at will, creating an incentive for arbitrary and abusive asset forfeiture; asset forfeiture has become a significant part of law enforcement budgets that often rely on these funds. According to the Institute for Justice, 80% of people whose property was seized by the Federal government for forfeiture were never even charged with a crime.¹⁵ This was the last straw that finally broke the Fourth Amendment to the US Constitution: “The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.” The Justice Department’s forfeiture fund grew from \$27 million in 1985 to \$3.1 billion in 2008.

The US TV network NBC aired in 1982 a report entitled “The Bahamas: A Nation For Sale” by journalist Brian Ross about Lehder’s extensive corruption of virtually the entire Bahamian government. Norman’s Cay was getting a little too hot even for Lehder, who flew back to Colombia in 1983.

15). Marian R. Williams, Ph.D., Jefferson E. Holcomb, Ph.D., Tomislav V. Kovandzic, Ph.D., Scott Bullock, “Policing for Profit: The Abuse of Civil Asset Forfeiture,” Institute for Justice, March 2010.
http://www.ij.org/images/pdf_folder/other_pubs/assetforfeituretoemail.pdf, a state by state detailed report of asset forfeiture and abuses in the US.

The age of stupid

Osama Bin Laden was recruited by the CIA at about the same time and started recruiting and training 4,000 volunteers with arms and money partly supplied by the CIA. General Fazle Haq, governor of the Pakistani North-West territories, CIA liaison and Pakistani President Muhammad Zia ul-Haq's close ally, set up extensive heroin production in his province. The trucks delivering the weapons to the mujahidin guerrillas returned to Karachi loaded with heroin, the money being handled by BCCI. President Zia himself was involved in the drug trade.¹⁶

Gulbuddin Hekmatyar, a Muslim extremist and one of the most vicious, brutal and corrupt Afghan drug warlords, was receiving through the ISI, the Pakistani secret services, up to half of the US aid to the Afghan resistance to Soviet occupation. Among other niceties, Hekmatyar was known for throwing acid at the face of unveiled women and skinning his enemies alive.¹⁷ To the charismatic, moderate but highly independent Ahmad Shah Massoud, the legendary Lion of Panjshir, who was revered by his people and highly respected in Europe as an educated, visionary leader and brilliant strategist,¹⁸ the US preferred Hekmatyar, the barbarian, the opportunistic butcher, the master manipulator and ISI protégé under the delusion that he was more controllable. The Soviet defeat in 1992 started the Afghan civil war pitting the Islamic State of Afghanistan, a coalition headed by Burhanuddin Rabbani and Massoud, against Hekmatyar and his Pakistani allies, leading to the Afghan disintegration that brought the Taliban to power. Hekmatyar rallied the Taliban when they took over Afghanistan in 1996. The Taliban soon got into wholesale opium production to finance its activities. Afghanistan became the first producer of opium and heroin in the world. The US

16). Mc Coy, Ibid.

17). George Crile, "Charlie Wilson's War: The Extraordinary Story of How the Wildest Man in Congress and a Rogue CIA Agent Changed the History of Our Times," 2007.

18). Peter Bergen, "Ahmad Shah Massoud – This legendary warrior defied Afghanistan's Soviet invaders, only to be assassinated by al-Qaeda," Times Magazine, 60 years of Asian heroes.

waited until 1999 to put their full support behind Massoud, who was assassinated in an Al Qaeda suicide attack on September 9, 2001, clearing the ground for 9/11.

Noriega, a protégé of George H.W. Bush who had been on the CIA payroll since the early 70s, seized power in Panama in 1983. He started playing multiple games, supposedly working for the CIA while laundering money and providing logistical support for the Colombian cartels. Colombian cocaine started flowing massively through Panama. Escobar, Lehder, and other prominent Colombian drug lords fled to Panama to avoid extradition, only to find out that Noriega, who stored a large chunk of their money in the vault of his banks, was ready to sell them to the CIA. They flew to Nicaragua to seek protection from Daniel Ortega, who desperately needed the cash the cartels were throwing around.

The Iran-Contras crack cocaine connection

Oliver North started setting up covert operations in Nicaragua to supply the infamous Contras. After Congress cut off all funding to the Contras, the operation was financed with Israeli and Saudi money, supplemented by proceeds from cocaine trafficking. Unsurprisingly, some of the former Nugan-Hand Bank actors resurfaced. CIA Director William J. Casey “secretly engineered an exemption sparing the CIA from a legal requirement to report on drug smuggling by agency assets.”¹⁹ The Iran-Iraq war had started in 1980. A weird triangulation or even quadrangulation was set in place, masterminded by then Vice President Bush. Weapons were sold to Saddam Hussein (whose biggest fan at the time was no other than Donald Rumsfeld) to put pressure on Iran. Meanwhile, secret arms shipments were sent to Iran in exchange for their putting pressure on Hezbollah who had the pesky habit of taking American hostages in Lebanon, with Iran’s covert support. The proceeds of these nefarious machinations were then redirected to the Contras. Voila! When the whole story about the US double game broke out, Saddam Hussein got quite upset and Bush apologetically went on

19). Robert Parry, “Contra-Cocaine: Evidence of Premeditation,” June 1, 1998, <http://www.consortiumnews.com/archive/crack12.html>.

supplying him with more weapons, up to the Kuwait invasion, which came as a complete surprise, even a shock to then President Bush; his first reaction was one of disbelief. The US is still paying to this day for the effects of such brilliant and farsighted schemes.²⁰

The lessons of Watergate hadn't been lost on everybody and by then paper-shredders had become essential tools of government, particularly of their secret services; the extent of drug trafficking by the Contras and the CIA's degree of involvement will probably never be known. Was there really a deliberate plot to kill more than one bird with one stone and destroy the restive African-American community while raising money for the Contras through crack trafficking and the subsequent epidemic, as suggested by Gary Webb in his famous three-part series published in the San Jose Mercury News in 1996 under the title "Dark Alliance"? This will probably remain a matter of debate. The convoluted machinations of the Iraq-Iran-Contras scheme and the idiotic Afghan alliances clearly demonstrate that such brilliant ploys were not past our cunning strategists. Webb was found dead with two gunshots in the head in 2004 in what the coroner classified as a suicide.

Whether through CIA intimidation or thanks to media infatuation with Reagan, there seems to have been some deliberate downplaying of the cocaine-Contra connection by the majority of the media, and even the publication of the voluminous 1989 Kerry report "Drugs, Law Enforcement and Foreign Policy" drew little media attention when it came out. This report produced by the Senate Subcommittee on Narcotics, Terrorism and International Operations raised "serious questions as to whether or not US officials involved in Central America failed to address the drug issue for fear of jeopardizing the war effort against Nicaragua." In any case, the Washington Post of the late 1980s was quite different from the one of the 1970s and Irangate never became Watergate, even though its ramifications had arguably farther reaching consequences. The cocaine-Contra connection was first exposed in a December 20, 1985 Associated Press story by Robert Parry and Brian

20). Murray Waas and Craig Unger, *Annals of Government – How the US Armed Iraq, In the Loop: Bush's Secret Mission*, The New Yorker Magazine, November 2, 1992.

Barger, but the story was promptly buried under pressure from the Reagan administration.²¹ Declassified documents show plenty of evidence that Oliver North, Poindexter and others were quite aware if not openly supportive of Contras involvement in drugs. Noriega offered his services. North's handwritten diary entry for July 9, 1984, reads: "wanted aircraft to go to Bolivia to pick up paste, want aircraft to pick up 1,500 kilos." The July 12, 1985, entry reads, "\$14 million to finance [arms] Supermarket came from drugs." North intervened to get a ridiculously reduced sentence for Honduran cocaine coup plotter General José Bueso Rosa, accused of smuggling tons of cocaine into the US.²² The Honduran airline SETCO, the main carrier contracted by Oliver North to transport supplies and personnel from Honduras to the Contras, was headed by another notorious drug trafficker, billionaire Juan Ramon Matta-Ballestros, financier of the Honduran cocaine coup, co-inventor of the "Mexican trampoline," who offered to pay Honduran foreign debt in exchange for immunity.²³ When Matta-Ballestros was kidnapped by US Marshals in 1988, riots erupted in Tegucigalpa. On December 24, 1992, before leaving office, President Bush granted full pardons to all indicted and prosecuted in the Iran-Contra scandal.

The rise and fall of the Medellín Cartel

In 1982, the year Reagan got his over-extended War on Drugs powers, Pablo Escobar was elected to the Colombian Congress as some kind of modern Robin Hood and the Medellín Cartel was cemented as an alliance between José Rodríguez Gacha, the Ochoa brothers and Escobar. On March 9, 1982, 1 ¾ tons of cocaine were seized in a Miami airport hangar, by far the largest seizure at that time. The successful crackdown in Southern Florida forced drug

21). Peter Kornbluh, "Crack, the Contras, and the CIA: The Storm Over "Dark Alliance"," Columbia Journalism Review, Jan/Feb 1997.

22) The Contras, Cocaine, and Covert Operations, National Security Archive Electronic Briefing Book No. 2.

23) Selections from the Senate Committee Report on Drugs, Law Enforcement and Foreign Policy chaired by Senator John F. Kerry.

traffickers to look for alternate roads. Juan Ramon Matta-Ballestros came up with the “Mexican trampoline” strategy of using Mexico as a transiting route. The 2000-mile US/Mexican border became the main transportation route for cocaine into the US, either over ground, on the ground or underground.

The Cali Cartel, headed by Gilberto Rodríguez Orejuela, and the Medellín Cartel formed a short-lived alliance that soon turned sour. They created a private army, “*Muerte a Secuestradores*” (MAS), to fight against kidnappers who tried targeting wealthy drug lords. The drug lords retaliated with such brutality that kidnappers stayed clear of them from then on.

Colombian Minister of Justice Rodrigo Lara Bonilla pushed for Escobar’s expulsion from congress the following year. On March 10, 1984, the DEA and the Colombian police raided Escobar’s jungle hideout Tranquilandia, destroying 14 laboratory complexes and seizing 13.8 metric tons of cocaine, 7 airplanes, and 11,800 drums of chemicals, a mind-blowing catch for the time. According to DEA officials, the catch didn’t even make a dent on the cocaine supply. That’s when the DEA realized their problem was much larger than they ever suspected.²⁴ Suspiciously, Gilberto Rodríguez Orejuela and the Cali Cartel were not even mentioned in the US report of the raid, while the Reagan administration tried to link the Medellín Cartel to the leftist guerilla organization, the FARC.²⁵ Most prominent cartel members flew to Panama and tried to negotiate a truce, even offering to pay Colombia’s US\$13 billion foreign debt. When their offer was turned down, the cartels responded with a brutal outbreak of violence.

24). <http://www.pbs.org/wgbh/pages/frontline/shows/drugs/cron/>, PBS Frontline, “Thirty years of American drug war, a chronology.” The page has lots of links to fascinating and revealing interviews and other useful information.

25). Peter Dale Scott, Jonathan Marshall, “Cocaine politics: drugs, armies, and the CIA in Central America.” Established in 1964 as the military wing of the Colombian Communist Party, the FARC (Fuerzas Armadas Revolucionarias de Colombia) is the oldest, largest, and best-equipped guerrilla group in Colombia.

Justice Minister Rodrigo Lara Bonilla was assassinated on April 30, 1984, by order of Escobar. The event marked a shift in Colombian politics as President Belisario Betancur announced that he was willing to extradite drug traffickers to the US. With the rallying war cry of “better a grave in Colombia than a jail in the USA,” the “extraditables” launched an all-out war against the Colombian government, buying their way around, killing whomever they couldn’t buy as well as their relatives with their “plomo o plata”²⁶ strategy. Politician, journalists, judges, members of the police or the armed forces, anybody standing in their way was executed together with their relatives.²⁷ One of the most traumatic events of Colombia’s history occurred shortly thereafter on November 6, 1985, when 35 M-19 guerrillas, probably financed by the drug lords, took over the Colombian Palace of Justice, taking hostage the Colombian Supreme Court. The ensuing military response left over 100 dead, including the 11 justices who favored extradition, half of the Columbia Supreme Court. All the files on the drug cartels had been destroyed. Fear gripped the country and Colombia was engulfed in an unprecedented wave of violence as Escobar resorted to narco-terrorism to try to impose his rule on the country. Meanwhile, his rival, the Cali Cartel, favored a more diplomatic strategy of bribery and corruption. While the Medellín Cartel was self-destructing into a never-ending escalation of violence, pushed over the brink by their Cali rivals, the Cali Cartel was building up powerful political connections, rumored to have reached all the way to the presidential palace.

The unraveling of the Medellín Cartel would take another 10 years, 10 years during which Colombia was plunged into a reign of terror and chaos. Literally hundreds of armed groups, from leftists guerillas to right-wing death squads and paramilitaries trained by Israeli, British or other mercenaries, often recruited by competing drug lords and landowners, were fighting among themselves and the Colombian police and military in ever-shifting alliances.

Lehder was arrested in Colombia on February 4, 1987, and extradited to Jacksonville, Florida, the first high-profile drug lord to face extradition. His net worth was estimated at \$2.5 billion.

26). “Lead or silver” (a bullet or a bribe).

27). PBS Frontline, “The Godfather of Cocaine,” March 25, 1997, Produced by William Cran and Stephanie Tepper, Written and Directed by William Cran.

The assassination on August 9, 1989, of popular presidential candidate Luis Carlos Galán, who had campaigned on anti-corruption and extradition, marked a further escalation in the war. The USA threw in US\$65 million in emergency aid and logistical support and pledged an extra \$2 billion on September 5, 1989. President Virgilio Barco reinstated extradition and rounded up over 10,000 suspects, including money launderer Eduardo Martínez Romero who was promptly extradited.²⁸ Barco confiscated 989 buildings, mansions and ranches, 367 planes, 73 boats, 710 vehicles, 4.7 tons of cocaine, and weapons and ammunition. The cartels retaliated by bombing banks, shopping centers and newspapers. They burned down the residences and ranches of politicians. A bomb was placed on Avianca flight 203 on November 27, 1989, killing all 110 passengers. A massive truck bomb ripped the Colombian secret police headquarters, damaging buildings 20 blocks away. After a lengthy manhunt, the police caught up with José Gonzalo Rodríguez Gacha, El Mejicano, killing him and 15 of his bodyguards on December 15, 1989.

That same day, President George H.W. Bush, by then totally disgusted by his former protégé, invaded Panama and arrested Noriega, deporting him to the US. Lehder agreed to testify against Noriega and pretty much anybody else he was requested to, including Escobar, who ordered George Jung to testify against Lehder. Lehder's sentence was reduced to 55 years; his brother was not incriminated and was left free to manage whatever remained of Lehder's money.

Newly elected Colombian President Gaviria repealed extradition in 1990. The Ochoa brothers surrendered immediately. Escobar negotiated a better deal and had a prison-palace built, called "La Catedral" or "Club Medellín," complete with soccer fields and a disco where he had weekly parties for his hit men and their prostitutes. Escobar was now protected from his enemies by the Colombian police itself while still running his business. When he started conducting torture and executions in his jail mansion, police threatened to move Escobar to a real jail; he escaped in July 1992, having bribed pretty much the entire prison staff. A new wave of narco-terror was launched.

28). Michael S. Serrill; John Moody/Bogota and Don Winbush/Atlanta, "Colombia Passing the Extradition Test," Times, Sep. 18 1989.

The death toll climbed to 25,100 in 1991, with 1,717 kidnappings and 27,100 in 1992 with 1,136 kidnappings.²⁹ With more US money and logistical support thrown in and with a little help from Los Pepes (Los Perseguidos por Pablo Escobar), the vigilante group of the Cali Cartel, a coalition of US and Colombian Special Forces, tracked down and shot Escobar on December 2, 1993, after a 499-day manhunt.

The aftermath: more of the same

So, what did 10 years of mayhem, bloodbath, terror and chaos, fueled by billions of dollars of US taxpayers' money, accomplish? By the mid 90s, the more sedate and diplomatic Cali Cartel had diversified into poppies and heroin and controlled 80% of the cocaine market. Cocaine was more easily available, of better quality and cheaper than ever on the US streets from New York to Los Angeles.

To quote Jack Blum, former special counsel to the Senate Foreign Relations Subcommittee on Terrorism, Narcotics and International Operations: "The death of Escobar was a landmark in the history of an industry, but it wasn't a victory, in the sense that it didn't put anything out of business. It didn't change the pace of trafficking. It didn't raise or lower the price of cocaine. By the time he was killed his organization had basically disintegrated and gotten into the hands of the Cali people, who were in fact, at the very time he was killed, enhancing it, making it more efficient, doing a better job with it."³⁰

Gilberto Rodríguez-Orejuela, big boss of the Cali Cartel, was arrested on June 9, 1995, to be briefly released in 2002 and recaptured in 2003. A succession of US administrations dumped billions of dollars on Colombia, sprayed millions of tons of herbicide to destroy millions of acres of cocaine plantation and the adjoining legitimate crops and rain forest, poisoning farmers and their livestock in the process. The FARC got into the cocaine business, as well as pretty much all regional guerilla movements in Peru and Bolivia. The Colombian government allied its police and army forces to right-wing militias

29). Inter-American Commission on Human Rights 1993 – Chapter II: The Violence Phenomenon.

30). PBS Frontline, "The Godfather of Cocaine," *ibid*.

and paramilitaries, most notoriously the AUC (United Self-Defense Forces of Colombia), who were quite successful at defeating the leftist guerillas and got in the drug business for themselves. One of its leaders was Diego Murillo Bejarano, a disgruntled Medellín Cartel member, ex leader of “Los Pepes.” The AUC joined various ex-army and police to form the “Valle del Norte” Cartel.

Fast-forward to June 17, 2010. CBS Evening News scoops: “US Targets Powerful, Profitable ‘Super Cartel.’ CBS News Exclusive: In War against Colombian Cocaine Traffickers, US Agents, Local Police Arrest Dons, Raid Jungle Labs. The US government has indicted and arrested most of the top tier of the largest Colombian drug trafficking organization in history, CBS News Chief Foreign Affairs Correspondent Lara Logan reports.” Déjà vu anybody? The super cartel (most likely the El Dorado Cartel) was shipping to every continent of the world except Antarctica.³¹ Their competition was hit as well, as the last standing boss of the “Valle del Norte” Cartel, Carlos Alberto “Beto” Renteria Mantilla, was captured on July 4, 2010, at 4:00 pm in Venezuela and extradited to the United States on July 13, 2010.

While flashy headlines might be good for propaganda and would lead us to believe that things are getting under control, violent narco-paramilitary groups with as many as 13,000 members have taken over drug production and trafficking in Colombia.³² Julio Enrique Ayala Munoz, “El Condor,” the Colombia-Mexico drug link, was arrested on January 13, 2011. He rose through the ranks to become a big fish and is accused – surprise, surprise – of supplying tons of cocaine to the Sinaloa Cartel.³³ 12 tons of cocaine were seized on May 24, 2011, en route to Veracruz, Mexico, believed to belong to the rising star of Colombia’s drug gangs, Los Rastrojos, an outgrowth of the Norte del Valle Cartel.³⁴ Stay tuned to find out who are the current bosses of the

31). “ICE takes down billion-dollar Colombian drug trafficking organization. DTO finances its illicit empire by sending cocaine all over the globe,” <http://www.ice.gov/news/releases/1006/100618eldorado.htm>, June 18, 2010.

32). New armed drug-trafficking groups menace Colombia, BBC News, 12 September 2010.

33). Police capture Colombia-Mexico ‘drug link’ Ayala Munoz, BBC News, 13 January 2011.

34). “Colombia security forces seize massive cocaine haul,” BBC News, 24 May 2011.

South American drug cartels. For all appearances, the Mexican cartels have moved in force and the local cartels have splintered into possibly hundreds of much smaller and less traceable operations.

A hundred years after the Shanghai conference, 40 years after the War on Drugs declaration, and almost 20 years after the death of Pablo Escobar, Colombia still produces 80% of the world's supply of cocaine. Bolivia and Peru still produce 80% of the world's supply of coca leaves. Cocaine price in the US streets is at or near the lowest it has ever been; quality is better than ever. Thanks to drastic cuts in education budgets, cocaine is easier to get than textbooks around US schools and campuses.

Reagan came and went, promising to eradicate the plague, the scourge, and every president that succeeded him climbed on the same pulpit, finger waving, chest thumping, denouncing the plague, prophesying shortly forthcoming victory. President Obama hasn't used the pulpit so far, but except for some token relaxing of enforcement, the War on Drugs continues unabated. Each succeeding president has called for increased sentences and harsher stance in general: eviction from public housing, cutting off financial aid, expulsion of illegal immigrants, while adding further layers of bureaucracy. The famous "three strikes and you are out" policy advocated by President Clinton filled up prisons to the beams, forcing the early release of dangerous violent criminals to make room for three-strikers or harmless drug offenders subject to minimum sentencing.

The US federal anti-drug budget rose from \$155 million in 1971 to \$600 million in 1974, 1.5 billion in 1980, 9.7 billion in 1990, and 17.7 billion in 2000. It now officially stands at 15.5 billion for 2011 thanks to creative accounting. The real figure is probably over \$20 billion³⁵. But the federal budget is just the tip of the iceberg. When state and local costs are added, the figure for all governmental expenditure on the War on Drugs is estimated at between 30 and 40 billion dollars per year. Estimates of the total cost of the War on Drugs go as high as \$200 billion per year for the US alone when all related costs are factored in:

35). Robinson, Matthew B. and Renee G. Scherlen, "Lies, Damned Lies, and Drug War Statistics: A Critical Analysis of Claims Made by the Office of National Drug Control Policy," Albany State University of New York Press, 2007.

indirect cost of violence, broken lives and broken families, destroyed neighborhood, etc. Meanwhile, the US inmate population has grown from 300,000 in 1972 to 1 million in 1990 and 2 million in 2000. It stood at 2.4 million as of 2009.

The “United Nations Convention against illicit traffic in narcotic drugs and psychotropic substances” was signed in Vienna on December 20, 1988 “to reinforce and supplement the measures provided in the Single Convention on Narcotic Drugs, 1961.” “This Convention provides comprehensive measures against drug trafficking, including provisions against money laundering and the diversion of precursor chemicals. It provides for international cooperation through, for example, extradition of drug traffickers, controlled deliveries and transfer of proceedings.”³⁶ The opening statement reads: “illicit traffic and other related organized criminal activities ... undermine the legitimate economies and threaten the stability, security and sovereignty of States, ... generate large financial profits and wealth enabling transnational criminal organizations to penetrate, contaminate and corrupt the structures of government, legitimate commercial and financial business, and society at all its levels.” It set a 10-year goal for the eradication of drug trafficking.

Ten years later, in 1998, the UN General Assembly convened a special session in New York, to review progress in tackling the illegal drug market, and set out a 10-year plan to eliminate the illicit production and use of drugs. UN Secretary General Kofi Annan gave the following toast at the UN 20th General Assembly Special Session on drugs held June 8-10, 1998: “Excellencies and friends, allow me to raise my glass in the hope that when we look back upon this meeting, we will remember it as a time when the test of our will became the testimony of our commitment. The time when we pledged to work together towards a family of nations free of drugs in the 21st century.”

The irony of Kofi Annan’s opening toast shouldn’t be lost on everybody. The multi-layered symbolism of the act itself is quite telling, as we must assume that Mr. Annan’s glass was not filled with

36). <http://www.unodc.org/unodc/en/treaties/illicit-trafficking.html>.

water. While he vilifies the use of competing psychoactive substances, Mr. Annan exemplifies the responsible and ritualistic use of the dominant psychoactive of Western culture in an organization largely shaped by said culture; he is himself from a culture where alcohol use is a Western-imported habit and khat and cannabis are the traditional psychoactives. Kofi Anan joined the Global Commission on Drug Policy who released on June 2, 2011, a scathing indictment of the War on Drugs.

In the face of growing dissent within the assembly, hardliners refused to even research the issue of legalization despite wide acknowledgment of an ever worsening situation: “Whereas there was some support for UNDCP research on the issue of legalisation of the non-medical use of drugs, it was stated that such research might send wrong signals to proponents of legalization.”³⁷

The UN replayed the same charade in 2009 despite growing opposition from European Union and Latin American members, with yet another meaningless 10-year pledge.³⁸

Plan Colombia was launched in 1999 at a cost of \$7.5 billion over 5 years. It was renewed in 2005 despite its acknowledged failure. The CRS Report for Congress “Plan Colombia: A Progress Report” updated June 22, 2005, states: “While there has been measurable progress in Colombia’s internal security, as indicated by decreases in violence, and in the eradication of drug crops, no effect has been seen with regard to price, purity, and availability of cocaine and heroin in the United States.”

2005 established a record for cocaine seizure with 118,311 kg, while the record for marijuana goes to 2009 with 666,120 kg; 2000 was the bumper year for hallucinogens at 29,307,427 doses, and for amphetamine, in a tie with 2009 at 1,771 kg. Heroin peaked in 1991 at 1,174 kg. 134.2 tons of marijuana were seized in Tijuana on October 18, 2010. I would like to contrast these numbers with 1938, when the

37). E/1996/27: Supp. 7, par.21 – general debate.

38). Mike Trace, “The global drug charade,” *The Guardian*, Wednesday 11 March 2009.

Federal government seized 558 kg of marijuana, 18,000 marijuana cigarettes, 674 kg of opium, 12 kg of morphine, 94 kg of heroin, and 417 g of cocaine (less than ½ kg). Borrowing a line from the War on Drugs propaganda and its hyperbolic exaggerations, cocaine seizure in the US increased 28,371,942% – over 28 million percent – between 1938 and 2005. Marijuana seizure was up a more modest 119,376%. It makes you wonder what the people who claim some degree of success on the War on Drugs have been smoking lately... it must be highly toxic and delusional.

The never-ending saga

Set in exotic and colorful Colombia, the Medellín Cartel saga of the 1980s was a gripping remake of the 1920s blockbuster gangster classic series “Mafia in the age of Prohibition” featuring a larger than life set of characters including Al Capone, Lucky Luciano, Meyer Lansky et al. The Medellín saga was the template which launched the genre in the 1980s and beyond. The two decades of the 1990s and 2000s play like the exhausting, fastidious, even worn-out, endless sequels repeated ad nauseam and picked up by countless franchises around the world, each with its own local flavor. Take similar characters, just change names and locations, spill out the usual mix of money, drugs, corruption and blood, throw in the ostentatious mansions, golden retreats, heavily armed thugs and spilled guts, add an increasing amount of gore to sustain fading public interest and here you have it, the next local episode of the War on Drugs. When Mexico launched the first franchise, it was such a smashing success that its formula is now exported to every corner of the world beyond the original settings of Colombia, Bolivia, Peru and Honduras, to Guatemala, Jamaica, the Balkans, West Africa, Asia, and the ex-Soviet Islamic Republics surrounding Afghanistan. Each added its own local flavor and the gangster genre often morphed into horror movie.

The Mexican decades³⁹

If the 80s were the Colombian decade on the War on Drugs front, Mexico grabbed the headlines in the 90s and never let go. I will just go over a brief listing of the most significant and representative events of the last two decades, which barely scratches the surface as the frequency, the amount, the ferocity and the viciousness of drug-related violence in Mexico defies imagination. Violence is omnipresent, corruption is part of daily life, virtually institutionalized, deeply ingrained after 70 years of PRI⁴⁰ rule, nurtured in large part by the immense profits of the narco-traffic.

April 8, 1989: Arrest of Miguel Ángel Félix Gallardo, “El Padrino,” the founding father of the modern Mexican drug trade and boss of the Guadalajara Cartel. Gallardo, a former bodyguard of the governor of Sinaloa, started his career in the marijuana trade and launched the Mexican trampoline with major Honduran trafficker Juan Ramón Matta-Ballesteros, and the Medellín Cartel. On February 7, 1985, Gallardo ordered the kidnapping and murder of DEA agent Enrique Camarena, who had infiltrated his network and caused the destruction of a 1,000-hectare marijuana plantation with an annual production valued at \$8 billion in 1984. The murder of DEA agent Camarena prompted a manhunt which lasted 4 years and led to Gallardo’s arrest. The Guadalajara Cartel, who until then had pretty much dominated drug trafficking in Mexico, split into the Tijuana Cartel, led by the Arellano Felix brothers, and the Sinaloa Cartel, led by Joaquín “El Chapo” Guzmán Loera and Ismael “el Mayo” Zambada García. Gallardo’s arrest started, under US pressure, to unravel the quasi-symbiotic relationship that had until then existed between the Mexican government and organized crime and since the Mexican revolution.

39). There is an abundance of sources for this section and listing them would be overwhelming. I will just mention my sources for the least known or more controversial events. One good source is “The Last Narco” by Malcolm Beith.

40). In the aftermath of the Mexican Revolution, the “Partido Revolucionario Institucional,” known as PRI, seized power in 1929 and governed Mexico as a “state party,” clinging to power from 1929 to 2000 thanks to massive electoral fraud and institutionalized corruption.

Gallardo's two heirs didn't get along very long. A violent conflict soon erupted between the Sinaloa Cartel and the Tijuana Cartel that is still ongoing, even though the once powerful Tijuana Cartel has been decimated and is just a bare shadow of itself. The Gulf Cartel was left to Juan García Abrego; the Juárez Cartel emerged around that time.

La Familia Michoacana started as a vigilante group to protect the poor against kidnappers and drug dealers. They soon turned into an extremely violent semi-religious criminal organization led by Nazario Moreno González, "El más loco," acting as big boss and spiritual leader who even authored his own "bible." Their recruits go through three to six months of training and believe they are doing God's work, giving away money to the poor, to schools and to local officials. They are run by an executive council made of drug traffickers and government officials.

A turf war broke out between the various cartels for the control and access of the voracious and highly profitable US market. While drugs were massively moving north, heavy weaponry was moving south just as massively and blood started spilling in Mexican streets, especially along the border. Local law enforcement was mostly corrupt and totally outgunned. Colombian air shipments routinely landed under military protection. In one of the most notorious cases, on November 7, 1991, Federal judicial police agents were attempting to apprehend a small airplane loaded with cocaine on a clandestine airstrip in the state of Veracruz when they came under fire from an army unit, killing seven Federal police. The incident was videotaped by a US Customs surveillance flight.⁴¹

May 24, 1993: Cardinal Juan Posadas Ocampo, Archbishop of Guadalajara, was gunned down at point blank range at the Guadalajara airport by two gunmen who took off on a plane headed for Tijuana and were whisked out with police escort to San Diego upon arrival. According to the official version, the cardinal was a victim of mistaken

41). Marjorie Miller and Douglas Jehl, "Mexico Soldiers Accused in Drug Agent Killings Narcotics: Deaths of 7 officers in shootout had been called a tragic mistake," Probers now believe otherwise, November 20 1991, LA Times.

identity and the real target was Joachim “el Chapo” Guzmán, a version that the Catholic Church vehemently denied, claiming instead that the assassination was plotted at the highest spheres of the Mexican government as the cardinal knew too much about Salinas and his entourage’s involvement in drug trafficking.⁴² Warrants were issued against the Arellano Felix brothers, who continued to show off in fancy restaurants and discotheques while supposedly being Mexico’s most wanted.

June 9, 1993: Joachim “el Chapo” Guzmán was arrested in the State of Chiapas and sentenced to a 20-year prison term. El Chapo Guzmán kept running his business from his luxury jail cell, throwing huge parties and bringing in booze, bands and prostitutes.

March 3, 1994: After a dramatic car chase and heavy gunfire exchange at a busy Tijuana intersection, Commandante Alejandro Castañeda Andrade arrested Javier Arellano Felix and his bodyguards, all mostly Tijuana cops. A Suburban van squealed by, and a swarm of Tijuana policemen gunned Castañeda to death before releasing Javier Arellano Felix.

Three weeks later, on March 23, 1994, PRI presidential candidate and front-runner Luis Donaldo Colosio was assassinated in Tijuana. Even though a suspect was conveniently arrested, the traumatic event was never elucidated and rumored suspects range from the Arellano Felix brothers to President Salinas himself. Francisco Ruiz Massieu, brother-in-law of Carlos Salinas and big boss of the PRI governing party, was assassinated in Mexico City on September 28, 1994. Raúl Salinas, Carlos’ brother, was charged as mastermind of José Massieu’s murder while Massieu’s brother, Mario Ruiz Massieu, was arrested with a suitcase full of cash and \$17 million in US accounts were discovered. Needless to say, ex-president Salinas was widely suspected of heavy involvement with the drug cartels. He fled Mexico at the end of his mandate and lived in Ireland in self-imposed exile. He returned to Mexico in 2000.

42). “Murder of Mexican cardinal still unsolved,” Catholic World News, January 27 1999.

November 1995: a large cargo airplane crashed near Todos Santos, Baja California Sur, allegedly loaded with 17 tons of cocaine. The load was snatched by local federal and state police, never to be seen again.⁴³

January 14, 1996: Arrest of Juan García Abrego, head of the Gulf Cartel. Osiel Cárdenas succeeded him and soon started hiring ex-army and police. He recruited 31 members of the elite anti-narcotic and counter insurgency special force “Grupo Aeromóvil de Fuerzas Especiales” (GAFE) led by Lieutenant Arturo Guzmán Decenas. The GAFE, who had been trained by the DEA and the CIA, deserted with their arsenal. The Gulf Cartel’s private army soon gained notoriety as the much feared “los Zetas.”

November 5, 1996: California voters approved the “Medical Use of Marijuana Initiative” (Ballot Proposition 215) by 56% of voters. Sixteen other states as well as Washington DC would soon follow.

February 1997: Arrest of General Jesús Gutierrez Rebollo, Mexican drug czar, a few weeks after being praised by US drug czar General Barry McCaffrey as a man of “absolute, unquestioned integrity.” The general was accused of having been on the payroll of Juárez Cartel boss Amado Carillo Fuentes for the past seven years. Amado Carillo Fuentes died on July 3, 1997; the official cause of his death was a plastic surgery gone wrong, but the rumor mill claims range from assassination by his own bodyguards, to suicide, or even a fake death with body substitution. In any case, his disappearance launched a savage turf war that turned Ciudad Juárez into the most dangerous city in the world and was still going on as of 2011.

Vicente Fox was elected President of Mexico in 2000, ending 70 years of PRI rule which had instituted systemic corruption throughout its rule. The US government, still unwilling to curb domestic demand for illegal drugs or the supply of heavy weapons to the cartels, was putting enormous pressure on the Mexican government. All levels of police being terminally corrupt, Fox turned to the army to try to curb drug-related violence and curtail the power of the cartels, which only increased the flow of blood onto Mexican streets. Fox has been a vocal advocate of legalization since leaving office.

43). DEA Congressional Testimony, March 28, 1996.

January 19, 2001: Threatened by extradition to the US, “el Chapo” Guzmán escaped from the Guadalajara maximum-security federal prison in a laundry truck in full daylight with the help of virtually the entire prison staff.⁴⁴ The Sinaloa Cartel remains the most powerful cartel in Mexico; “el Chapo” Guzmán was listed #60 in the 2010 Forbes most powerful people in the world and made it twice to the Forbes billionaire list. Even though Mexican and US officials announced the dismantlement of his cartel in July 2003, Ismael “el Mayo” Zambada García is still at large and running the cartel with his partner “el Chapo” Guzmán. The influence of the Sinaloa Cartel extends from Colombia to Canada and is rapidly expanding in West Africa and Europe.

July 2001: Portugal decriminalized possession of all drugs for personal use, reducing and eliminating prison overcrowding. Drug-related deaths fell by 60%. Heroin use fell sharply. Marijuana and cocaine use initially rose substantially but soon peaked and decreased. Other countries around the world started adopting similar policies, especially in Europe and Latin America.⁴⁵

Osiel Cárdenas was captured in 2003 and extradited to the US in 2007. His brother Ezequiel took over. Los Zetas recruited heavily among the Mexican army and later extended their recruitment to the ferocious Guatemalan Special Forces. They started operating on their own and open conflict broke out in 2009 between Los Zetas and their former employers, the Gulf Cartel.

Elected in 2006, Felipe Calderón, the second post-PRI Mexican president, declared an all-out war against the Mexican drug cartels; the cartels retaliated with unprecedented savagery. Gory torture, gruesome beheadings, and dismembered bodies captured the headlines. The death toll passed 30,000 by the end of 2010. Entire police forces were fired for corruption, while others resigned out of fear of both the government and the cartels as the “plomo o plata” strategy left them stuck between a rock and a hard place. The Mexican army hemorrhaged 100,000 deserters over the past eight years, the best and brightest moving to the drug cartels thanks to their aggressive recruiting campaigns.

44). Malcolm Beith, “The Last Narco: Inside the Hunt for El Chapo, the World’s Most Wanted Drug Lord,” Jan 7 2010.

45). <http://www.leadershipgh.org/uploads/pdf/Jack%20Cole%20Drug%20War%20Presentation.pdf>.

In December 2006, the Mexican army disarmed the entire 2,600-member Tijuana police force, widely believed to work for the cartels.

On September 24, 2007, a Grumman Gulfstream II jet airplane crashed near Cancun, Mexico, with 3.6 tons of cocaine on board. The same plane had allegedly been used by the CIA to transport suspected terrorists to Guantanamo Bay from 2003 to 2005. The plane was also linked to the Russian Mafia.⁴⁶

November 20, 2008: Mexico ex-drug czar Noe Ramirez Mandujano was arrested on corruption charges, accused of taking \$450,000 per month from the Beltran Leyva Cartel, reputed to have infiltrated both the army and the police and to have assassinated Mexican law enforcement officials. Arturo Beltran Leyva and six bodyguards were killed in a shootout at a luxury condo in Cuernavaca on December 16, 2009.

February 11, 2009: The Latin-American Commission on Drugs and Democracy, co-chaired by former presidents Fernando Henrique Cardoso (Brazil), Cesar Gaviria (Colombia) and Ernesto Zedillo (Mexico), presented its findings in a groundbreaking report titled *"Drugs and Democracy: Toward a Paradigm Shift,"* calling for a complete re-evaluation of the War on Drugs policy.

May 26, 2009: In a sweep in the state of Michoacán, Federal forces arrested 10 mayors and 20 other high ranking state officials, including the State Attorney General and 5 chiefs of police. The governor's brother, Julio Cesar Godoy, was accused of working for La Familia Michoacana. He was elected "diputado federal" to the Mexican Congress while seemingly a fugitive. He was sworn in on September 23, 2010, and granted immunity for his five-year terms in congress. According to a Mexican intelligence source, at least 83 of Michoacán's 113 municipalities are mixed up to some level with the narcos.⁴⁷ After the arrest of key members Alberto Espinoza on December 29, 2008, Rafael Cedeño Hernández on April 20, 2009, and Arnoldo Rueda Medina on early July 2009, La Familia retaliated by kidnapping, torturing and killing 12 military intelligence officials and launched

46). Dan Mangan, "Crash Jet Had Air of Mystery," October 1, 2007.

47). Tracy Wilkinson, "10 mayors, other Mexico officials detained. The sweep targets local officials in the state of Michoacán, home to La Familia, a fast-growing group of drug traffickers," Los Angeles Times, May 27 2009.

coordinated attacks on 10 communities over a four-day period, killing another 16 officers. In a TV call-in interview, Servando Gómez Martínez, “La Tuta,” La Familia’s presumed leader, offered a truce to President Calderón in exchange for freedom to continue their activity. La Tuta was killed in a two-day clash with police on December 9, 2010, where gunmen from La Familia set up road blocks with burning buses, trucks and cars, closing the five main accesses to Michoacán’s state capital Morelia and ambushing police convoys in their fiefdom of Apatzingan, as well as in other cities throughout the state.

The Arellano brothers were decimated one by one and the Tijuana Cartel broke apart. The head of one of its splinter groups, Teodoro García Simental, “El Teo,” known for dissolving hundreds of his victims in acid and lye and responsible for waging an unprecedented terror campaign in Tijuana, was captured on January 12, 2010. He was on villégiature in a posh neighborhood of La Paz, Baja California Sur, a few blocks from the offices of the state government. It is rumored that Luis Armando Diaz, right arm of BCS governor Narciso Agundez and 2011 gubernatorial front-runner, was in charge of his protection. On July 29, 2010, Ignacio Coronel Villarreal, number three of the Sinaloa Cartel, was gunned down in his mansion in an exclusive suburb of Guadalajara.

Heads of the cartels kept rolling, to be replaced just as fast. Some cartels splintered after losing their leaders, starting new feuds and launching new battlefields. Assassinations of politicians, army, police, prosecutors and even journalists became the norm. Mass killings still take place on a regular basis, up to several per week. The US government threw more oil on the fire with the Merida Initiative, dumping \$1.6 billion on the Mexican drug war. The US gun lobby remained sacrosanct and even gained further power under G.W. Bush. The arsenals of the cartels include sniper rifles, grenades, rocket-propelled grenades and even mortars. The vast majority of weapons and ammunitions are smuggled from the US.

Ever shifting alliances keep the war going; the latest such alliance pits the “New Federation,” grouping the Gulf Cartel, the Sinaloa Cartel, La Familia Michoacán and a faction of the Tijuana Cartel, against Los Zetas, the Juárez Cartel, the Beltrán-Leyva Cartel and another faction of the Tijuana Cartel. Turf battles are raging along the entire US/

Mexican border, from Tamaulipas to Ciudad Juárez, turning entire cities into ghost towns.

August 24, 2010: 74 migrants were found dead near Matamoros, Tamaulipas, killed by the Zetas for refusing to transport drugs across the border. 20,000 migrants are kidnapped every year. 55 bodies were discovered in an abandoned mine near Taxco, Guerrero in May 2010, and 51 were dug out next to a trash dump near Monterey in June. During a search for abducted bus passengers, 183 bodies were discovered in various mass graves in April 2011 in San Fernando, Tamaulipas near the ranch where 74 migrants had been found dead in August 2010. Sixteen police officers were arrested as alleged accomplices. Los Zetas are suspected of assaulting buses and kidnapping passengers along a dangerous highway leading to the US border. Women are gang raped before being slain; men are forcibly enrolled or robbed, ransomed and killed. According to the newspaper Reforma, there are 400 unclaimed suitcases at bus depots in Matamoros, the route's final destination. 68 people were rescued on April 20, 2011. Thousands of people have gone missing in Mexico since the beginning of the intensification of the War on Drugs initiated by President Felipe Calderón in January 2006. Mass graves are discovered almost weekly in other parts of the country from Sinaloa, Sonora or Chihuahua to Nuevo León, Durango, Michoacán or Guerrero and at least half of the states of the Mexican Republic. 219 bodies were discovered in Durango in April/May 2011, 89 of them barely buried in a single car lot, in plain sight of homes, schools and stores.⁴⁸

October 1, 2010: Possession of less than an ounce of marijuana is downgraded from a criminal misdemeanor into a civil infraction in California.

October 19, 2010: A mind-blowing 134 tons of marijuana belonging to the Sinaloa Cartel were seized in Tijuana, almost by accident. Two weeks later, on November 3, 2010, a 1,800-foot tunnel was discovered between Tijuana and Costa Mesa, equipped with a rail system, lighting and ventilation. On November 25, 2010, a second 2,200-foot tunnel was discovered two blocks away. A total of 40 tons of marijuana was

48). E. Eduardo Castillo, "Mexico mass graves of 219 signal major cartel rift," Associated Press, May 22, 2011.

seized in relation to the two tunnels. The tunnels were also linked to the Sinaloa Cartel, signaling their increased presence in Tijuana.

November 2, 2010: Despite opposition throughout the entire political spectrum, despite apocalyptic threats from the Federal government, despite a quasi universal media barrage and though even its proponents admitted that it was poorly written, the “*Regulate, Control and Tax Cannabis Act of 2010*,” known as Prop. 19, managed to get 4,504,771 or 46.4% of the votes in California. Arizona became the 15th state to legalize medical marijuana as Prop 203 won by the thinnest margin, legalizing medical marijuana in that state. A similar measure was soundly defeated in South Dakota.

November 5, 2010: Antonio Ezequiel Cárdenas Guillén was gunned down after an eight-hour gun battle with the Mexican army and Federal police. His brother Mario Cárdenas Guillén “El Gordo” immediately took over the cartel’s operations while Los Zetas celebrated, hanging narco-banners over bridges and buildings.

From transportation to policing, drug cartels are now disrupting basic services in parts of Mexico.⁴⁹ Several cities are left without a police force or even without government after mass resignations. Journalists live in fear and publish press releases issued by the cartels. Local elections were held in various states in 2010, often controlled by the local cartels. More local elections took place in 2011 and the grand prize, of course, will be the 2012 Mexican presidential election. It is widely feared that the cartel will try to control this election as well.

November 23, 2010: Creation of the “National Cannabis Industry Association” in the US, based in Washington DC and regrouping all involved in the burgeoning marijuana industry: growers, equipment suppliers, dispensaries, etc. It aims to lobby Congress for further loosening of marijuana legislation.

December 2, 2010: A 14-year-old US-born boy was arrested in Cuernavaca. He confessed to beheading at least four people. Born in San Diego, he claimed to have been kidnapped by drug cartels at age 11. His gang was paid \$3,000 per killing. The boy and his gang may be involved in over 300 murders with torture, beheadings and

49). Mark Stevenson, “Drug cartels disrupt basic services in Mexico,” Associated Press, Nov 7 2010.

dismemberment. His older sister, one of the lovers of Julio “El Negro” Padilla, a local drug boss, was part of a group of girls called Las Chavelas, who helped dump dismembered bodies on streets and freeways in and around Cuernavaca. 810 juveniles were detained for drug-related crimes in Mexico in 2009. Cartels like to use kids for their total lack of restraint and inhibition. The kids are typically heavily drugged on cocaine and amphetamines while performing their gruesome duties. Mexican president Calderón acknowledged: “In the most violent areas of the country, there is an unending recruitment of young people without hope, without opportunities.”⁵⁰

December 14, 2010: Federal Border Patrol Agent Brian Terry was killed in Arizona in a gunfight with drug smugglers. Two months later, it was discovered that the weapon that killed Agent Terry had actually been sold with the blessing of “The Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) as part of ‘Operation Fast and Furious’ within ‘Project Gunrunner.’” (You couldn’t make this up; this is just another illustration of how the US often sees foreign policy as an action movie set.) As part of Project Gunrunner, thousands of weapons, including heavy weapons such as AK47 type guns, were sold to traffickers and let go into Mexico, supposedly to try to track them, but of course the ATF promptly lost track of the weapons, resulting in up to 1,000 casualties besides Agent Terry.⁵¹ Ten percent of the gun shops in the US are located along the US/Mexican border.

As overwhelming as it may feel, this historical narrative of the War on Drugs barely scratches the surface. The Mexican drug war alone could

50). Oswald Alonso and Katherine Corcoran, “14-year-old: Mexican drug gang made me behead four,” Associated Press, Fri Dec 3 2010.

51) “Borders and Law Enforcement: Project Gunrunner,” ATF Fact Sheet, issued by the Embassy of the United States in Mexico. Sharyl Attkisson, “Gunrunning scandal uncovered at the ATF,” February 23, 2011; “Agent: I was ordered to let US guns into Mexico,” CBS News, March 3 2011.

fill volumes with horrific gore. We hardly mentioned Afghanistan and its neighbors; we haven't even mentioned Central America, Burma, North Korea, Lebanon, Somalia, North Africa and Africa in general, the ex-Soviet republics, or the Balkans, each with a rich history of drug trafficking, or newcomers on this fast evolving scene.

The discriminate mind will probably notice a huge missing gap in this narrative: most of the War on Drugs narrative talks about Colombian, Mexican, African or Asian drug cartels. All the big busts are for the Mexican or Colombian drug lords. Isn't the US the largest illegal drugs market in the world? Where are the US drug lords? Why are they rarely busted? Do the tons of cocaine, amphetamines, heroin or marijuana fall into a black hole upon entry into the US, to reappear by magic in the veins, nostrils and lungs of Wall Street and Hollywood executives or inner city youths? Are the street gangs truly the sole providers of illegal drugs in the US? This could of course be the topic of another book altogether and may lead to all kinds of conspiracy theories that are well beyond the scope of the present book, but it raises legitimate issues of hypocrisy, cover-up and ulterior motives, just to name a few.

In a private email correspondence, Gustavo de Greiff, Attorney General of Colombia from 1992 to 1994, declared:

"When I was Fiscal General I received the visit of the so called American Drug Csar at the time, Mr. Lee Brown, and he told me that his government was appalled with the corruption that until then had made difficult the dismantling of the Medellín and Cali cartels. I answered him that I concurred with his remark, but that he must agree with me that if the drugs exit Colombia thanks to the help of corrupt authorities the same drugs enter the U.S with the help of its authorities and I added: or they are so incompetent that the drugs enter the American territory and pass under their nose without its authorities smelling or seeing them? As you may imagine he did not respond and changed subject.

When Escobar escaped from the jail in Medellín, some narcotraffickers close to him surrendered to the Fiscalía and provided us with good information about Escobar possible hiding

places. Once talking with them, I asked them if they employed mules, which in my opinion was a cruel thing to do. Their answer was: the ones that employ them are the small narcotraffickers. We were dealing with big shipments of one ton or more and we could do it thanks to corrupt American authorities.”

In the next chapter, we will give a brief overview of the state of the illegal psychoactive marketplace in the 21st century.

Chapter 4:

The illegal psychoactive marketplace in the 21st century

The first decade of the 21st century brought some drastic changes to the War on Drugs, and these trends are accelerating as we move into the second decade of the new century.

Drug trafficking used to be mostly a North-South affair, with the Southern third world producing countries feeding the voracious and ever-growing appetite for illicit drugs in developed Western countries. Japan and Korea, the other developed countries, were largely spared. Western countries, led by the US, were trying to contain the flow of drugs, with little success, while shipping back South a flow of money, weapons and ammunitions feeding local violence and corruption. The North blamed the South for producing the illicit substances, while the South blamed the North for failing to curb their insatiable appetite for said substances and for dumping narco-violence on them.

Beginning in the 1990s, third world countries turned into emerging countries. The ensuing industrialization, rapid urbanization, social dislocation, and breakdown of traditional norms lowered the barriers to deviance, providing a fertile ground for the spread of substance abuse. As a result, illicit drug use is on the rise in most of the world, fueled in part by the global youth culture, permeated by drug culture from its pop stars to its sports stars. Drug cartels were quick to fill the demand and are in rapid expansion mode in every corner of the world except Antarctica (so far). Drug use appeared to stabilize in Western countries in 2005-2008; this trend has been reversed as drug use was on the rise in 2009. More worrisome, while abuse of opiate and cocaine seems stable or even in decline in some Western countries, heroin use is growing rapidly in Africa and Asia; there is also a worldwide explosion

of amphetamine use. The use of amphetamine-type stimulants (ATS) now surpasses cocaine and opiates combined, ranking second in global use behind cannabis,¹ which is extremely alarming as ATS abuse leads to extreme violence and psychopathic or psychotic behavior.

We have seen throughout the history of psychoactive use and abuse that technological improvements have regularly brought profound changes, usually in the form of diseases of excess. The three technological innovations of Internet, hydroponics and kitchen counter chemistry are currently profoundly affecting the psychoactive landscape, with the potential to render the War on Drugs obsolete.

The most ominous development is the spread of narco-violence and corruption throughout the world, and its destabilizing effects on a growing number of countries. Distribution channels are re-routed and expanded in response to increased enforcement in the US, and to accommodate the growing demand of new markets. Like any other business on the planet, narco-traffic is going global. Central America, Africa and Central Asia are particularly affected; an increasing number of countries are turning into narco-states or failed states.

Before getting into a more detailed analysis of the global illegal psychoactive marketplace, let's stop a moment to figure out why violence and corruption pervade the illegal drug marketplace and how this marketplace operates in the first place.

Prohibition in a market economy

The law of supply and demand, which is the funding dogma of capitalism and the basic principle of market economy, is inescapable. It must be obeyed one way or another, and there is absolutely no way to tamper with it. If it cannot be obeyed within the framework of legality, it will find other means. If supply creates its own demand, it is also true that demand will create its own supply, which is why the supply reduction strategy of the War on Drugs is condemned to fail and the demand reduction strategy is just as doomed.

1). UNODC Press Release: Amphetamine-type stimulants ranked world's second most used drug after cannabis, September 13 2011.

The drive for mind alteration, either through psychoactive substances or otherwise, is deeply ingrained in human nature, as studies of the brain reward/pleasure system clearly indicate.² Whether we like it or not, this basic drive creates a demand for psychoactive substances. As a result of prohibitionist policies, this demand increasingly is not being adequately met by legal psychoactive substances as consumers want to diversify from alcohol and tobacco. The thrill of the forbidden fruit adds to the appeal of illegal substances, while the shadow economy in which the black market thrives gives rise to subcultures revolving around the commerce and use of such substances. Such subcultures are increasingly the dominant culture in many parts of the world, from the US/Mexican border zone to West Africa or Central Asia and even Northern California.

Drug trafficking arose as an unavoidable consequence of the attempt by prohibition to violate the inescapable law of supply and demand. Prohibition and drug trafficking grew in symbiosis, mirroring each other like the yin and yang of the same entity, and as the War on Drugs became harsher and harsher, the law of supply and demand mandated a reciprocal market response as drug traffickers became tougher and tougher and ever more powerful. Harsher enforcement also creates scarcity, which increases profit to the illegal trade.

Prohibitionism not only attempts to violate the basic principle of capitalism, but it creates a capitalist aberration by promoting the emergence of a class of super-capitalists, the drug traffickers, operating unencumbered by the rule of law and who became criminals first and foremost as a direct consequence of the illegal status of their activity. Far be it from me to try to exonerate drug traffickers; lots of them are clearly ruthless criminals in their methods and their means. But Al Capone was right when he said that he was just a businessman filling a market need. In a sense, black markets are the rawest and purest form of capitalism, unregulated, unbridled capitalism, without check and balances, without the rule of law, unburdened by taxes; drug traffickers are the purest types of capitalist.

Because their activity, the commerce of illicit substances, is illegal, conflicts arising from their activity cannot be resolved or regulated

2). See Chapter 6 – Psychoactive substances and the brain.

by the rule of law. Thus, an activity which has been artificially and somewhat arbitrarily declared illegal, therefore criminal, has led to an explosion of real crime, as violence has become the only means to resolve conflicts arising from the commerce of the illegal substances. If a dealer doesn't get paid, his gun is his collection agency. Violence is the only way to resolve disputes. Territories are protected by guns, not by contracts and lawyers; they are conquered at gunpoint. Agreements are enforced by guns, not by judges. Violence is the rule of law.

The use of violence in conflict resolution has a dual purpose, a punitive role and a dissuasive role, which logically leads to ever-escalating violence. The level, the intensity, and the savagery of drug violence have been spiraling out of control as a logical consequence of its dissuasive function. Rothstein was a gentleman compared to his trainees and disciples, Lucky Luciano and his peers; Al Capone and Luciano were altar boys compared to Pablo Escobar; Escobar is a saint compared to Los Zetas, the Gulf Cartel or La Familia Michoacán. It is hard to imagine how the current wave of gory and gruesome atrocities can be surpassed, but I am afraid we will find out soon enough.

Drug trafficking organizations try to reduce the negative effects of violence on their activity and set up hierarchies, rules and alliances, but when hierarchies are shattered, rules are broken and alliances fall apart, violence takes over. Violence tends to grow with instability in a shadow economy. Narco-violence increases exponentially whenever law enforcement efforts become more successful at disrupting drug trafficking networks. As newcomers rush to fill any void created by arrested or killed drug kingpins, turf battles rage.

As for corruption, it arises inevitably at the unavoidable interface between the black market and the open economy. Borders need to be crossed, merchandise needs to be transported, raw material and equipment need to be purchased, crops need to be protected, money needs to be laundered, and profits need to be turned into legitimate businesses, real estate, mansions and yachts. For all of these and myriad other operations, the beautifully simple formula, the magic bullet, is "plomo o plata." Greed and fear are the motivators, the cement that seals loyalties, the universal facilitator and lubricant. For the black market, corruption is like a tax, part of the cost of doing business.

A black market naturally thrives in chaos. Whenever it needs to interface with the open economy, it logically seeks the path of least resistance. In a global world, it seeks the weakest states, the failing states, further destabilizing them and taking advantage of the power vacuum to take further control. As we will see in the next section, Central America, and East and West Africa, are particularly vulnerable.

A market economy naturally favors profit-maximizing strategies, which in the case of illegal substances will favor substances with the highest bang for the buck, as substances need to be concealed at all times and bulk comes with a severe handicap. Unsurprisingly, drug dealers much prefer heroin or cocaine to marijuana. There is virtually no market for coca leaf outside its traditional area; the market for raw opium for direct consumption has evaporated in most of the world and is receding rapidly in India, Pakistan and Iran, sadly replaced by heroin.

Modus operandi of the illegal drug trade

While much has been written about the drug cartels and the wholesale distribution of illegal drugs, there is comparatively little information about the retail side of the business. We will analyze the structure of the illegal drugs marketplace, focusing on its retail side.

The drug business obviously doesn't operate like a regular business. There are no storefronts; whether you are a producer, a wholesale distributor, a retailer or a user, you just cannot look in the yellow pages or search the Internet to find your sources or prospects. You need to know whom you are dealing with, and if you don't, you need to be introduced. So drug trafficking is all about contacts; it is the ultimate network marketing system, a pyramid scheme. If you want to understand it, think Tupperware, Avon, Mary Kay or HerbaLife.

Just like in any network marketing system, big money is made at or near the top of the pyramid. The key to profits is the breadth and depth of the network of dealers and sub-dealers you control. Lifestyle is often ostentatious and extravagant, especially in middle management. Flamboyant houses, heavy gold chains, giant rings and jewelry, shiny pickup trucks with heavy-duty sound system are symbols of power. The prosperity and ostentation at the top are part of the marketing

strategy to attract new recruits who are seduced into the lifestyle and the promises of financial independence and more. As law enforcement has grown more efficient at tracking them down, drug kingpins have finally gotten a bit wiser, and stopped advertising themselves so openly. Such blatant showiness has been somewhat toned down over the years. Top management is also where the worst violence and corruption occurs. Heavy weaponry is critical; bodyguards are required.

People at the bottom of the pyramid, the foot soldiers, are often heavy users who want to subsidize their habit and usually barely make enough money to support their own use. They must constantly recruit among their acquaintances, friends and family to extend their network. The HerbaLife lady tries to push her anti-aging cream together with her vitamins, just as the retail dealer tries to push his crack or amphetamines together with his marijuana. Good dealers have demonstrations, samplings or even gifts with purchases – the best customers may get a free line of coke with their pot purchase. This, by the way, is the real reason behind the so-called “gateway effect.”

As we will see in the closing section, the base of the pyramid is actually its most vulnerable part. Trying to arrest every single retail dealer would be, of course, an exercise in futility. It is much easier to disrupt the supply chain by severing its links to the pyramid. Without its network of retailers, the pyramid simply crumbles.

Those who wish to prosper need to move up the food chain, to recruit other dealers, to turn occasional users into heavy users; the more dealers they have under them and the more actively these dealers recruit themselves, the more money they make. They often use social events to recruit others. Just like the HerbaLife or Avon lady goes to Quinceañeras, posadas and birthday parties, dealers go to parties, dances, raves and nightclubs, they hang out around school campuses, parks and street corners; they befriend taxi drivers, barmen and bouncers, who are often the best resources for potential buyers/users in many parts of the world, especially in emerging countries.

There are vast differences between upscale drug dealers catering to a well-off high-end clientele – business professionals, lawyers, bankers, stockbrokers, media and entertainment industry – and “ghetto dealers” typically operating within gangs. Subcultures, such as rave, dance,

trance, techno, neo-hippies, heavy metal, bikers, punk, gothic (or Goth), etc., often have their own supply networks. Hallucinogens, such as LSD, peyote or mushrooms, also have their own distribution network, abiding by vastly different rules from traditional drug dealing, as the dealers of these drugs are quasi-religious proselytes and violence is rare in these circles. Upscale dealers operate in a far safer environment and are rarely caught. They often get into the business gradually, starting by providing for their friends and growing into full dealership, lured by the easy money, free drugs and glamour. The majority starts as stash dealers, buying to finance their own habit; others are connoisseurs, buying large quantities to get better quality, as the product gets further and further altered as it moves down the food chain. Upscale dealers mostly work as independents. They build their business on trust and can charge a premium because their customers trust the quality of the products they offer.

“Ghetto dealers” or street-level dealers are far more vulnerable and constitute the bulk of convictions, routinely getting in and out of jail. Street-level dealing is almost exclusively the domain of street gangs. Street-level dealers often “graduate” in the prison system, establishing or consolidating long-term connections to hardened criminals; incarceration is often a rite of passage among gang members. Murder is the rite of passage within the most violent gangs such as the Terceiro Comando in Brazil and the powerful Mara Salvatrucha, or MS-13. MS-13 operates from Salvador to Canada and is increasingly allied to Los Zetas.

Children and adolescents are typically the foot soldiers, the cannon fodder of narco-trafficking. They are often used for the most exposed part of the business, especially in emerging countries. Children as young as 10 or 11, boys and girls, are initiated into murder, valued for their total lack of inhibition. Malleable and easily impressionable, children haven’t yet developed the proper ethical maturity and moral awareness. As such, they are capable of committing gruesome atrocities with the emotional detachment and the hedonistic involvement they would invest in playing video games for instance, making them extremely valuable to ruthless drug lords and warlords alike. Another appeal of children for the cartels is that, being juveniles, they are placed in

correctional institutions instead of jails in most countries, from which they can easily escape.

Street children are particularly at risk of use and abuse of intoxicants – glue, solvents, alcohol, and tobacco, but also crack, heroin and amphetamines – it can reach 50% or more of the street children's populations. Children and adolescents are often used as lookouts, recruiters or guards; once they prove themselves, they may graduate to street-level dealers, fronting for adult traffickers, who may manage dozens or even hundreds of "street urchins." Such kids typically get also involved in all kinds of petty crimes from shoplifting, robbery, and assaults to resale of stolen or counterfeit goods and prostitution. High-risk children are further marginalized because of the illegal nature of their activities and their substance use. They turn into hardened criminals because they are surrounded by criminals, in a vicious circle. It is quite obvious that the current prohibitionist system leaves children extremely exposed and vulnerable, and once they get caught, they are trapped and ostracized, making it extremely difficult for them to ever enter the active, productive world.

There are, of course, lots of specificities to the drug trafficking marketplace. First, the drug itself is often used as currency, as service providers and middlemen are often paid in kind. Even bribes are sometimes paid in drugs. As truck drivers, boat captains, pilots, customs officers, the police, and all kinds of middlemen are paid in drugs, these drugs end up feeding the local marketplace. This probably contributes to the sharp increase in local drug consumption in producing and transit countries, as recipients of the drugs generally lack the skills and contacts to resell to the export market.

Barter is also quite common, as a way to avoid money laundering, especially at or near the source. A Bolivian or Colombian drug shipment along the ultra-porous Brazilian or Venezuelan border may be paid with weapons and ammunitions of course, but also with stolen or smuggled electronics, appliances, cars, trucks, boats, planes or even farm or construction equipment, fostering extensive collateral crime. This gives rise to all kinds of collateral criminal activities such as document forgery or shops to remove serial numbers.

Human trafficking often goes hand in hand with drug trafficking; illegal migrants are used as mules to transport drugs across borders. The slaughter of 74 migrants in August 2010 for refusing to cooperate with the Zetas was a gruesome reminder of the increased connection between narcotics and human trafficking.

It becomes obvious that the association of illegal drugs with criminal activities is a direct consequence of their illegal status. Narco-traffickers branch out into human trafficking, forgery, extortion, etc. either to facilitate their activity, or as its direct outcome.

Current trends in the illegal psychoactive marketplace³

The last 25 years have seen a gradual decline in retail price with an increase in quality pretty much all over the world; street prices are now at less than half their 1990 prices for heroin and cocaine. 2008 and 2009 have seen a relative rebound and increased scarcity of cocaine in the US, which is probably due to large seizures in Colombia or in transit, a shift to the EU market, and the growing demand of emerging markets. US prices have stabilized over 2007-2009.

At the same time, the price of opium, coca leaf and coca paste at the production level has increased significantly and stands now at double 1990 prices, which means that the margin for retail and wholesale distributors has declined sharply. This most likely indicates increased competition and economies of scale throughout the distribution network. Considering the relative success of enforcement efforts in

- 3). Major sources for this section:
UNODC World Drug Report 2010.
European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), Annual report 2010.
US Department of Justice, National Drug Intelligence Center, National Drug Threat Assessment 2010.
Guilhem Fabre and Michel Schiray, "Globalization, Drugs and Criminalization, UNESCO, the MOST Project, 2002.
Claudia Costa Storti and Paul De Grauwe, "Modelling the Cocaine and Heroin Markets in the Era of Globalization and Drug Reduction Policies," CESifo Venice Summer Institute 2008.

developed countries, this would seem to indicate that there is a vast reservoir of potential drug traffickers ready to step in as soon as someone is removed. In fact, globalization, exacerbated by increased income inequality and high youth unemployment, increases the supply of low-level drug dealers. The continuous and growing influx of foot soldiers willing and eager to take high risks for low pay keeps feeding the supply chain. Entry-level operatives keep moving up to middle and upper level drug dealers.⁴

Production grew over the past 25 years and seemed to stabilize or possibly decrease slightly in the 2008-2009 period. Worldwide consumption stabilized throughout the first decade of the 20th century but started picking up again in the US and EU in 2009 and seems to be exploding in emerging markets. Production and consumption of synthetic drugs seem to be exploding all over the world.

The growing influence of Mexican cartels and the relative decline of Colombian cartels are also noteworthy.

Street and prison gangs expansion – alliance with Mexican drug cartels

According to a 2010 report by the US Department of Justice, there are close to 1 million gang members operating within 20,000 street gangs in the US. Street gangs traditionally controlled street-level drug dealing in US cities, but they are now expanding geographically to suburban and rural areas while at the same time they develop their operations vertically, moving up the feeding chain into the wholesale and import business, dealing with dealers along the US/Mexican border or trading directly with the cartels inside Mexico. They mostly deal in cocaine, heroin, amphetamines and marijuana. The cartels

- 4). The 2008 report from the CESifo notes “Thus, as globalization is an ongoing process, it forces the authorities to continuously increase the amount of resources used in supply containment policies in order to prevent the retail price from declining. Taking into account that law enforcement may be subject to diminishing returns, it is very likely that the effects of globalization may prevail.” “The forces of globalization more than offset the effects of supply containment policies. In this sense it can be concluded that these policies are waging a losing battle against the forces of globalization.”

use US gang members for debt collection or drug smuggling, as US citizens are subject to little scrutiny on border crossings. Prison gangs are increasingly taking control of the street gangs through force or intimidation, often using the contacts forged during their prison stays with members of Mexican drug cartels.⁵ The prison system is the main recruiting and training facility for gangs and cartels.⁶

In many parts of the US, Mexican drug cartels forge alliances with prison gangs and street gangs to expand their operations geographically throughout the US and Canada. La Mara Salvatrucha stands out among all gangs as the largest transnational gang in America.

La Mara Salvatrucha (MS-13) was founded in the Los Angeles area in the 1980s to protect Salvadorian immigrants fleeing the civil war at home against the more powerful and more established Mexican and African-American gangs. Some of their members were former Salvadorian rebels who had received military training. When the Salvadorian war ended, the US started a policy of expulsion of any illegal immigrant involved in criminal activities. Many members of the MS-13 were deported back to Salvador where they used the prestige of their deportee status to build powerful gangs that later expanded into neighboring countries: Honduras, Guatemala, and southern Mexico, eventually spreading all the way to Canada. They developed a paramilitary structure and are routinely hired by drug cartels for “special jobs,” such as murder, vengeance, drug transportation and sale.⁷ After the Salvadorian government banned gang membership, the MS-13 and their archrivals Mara 18 virtually shut down El Salvador in September 2010. They sparked a prison revolt and forced businesses and public transportation to suspend all activities.⁸ The MS-13

5). “Drug Trafficking by Criminal Gangs,” National Drug Threat Assessment 2010, US Department of Justice, National Drug Intelligence Center, February 2010.

6). See section dedicated to the function of prison as a university of crime.

7). Immigration and Refugee Board of Canada, Honduras: The presence and activities of the gangs, Mara Salvatrucha (MS) and Mara 18 in Honduras, including their structure, the role of women, and the effectiveness of anti-Mara government measures (2007-January 2010), 28 January 2010, HND103349.FE, available at: <http://www.unhcr.org/refworld/docid/4b8631d919.html>.

8). BBC News, “Gang strike paralyzes El Salvador,” 9 September 2010.

control human trafficking along many parts of the border, allowing them to return every time they are deported, allowing them also to move drugs north and weaponry south. The MS-13 and Mara 18 have been rumored to work for various drug cartels, especially the Sinaloa Cartel, and most recently, their arch-enemy, Los Zetas. The MS-13 is estimated to number anywhere between 200,000 and 500,000 members across Central and North America, making it by far the most powerful transnational street gang in the world.

The professionalization of street gangs can also be observed in most of Central and South America, and in pretty much the entire world: Jamaica, South Africa, Nigeria and West Africa of course, but also Russia, India or the Balkans. In Brazil, street gangs effectively control the favelas that they run like fiefdoms and famously challenge the police and army in urban warfare-style attacks while waging war among themselves. During one such weeklong confrontation that started on November 20, 2010, in the slums of Rio, gangs erected roadblocks on main highways for wholesale assault on motorists. They torched more than 100 cars and buses, and shot up police outposts. As many as 2,600 paratroopers, marines and elite police in armored vehicles, and covered by low-flying helicopters, tried to dislodge gangsters and drug traffickers from the Vila Cruzeiro and Alemão shantytown. They came equipped with navy tanks and high caliber weapons, leaving at least 36 dead. 40 tons of marijuana and 200 kg of cocaine, as well as weapons and ammunitions, were seized in the operation.⁹ Rio is trying to clean up its slums in preparation for the 2014 soccer World Cup and 2016 Olympics.

Almost everywhere in the world, prison gangs control street gangs. At the same time, the gang culture becomes global and moves into the mainstream thanks in part to gangsta rap and gangsta culture.

Chaotic urbanization is the norm in most emerging and fourth world countries; in West Africa for instance, up to 90% of the urban population lives in sub-standard conditions. Extreme poverty is further compounded by environmental disasters as overpopulation

9). Rafael Noboa Rafael Noboa, "Brazil slum drug war not over: official" AFP, Mon Nov 29 2010.

and global warming inordinately affect the poorest countries, causing further population displacement and feeding the monstrous urban chaos. Huge slums grow out of control as “feral cities,” failed cities operating almost exclusively in the shadow economy where gangs become an alternative form of government; local authorities often refuse to even venture into them and are unwilling or unable to exercise any form of control. Local street gangs form alliances with prison gangs and other higher criminal networks, serving as their local distributors and “law enforcers.”¹⁰

Narco-trafficking in the age of globalization

As enforcement strengthens for access to the dominant US market, drug cartels look for alternate routes and safe havens, a path of least resistance, countries where they can operate quasi openly and buy their way out of trouble, or even get de facto control through corruption. Countries used for transit then become spearheads for market expansion and epidemic addiction spreads along transit routes, nurturing crime and corruption, further destabilizing already weak countries.

The most affected parts of the world are Central America, West Africa, East Africa and Central Asia, as well as the Balkans, albeit to a lesser degree.

As a result of improved enforcement in the air and on water, it is estimated that 90% of the South American drug supply now moves by land or short boat trips along the coast. As a result, Central America has become highly strategic for narco-trafficking to the US; Central American countries from Panama to Guatemala have seen a dramatic rise in narco-traffic and violence over the last decade. Even traditionally peaceful Costa Rica is affected. With PNB dwarfed by narco profits, these countries simply do not have the resources to tackle such existential threats to their integrity. The worst affected countries and the world's most dangerous outside war zones, Guatemala, El Salvador and Honduras, are weak and unstable, with a long history of nepotism, human rights abuse and violence.

10). Richard J. Norton, “Feral cities – The New Strategic Environment,” Naval War College Review, Autumn 2003.

Guatemala and El Salvador recently emerged from decade-long upheaval and civil wars. They have some of the highest income inequality and youth unemployment in the world with the added misfortune of being on the world's major drug transit route.

Guatemala, the most vulnerable country of all, shares almost 1,000 km of extremely porous and mostly remote border with Mexico. Guatemala also has ports on the Pacific and the Caribbean, hundreds of remote and clandestine airstrips, and a totally corrupt police, army and judicial system. At 108 per 100,000, the murder rate in Guatemala City is one of the highest in the world. (As a comparison, it is 6.5 in New York and 1.5 in Berlin). Impunity is the rule. Real power in Guatemala lies with narco-traffickers; transnational street gangs, chief among them the infamous MS-13; and "Los Poderes Ocultos," "the Hidden powers," right-wing groups of ex-military and militia leftovers from the civil war era. These three powers often operate in loose alliances.

The situation is so dire that the government decided to turn over parts of the justice system to the UN with the "International Commission Against Impunity in Guatemala" (CICIG). Carlos Castresana, head of CICIG, resigned in protest in June 2010, when Attorney General Conrado Reyes, newly appointed by President Álvaro Colom in May 2010, started to destroy evidence and fire prosecutors investigating corruption while emptying prisons of their narco-convicts. Conrado Reyes was removed by Guatemala Supreme Court on June 11, 2010, under wide suspicion of links to organized crime and narco-trafficking. In a videotape released after his own alleged assassination, lawyer Rodrigo Rosenberg accused President Colom himself of murder, money laundering, and links to narco-trafficking.¹¹ In a bizarre twist, the CICIG later determined that Rosenberg staged his own murder. Former president Alfonso Portillo was arrested in January 2010 for money laundering. Two former national police chiefs and two heads of the anti-narcotics agency were arrested on drug counts.

As the crackdown intensified in Mexico, Mexican drug cartels bought ranches and large swathes of remote land in Guatemala. Los

11). Ezra Fieser, "A Video from the Grave Sends Guatemala into Crisis," Times Magazine, May. 14 2009.

Zetas set up training camps for retired Guatemalan militaries. They recruited as trainers the Kaibiles, the much-feared Guatemalan Special Forces. The Kaibiles had themselves been trained by the US in the 1970s for anti-guerilla operations.¹² The Sinaloa Cartel has its own bases on the Pacific side. The military provides firepower to the drug cartels, including grenades, bombs, landmines and rocket launchers.¹³ 80% of Colombian cocaine is transited through Guatemala. Opium cultivation is on the rise, and so are methamphetamine labs. The drug lords build roads, schools, and hospitals, and serve their own form of expeditious justice, taking over the functions of the state in many parts of the country. Up to one third of the country might be under effective control of criminal organizations. 45% of the youth population (16-25) is unemployed, creating a vast reservoir of potential recruits for street gangs and drug gangs. The Guatemalan military seized the northern Alta Verapaz province on December 19, 2010, to try to reclaim it from the Zetas and imposed a month-long state of siege.¹⁴ Guatemala has become a de facto narco-state, or is well on the verge.¹⁵ Honduras and El Salvador, one of the most dangerous countries in the world with 13 murders a day for a population of 7 million, do not fare much better.

Nicaragua has been taking bribes from the narcos at least since the 1980s, when the Colombian drug lords took refuge there after the fall of Noriega in Panama. The current president, Daniel Ortega, who was also president back then, is rumored to receive cash by the suitcase. His opponents during the civil war were also narco-financed with the CIA's blessings.

Further south, Venezuela could be considered a narco-state thanks to Chavez's alliance with the FARC and its wide tolerance of transshipments from Colombia through supposedly clandestine

12). Sarah Grainger, "Mexican drug cartels expand reach in Central America," International Business Time, August 26 2010.

13). Edward F. Fischer, "Guatemala and the Face of the New Sustainable Narco-State," November 01, 2010 The Guatemala Times.

14). Juan Carlos Llorca, Guatemalan military seizes drug-plagued province, Associated Press, December 19 2010.

15). Kevin Casas-Zamora, "Paying Attention to Central America's Drug Trafficking Crisis," The Brookings Institution, October 27 2010.

airstrips. As a result, Venezuela has become the leading staging point for cocaine destined for both the US and EU. Who is truly in control in the ambiguous relationship between Chavez and the narco-traffickers is of course a matter of debate. Meanwhile, crime has been rising sharply.

The case of Mexico is rather complex and arguably far more worrisome than any other country in the world, except the Afghanistan/Pakistan conundrum. We will look at Mexico in more details in the chapter about the geopolitical cost of the War on Drugs. Suffice it to say for the moment that the situation is so dire in the border area that Pemex, the oil state monopoly, abandoned three platforms in the state of Tamaulipas. Several mayors have fled to the US, running their city via fax, phone, and the Internet. Numerous elected officials and candidates, mayors, governors, etc., have been assaulted, assassinated or kidnapped, sometimes with their entire family. Ciudad Mier has been abandoned, its inhabitants fleeing the drug violence.¹⁶ Drug cartels routinely buy elections and control local judiciary and police. Drug violence has claimed over 30,000 victims between 2006 and 2010. There is widespread fear that the cartels will try to control the 2012 presidential and regional elections.

The most worrisome development of the 21st century is the opening of new transit routes through West and East Africa which counts the poorest and most vulnerable countries in the world, with no effective governance or where governments themselves often behave like predatory criminal organizations. These terminally corrupt governments welcome the drug cartels and set up joint ventures to further fill their coffers, especially when they have been ostracized by the international community for their corruption.

The West African route for cocaine access to the European market opened up as a consequence of improved law enforcement along the northern route through the Caribbean and along the middle route

16). Nicholas Casey and José De Córdoba, "Northern Mexico's State of Anarchy Residents Abandon a Border Town as Vicious Drug Cartels Go to War," Wall Street Journal, November 20 2010.

through Cap Verde or Canary Islands. It opened up a vast reservoir of cheap labor willing to take exceedingly high risks to carry the products by air, sea or land to their final destination. Human trafficking, once again, becomes a tool for drug trafficking, with legal travelers and illegal immigrants acting as drug couriers. Extreme poverty and a bulging youth population ensure that the reservoir of cheap labor and cheap life will not dry up anytime soon. Drug trafficking is often the only realistic economic opportunity, which considerably lowers labor costs and risk factors for the narco-trade. West Africa has now turned into a major hub for cocaine and, to a lesser degree, heroin trafficking.

Tiny Guinea-Bissau with 1.5 million inhabitants, no jails, few police cars, no gas, no infrastructure, 350 km of coastline, and 90 often uninhabited islands, some with small airstrips, hardly any coast guards and no air control, turned from failed state to narco-state when the Colombian cartels took over around 2005. The 2008 coup is widely believed to have been the result of a conflict between narco factions within the Guinean government. The army is believed to control the narco-trade. The other West African countries do not fare much better. In Guinea-Conakry, the drug trade was run by the president and his sons. Gambia, Sierra Leone, Liberia, Mali, Cote d'Ivoire, Ghana, Togo, Benin, and Nigeria are all under threat to some extent – Gambia and Sierra Leone being by far the most vulnerable. Nigeria has also become a hub for heroin from Asia. Virtually all these countries have been devastated by civil wars or have suffered from endemic ethnic conflicts for decades. Most of them are traditional producers, consumers and exporters of cannabis. All over the region, the powerful Nigerian Mafia is running the show in alliance with the Colombian drug cartels and local criminal organizations. As sub-contractors and foot soldiers are paid in kind, drug use and abuse is exploding. None of these countries has the resources or the will to fight such a challenge, especially as local economies get addicted to the inflow of drug money and extravagant mansions pop up like mushrooms on the beaches while fancy high-rises sprout from the slums. Drug trafficking is increasingly seen as a fast track to power and riches by local military and political emerging elites; younger generations see it as a way to grab power from their

elders.¹⁷ The slums offer an almost inexhaustible supply of dirt-cheap cannon fodder. Production is also moving to the area. Amphetamine labs have been discovered in Guinea-Conakry.

On the other side of the continent, heroin and hashish are increasingly moving from Afghanistan/Pakistan and Burma/Thailand to East Africa to be re-routed to Europe, mostly through the Balkans. Asian amphetamines also transit there. Some cocaine is traded for heroin for Asian distribution while some of the heroin moves on to the US. The region suffers from the same typical ills found in most weak or failed states all over the world: extreme poverty, widespread corruption, non-existent or inefficient border controls (land, sea and air) and extremely porous borders between countries. Somalia, of course, is the ultimate failed state, and Mogadishu the quintessential “feral city,” but all countries in the area – Djibouti, Eritrea, Ethiopia, Kenya, Uganda and Tanzania – are affected.¹⁸

From East and West Africa, drugs increasingly move up north through the Sahel and the trans-Saharan route, through Chad, Niger and Mali and then the Maghreb, often using long-established cannabis smuggling routes, creating a whole new set of problems as this part of the world has been plagued by insurgencies for the longest time. Illegal immigrants often serve as cheap couriers.

Finally, the countries bordering Afghanistan in Central Asia – Kazakhstan, Kyrgyzstan, Tajikistan, and Turkmenistan – have been trade and smuggling routes for millennia, going as far back as Alexander the Great. On the other side, the Northern Territories and the Tribal Areas are only nominally part of Pakistan and never had effective governance, or rather, governance has traditionally been assumed by drug/war lords and tribal elders. Small-scale cannabis cultivation is widespread; one of the finest grades of hashish in the world has been produced, consumed and traded in Afghanistan from

17). James Cockayne and Phil Williams, “The Invisible Tide: Towards an International Strategy to Deal with Drug Trafficking Through West Africa,” UNECA, UNODC, September 2009, http://www.uneca.org/coda/unodc/TheInvisibleTide_JamesCockayne.pdf.

18). Africa under attack: Drug trafficking has acquired a whole new dimension, UNODC, Security Council, New York, 8 December 2009.

time immemorial. Opium was also traditionally smoked in the region, ominously being displaced by heroin.

Opium cultivation picked up under Soviet occupation, promoted by the CIA to finance anti-Soviet insurgency; it exploded under the Taliban, starting in 1994. Production reached 4,500 tons in 1999. With opium reserves going through the roof and prices crashing, the Taliban put a ban on opium cultivation in 2000 to prop up the market, a feat that was rewarded with a \$43 million grant by the Bush administration.¹⁹ Under US and NATO occupation, the Taliban records have been pulverized with production reaching 8,200 tons in 2007. Production fell by half from 6,900 tons in 2009 to 3,600 tons in 2010 thanks to poor weather conditions and a fungus infection, reversing the falling price trend of the past few years. Afghanistan produces 90% of the world's heroin supply and the opium industry accounts for 20% of the Afghan economy. Ahmad Walid Karzai, the president's own brother, is widely rumored to be one of the many government officials involved in the drug trade. NATO forces turn a blind eye, or even provide de facto protection to opium convoys. In a 2007 radio advertising, NATO forces reassured opium farmers: "Respected people of Helmand, the soldiers of ISAF and ANA do not destroy poppy fields. They know that many people of Afghanistan have no choice but to grow poppy. ISAF and the ANA do not want to stop people from earning their livelihoods."²⁰

Opium consumption in Afghanistan, Iran, Pakistan, Kazakhstan, Kyrgyzstan, Tajikistan and Turkmenistan accounts for 60% of global consumption. But the availability of cheap and abundant heroin is rapidly changing patterns of use, creating an epidemic of heroin addiction along trading routes throughout the entire region as traditional opium use is increasingly displaced by heroin, spreading HIV/AIDS thanks to unsanitary injecting practices.

Unlike in Pakistan, trafficking in Central Asia is mostly unstructured and informal, with apparently lots of small traffickers smuggling

19). Ted Galen Carpenter, "How Washington Funded the Taliban," *cato.org*, August 2 2002.

20). Declan Walsh, "British military sanctions Afghan poppy cultivation," *The Guardian*, Friday 27 April 2007.

fairly small amounts in a definitively low-tech manner. Seizures have been made of heroin stuffed in anything from smoked chicken to pomegranate and the classic shoe sole. Traffickers range from farmers to housewives or patriarch and their entire progeny. UNODC estimates that seizures represent a mere 3 to 4% of total traffic. An increase in the volume of large seizures seems to indicate that traffickers are getting better organized and gaining more power.

Heroin transits through several routes from Afghanistan. The southern route through Pakistan leads mostly to East Africa. The northern route starts mostly in Tajikistan, but also in Uzbekistan and Turkmenistan and from there reaches the Russian Federation, mostly by road. The Balkan route goes through Iran, Turkey and southeast European countries to reach the rest of Europe.

Diversification and sophistication of transit modalities

Free trade, globalization and the sharp increase in global sea, air and land transportation makes it increasingly difficult to monitor movements of goods and persons and creates enormous challenges for border controls. With 220 million containers moving around the globe every year, it is impossible to adequately monitor their content, a vulnerability that is being exploited as narco-trade turns global. As enforcement improves, so does the ability of drug traffickers to avoid it. One strategy, as we have seen, consists in using routes with little or no effective enforcement. Even if emerging countries are growing by leaps and bounds, the US and EU remain by far the largest markets; goods need to reach their market one way or another, and these ways are getting increasingly creative.

As drug traffickers diversify their routes, they also diversify their transit modalities. Along the Mexican/US border, the main transportation mode is still over-ground, concealed in cars, in shipping containers or hidden within merchandise. They now seem to be moving underground; 26 tunnels were discovered in 2009, up from 16 in 2008. 125 tunnels have been discovered since 1990. Tunnels are typically located in border towns, linking a warehouse in Mexico to another warehouse in the US over a few hundred feet.

Among other innovations, self-propelled semi-submersibles (SPSS) deserve some special attention. These are not real submarines but rather have very low freeboard and protrude just a few inches above the water. They are made of camouflaged fiberglass rendering them virtually invisible by radar or infrared sensors. They typically carry a crew of four and a load of up to 10 tons of merchandise with a range of up to 5,000 km, using GPS and powerful communication equipment. Even though they are difficult to spot, SPSS are still visible by low flying surveillance aircrafts.²¹ SPSS typically transit cocaine from Peru and Colombia along the Pacific Coast to Costa Rica, Guatemala or even Mexico. They are designed to be sunk on arrival or if intercepted. A dozen SPSS have been intercepted at sea so far, while quite a few more were seized on construction sites or ready to launch. Traffickers use sophisticated logistics systems with fishing boats serving as scouts and refueling stations along the way. A 10-meter SPSS was found as far away as northern Spain in 2006.

Colombian police discovered a half-built true 30-meter submarine in 2000 in a warehouse near Bogota, built by US and Russian engineers. It would have been capable of carrying 150 to 200 tons of cocaine over 3,000 km, 100 meters under water.²² Another 30-meter submarine was discovered on July 2, 2010, in the Ecuadorian jungle, complete and ready to go. It was the first time a fully operational submarine was captured.²³ Another fully submersible “narcosub” was discovered in the Colombian jungle in February 2011.²⁴

After the loss of many SPSS and their cargo, drug traffickers may be shifting to narco-torpedoes capable of hauling up to 5 tons of cocaine. The narco-torpedoes are towed by a regular boat, typically a fishing boat, and have ballast tanks allowing them to stay 30 meters under water. The torpedo is released when a patrol ship is spotted. The torpedo then automatically releases a decoy buoy camouflaged as a log

21). “Self Propelled Semi Submersible (SPSS): Increasing Threat from Sea,” Marinebuzz.com, September 15 2008.

22). Drug submarine found in Colombia BBC-News, 7 September 2000.

23). David Kushner, “Drug-Sub Culture,” New York Times, April 23 2009.

24). John Otis, “Drug submarines: Colombia’s underwater cocaine traffic,” April 26 2011, PRI’s The World.

and equipped with encrypted location transmitting systems, allowing it to be located and recovered when the alarm is over. Rumor has it that narco R&D is busy developing unmanned remote controlled subs and semi-subs, which would greatly reduce the risks of course. Stay tuned for further developments.²⁵

Narco-air transport may be making a comeback. A flotilla of 21 small planes ferrying cocaine to Central America was seized in Colombia on September 2, 2011.²⁶ Narco-air transport is also quite popular for crossing the Atlantic towards West Africa. Small turbo-props retrofitted with extra tanks to increase their range and flying at night were the most popular way until recently. The 2007 economic crisis has created a glut of used jets that can be bought for a few hundred thousand dollars and flown over the Atlantic to be resold or destroyed on arrival.²⁷ It doesn't help, of course, that the FAA has lost track of 119,000 airplanes, which is 1/3 of the US fleet of private and commercial aircrafts.²⁸ There is no reason to believe that the situation is any better in the rest of the world. All kinds of flying objects are also used to cross borders, mostly along the US/Mexican border. Ramps are set up to allow cars to jump over the US fence. Ultra-light aircrafts are loaded with merchandise to hop over the border, usually dumping the merchandise on the other side. Low flying remote control unmanned aircrafts are also rumored to be in use. In January 2011, definitively low-tech catapults were discovered throwing 30 lb bales of marijuana over the border.²⁹

Concealment is still quite common and getting more creative as well. Concealment among legitimate cargo in maritime containers is

25). Narco-Subs Part 4: Incoming Torpedos! & Narco-Subs Part 5: No Way Out, <http://www.youtube.com/watch?v=FjPTfbeYPV8&NR=1>, <http://www.youtube.com/watch?v=bAfqvz3YI78&feature=related>.

26). Cesar Garcia, Cocaine air bridge sweep nets 30 arrests, September 2 2011, Associated Press.

27). "South American Gangs Use Jets to Secretly Fly Drugs Across Atlantic," Associated Press, November 15 2010.

28). Chris Hawley, "FAA loses track of 119,000 aircraft," Associated Press, December 10 2010.

29). Cindy Carcamo, "Smugglers catapult pot over US/Mexico border," The Orange County Register, Jan. 27 2011.

still widely popular. Hollowed objects ranging from molded furniture or concrete fencing posts to the traditional dolls, baseball bats, garden or Christmas decorations or world cup replicas are a classic of course, but drugs have been stuffed in about anything you can think of, from bananas to live boa constrictors or even giant squids. Liquid cocaine seems to be gaining popularity as it can be repacked in anything from liquor bottles, gas tanks or fish tanks (the fish died) to beans or artichokes cans – 8,000 artichokes cans containing 4,000 kilos of liquid cocaine were discovered in Peru in September 2009. Clothes can be soaked in liquid cocaine. 15,000 liters of liquid cocaine were seized on an Ecuadorian fishing boat in 2007. Secondary extraction labs busted in Europe revealed cocaine concealed in a range of carriers, from beeswax or cacao powder, to fertilizers, or even polypropylene plastic. 60 tons of plastic had already been imported from Colombia when the scheme was uncovered.

As for good old couriers, they have turned into a numbers game, with sometimes huge churn rate thanks to an over-abundant supply of desperate candidates. The Amsterdam airport used to be the destination of choice for couriers from the Nederland Antilles, Surinam and Venezuela. When the Dutch set up complete passenger and luggage check in 2004, 60,000 couriers were stopped in 4,000 flights. In the initial stage of the operation, over half of the passengers were couriers and 76.5 tons of cocaine was seized.³⁰ Tens of thousands of couriers are still entering the US and EU every year, by foot, by land, by air, and by sea, often as part of human trafficking schemes. Women are often used as mules, especially in Africa, as a last recourse to try to extract themselves and their children from abject poverty. Many of them are caught; already precarious families are further destroyed.

Technological innovations and the next wave of diseases of excess

We have seen that various technological innovations have profoundly altered the psychoactive landscape throughout the ages, often leading to epidemics of “diseases of excess.” The invention of beer and wine

30). Martin Jelsma, Transnational Institute, “Legislative Innovation in Drug Policy,” Latin American Initiative on Drugs and Democracy.

played a critical role in the launch and expansion of Western civilization around 6,000 years ago.³¹ Industrial-scale distillation produced a wave of alcoholism in the 18th and 19th century in Europe and the US. Advances in chemistry leading to the production of morphine, heroin and cocaine generated a first wave of addiction by the end of the 19th and early 20th century.

Three technological innovations are in the process of dramatically altering the global psychoactive landscape and have the potential to overwhelm the War on Drugs.

The Internet is revolutionizing the way we access and process information, allowing instant and widespread access and dissemination of information on virtually any topic. The Internet also transforms the way people interact. Virtual networks can be easily created, connecting people throughout the world. At the same time, subculture can spread at viral speed throughout the web.

Hydroponics is the second technological innovation drastically affecting the psychoactive landscape, allowing virtually anybody with spare space and an Internet connection to start hydroponic production of marijuana in his or her house, apartment or backyard. He or she can get all the necessary information and supplies from the Internet, including detailed instructions, seeds and clones. Indoor cultivation allows year-round production with three or four crops per year, and a controlled environment yielding consistent results and often higher-quality products commanding a higher price. As marijuana grows wild or semi-wild in most emerging countries, cannabis and its derivatives are now widely available in most parts of the world thanks to indoors or outdoors cultivation.

The proliferation of indoors cultivation is giving rise to cottage industry with lots of independent producers supplying small networks of acquaintances, some of which they may have met through the Internet. Criminal organizations are also getting in the business, setting up large-scale indoors or outdoors production. In the US, outdoors production is often done on remote public land. According to a state report, marijuana is now a \$14 billion industry in California, and its

31). See Chapter 8 – Alcohol.

number one cash crop. It represents over 50% of the economic activity in Mendocino County.³²

Thanks again to the Internet, “kitchen counter chemistry” allows anybody with some chemistry background to produce synthetic drugs, ATS (amphetamine-type stimulants), ecstasy/MDMA, and LSD, LSD being admittedly the most difficult to manufacture. Formulas and know-how can be easily downloaded and most supplies can easily be purchased over the Internet. While independent labs are not by any means as widespread as marijuana plantations, their production capacities are much larger and the profit potential is astronomical as costs can be as low as a few pennies per dose, with retail prices ranging from \$10-\$50 or more. Asian gangs often control the production of synthetic drugs in Asia itself and in Canada, the US and EU through their diaspora. They also control its distribution, mostly through the club scene, especially for MDMA/ecstasy. In the US, biker gangs seem to be involved in ATS production and, to a large extent, control their distribution. Mexican gangs dominate the distribution of Mexican amphetamines. Missouri and Tennessee at the center of America’s heartland lead the pack in meth production in the US, with a whopping 2,082 meth lab busts in 2010 for Tennessee,³³ overtaking Missouri at 1,960. There were over 13,000 meth labs busts in Missouri over the past seven years. Sheriff Tommy Adams from tiny Carter County, MO, in the Ozark Mountain foothills with just 6,000 residents, was busted for meth trafficking in April 2011; his chief deputy was charged with burglary for stealing a gun from the evidence room.³⁴

To further compound the problem, new psychoactive substances are continuously popping up like mushrooms. 2010 was a bumper year with over 40 new synthetic drugs appearing in the EU market, pulverizing the 2009 record of 24.³⁵ Such drugs are marketed over the Internet as legal substitutes for cocaine, heroin, amphetamine or

32). Matt Baume, “Pot Crushes Wine Vineyards as Cash Crop,” Oct 21 2010.

33). “Tennessee Overtakes Missouri in Meth Lab Busts,” Associated Press, March 01 2011.

34). “Sheriff faces meth charge in state ravaged by drug,” Associated Press, April 18 2011.

35). UNODC 2011 World Drug Report, http://www.unodc.org/documents/data-and-analysis/WDR2011/World_Drug_Report_2011_ebook.pdf

ecstasy until they are banned and promptly replaced by yet newer and largely untested substitutes, spreading at viral speed through social networks and forums.

The synthetic drug market is hard to trace as production takes place near the main markets. Distribution networks are volatile and informal, raves, clubs and the dance scene being the most common marketing venues. Dealers and users are mostly mainstream, average young adults in search of hedonistic satisfaction and glamour with the thrill of forbidden fruit. Organized crime might get more involved in this fast growing market in view of the huge profit potential and greatly diminished risks. In the EU and US, the use of synthetic drugs now surpasses the use of heroin and cocaine combined. It is growing by leaps and bounds in all parts of the world, especially in Asia and the Middle East.

These technical innovations – the Internet, hydroponics, and kitchen counter chemistry – are game changing and have the potential to overwhelm the War on Drugs in developed countries. Many countries have already pretty much given up on trying to control cannabis consumption, but most experts agree that cannabis is a fairly innocuous drug, probably less harmful than alcohol. More worrisome is the spread of production and consumption of synthetic drugs. Amphetamines in particular can be extremely addictive; abuse leads to violent, dangerous, unpredictable, and perturbed behavior. As the entry barrier to production lowers to the point of being virtually nonexistent, and as distribution networks become increasingly informal and diffuse, it is hard to figure out how these trends can be addressed within the current prohibitionist policies, short of adopting even more intrusive law enforcement policies that are increasingly incompatible with democratic societies.

At the same time, the globalization of drug trafficking and its increasingly destabilizing effects on a growing number of countries pose a risk of contagion to large parts of the world. As substance use and abuse spread to emerging countries, these countries do not have the resources to implement the extremely costly policies dictated by the War on Drugs. If such policies have failed in developed countries despite the huge amount of resources thrown at them, it is hard to imagine how cash-strapped emerging or fourth world economies can fare better.

Chapter 5:

The cost of the War on Drugs

“War is a mind-set, and all action that comes out of such a mind-set will either strengthen the enemy, the perceived evil, or, if the war is won, will create a new enemy, a new evil equal to and often worse than the one that was defeated.”

Eckhart Tolle, A New Earth

There will be a fair amount of number crunching in this chapter. If you have any aversion to numbers, you can just scan through the tables and charts and jump to the conclusion at the end of the chapter. Most of the statistics will apply to the US because this is the only country in the world where statistics of any kind can easily be found on pretty much anything you can think of, and much more that would never cross your mind. Furthermore, the US has been a prohibitionist zealot for over 100 years and has single-handedly spearheaded the War on Drugs for the past 40 years, imposing it on the rest of the world.

Rather than adding lengthy comments, I will generally let the numbers speak for themselves.

Legal and illegal drug-related casualties in the US, EU, and throughout the world

According to the WHO, non-communicable diseases (NCDs) accounted for 63% – 36 million – of all deaths worldwide in 2008, and were the leading cause of deaths in most of the world except Africa. Almost 80% of the NCDs occurred in low and middle income countries. NCD deaths are projected to increase by 15% globally between 2010 and

2020. “NCDs are caused, to a large extent, by four behavioral risk factors that are pervasive aspects of economic transition, rapid urbanization and 21st-century life: tobacco use, unhealthy diet, insufficient physical activity and the harmful use of alcohol.”¹ Almost 6 million people die from tobacco use and exposure each year, while insufficient physical activity claims 3.2 million lives, followed by overweight and obesity at 2.8 million, alcohol at 2.3 million, and unhealthy diet at 1.7 million. 35 deaths per 100,000 people are attributable to alcohol use, almost 9 times as many as illicit drugs.² Injection drug use is related to the bulk of illicit drug-related casualties, estimated by UNODC at around 200,000 worldwide – 0.5% of NCDs, half from fatal overdose. The rest of illicit drugs-related casualties come from HIV/AIDS, suicide, accidents, etc. Roughly 50% of all injecting drug users are infected with the hepatitis C virus. Around 2.8 million injection drug users are HIV-infected, 18% of the injecting population.³ The vast majority of overdoses are due to inconsistent quality while the spread of HIV/AIDS and hepatitis is due to unsanitary injection practices. Therefore, policy changes such as needle exchange or controlled legalization could more than halve drug-related casualties, as the vast majority of drug-related casualties, from overdose to intoxication and AIDS, are a consequence of the War on Drugs. This figure doesn’t include casualties caused by drug-related violence, the vast majority of which are a direct consequence of the War on Drugs.

In the US, the CDC publishes the National Vital Statistics Report. The latest available report covers the year 2009 (Volume 59, Number 4,

- 1). WHO, “Global status report on noncommunicable diseases 2010 – Description of the global burden of NCDs, their risk factors and determinants,” World Health Organization, April 2011, http://whqlibdoc.who.int/publications/2011/9789240686458_eng.pdf.
- 2). WHO, Atlas on Substance Use (2010) – Resources for the prevention and treatment of substance use disorders, http://www.who.int/substance_abuse/publications/treatment/en/index.html.
- 3). UNODC World Drug Report 2011, http://www.unodc.org/documents/data-and-analysis/WDR2011/World_Drug_Report_2011_ebook.pdf.

March 16, 2011).⁴ The following table has been compiled in part from this report:

Cause of preventable deaths in the US	Year 2009
Tobacco related ⁵	443,000
Accidents (unintentional injuries)	117,176
Adverse reaction to prescription drugs (2010)	82,724
Alcohol related (includes accidents) ⁶	79,000
Motor vehicle accidents	36,284
Suicide	36,547
Drug-induced deaths (abuse of prescription drugs and illegal drugs)	37,485
Injury by firearm	31,228
Alcohol induced deaths	24,263
Suicide by firearm	18,689
Illegal drugs induced deaths	17,000
Assault	16,591
Assault by firearm	11,406

Drug-induced deaths include both abuse of prescription drugs and illegal drugs. According to CDC, at close to 12,000, deaths by prescription opioids exceeded deaths by cocaine and heroin combined in 2007.⁷

The FDA collects reports of adverse reactions to prescription drugs through the Adverse Event Reporting System (AERS). Serious

4). www.cdc.gov/nchs/data/nvsr/nvsr59/nvsr59_04.pdf.

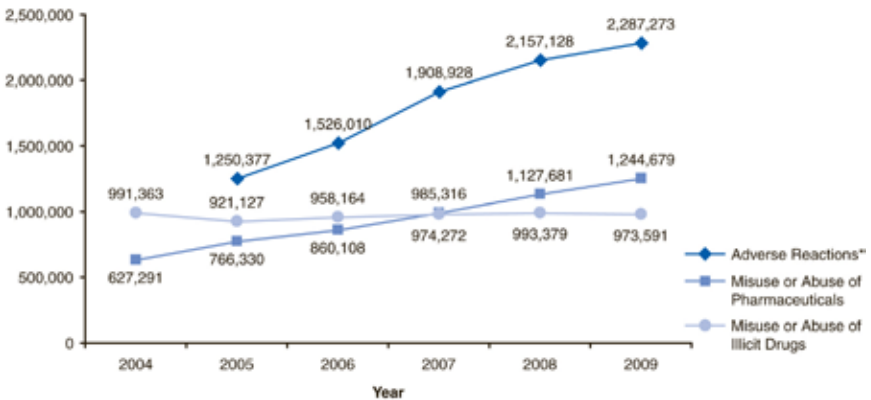
5). <http://www.cdc.gov/chronicdisease/resources/publications/AAG/osh.htm>.

6). CDC, "Excessive Alcohol Use – Addressing A Leading Risk For Death, Chronic Disease, and Injury" At A Glance 2011, <http://www.cdc.gov/chronicdisease/resources/publications/aag/alcohol.htm>.

7). http://www.cdc.gov/HomeandRecreationalSafety/Poisoning/brief_full_page.htm

outcomes, which include death, hospitalization, life-threatening conditions, disability, congenital anomaly, and/or other serious outcome, increased 306% from 153,818 in 2000 to 471,291 in 2010; during the same period, fatalities increased 425%, from 19,445 to 82,724, a staggering figure by any metrics,⁸ and almost five times the casualties attributed to illicit drugs.

Figure 3. Drug-Related Emergency Department (ED) Visits, by Type of Visit: 2004 to 2009*



* Data for ED visits involving adverse reactions to pharmaceuticals are not available for 2004.

Source: 2004 to 2009 SAMHSA Drug Abuse Warning Network (DAWN).

Various metrics are used to evaluate the relative morbidity of a variety of substances, and public health policies are supposed to be based on such evaluations for resource allocation. Emergency room visits are probably one of the most reliable metrics. According to the 2010 Drug Abuse Warning Network (DAWN) issued by the Substance Abuse and Mental Health Services Administration (SAMHSA), 2,287,273 visits, half of drug-related emergency department (ED) visits, were attributed to adverse reactions to pharmaceuticals in 2010, almost double the 2005 figure. Misuse or abuse of pharmaceuticals accounted for 27.1% with 1,244,679 visits, double the 2004 figure of 627,291. ER visits due to illicit drug use remained stable at 973,591 or 21.2%.

8) <http://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/Surveillance/AdverseDrugEffects/ucm070461.htm>

Drug-Related Emergency Department (ED) Visits in the US, by Type of Visit: 2009⁹		
Type of Drug-Related ED Visit	Number of ED Visits	Percent
Total Drug-Related ED Visits	4,595,263	100.0%
Adverse Reactions to Prescription drugs	2,287,273	49.8%
Drug Misuse or Abuse – all substances	2,070,439	45.1%
Misuse or Abuse of Pharmaceuticals	1,244,679	27.1%
Illicit Drug Use	973,591	21.2%
Alcohol Involvement	658,263	14.3%
Alcohol Involvement with Drug Use	519,650	11.3%
Under-age drinking	199,429	4.3%
(The total adds up to well 100% as a result of multi-substances use)		

As the above numbers clearly demonstrate, prescription drugs, either as prescribed or abused, are far more of a public health issue than illicit drugs, causing vastly more casualties. Despite all the alarmist claims of the War on Drugs propaganda, illicit drugs are a relatively minor public health issue compared to tobacco, junk food, alcohol or prescription drugs. Furthermore, more than half the health damage attributable to illicit drugs use is a consequence of their prohibition.

Societal cost of drug use

The WHO uses a metric called “burden of disease” to evaluate the cost of drug abuse. In the opening paragraph of the 2004 report “Neuroscience of psychoactive substance use and dependence,” the WHO states:

“Substance use and dependence cause a significant burden to individuals and societies throughout the world. The World

9). <http://oas.samhsa.gov/2k10/DAWN034/EDHighlights.htm>, “Neuroscience of psychoactive substance use and dependence,” WHO, 2004.

Health Report 2002 indicated that 8.9% of the total burden of disease comes from the use of psychoactive substances. The report showed that tobacco accounted for 4.1%, alcohol 4%, and illicit drugs 0.8% of the burden of disease in 2000. Much of the burden attributable to illicit substance use and dependence is the result of a wide variety of health and social problems, including HIV/AIDS, which is driven in many countries by injecting drug use.”¹⁰

It should be noted that the burden of disease related to adverse reactions to prescription drugs is not included in this figure.

So, according to this report, 0.8% of the burden of disease is attributed to illicit drugs compared to 4% for alcohol and 4.1% for tobacco. The 0.8% includes HIV/AIDS caused by drug injection as well as overdose due to inconsistent quality and concentrations, therefore a direct consequence of the illegal status of the substances in question. If we exclude the drug-related HIV/AIDS burden and the burden related to accidental overdose, we are left with a relatively low impact of illegal drug use. Such impact is totally disproportionate to the efforts being made to eradicate illegal drug use, while the real culprits stand in full sight; not that I advocate alcohol or tobacco prohibition in any shape or form, on the contrary.

T. Moore, from the National Drug and Alcohol Research Centre in Australia, tries to evaluate the annual social cost per user (and even per gram) for dependent and non-dependent users of cannabis, cocaine, opiates and amphetamines.¹¹

The impact of the illegal status of these substances on the total cost is hard to estimate, but the health and crime costs are strongly related to such illegal status.

The Australian government estimated the societal cost for 2004/05 of illegal drugs at AU\$8.189 billion, which compares to AU\$31.49

10). http://www.who.int/substance_abuse/publications/en/Neuroscience.pdf.

11). Moore, T, 2007, “Monograph No. 14: Working estimates of the social costs per gram and per user for cannabis, cocaine, opiates and amphetamines,” DPMP Monograph Series, Sydney, National Drug and Alcohol Research Centre.

billion for the societal cost of tobacco and AU\$15.32 billion for alcohol.¹² The Australian report is quite instructive for its side-by-side analysis of costs related to tobacco, alcohol and illegal drugs as well as the budgetary consequences of these three types of substances; it clearly illustrates the potential cost savings and revenue increases that could be derived from controlled legalization.

The United States Department of Justice estimates the societal cost of illicit drug use at more than \$193 billion in 2007, broken down as follows:¹³

Crime: \$61.377 billion – includes three components:

- Criminal justice system costs \$56.373 billion
- Crime victim costs \$1.455 billion
- Other crime costs \$3.547 billion

Health: \$11.416 billion

Productivity: \$120.304 billion – includes labor participation costs (\$49.238 billion), incarceration costs (\$48.122 billion), and premature mortality costs (\$19.784 billion)

As a comparison, the USDJ estimates the annual societal cost of diabetes at \$174 billion and tobacco at \$157 billion, with heart diseases

Annual social cost (health, crime and road accidents) per user by drug type, dependent and non-dependent users

	Cannabis	Cocaine	Opiates	Amphet.
Dependent drug users				
Costs – dependence (\$million)	\$ 2,796	\$ 248	\$ 4,361	\$ 3,272
Number of users	247,500	13,892	41,401	73,257
Social cost per dep. user	\$ 11,296	\$ 17,852	\$ 105,342	\$ 44,665
Non-dependent drug users				
Costs – non-dependence (\$million)	\$ 319	\$ 51	\$ 212	\$ 459
Number of users	1,662,575	162,454	107,898	495,500
Social cost per non-dep. user	\$ 192	\$ 314	\$ 1,965	\$ 926

- 12). <http://www.health.gov.au/Internet/drugstrategy/publishing.nsf/Content/mono64-l~mono64-l-ch8>, “The costs of tobacco, alcohol and illicit drug abuse to Australian Society in 2004/05.”
- 13). “The Economic Impact of Illicit Drug Use on American Society,” United States Department of Justice, National Drug Intelligence Center (NDIC), April 2011, <http://www.justice.gov/ndic/pubs44/44731/44731p.pdf>.

ringing in \$316 billion. Medical costs of obesity are estimated at \$147 billion. The societal cost of obesity is much higher – \$270 billion according to the Society of Actuaries.¹⁴ There is no mention of the societal cost of alcohol in the USDJ report, but the CDC estimates the societal cost of alcohol abuse at about \$185 billion.¹⁵ The CDC estimates the societal costs of tobacco at \$193 billion, substantially higher than the USDJ estimate.

The breakdown of the societal costs related to illicit drugs reveals that a substantial portion of these costs can be directly or indirectly attributed to the War on Drugs. The bulk of the crime costs and incarceration costs, as well as a large part of health costs and premature mortality costs, are derived from the illegal status of these substances. Altogether, the War on Drugs is probably responsible for more than half of the societal costs related to illegal drugs.

To quote the USDJ, “illicit drug use is not like other health problems in that its consequences may include criminal sanctions.” In other words, while moderate and responsible use of alcohol (or food for that matter) has substantial personal and societal benefits, even a single use of illicit drugs may have catastrophic consequences if the unfortunate user falls into the claws of the criminal justice system, especially if he/she happens to have the wrong skin color.

Taxpayers cost of the War on Drugs in the US

The War on Drugs has so many unintended consequences and ramifications that estimating its actual cost is a real challenge. As we have seen above, the US Department of Justice estimates the societal cost of illicit drugs use at \$193 billion; more than half or roughly \$100 billion can be attributed to the illegal status of the drugs, and therefore, to the War on Drugs itself. Part of these costs is borne directly or indirectly by the taxpayer while others, such as productivity costs, are spread over the economy and society at large.

14). “The Economic Cost of Obesity,” Insurance Journal, January 11 2011.

15). CDC, “Excessive Alcohol Use – Addressing A Leading Risk For Death, Chronic Disease, and Injury” At A Glance 2011,
<http://www.cdc.gov/chronicdisease/resources/publications/aag/alcohol.htm>.

Some of the costs of the War on Drugs to the taxpayer are budgeted, while other costs can be evaluated to a certain extent. The National Drug Control budget stood at \$15.5 billion for 2011.¹⁶ The Federal Department of Justice budget was \$30.452 billion,¹⁷ with \$3.447 billion coming from National Drug Control Budget, mostly to fund the DEA; it doesn't cover costs of litigation or incarceration. Other agencies, such as the Department of Homeland Security, the Department of Health and Human Services, the Department of State, the Defense Department, the IRS, and the Department of Veterans Affairs, are also involved in the War on Drugs and receive some funding through the National Drug Control budget. It is difficult, however, to determine whether their National Drug Control funding covers all the War on Drugs expenditures of these agencies and myriad others involved one way or another in the War on Drugs. Matthew B. Robinson and Renee G. Scherlen, among others, argue that a significant amount of the costs of the War on Drugs is hidden away in the budgets of the respective agencies.¹⁸

In addition, according to the US Department of Justice, state and local expenditures added up to \$190 billion in 2007, bringing total criminal justice expenditures for the three levels of government to a whopping \$227 billion.¹⁹ No wonder the administration of justice is bankrupting local and state governments throughout the US! Based on percentage of convicts and total time served for drug-related felonies, a safe estimate of the portion of justice expenditures that can be directly or indirectly attributed to the War on Drugs probably ranges between 25 and 40%, which adds another \$60 to \$90 billion to the taxpayers' tab. Thus, the War on Drugs costs to the taxpayer can be conservatively estimated at \$70 to 75 billion per year and could be as high as \$105

16). <http://www.whitehousedrugpolicy.gov/publications/policy/11budget/fy11Highlight.pdf>.

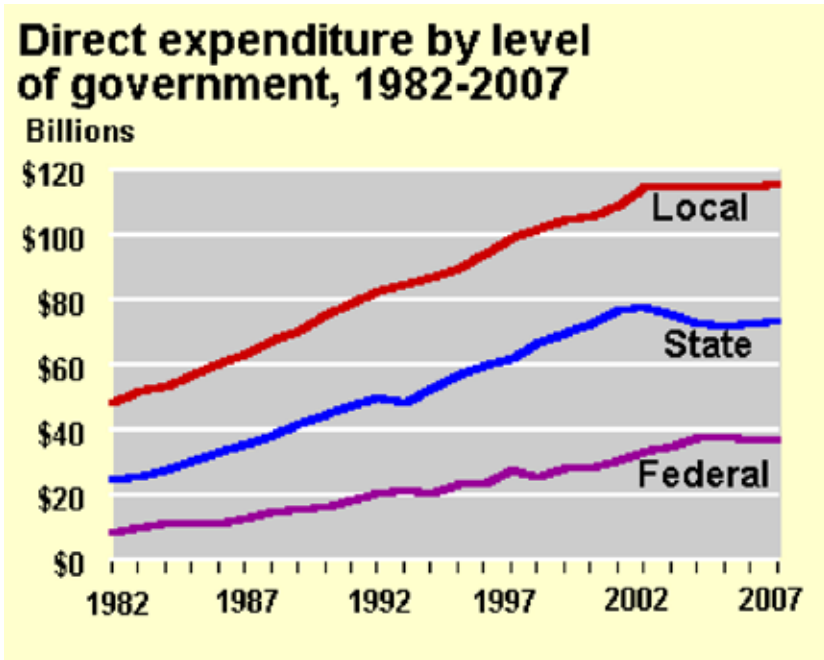
17). <http://www.justice.gov/jmd/2012summary/pdf/fy12-bud-summary-request-performance.pdf>.

18). Matthew B. Robinson and Renee G. Scherlen, "Lies, Damned Lies, and Drug War Statistics: A Critical Analysis of Claims Made by the Office of National Drug Control Policy," Ibid.

19). <http://bjs.ojp.usdoj.gov/content/glance/tables/expgovtab.cfm>.

billion. In addition, drug legalization could yield a minimum of \$34.3 billion annually.²⁰ Therefore, accounting for lost revenues, the total estimate of costs to taxpayers could be raised to a minimum of \$100 to 110 billion and up to a high estimate of \$135 billion.

21



But the real cost of the War on Drugs goes well beyond its cost to the taxpayer, which is only the tip of the iceberg, and is far exceeded by the economic and social costs.

Figures for other countries are hard to come by. 2003 estimates of enforcement costs in the UK for instance range from 4 to 19 billion British pounds (about \$6.5 to 31 billion). In any case, no country spends as much per capita as the US on drug prohibition.²²

20). Ibid.

21). <http://bjs.ojp.usdoj.gov/content/glance/expgov.cfm>.

22). http://www.tdpf.org.uk/MediaNews_FactResearchGuide_EnforcementExpenditure.htm.

Health costs of the War on Drugs

The legal status of the illicit psychoactive substances has three main types of negative health consequences:

- Quality inconsistency and unknown adulterants are the leading cause of overdose. It may also cause infections, abscesses, blood poisoning and other intoxications.
- Unsanitary injection practices are the leading cause of the spread of hepatitis and HIV/AIDS. According to Transform Drug Policy Foundation, “Injection drug use accounts for 30% of HIV infections worldwide outside of sub-Saharan Africa. In the Eastern Europe/Central Asia region as a whole, over 60% of HIV infections are due to injecting drug use.”²³
- Last but not least, prohibition unnecessarily stigmatizes and marginalizes users who are reluctant to seek help when they are most vulnerable. They let their health deteriorate while early intervention would substantially reduce the damage and associated costs. Fear of prosecution further aggravates the process. Poverty generally increases the harm for a given level of use, an effect further exacerbated by marginalization,²⁴ as marginalized populations are typically scapegoated by authorities. Such is the case for inner city African Americans and Latinos in the US for instance.

Health consequences of the War on Drugs are significantly reduced in countries favoring harm reduction over enforcement, such as the Netherlands, Switzerland, Portugal and most other European countries to a lesser degree.

23). Transform Drug Policy Foundation After the War on Drugs: Blueprint for Regulation, http://www.tdpf.org.uk/downloads/blueprint/Transform_Drugs_Blueprint.pdf.

24). Robin Room, “Stigma, social inequality and alcohol and drug use, Drug and Alcohol Review,” 2005, Vol. 24, No. 2, Pages 143-155, <http://informahealthcare.com/doi/abs/10.1080/09595230500102434>.

Human cost of the War on Drugs in the US

“The prosecution of thousands of otherwise law-abiding citizens every year is both hypocritical and an affront to individual, civil and human rights.”

(Raymond Kendall, Secretary General of Interpol, August 20, 1994,
Guardian)

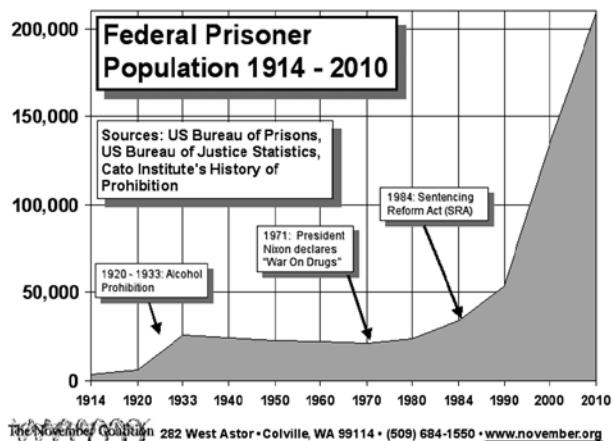
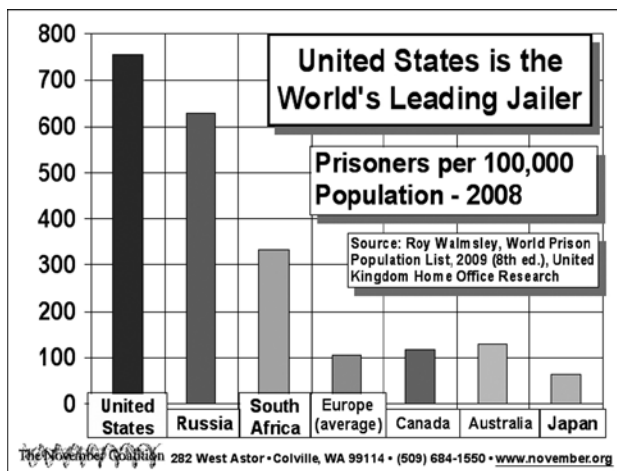
War on Drugs victims vary considerably between the producing, transiting and consuming countries, even though the differentiations between these categories are increasingly blurred. As most things associated with the War on Drugs, it all starts in the US and derives from there.

The US has by far the harshest prohibitionist policies among consuming countries, as well as the highest human cost by a degree of magnitude, as no other consuming country comes even close. For a detailed exposé of War on Drugs damages and its overwhelming targeting of racial minorities, I strongly recommend two passionate and courageous books: “Why Our Drug Laws Have Failed: A Judicial Indictment of the War on Drugs” by Judge James P. Gray and “The New Jim Crow: Mass Incarceration in the Age of Colorblindness” by Michelle Alexander.

More eloquently than any discourse, numbers give the shocking truth about the human cost of the War on Drugs in the US: with 2,284,900 inmates as of 2009, the self-proclaimed greatest country on earth, the self-appointed herald and defender of freedom and democracy throughout the world, the US has close to 25% of the world’s jailed population with only 5% of the world’s total population. At 739 prisoners per 100,000 residents, the US has, by far, the highest incarceration rate in the world, followed by Rwanda at 595 and Russia at 568 per 100,000 residents.²⁵ The world average stands at 146 per

25). International Centre for Prison, http://www.prisonstudies.org/info/worldbrief/wpb_stats.php?area=all&category=wb_poprate.

100,000.²⁶ The US has also the highest juvenile detention rate in the world, with 92,845 minors detained in juvenile facilities.²⁷ The US jailed population was 338,029 in 1970, when Nixon launched the War on Drugs, leading to a 682% increase over the past 40 years. Incarceration rates ranged between 100 and 200 per 100,000 residents from 1880 to 1970. The unemployment rate would be 2% higher if inmates were counted.



26). <http://www.prisonstudies.org/news.html>.

27). <http://upmi.org/site/learn-2/prison-facts/prison-breakdown>.

But things are even worse. On top of the 2.3 million inmates, another 5 million adults were under community supervision (probation or parole) at the end of 2009. The trend seems to be tapering off and, for the first time since the USDJ started gathering statistics in 1980, the number of adults under correctional supervision in the United States declined during 2009, by less than 1%, dropping to 7,225,800, still a whopping 3.1% of the US adult population. Nearly 40% of those were blacks; close to 21% were Latinos.²⁸ 9% of all black adults are under some form of correctional supervision.²⁹

We have to get back to extreme historical examples, such as the Cambodian killing fields, the Maoist Cultural Revolution, Stalinist USSR or Nazi Germany to surpass such incarceration rates. Nazi Germany with its mass incarceration of Jew and Gypsy racial minorities is probably the closest historical parallel to the prevailing US situation, as the second shocking truth about the mass incarceration brought about by the War on Drugs is its overwhelming targeting of the African-American and, to a lesser extent, the Latino minorities. The US jails a larger proportion of its black community than South Africa did at the height of Apartheid.³⁰ Of course, there has been some progress since Nazi Germany. Inmates are not held in totally abject and inhumane conditions, nor are they systematically gassed and cremated.

The plight of convicted felons doesn't end with their release; ex-felons are turned into second-class citizens. For starters, they are stripped of their basic citizen rights such as voting rights and are excluded from jury duty. 13 million people, 6.5% of the adult population including over 30% of its adult black men, are thus taken out of the jury pool. Exclusion from jury duty is one of the numerous contributing factors to the gross under-representation of African Americans within the US jury system, which in turn facilitates the discriminating practices of the criminal justice system. The disenfranchisement of adults under

28). <http://bjs.ojp.usdoj.gov/content/pub/pdf/cpus09.pdf>, **Correctional Populations in the United States, 2009.**

29). Human Rights Watch, "Incarceration and Race," http://www.hrw.org/legacy/reports/2000/usa/Rcedrg00-01.htm#P179_32170.

30). Michelle Alexander, "The New Jim Crow: Mass Incarceration in the Age of Colorblindness."

correctional supervision and ex-felons has influenced the outcome of many elections, including the hotly contested 2000 presidential election that literally hung on a handful of votes in Florida, more precisely, a handful of hanging chads.³¹

The discrimination against ex-felons doesn't end with the stripping of their basic civil rights. When the justice system closes its claws on an individual, it never, ever, totally lets go. To quote Michelle Alexander:

"Once a person is labeled a felon, he or she is ushered into a parallel universe in which discrimination, stigma, and exclusion are perfectly legal. [Ex-felons are] barred from public housing by law, discriminated against by private landlords, ineligible for food stamps, forced to 'check the box' indicating a felony conviction on employment applications for nearly every job, and denied licenses for a wide range of professions, people whose only crime is drug addiction or possession of a small amount of drugs for recreational use find themselves locked out of the mainstream society and economy -- permanently... Myriad laws, rules and regulations operate to discriminate against ex-offenders and effectively prevent their reintegration into mainstream society and economy."³²

To make things even worse, upon release, prisoners are typically saddled with huge debts, resulting from all kinds of costs, fines, fees and accumulated child support. Those lucky enough to find a job may see their wages garnished at 100%! The barriers to re-entry into a productive role in society are such that the system seems maliciously designed to push ex-felons into a permanent criminal career.

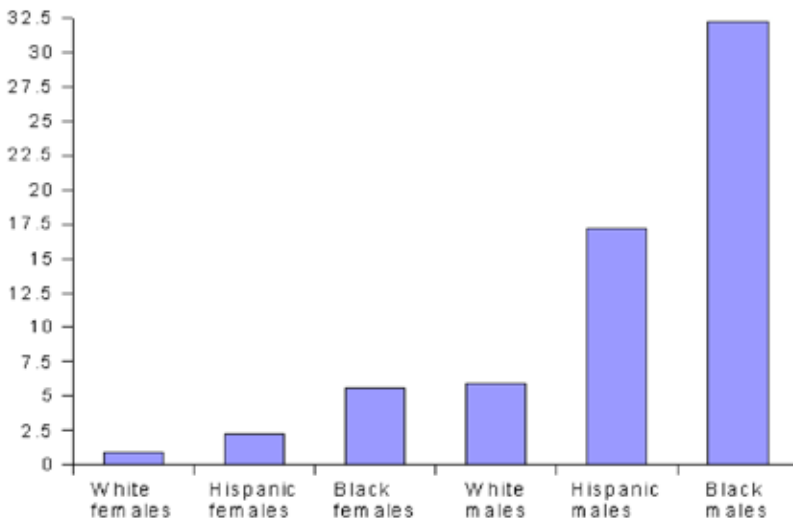
People with drug convictions are not eligible for educational government assistance or student loans and are barred from most grants and scholarships, with rules and restrictions varying from state

31). In the highly contentious 2000 United States presidential election, faulty voting machines in Florida produced a large number of incompletely punched holes in ballots, resulting in partially punched chads, called hanging chads, where one or more corners were still attached. G.W. Bush won the Florida's electors by 537 votes after the Supreme Court rejected manual recount of 70,000 ballots.

32). Ibid.

to state.³³ Those on probation or parole are routinely subject to police monitoring and harassment and may be stopped and searched for any reason; any minor violations may send them right back behind bars.

Due to a large extent to the War on Drugs, the brunt of the increase in inmate population over the past 40 years has fallen disproportionately on the African-American community and to a lesser extent on the Latino community. The statistics illustrating racial disparities in the US justice system are appalling: In 2002, 10.4% of all black males between the ages of 25 and 29 were incarcerated, compared to 2.4% of Hispanic males and 1.3% of white males. The incarceration rate of black males was 4,749 per 100,000 in 2009. In Washington DC, Oklahoma and Iowa one in every 13 black men is in a state prison; in Rhode Island, Texas and Wisconsin, the figure is one in every 14.³⁴ The US Department of Justice projects that if current trends continue, one in every three black males and one in every six Latino males born today will go to jail in their lifetime.



Lifetime prevalence of incarceration for various demographic groups³⁵

33). <http://felonyguide.com/Can-felons-get-financial-aid.php>.

34). <http://www.hrw.org/legacy/reports/2000/usa/Table6.pdf>.

35). http://en.wikipedia.org/wiki/File:Lifetime_prevalence_of_incarceration.png.

Mandatory sentencing provisions and three strikes laws, adopted in both state and Federal laws, have widely contributed to inflating the inmate population. The 1986 Anti-Drug Abuse Act, creating a 100 to 1 sentencing disparity for crack versus powder cocaine possession, institutionalized racial discrimination as the substances are essentially identical, but crack cocaine is mostly used by blacks. It is noteworthy that crystal methamphetamine, mostly used by whites and Asians, is at least as dangerous as crack but didn't get any favored sentencing treatment.

According to the Sentencing Project "a general law enforcement emphasis on drug-related policing in communities of color has resulted in African Americans being prosecuted for drug offenses far out of proportion to the degree that they use or sell drugs. In 2005, African Americans represented 14 percent of current drug users, yet they constituted 33.9 percent of persons arrested for a drug offense and 53 percent of persons sentenced to prison for a drug offense."³⁶

Was discrimination an unexpected evolutionary consequence of the War on Drugs or was it part of an intelligent design in its creation? There are reasons to believe that creationists have the upper hand on this issue; discrimination clearly was the original intent of prohibitionism at its onset and it has remained its underlying tenet throughout. After the victories of the civil rights movement of the 1960s, discrimination had to turn covert; this was done through what has been dubbed "the Southern Strategy," an egregious, systematic and deliberate attempt to reinstate legal segregation in the post-civil rights era, cleverly disguised under the colorblind veneer of fight against crime. The "Southern Strategy" was orchestrated by the right wing of the Republican Party in its attempt to regain power in the Southern states, until then a Democrat stronghold, by appealing to the latent racism of their Caucasian population. The strategy succeeded in the sense that Southern states are now overwhelmingly GOPs³⁷.

36). <http://sentencingproject.org/doc/ABA%20-%20Human%20Rights%20Justice%20for%20All.pdf>, Marc Mauer, "Justice for All? Challenging Racial Disparities in the Criminal Justice System."

37). GOP stands for "Grand Old Party" and designates the Republican Party in the US.

The War on Drugs proved an amazingly powerful Trojan horse for the neo-segregationist agenda as the prevalence of drug crimes is such that rigorous enforcement is unthinkable, leaving free rein to blatant arbitrariness in enforcement. It is noteworthy that at the onset of the War on Drugs in 1970, at the height of counterculture and the hippie movements, drug use was far more prevalent within the Caucasian population than within the African-American population. Nonetheless, discriminatory enforcement started at the onset, before gearing up to turbo mode during the Reagan years.

Discrimination is imbedded into the system and has been consistently sanctioned by the highest legal authority, the Supreme Court. In judgment after judgment, the US Supreme Court has raised the bar so high as to make it virtually impossible to challenge the racial discrimination underlying the US justice system, from enforcement to prosecution to sentencing.³⁸ Discrimination takes place in a three-step process as law enforcement disproportionately investigates, prosecutes and convicts poor people of color for drug related offenses.

Drug related crimes differ from most other crimes in that they are consensual. Neither the drug dealers nor their purported victims have the slightest inclination to alert law enforcement when a so-called “drug crime” is perpetrated. Therefore, police forces have all discretion to pick and choose their targets. It is much easier and far less problematic to stop and search a kid in a ghetto or to blow up a door in an inner city than in Malibu or Beverly Hills. It should be noted that drug users generally purchase their drugs from someone of their own race. As use rate is slightly higher within the Caucasian population than within ethnic minorities, it should follow that there are proportionally more Caucasian dealers than Latinos or African Americans.

The fact is that, with past-month use of illicit drugs hovering over 20% within the 18- to 25-year-old population,³⁹ chasing drug offenders is like shooting fish in a barrel. With minimal targeting, SWAT teams

38). Michelle Alexander, *ibid*.

39). Results from the 2009 National Survey on Drug Use and Health, <http://www.oas.samhsa.gov/NSDUH/2k9NSDUH/2k9Results.htm#2.3>.

could crash down any loosely selected door, from Soho or the Village in Manhattan, to Union Square or the Castro district in San Francisco, through Malibu, Beverly Hills or Hollywood in Los Angeles, and be almost assured of making a catch. In the club scene, the raves, dances, trances, or any fraternities and sororities parties, success would be almost guaranteed. Suburbia wouldn't fare much better. The only caveat, of course, is that it wouldn't take too many broken doors in Suburbia, Manhattan, Malibu or Beverly Hills to provoke an outcry of indignation that would resonate all the way to the banks of the Potomac, creating a clamor in the halls of the Capitol that would promptly force a fundamental reform of the War on Drugs.

Law enforcement officials point to the racial composition of the prison population to justify their racial profiling, turning discrimination into a self-fulfilling prophecy. US Department of Justice find that, while African Americans may be subject to traffic stops by police at similar rates as whites, they are three times more likely to be searched after being stopped. Likewise, police tend to focus their searches on open-air drug markets, most commonly found in inner cities, alleging that they are disruptive to community life. Caucasian dealers typically operate more discreetly indoors, in houses or apartments.

But arrest is just the first step. Prosecutors then have ample latitude on whether to charge or not, whether to plea bargain or not, and on the nature of the charges. They may load up a defendant with charges carrying heavy mandatory sentencing. They may use threats and intimidation to extract a guilty plea, even on innocent defendants who generally do not have the resources to contract proper legal representation but are left to fend for themselves with token representation from overloaded and often marginally competent public defenders. Unsurprisingly, the already skewed field is further distorted against minorities at the prosecution stage. While Caucasian drug offenders are routinely released with a slap on the wrist or sent to drug courts, African Americans are typically loaded at this stage. Even though they represent 33.9% of drug arrests, their share of sentencing jumps to 53% and they make up 74% of people sent to prison for drug crimes. Nationally, nearly 10% of all prisoners were serving life sentences in 2008; in California the figure was one out of five prisoners,

two thirds of which were black or Latinos.⁴⁰ As a direct result of the War on Drugs, over 50% of inmates are non-violent offenders.

The damage caused by incarceration affects not only the inmates themselves, but also their families and their communities, especially in areas with high conviction rates. Children are the primary collateral victims of mass incarcerations. In 2007, slightly more than 1.7 million children under the age of 18 had a parent in a state or Federal prison, representing 2.3% of the total US child population. Two thirds of these kids were either black or Latinos. Public order and drug offenders were more likely to have children than violent offenders.⁴¹ One in 15 black children and one in 42 Latinos had an incarcerated parent. An estimated 10 million children will have a parent incarcerated at some point during their childhood, almost one in three African-American children. The most alarming trend is the explosion of mothers behind bars, the vast majority for non-violent, mostly drug related offences.

According to the National Conference of State Legislatures, “[p]arental incarceration can affect many aspects of a child’s life, including emotional and behavioral well-being, family stability and financial circumstances.”⁴² The damage caused by having an incarcerated parent is hard to fully evaluate, starting with the arrest, which can be extremely traumatic to a child. Increased economic hardship and instability is just the beginning. The permanent welfare and food stamps ban for drug offenders, imposed by President Clinton’s welfare reform of 1996, had catastrophic consequences long after the convict’s release. The incarceration of a parent disrupts the relationship between parents and children and may even lead to the loss of parental rights. The Adoption and Safe Families Act (ASFA), signed by President Clinton in 1997, authorizes the termination of

40). Solomon Moore, “Number of Life Terms Hits Record,” New York Times, July 22 2009.

41). <http://bjs.ojp.usdoj.gov/content/pub/pdf/pptmc.pdf>, Lauren E. Glaze and Laura M. Maruschak, “Parents in Prison and Their Minor Children,” Bureau of Justice Statistics.

42). <http://www.ncsl.org/documents/cyf/childrenofincarceratedparents.pdf>, Children of Incarcerated parents, National Conference of State Legislatures, March 2009.

parental rights when a child has been living under foster care for 15 of the last 22 months, while the typical sentence for an incarcerated parent ranges from 80 to 100 months.⁴³ Therefore, a minor drug conviction will most probably lead to the loss of parental rights with potential catastrophic consequences for children. According to the National Resource Center for Foster Care and Permanency Planning, “as many as 90 percent of children in long-term foster care have a parent who has been arrested or incarcerated.”⁴⁴

Children of inmates are at heightened risks of antisocial behavior, juvenile delinquency, truancy, low school performance, depression, and drug abuse, as well as a much higher risk of incarceration as juveniles or adults. Still, in view of the scope of the problem, it is quite telling that nowhere in the judicial process, whether law enforcement, prosecution or sentencing, is the impact on children even taken into consideration. Nobody seems to bother. Parental status is totally ignored, even for first-time non-violent offenders, with total disregard for the fate of the children, the innocent bystanders.⁴⁵

Mass incarceration targeting disenfranchised communities further destabilizes fragile neighborhoods, disrupting family structures, removing the already precarious breadwinners. It erodes trust in the justice system and creates subcultures with extremely adversarial relationships with law enforcement. The police are viewed as an occupying force and the justice system as an instrument of repression and control; jail is part of growing up, a normal rite of passage, resulting in widespread intra-generational and intergenerational incarceration. Half the parents in state prisons reported that they had a family member who had been incarcerated.⁴⁶ The problem is

43). National Conference of State Legislatures, *ibid*.

44). http://www.hunter.cuny.edu/socwork/nrcfcpp/downloads/information_packets/children-of-incarcerated-parents.pdf, Children of Incarcerated Parents.

45). <http://www.library.ca.gov/crb/00/notes/V7N2.pdf>, Charlene Wear Simmons, Ph.D., “Children of Incarcerated Parents,” Prepared at the Request of Assembly member Kerry Mazzoni, March 2000.

46) <http://bjs.ojp.usdoj.gov/content/pub/pdf/pptmc.pdf>, *ibid*.

further compounded by the fact that, upon release, ex-felons see their economic and social prospects drastically reduced; they are often cantoned to a small number of depressed neighborhoods in dejected urban areas, accelerating their ghettoization.

Under the cover of a fight against crime focusing on illicit drugs, the US engaged 40 years ago in a perilous self-destructive crusade against its own perceived deviants, predominantly targeting its two main ethnic minorities with a tough-on-crime rallying cry. This self-destructive endeavor has sucked up larger and larger amounts of resources to the point that, in many jurisdictions, law enforcement and the administration of justice absorb more resources than education. Thus, many states, counties, and cities around the country are pushed to the brink of bankruptcy as they invest more on the systematic alienation and marginalization of their perceived deviants and their offspring than on the future of their children. Even worse, educational budgets have been slashed across the country, often bled to near death, in order to satisfy this vampirish securitarian impulse. To add insult to injury, such short-sighted policies further worsen the fate of the most disadvantaged children.

The use of currently illicit drugs doesn't destroy lives any more than the use of alcohol, tobacco or junk food, but while their abuse might, the War on Drugs most certainly does. Prohibitionists claim that illicit drugs are illicit because they are dangerous, while in fact, they are dangerous because they are illicit.

It should be noted that racial disparities in inmate populations is the rule rather than the exception across the world. What makes the US situation unique is the extraordinary rate of incarceration, together with the extraordinary level of racial disparity in the US justice system. Likewise, children are innocent bystanders, collateral victims of incarceration policies throughout the world. Poorly conceived ideology-driven policies, coupled with the vanishing extended family structure, conspire to aggravate the issue in the US.

Human and geopolitical cost

As **high as** the human cost may be in the US, the world's major consuming country, it pales in comparison to the price paid in the War on Drugs by the producing and transiting countries, not only in wasted lives, but in actual body count. It would be ironic, if it was not such a tragedy, that the US has consistently tried to lay the blame on producing and transiting countries, routinely reproaching them for not doing enough to reduce supply.

Colombia

Colombia, where narco-traffic is a relatively new phenomenon, has probably been the hardest hit country in the world. It was not really involved in any significant way until the marijuana explosion of the 1960s, followed by cocaine in the mid-70s with the cocaine epidemic in the US. Guerilla groups started establishing links with the emerging drug cartels in the 1970s, soon followed by the right-wing paramilitary militias who often doubled as drug cartels. At the height of their power in the 1990s, the cartels infiltrated up to the highest spheres of government. They even controlled the phone utility and had better intelligence and weaponry than the government.

The country grabbed the headlines during the 1980s and 90s when it was engulfed in a wave of violence that brought it to the verge of chaos, and from which it is still trying to recover. All the violence was certainly not directly related to narco-traffic. Guerilla, paramilitaries and government forces confronted one another in endless conflicts; drug money was more often than not the lifeblood of the war, and the ensuing corruption its lubricant. The death toll due to internal conflicts from 1988 to 2000 was estimated at 40,000 to 50,000. In addition, homicides totaled close to 300,000, with a substantial number most likely related to drug violence. Untold numbers disappeared. At the peak of the kidnapping epidemic in 2000, abductions reached 3,500. The cartels killed 5 presidential candidates, 11 Supreme Court justices, one justice minister and countless judges, police, witnesses and politicians, often in reprisal for extradition laws. Human rights activist

Manuel Rozental estimates the yearly death toll of the War on Drugs at 25,000 to 30,000; former Colombia Ambassador to the UK, Victor Ricardo, puts the figure at 32,000.⁴⁷

Colombia has the world's largest internally displaced population (IDP) with almost 3 million forcibly displaced since 1985, victims of guerrilla, paramilitary and state violence.⁴⁸ A "Victims' Law" and land restitution bill⁴⁹ was enacted in May 2011, but over a dozen victims' leaders were murdered during the presidency of Juan Manuel Santos as of August 2011. Peasants looking for compensation and trying to recoup their stolen land are, so far, more likely to be murdered than to regain access to their land.⁵⁰ Paramilitary groups, many with links to Colombian congressmen and politicians, have been supposedly disarmed, but continue to act with impunity in large areas of the country; drug trafficking gangs still control substantial territories.⁵¹

Violence has certainly abated considerably since the mid-1990s, when Colombia was one of the most dangerous countries in the world, with homicide rates of 90 per 100,000 in 1991⁵². In 2010, 17,459 homicides (38 per 100,000) were reported, down 45% from 31,500 in 2000. As a comparison, traffic fatalities totaled 5,704.⁵³ Traffic fatalities surpass homicides by a factor of three or more in most of the world. The major cartels may have been brought down, only to be replaced by an explosion of mini-cartels. Colombia is still the leading supplier of cocaine in the world even though Peru is now the leading producer of coca leaves.

47). Alejandro Bustos, Colombia: Pity the Nation – The Drug War (2), <http://forgetmagazine.com/061201.htm>.

48) <http://news.bbc.co.uk/2/hi/1738963.stm>. BBC News, "Q&A: Colombia's civil conflict," December 23, 2009.

49). <http://www.cnrr.org.co/new09/ley-victimas-tierras/index.html>.

50). Frank Bajak – Associated Press, Vivian Sequera, "Leaders of Colombia's landless in new peril," Associated Press, August 14 2011.

51). Oliver Harvey, "Colombia's victims of violence are still awaiting justice," The Guardian, 9 May 2011.

52). http://www.humansecuritygateway.com/documents/IGV_PovertyArmedConflictHumanRights_Colombia.pdf.

53). Matt Snyder, "Colombian murder rate drops slightly in 2010," Colombia Report, 03 August 2011.

Mexico

Mexico is another country that has paid a very high price in the War on Drugs. Narco-related fatalities in 2010 reached a whopping 15,273, more than 2008 (5,376) and 2009 (9,616) combined. Since Felipe Calderón launched his all-out war against the Mexican cartels in 2006, casualties reached 35,000 in January 2011 and 45,000 in August 2011⁵⁴, already shattering the dubious record of the previous year.

While Mexico is often compared to Colombia, there are vast differences between the two countries, the most flagrant being a 2,000-mile border with the US. Unlike Colombia, Mexico has a long tradition of narco-trafficking dating back to the Mexican Revolution, when some of the revolutionaries took advantage of the prohibition laws newly enacted north of the border to fill up their coffers. Poppy had been cultivated in Mexico since the end of the 19th century, mostly in Sinaloa, Sonora, Durango and Chihuahua, all states that remain the major bastions of narco-trafficking to this day. There was some limited marijuana cultivation, but it didn't really take off until Anslinger started his fateful crusade, leading to the Marijuana Tax Act of 1937. "Los gomeros" from Sinaloa were already dominating the market. They diversified into marijuana and, to a lesser degree, cocaine, after World War II, establishing Tijuana, Mexicali, and Nogales as major entry ports to the US. Legendary Lola la Chata was ruling the drug scene in Mexico City from the 30s to the 50s, protected by politicians and the police.

The close-knit alliances between politicians, the police, and the army were established at that time, thanks in large part to the one-party system that prevailed in Mexico for 70 years until 2000. In 1947, General Pablo Macías Valenzuela, governor of the state of Sinaloa and ex-Secretary of War and Navy, was suspected of leading a drug trafficking ring and of assassinating his predecessor. He nevertheless

54). The official count has been stuck at 35,000 since January 2011. Unofficial counts go as high as 50,000. 45,000 seems the most likely figure as of end of August 2011.

finished his term and was later promoted to Commander of the 1st Military Zone by President Miguel Alemán.

After the creation of the CIA in 1947, President Alemán created the “Dirección Federal de Seguridad,” DFS, supposedly in charge of fighting narco-traffic among others, while Alemán himself probably had a stake in the business. Almost from the onset, drug trafficking in Mexico developed from within the power structure of the one-party system. Governors from Northern states often had direct control of narco-trafficking. The DFS and the PJF (Policía Judicial Federal), as well as the army, while officially responsible for fighting narco-trafficking, were in fact in charge of enforcing the unwritten rules governing the rapports between narco-traffickers and the government. They collected their share of the profits in the process, and these were funneled up the hierarchy, each level receiving its appropriate cut. Thus narco-trafficking in Mexico evolved in a symbiotic relationship with the power structure, establishing intimate links with all levels of power: Federal, state and local. This was further facilitated by the fact that Mexico has three distinct police forces under the separate jurisdictions of the three levels of power; the local police force typically works directly for the cartels. Pervasive systemic corruption invaded every sphere of power – political, judicial, police and military – permeating every aspect of daily life; bribery is ubiquitous in all spheres of government and virtually nothing gets done without payment of the infamous “mordida,” or some other exchange of favors, a system that is still largely intact to this day.⁵⁵

The explosion of the US market in the 60s and 70s changed the rules of the game. It created multi-layered turf battles between the various police forces, the army and the cartels, each fighting among themselves and with each other for a bigger piece of a pie growing bigger by the day, as a new generation of more ambitious narco-traffickers was taking over. Violence slipped into the system, disturbing the cozy arrangements that had prevailed until then. The rest, as they

55). Juan Alberto Cedillo, *La Cosa Nostra en Mexico 1938-1950*, May 2011.

<http://www.unesco.org/most/astorga.htm>, Luís Astorga, Drug Trafficking in Mexico: A First General Assessment.

say, is history.⁵⁶ The PRI was finally dislodged from power in 2000, but the all-pervasive corruption system it bred during its 70-year tenure is proving far more resilient. Some cartels have been decimated by the offensive launched by President Calderón, only to splinter into clusters of factions fighting bloody turf battles. Unsurprisingly, one of the last left standing is the Sinaloa Cartel led by the evasive Chapo Guzmán and his acolyte, El Mayo Zambada. There is hardly a family in the state of Sinaloa that doesn't have a member involved one way or another in narco-trafficking. The first job offer for a youth in the state is likely to be as a "sicario," a hired gun for the cartel, especially if he is a school drop-out. Drug use and abuse of all substances, especially methamphetamine, is exploding. The border towns have been decimated by years of conflicts leaving populations desperate.

Violence is fueled by a constant flow of weapons, ammunitions and explosives from north of the border, as 10% of US gun shops are located along the US/Mexican border. The drug trade is estimated to bring \$30 billion to the Mexican economy, 3 to 4% of GDP. Drug cartels are diversifying into kidnapping, extortion, pipeline diversion and pirated goods, as well as legitimate ventures such as ranching, dairy industry or organic farming. The explosion of violence is having repercussions throughout the entire economy, affecting everything from national and foreign investors' confidence to tourism.

Central America, Caribbean, West & East Africa, Afghanistan⁵⁷

While Columbia and Mexico have grabbed the headlines for the past 30 years, the countries currently most vulnerable to the nefarious effects of the War on Drugs are mostly unknown to the vast majority of people, who would probably be totally unable to position them on a world atlas. Still, as we have seen in our previous chapter, the highest rate of violence in the world is now in Guatemala, Honduras

56). See "The Mexican Decades," Chapter 3.

57). Philip Keefer and Norman Loayza, "Innocent Bystanders: Developing Countries and the War on Drugs," May 25 2010, a World Bank Publication, <http://www.druglibrary.stir.ac.uk/documents/536410PUB0Inno101Official0Use0Only1.pdf>.

and El Salvador. All three countries were already in a rather precarious condition, Guatemala and El Salvador for having been plagued by lengthy internal conflicts fueled by the US up to the 90s, and Honduras for being probably the last remaining “banana republic.” They have the added misfortune of being on the new trafficking route created by the launch of the Mexican trampoline in the 1990s. Jamaica’s own chronic problems are aggravated by its status as one of the last standing legs of the Caribbean route linking Columbia to the east coast of the US.

As for West and East Africa, that part of the world has the highest concentration on Earth of failing or failed states, and the invasion of cartels pushes them closer to the brink and beyond.

Then there is Afghanistan! The situation there is so complex that it would take volumes to even scratch the surface. A large part of Afghanistan’s problems have their roots on the other side of the border, in Pakistan. One of the major problems started when England split Pashtunistan⁵⁸ in two with the infamous Duran Line in 1893, Baluchistan and the tribal territories becoming part of what is now Pakistan. Afghanistan has long served as a proxy battleground between the UK and Russia and then between the US and the Soviets, and more recently between India and Pakistan.

Afghanistan has been a traditional trade and smuggling route for the longest time and was producing some of the most highly prized hashish in the world. Opium production was negligible though and much more prevalent in the tribal territories around Peshawar in neighboring Pakistan. King Mohammad Zahir Shah, the last king of Afghanistan before the country fell into chaos, ruled the country through one of the most peaceful periods in its troubled history from 1933 to 1973. He was known to enjoy hashish. His immediate

58). Pashtunistan is the region inhabited by the native Pashtun. The Pashtuns are the world’s largest (patriarchal) segmentary lineage ethnic group. According to one theory, they are descendants of Israelites tribes who settled there after the destruction of the kingdom of Israel by the Assyrians around 720 BC and the ensuing dispersal of the twelve tribes of Israel. This theory seems to be confirmed by recent genetic findings. (See: http://en.wikipedia.org/wiki/Pashtun_people.)

entourage was deeply involved in the hashish trade, even using the king's personal plane for smuggling operations.⁵⁹

Afghanistan's current problems started when King Mohammed was deposed by his cousin Mohammed Daoud in 1973. Daoud himself was killed during a revolution in 1978 and a communist government took over, led by Taraki who established close relations with the Soviet Union, prompting the US to start aid to the regime's opponents. Taraki was assassinated in 1979 by Tabizullah Amin, who launched a brutal campaign of terror against his political opponents, and may have been an agent provocateur planted by the CIA.

The US wanted all along to set up a trap for the Soviets and get their revenge for their humiliating defeat in the Vietnam War. The Soviet occupation of Afghanistan started on December 27, 1979. Amin was promptly assassinated and replaced by Babrak Karmal. The Soviet presence inflamed the rebellion and the Soviets responded with brute force which further fanned the rebellion.

Aid to the Afghan resistance movement, the mujahidin, escalated from there, mostly from the US but also from other Western countries, as well as Saudi Arabia and other Arabic countries. The US, as usual, backed the worst possible horses. Osama Bin Laden was placed on the CIA's payroll. The CIA also backed through Pakistani Inter-Service Intelligence (ISI) one of the most brutal, fanatical and corrupt Afghan warlords, Gulbuddin Hekmatyar. The ISI's foremost priority was training Muslim extremists for the Kashmir war with India. They soon started training what would become the Taliban, and welcomed international Islamic brigades led by Bin Laden, all with US taxpayers' money supplemented with the proceeds of the opium trade. Opium cultivation was started on a grand scale to finance covert operations, with the CIA's tacit blessing if not outright protection. Meanwhile, a popular, moderate, educated, charismatic but highly independent leader, Ahmad Shah Massoud, the Lion of Panjshir, was left to fend for himself, and still managed to inflict the highest losses on the Soviets. In a postcard case of good guy/bad guy, the US picked not one but two

59). <http://cannabisnews.com/news/11/thread11043.shtml>.

truly evil characters. In a part of the world with an abundance of larger than life villains, the US would have been hard-pressed to find much worse than Hekmatyar and Bin Laden.

The Soviets fled Afghanistan on the impulse of the new enlightened Soviet leader, Mikhail Gorbachev, after 10 years of frustrating humiliations, leaving the country in shambles. An unstable coalition of resistance factions took over. ISI's ally, Gulbuddin Hekmatyar, rejected Massoud's offer of alliance; he refused to join the new government and started massive bombing of Kabul with Pakistani backing. The governing factions were soon at each other's throats, flattening whatever was left of the already shattered country. The US abandoned the country after the Soviets' departure, giving free rein to the ISI who propelled the Taliban and its Al Qaeda allies to power. Kabul succumbed to the Taliban on September 27, 1996.

To supplement its already substantial CIA/ISI revenues, Hekmatyar started large-scale opium production in the early 1980s. By 1989, the Pakistan/Afghanistan area was producing 70% of the world's opium, rising to 90% under the Taliban by the end of the 1990s. Massoud was assassinated by two Al Qaeda suicide bombers posing as journalists on September 9, 2001, just as the US was finally realizing, too late, unfortunately, that they should have supported him all along. The US war in Afghanistan started on October 7, 2001, and the Taliban was soon swept out of power. The US handpicked Hamid Karzai to run Afghanistan; he has been in power ever since. His brother Ahmed Wali Karzai has been consistently suspected of running the drug trade in his province. He was assassinated on July 12, 2011, by his long-time head of security. As of 2011, Afghan is still producing 90% of the world's opium. Production had been rising steadily since 2001, before stabilizing in 2007. Most of the opium is now transformed locally into heroin. The flood of Afghan heroin and the associated trade, with its violence and corruption, are destabilizing the entire Central Asia region and spreading an epidemic of hepatitis and AIDS infection all the way to Eastern Europe and Russia. Afghanistan is still run by drug warlords for all practical purposes, fueling systemic instability and

institutionalized corruption. The bulk of foreign aid is diverted to end up in Swiss accounts or Taliban coffers.

The US will probably officially end its war in Afghanistan around 2012. The country will remain a failed narco-terrorist state, and one of the major vortexes of geopolitical instability for the foreseeable future. Its position as the world's leading opium provider is not likely to be challenged any time soon. Pakistan and its nuclear arsenal run the real danger of falling to Muslim extremists, with the potential to turn Peshawar and the tribal areas into a nuclear bazaar, posing an existential threat to the entire planet.

Environmental costs of the War on Drugs

The environmental costs of the War on Drugs are often overlooked, most probably because they are borne entirely by the producing countries. The bulk of the environmental damage derives from the cat and mouse chase between drug enforcement agencies and growers of the plants used as raw material: coca bushes, poppy or more rarely cannabis. Typically, some land is cleared through slash and burn in remote areas; it is estimated that two to three hectares of forest are cleared for each hectare in production. Farmers usually clear some extra land for subsistence farming. When the plots are discovered, the crops are destroyed by burning, cutting or spraying with chemical herbicides, such as Roundup from Monsanto. The plots are then abandoned, causing severe erosion during the rainy season while farmers move deeper into the forest. Crops are sometimes protected by landmines, creating further damage.

Colombia is the only country in the world authorizing the controversial crop eradication by aerial spraying. Aerial spraying causes by far the most severe environmental damage, as subsistence and illicit crops alike, plus all the adjacent forest for good measure, are sprayed without discrimination. It severely affects human populations and local soil and water systems, destroying the livelihoods of farmers and indigenous communities. In some areas, 80% of the children fell sick

after aerial spraying. The economic consequences of crop eradication for already poor farmers are often catastrophic.⁶⁰

In search of a silver bullet in the War on Drugs, the US, in conjunction with the UN, developed biological agents such as pathogenic fungus to wipe out illicit crops. The fungus *Fusarium oxysporum* was tested for coca eradication and other fungus for opium eradication; plans for their aerial use were approved by the US Congress in 2000 and supposedly cancelled by President Clinton for fear they may be perceived as biological warfare, contravening the 1975 Biological Weapons Convention.⁶¹ A mysterious blight destroyed one third to one half of the 2010 opium poppy crop in Afghanistan,⁶² but the US swears it had nothing to do with it.

Unintended consequences: The perverse effects of the criminalization of drugs

“The prestige of government has undoubtedly been lowered considerably by the prohibition law. For nothing is more destructive of respect for the government and the law of the land than passing laws which cannot be enforced. It is an open secret that the dangerous increase of crime in this country is closely connected with this.”

Albert Einstein, My First Impression of the U.S.A., 1921

The War on Drugs has many unintended consequences that could fill volumes on their own. We will briefly review the most damaging ones. Since most have been exposed throughout the first section of this book, I will just briefly recap them here.

60). Martin Jelsma, “Vicious Circle, The Chemical and Biological “War on Drugs,” TransNational Institute, March 2001.

David Mansfield, “Assessing Supply-side Policy and Practice: Eradication and Alternative Development,” Global Commission on Drug Policy, January 2011.

61). Ibid.

62). Richard A. Oppel, Jr., Mysterious Blight Destroys Afghan Poppy Harvest, New York Times, May 13 2010.

Socialization and amplification of costs – Privatization of profits to criminal enterprises

The most obvious of the unintended consequences of the War on Drugs is the huge inflation of the costs related to the use of illicit psychoactive substances, and the fact that such costs are entirely borne by society. Meanwhile, all the profits resulting from the trade fall into the coffers of organized crime, which in turn generates even more societal costs.

Corruption, the universal lubricant

As we have seen throughout this first section, corruption is the universal lubricant of the illegal marketplace and the interface that facilitates the movement of supplies, finished goods and money through the production and distribution channels. Corruption typically follows the path of least resistance, attacking the weakest links and further contaminating them. Corruption acts like cancer, and spreads through all the strata of institutions and society, and once established, is extremely hard to dislodge.

The spread of violence

If corruption is the lubricant and interface of the illegal marketplace, violence is its enforcement arm, its dominant instrument of conflict resolution. Corruption and violence pervade the illegal marketplace.

Empowering narco-traffickers and narco-terrorists

As we have seen repeatedly throughout this book, the contribution of the War on Drugs to global and regional geopolitical instability is tremendous. It has allowed the emergence of powerful and destabilizing criminal organizations which often align themselves with guerillas, right-wing militias, or terrorist organizations.

Erosion of civil liberties

Civil liberties have been severely curtailed with routine arbitrary searches and assets forfeiture where the burden of proof is on the

defendant. Law enforcement agencies have been granted ever increasing powers to intrude more and more completely into people's lives. Many countries are following in the footsteps of the US, creating exceptions for the War on Drugs to trample individual rights and civil liberties.

Prisons as institutions of higher criminal learning

Penal systems are considered highly dysfunctional and a dismal failure in many parts of the world. They are often plagued by rampant violence, widespread corruption, a predatory environment, drug abuse, and semi-institutionalized rape resulting in the catastrophic spread of AIDS. Very few countries are spared. From Sao Paulo to Mexico, crime bosses run their lucrative criminal operations from the relative protection and comfort of their cells, often propped up with private chefs and prostitutes with the complicity of prison administration. Meanwhile, the average inmate often lives in the most abject conditions.

There are two major penal models: the rehabilitative and the retributive model. Sharia, the Islamic Legal system, is arguably the most elaborate and widespread retributive legal system in the world. Rehabilitation is the prevailing model in most of Europe, which enjoys low incarceration and crime rates, the lowest rates being found in Denmark, Sweden and Norway, the most fervent rehabilitation advocates.

The US started drifting away from the rehabilitative model in the 1970s, officially rejecting the "outmoded rehabilitation model" and adopting the retributive approach with the Sentencing Reform Act of 1984 and the Sentencing Guidelines. The act "rejects imprisonment as a means of promoting rehabilitation, and it states that punishment should serve retributive, educational, deterrent, and incapacitative goals." The US Supreme Court upheld the constitutionality of the Sentencing Guidelines in *Mistretta v. United States*, declaring in its decision: "Rehabilitation as a sound penological theory came to be questioned and, in any event, was regarded by some as an unattainable

goal for most cases.”⁶³ Since then, the US inmate population grew from 338,029 in 1970, one of the lowest incarceration rates in the world at the time, to 2.3 million in 2009, by far the highest incarceration rate in the world. The US also has the highest crime rate among developed countries. Rehabilitation is still a dirty word, synonymous to soft-on-crime among lawmakers. The rapid deterioration of the crime situation in the US was precipitated by deinstitutionalization, the elimination of residential mental institutions, and the release of droves of mentally unstable people on the US streets, often destitute and reduced to homelessness and petty crime; but the War on Drugs was, by far, the main contributing factor to this rapid deterioration. There are striking parallels between the retributive US penal system and Sharia law in their criminalization of lifestyle issues and personal choices, such as the harsh retribution attached to illicit drugs for the US penal system, and alcohol for Sharia law.

To quote William Earl Maxwell, prisons “are often dens of violence, vice, homosexual rape. ... Instead of rehabilitating prisoners, prisons have become publicly supported institutions of higher criminal learning.”⁶⁴ Prisons create a general predatory culture, where toughening up is a matter of survival. As gang culture gets transplanted behind bars, neutrality is generally not an option. Thus the prison system has turned into a brutal recruiting and training facility for organized crime, churning out repeat offenders and career criminals, converting otherwise innocuous citizens into criminals, often permanently. Inmates enter as kindergarten criminals and exit with a Master’s Degree or PHD in crime. Most people are in worse shape and far more dangerous when they get out of jail than when they go in. Hundreds of millions of people have been incarcerated as a consequence of this madness, often turned into hardened criminals.

63). <http://law2.umkc.edu/faculty/projects/ftrials/conlaw/mistretta.html>, *Mistretta v. United States*, 488 US 361 (1989), Decided January 18 1989.

64). William Earl Maxwell, Ernest Crain, Adolfo Santos, “Texas Politics Today 2009-2010.”

Multiple factors contribute to the criminogenic effects of incarceration, both behind bars and after release:⁶⁵

- Intense and exclusive socialization with other criminal elements resulting in “prisonization”⁶⁶: identification with inmate sub-culture, adoption of a distinctive language and a distinctive set of norms, attitudes, statutes, values and beliefs. Prisonization may carry through outside the prison system (baggy clothes⁶⁷, tattoos, prison slang and sign language, etc.)
- Affiliation with prison gangs
- Brutalization, hardening, toughening up resulting in anger, violence, fear, hopelessness and despair
- Severance of ties to family and community reinforcing the sense of disconnection and estrangement from mainstream society
- Stigmatization, heightened barriers of re-entry into mainstream society, employment and housing discrimination
- Improved prestige and status among criminal subcultures
- Denial of benefits and other social programs
- Restrictions of political rights
- Erosion of respect of the law

The damages caused by incarceration are often irreparable and exacerbated by racial disparities. Not surprisingly, recidivism is very high among ex-felons, with a 67% conviction rate within three years of release. It is noteworthy that the recidivism rate has remained stable through the huge inmate population increase experienced by the US since 1970. Therefore, the large-scale incarceration of low-level offenders, mostly on drug charges, resulted in the large-scale

65). Martin H. Pritikin, *Is Prison Increasing Crime?*, Wisconsin Law Review, 1/5/2009.

66). Prisonization was coined and defined by criminologist Donald Clemmer in the 1930s. See <http://law.jrank.org/pages/1796/Prisons-Prisoners-Inmate-subcultures-informal-organizations.html>.

67). Baggy clothes fashion resulted from the one-size-fits-all prison dress code.

marginalization and criminalization of otherwise innocuous offenders and drug users. There are no statistics on the number of first-time offenders who were convicted on drug charges, and then graduated to high-risk offenders.

The ripple effects of mass incarceration have disastrous repercussions on the communities most at risk, from Washington DC, where over half of the African-American adult male population will serve prison terms in their lifetime, to South-Central LA, to the slums of Mexico, Bogota, Rio or Sao Paulo. The high percentage of inmates and ex-convicts within the male population has catastrophic economic and social consequences on these communities, with particularly devastating outcome on families and children, transferring and amplifying the issue across generations.

In contrast, recidivism rates within three years have ranged between 35 and 39% for the past 10 years in Sweden, the world leader in rehabilitative incarceration.⁶⁸

The rise of the prison-industrial complex in the US

In the US, the War on Drugs has spawned a powerful prison-industrial complex that has gained amazing power, setting up a dreadfully efficient system to generate repeat customers for its facilities through the revolving door it has become, often practically writing laws to protect its interests, to the point that most states spend more on law enforcement than on education.

Is it working?

The following table issued by NIDA speaks for itself; I will let my readers draw their own conclusions.

Among 17 nations surveyed by the World Health Organization, the United States ranks first in lifetime use of three substances — cocaine, cannabis, and tobacco — and is in sixth place for alcohol use.

68). http://www.bra.se/extra/pod/?action=pod_show&id=19&module_instance=11.

The five highest rates of use in each drug category appear in red. Rates are reported as percentages.⁶⁹

Country	Cocaine	Cannabis	Tobacco	Alcohol
Colombia	4.0	10.8	48.1	94.3
Mexico	4.0	7.8	60.2	85.9
US	16.2	42.4	73.6	91.6
Belgium	1.5	10.4	49.0	91.1
France	1.5	19.0	48.3	91.3
Germany	1.9	17.5	51.9	95.3
Italy	1.0	6.6	48.0	73.5
Netherlands	1.9	19.8	58.0	93.3
Spain	4.1	15.9	53.1	86.4
Ukraine	0.1	6.4	60.6	97.0
Israel	0.9	11.5	47.9	58.3
Lebanon	0.7	4.6	67.4	53.3
Nigeria	0.1	2.7	16.8	57.4
South Africa	0.7	8.4	31.9	40.6
Japan	0.3	1.5	48.6	89.1
People's Republic of China	0.0	0.3	53.1	65.4
New Zealand	4.3	41.9	51.3	94.8

69). http://www.drugabuse.gov/NIDA_notes/NNvol22N5/tearoff.html, "United States Ranks First in Lifetime Use of Three Drugs," NIDA Tear off, Vol. 22, No. 5, November 2009.

Conclusion to Section 1

Originating in the US thanks to its settlement patterns, prohibitionism is a 19th century totalitarian ideology of coerced societal transformation. It is just as obsolete as the other major totalitarianisms, communism and fascism and just like them, it has lost track of its original intent. Prohibitionism was soundly rebuked in its original intent of promotion of virtue and suppression of vice, where vice was alcohol abuse, gambling, pornography, prostitution and homosexuality. Substance abuse was added to the prohibitionist agenda almost by accident, but it is the last standing piece of this failed agenda. Drug prohibition survived and thrived essentially as an alibi for discrimination against minorities and thanks to an endless succession of moral panics from its onset and up to this day. It survived and thrived because, at its onset, other than alcohol abuse, there was no real substance abuse issue in the US, and therefore these substances didn't have any real constituency to support them.

Drug prohibition started in the US with the American century, and throughout the century, the US used its growing power to impose its policy on the rest of the world. Not only did the US invent the War on Drugs, but it is also the main consumer as well as the overwhelming weapon supplier to the Latin American drug cartels, fueling the evil and violence it is supposed to combat in the first place.

Prohibitionism violates the fundamental law of market economy, which led to the emergence of a thriving shadow economy. The ever escalating repression led to increasingly sophisticated trafficking modalities in a cat and mouse race where the drug business quickly adapts to market disruption and enforcement is always one step behind, further plagued by the law of diminishing returns which dictates that ever increasing resources need to be allocated for lower and lower results.

Analyzing the War on Drugs narrative over its 100-year history, one can only be struck by its ever-escalating intensity, its never-ending

crescendo. 417 grams of cocaine were seized in 1938. 118,311 kg were seized in 2005, an increase of 28,371,942 % - over 28 million percent! Rothstein's victims could probably be counted on the fingers of both hands in the 1920's. 500 murders were attributed to Lucky Luciano's Murder Inc in the 1930s and 40s, which is about the death toll in an average week in Mexico alone in 2011. In 1930, Al Capone and his mafia were ruling Chicago. 1930-style Chicago is invading the planet from Tijuana to Bamako. Narco-states are growing like cancer. Drug culture is permeating pop-culture.

After 100 years of ever-escalating failures, policy-makers are still proposing more of the same. The stated goal of the War on Drugs is still complete eradication and total abstinence, which is about as realistic as sexual abstinence as a policy for preventing STD and teen pregnancy. In fact, the War on Drugs is terminally addicted to its own policies and inextricably tied to its arch-nemesis, its lifeline and its *raison d'être*, narco-trafficking. It would crumble and vanish if narco-traffic were to disappear. Narco-trafficking is the creation of the War on Drugs, its antithesis, its own distorted reflection. The mere idea of legalization poses an existential threat to this highly dysfunctional scheme.

The most baffling, though, is that awareness of the dire situation we are facing does exist. In the foreword to the 2010 UNODC World Drug Report, Antonio Maria Costa, Executive Director of the United Nations Office on Drugs and Crime, states:

"Poor countries have other priorities and fewer resources. They are not in a position to absorb the consequences of increased drug use. ... We will not solve the world drugs problem by shifting consumption from the developed to the developing world. ... We will not solve the world drugs problem if addiction simply shifts from cocaine and heroin to other addictive substances."

All that seems to be missing is the political courage to draw the obvious conclusions. We will see though that voices of dissent are rising louder and louder, including from within the international community itself, challenging the folly of existing policies.

Section

2

Major legal and illegal
psychoactive substances

Foreword to section 2

The father of Western medicine, Hippocrates, differentiates between food as substances which can be overcome (assimilated) by the body, and drugs as substances which are capable of “overcoming” the body and provoke in small doses significant changes to the body or the mind or both. “All things that cause change in the present state [of the patient] are drugs, and all [substances] that are rather strong cause change. It is possible, if you want, to bring about change by means of a drug, or, if you do not want [to use a drug], by means of foods.”¹

This definition has gracefully sustained the challenges of time. It is still as valid today as it was more than two millennia ago, while in the age of nutraceuticals and super-foods, the distinction between food and drugs is as blurred as ever. Some substances are clearly categorized as drugs, and others are clearly foods, with anything from coffee and tea to vitamins and acai berry extract floating in the middle. The following definition from the medical dictionary is as valid as any:²

Drug:

1. A chemical substance that affects the processes of the mind or body.
2. Any chemical compound used in the diagnosis, treatment, or prevention of disease or other abnormal condition.
3. A substance used recreationally for its effects on the central nervous system, such as a narcotic.

In other words, drugs are the thousands of substances that you can readily find with or without prescription at your local drugstore or pharmacy; plus thousands more that you can find at your local liquor

- 1). University of Cambridge Research Horizons April 2007, Issue 3 Food and medicine in classical Greece: the ‘blurred boundary.’
- 2). <http://medical-dictionary.thefreedictionary.com/drug>.

store or supermarket; and even some commonly found on many street corners, especially near school facilities. But this is one of the topics of this book.

In the War on Drugs, the use of the term is rather restrictive. Drugs in the “War on Drugs” are always illicit, bundling under that label a variety of disparate substances which have in common their psychoactive or mind-altering properties. Some of these “drugs” have habit-forming powers and can become addictive. In truth, in order to have any meaningful discussion on the subject, illegal drugs must be viewed in the wider context of psychoactive substances. So, instead of talking about “drugs,” which actually doesn’t mean much, we will talk about psychoactive substances. By this, we mean substances “that, when taken, have the ability to change an individual’s consciousness, mood or thinking processes” ... they “act in the brain on mechanisms that exist normally to regulate the functions of mood, thoughts, and motivations.” (To quote a definition by the World Health Organization in a 2004 report titled “Neuroscience Of Psychoactive Substance Use And Dependence”).³

We may also wonder why the use of certain psychoactive substances has been singled out and demonized among all the self-destructive or dangerous behaviors, such as poor diet and exercise; compulsive eating or drinking; compulsive gambling; gun use; distracted or reckless driving; extreme sports; and compulsive behavior in general. After all, most legal self-destructive behaviors are far more lethal than the use of these illegal substances.

The vast majority of psychoactive substances are legally available in the market, some of them with restrictions and control, such as amphetamines, painkillers, anxiolytics, anti-depressants, antipsychotics or morphine. Some have a dual status, being both medicines available with prescription, and illicit drugs when used for recreational purpose. Such is the case of morphine, cocaine, amphetamines and sleeping pills. It is rather difficult to draw a line as to what is, and what is not a psychoactive substance. Coffee,

3). http://www.who.int/substance_abuse/publications/psychoactives/en/index.html.

tea, chocolate, Coca Cola, most energy drinks and many herbal supplements and vitamins, as well as a lot of medicines, such as painkillers or sleeping pills, have some degree of psycho-activity. Even sugar is psychoactive, as anybody who has witnessed a sugar rush in young children can testify.

The 2004 WHO report “Neuroscience Of Psychoactive Substance Use And Dependence”⁴ mentioned above gives a classification which is as good as any; I will quote in its integrality:

“In this report, our emphasis will be alcohol and other hypnotics and sedatives, nicotine, opioids, cannabis, cocaine, amphetamines and other stimulants, hallucinogens, and psychoactive inhalants.

Use of these substances is defined into three categories according to their sociolegal status.

First, many of the substances are used as medications. Western and other systems of medicine have long recognized the usefulness of these substances as medications in relieving pain, promoting either sleep or wakefulness, and relieving mood disorders. Currently, most psychoactive medications are restricted to use under a doctor’s orders, through a prescription system. In many countries, as much as one-third of all prescriptions written are for such medications. An example of this is the use of the stimulant methylphenidate to treat childhood attention deficit hyperactivity disorder (ADHD), which will be discussed in Chapter 4. As described in Chapter 6, some of the substances are also often used as “self-medications” to relieve distress from mental or physical disorders, or to alleviate the side-effects of other medications.

A second category of use is illegal, or illicit, use. Under three international conventions, most nations have bound themselves to outlaw trade in and non-medical use of opiates, cannabis, hallucinogens, cocaine and many other stimulants,

4). Ibid.

and many hypnotics and sedatives. In addition to this list, countries or local jurisdictions often add their own prohibited substances, e.g. alcoholic beverages and various inhalants.

Despite these prohibitions, illicit use of psychoactive substances is fairly widespread in many societies, particularly among young adults, the usual purpose being to enjoy or benefit from the psychoactive properties of the substance. The fact that it is illegal may also add an attractive *frisson*, and thus strengthen the identification of users with an alienated subculture.

The third category of use is legal, or licit, consumption, for whatever purpose the consumer chooses. These purposes may be quite varied, and are not necessarily connected with the psychoactive properties of the substance. For instance, an alcoholic beverage can be a source of nutrition, of heating or cooling the body, or of thirst-quenching; or it may serve a symbolic purpose in a round of toasting or as a sacrament. However, whatever the purpose of use, the psychoactive properties of the substance inevitably accompany its use.

The most widely used psychoactive substances are the following: caffeine and related stimulants, commonly used in the form of coffee, tea and many soft drinks; nicotine, currently most often used by smoking tobacco cigarettes; and alcoholic beverages, which come in many forms, including beer, wine and distilled spirits. Because the use of caffeinated substances is relatively unproblematic, it is not further considered in this report. While inhalants are also widely available, they are mostly used for psychoactive purposes by those below the age of easy access to alcohol, tobacco and other psychoactive substances.

While there is a clear rationale for a separate legal status for medications, the rationale for the distinction between substances that are under international control and those that are not is more problematic. The substances which are included in the international conventions reflect historical understandings in particular cultural settings about what

should be viewed as uniquely dangerous or alien. Some psychopharmacologists or epidemiologists today, for instance, would argue that alcohol is inherently no less dangerous or harmful than the drugs included in the international conventions. Moreover, as discussed below, dependence on nicotine in tobacco is associated with more death and ill-health than dependence on other psychoactive substances.”

I would like to emphasize an issue raised in the report: “While there is a clear rationale for a separate legal status for medications, the rationale for the distinction between substances that are under international control and those that are not is more problematic. The substances which are included in the international conventions reflect historical understandings in particular cultural settings about what should be viewed as uniquely dangerous or alien.”

In other words, this very official report acknowledges the arbitrariness of illegal drug status and its cultural bias. It is indeed hard to figure out the logical reason why certain substances have been singled out and demonized, while the most lethal psychoactive substances are readily available. The prohibition of the major illegal drugs was originally a disguise for discrimination against ethnic minorities and protection of narrow interests, as seen in the first section of this book. Prohibition laws were essentially a manifestation of prejudice and bigotry rather than the result of an objective examination of factual evidence.

Most cultures have a dominant psychoactive substance, alcohol being the dominant psychoactive of Western civilization. The motivation behind the current Western-inspired War on Drugs was and still is largely cultural, as the customs and uses of foreign cultures have been widely ignored or demonized, a process that has been repeated over and over throughout history whenever a dominant culture is in expansion mode.

To paraphrase Antonio Maria Costa, Executive Director of the United Nations Office on Drugs and Crime, much of the public debate around the War on Drugs is characterized by sweeping generalizations and simplistic solutions, on both sides of the issue. To be fair, proponents of the War on Drugs tend to be more vociferous

and prone to sound-biting, demonizing and fear-mongering. Legalization advocates bearing the burden of proof under the current regime must be more credible and articulate.

For a better understanding of our topic, we will start by looking at mind alteration, its pharmacokinetics, and the role of the pleasure/reward system in the brain, analyzing how psychoactive substances affect the brain. We will then examine the major psychoactive substances, starting with the legal ones.

Chapter 6:

Psychoactive substances and the brain

By definition, substances are psychoactive because of their action on the brain. More specifically, psychoactive substances interfere with neurotransmission. Central to their action on the brain is their activity on the so-called pleasure/reward system. Therefore, to fully understand psychoactive substances, it is important to understand how the pleasure/reward system works within the brain. For that, we must first look at how the brain operates in the first place.

Our understanding of the brain has evolved considerably over the past few decades and is still evolving rapidly. New discoveries often challenge old thinking. Even though a lot of progress has been made, the extremely complex processes of the brain operation are still poorly understood. It should also be noted that we shouldn't confuse the map with the territory: Describing the biochemical processes that underlie brain activity doesn't in itself explain the mysteries of the brain.

As we currently understand it, the brain is in constant evolution, with new neural connections being made and old connections unmade constantly as we learn, adapt and evolve in response to our environment. This capacity of the brain to adapt and evolve is due to a property of living systems called homeostasis. Understanding homeostasis is a key to understanding the action of psychoactive substances as they interfere directly with neurotransmission, the key mechanism of homeostatic regulation within the brain.

Homeostasis, a key adaptive process

Homeostasis can be defined as the property of a system, either open or closed, that regulates its internal environment and tends to maintain a stable, constant condition. Homeostasis can be viewed as stability, balance and dynamic equilibrium as it relates to change management. Homeostasis is a key process of life, allowing and facilitating adaptation and evolution. From the individual cells, to organs and organisms, all living systems are homeostatic systems. Any self-regulating, adaptive and evolving complex systems, such as societies and ecological systems, as well as industrial, financial, social, political and religious organizations, can be viewed as homeostatic systems. Life itself and the ecosystem of planet earth are homeostatic systems. Homeostatic systems are typically made up of homeostatic sub-systems; they are themselves elements of broader homeostatic systems.

Homeostatic regulation involves three basic looped processes: reception, control and effect. The receptor perceives the changes in the environment as stimuli and sends the information to the control center. The control center then processes the information, and instructs the effector to respond by either opposing or enhancing the stimulus. This is an ongoing process that continually works to restore and maintain homeostasis.¹ Homeostatic systems typically respond to changes with negative feedback, whereas the response tends to counteract or correct the change. Temperature control is the typical example of negative feedback, where the body exposed to cold accelerates its metabolism to raise internal temperature, while exposure to heat causes sudation to lower temperature. Positive feedback, on the other hand, accelerates and intensifies the effects of the stimulus. Positive feedback is relatively rare and limited in time, as in childbirth where the release of oxytocin intensifies the contractions, or in blood clotting to repair damage to blood vessels. Positive feedback, such as fever or chronic hypertension, can be harmful.

The brain is a homeostatic system that is itself the body's major control center. Each neuron is a homeostatic system within the brain.

1). Wikipedia.

Homeostatic systems are ultra-stable; everything in their internal, structural, and functional organization contributes to the maintenance of the same organization.² An inability to maintain homeostasis may lead to death or disease, a condition known as “homeostatic imbalance.” Diabetes, dehydration, hypoglycemia, and hyperglycemia, as well as overdose and addiction, are conditions resulting from homeostatic imbalances. Homeostatic imbalances may have genetic, epigenetic or environmental causes. Medicine can be viewed as an attempt to correct homeostatic imbalances, but the use of medicine may lead to further homeostatic imbalances as side effects.

Homeostatic systems are designed to operate within limits specific to each system. Thus, some bacteria can survive for years in a vegetative state; camels are designed to withstand food deprivation well beyond what most mammals can endure. Deviations beyond those limits may endanger the system or lead to long-term or permanent structural and functional alterations through counter-adaptive processes, sometimes referred to as allostasis³, where the system fails to return within its normal homeostatic range. Chronic homeostatic imbalances typically lead to maladaptive changes where the “new normal” is, in fact, pathological. Diabetes, hypertension, or addictions are some examples of such maladaptive adjustments. Therefore, we could say that homeostatic systems, which include human beings, are built for moderation.

Cells for starters

Cells, the building blocks of life, are semi-autonomous structures consisting of the cell body protected by a specialized membrane. Cells get their nutrients from their environment through their selectively

- 2). Principia Cybernetica Web, <http://pespmc1.vub.ac.be/homeosta.html>.
- 3). There are various and somewhat contradictory definitions of allostasis. **Medilexicon.com** defines it as: “In endocrinology, a chronic state of disordered homeostasis (dyshomestasis) that allows survival of the organism at the expense of its well-being and life expectancy.” **OxfordDictionaries.com** defines it as “the process by which the body responds to stressors in order to regain homeostasis.”

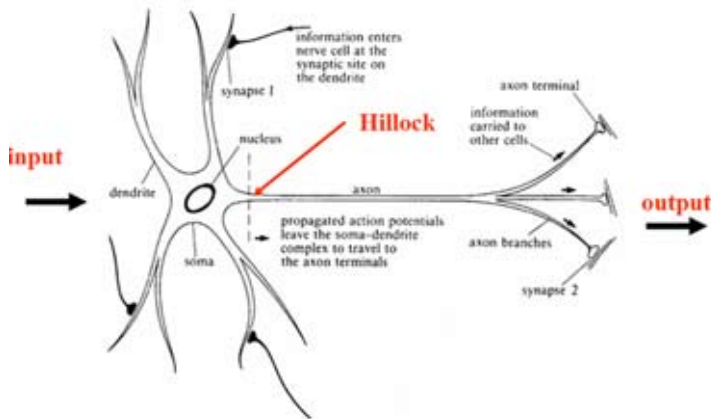
permeable membrane, allowing only certain molecules into or out of the cell body. The membrane is the interface between the cell and its environment. It communicates with the cell's environment through receptor-effector proteins, absorbing nutrients, eliminating waste, or effecting actions such as movement. According to Bruce H. Lipton, the membrane is the cell's control center, its "brain".⁴

The cell body consists of the cytoplasm and the nucleus that itself contains the genetic material, DNA (deoxyribonucleic acid). According to Lipton, the nucleus acts like the cell's reproductive system. DNA is used in cell division and growth, as well as to synthesize proteins in response to a wide variety of stimuli. All cells within the same organism have exactly the same genetic code. The cellular environment is what determines how a cell will express itself. Thus, a particular cell "knows" to behave like a liver, kidney, eye, skin, or brain cell, thanks to its neighboring cells. Cells communicate between themselves and with their environment through electrical and chemical signals, exchanging ions and molecules. All living organisms and their organs are structured arrangements of specialized cells.

Brain 1.01⁵

The brain is a fragile organ with several levels of protections. The brain floats in the cerebrospinal fluid inside the cranial cavity, giving it a double physical protection. It is further protected by the blood-brain barrier, a membrane lipid bi-layer that restricts the types of molecules which can enter the brain and the cerebrospinal fluid. All psychoactive substances can cross the blood-brain barrier.

- 4). Bruce H. Lipton, "The Biology of Belief: Unleashing the Power of Consciousness, Matter, & Miracles," Hay House, March 1 2011.
- 5). For a clear and easily understandable description of brain mechanisms and neurotransmission, see "Chapter 2. Brain Mechanisms: Neurobiology and Neuroanatomy" of the already quoted report "Neuroscience of psychoactive substance use and dependence," WHO Library, 2004. The report can be downloaded from the WHO website.
See also: <http://universe-review.ca/R10-16-ANS.htm>.



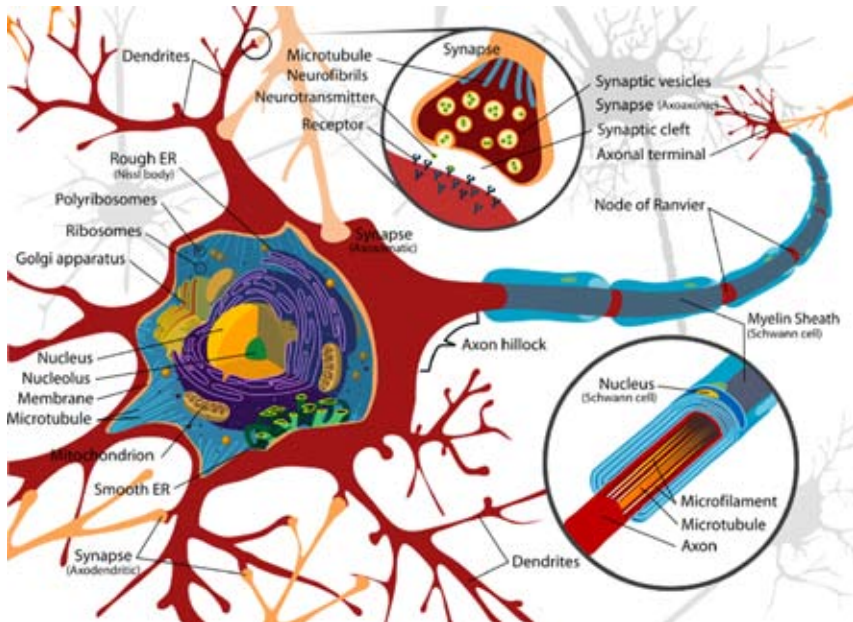
Brain cells, the neurons, are electrically excitable cells that process and transmit information by electrical and chemical signaling. Neurons comprise: the body, called soma; the dendrites, which are tree-like extensions of the neuron's membrane; the axon, an elongated fiber extending from the neuron's body which may subdivide and have several terminal buttons. A single axon can innervate multiple parts of the brain and generate thousands of synaptic connections.

Neurons receive their synaptic signals from other neurons through the soma and the dendrites. Most neurons have multiple profusely subdivided dendrites.

Neurons receive input signals through the dendritic spines that are small doorknob-shaped membranous protrusions from the surfaces of the dendrite. Dendritic spines may change shape and appear or disappear entirely. Dendrites then transmit the electrical signals to the soma.

Neurons transmit information through the axon to the terminal buttons. The transmission of information through the axon is managed by a sort of chemical switch called an axon hillock, located at the end of the soma. Every neuron processes information from multiple sources as it receives excitatory or inhibitory impulses from several thousand other neurons. If the total strength of the signal received by the neuron exceeds the threshold limit of the axon hillock, the axon hillock "fires" an electrical signal, called "action

potential,” down the axon. This signal is rapidly transmitted to other neurons through the synaptic connection.



Some axons are covered with a fatty substance called myelin that acts as an insulator and dramatically speeds up the information transfer. Cholesterol is an essential component of myelin. Chronic neural cholesterol homeostasis disbalance may be related to synaptic plasticity failure and may lead to Alzheimer's and other neurodegenerative diseases.⁶ Myelinated axons constitute the white matter in the brain; they make up almost all long nerve fibers and can be over one meter long in humans, as in the sciatic nerve for instance. They are keys to the fast processing speed that underlie higher cognitive functions.

Think of white matter as the cables connecting the various parts of the brain. If they lose their insulation, performance decreases or vanishes altogether. Multiple Sclerosis is a degenerative disease

- 6). Natalia V. Koudinova, Temirbolat T. Berezov & Alexei R. Koudinov, 'CHOLESTEROL HOMEOSTASIS FAILURE: A UNIFYING CAUSE OF SYNAPTIC DEGENERATION?' Neurobiol, Lipids 3, 7, 2004.

where myelin is destroyed around the axons. A breakdown of myelin is also implicated in Alzheimer's. Myelination is an ongoing process that goes on well into the 50s. According to Dr. George Bartzokis, director of the UCLA Memory Disorders and Alzheimer's Disease Clinic, "Myelination is the single most unique aspect in which the human brain differs from those of other species."⁷

Neurons go through intense myelination during adolescence; as psychoactive substances inhibit the myelination process, their use during adolescence is particularly damaging and may account for the comorbidity of addiction and early-life neuropsychiatric disorders such as schizophrenia and depression.

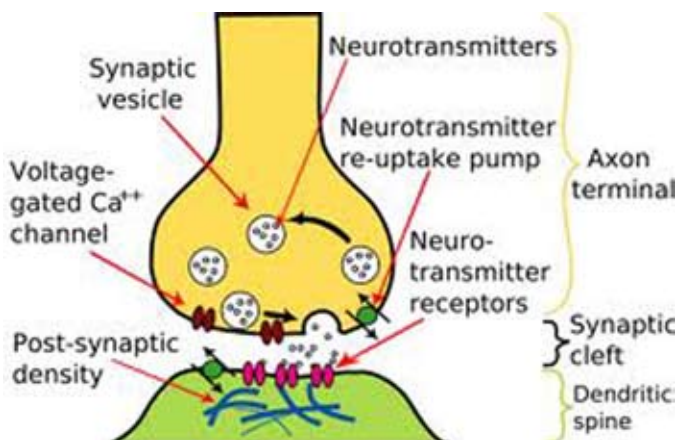
Neurotransmission

Information is carried throughout the brain by a combination of electrical signals and substances called neurotransmitters. Some neurotransmitters are produced in the soma and transported down the axon while others are produced in the axon terminal.

The information transfer between neurons takes place in the synapse, which is the contact between an axon terminal button of one neuron and a dendrite or soma of another. The terminal button contains synaptic vesicles that store the neurotransmitters. The key to neural function is the synaptic signaling process, which is partly electrical and partly chemical. The action potential, fired down the axon towards the terminal buttons, triggers the release of neurotransmitters into the synaptic cleft, the small space between the axon terminal and the postsynaptic cell. There, the neurotransmitters bind on the postsynaptic side to membrane proteins known as receptors, activating those receptors, which are transmitter-specific. The neurotransmitter is then released and either reabsorbed by the presynaptic cell through the reuptake pump, or broken down metabolically. The neurotransmitter-receptor binding may either have excitatory, inhibitory or modulatory effects on the postsynaptic

7). Mark Wheeler, "Breakdown of Myelin Implicated in Alzheimer's, UCLA Research Shows," UCLA Newsroom, May 10 2007.

cell, depending on the type of receptors and neurotransmitters. Neuromodulatory transmitters, secreted by a small group of neurons, can have an effect on multiple neurons and diffuse through large areas of the nervous system. Neuromodulators include dopamine, serotonin, acetylcholine and histamine.



The synaptic cleft contains extracellular fluid through which chemical substances can diffuse to interact with the terminals or the receptors. Cocaine, for instance, blocks neurotransmitters reuptake, increasing their concentration and exaggerating their effects. Amphetamine reverses the uptake mechanism, releasing neurotransmitters into the synaptic cleft independently of action potentials.

Neuroplasticity

The adult human brain has an estimated 100 billion neurons connected via anywhere from 100 to 500 trillion synapses. A three-year-old child has about 1 quadrillion synapses, but synaptic connections are lost with aging. While the brain's physical structure and the characteristics of neurons are probably mostly genetically determined, the brain's functional organization is malleable. Synaptic connections are continually being made and unmade so that the neural network is always changing and evolving, largely based on a "use it

or lose it” principle. This feature of the brain is called neuroplasticity or cortical remapping. Memory, learning and adaptation are some of the processes associated with experience-driven alteration of synaptic structures. Every time we learn something, new synaptic connections are rewired; new dendritic spines are created while others change shape or disappear altogether. Dendritic spines provide an anatomical substrate for memory storage. Daily spine turnover affects only a small percentage of total spines in the brain. Dendritic spine density may up to double in specific parts of the brain during the learning process, before going back to normal after training is completed, while new spines become persistent.⁸ More spines become persistent as we age, and spine turnover decreases. Through training, repetition, and reinforcement, the learning process leads to long-term changes in synaptic connectivity. Learning is like gymnastics of the brain. The more we activate and challenge our brain, the more powerful it becomes.

Neuroplasticity is arguably one of the most fundamental and powerful features of the brain.

Traumatic events such as brain injury may initiate a large scale rewiring of the neural network. Intense psychological events such as psychological trauma, near death experience or even psychedelic experiences may induce profound personality changes that are most likely related to substantial neural rewiring.

Neurotransmission and psychoactive substances

Psychoactive substances interfere with normal brain functions mostly through synaptic transmission, increasing or decreasing the activity of neurons in a variety of ways. They may mimic the effects of neurotransmitters; they may alter their synthesis, their normal storage, release, removal and reuptake; or they may bind to receptors, either enhancing or blocking their activity as agonists or antagonists. As such, psychoactive substances interfere directly with

8). Noam E Ziv, “Hebb and the art of spine remodeling,” F1000 Biology Reports, 23 Sep 2010.

neuronal homeostatic regulation. Psychoactive substances may play a positive role in countering imbalances within the brain, as most neuropsychiatric disorders, including depression, schizophrenia, mental retardation, epilepsy and autism may be linked to neuronal homeostasis imbalance.

Ethanol differs from other psychoactive substances in the fact that it is an extremely small molecule. Ethanol doesn't attach to any particular neurotransmitter or receptor but affects their activity instead. Receptors appear to be the most important sites of ethanol action in the brain. Ethanol affects pretty much all major neurotransmitter activity. Acute and chronic ethanol use can change the concentrations of neurotransmitters in the brain.

Addictive substances such as cocaine and amphetamines act primarily on the dopamine system. Opiates act as functional analogs of endogenous opioid peptides. It should be noted that all psychoactive substances, whether legal, prescription or illegal, act in the same way, by interfering with neurotransmission. Neurons don't read labels and don't care about the legal status of the interfering substance.

Addiction causes substantive neural rewiring. Addiction may represent the pathological usurpation of neural processes that normally serve reward-related learning, as the mechanisms that mediate compulsive drug-seeking and drug-taking appear to mimic the physiological mechanisms for learning and memory. As such, addiction can be viewed as a maladaptive response to prolonged homeostatic imbalance caused by repeated disruption of neurotransmission.

Major neurotransmitters

The function of a neurotransmitter is determined by the brain regions where the bodies of the cells emitting the specific transmitter are located; and by the "projection areas," where axons from these cells project to, and where the neurotransmitter is ultimately released. The neurotransmitter release allows certain parts of the brain to perform specific functions.

Glutamate

The most prevalent transmitter, found in over 90% of synapses, is an excitatory neurotransmitter called glutamate, an amino acid which plays an important role in memory and learning. Glutamate receptors modulate synaptic plasticity. Hallucinogens affect a subclass of glutamate receptors. Glutamate is also known as glutamic acid. Its sodium salt is none other than monosodium glutamate, MSG, the infamous and controversial food additive found in oriental foods. MSG was originally discovered in seaweeds and is abundant in nature. Excess glutamate may kill neurons. Alzheimer's and epilepsy are related to malfunctions of the glutamate receptors. Neuropsychiatric disorders such as schizophrenia and depression, as well as addiction, may be related to hypofunction of the glutamate system, more specifically of the N-methyl-D-aspartate (NMDA) receptors.⁹

GABA (γ-aminobutyric acid)

The next most prevalent neurotransmitter is GABA (γ-aminobutyric acid), another amino acid that is the major inhibitory transmitter in the brain. It is found in over 90% of synapses that do not use glutamate. It acts through two distinct receptor subtypes. Alcohol, barbiturates or benzodiazepines owe their sedative and anxiolytic properties to their action on GABA receptors. Blocking the effects of GABA receptors, as is the case with epilepsy and some extreme cases of withdrawal from benzodiazepines or alcohol, can lead to seizure. Drugs like cocaine and amphetamines inhibit the release of GABA onto the dopaminergic neurons, resulting in disinhibition of dopaminergic neurons and increased dopamine release in the reward system, which in turn induce feelings of well-being or euphoria.

Acetylcholine

Acetylcholine is formed from choline by an enzymatic reaction within "cholinergic neurons." Cholinergic neurons are located in the

- 9). Tomas Palomo, Trevor Archer, Richard M Kostrzewa and Richard J. Beninger, "Comorbidity of substance abuse with other psychiatric disorders," Neurotoxicity Research, March 2007.

basal nucleus and project widely throughout the cortex. Acetylcholine plays an important role in attention, memory and learning and may be related to Alzheimer's disease. It is the transmitter between motor nerves and the skeletal muscle fibres at all neuromuscular junctions and is also found in sensory neurons. For proper muscle functioning, acetylcholine is rapidly eliminated from the synapse by enzymatic acetylcholinesterase. Venom from snakes and scorpions, curare, and botulin¹⁰ block the release of acetylcholine, leading to heart and muscle paralysis. Quasi-irreversible acetylcholinesterase inhibitors, such as nerve gas and many insecticides, result in excessive acetylcholine levels. Reversible acetylcholinesterase inhibitors generally have therapeutic applications. Thus, THC, the active ingredient in cannabis, may improve the cognitive function and functional ability of Alzheimer's patients.¹¹

Acetylcholine receptors fall into two classes: nicotinic receptors and muscarinic receptors, named for their responsiveness to nicotine and muscarine. Muscarine is one of the active ingredients of fly agaric (*Amanita muscaria*) and other mushrooms. Atropine and scopolamine, two alkaloids found in various plants of the solanaceae family such as belladonna, datura or mandrake, are competitive antagonists for the muscarinic acetylcholine receptor. They both have medical and psychoactive properties ranging from resuscitation from cardiac arrest and treatment for organophosphate poisoning to extreme confusion and hallucinations.

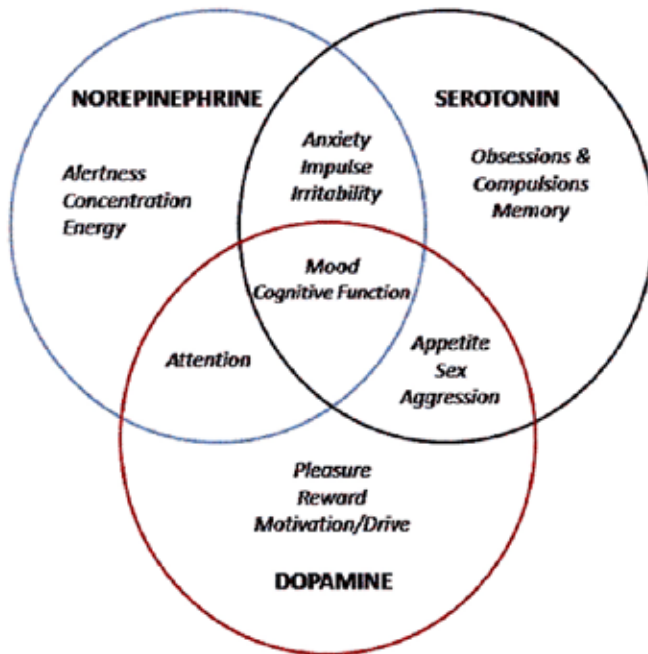
Dopamine

Dopamine, derived from the amino acid tyrosine, is the key neuromodulator of the pleasure/reward system. It plays an important role in behavior, mood, voluntary movement, and all aspects of learning: cognition, attention, motivation, and reinforcement.

10). Botulin is the active ingredient of Botox. Botox provokes local muscle paralysis.

11). Eubanks LM, Rogers CJ, Beuscher AE, et al. "A molecular link between the active component of marijuana and Alzheimer's disease pathology," *Mol Pharm*, 2006.

Dopamine is related more to anticipation – reward-seeking behaviors – than consumption per se. Dopamine is also related to problem-solving and creativity as well as sociability.



(Source: Deplin, <http://www.deplin.com/LifeWithDepression/Causes>)

The effects of dopamine depend on the dopamine receptor subtype activated in the postsynaptic cell. It can be inhibitory or excitatory. Dopamine alters the sensitivity of its target neurons to other neurotransmitters, particularly glutamate, and can affect the neurotransmitter release by the target neurons. Dopamine is inactivated through enzymatic breakdown or by reuptake through the dopamine reuptake transporters (DATs). Dopamine reuptake inhibitors, such as Dexedrine, Ritalin, cocaine, amphetamines, MDMA, PCP or St. John's Wort increase dopamine levels in the brain and act as anti-depressants with high potential for abuse.

Dopaminergic neurons originate in the most primitive part of the brain, the limbic system. They are mostly found in the ventral tegmental area (VTA), projecting to the nucleus accumbens and the cortex; and in the substantia nigra, projecting to the striatum.

Dopaminergic neurons are activated by motivational stimuli. They are found even in the most primitive forms of animal life, including invertebrates. Dopaminergic neurons are involved in the processing of unexpected rewards. They provide teaching signals for acquiring new behaviors. The dopamine pathway is activated by pretty much all psychoactive substances. Schizophrenia and psychosis are related to excessive dopamine function in the mesolimbic and mesocortical dopamine systems. Dopamine deficiency is related to a wide range of diseases from depression, addiction, obesity, impotence, fatigue or ADD/ADHD, to Parkinson disease. Parkinson's disease patients treated with dopamine agonists are at risk of impulse control disorders such as compulsive gambling or buying, and sexual behavior.

Norepinephrine (noradrenalin)

Norepinephrine, formerly called noradrenalin, is also derived from tyrosine. It is involved in arousal and stress responses and increases heart rate and blood pressure. Together with its close relative epinephrine (adrenalin), it is released into the bloodstream by the adrenal glands. Stress depletes adrenalin and exercise tends to increase it.

Norepinephrine-synthesizing cell bodies are found in the locus coeruleus and project widely throughout the brain. Cocaine and amphetamine affect the transmission of norepinephrine by increasing its concentration in the synaptic cleft. This contributes to the stimulatory and rewarding effects of cocaine and amphetamine, as well as the feelings of nervousness and anxiety that can accompany the use of these substances.

Serotonin

Derived from the amino acid tryptophan, serotonin, also known as “happiness hormone,” is primarily found in the intestinal tract where it regulates intestinal movements. It is also found in blood platelets, the spinal cord, the pineal gland and the central nervous system. In blood platelets, serotonin serves as a vasoconstrictor and helps to regulate hemostasis and blood clotting. In the central

nervous system, serotonergic neurons are involved in the regulation of mood, arousal, impulsivity, aggression, appetite, sleep, and muscle contraction. Serotonergic neurons are located in a cluster of nuclei found in the brain stem called the “raphe nucleus” and project along the cortical-thalamic pathway.

Low serotonin levels are related to obsessive-compulsive disorder, depression, anxiety, insomnia or fatigue. Many antidepressant drugs, such as selective serotonin reuptake inhibitors (Prozac), work by increasing serotonin activity in the brain. The serotonin receptors in the brain also mediate the effects of a broad range of pharmaceutical or hallucinogenic drugs such as LSD and ecstasy. Psychomotor stimulants, such as amphetamine, cocaine, and MDMA/ecstasy inhibit serotonin reuptake by pre-synaptic neurons. Serotonin may be related to deep religious experiences, which may explain why hallucinogens often elicit spiritual awareness and mystical experiences.¹²

Neuropeptides

Neuropeptides are chains of amino acids linked by peptide bonds that act as hormones or neurotransmitters. More than 200 neuropeptides have been identified to date, such as prolactin, growth hormones or the endogenous opioids (endorphins, enkephalins, dynorphins and endomorphins). Endogenous opioids are critical for pain management and are involved in complex behaviors such as sexual attraction and aggressive/submissive behaviors. They may be involved in the mechanisms underlying acupuncture-induced analgesia.

Oxytocin and vasopressin are other important neuromodulators. Released from the hypothalamus, they mediate complex social behaviors.¹³ Oxytocin, also called the “love hormone,” is implicated in orgasm, labor, breastfeeding, social recognition, bonding

12). Borg J, Andrée B, Soderstrom H, Farde L, “The serotonin system and spiritual experiences,” *American Journal of Psychiatry* 160, 2003.

13). Markus Heinrichs and Gregor Domes, “Neuropeptides and social behaviour: effects of oxytocin and vasopressin in humans,” *Progress in Brain Research*, Vol. 170, ISSN 0079-6123, 2008.

(especially maternal), pair or clan bonding; itd may be the agent of ethnocentrism.¹⁴ Autism may be related to a genetic deficiency in an oxytocin receptor. MDMA/ecstasy may increase feelings of love and empathy by stimulating oxytocin activity via activation of serotonin receptors.

Peptides control a wide range of bodily functions such as food and water intake or reproduction, and are a key element of the pleasure/reward system.

The endocannabinoid system

The endocannabinoid system is a ubiquitous lipid signaling system with important regulatory functions. Its discovery in the mid-1990s revealed an entirely new signaling system in the brain, as endocannabinoids are retrograde and are released on demand in a receptor-dependent manner. They are transported via a specific re-uptake system into pre-synaptic cells where they inhibit neurotransmitter release. They serve as retrograde signaling messengers in GABAergic and glutamatergic synapses. They act as modulators of postsynaptic transmission, interacting with other neurotransmitters, including acetylcholine and dopamine.

Outside the brain, the endocannabinoid system is one of the essential modulators of the autonomic nervous system, the endocrine network, the immune system, the gastrointestinal tract, the reproductive system, and microcirculation.¹⁵ Endocannabinoids are also involved in regulation of appetite and body weight, glucose and lipid metabolism, anxiety, suppression of aversive memories, and neuroprotection. The endocannabinoid system modulates the activity of other neurotransmitters, especially glutamate

14). Nicholas Wade, *Depth of the Kindness Hormone Appears to Know Some Bounds*, NYT, January 10 2011.

15). Fernando Rodríguez De Fonseca, Ignacio Del Arco, Francisco Javier Bermudez-Silva, Ainhoa Bilbao, Andrea Cippitelli And Miguel Navarro, "The Endocannabinoid System: Physiology And Pharmacology," *Oxford Journals, Alcohol and Alcoholism*, January/February 2005.

emotional responses, motivated behavior, and homeostasis. Activation of the CB₁ receptor produces presynaptic depression of neurotransmission at a number of different synapses. “One important role of the neuronal CB₁ component of the endocannabinoid system” maybe “to modulate neurotransmitter release in a manner that maintains homeostasis in health and disease by preventing the development of excessive neuronal activity in the central nervous system.”¹⁹ CB₂ receptors seem to be involved mostly with the peripheral immune system and the immune system.

- The “endocannabinoids” (endogenous arachidonate-based lipids): anandamide²⁰ (N-arachidonylethanolamine, AEA), 2-arachidonoylglycerol (2-AG), and N-arachidonoyldopamine (NADA). Endocannabinoids are metabolically synthesized from arachidonic acid, a polyunsaturated omega-6 fatty acid normally produced in our body from the essential fatty acid linoleic acid, also found in animal products. There is mounting evidence that endocannabinoids play a major role in synaptic plasticity and modulate rhythmic firing patterns.
- The enzymes that synthesize and degrade the endocannabinoids.

Plant-derived cannabinoids or their synthetic analogues are cannabinoid receptor agonists, meaning that they mimic the actions of anandamide, one of the major endocannabinoids.

The discovery of the endocannabinoid system has opened new avenues of research for the treatment of a wide range of conditions ranging from pain to obesity, neurological diseases, addiction, anxiety, and other psychiatric disorders.

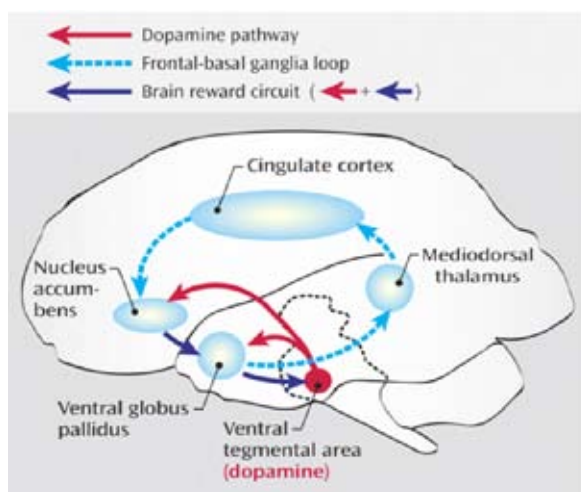
19). R G Pertwee, “The diverse CB₁ and CB₂ receptor pharmacology of three plant cannabinoids: Δ⁹-tetrahydrocannabinol, cannabidiol and Δ⁹-tetrahydrocannabivarin,” British Journal of Pharmacology, 2008 January, 153(2): 199–215.

20). Discovered in 1992 by Dr. Mechoulam in Israel. The term is derived from the Sanskrit word “ananda” meaning “internal bliss.”

The endocannabinoid system has major effects on the brain's reward functions. Psychoactive substances affect the brain levels of endocannabinoids. Endocannabinoids modulate the reinforcing and rewarding effects of opioids and alcohol.

The pleasure/reward pathway in the brain²¹

One of the most primitive parts of the brain, the limbic system, mediates memory and learning. It processes emotions, particularly those related to survival, such as hunger and thirst, fear, anger, and sexual arousal. It also regulates feelings of pleasure. Life-sustaining activities, such as eating and sex, activate the dopaminergic cell bodies located in the ventral tegmental area (VTA). These neurons relay through their axons to another limbic system structure called the nucleus accumbens and further project into the prefrontal cortex. This circuit of neurons is called the “brain reward pathway” or “reward system.” The brain reward pathway is modulated by the hypothalamus and the pituitary.



21). “Neuroscience of psychoactive substance use and dependence,” World Health Organization, 2004.

The pleasure/reward pathway evolved in mammals as an evolutionary tool to promote and regulate activities and behaviors essential to survival such as eating, drinking, sexual activity, or fighting, by “rewarding” such activities or behaviors with pleasurable sensations and consequently reinforcing them. In humans, secondary rewards such as shelter, family, social status, wealth, beauty, music or altruism derive their value from the primary rewards. The reward system is thus closely related to emotions, motivation, cognition, adaptive responding, memory and learning. The key to adaptive responding and learning, motivation may be divided into appetitive motivation, mediated by pleasure seeking or beneception; and aversive motivation, mediated by pain avoidance or nociception. Pain and pleasure are processed in the same part of the brain and may potentially merge one into the other.

The brain reward pathway and the pursuit of happiness

Reading the medical literature, or most of the religious literature for that matter, one might be led to believe that there is something wrong with seeking pleasure. In fact, the pursuit of pleasure and the consequent activation of the brain reward system is not only a natural component of normal behavior; it is critical to survival and necessary to a healthy and fulfilling life. The ability to derive rewards and pleasure from a wide range of stimuli, behaviors, and activities is probably one of the major factors of human evolution, and a major source of human achievements, from scientific discoveries, to art, music or literature. According to the “dopaminergic mind hypothesis,” the extremely rapid evolution of the human species is related to a dramatic increase of the dopamine level in the human brain due to dietary and environmental changes.²²

22). Fred H. Previc, “Dopamine and the Origins of Human Intelligence,” *Brain and Cognition*, Volume 41, Issue 3, December 1999, pages 299-350.

Reward deprivation or imbalances in the brain reward system may lead to severe psychological or physiological disorders. Depression is strongly correlated to pleasure-seeking deficits and is the most common consequence of post-traumatic stress disorder. As attested by survivors of extreme experiences, such as the holocaust, gulags or other extreme ordeals, the brain can go to great lengths to find pleasurable stimuli even in the direst circumstances in order to maintain sanity. Why some people maintain or even improve their mental sanity under the harshest circumstances, while others develop pathologies under seemingly harmless conditions, is still a great mystery in neuroscience. The answer may be found in salutogenesis²³, the science of what makes people healthy.

Science is starting to understand pleasure as a key element of salutogenesis, which just means that pleasure is good for your health – scientists like to say simple things in a complicated way. Science has traditionally had a pathogenic bias, focusing primarily on pathology and diseases, which greatly influences medicine and our rapport to health in general. A general bias towards the negative is quite prevalent and can be found especially in mass media. Bad news is the engine, the driving force of the media, while good news is generally no news. Unfortunately, this pathogenic bias and the generally dominant negative bias also drives policy making, which in the case of the War on Drugs helped fuel the hysteria of its propaganda machine with disastrous consequences. While there is an abundance of studies documenting the benefits of moderate use of alcohol, the vast majority of the research done on illegal drugs concerns their pathogenic effects. There are virtually no studies regarding the potential benefits of their moderate use, even though the vast majority of these drugs were initially considered medicine and still

23). Tobias Esch 1,3 & George B. Stefano, "The neurobiology of pleasure, reward processes, addiction and their health implications," Neuroendocrinology Letters No.4 August Vol.25, 2004. Salutogenesis is a term coined by Aaron Antonovsky while studying the emotional health of female concentration camps survivors. Salutogenesis is concerned with the relationship between health, stress, and coping and theorizes that the "sense of coherence" is essential to coping positively with stress.

have significant medical uses. This may have had the unintended consequence of amplifying the pathogenic effects of drug use.

The pursuit of pleasure/reward may become pathological, addiction and compulsion being the most common disorders of pathological pleasure seeking. Virtually any behavior may become addictive, the most common addictions being eating, work, shopping, TV watching, the Internet, Facebook, video games, gambling, sex, pornography and of course substance use from caffeine to heroin and everything in between. Any stress coping mechanism, especially those linked to artificial stimuli, may become addictive. All addictions involve dopaminergic signaling and the dopaminergic reward pathway, often involving endorphin and endogenous morphinergic mechanisms.

While we constantly engage in potentially addictive behaviors and use potentially addictive substances throughout our lives, the vast majority of people do not become dependent. The reason why some people develop dependence is poorly understood, not to mention that one's dedication – to relationships, work, athletics, politics, activism or religious practice – may look like addiction. Furthermore, there are no clear thresholds or criteria to differentiate addiction from normal or at-risk behavior. Addiction is in the eye of the beholder to a certain extent. The addict himself is typically in denial. Compulsions, or even addictions, are not necessarily negative, as high achievers are typically compulsive if not outright addicts.

Pathological pleasure seeking involves a loss of control where people place greater reward value on a particular brain stimulus to the detriment of basic needs through self-deprivation and may endanger their very survival. As such, addiction and compulsion can be viewed as motivational toxicity characterized by an alteration of motivational hierarchy where the motivational effect of a particular stimulus increases dramatically, reducing the motivational efficacy of natural rewards.²⁴

24). Michael A. Bozarth, Ph.D., "When Rationality Fails –Modern Theories of Addiction," www.AddictionScience.net.

According to Steven E. Hyman, “addiction represents a pathological usurpation of the neural mechanisms of learning and memory that under normal circumstances serve to shape survival behaviors related to the pursuit of rewards and the cues that predict them.”²⁵

It should be noted that there is a substantial difference between addiction to behavior, such as gambling, sex or the Internet, and substance addiction. Even though both types of addiction involve the same reward pathway, psychoactive substances interfere directly with the neurocellular environment through the synaptic connection. Food shares a lot of similarities with psychoactive drugs.

The addiction puzzle

Addiction can be defined as the pathologically increased motivation of a particular behavior at the expense of natural rewards with disregard for adverse consequences. Addiction is above all a maladaptive process; it is how the brain adapts to repeated alterations of its neurochemical environment.

Reward-producing stimuli, whether behavior-induced or substance-induced, may initiate a neural adaptation leading to addiction. Stimuli that activate the reward system without producing neuroadaptive changes may lack the ability to produce an addiction, but it is not clear which reward-producing stimuli produce neuroadaptive changes, why and to what extent they produce such changes, and why some of these changes lead to addiction.²⁶ It seems that addiction is related to long-lasting changes in brain function and is the result of the complex interplay of three classes of factors: genetic factors, environmental factors (social and cultural), and psychological factors. The psychological factors are themselves largely the product of genetic and environmental factors.

25). Steven E. Hyman, M.D., “Addiction: A Disease of Learning and Memory,” Focus 5:220-228, Spring 2007.

26). Jill A. Hagen, Modern Theory of Addiction, Fall Semester 2009, www.nvcc.edu/home/gstratton/Fall09.293/Modern.Theories.Addiction.ppt.

Genetic and epigenetic factors of addiction

It is now well established that genetics plays a crucial role in addiction, and there are indeed genetic predispositions to addiction, but most people have a wrong understanding of the genetic code and its determinist effects (or lack thereof). Nature and nurture appear increasingly like an intertwined interactive continuum rather than two separate developmental pathways.

The human genome has anywhere from 20,000 to 25,000 basic units of heredity called “genes” or “protein-coding genes,” which are sequences of DNA that code for a particular type of protein. Proteins are the building blocks of life and key to biological processes. As genetics progresses, the genetic code looks more and more like a chemical switchboard where specific chemical switches are activated – “expressed” – as a result of a wide range of factors. Gene expression is the turning off or on of a gene and how that gene “expresses” itself, or to put it in more scientific jargon: the “transcriptional activation of a gene so that its functional product [usually a protein] is produced”.²⁷

Epigenetics is the study of the dynamic, complex processes involved in gene switching and the factors that influence them; the epigenome is the set of chemical compounds, often called markers, involved in this processes. The epigenome is the reason why the cells from the skin, the lungs, the liver or the brain are all different, even though they each share the same genetic code. The epigenome is the interface between the genome and its environment, from the cellular environment to the physical, psychological, and social environments. All kind of factors affects the epigenome, from environmental factors to diet, exercise, stress, behavior, toxins, etc. The epigenome is also affected by personal choices and intentionality, which are themselves influenced by our genetic, epigenetic, physical and social environment.²⁸

27). <http://sis.nlm.nih.gov/enviro/iupacglossary/glossaryg.html>.

28). <http://www.genome.gov/27532724>. see also: <http://teach.genetics.utah.edu/content/epigenetics/> or <http://www.pbs.org/wgbh/nova/body/epigenetics.html>.

Epigenetics opens up some fascinating new perspectives and possibilities and drastically changes our understanding of the role and function of the genetic code. Through the choices that we make or don't make – such as what we put into our body and our mind, and how we do it – we actually have the power to influence our own epigenome, and consequently the way our genes express themselves. Lifestyles and choices, from our eating, drinking or substance habits to how we breathe, what we learn, what information gets into our system and how we process it, influence our cellular environment and our epigenome. Attitude and intentionality, both conscious and subconscious²⁹, can make a huge difference.³⁰

In addition to the above-mentioned factors, aging effects changes to the epigenome. Cellular division eventually causes subtle epigenetic changes that accumulate over time as part of the aging process, eventually causing epigenetic damage. Premature cells death accelerates cellular division and replacement as a result of various causes such as excessive sun exposure; exposure to toxic chemicals, from cigarette smoke to car exhaust, pesticides and the plethora of modern pollutants; as well as inflammations and any type of tissue damage.³¹ The rate of cellular division is our cellular clock and determines cellular aging. Epigenetic damage causes premature aging and is related to many types of cancers.

Most of the epigenome is wiped out, reset in the embryo. However, epigenetic tags are transmitted in the womb so that the fetus inherits the mother's lifestyle as well as her environment during pregnancy. Moreover, for reasons as yet not well understood, some of the epigenome seems to be transmitted to the next generation and may carry on for various generations. Thus, an individual's diet, lifestyle and environment may influence his children and grandchildren.

29). The concept of subconscious intentionality might seem contradictory, but it isn't; most of our intentions are indeed subconscious.

30). Bruce H. Lipton, "The Biology of Belief: Unleashing the Power of Consciousness, Matter, & Miracles," March 1 2011.

31). Jean-Pierre Issa, Epigenetic Therapy, 10.16.07, NOVA, PBS.org – <http://www.pbs.org/wgbh/nova/body/epigenetic-therapy.html>.

Epigenetic inheritance may allow an organism's constant adaption to its environment without changing its genes.³² This may explain how personality traits and lifestyle choices may be transmitted through generations and may account for some of the predisposition to addiction and substance abuse.

Vulnerability to addiction cannot be pointed to any single gene but rather to an array of distinct genes that, together, increase substantially the risks of addiction. Besides, the genetic vulnerability seems to be to addiction in general, rather independently of the substance or behavior. The vulnerability to tobacco and alcohol, for instance, may be influenced by the same genes. Not surprisingly, many of the genes involved in addiction susceptibility are related to dopamine, especially to dopamine receptors.

There is no doubt that the propensity to abuse and addiction is hereditary to some extent. However, when looking at particular groups or individuals, it is difficult to determine what is attributable to genetics, to epigenetics and to shared social, sub-cultural and family environment. In any case, at the physiological level, the addiction process develops at the interface of genes and the environment, at the epigenetic level. As already mentioned, addiction can be viewed as a dysfunctional type of learning, a maladaptive response.

Learning is "an iterative process that continually links events with outcomes until associative memories are formed."³³ Learning may be motivated by pleasure-seeking or pain-avoidance and is mediated by dynamic epigenetic changes resulting in changes in gene expression that may become long-lasting. Learning is facilitated by neuroplasticity and involves intense synaptic rewiring mediated by gene expression. Epigenetic changes and synaptic rewiring are normal components of the learning process as well as of most brain activity. However, "in addiction, the reward-related learning system essentially enters pathological overdrive

32). John Cloud, "Why Your DNA Isn't Your Destiny" Time, Jan. 06, 2010.

See also: <http://learn.genetics.utah.edu/content/epigenetics/inheritance/>.

33). Ruth Williams, "Addiction: the epigenetic effect," reports: September 2006, <http://www.epigenome.eu/en/1,37,0>.

leading to compulsion.”³⁴ Such long-lasting epigenetic changes and synaptic rewiring within the brain’s reward system may explain the remarkable persistence of compulsion tied to addiction, and why the risk of relapse remains high long after cessation of use, and long after cessation of withdrawal symptoms.

The neurobiological mechanisms involved in the development of dependence may be invoked in learning to overcome dependence and attempt to “unlearn” the addiction-related behavior and replace it with more adaptive responses.

Neural mechanisms of addiction

As the vast majority of research on addiction concerns psychoactive substances, we will focus on substance addiction from now on in this section. Most of the findings concerning substance addiction can probably be extended to behavioral addictions, at least to some extent.

Addiction is a gradual process starting by first exposure and initiation, which may be followed by incentive sensitization leading to dependence in a gradual process. Such process is far from being determinist, as the vast majority of users never become addicts. Intentionality, expectations and attitude play a critical role in the addictive process. For instance, people receiving morphine for pain treatments in a hospital setting hardly ever get addicted, while 10% to 20% of those trying recreational intravenous heroin may become addicted.

George F. Koob and Michel Le Moal describe addiction as “Hedonic Homeostatic Dysregulation,” “a cycle of spiralling dysregulation of brain reward systems that progressively increases, resulting in compulsive drug use and a loss of control over drug-taking.”³⁵ Psychoactive substances interfere with the natural neurotransmission mechanism in the brain. Their cumulative impacts on neurotransmission may lead to maladaptive responses

34). Ibid.

35). George F. Koob and Michel Le Moal, “Drug Abuse: Hedonic Homeostatic Dysregulation,” *Science*, Vol. 278 z 3 October 1997, www.sciencemag.org.

over repeated use, and may cause a dysregulation of the reward system and a decrease in the function of normal reward-related neurocircuitry, leading to addiction in the most acute phase.³⁶

“Sensitization” refers to substance-induced adaptations that enhance responsiveness with repeated exposure. Sensitization is somewhat the opposite of tolerance. It generally coexists with tolerance for the vast majority of psychoactive substances. Because psychoactive substances have strongly reinforcing properties, susceptibility to dependence increases dramatically with the frequency of exposure. Sensitization is associated with both presynaptic changes and postsynaptic changes in the mesolimbic dopamine system, with increased dopamine release and changes in receptor sensitivity. These changes induce structural changes in output neurons in the nucleus accumbens and prefrontal cortex. Sensitization is the reason why some alcoholics lose control after the first drop of alcohol, or even the sight of it sometimes, while tolerance is the reason why they need higher and higher quantities of alcohol to get drunk.

Dopamine plays a critical role in reinforcement and learning, and is a key to the development of addiction. Dopamine is released in the mesolimbic dopaminergic reward center in response to unexpected rewards, reinforcing the behaviors that led to that reward. But dopamine release in response to psychoactive substances is an order of magnitude greater than the release due to natural rewards such as food intake. Food increases dopamine levels in the nucleus accumbens by 45% while cocaine and amphetamine may increase dopamine levels by up to 500%.³⁷ Excessive dopaminergic release in response to the use of substances or their secondary reinforcers might decrease responses to natural rewards.

The density of dopamine receptors in the brain seems to influence the propensity to addiction, whereas people with reduced D2-receptor density may seek external stimulation to compensate

36). George F. Koob and Michel Le Moal, “Plasticity of reward neurocircuitry and the ‘dark side’ of drug addiction,” *Nature Neuroscience*, November 8 2005.

37). “Neuroscience Of Psychoactive Substance Use And Dependence,” WHO, *ibid*.

for this low receptor density. Unfortunately, excessive dopamine transmission leads to further depleting the receptors in a process called “down-regulation.” The D2 dopamine receptor has been related to social status or even to the capacity to learn from errors.³⁸ D3 dopamine receptors seem to multiply in the brain in the presence of cocaine, methamphetamine and nicotine. D3 antagonists have been explored to reduce sensitivity to these substances.³⁹ Both genetic and epigenetic factors influence dopamine receptors density, but their relative influence is still poorly understood.

The mode of administration greatly influences the dopaminergic response. Injection, which sends the substance almost instantly to the brain, produces the most dramatic reaction, followed by inhalation and nasal absorption, with absorption through the digestive track lagging far behind. The intensity of the dopaminergic response determines the intensity of the reinforcing effect.

Secondary reinforcers further increase the motivational value of the substances. Secondary reinforcers include: locations where substances are used (bars, clubs, raves, shooting alleys, crack-houses, etc.); the sight of substances; substance paraphernalia; and positive social reinforcement of substance use (social normalcy of use, peer pressure, dare and other drinking contests, sense of belonging, sub-cultural identity, presence of dealers or other users, ubiquity of exposure, etc.).

Vulnerability and resistance to abuse and addiction

Factors that influence vulnerability or resistance to substance abuse and addiction can be broken down into environmental factors (socio-cultural environment: family, peers, sub-culture) and individual factors (genetics, personal history, personality traits).

38). Brain Dopamine Receptor Density Correlates With Social Status, Science Daily, Feb. 7 2010.

Tilmann A. Klein et al., “Genetically Determined Differences in Learning from Errors,” 7 December 2007 Vol 318 Science.

39). Michael D. Lemonick, “How We Get Addicted,” Time/CNN, July 05, 2007.

Cultural and sub-cultural norms and attitudes towards particular substances are some of the major determining factors of use of these substances. The degree of social acceptability can range from normative to strong social stigma. The use of alcohol for instance is normative in Western countries while it bears a strong social stigma in Muslim countries. Marijuana is increasingly tolerated in Western countries and normative in many subcultures. Prescription psychoactive drugs are considered relatively innocuous thanks to the perceived seal of approval conferred on them by their pharmaceutical status. Of course, social acceptability of a substance directly influences availability and ubiquity or rarity, regardless of the legal status of the particular substance.

With the advent of pop culture and the Internet, sub-cultural factors have become extremely fluid as individuals can easily switch sub-cultural identity and can get exposed to subcultures competing with their own dominant culture through social marketing and peer pressure, including cyber-peers. Adolescents are particularly at risk as adolescence is the age when susceptibility to peer pressure is the highest. As the brain goes through an intense formatting phase during adolescence, early onset of use of psychoactive substances is a strong indicator of future problem use or addiction. It should be noted that the dominant consumerist culture of instant gratification is highly conducive to hedonistic experimentation with psychoactive substances.

Personal factors that influence vulnerability include: family history of abuse or addiction, child abuse, family disruption, poor school performance, stress, anxiety, depression, low motivation, ADHD, antisocial behavior, suicidal behavior, poverty, social inequality, hopelessness, and lack of social prospects. Impulsive, novelty and risk-seeking personalities are more prone to experimenting with psychoactive substances, which doesn't mean that they will necessarily become problem users. Novelty/risk seeking can hardly be seen as a negative personality trait as novelty/risk seekers typically are pioneers and innovators.

Factors that influence resistance include: favorable family and social environment, easy access to proper support system, stress-coping ability, self-esteem, positive attitude, health-consciousness, and self-discipline. Personal attitude, motivation, awareness, purposefulness and sense of coherence might be the strongest factors.

Hallucinogens and other types of mind alteration

While the vast majority of psychoactive substances owe the bulk of their effects to their action on the reward system, psychedelics and hallucinogens act quite differently, which may explain why psychedelics are not addictive. Hallucinogens act primarily on the serotonin system. More specifically, hallucinogens stimulate the 5-HT_{2A} serotonin receptors, especially in the prefrontal cortex, and have a disinhibiting effect on the temporal lobe's limbic structures, promoting altered states of consciousness. The temporal lobe has been related to religious experience. It is part of the limbic system and has its neuronal roots in the amygdala. The amygdala is the seat of fear and is also involved with mood and conscious emotional responses – hence the “fear of God” recurrent in many religious experiences. The amygdala projects into the hippocampus, which is related to memory. The prefrontal cortex may also be involved in ecstatic/spiritual experience. Hallucinogens often induce mystical-type experiences that typically have substantial and sustained personal and spiritual significance.⁴⁰ The nature and intensity of hallucinogen-induced spiritual experiences is influenced by the set and setting, the physical environment and the intentionality.

The hallucinogenic experience closely resembles other types of altered states, especially spiritual ecstasy. Temporal lobe epilepsy, the “sacred disease,” causes seizures that are often perceived as intense religious experiences, as those affected often experience profound

40). <http://visionlab.harvard.edu/Members/Olivia/tutorialsDemos/Hallucinogens&Percept.pdf>.

visionary, out-of-body sensations, ecstatic and blissful feelings or a sense of unity, and a sense of belonging. According to Michael A. Persinger, the temporal lobe is subject to micro-seizures, that he labels “temporal lobe transients” (TLTs), and that could be correlated to “the God Experience.” Similar mystical/ecstatic experiences may also be induced by practiced and intentional experiences such as meditation, ritual dancing, fasting, and intense religious practices, or by accidental occurrences such as extreme emotional stimuli or a near-death experience. Andrew Newberg and Eugene D’Aquili label such experiences “unitary experiences” and hypothesize an aesthetic-religious continuum of unitary experiences, ranging from mild aesthetic experiences to the most profound states that may occur only after years of meditation.⁴¹

Electrical or magnetic stimulation of the temporal lobe may induce ecstatic religious experiences as well.⁴² Near death experience can be reproduced by an injection of ketamine, a hallucinogenic and dissociative anesthetic that blocks glutamate receptors in the brain. Ketamine-induced altered states of consciousness include travel through a dark tunnel into light, the conviction that one is dead, ‘telepathic communion with God,’ hallucinations, out-of-body experiences, and mystical states. Unlike psychedelics such as LSD or psilocybin, ketamine is addictive.⁴³

Many anthropologists believe that shamanism is the most primitive form of religious expression, and that the use of hallucinogens is at the origin of the religious experience. Others believe that epileptic seizures and/or hallucinogenic experience may be the source of many religious beliefs. Even alien abductions or out-of-body experiences

41). Andrew Newberg & Eugene D’Aquili, “Wired for the Ultimate Reality: The Neuropsychology of Religious Experience,” <http://www.pbs.org/wgbh/questionofgod/voices/newberg.html>.

42). <http://internal.psychology.illinois.edu/~bhidalgo/litreview.htm>.

43). Dr. Karl L. R. Jansen, “The Ketamine Model of the Near Death Experience: A Central Role for the NMDA Receptor,” <http://www.mindspring.com/~scottr/nde/jansen1.html>.

might be correlated. A revisionist analysis might attribute to epilepsy the voices and visions of Moses, Ezekiel, St Paul, Muhammad, Joan of Arc, St. Teresa of Avila, Joseph Smith,⁴⁴ Swedenborg, Kierkegaard, or Black Elk.⁴⁵ Other suspected temporal lobe epileptics in history include Aristotle, Socrates, Plato, Hercules, Julius Caesar, Caligula, Petrarch, or, closer to us, Vincent Van Gogh, Dostoyevsky, Lenin, Neil Young, or Prince.

It seems well established that certain spiritual or religious experiences correlate to changes in the brain, that certain parts of the brain mediate and facilitate religious/ecstatic experience. It might be premature though to conclude that the religious/mystical experience is reducible to brain activation patterns or are the result of malfunction of certain parts of the brain. Considering the quasi-universality of the spiritual experience throughout human evolution, what then would be the evolutionary purpose of such spiritual function? As our everyday perceptions can also be correlated to brain activity, this raises difficult issues having to do with the nature of perception, delusion and reality.⁴⁶ After all, the brain can probably be manipulated to induce the vision of a chair for instance, which wouldn't change the reality of the chair you are sitting on. The fact that the brain can be tricked to mimic a particular experience doesn't necessarily mean that that particular experience can be reduced to the tricks played on the brain. Can it be said then that we are wired for communication with higher realms, that our brain has a built-in antenna to other realities?

The mind alteration drive

Various researchers and philosophers argue that humans, and probably other species as well, have a mind-alteration drive that can be satisfied through a plurality of modalities such as art, music,

44). Founder of the Mormon religion.

45). Iona Miller, "Epilepsy And Spirituality," "Fear and Loathing in the Temporal Lobes," 9/2003, <http://ionatopia.50megs.com>.

46). Andrew Newberg & Eugene D'Aquili, *ibid*.

chanting, dancing, sports, gambling, meditation, or the absorption of psychoactive substances. Religion is often cited as a mind-altering modality. Many of the mind-altering modalities can drive to abuse and addiction. Religion may lead to fanaticism, which is arguably far more dangerous than drug abuse or addiction. But not every religious person is a fanatic; likewise, not every user of psychoactive substance is a drug addict. Every culture since the dawn of history has had its dominant psychoactive substances, as well as ritualized events of collective intoxication typically combining music, dance, and substances, be it solstice, New Year celebrations, bacchanals, Mardi Gras, carnivals,⁴⁷ Holi, Kumbha Melas,⁴⁸ and the myriad of pageants and festivals dotting the calendars of every culture.

47). Carnivals and Mardi Gras are the descendants of the bacchanals.

48). Holi is one of the most popular Hindu festivals.

Kumbha Melas are gigantic Indian pilgrimages taking place every three years in four rotating locations, going back to the same location every 12 years. Seventy million people gathered in Prayag (Allahabad) in 2007 over 45 days. Millions of Sadhus, wandering holy men, gather at the Kumbha Melas, often smoking a large quantity of charas, a handmade hashish.

Chapter 7:

From initiation to addiction, drug careers and drug cultures

Modes of administration – evolutionary adaptive gaps

Humans are (so far) the most evolved species within the ecosystem of planet Earth, and the end result of a long evolutionary process going back to the primordial soup, out of which, as the dominant theory goes, all forms of life differentiated and evolved. It is increasingly apparent that the competition-driven Darwinian model is incomplete and that evolution is driven just as much by cooperative interaction as by competition, the yin and yang of evolution. Cooperation as a major force of evolution may have escaped evolutionists because of its ubiquity: for billions of years, life on our planet consisted of unicellular organisms that eventually congregated to form unicellular systems and then multicellular organisms. Interactive cooperation allowed the division of labor and the creation of specialized cells that eventually congregated in organs, allowing further specialization and differentiation, thus speeding up the evolutionary process. Just imagine survival of the fittest ruling the cells of your brain or your liver! Likewise, the major driving force of social systems, whether in the animal or human kingdom, is not competition, but interactive cooperation.

All life forms co-evolved interdependently in competitive symbiosis in which the vegetal kingdom plays a critical and distinctive role in the evolution of the animal kingdom. The vegetal kingdom provides directly or indirectly to the animal kingdom not only its food, but also its medicine, as well as substances that affect its mind, and may have

been key to some critical evolutionary steps. This is indeed one of the great wonders and mysteries of life, and a powerful testimony to the prevalence of cooperation in the evolutionary process. The affinity between plants like poppy and cannabis and some of the most fundamental systems of brain activity, the dopaminergic and the cannabinoid system, both found in even the most primitive animal species, is nothing short of remarkable. Likewise, alcohol, as we will see in the chapter dedicated to that substance, is not only present in interstellar space, it was most likely one of the ingredients of the primordial soup theorized to be at the origin of life.

Humans co-evolved with psychoactive substances of natural origin in symbiosis with the vegetal kingdom. However, concentrates and extracts, such as distilled alcohol, heroin, cocaine, or amphetamines, or purely synthetic drugs, as well as direct routes of administration such as injection or inhalation, are novel features of our environment. As such, they create an evolutionary adaptive gap and are inherently pathogenic, although their use may be safe and warranted in some circumstances.¹

Psychoactive substances can cross the blood-brain barriers and can be absorbed via various pathways. The digestive system, via the oral route, is the overly prevalent channel of administration of food and other substances in the animal kingdom, and is set up to withstand a wide variety of ingests. Furthermore, substances absorbed through the digestive system take a relatively long time to reach the brain as they are partly metabolized within the digestive system and the liver before they can reach the brain, which they do gradually. Therefore, ingestion is always the least dangerous and least addictive form of administration for a given substance.² The digestive administration process can be modulated to a certain extent. Thus, substances taken on an empty stomach reach the brain much faster than when they are taken with a meal.

- 1). Randolph M. Nesse* and Kent C. Berridge, "Psychoactive Drug Use in Evolutionary Perspective," *Science* 278, 63, 1997.
- 2). Cannabis is somewhat an exception as ingested cannabis has stronger psychoactive effects than smoked cannabis (see Chapter 10).

The lungs, on the other hand, were designed to absorb air, and not much else. Even the smell of roses and other olfactory environmental signals are meant for the olfactory system located within the nose cavity, and not for the lungs. The lungs having a fractal structure, their total surface area is about the size of a tennis court, allowing fast and efficient oxygenation of the blood. Absorption through the lungs is extremely fast and powerful. Substances that can be absorbed through the lung tissue promptly reach the brain. Smoked heroin, cocaine or methamphetamine reach the brain within seconds of inhalation and peak within minutes. However, as we will see in a further chapter, cannabinoids and THC are different as they are strongly lipophilic. Their access to the brain is delayed upon inhalation, and the maximum “high” of cannabis is reached within 15 to 30 minutes.

As for veins, they were never designed to be punctured. Thus, it shouldn't come as a surprise that intravenous injection is the fastest, most powerful and most damaging form of administration. Nasal absorption is notably slower than inhalation but still quite powerful and fast acting. Still, the nasal tissue is not meant to absorb anything more than infinitesimal doses of subtle and not so subtle aromatic substances ranging from utterly repulsive to sublime, from skunks to roses. Sublingual absorption is another fast track to the brain that is about on a par with nasal absorption. Chewing, such as chewing coca leaves or tobacco, involves a substantial amount of absorption through sublingual and other buccal mucosae.

Recreational drug users are motivated by the hedonistic reward provided by the substance. For most psychoactives except psychedelics, the intensity of the hedonistic reward depends in large part on the acuity of the peak intensity and the speed to reach this peak. A gradual rise of psychoactive concentration in the brain allows it to somewhat adapt to the substance and to modulate its effects to a certain extent, smoothing out its most damaging effects. A steep peak, on the other hand, doesn't allow any adaptation; the more intense the peak, the more acute its effect. The most acute peaks create a surge of pleasurable sensation, the “rush” described

by many injecting addicts, that they crave intensely. The steeper the peak, the more intense the rush, the more acute and disruptive will be the effects on the brain, causing a homeostatic imbalance which results in chronic dysregulation of the brain reward mechanisms and the brain's neurotransmission in general.

Routes of administration that result in the rapid entry of a substance into the brain and/or faster rates of delivery have a greater effect on the neurotransmission systems in the brain, especially the reward systems, producing sensitization. Hard liquors are more damaging than beer or wine, especially on an empty stomach. Smoked opium reaches the brain faster and is more addictive than ingested opium. Injection and inhalation of active ingredients such as amphetamine, heroin or cocaine have the quickest entry and fastest rates of delivery. Therefore, they represent the most drastic evolutionary gap and have the most damaging effects.

Set and setting, expectation and intentionality affect the neuronal epigenetic environment. As such, they may influence the effects of particular substances. Thus, ritualistic use of tobacco where the plant is used with veneration and respect is vastly different from chain smoking of industrial cigarettes. Likewise, chronic pain sufferers under long-term opiate medication can usually discontinue without much problem once their medication is not needed anymore.³ The absence of secondary reinforcers in the case of pain medication probably plays a critical role in preventing addiction. Nowhere is the set and setting more important than in the use of psychedelics.

Psychoactive substances and the growing brain

Epigenetics shows that the damage caused by substance use increases dramatically for younger users. Early substance abuse disrupts brain development in adolescents and young adults. Underage substance use, whether legal, prescription, or illegal, is a vexing and thorny issue involving adolescent decision making and risk-taking and

3). <http://www.nida.nih.gov/researchreports/heroin/heroin3.html>.

must be seen in the wider context of adolescents' greater propensity than adults for risk-taking behaviors of all kinds.⁴ Researchers have long been puzzled by the fact that even though adolescents are just as aware as adults of the dangers of risky behaviors such as reckless driving, unsafe sex, or substance abuse, this knowledge generally doesn't affect their behavior.

Recent progress in neuroscience allows us to better elucidate this puzzle. Pubertal maturation triggers a dramatic remodeling of the brain's socio-emotional system, particularly the dopaminergic system. This results in increased dopaminergic prefrontal activity which creates a reward deficiency, which in turn results in increased sensation-seeking. This effect is more pronounced in males than in females. As the processing of emotional and social information is closely related to the brain's reward system, sensation-seeking is significantly increased in the presence of peers and in emotionally charged situations.⁵ Incidentally, the rewiring of the dopaminergic system also leads to greater vulnerability to psychoactive substances.

At the same time, puberty triggers the proliferation of receptors for oxytocin, a neurotransmitter related to social bonding, further increasing group risk-taking. Finally, the process called myelination is ongoing until young adulthood and possibly beyond. Myelination results in an increase in white matter within and between the cortical and sub-cortical areas, and a gradual maturation of the neural connections between the prefrontal cortex and the limbic system. This permits a better coordination of emotion and cognition.⁶ Substance abuse may hinder the myelination process, compromising brain development and maturation.

The cognitive-control system, involved in planning and self-regulation, keeps developing at a much slower pace than the socio-emotional system and reaches full development in early adulthood,

- 4). Laurence Steinberg, Ph.D., "Adolescent Decision Making And The Prevention Of Underage Smoking," Department of Psychology, Temple University, Philadelphia, PA, USA, November 30, 2010.
- 5). Laurence Steinberg, A Social Neuroscience Perspective on Adolescent Risk-Taking, Department of Psychology, Temple University, Philadelphia, PA.
- 6). Laurence Steinberg, *ibid*.

resulting in a wide disconnect between instant reward seeking and self-regulation during adolescence. As a consequence, risk-taking increases between childhood and adolescence, while it declines between adolescence and adulthood, making mid-adolescence a time of heightened vulnerability to risky and reckless behavior.

More precisely, adolescents are capable of competent decision making when psychosocial factors are minimized, but their brain's socio-emotional network takes over in the presence of peers or when emotionally stimulated. As a result, adolescents are far more prone to risky behavior in groups than they are on their own; teenagers are overly subject to peer pressure as peer acceptance and peer recognition are highly desirable rewards. Risk-taking is not an end in and of itself, but the result of increased sensation-seeking coupled with a disconnect between thrill-seeking and self-control. Adolescents crave emotional intensity and are willing to go to great lengths to achieve it; the process gets literally out of control in the presence of peers as being popular takes precedence over being smart. I bet you already knew that.

This would explain the relative inefficiency of educational risk-prevention programs, as such programs appeal to the relatively underdeveloped cognitive-control system. It also explains why predictive behavioral surveys are typically unreliable, as they are usually conducted in low socio-emotional arousal settings with no bearing on real life situation where high socio-emotional arousal skews the decision making process in favor of high-risk/high-reward activities.⁷

The maturation of the socio-emotional system being driven by puberty, early pubertal maturation results in a widened gap between the socio-emotional system and the cognitive control system. This in turn leads to an increased propensity to risky behavior, which often positions the early maturers as the alpha males, the leaders of the pack. Adolescents go through a pseudo-tribal stage in their socio-

7). Laurence Steinberg, "Risk Taking in Adolescence," *New Perspectives From Brain and Behavioral Science*, Temple University.
See also: "A Social Neuroscience Perspective on Adolescent Risk-Taking."

emotional development, as they tend to congregate in gangs and subcultures, which further reinforces their risk-seeking tendencies. These often rather informal pseudo-tribes generally form in opposition to or in rebellion against the adult culture. Just like in primitive tribal cultures, the tribal leaders display their dominance through aggressiveness and recklessness. They are often the most sexually active, typically as a result of early pubertal onset, resulting in further heightened risk-taking propensity. Other pseudo-tribal members demonstrate their tribal worthiness through display of or participation in risky behavior, or may challenge the leaders through even riskier behavior. Thus youths routinely ride cars with drunken drivers, get into drinking or driving contests, or engage in other daring behaviors.

While Egyptian and Chaldean priests were already complaining about their students' rowdiness and drunkenness more than 5,000 years ago, it should be noted that adolescence as we understand it today is a relatively new phenomenon; the concept of adolescence didn't even exist until the 1800s. Traditional rites of passage have vanished. The transition between childhood and adulthood has lengthened considerably in industrialized countries over the last century, and even more so over the last few decades. At the same time, the breakdown of traditional social structures such as the village, the traditional tribe, or the extended family has placed more children at risk and in search of social substitutes. To further compound the issue, the age of pubertal onset has decreased substantially over the past 150 years, a phenomenon more pronounced in the most disadvantaged populations. Early pubertal maturity is attributed to various contributing factors such as obesity, premature birth, exposure to endocrine disruptors commonly found in household products, exposure to sexual stimuli, sexualization of children, or the absence of fathers in many families. Early maturers are far more prone to risky or deviant behavior such as unprotected

sex, substance abuse, truancy, delinquency, violence, and other antisocial behaviors.⁸

Patterns of use – Drug careers – Use, abuse and addiction

When talking about patterns of use, researchers typically differentiate between use (understood as moderate use), abuse (also called binge use), and addiction, to which is often added problem use. Problem use encompasses both abuse and addiction, but not all abusers and addicts are necessarily problematic users. Functioning alcoholics and controlled dependent heroin addicts are examples of non-problematic addiction. Examples of problem use include binge use leading to accidents, crime, violence, overdose, or other societal and personal harm. Prevention of problem use should be the major focus of a sound drug control policy; it may include promotion of moderate use, as is the case with legal and prescription psychoactives, but is anathema for currently illegal drugs. Patterns of use concern only potentially addictive substances. Hallucinogens have a very different profile and are not addictive.

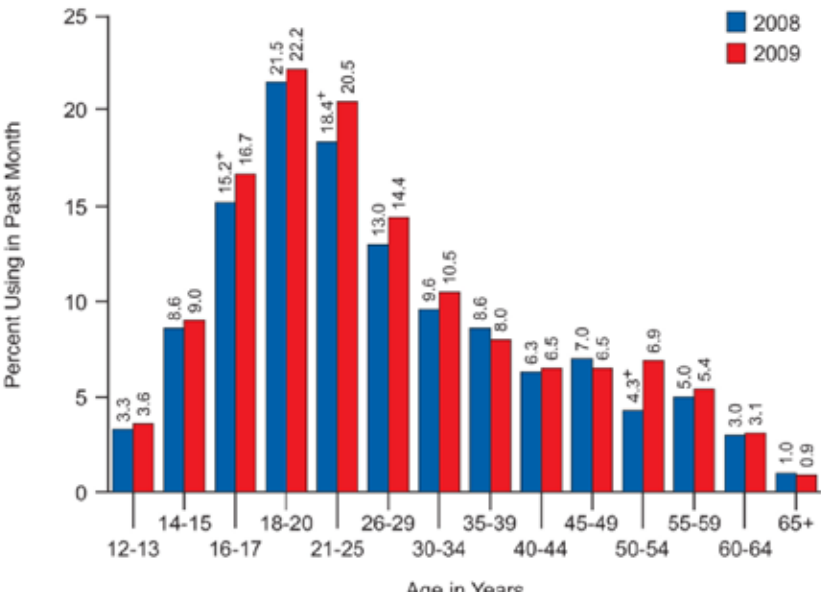
In order to reduce problem use, it is critical to fully understand patterns of use, their root causes and consequences, and the path leading to initiation, and then from initiation, to abuse and problem use. However, relatively little has been devoted to these issues in literature. Furthermore, the attitude of researchers and policy makers is radically affected by the legal status of the substances.

It should be noted that the age distribution of drug use has followed a rather consistent pattern over the past 30 years, with a peak of use between 18 and 25, followed by a gradual decline thereafter. Consequently, it is quite clear that most substance use

8). Jennifer Downing and Mark A Bellis, "Early pubertal onset and its relationship with sexual risk taking, substance use and anti-social behaviour: a preliminary cross-sectional study," Centre for Public Health, Liverpool John Moores University, Liverpool, UK, BMC Public Health, December 2009.

careers are rather short and most users give up on their own, most likely growing out of it as their life circumstances change and they fully enter adulthood.

Figure 1: Past Month Illicit Drug Use among Persons Aged 12 or Older, by Age: 2008 and 2009⁹



Little is known of the patterns of use of opioid users in particular and the issue is often grossly distorted by official propaganda. Although the urban legend of addiction at first try has long been debunked, the overwhelming belief in the uncontrollability of heroin dependence often precludes the exploration of alternative models. But statistics do not seem to agree with the dominant model, as heroin use and abuse peak between 20 and 30 years of age and decrease dramatically in older age groups, while the ratio of regular users to lifetime users remain stable at around 20%. Similar patterns are observed for all addictive substances, with a ratio of regular users to lifetime users varying between 8 and 20%, depending on

9). <http://www.oas.samhsa.gov/NSDUH/2k9NSDUH/2k9Results.htm#2.3>.

the substance.¹⁰ Moreover, this pattern has been relatively stable for the past 30 years at least, and use-related deaths alone don't seem to account for the difference.

It seems that a substantial percentage, if not the vast majority of addicts, recover naturally from addiction for reasons ranging from "hitting rock bottom," to growing out of it, to changes in life circumstances, and typically involves help from loved ones and/or family.¹¹ The so-called natural or spontaneous remission is far from spontaneous, though. Unlike the flu for instance, that will indeed spontaneously cure in most cases, natural remission is subject to repeated relapses. It is often the outcome of a difficult and lengthy process, especially for heroin, crystal methamphetamine or cocaine. Still, the success rate of natural remission is about as high, if not higher, than treatment-assisted remission.¹² Natural remission is a tribute to the power of the mind. Ultimately, intentionality shift, a genuine change of attitude, is the surest and probably only way to overcome addiction. Such intentionality shift goes well beyond will-power and reaches out into the deepest layers of the subconscious to trigger some primal survival process. It is frequently triggered itself by traumatic events, such as the death of a loved one, or "hitting rock bottom," and is often facilitated by a change of environment. It would appear that intentionality shift effects a self-induced neural rewiring of the brain which in turn changes motivational priorities, eventually leading to recovery; this doesn't imply in any way that the process is smooth and painless.

Others learn to live with their habit. Various studies and anecdotal evidence reveal an often overlooked and hidden population of non-dependent occasional or sporadic users, as well as controlled dependent users, who, although addicted, can control their habit and remain largely problem-free, even though they might occasionally

10). See annual "Monitoring the Future" reports from University of Michigan – <http://monitoringthefuture.org/>, especially: http://monitoringthefuture.org/pubs/monographs/mtf-vol1_2010.pdf.

11). Natural Recovery From Heroin Addiction: A Review Of The Incidence Literature, Dan Waldorf & Patrick Biernacki.

12). Ibid.

fall into chaotic patterns of use.¹³ This is particularly true in the case of heroin which bears the heaviest social stigma, while cocaine goes in and out of fashion and amphetamine is largely dominated by subcultures. Statistics on such controlled use are nonexistent to the best of my knowledge, and can only be inferred from existing statistics on use. It should be noted that up to the beginning of the 20th century, the use of opium and opium preparations such as laudanum and paregoric was widespread worldwide and didn't seem to cause any particular problem of addiction, with the notable exception of smoked opium.

Controlled users, especially for heroin, often live a double life, concealing their habits, most of the time even from their spouses and loved ones. Meanwhile, researchers and policy makers are either in total denial of their existence, or extremely reticent to acknowledge it. Thus, the dominant concept of addiction comes from the observation of those who can least control their addiction. Furthermore, addiction might have become a self-fulfilling prophecy, as his environment conspires to convince the heroin user of his doomed and failed status, rendering him powerless to overcome his habit. This dominant and probably skewed concept of addiction greatly influences treatments. The vast majority of treatments state total abstinence as the ultimate goal, and do not consider controlled use as a desirable, or even possible outcome.¹⁴

There has been a gradual change of attitude in various parts of the world over the past 20 years. Controlled availability has been successfully tested as maintenance programs in large-scale experiments in Switzerland, Netherland, and Germany. It resulted in significant improvements in quality of life, social

13). <http://www.jrf.org.uk/publications/user-perceptions-occasional-and-controlled-heroin-use>, Hamish Warburton, Paul J Turnbull and Mike Hough, "User perceptions of occasional and controlled heroin use," 16 December 2005.

14). Stanton Peele, "The Meaning of Addiction: An Unconventional View," Aug 14 1998.

integration, and delinquency, while eliminating needle sharing and its disastrous consequences.¹⁵ Circumstantial evidence seems to indicate that controlled availability markedly reduces the initiation of new users; in all areas where such programs have been implemented, an aging of the addict population has been observed, indicative of a drop in initiation.¹⁶

The issue of initiation

The issue of initiation, meaning how, at what age, and under what type of circumstances people start using addictive substances, is barely mentioned in the abundant literature about the War on Drugs and drug addiction; meaningful statistics are extremely rare.

Still, this is a critical issue in order to understand and combat addiction as it seems obvious that if we can curb and delay initiation, addiction will be reduced. Most research shows that except for prescription psychoactive drugs, the use of psychoactive substances, whether legal or illegal, typically starts in teenage and young adult years. The likelihood of starting to use psychoactive substances peaks at the end of teenage years and decreases dramatically with age. Moreover, the likelihood of becoming addicted decreases with the age of initiation; people who have never abused by the time they reach 21 are highly unlikely to ever abuse. Therefore, postponing the initiation age is the most efficient way to reduce the harm caused by addiction. This is especially true of injection, mostly amphetamines and heroin, the most addictive substances, as injection leads to the spread of hepatitis and HIV/AIDS through needle sharing.

Prescription psychoactive drugs initiation shows a very different pattern, with a first peak in teenagers, and a second and more dramatic peak in the elderly; women are more at risk than men.

15). <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2219559/>, http://www.heroinstudie.de/H-Report_P1_engl.pdf and http://www.heroinstudie.de/H-Report_P2_engl.pdf.

16). "Global Commission Report," June 2011.

Illegal drug injection is essentially an adolescent and young adult issue, at least at the onset. The mean age of first injection, at 19 to 21 years old, is surprisingly similar among developed and developing or third world countries. It had a tendency to decrease over the last decades, except in Portugal, Switzerland and the Netherlands, where the addict population has been aging consistently, undoubtedly thanks to the needle exchange and supervised injection policy adopted by these countries.

Different studies confirm that at least 90% of new injection users are being initiated by other users, mostly friends (63% to 85%), family members, and sexual partners; less than 10% are self-taught. Initiation often follows a period of fascination/revulsion; it is typically a social event attended by an average of three people, mostly other injecting drug users, usually during a multi-drugs binge. The initiate rarely pays for his or her first injection; he/she typically graduates from other psychoactive substances, mostly alcohol, inhalants or non-injection heroin. Social relationship with other injecting drug users is a key factor as injecting is a contagious behavior; once it has been introduced to a drug-using network, it is likely to spread throughout the network. Anywhere between one third and two thirds of injecting users, depending on the reports, initiate others; those who initiate others initiate between two and three people, although a small number of addicts are serial initiators.

While injecting clearly constitutes the breach of a taboo and amounts to overcoming a significant psychological barrier, a substantial number of initiates do not continue injecting.

Unsurprisingly, street youth are a particularly vulnerable sub-population of drug users; for instance, 30% of street youth in Vancouver reported injection drug use within the past month. The injection rate among street youth may be even higher in some developing and third world countries, in places like Mexico City, Rio de Janeiro, Dar es Salaam, Djakarta or Teheran.¹⁷

17). Sources for this section:

<http://www.harmreductionjournal.com/content/2/1/2>. ⇨

Minorities are also frequently vulnerable in many countries.

Reviewing the literature regarding initiation to injection, it strikes me that the morbid fascination with the injection ritual as a key enabler of initiation seems to have escaped most researchers. The Swiss approach of supervised injection within medical facilities bypasses the ritual and eliminates its potential fascination to prospective users. It is not surprising then that such an approach has resulted in the aging of the addict population, as peer-to-peer propagation and initiation are substantially reduced. Like in many other areas, prevention is much better than cure.

Subcultures appropriation of Psychoactives – Global youth culture

“Cannabis use has become part of adolescent development in many Western countries.”

European Commission Report on Global Illicit Drugs Markets 1998-2007

Global youth culture has marketers salivating and has spawned a multitude of subcultures and cross-currents. MTV, Madonna, Michael Jackson, Harry Potter, gangsta rap, hip hop, the Axe line

- 17). Carolyn A Day, Joanne Ross, Paul Dietze and Kate Dolan, “Initiation to heroin injecting among heroin users in Sydney, Australia: cross sectional survey,” *Harm Reduction Journal* 2005, 15 February 2005.

McCurdy SA, Williams ML, Kilonzo GP, Ross MW, Leshabari MT, “Heroin and HIV risk in Dar es Salaam, Tanzania: youth hangouts, mageto and injecting practices,” *AIDS Care* , 2005 June, 17 Suppl 1:S65-76.

Alex Harocopos, Lloyd A. Goldsamt, Paul Kobra, John J. Jost, Michael C. Clatts, “New injectors and the social context of injection initiation,” *International Journal of Drug Policy*, July 2009.

<http://linus.levels.unisa.edu.au/~yalcin/techreports/Heroin.pdf>, Heroin Users in Australia: Population Trends.

Will Small, Danya Fast, Andrea Krusi, Evan Wood, and Thomas Kerr, “Social influences upon injection initiation among street-involved youth in Vancouver, Canada: a qualitative study,” *Substance Abuse Treatment, Prevention, and Policy* 2009.

of deodorants, Nike, Google, YouTube, Facebook, the iPod, raves, trance music, the Twilight movie series, Lady Gaga: all are or were products of, emanating from, or geared to the global youth culture.

Global youth culture already operates in a post-prohibition mode where drug culture is part of pop culture and the War on Drugs propaganda has been reduced to background noise, having long lost all credibility. The global youth culture is celebrity-driven; from Michael Jackson to Beyonce, from sports, to movies, to music, drug use and abuse are the norm rather than the exception among the youth culture celebrities. Drugs are omnipresent and almost universally glamorized, especially in music. Lady Gaga, the quintessential icon of global youth culture in the early 2010s, derives her inspiration from drugs; to anyone with any drug use experience, her music is oozing drugs, multiple drugs. Music under the influence has a “je ne sais quoi,” a “presque rien,” that people under the influence instantly relate to.

Casual regular use of psychoactives is the norm in many subcultures, especially youth subcultures. This is the case of subcultures such as street gangs, of course, and bikers, heavy metal, Black Circles, rave, trance, hippies, Rainbow, pagans, occult (Wicca, Satanism, vampirism, Goth) and even the arguably more mainstream clubbers, not to mention many US fraternities and sororities.

Chapter 8:

Alcohol

Alcohol deserves a detailed treatment for its religious and social significance in Western culture, for its documented health and social benefits, and for the adverse social and health effects of its abuse. Alcohol played a critical role in the origin and the expansion of Indo-European civilizations going back at least 6,000 years. It is the dominant psychoactive substance of Western civilization, its de facto official drug, its social lubricant and facilitator. This fact had far-reaching implications on the inception and development of the War on Drugs from the beginning of the 20th century as Western culture was the dominant culture throughout the century. Alcohol exhibits a blueprint of issues common to most other psychoactive substances such as: pharmacokinetics (absorption, distribution, elimination), patterns of use (use, abuse and addiction), use career, dependence, youth culture, subcultures, social and economic impact of its abuse, correlation with violent crimes and violence in general. Alcohol also raises a fundamental issue when it comes to the use of psychoactive substances, as moderate use of alcohol, its “responsible use,” has recognized health and social benefits, and the vast majority of users are responsible users. Can other psychoactive substances be used responsibly? This is one of the issues we are trying to address in this book.

But let's start a step further, as alcohol is not only ubiquitous on our planet where it plays a very peculiar function; its singularity starts in the universe where it is probably the only psychoactive substance found in abundance.

Moonshining from outer space to the “Wine Pool and Meat Forest”: A brief history of booze

“And Noah began to be an husbandman, and he planted a vineyard:
And he drank of the wine, and was drunken; and he was uncovered
within his tent.”

Genesis 9:20-21

It seems that moonshining is happening on a grand scale in the universe, as huge clouds of methanol, ethanol and vinyl alcohol measuring billions of kilometers across have been located in interstellar space and even close to the center of our galaxy. Don't get too excited though, the closest such alcoholic cloud is just a mere 150 quadrillions miles away. There might even be some ethylic factor to the origin of life on our planet. Alcohol-charged interstellar dust particles may have seeded Earth and similar planets with a kind of organic soup out of which primitive life could emerge.

Sugar fermentation by primitive yeast, producing alcohol and carbon dioxide, is widely believed to have been the precursor of life on our planet some four billion years ago. This may explain the ubiquitous appetite for alcohol through all forms of life from fruit flies and butterflies to slugs, fruit bats, birds, elephants, and primates, as the pungent smell of alcohol signals the presence of a high level of sugar in slightly over-ripe fruits. Sugar-loaded and slightly inebriating fruit bearing plants and trees benefit in turn, as the fruit eating animals spread their seeds around, giving them competitive advantage to grow and disseminate.¹

Almost all living organisms, including of course humans, constantly produce alcohol in their body through a process known as endogenous ethanol production. Small amounts are formed inside cells as metabolic intermediaries or products, but the bulk of it is formed in the intestines as a result of carbohydrates processing

- 1). McGovern, Patrick, *Uncorking the Past: The Quest for Wine, Beer and Other Alcoholic Beverages*, University of California Press, 2009.

by yeast and other microorganisms. The alcohol dehydrogenases (ADH), a group of enzymes found in many organisms all the way back to single cell bacteria, are essential to alcohol metabolism.

Humans produce an average of 3g of ethanol per day in their digestive system. In the so-called auto-brewery syndrome, the process gets out of control, as people feel drunk after eating lots of carbohydrates. Such condition is usually caused by severe yeast infection. Auto-brewery syndrome is rarely found outside Japan, thanks to the “alcohol flushing response” also called “Asian flushing response” or “Asian glow,” a condition that affects over 50% of the Japanese population as well as 36% of East Asians and some Native Americans.²

Alcohol use by humans goes back to the dawn of time; we share this habit with our simian cousins and our distant primate ancestors. Monkeys are known to get inebriated on fermented fruits. According to the drunken monkey hypothesis, the appetite for alcoholic fermented fruits might have given a critical evolutionary advantage to our primate ancestors tens of millions of years ago. According to this intriguing hypothesis, for 40 million years primate diets included large quantities of fruits. The ability to locate at distance the alcoholic smell of ripe fruits might have given a competitive advantage to the alcohol lovers among our ancestors. A taste for alcohol may have given a further evolutionary competitive advantage as moderate alcohol consumption helps prevent heart diseases, lowers cardiovascular and cancer risks, and bolsters sexual arousal, resulting in more numerous and healthier progeny. It is noteworthy that people still typically drink alcohol while eating or as appetizer just before a meal.³ Noteworthy also is the fact that alcohol content in over-ripe fruits ranges from 1 to 4%. We will see that the gradual increase of alcohol content in alcoholic beverages brought by technological improvements in production techniques, from chewing and spitting

2). <http://www.oui.com/oui-library/bac/endogenous-ethanol>.

3). Dustin Stephens, Robert Dudley, “The drunken monkey hypothesis: the study of fruit-eating animals could lead to an evolutionary understanding of human alcohol abuse,” *Natural History*, Dec 2004.

grains to produce primitive types of beers, to the discovery of wine production, and finally to the invention of distillation, will result in dramatic increases of the adverse effects of alcohol consumption.

According to archeological evidence, the production of alcoholic beverages started simultaneously in different parts of the world at the beginning of the Neolithic Age, some 10,000 to 12,000 years ago. Wild Neolithic cereals were much tougher and coarser than their contemporary domesticated version. They required intense chewing to extract their nutritional value. It is not inconceivable that our Neolithic ancestors spit out the remains of their cereals after chewing them, possibly in a bucket. On a hungry day, they may have found that the frothy brew appearing after a few days was not only palatable and nutritious, but inebriating as well. Thus, humans may have learned to control fermentation, chewing and spitting cereals or germinating them to transform starch into sugars, and fermenting them to produce a primitive beer. Chicha, a traditional maize beverage from Bolivia, is still prepared by chewing and spitting ground corn.

The desire to increase alcoholic beverage production, instead of bread, could have played a decisive role in causing our ancient ancestors to switch from hunter-gatherers to farmers. Arguing for this scenario is the fact that grain fermentation for beer production is technologically much simpler than bread making, and primitive beer was a thick brew, low in alcohol and highly nutritious.⁴ Lutz (1922), for example, reports a Sumerian clay inscription which urges every loving mother to supply her schoolchild sons with two jars of beer, in addition to three small loaves of bread, in order to ensure their healthy development.⁵ Until the invention of filtration and the advent of bottled water, alcoholic beverages were probably safer than water in many parts of the world, giving a further competitive advantage to alcohol drinkers.

The mythical birthplace of winemaking might be Mount Nisir in Mesopotamia, according to the Epic of Gilgamesh; or it might be

4). McGovern, *ibid*.

5). The Social Issues Research Centre, "Social and Cultural Aspects of Drinking," http://www.sirc.org/publik/drinking_origins.html.

Mount Ararat, where Noah planted a vineyard and became the first recorded drunkard in history at the end of the Great Flood, according to the Bible. Archeological evidence points to the Transcaucasia region of modern Georgia, Armenia, and Azerbaijan as the “cradle of winemaking” during the Neolithic, more than 8,000 years ago. *Vitis vinifera*, the grape species used to produce 99% of modern wine, grows there in abundance in the wild. This is where it was most likely domesticated, and where propagation by cuttings and grafting, a primitive form of cloning, was probably invented. Ancient jars dated to c. 6000 BC have been found at Shulaveris-Gora, south of Tbilisi, in southeastern Georgia, as well as in nearby sites, with reddish residue and decorated with what appears to be grapes and jubilant figures, a possible depiction of the ancestors of the Dionysian mysteries.⁶ The oldest known winery, believed to be 6,100 years old, was discovered in the Areni-1 caves excavation in Armenia. It is quite sophisticated and set for large-scale production of a likely ancestor of pinot noir, indicating that the art of winemaking was quite refined by then. Comparable remains were found in the tomb of the ancient Egyptian king Scorpion I, dating to around 5,100 years ago.⁷

The art of winemaking was then exported to Southern Europe and the Middle East during the Proto-Indo-European expansion. The world’s earliest evidence of crushed grapes was uncovered at archaeological sites in Macedonia, dated to 6,500 years ago. The Greeks exported their winemaking techniques to the “Hamito-Semitic” cultures of Babylon and ancient Egypt.⁸

Wine “that maketh glad the heart of man”⁹ was an essential ingredient of the Jewish tradition, a necessity in every Jewish

- 6). McGovern, Patrick, “Ancient Wine: The Search for the Origins of Viniculture,” Princeton. Princeton University Press, 2003. See also: <http://winehistory.com/2i.htm>, “Georgia: Homeland of Winemaking and Viticulture.”
- 7). James Owen, “Earliest Known Winery Found in Armenian Cave: Barefoot winemakers likely worked in cave where oldest leather shoe was found,” National Geographic News, January 10 2011.
- 8). S.M. Valamoti, M. Mangafa, Ch. Koukouli-Chrysanthaki and D. Malamidou, “Grape-pressings from northern Greece: the earliest wine in the Aegean?” *Antiquity*, Volume: 81, Number: Pt 311 Page 54–61.
- 9). Psalm 104.

religious ceremony, and a symbol of freedom from bondage in Egypt. Ethylic references abound in both the Bible and the Gospels, from Lot's daughters getting their father drunk to seduce him¹⁰, to Noah's drunken episode, to Jesus turning water into wine in Cana, and of course the sharing of bread and wine in the Last Supper. Vine is the plant most often mentioned in the Bible. The average biblical family drank about 350 liters – over 92 gallons – of wine per year, an outstanding amount compared to the yearly average of 6 liters per person today.¹¹ Curiously, even though they were at various times exiled or captive in Egypt or Babylon where it was the dominant alcoholic beverage, beer is never mentioned in the Bible.

Wine was produced in other parts of the world using honeyed water, different types of berries, or even rice in China and Japan. To the Chinese, alcohol was a spiritual food, a manifestation of happiness and embodiment of auspiciousness that facilitates people's communications, and stimulates inspiration and imagination. Drinking in China is essentially social; alcohol was part of every conceivable celebration, either religious or secular, and accompanied people from cradle to grave. While moderate drinking is considered good for health, Chinese people were aware of the potential dangers of alcohol. According to one of the Chinese legends concerning the origin of alcoholic drinks, Yi Di, a daughter of Emperor Yu, brewed an alcoholic drink and offered it to the ruler. He forbade her to brew anymore of it, alleging that future emperors might get too much of

10). Genesis 19:30-33:

“And Lot went up out of Zoar, and dwelt in the mountain, and his two daughters with him; for he feared to dwell in Zoar: and he dwelt in a cave, he and his two daughters.

And the firstborn said unto the younger, Our father is old, and there is not a man in the earth to come in unto us after the manner of all the earth:

Come, let us make our father drink wine, and we will lie with him, that we may preserve seed of our father.

And they made their father drink wine that night: and the firstborn went in, and lay with her father; and he perceived not when she lay down, nor when she arose.”

11). Winemaking in Ancient Israel By Garrett Peck.

a taste for the brew and lose their imperial powers. Indeed, several Chinese dynasties were reputedly destroyed by alcohol abuse. The late Shang Dynasty in the eleventh century B.C. was particularly notorious for its ethylic excesses and its extreme decadence, which precipitated its eventual demise. Its last emperor, Emperor Zhou, who went down in history as the most depraved and degenerate ruler of Chinese history, was famous for his extravagant forms of entertainment. In his famous “Wine Pool and Meat Forest,” he “ordered his men to gather much drink contained in a pool [large enough for several canoes] and hang a forest of pieces of meat [hanging from the branches of trees on an island located in the middle of the pool], then ordered men and women unclothed to run after one another among the meat forest while he and his ministers drank day and night [from the alcoholic pool].”¹²

Alcohol in Indo-European cultures and Western civilization

Alcohol played a key role in the onset and evolution of the Indo-European civilization where wine and beer are almost universally considered an invention or a gift from the gods and alcohol has compelling religious significance and is a symbol of power, a celebrative agent, a festivity marker, as well as a universal social lubricant and facilitator.

Sixteenth century travelers to India became aware of striking similarities between the Indian and Europeans languages. The Florentine merchant Filippo Sassetti, one of the first European to study Sanskrit, noted in 1585 some word similarities between Sanskrit and Italian (e.g. *deva/dio* ‘God’, *sarpa/serpe* ‘snake’, *sapta/sette* ‘seven’, *ashta/otto* ‘eight’, *nava/nove* ‘nine’), foreshadowing the later discovery of the Indo-European language family. I experienced firsthand the Indo-European linguistic continuum when I travelled by land through Turkey, Iran, Afghanistan, India and Nepal in the

12). “Grandiose Survey of Chinese Alcoholic Drinks and Beverages,” Written by Xu Gan Rong, Bao Tong Fa.

early seventies. I had no difficulty picking up enough vocabulary for basic communication, to the point that by the time I reached India, I could carry on metaphysical discussions, of which the Indian are quite fond.

Human culture and language may have emerged in Africa some 50,000 to 100,000 years ago and the invention of language may have been key to the expansion of modern humans around the globe. From their common linguistic ancestor, the various language groups differentiated over ages.¹³ Based on comparative linguistics and mythology, and on ritualistic and archeological correspondences, researchers speculate that around the beginning of the Bronze Age, some 6,000 to 10,000 years ago, the people now known as Proto-Indo-Europeans (PIE) started their expansion. They spread eastward to Iran and India, and westward over most of Europe, all the way to Scandinavia and Ireland. Southward, they reached Greece and Crete, and around the Mediterranean, Turkey, Lebanon and Syria. They were met there by another powerful linguistic group, the Afro-Asians, also called “Hamito-Semitic” or “Erythraeans.”¹⁴ The collision of these two powerful cultural groups constitutes a fault line in the geopolitical landscape that has remained extremely active throughout history from biblical times, and up to present time. Numerous conflicts of history have taken place there or started from there, from the Assyrian wars, to the Greco-Persian wars, to the fall of the Eastern Roman Empire that unraveled there, to the Arab conquest, the Crusades, or modern day’s intractable Middle

13). Quentin D. Atkinson, “Phonemic Diversity Supports a Serial Founder Effect Model of Language Expansion from Africa,” *Science* 15 April 2011, Vol. 332 no. 6027 pp. 346-349.

14) The Afroasiatic languages constitute a language family with about 375 living languages and more than 350 million speakers spread throughout North Africa, the Horn of Africa, and Southwest Asia, as well as parts of the Sahel, and East Africa. The most widely spoken Afroasiatic language is Arabic, with 230 million speakers. In addition to languages now spoken, Afroasiatic includes several ancient languages, such as Ancient Egyptian, Biblical Hebrew, Aramaic (the ancestor of both Hebrew and Arabic) and Akkadian (Assyro-Babylonian) in the Semitic subgroup. Berberic, another major subgroup, is still spoken in small pocket of North Africa.

Eastern conflicts. The tiny kingdom of Israel in particular, arguably the point of highest friction between the Afro-Asian and the Indo-European worlds, has been a powerful geopolitical vortex since the highest antiquity.

The spatial and temporal origin of the Proto-Indo-Europeans is still a matter of debate; it is unclear whether the cradle of PIE was the Pontic-Caspian steppe (eastern Ukraine and southern Russia) during the Chalcolithic or Copper Age, the Balkans and Transcaucasia at the beginning of the Bronze Age, or Anatolia during the Neolithic Age. Recent research links the origin of the Indo-European languages to the spread of settled agriculture from Anatolia up to 10,000 years ago.¹⁵ Agriculture was probably invented by the descendants of the first temple builders in Gobekli Tepe some 12,000 years ago,¹⁶ and religion might have motivated farming. It incidentally created the first manmade environmental disaster, as this now parched Anatolian region might be the site of the fabled biblical Garden of Eden.¹⁷

In any case, the original PIE either came from the part of the world where wine seems to have been first produced, or they came across this area soon after the start of their westward expansion, at about the same time, or shortly after the invention of winemaking.

The eastward branch of the Proto-Indo-Europeans, the Indo-Iranian subgroup, followed its own evolutionary path, while the westward branch eventually crossed the Atlantic to colonize North and South America. The expansion of the Proto-Indo-Europeans was probably facilitated by the technological advances of wheeled transportation, horse domestication, and bronze weaponry that gave them a tremendous advantage over their Stone Age conquests.

By the end of the second millennium B.C., the Indo-European languages dominated all of Europe, much of Anatolia, the Fertile

15). Russell D. Gray & Quentin D. Atkinson, Language-tree divergence times support the Anatolian theory of Indo-European origin, *Nature* 426, 435-439, 27 November 2003.

16). Andrew Curry, "Gobekli Tepe: The World's First Temple?" *Smithsonian Magazine*, November 2008.

17). Tom Knox, "Do these mysterious stones mark the site of the Garden of Eden?" *Daily Mail*, 5th March 2009.

Crescent, Iran, and much of India, with the exception of the Finns, Hungarians, and Estonians whose languages stem from the Finno-Ugric (Uralic) family, the Turks, and the Basques whose linguistic origin remains a mystery up to this day. It is quite remarkable that the Basques have maintained their languages and their cultural identity over several millennia, while being surrounded by a succession of powerful Indo-European cultures up to contemporary France and Spain. The Indic and Iranian languages, as well as the Greek, Italic, Celtic, Germanic, Baltic, and Slavic groups, are all offshoots of a Proto-Indo-European language.¹⁸

The Indo-Europeans share common religious and cultural themes across their entire zone of influence, starting with the worship of a sky god, *dyeu-pter*, Zeus Pater in Greek, Jupiter in Latin, Ziu in Germanic, Dyauṣ Pitā in Sanskrit. The ritual offering and consumption of a sacred beverage to mark virtually every religious, political or social event appears to be a common feature of all early IE civilizations. The Indo-Iranian subgroup drank the mysterious soma while the western branch drank alcoholic beverages, usually accompanied by feasting, a tradition that has survived up to this day in virtually the entire Western world.

According to ancient mythologies, alcoholic beverages were created by the gods; inebriation was viewed as a mean to get closer to the gods. Immortality was bestowed on the gods by certain deified beverages, an idea familiarized by French comparative philologist Georges Dumezil. De Angulo (1926), reviewing Dumézil's early writings, summarizes: "Immortality is acquired by partaking of the ambrosia, the nectar, the amṛta, the beer, that drink whatever its name from the Indus to the North Sea, which is the appanage of the Gods. The Gods are the Immortals. The others that do not drink it, are the mortals. That theme ... can be traced all over the Indo-

18). Indo-European mythology – The Remains of Japhet, deus, dios, devha, daeva, kurgan, ksatriyas, vaisyas, athravan, rathaestar, vastriyo fsuyant, flamines – Proto-indo, India, Cattle, and Theme, <http://www.jrank.org/cultures/pages/5603/Indo-European-mythology.html#ixzz0x4w9peK0>.

European world.”¹⁹ Or, as noted by Littleton: “The idea of a deified drink and the ritual of its consumption are thus seen as uniquely I-E [Indo-European], having no parallels either in contemporary primitive religions or in those of the ancient non-IE civilizations.”²⁰

Ritual drinking was used for legitimization of power, and the tribal king often assumed the role of high priest. Communal drinking and feasting, as attested by abundant archeological and pictorial evidence, was crucial to establishing and maintaining political and social allegiances and marking hierarchical relationship. The symbolic significance of the drinking vessel cannot be overestimated. Drinking horns, for instance, were often a symbol of sovereignty; a king’s drinking horn was typically much larger than the one of his subordinates, indicative of his drinking prowess. One such mega-horn from the Hochdorf grave measured a mere 10 pints or 5.5 liters. The drinking vessel also represents the ruler’s duty to provide for his people through his ability not only to drink, but also to dispense large quantities of alcohol. The ruler was often buried with his drinking vessel.²¹

Drinking patterns were quite different in northern and southern Europe. Northern Europeans were – and still are – primarily beer drinkers, or rather they drank ale, which has a very short shelf life without refrigeration and is only seasonally available, hence the “binge drinking” pattern typical of Northern Europe. Mead, and later imported wine, was reserved for the nobility while ale was for the commoners.²²

Moderate consumption tended to be the norm in the Mediterranean, and wine was available year round and consumed with meals on a daily basis (and still is up to this day). Alcoholic excesses were reserved for special occasions such as religious, political or social celebrations. The more egalitarian drinking pattern of the Mediterranean might explain why democracy was invented there.

19). American Anthropologist [N. s., 28, 1926].

20). The new comparative mythology: an anthropological assessment of the theories ... by C. Scott Littleton.

21). F. M. Dugan, Dregs of our forgotten ancestors, Fungi Volume 2:4 Fall 2009.

22). Bettina Arnold, Iron Age Feasting, 2004.

According to the Greek historian Thucydides, “the peoples of the Mediterranean began to emerge from barbarism when they learned to cultivate the olive and the vine.” Wine, indeed, became a central feature of daily life among the ancient Greeks. While habitual drunkenness was rare, intoxication at banquets and festivals was not unusual. The symposium, meaning “to drink together,” was a key Hellenic social institution where aristocratic Greek men gathered in the andron (the man’s quarters), reclining two or three per pillowed couch arranged against the three walls of the room away from the door. They debated, held contests, played games or enjoyed other forms of entertainment, such as music, dance or sexual intercourse, while eating and drinking wine, usually diluted in water, drawn from a Krater placed in the middle of the room, served by young, mostly male servants/slaves chosen for their handsome features. Dancing girls, flute-players, and hetaires (the ancient Greek version of the Geishas) often joined the festivities that typically went on until dawn. Prayers opened and closed the meetings. Thus, the association of alcohol, sex and music predates the “drugs, sex and Rock N Roll” era by a few millennia.

The famous Symposium by Plato, one of the foundational documents of Western literature and a profound analysis and celebration of love, gives us a remarkable insight into the intellectual and social life in Greece around 350 BC. In the amusing excerpt cited in Appendix 1, the rather hungover guests discuss the appropriate amount of drinking given their condition. They still managed to get excessively drunk according to the closing paragraph of the Symposium.

I’ll let you relish Socrates’ closing remark about the genius of comedy and tragedy. It is quite refreshing to notice how candid our philosophers are about their various levels of intoxication. We can hardly imagine how such a dialog between imbibed modern academics might unfold.

Among the various gods worshipped in ancient Greece, particular attention should be placed on Dionysus (or Bacchus in Rome), the god of wine, and later, the god of vegetation, music and theater. Dionysus most likely predated Greek civilization. It was probably a

remnant of bronze-age or even Neolithic cults; he didn't originate in Greece but in Thrace, an area covering Southern Bulgaria, Macedonia, Northern Greece, and part of Turkey. His mythological birthplace is the mysterious city of Nysa. According to the *Life of Apollonius* by Philostratus, Alexander the Great encountered in the Indus valley in what is now Pakistan a city named Nysa, whose inhabitants worshipped Dionysus. Various legends describe the birth of Dionysus, most of them revolving around the death and resurrection cycle. In a popular version, Dionysus is the illegitimate son of Zeus and a mortal woman, Semele, making him a demigod. Zeus' wife, Hera, went berserk when she found out, and had the baby killed by the Titans who tore him into pieces, leaving only his heart, which was sewn into Zeus's thigh and voila! Dionysus was born again. It is not quite clear how he managed to sneak into the Pantheon to become one of the Twelve Olympians.

Dionysus is sometimes associated with the Indian god Shiva, with whom he shares striking similarities, except that Shiva drinks a hemp beverage called bhang instead of wine. They might both be the descendants of a more ancient PIE deity.

Dionysus was the object of a cult called the Dionysian Mysteries, the nature of which, not surprisingly, is still somewhat of a mystery. Alexander the Great and his mother; Mark Anthony, the Roman politician and general of Cleopatra's fame; and the rebellious slave leader Spartacus are all said to have been Dionysian initiates. Dionysus's female followers, the Maenads (Bacchantes in Latin), literally "the raving ones," led orgiastic rites in a state of ecstatic over-sexed trance induced by wild dancing and intoxication. They ritualistically hunted down animals to devour their raw flesh. The Dionysian Mysteries were a vegetation cult based on the seasonal death/rebirth theme and had similarities with the Egyptian cult of Osiris or the Persian Mithraic cult. The Dionysian adepts gathered in secret ceremonies where they danced to the trance-inducing rhythms of drums, profusely drinking wines laced with psychotropic substances; they fervently invoked the spirits that eventually possessed them as they reached a state of ekstasis where they became

one with the god and acquired divine powers. The adepts believed that Dionysus was truly present in the wine and the meat they were consuming. Dionysus in his bestial manifestation appeared as a goat/man, the horned hunter, which later might have inspired the representation of Satan in the Christian tradition.

There are, of course, some striking similarities between the Dionysian and the Christian rites, both referring to sons of god and a mortal woman, who died to resurrect three days later, both celebrated in rites involving consumption of wine as symbolic representation of blood, and flesh or bread as symbolic representation of a divine body. Some claim that Christianity is actually an expurgated descendant of the Dionysian cult and similar death/rebirth cults, a claim rejected by most scholars based on the quasi-certainty of the historical existence of Jesus, and on the Judaic background of Christianity. It is quite likely though that the nascent Christianity borrowed from, and tried to absorb the mystery cults, be they Dionysian, Orphic, Mithraic or Osirian, the demonization of the original object of the cult being a typical process of assimilation. The following Persian Mithraic text, for instance, sounds remarkably Christian: "He who will not eat of my body and drink of my blood, so that he will be made one with me and I with him, the same shall not know salvation." This may just mean that Jesus, or at least the authors of the Gospels, were familiar with the mystery cults that flourished in the area at that time.²³

If Christianity did indeed assimilate some of the mystery cults, as seems highly plausible, they were seriously sanitized. The wild dancing, the trances, the orgiastic intoxications were cantoned to the Lent Carnivals, whose roots are probably found in the Roman bacchanals, the descendants of the Greek Dionysian mysteries, and were most likely kept as a social safety valve by the emerging Christians.

Of the relationship of the Romans to alcohol, we just need to say that they built on their Greek heritage, and in their decadent period they brought the banquet to extreme levels of depravity.

23). Hellenic World Encyclopedia – "Dionysian Mysteries."

Dionysus: Myth and Ritual in Sources of the Archaic Period, Menahem Luz. and other sources.

Meanwhile, Christianity, a new religion with Hamito-Semitic roots, was rapidly gaining ground over the decaying Roman Empire, coming from the most fractious part of the Afro-Asian part of the Empire, the tiny Jewish homeland, long considered a thorn in the imperial thigh. The Roman Empire eventually destroyed Jerusalem and expelled the Jews from Judea in the second century A.D.

Emperor Constantine's warm embrace of Christianity in 313 might have been opportunistic as Constantine inherited a divided empire that he shared with two co-emperors, a pantheon of competing gods, and a growing problem with the new Christian religion. He may have thought that it would be easier to manage one empire with one religion and one single god, which may have given him further incentive to assimilate some pagan rituals into the newly official religion of the empire. Constantine eventually succeeded in reuniting the Roman Empire and prevented a scission within the emerging church with the Council of Nicæa, even though he was not even a Christian at that time. Constantine was baptized only on his deathbed, which didn't prevent the church from promptly canonizing him. He moved the imperial capital from Rome to Byzantium that he renamed after himself as Constantinople, which didn't prevent the Roman senate from deifying him, making him probably the only human in history to hold the dubious dual title of Christian saint and pagan god. This might just demonstrate how shrewd a politician he really was.

The Judeo-Christian graft would forever change the Western Indo-European world, moving it away from its polytheist pagan origin, but alcohol remained more entrenched than ever as the dominant psychoactive substance, as wine consumption was sacralized in the Eucharist, the ritualized sharing of wine and bread, the fundamental sacrament of Christianity. After the fall of the Roman Empire, religious institutions, particularly the monasteries, became the repositories of brewing and winemaking that monks refined into an art. They perfected techniques; they owned and tended the best vineyards; sale of their alcoholic beverages was one of their main sources of income. Their most renowned invention is the famed Champagne, the quintessential festive beverage, attributed to

the Benedictine monk Dom Perignon at the end of the 17th century. Other notable monastic contributions to the world's ethylic heritage include the famous Belgian Trappist beers such as the Chimay, and numerous liquors such as Chartreuse, Benedictine or Frangelico.

Throughout the tumultuous Middle Ages, a time when beer and wine were far more commonly consumed than water, and up to this day, alcohol has remained the social lubricant and facilitator of choice, the marker of celebration around important life events, a tool and symbol of status and power. Ever since the dawn of the Proto-Indo-European civilization some 8,000 years ago, whether to toast a ruler, celebrate a victory, seal an allegiance, a treaty or an agreement, for any religious or civilian celebration, all major religious, political, social or family events, from cradle to grave, have been celebrated by alcoholic libations in the Western subgroup of the descendants of the Proto-Indo-Europeans, in a vast area spawning from the Ukrainian and Russian steppes, all the way to Scandinavia and Ireland, and later across the Atlantic. Alcoholic potions even served as the basis of medicine up to the advent of modern pharmacy.

And this is indeed a uniquely Western Indo-European phenomenon.

A word should be said about the Eastern branch of the PIE, the Indo-Iranian. The East-West scission of the PIE may have occurred before the discovery of alcohol, as the Indo-Iranian sacred drink was not alcohol but the mysterious soma (haoma or sauma in the Iranian culture), a drink that conferred immortality. "We have drunk Soma and become immortal; we have attained the light, the Gods discovered."²⁴

The Vedas describes soma as the juice of a mountain plant, which could be Ephedra, a plant containing ephedrine, a precursor of amphetamines. Even though various researchers have argued that soma might be the hallucinogenic fly agaric (*Amanita muscaria*), the ephedra hypothesis is widely accepted. Fly agaric just doesn't fit the Vedic description. Soma was a stimulant associated with the warrior-god Indra and was taken before battle; it's hard to figure

24) Rig-Veda (8.48.3, tr. Griffith).

out why anybody would want to be caught hallucinating on the battlefield. In the late 19th century, the Zoroastrians of Yazd, the Iranian center of Zoroastrianism, were found to use ephedra and export it to their Indian co-religionists. Mortars and vessels dating from the second millennium B.C., discovered by Russian archeologist Professor Mayer-Melikyan in excavations in the Kara Kum desert of Turkmenistan, contained residues of ephedra, poppy seeds and cannabis, and may have been used to prepare Soma.²⁵ Cannabis is widely used in India for the preparation of bhang, a ritual Indian drink often prepared with poppy seeds, and that may or may not be related to soma. Alternatively, it may have been a substitute for soma, as ephedra only grows in the northern mountainous parts of India where is found the best soma according to the Vedas.

In any case, while Zoroastrians encouraged the use of alcoholic drinks, and even though the Persian Empire absorbed several times Mesopotamia, part of Egypt and Greece, all avid alcohol drinkers at that time, alcohol never gained much traction with the Indo-Iranians. There is, however, some evidence of substantial alcohol consumption in pre-Vedic India. Alcohol was virtually unknown in most parts of South-East Asia, from Indonesia, the Philippines and Indochina, until the arrival of the Europeans.

China had a more troubled relationship with alcohol, as several of its dynasties drowned in alcoholic debauchery. Still, until very recently, China has had an insignificant alcohol problem, thanks probably to its Confucian and Buddhist tradition of moderation. Korea is the exception in Asia, with the highest recorded rates of alcohol abuse, as 44% of South Korean adult males are active or recovered alcoholics. Asians of course have a limiting factor as anywhere from one third to one half of the Asian population have a reduced capacity to metabolize alcohol and suffer from “alcohol flushing response” due to ALDH2 deficiency, a condition that has not been found in people of African or European ancestry.

25). “Temples of Bronze Age Margiana: traditions of ritual architecture.”
Antiquity Publications, Ltd., 1994.

Tea is the dominant psychoactive, social lubricant and facilitator of most of Asia²⁶ including Iran, where it is even more ubiquitous than alcohol in Western culture, ingrained into almost every aspect of daily life and an essential part of the Asian greeting ritual, more social and ritual than festive though. Betel nuts, cannabis, and opium are other quite prevalent psychoactives in that part of the world.

Even if the New World had some ethylic gods, such as Mayahuel with the Aztecs, or Viracocha in South America, Native Americans typically drew their religious inspiration from other substances, mostly hallucinogenic, such as peyote, mushrooms, tobacco or jimsonweed. Some alcoholic beverages were used for rituals in parts of Central and South America, such as chichi, a fermented maize beverage, used by the Incas who consumed it in vast quantities during religious festivals. The introduction of alcohol by the Europeans had nefarious consequences for most Native American populations, as well as aboriginal populations in other parts of the world for that matter.

Likewise, Africans consumed many different psychoactive substances before their contacts with the Europeans, but alcohol was at best just one of them. As for the fate of alcohol in the Arabic world, North Africa and the Middle East, it may be the only case of successful prohibition in history. Even this is debatable, considering the alcohol stockpiles found in the compounds of the dictators overthrown during the Arab Spring uprising in 2011. The upper class and the governing elite have ample private supplies of alcohol even in the most restrictive Islamic countries.

Alcohol abuse has been an issue from at least the beginning of recorded history, and the Sumerian priests, as well as their Egyptian colleagues, were already complaining about the drunkenness and rowdiness of their students over 5,000 years ago. We mentioned earlier our Socratic philosophers complaining about their hangovers, wondering how they could imbibe anymore.

26). For one illustration of this phenomenon, See “Three Cups of Tea: One Man’s Mission to Promote Peace ... One School at a Time,” the New York Time bestseller by Greg Mortenson.

By and large though, the social settings of drinking served to somewhat control the process and to avoid the excesses, or at least to restrain them to special occasions. Besides, there was a natural barrier to the alcohol content of any naturally fermented beverage, as yeast cannot survive above 15% alcohol. Furthermore, the Greeks considered drinking unmixed wine to be barbaric; the Northern European ales probably topped out at 5% alcohol content.

Things changed dramatically though with the invention of distillation, a technological advance that greatly increased the alcohol content of distilled beverages, a change to which even the Western Indo-Europeans couldn't easily adapt. Distillation led to an epidemic of alcoholism that, from an evolutionary perspective, is a "disease of nutritional excess." It struck more severely the Northern European binge drinkers as they moved from binging on relatively harmless ale to binging on whisky and vodka with dreadful consequences. The shift didn't happen overnight though. Distillation was at first reserved for the production of extracts and essences. "Spirits" were mostly used in perfumery and for elixirs and other medical preparations. As technology improved, much larger stills allowed industrial scale production of alcohol, dramatically bringing down cost and increasing supply.

The current epidemic of obesity, predicted by late geneticist James Neel in 1962, is another striking example of a "disease of nutritional excess," as people moved from a home-produced alimentation in a highly physical rural setting to instant high fat, high calorie, highly-processed food coming out of a box or a can in a couch potato setting. James Neel's predictions concerned Aboriginal populations and tribal people exposed to Western-style food, but can be extended to the developed world's exposure to junk food.

Globalization is substantially altering the traditional psychoactive landscape throughout the world, a process that started with the introduction of alcohol to native populations during the colonial era and the reciprocal spread of tobacco throughout the world. There is currently a quasi-epidemic explosion of alcohol use in Asia and other parts of the developing world, especially amid the rising business elite and the rapidly emerging middle class, where, unsurprisingly,

alcohol is often perceived as a status symbol. Meanwhile, Westerners have been fighting for the past 100 years the invasion of the oriental cannabis and opiates, or the Native South America cocaine, and even the Indo-Iranian ephedra-like amphetamines, not to mention the shamanistic inspired hallucinogens. It is remarkable that just like hard liquors, heroin, cocaine and amphetamines (as well as LSD or ecstasy) are products of technological innovations resulting in highly increased harm.

Pharmacokinetics of alcohol²⁷

For easier reading, we will use several acronyms in this section. They are:

ADH = alcohol dehydrogenase

ALDH = acetaldehyde dehydrogenase

BAC = blood alcohol content

AER = alcohol elimination rate

Upon ingestion, alcohol is mostly absorbed through the gastrointestinal tract, to be absorbed by the portal veins system and transported to the liver. It then enters the hepatic circulation and passes into the bloodstream. Beverage concentration increases the rate of gastric emptying, while food intake, as well as strenuous physical exercise, delays it.

Being completely miscible with water, alcohol is readily absorbed into the bloodstream. It is rapidly transported throughout the body,

27). This section has mostly been written by cross-referencing many different sources in order to try to extract the most current widely accepted knowledge on the matter. It would be overwhelming to list all of the sources and I will only list specific references on rather specialized research. Also, most of the biochemical processes described in this section are actually far more complex than explained, but I believe that the somewhat simplified description is a good enough approximation for a proper understanding of these processes.

For some good basic information, I recommend <http://www.chemcases.com/alcohol>.

and absorbed into the tissues in proportion to their water content. Muscular mass and body fat directly affect alcohol absorption, which helps account for gender variation, as women generally absorb alcohol much faster than men do. For the same body mass, overweight people absorb alcohol faster than muscular people do.

Alcohol crosses important biological membranes, such as the blood-brain barrier, and affects a large number of organs and biological processes. The effect of alcohol depends in large part on blood alcohol content (BAC). Peak BAC is the highest blood alcohol concentration following alcohol intake. Peak BAC is reached within 30 minutes and up to 6 hours depending on dosage, concentration, food intake and physical activity.

The liver is responsible for the metabolic elimination of 80 to 95% of ingested alcohol. Food intake and physical exercise increase alcohol elimination rate (AER). Physical exercise also increases lungs ventilation and alcohol elimination through the breath. Thus, the tradition of dancing after a copiously drowned meal going back to the dawn of civilization might be viewed as a self-protective mechanism.

Metabolic elimination of alcohol in the liver

Alcohol is eliminated by the liver in a three-step process:

- The enzyme alcohol dehydrogenase (ADH) catalyzes the oxidation of alcohol into acetaldehyde. At high levels, acetaldehyde causes headaches, nausea, palpitations, and flushing, and may be responsible for some of the symptoms of hangover. It is a highly toxic mutagen and carcinogen that causes DNA damage; it is unstable and quickly forms toxic free radicals, which among other harms, may cause fetal alcohol syndrome in pregnant women or lead to severe kidney and liver damage in chronic alcoholics. Acetaldehyde may also be responsible for the development of alcohol addiction, and is far more toxic and damaging than alcohol itself.
- In a second step, the enzyme acetaldehyde dehydrogenase (ALDH2) rapidly converts acetaldehyde to acetate (acetic acid – our good old vinegar).

- The acetate is then metabolized to harmless carbon dioxide and water.

That's where things can get a little more complicated, as the normal process may be disrupted in various manners.

Upon alcohol ingestion, the liver shows a high initial ADH activity that far exceeds ALDH activity resulting in what is called an acetaldehyde burst, an effect that dramatically increases with the amount of ingested alcohol. Furthermore, when the liver converts acetaldehyde into acetic acid, it reaches a saturation point where some of it escapes into the bloodstream, increasing the toxicity of high alcohol intake. Part of the excess acetaldehyde is converted back into ethanol, further delaying ethanol elimination.

Variations in the genes responsible for the production of ADH and ALDH enzymes result in dramatic concentration of acetaldehyde upon alcohol intake, causing headache, nausea, tachycardia, and facial flushing (the Asian glow or Asian flushing response)²⁸ and therefore, preventing heavy alcohol use, which in turn protects the variant carriers against alcoholism. Homozygote carriers²⁹ of the gene variant ALDH2*2 have no acetaldehyde metabolizing capacity and are almost completely alcohol intolerant; they can even be strongly reactive to endogenous ethanol as exhibited in the "auto-brewery syndrome." The ALDH2*2 allele is mostly prevalent among mongoloid populations: Han Chinese, Taiwanese, Chinese-American, Japanese, and Korean. Much lower rates have been reported in Thais, Filipinos, Indians, and Chinese and Taiwanese aborigines.³⁰

The evolutionary reason for the prevalence of the mutating alleles in the East Asian populations is not clear, but culture-related selective forces are strongly suspected. According to the rice culture

28). Brooks PJ, Enoch M-A, Goldman D, Li T-K, Yokoyama A, 2009, The Alcohol Flushing Response: An Unrecognized Risk Factor for Esophageal Cancer from Alcohol Consumption, *PLoS Med* 6(3): e1000050. doi:10.1371/journal.pmed.1000050, published March 24 2009.

29). Genes comes in pair. Homozygotes for a particular gene have a pair of identical alleles (ALDH2*2/ ALDH2*2).

30). Mimy Y. Eng, Susan E. Luczak, Tamara L. Wall – ALDH2, ADH1B, and ADH1C genotypes in Asians: a literature review *Alcohol Research & Health*, Wntr, 2007.

hypothesis, the driving force behind the expansion of the gene variant was the emergence and expansion of rice domestication along the Yangtze River of southern China during the Neolithic some 10,000 years ago. Rice culture spread from southern and southeastern China (8,000-12,000 ago) to the central parts of China 3,000-6,000 years ago, reaching Korea and Japan less than 3,000 years ago. The variant is quite prevalent with Han Chinese, Japanese and Koreans (70 to 98%) but is relatively uncommon among Tibeto-Burmans (14%).³¹

It has been suggested that the effects of the gene variant influence drinking behavior as a form of protection from over-consumption of alcohol and the damage caused by alcohol consumption, which would explain why variant carriers have the lowest risk for alcoholism.³² This explanation is rather counterintuitive and doesn't convincingly address the vastly different evolutionary response to alcohol exposure in the rest of the world. While very high frequencies are almost exclusively found in East Asia, and fairly high frequencies occur in West Asia and North Africa, *the variant* is rare to absent in the rest of the world, especially in the Western European zone where alcohol is the dominant psychoactive. Besides the rice culture, there must be other cultural factors at play. It has been half-jokingly suggested that the tea culture might be partly responsible, as boiled water used for tea preparation was sanitized and gave Asian tea drinkers a competitive advantage over their drunkard counterparts. Besides, it seems that the common use of boiled water for drinking predated the invention of tea and could have been a side benefit of the rice culture. Meanwhile, Western Europeans, who hadn't picked up on boiling their water, were better off drinking wine or beer than contaminated water.

People affected with the Asian flushing syndrome may condition their bodies to be more tolerant to alcohol, but alcohol damage is much greater, much faster and at much lower dose than for non-

31). Yi Peng, Hong Shi, Xue-bin Qi, Chun-jie Xiao, Hua Zhong, Run-lin Z Ma and Bing Su, "The ADH1B Arg47His polymorphism in East Asian populations and expansion of rice domestication in history," BMC Evolutionary Biology, January 2010.

32). Ibid.

afflicted people. Social pressure to drink is often the dominant factor compelling flushers to drink, as is the case in Korea where 40% of the male adult population is affected by alcohol abuse.

The rapid spread of the business culture has brought profound alterations to the socio-cultural environment. Such changes are increasingly undermining the protective effect of ALDH2 deficiency in most Asian countries, where alcohol drinking has become a social activity and an essential element of business life. The percentage of heavy drinking men with ALDH2 deficiency in the Japanese alcoholic population has risen from 2% in 1982 to 26% in Tokyo today. Similar trends are observed in most East Asian countries. The long-term health consequences could be severe as the risks of upper aerodigestive tract cancers (oral cavity, pharynx, larynx, and esophagus) increases ten- to twelve-fold among ALDH2-deficient drinkers. There is also a substantial risk increase of other types of cancer, as well as cardiovascular diseases and a whole battery of diseases.³³

We should note that the dominant psychoactive status enjoyed by alcohol in Western Culture seems to have genetic correlations. We can also note that the genetic protection against alcohol abuse traditionally enjoyed by Asian populations is being challenged by the powerful socio-cultural forces of globalization that are dramatically altering alcohol consumption patterns around the world, especially in Asia.

Effects of alcohol on the body

Because alcohol is water-soluble and transported by the blood in every part of the body, alcohol abuse harms pretty much all the organs and functions of the body, from liver, heart and brain damage, to premature skin aging. The health burden relative to alcohol is almost exclusively dependent on use patterns. While moderate use is almost universally recognized as beneficial, heavy episodic drinking and dependence are extremely damaging.

33). Philip J. Brooks, Mary-Anne Enoch, David Goldman, Ting-Kai Li, Akira Yokoyama, "The Alcohol Flushing Response: An Unrecognized Risk Factor: Social and Cultural Factors Modulate Alcohol Drinking by ALDH2 Heterozygotes," *Medscape Today*.

The liver, the largest organ in the body and the main processor of alcohol, is the most affected organ. Alcohol-induced liver diseases are a leading cause of illness and death in the Western world. Luckily, the liver has considerable reserves and can regenerate itself so that limited injury is reversible. Acetaldehyde might be the culprit for some of the worst damages of acute and chronic alcohol abuse. Liver damage progresses from fatty liver, which is reversible, to alcoholic hepatitis, characterized by persistent inflammation of the liver, and cirrhosis, characterized by progressive scarring of liver tissue. The last two conditions may be fatal.

Chronic alcohol abuse affects the heart and may cause cardiomyopathy, arrhythmia, high blood pressure and increased risk for hemorrhagic stroke. Alcohol is a major risk factor for all kinds of cancers of the digestive track.

Alcohol and the brain³⁴

Alcohol affects almost every part of the brain, starting with the highest portion of the brain, the cerebral cortex, the brain CPU, the thought processing and consciousness center, where we process information from our senses and control most voluntary muscle movements. Alcohol depresses the behavioral inhibitory centers, bringing about inhibition of self-control and an initial stage of apparent mental acceleration and euphoria. The depression of self-control mechanisms can lead to disastrous consequences for individuals with impulsive or violent tendencies. Higher BAC markedly slows down the mental processes and confusion prevails as signals from our senses get progressively jammed up.

The limbic system controls the emotions and memory. Alcohol leads to memory loss and exaggerated emotional states such as anger, aggressiveness, withdrawal, and depression.

The cerebellum coordinates the movement of muscles and controls fine movements. If you ever wondered why the policeman

34). For references and more detailed description of alcohol activity on the brain, see Chapter 5: Action of psychoactive substances on the brain.

suspecting you of alcohol abuse asks you to walk around your car or touch your nose while standing on one foot, here you have it; blame it on the cerebellum. As the effects of alcohol on the cerebellum increase with the BAC, loss of balance gradually increases to difficulty walking or falling down drunk.

Alcohol influences sexual behavior and urinary excretion. “It provokes the desire, but it takes away the performance”³⁵ and causes the kidney to produce more urine, leading to dehydration, a common symptom of hangover.

Finally, the medulla, or brain stem, controls all the automatic bodily functions such as breathing, heart rate, temperature and consciousness. Alcohol abuse may lead to sleepiness or even unconsciousness, difficulty breathing, low blood pressure and body temperature, and ultimately death.

Like all psychoactive substances, alcohol affects the brain mostly through its effects on neurotransmitters and receptors; ethanol being a very small molecule, it doesn't attach to any particular neurotransmitter or receptor, but affects the activity of all major neurotransmitters, inhibiting some and stimulating others, sometimes doing both depending on circumstances. Ethanol increases the inhibitory activity of the inhibitory neurotransmitters and reduces the activity of the excitatory neurotransmitters, depressing self-control and affecting cognition, memory and learning. It stimulates the production of endogenous opioid peptides, increasing dopamine activity, mostly when BAC is rising. This process confers an abnormal emotional and motivational significance to alcohol absorption and is a major contributing factor to alcohol addiction.

Alcohol raises the serotonin level in a first stage, which may contribute to the initial euphoric effect of alcohol, but excess tends to depress the serotonin level, and subsequently the drinker's mood. Alcoholics appear to have reduced serotonin levels in the brain, which contributes to depression and alcohol addiction. Many of the acute and chronic neuronal responses to alcohol and some of its effects, such as intoxication, loss of motor coordination, and sedation, are mediated by adenosine.

35). William Shakespeare, “Macbeth,” Act 2 Scene 3.

Finally, alcohol and tobacco have mutually reinforcing effects; alcohol seems to stimulate the function of the nicotinic receptors, the major class of receptors for the neurotransmitter acetylcholine. Nicotinic receptors activate the release of dopamine and are important components of the dopaminergic reward system. This may explain why alcohol and tobacco reciprocally enhance pleasure, cause mutual craving and display a high frequency of co-addiction. Alcohol and nicotine addictions appear to share common genetic factors and the vast majority of heavy drinkers are heavy smokers as well.³⁶

In moderate doses, alcohol generally relaxes and increases sociability and self-confidence; it promotes arousal-increasing and festive behavior, celebration, and partying. At higher doses, alcohol may cause over-confidence, loss of self-control, emotional instability, confusion, disorientation and loss of motor coordination. It can lead to a wide array of behavioral changes ranging from wild performance on a dance floor to reckless driving, anger or aggressiveness. Alcohol is implicated in moving accidents, physical abuse, domestic violence, child abuse, date rape, homicide, violent crime, and criminal behavior in general, and is strongly related to public disturbance, hooliganism, rioting and gang rape.

Alcohol negatively affects developmental plasticity, which is why it is particularly dangerous in the development stage of the human being from conception to maturity, especially during the prenatal period when it may cause an array of developmental alterations, ranging from impairments in learning and memory to fetal alcohol syndrome. Alcohol remains especially dangerous from early childhood to adolescence as the alcohol-induced damages increase with the earlier onset of drinking, affecting the brain structures and functions and causing serious developmental problems in a snowballing effect. Children who start drinking at an earlier age also have an increased risk of developing alcohol dependence in later years. Excessive early

36). Isabel R. Schlaepfer, Nicole R. Hoft, and Marissa A. Ehringer, "The genetic components of alcohol and nicotine co-addiction: From genes to behavior," Current Drug Abuse Reviews, June 2008.

Tiffany J. Davis, Christopher M. de Fiebre, "Alcohol's actions on neuronal nicotinic acetylcholine receptors," Alcohol Research & Health, Fall 2006.

age drinking is associated with reduced volume of the hippocampus, a part of the limbic system. Of course, early drinking is a typical marker of problematic socio-environmental factors, which further compounds the problem.³⁷

Finally, you might remember acetaldehyde, alcohol's nefarious metabolite. It is suspected by some to be the major perpetrator of the damages attributed to alcohol. It is implicated as well in tobacco related damages. Acetaldehyde can be blamed for most of the effects of hangover, especially after heavily nicotinic boozing sessions. While the effects of acetaldehyde on the body are fairly well understood, its effects on the brain are still a mystery. A major issue is the presence of ALDH in the blood brain barrier, which prevents acetaldehyde access to the brain, but also reduces oxygen availability in the brain and therefore lowers brain oxygenation. Recent research suggests that the brain produces its own acetaldehyde from ethanol, especially so at acute alcohol doses³⁸. Acetaldehyde decreases brain oxygenation and may cause degeneration of the dendrites, the nerve cell's extensions that connect nerve cells to each other. Reduced brain oxygenation may also cause "blackouts," or temporary memory loss, as well as massive destruction of brain cells during an acute drinking episode, leading to chronic alcoholic brain damage. Acetaldehyde induces a deficiency of vitamin B1, or thiamin, the nerve vitamin, essential for production of acetylcholine. Alcoholism and the induced vitamin B1 deficiency are the primary cause of Wernicke-Korsakoff syndrome, a condition characterized by mental confusion, poor memory, poor neuromuscular coordination, and visual disturbances.

- 37). Robert A. Zucker, John E. Donovan, Ann S. Masten, Margaret E. Mattson, Howard B. Moss, "Developmental processes and mechanisms: ages 0-10," Alcohol Research & Health, Winter 2009.
Ann S. Masten, Vivian B. Faden, Robert A. Zucker, Linda P. Spear, "A developmental perspective on underage alcohol use," Alcohol Research Health, Winter 2009.
- 38). Richard Deitrich, Sergey Zimatkin, Sergey Pronko, "Oxidation of ethanol in the brain and its consequences," Alcohol Research Health, Winter 2006,

Alcohol use patterns³⁹

Drinking pattern is the major determining factor of alcohol damage both at the individual and societal level. Drinking patterns refers to the amount, the frequency, and the setting of alcohol consumption. They can be broken down between moderate or responsible drinking, heavy episodic or binge drinking, and alcohol dependence or alcoholism (or moderate, acute, and addictive drinking). For all the benefits of moderate alcohol use, alcohol abuse and alcohol addiction have dreadful consequences on the drinker himself, on relatives, especially spouses and children, and on society at large. Use patterns are relevant to most psychoactive substances.

Drinking patterns vary widely between individuals and between countries. According to the “WHO Global Status Report on Alcohol 2004,” abstinence is the rule in most of the Muslim world, and ranges from 86% in Jordan, 90% in Morocco, 94% in Bangladesh or Indonesia, to 97% in Saudi Arabia or 99% in Egypt. Being based on self-reporting surveys, these numbers must of course be taken with a grain of salt, and results are probably unreliable in countries where drinking bears a strong social and religious stigma. In contrast, consumption is the rule in most Western countries (Europe, the Americas, Australia, New Zealand) ranging between 60 to 85% in the Americas and up to 97% in Europe with 75% in Armenia, 95% in Germany or even 97% in Belarus or Denmark. Overall consumption has been substantially decreasing in Western countries over the past 30 years.

There are marked differences within Western countries that can be broken down between Mediterranean-style predominantly wine drinkers where the pattern of use tends to be regular use with meals; and Northwestern European-style beer drinkers (from Germany to Ireland), and the Northeastern European vodka belt (from Ukraine

39). References for this section:

WHO Global Status Report on Alcohol 2004.

“International Comparisons of Adult Alcohol Consumption Patterns,”

National Institute of Health.

<http://pubs.niaaa.nih.gov/>.

<http://www.chemcases.com/alcohol>.

to Sweden, Norway and Finland), binge drinking being the dominant pattern in both areas.

Whereas abstinence was the rule in most of East Asia until the mid 20th century, consumption has been steadily increasing in East Asian and Western Pacific regions. Binge drinking is the overwhelmingly adopted pattern in this part, as well as other parts of the world where alcohol consumption is rising.

There are also some gender differences. Men account from 70 to 80% of alcoholic consumption in most Western countries and up to 95% in China or India.

Binge drinking is growing at an alarming rate among youngsters, a global trend that has been correlated to the spread of international youth culture, mostly through the Internet and social networking.

Health and other benefits of moderate use⁴⁰

“Too much and too little wine. Give him none, he cannot find truth; give him too much, the same.”

Blaise Pascal

From Hippocrates, the founder of Western medicine, to Socrates and a prestigious lineage of thinkers and philosophers all over the world, it has long been intuited that moderate drinking is generally better for health than no drinking at all or excessive drinking. The benefits of moderate drinking have now been widely recognized by a plethora of medical authorities and organizations such as the World Health Organization, the American Medical Association, the

- 40). Sources for this section are too numerous to list and include NIH, NIAAA, AMA and WHO publications. Some representative examples are listed below: Ralph L. Sacco, MD, MS; Mitchell Elkind, MD; Bernadette Boden-Albala, MPH; I-Feng Lin, MS; Douglas E. Kargman, MD, MS; W. Allen Hauser, MD; Steven Shea, MD, MS; Myunghee C. Paik, PhD, “The Protective Effect of Moderate Alcohol Consumption on Ischemic Stroke,” *JAMA*. 1999;281:53-60. Michel M Joosten, Diederick E Grobbee, Daphne L van der A, WM Monique Verschuren, Henk FJ Hendriks and Joline WJ Beulens, “Combined effect of alcohol consumption and lifestyle behaviors on risk of type 2 diabetes,” *American Journal of Clinical Nutrition*, June 2010.

American Heart Association, and the National Institute on Alcohol Abuse and Alcoholism (NIAAA).

It is generally accepted that moderate drinkers are at substantially lower risk of heart disease, stroke and other cardiovascular problems and have a generally better health profile. This might be because alcohol is a blood thinner and at moderate doses, promotes high levels of HDL cholesterol, the “good” cholesterol that helps keep arteries clear of fat while lowering “bad” LDL cholesterol levels. The psychosocial benefits of moderate alcohol consumption such as stress reduction, mood enhancement, and improved cognitive performance, especially in the elderly, are most likely an important contributing factor to its positive health effects. Or to put it in plain English, moderate drinking makes you merry and being happy helps you stay healthy. As noted by *British Medical Journal*, “Public health campaigns have often ignored people’s requirement for pleasure.” And so have prohibitionists in general. So to quote the same journal, the answer to the question “Will I live longer if I give up alcohol and sex?” should be, “No, but it sure will seem like it.” We will see that this statement can probably be extended to most currently illicit drugs.

The litany of alleged benefits of moderate drinking goes on and on, from lower blood pressure to increased longevity; lower mortality rate after an heart attack and reduced risk of another heart attack; lower risk of Alzheimer and dementia; reduced incidence of type 2 diabetes; improved resistance to common cold; reduction in disability and absenteeism, etc... You get the picture. Even fruit flies when exposed to moderate level of alcohol live longer and have more offspring than non-ethylic or over-ethylic ones.

The social benefits of moderate drinking include social facilitation, enhanced conviviality and group bonding, and enhanced quality of life in general.

The key here, of course, is moderation, and two drinks a day is apparently the magic number, which of course cannot be 14 drinks a week in a single binge. Drinking with meals is preferred as it reduces absorption and increases elimination, a process further reinforced by moderate physical exercise, such as dancing after an imbibed

meal, a tradition found in many parts of the world. In short, partying with moderate alcohol is good for you; I bet you already knew that. Wine may have an edge over other alcoholic beverages, although the research seems inconclusive so far.

It should be noted that most studies indicate that women should drink lower doses than men (one drink a day). Likewise, there is absolutely no health benefit to moderate drinking for people affected with the alcohol flushing syndrome. Therefore, like most things ethylic, the benefits of moderate alcohol drinking applies mostly to Westerners. Even if moderate drinking is generally beneficial to Chinese and Japanese drinkers (and the evidence is not conclusive), it doesn't change the fact that anywhere between 50 and 90% of various Asian populations are genetically prevented from drinking.

Heavy episodic drinking/binge drinking

Heavy episodic drinking or “binge drinking” is defined as a drinking episode leading to acute impairment and intoxication. Binge drinkers generally do not seek the moderating effect of food intake. They even tend to avoid it, as the primary purpose of binge drinking is not social facilitation but intoxication. The traditional definition of binge drinking is “the consumption of alcohol to intoxication, usually a solitary and self-destructive activity lasting up to several days and involving a loss of control.” Nowadays, the definition of binge drinking varies from five or more drinks over a single drinking episode in the US, to seven in Australia or eight in the UK. The later definition is arbitrary, as the same five drinks will have vastly different effects taken within a one- to two-hour period on an empty stomach or with a copious meal lasting for hours in a family reunion. The most severe type of binge drinking, where BAC reaches 0.20 (2½ times the legal drinking limit of 0.08) and over, are sometimes referred as “extreme drinking” or “industrial-strength bingeing.”

Many traditional cultures had ritualized “loss of control” events of extreme drinking where behavioral and social norms were temporarily loosened or suspended, such as the Roman Bacchanals and their Christian successors, the carnivals, where the quasi-entire

population collectively indulged for a period of time. The carnival or Mardi Gras has survived to this day in many parts of the world. While not as colorful and exuberant, New Year Eve celebrations can be considered as ritualized loss of control.

What constitutes alcohol intoxication depends primarily on the blood alcohol content (BAC). The amount of alcohol needed to reach a given BAC depends on many factors, such as the amount and the time period over which the alcohol is drunk, food intake, ethnicity, gender, health condition, weight and percent body fat. Previous drinking history is also influential, as habitual drinkers tend to develop a tolerance, meaning that they need more alcohol to produce the same effect. Other drugs and medicines may influence the effects of alcohol by stimulating absorption and distribution, slowing the metabolism and the liver, or acting on the same neurotransmitters and receptors. Alcohol should be avoided with sedatives, painkillers and cough, cold, and allergy remedies, among others, and not is recommended with any type on medicine in general.

Binge drinking is a major public health issue with tremendous health burden, social harm and economic costs. Binge drinking is mostly an adolescent and young adult phenomenon, as young people tend to drink less often than adults, but drink more per drinking episode; it affects up to one half of adolescents in some countries, and is often considered a rite of passage. Binge drinking is highly influenced by the social setting: teen parties, nightclubs and discotheques, college, or the military, where peer pressure for high rate of acute drinking is particularly strong.

Adult binge drinking seems to be growing in many parts of the world. According to one study, the number of binge drinking episodes among adults aged 26 to 55 jumped 25% between 1993 and 2001 in the US. 14% of men and 3% of women aged 65 or older admit to binge drinking, a percentage that rises to 23% of men and 9% of women in the 50-64 age group.⁴¹ Similar trends are observed in Canada, the UK and Australia.

41). Timothy S. Naimi, MD, MPH; Robert D. Brewer, MD, MSPH; Ali Mokdad, PhD; Clark Denny, PhD; Mary K. Serdula, MD, MPH; James S. Marks, MD, MPH, "Binge Drinking Among US Adults," JAMA, 2003;289:70-75.

In the US, binge drinking accounts for 95% of underage alcohol use and 76% of adult use. 51% of drinkers aged 18 to 20 are binge drinkers.⁴² 60% of Danes aged 15-16 are binge drinkers. In Australia 88% of adult males and 60% of females binge at least once a year. Binge drinking in Russia means anywhere from two days to one week of continuous drunkenness, and even with this extremely lax definition, 38% of Russians aged 15-16 binge drink at least once a month!

Binge drinking may cause memory loss, neurologic, cardiac, gastrointestinal, hematologic and psychiatric disorders, and may lead to long-lasting cognitive impairments in adolescents. Consequences of extreme drinking include blackout, a temporary memory loss due to acute alcohol intoxication, or alcohol poisoning, essentially an alcohol overdose that can be fatal. Female blackout often leads to sexual assault or gang rape. 4% of women binge drink during pregnancy, leading to fetal alcohol syndrome.

Alcohol depresses self-control mechanisms. Alcohol abuse induces risky and dangerous behavioral changes such as risk-taking, sensation-seeking, and conflictive, aggressive or violent behavior. Binge drinking is associated with a plethora of social harms, such as unintentional injuries (e.g., car crashes, falls, burns, drowning), intentional injuries, violent behavior (e.g., firearm injuries, sexual assault, domestic violence, child abuse, inter-family violence, assault, and battery), and unsafe sex (e.g., sexually transmitted diseases and unwanted pregnancy).

There is a strong correlation between heavy drinking and violence. Alcohol abuse is a significant factor in 68% of manslaughter cases, 62% of assault offenders, and 54% of murders in the US. In Russia, 80% of homicides are committed under intoxication. The heaviest toll of alcohol abuse falls on the immediate family, mostly spouse

42). Office of Juvenile Justice and Delinquency Prevention, "Drinking in America: Myths, Realities, and Prevention Policy," Washington, DC: US Department of Justice, Office of Justice Programs, Office of Juvenile Justice and Delinquency Prevention, 2005, http://www.udetc.org/documents/Drinking_in_America.pdf.

and children; excessive drinking is related to domestic violence, child abuse, intra-family conflict and family disintegration. One third of divorces in UK are alcohol-related, and so are 5 to 14% of child abuses in Japan. Alcohol abuse is also related to group violence: public disturbance, hooliganism, vandalism and gang rape.

Alcoholism (alcohol addiction)

Alcoholism, or alcohol addiction, is a chronic progressive disease involving intense physical and psychological craving and severe withdrawal symptoms when drinking stops. There is no clear delineation between excessive binge drinking and alcoholism but rather a gradual progression that depends largely on genetic, environmental, and psychosocial susceptibility factors. Alcoholism is hereditary to some extent as children of alcoholics are four to nine times as likely to become alcoholic and 40% of alcoholics have an alcoholic parent. Genetic variations in the endogenous opioid system, a key component of the reward pathway, seem to influence alcohol vulnerability and substance abuse in general⁴³. Genetic and environmental factors are reinforcing in families with alcohol problems. Alcoholism is a family illness and alcoholic parenting causes dysfunctional families, which in turn breeds alcoholism. Strong family relationships may counterbalance the potential negative effects of parental alcoholism and contribute to resilience among children of alcoholics, shielding them from developing problems in childhood as well as the early development of alcohol problems in adolescence and adulthood.⁴⁴

While alcohol abuse often leads to broken lives and broken families, and heavy and hazardous drinking is higher among the poorer classes, compounding their poverty, a substantial number

43). Christina Gianoulakis, "Influence of the endogenous opioid system on high alcohol consumption and genetic predisposition to alcoholism," *Journal of Psychiatry & Neuroscience*, September 2001.

44). Ms Lakshmi Sankaran, Dr D. Muralidhar, Dr Vivek Benegal, "Strengthening resilience within families in addiction treatment," *Strength Based Strategies*, 2006.

of alcohol abusers defy the skid row stereotype. These are “high functioning alcoholics,” people with normal lives and normal jobs, often very successful even: CEOs, politicians, surgeons, journalists, lawyers, executives and decision makers, doctors, nurses, teachers, policemen, firemen, contractors, common men and women. Former first lady Betty Ford, Elizabeth Taylor, Eric Clapton and former president G.W. Bush are all reformed “high functioning alcoholics.” House speaker John Boehner is rumored to be alcoholic. Such abusers are typically in denial, using their high functionality as a cover-up for their drinking. Since they are often in a position of power, their entourage typically shies away from bringing up the issue. In a sense, they live a double life and often engage in high-risk behavior during their drinking episodes, such as unsafe sex or reckless driving, and their most acute drinking sessions often end up in blackout. The cover-up typically unravels after a catastrophic event such as DUI, car crash, divorce or illness. In any case, high functionality doesn’t protect alcoholics from the adverse effects of excessive drinking.⁴⁵

Besides the lengthy litany of previously mentioned adverse health effects, long-term alcohol abuse may cause accelerated or premature aging, a process that affects every organ and function of the body, from the skin to the brain. Brains of alcoholics are smaller and have more brain tissue damage than the comparable nonalcoholic, leading to lowered cognitive capacity with high risk of dementia or early onset of degenerative brain diseases.

Youth drinking

Youth trends are particularly important indicators of future use patterns. The advent of global youth culture and its recent explosion through new media technologies is correlated to alarming new trends of hazardous alcohol consumption patterns that transcend international boundaries. In their hedonistic search for the “buzz,”

45). Jane E. Brody, “High Functioning, but Still Alcoholics,” New York Times, May 4 2009.

youngsters often perceive alcohol as one of the many ways to get high in the psychoactive marketplace; alcohol is consumed for intoxication in a binge-drinking pattern. Binge drinking is even spreading in the Mediterranean countries where excessive drunkenness was traditionally frowned upon; beer is replacing wine among young drinkers. Drinking games and drinking contests, the transnational popularity of which extend from Japan to Finland and all the way down to Australia, recently made headlines in France after the intoxicated deaths of several youngsters. Among other worrisome trends, the gender gap is rapidly eroding in the younger populations as female drinking is rapidly catching up with male drinking.⁴⁶

After seeing their sales stabilize or even decline in most developed countries, alcohol marketers were prompt in addressing the new global psychoactive marketplace. The new drink category of “alcopops,” essentially alcoholic soft drinks, targeted to youths and women, girls in particular, is destined to facilitate the smooth transition from soft drinks to an ethylic lifestyle, and recruiting the next generation of drinkers, often using cartoonish packaging and marketing to appeal to an ever-younger crowd. Fashion drinks and designer drinks are a direct response to the spread of designer drugs such as ecstasy; alcohol products are being redesigned and repositioned to compete in the “recreational drugs war,” a term coined by journalist Jim Carey. To quote Richard Carr, chairman of Allied Leisure, the entertainment arm of Allied-Tetley-Lyons: “Youngsters can get Ecstasy for £10 or £12 and get a much better buzz than they can from alcohol...it is a major threat to alcohol led business.”⁴⁷

The glamorization of alcohol is certainly not a new phenomenon, but global marketers are particularly keen on embracing new media to spread their messages using social networking, viral marketing, music video and even instant messaging, along with more traditional brand imaging, contests, sponsorship of TV series, concerts, sport

46). WHO Global Status Report on Alcohol 2004.

47). “Youth, alcohol and the emergence of the post-modern alcohol order,” IAS Occasional Paper, January 2000.

events or celebrities. TV ads are sometimes specifically designed for viral marketing, often being played just a few times in the hope of being picked up and spread through YouTube, Facebook, or similar networks. The competition is particularly intense in the developing world where 85% of the world youth population live, and even more so in Asia, the world fastest growing marketplace, home to over 62% of the world's youth population and the most wired part of the world. Brand awareness is extremely strong in Asia and marketers are eager to build brand imaging and brand loyalty.

Alcohol marketers are also quick to cash in on the health trend and to emphasize the beneficial health effects of alcohol use, omitting of course the caveat of moderation, or relegating it to a footnote status. They also omit to warn flushers, which constitute the vast majority of Asians, about the hazards of consumption of alcohol in any amount.

More than 55,000 people aged 15-29 across Europe die each year as a result of alcohol-related road accidents, poisoning, suicide and murders, according to the World Health Organization. While statistics are hard to get, alcohol-related fatalities are the number one cause of death among youngsters in developed countries.

In conclusion, the overwhelming adoption of hazardous drinking patterns and psychoactive use patterns in general within the global youth culture is particularly worrisome and may be predictive of social disruptions to come. Or it may manifest the heightened need for time out to cope with the stress and ever-increasing complexity of modern societies. Or both. This trend is worrisome because the early onset of excessive use of any psychoactive substance is the overwhelming indicator of abuse and dependence in adult years; the earlier the onset, the higher the risk of abuse and dependence. People who have never abused by the time they reach 21 are very unlikely to ever abuse any substance, with the exception of prescription drugs.

We should also note that in a way, the global youth culture is already post-prohibitionist and doesn't differentiate much between legal and illegal psychoactives in their elusive pursuit of the buzz. And so the alcohol industry, at least in relation to the global youth culture, is treating other psychoactives as potential competitors in the global psychoactive marketplace.

The socio-economic cost of alcohol

According to the WHO Global Status Report on Alcohol 2004, there are about 2 billion alcohol drinkers in the world; of these, 76.4 million, or 3.8% of drinkers, have alcohol use disorders, 73.7 million men and 2.7 million women. About 2.3 million people, 3.7% of all deaths, die worldwide from alcohol-related causes, making it the third cause of preventable death in the world, behind tobacco at 5.5 million and poor diet and lack of exercise at 4 to 5 million.

According to the same report, the estimated global cost of harmful use of alcohol is US\$210 – 665 billion. This is 0.6-2.0% of the global GDP. These figures include the costs of illnesses, premature mortality, drunk driving, absenteeism, unemployment, criminal justice costs, and criminal damage.⁴⁸ This is indeed a pretty wide range, underlining the difficulty of estimating the real cost of the damages created by alcohol abuse. One of the issues is that alcohol is linked to an array of social harms well beyond the abuser himself and the bulk of the social harm is collateral damage, damage to the abuser's immediate surroundings – mostly family and workplace – but also society at large as a substantial amount of innocent bystanders suffer damages as victims of crime or accidents. If we categorize psychoactive substances between high and low collateral damage, alcohol would handily come at the very top while tobacco would probably be at the bottom, followed by hallucinogens, cannabinoids, opioids, cocaine and amphetamines in increasing order of collateral damage.

To be fair, the socio-economic cost of alcohol should be balanced against its economic benefits and its contribution to the GDP and to tax collection among others. Alcohol is an important source of employment and revenues, both directly and indirectly from production, transformation and packaging, to distribution and retail. It is an important part of local economies in many parts of the world and benefits rural areas and agriculture. Alcohol also benefits the retail, tourism, and hospitality industries. It contributes to the government's coffers, directly through taxation and excise duty,

48). WHO Global Status Report on Alcohol 2004.

and indirectly through employment and income tax among others. Alcohol contributes significantly to the trade balance of many countries. Finally, alcohol is a source of net profit for the governments of countries or states with state-run monopolies.

In conclusion, the Western relationship with alcohol is deep rooted, going back to the dawn of Western civilization, and seems to be embedded at the genetic level. Globalization is rapidly changing pattern of use, affecting both the traditional alcoholic Western European cultures and the newly converted alcoholic cultures, mostly in newly developed and developing countries. As the dominant psychoactive of Western civilization, alcohol played a pivotal role in the War on Drugs, but the psychoactive landscape in general is being radically altered through globalization and the global youth culture. Alcohol is rapidly losing its dominant player position in the psychoactive marketplace, being increasingly perceived as just one of the players by the global youth culture.

Patterns of alcohol use and the health and psychosocial benefits of its moderate use raise the issue of whether other psychoactive substances follow a similar model. It is indeed very likely that the moderate use of cannabis, coca leaf, ephedra or khat has beneficial health and psychosocial benefits. Unfortunately, the current prohibitionist regime has precluded scientific investigation on potential benefits of illicit substances. Likewise, genetic variations may exist between different populations and ethnicities, leading to substantial variations in effects and tolerance.

Chapter 9:

The case of tobacco¹

“In ancient times, when the land was barren and the people were starving, the Great Spirit sent forth a woman to save humanity. As she travelled over the world everywhere her right hand touched the soil, there grew potatoes. And everywhere her left hand touched the soil, there grew corn. And in the place where she had sat, there grew tobacco.”

Huron Indian myth cited by The Tobacco Atlas (World Health Organization)

Facts and statistics on tobacco use illustrate better than anything else the warped and perverse logic of the War on Drugs, its stubborn imbecility, its hypocrisies, and the cynicism, fundamental greed and moral corruption underlying it.

Tobacco is by far the most lethal addictive psychoactive substance known to man. It accounts for 440,000 deaths – one in every five deaths – every year in the US alone. Fully 50% of all heavy smokers will die of tobacco-related diseases. No illegal drug comes even close, except

1). Sources for this chapter:

http://www.who.int/tobacco/statistics/tobacco_atlas/en/. This remarkable WHO presentation on tobacco use is an easy read with lots of charts and fun graphics; it is even written in plain English and can be freely downloaded! I highly recommend it to educators.

<http://www.cdc.gov/chronicdisease/resources/publications/aag/osh.htm>.

<http://www.inforesearchlab.com/smokingdeaths.shtml>.

<http://www.wri.org/publication/content/8339>.

For statistics on all type of death (including the risk of being eaten by a tiger)

<http://users.erols.com/mwhite28/warstat8.htm>.

maybe heroin and methamphetamine. At 365,000 or 16% of total deaths and growing rapidly, poor diet and physical inactivity is a close second cause of death, with alcohol consumption a distant 3rd at 85,000 deaths, 3.5% of the total. Cigarettes kill more Americans than alcohol, car accidents, suicide, AIDS, homicide, and illegal drugs combined. Tobacco and junk food combined kill 800,000 people every single year in the US! In contrast, deaths attributed to the use of all illegal drugs combined, either direct or indirect, total 17,000 a year and the vast majority of these casualties are due to the illegal status of these substances – needle sharing, overdose due to inconsistent quality, or intoxication due to adulteration.

There doesn't seem to be any casualty related to marijuana use, by far the most widely used illegal drug. To be fair, there is a lack of exhaustive study of the long-term effects of smoking marijuana, but it is quite clear that tar and other components of marijuana smoke aren't any healthier than their counterparts in tobacco smoke. Furthermore, marijuana smokers typically inhale the unfiltered smoke deeply and hold it in their lungs as long as possible, with a highly damaging effect on lung tissues.

Likewise, when we compare fatalities tied to tobacco to those tied to illegal drugs, we are really comparing apples and oranges. The death toll of tobacco is fairly well documented and substantiated by decades of analytical data and includes all tobacco-related casualties, whereas no such data exists for illegal drugs, just because they are, well ... illegal. There are no exhaustive data on the long-term effects of cannabis, heroin or cocaine, not to mention designer drugs and methamphetamine.

For comparative purpose, I should mention that according to a 1999 report from the Institute of Medicine, 44,000 to 98,000 Americans die unnecessarily every year from medical mistakes by health care professionals.

While we will see that tobacco addiction is receding in most of the developed world, it is spreading exponentially almost everywhere else. Tobacco is expected to kill 1 million people in India in 2010 and 1.2 million in China! Over 5.5 million people – one in six deaths

– die of tobacco-related diseases throughout the world every year. Only hunger, at 5.8 million casualties per year, barely beats tobacco as a leading cause of death. I don't know how anybody can find any solace in this fact. It is one of the tragic ironies of our age that 1 billion people are severely underfed on the planet, while the same amount is overweight. While 5.8 million people die of hunger every year, about half that number succumb to overeating, but this is a whole different story altogether.

The tobacco casualty figure is projected to rise to 6.5 million by 2015 and 8.3 million by 2030, the decrease in the developed world being more than compensated for by the exploding increase in the emerging world. It's like a city almost the size of New York (2007 population 8,274,527) or twice the size of Chicago (2007 population 2,836,658) was literally going up in smoke every single year, wiped from the face of the earth. Junk food and tobacco combined do indeed wipe out a city the size of New York from the face of the earth every single year! Tobacco has killed more people in the 20th century than all the wars, genocides and other mass-killings combined. Such manifestations of human folly have plagued the century with two World Wars, the Armenian genocide, Stalin, Mao, the Vietnam War, the Cambodian killing fields, Rwanda, the Iran-Iraq War and the US-Iraq War, and Darfur, just to name some of the deadliest. It is estimated that war and conflicts decimated 160 million people in the 20th century, which pales in comparison to the 300 to 400 million estimated victims of tobacco.

Meanwhile, the tobacco industry is doing well, thank you. About 15 billion cigarettes are sold daily – 10 million every single minute! There is indeed no end in sight for the flood of profits of the tobacco companies – or the junk food companies for that matter.

The US government subsidized tobacco exports for the longest time, subsidies that were finally nominally abolished in 1997.

“The track record of the USA over the past decade makes it clear that policy choices, not WTO rules, determine whether a country combats smoking or promotes it. In the 1980s, during

the Reagan and Bush administrations, it was the trade policy of the USA to work aggressively to open foreign markets for US cigarette exports. The Office of the US Trade Representative launched investigations of various Asian countries and the trade barriers they maintained to insulate their domestic monopolies from competition of US cigarette companies. The aggressive market opening efforts attacked discriminatory practices and non-discriminatory public health practices as well, as the panel decision in Thai cigarettes case showed. As the cited studies report, these US efforts increased the sale of US cigarettes in the targeted countries, and the incidence of smoking, particularly among young people and women.”²

When the US House of Representatives considered a bill to end a tobacco subsidy in 1995, John Boehner, current house Majority Leader as of 2010, handed out checks from the tobacco industry on the floor of the House to fellow Congressmen! As late as 2007, President George W. Bush vetoed a bipartisan plan to expand the Children’s Health Insurance Program, which insured 7.4 million children at one time and was set to be partly financed by an increase in cigarette taxes. These are two of the staunchest supporters of the War on Drugs the US has ever known! George W. Bush, a former cocaine and alcohol addict, more than doubled the cost of the War on Drugs and sent behind bars more drug offenders than ever before. But he protected his friends in the tobacco industry to the very end.

Across the aisle, Bill Clinton approved in September 2000, to the dismay of his supporters, an export subsidy bill that included a \$100 million tax break to the tobacco industry for tobacco products they sell abroad. Even though the tobacco export subsidies had been officially abolished in 1997, tobacco companies were still getting \$100 million

- 2). Douglas Bettcher & Ira Shapiro, Framework Convention on Tobacco Control, Tobacco-Free Initiative, World Health Organization.

a year in tax breaks from the FSC (Foreign Sales Corporations)³ scheme, an amount that doubled under the 2000 bill!⁴

It is quite clear that the tobacco industry still has a lot of friends on the banks of the Potomac, even if it has lost some of its historical influence since the mid-1990s when it was successfully sued by several US states.

Up until very recently, and despite overwhelming public support for tobacco tax increases, the tobacco industry had been extremely successful in maintaining a very low level of taxes on cigarettes in the US at the Federal, and to a lesser degree, at the state level. On April 1st, 2009, the Federal excise tax on cigarettes was raised from a ridiculously low \$0.39 per pack to \$1.10 per pack, by far the largest increase since 1995, when the Federal excise tax was a mere \$0.24. The average state excise tax increased from 32.7 cents per pack to \$1.20 per pack during the same period, bringing the average total Federal and state taxes to \$2.21. A 10% increase in the real price of cigarettes is estimated to reduce consumption by nearly 4%.⁵ The price responsiveness is much higher for adolescents, the population most at risk for new addiction, and estimates go as high as 15% for a 10% price increase. Considering that the vast majority of smokers start in their teen years, the long-term health benefits of price increases is extremely significant.

The industry maintained a clean record in litigation during the first 42 years of tobacco litigation, between 1954 and 1996. As an RJ Reynolds Tobacco Company internal memo bluntly noted “the way we won these cases, to paraphrase Gen. Patton, is not by spending all

- 3). (FSCs) was a scheme formerly provided by United States taxation law for US companies to receive reduced US Federal income taxes for profits derived from exports, through the use of an offshore subsidiary (a “Foreign Sales Corporation”). FSC were found unlawful under the WTO rules in 2000. The US Congress promptly enacted a new scheme, the “Extraterritorial Income Exclusion Act” or ETI, that was itself declared illegal in 2002.
- 4). Congressional Record, September 2000.
- 5). Federal and State Cigarette Excise Taxes — United States, 1995-2009 — CDC — Morbidity and Mortality Weekly Report (MMWR) May 22, 2009 / 58(19);524-527. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5819a2.htm#fig1>.

of Reynolds' money, but by making the other son of a bitch spend all of his."⁶ The majority of cases are still won by the industry.

After a spate of lawsuits, the tobacco industry entered into the Tobacco Master Settlement Agreement (MSA) in November 1998. MSA was originally entered into between the four largest US tobacco companies and the Attorneys General of 46 states to settle the states' Medicaid lawsuits against the industry. Anti-smoking advocates claim that the tobacco industry, in essence, bought immunity against future legal action, while the Cato Institute claims that it turned the industry into a cartel by erecting steep barriers to entry, preserving the dominant market share of the tobacco giants.⁷

As confirmed by decades of internal memos, the industry has known for quite a long time that it was, to quote a tobacco executive, in the drug delivery business, pushing products that were both highly addictive and carcinogenic. Still, in the face of such overwhelming evidence, in 1989 the tobacco industry created and financed – albeit undercover – the Consumer Tax Alliance, an organization expressly intended to turn labor and middle class opinion against prospective excise tax increases as a regressive form of taxation (chief among them of course, taxes on cigarettes). Industry CEOs even testified before the US Congress in 1995 that, in their opinion, nicotine was not addictive.

Facing a shrinking domestic market, tobacco companies are fighting tooth and nail to preserve their booming export business, never hesitating to resort to thug tactics, using every dirty trick in the book to attack their perceived enemies, chief among them their nemesis, the World Health Organization (WHO).

In its 2000 report "Tobacco industry strategies to undermine tobacco control activities at the World Health Organization"⁸ the WHO accuses:

"Evidence from tobacco industry documents reveals that tobacco companies have operated for many years with the

6). Haines v Liggett Group, Inc, 818 F Supp 414, 421, DNJ 1993.

7). Cato Institute, "Tobacco and the Rule of Law," Cato Handbook for Policy Makers, 7th edition.

8). Available for download in six languages at http://www.who.int/tobacco/resources/publications/general/who_inquiry/en/index.html.

deliberate purpose of subverting the efforts of the World Health Organization (WHO) to control tobacco use. The attempted subversion has been elaborate, well financed, sophisticated, and usually invisible.

The release of millions of pages of confidential tobacco company documents as a result of lawsuits against the tobacco industry in the United States has exposed the activities of tobacco companies in resisting tobacco control efforts. That tobacco companies resist proposals for tobacco control comes as no surprise. What is now clear is the scale and intensity of their often deceptive strategies and tactics.

The tobacco companies' own documents show that they viewed WHO, an international public health agency, as one of their foremost enemies. The documents show further that the tobacco companies instigated global strategies to discredit and impede WHO's ability to carry out its mission. The tobacco companies' campaign against WHO was rarely directed at the merits of the public health issues raised by tobacco use. Instead, the documents show that tobacco companies sought to divert attention from the public health issues, to reduce budgets for the scientific and policy activities carried out by WHO, to pit other UN agencies against WHO, to convince developing countries that WHO's tobacco control program was a "First World" agenda carried out at the expense of the developing world, to distort the results of important scientific studies on tobacco, and to discredit WHO as an institution.

Although these strategies and tactics were frequently devised at the highest levels of tobacco companies, the role of tobacco industry officials in carrying out these strategies was often concealed. In their campaign against WHO, the documents show that tobacco companies hid behind a variety of ostensibly independent quasi-academic, public policy, and business organizations whose tobacco industry funding was not disclosed. The documents also show that tobacco company strategies to undermine WHO relied heavily on

international and scientific experts with hidden financial ties to the industry. Perhaps most disturbing, the documents show that tobacco companies quietly influenced other UN agencies and representatives of developing countries to resist WHO's tobacco control initiatives.

That top executives of tobacco companies sat together to design and set in motion elaborate strategies to subvert a public health organization is unacceptable and must be condemned."

Tobacco use has been on a steady decline over the past decade in most Western countries, thanks to high taxes and restrictions on the promotion of tobacco products as well as effective anti-tobacco campaigns. Unfortunately, the tobacco industry is still fighting restrictions on their activities in developing countries where tobacco consumption is literally exploding. Tobacco companies are fighting back with some success the efforts of the WHO and other international organizations, often resorting to spying, infiltration of advisory or regulatory bodies, or bribery of corrupt local governments.

Still, we believe that some lessons can be learned from the somewhat successful tobacco policies in Western countries as they apply to drug legalization. Especially since, unlike tobacco, illegal drugs are not backed by powerful and extremely well politically connected corporations, at least not openly. Effective educational campaigns based on facts rather than fiction can work, especially when they are coupled with aggressive tax policies, severe restrictions on promotion, and control of sales, especially control of access to minors.

While it doesn't make sense that relatively innocuous substances such as marijuana are illegal while the companies producing the deadliest of all psychoactive substances are traded on Wall Street, I don't think that banning tobacco would be a good idea; quite the contrary. Still, some would argue that tobacco executive have been beyond reckless in their pursuit of profit at the cost of literally

hundreds of millions of lives, and deserve to have criminal charges pressed against them.⁹

The addictive power of Tobacco

“Within 150 years of Columbus’s finding “strange leaves” in the New World, tobacco was being used around the globe. Its rapid spread and widespread acceptance characterise the addiction to the plant *Nicotina tabacum*.”

*WHO Tobacco Atlas (a very well made publication that I highly recommend)*¹⁰

Indeed, no other psychoactive substance has ever spread so rapidly and so broadly. This is quite stunning considering the death toll related to tobacco, and a powerful testimony to the amazing addictive power of tobacco.

It is remarkable that the psychoactive effects of tobacco are rather mild while its addictive power rivals those of the hardest illegal drugs such as heroin, cocaine, or methamphetamine, and its lethal power far surpasses even those. Tobacco-induced mind-altering effects and behavioral changes are hardly noticeable, being at most comparable to those of such innocuous substances as coffee and chocolate. It is also remarkable that although nicotine is lethal at very low doses, people hardly ever die directly of tobacco use, but rather of its accumulated side effects. As cigarette smoking affects nearly every organ in the body, chief among them the lungs and the respiratory system, tobacco victims typically go through a succession of lengthy and often extremely painful and debilitating ailments. The long-time smoker is rarely afflicted with a single condition, but rather suffers a gradual collapse of various organs. This, of course, results in extremely high health costs.

The same can be said of the second highest cause of preventable death in Western countries, obesity and being overweight, which

9). WHO, Tobacco World Atlas, ibid.

10). The Tobacco Atlas, WHO, http://www.who.int/tobacco/statistics/tobacco_atlas/en/.

causes probably even lengthier, more painful and debilitating afflictions, as the circulatory system progressively clogs up and the articulations and joints gradually collapse under the extra weight. In the most extreme cases of diabetes for instance, the body loses its ability to heal itself, and gangrene takes over the body in one of the most horrifying type of diseases.

The death trail of tobacco and its adverse effects on health are quite astounding. Cigarette smoking harms nearly every organ in the body. It has been conclusively linked to cataracts and pneumonia and accounts for about one third of all cancer deaths. The overall rates of death from cancer are twice as high among smokers as nonsmokers, with heavy smokers having rates that are four times greater than those of nonsmokers.

Foremost among the cancers caused by tobacco use is lung cancer. Cigarette smoking has been linked to about 90% of all cases of lung cancer, the number one cancer killer of both men and women. Smoking is also associated with cancers of the mouth, pharynx, larynx, esophagus, stomach, pancreas, cervix, kidney, and bladder, and acute myeloid leukemia.

In addition to cancer, smoking causes lung diseases such as chronic bronchitis and emphysema, and it has been found to exacerbate asthma symptoms in adults and children. About 90% of all deaths from chronic obstructive pulmonary diseases are attributable to cigarette smoking. It has also been well documented that smoking substantially increases the risk of heart disease, including stroke, heart attack, vascular disease, and aneurysm. Smoking causes coronary heart disease, the leading cause of death in the United States. Cigarette smokers are two to four times more likely than nonsmokers to develop coronary heart disease.

Most smokers, especially in the developed world, are fairly aware of the dangers of tobacco and would like to reduce their smoking habit or quit altogether. It is estimated that 35 million smokers try to quit every year in the US. 85% of those who try to quit on their own relapse, usually within one week. Sigmund Freud, one of

history's most famous cocaine users and an avid cigar smoker, could kick his cocaine addiction without problem. But he could never quit smoking despite numerous attempts due to severe smoking related health problems that started in his early thirties. He died at age 83 of oral cancer and while afflicted by at least a dozen different health conditions, going through an endless series of mouth and jaw operations, still smoking his cigars all the way to the end.¹¹

Nicotine withdrawal symptoms include irritability, craving, depression, anxiety, cognitive and attention deficit, sleep disturbances, and increased appetite. These symptoms may begin within a few hours after the last cigarette, quickly driving people back to tobacco use. Symptoms peak within the first few days of smoking cessation and usually subside within a few weeks. For some people, however, symptoms may persist for months.

Although withdrawal is related to the pharmacological effects of nicotine, many behavioral factors can also affect the severity of withdrawal symptoms. For some people, the feel, smell, and sight of a cigarette, and the ritual of obtaining, handling, lighting, and smoking the cigarette, are all associated with the pleasurable effects of smoking, and can exacerbate withdrawal and craving.

Nicotine replacement therapies such as gum, patches, and inhalers may help alleviate the pharmacological aspects of withdrawal; however, cravings often persist. Behavioral therapies can help smokers identify environmental triggers of craving so they can employ strategies to prevent or circumvent these symptoms and urges.¹²

With the invention of the cigarette machine in 1881 and the launch by RJ Reynolds of the first mass market brand, Camel, cigarette smoking spread over the world and reached epidemic proportions. The mechanisms of tobacco psychoactive action and addiction are now fairly well known:

11). To be truthful, Sigmund Freud's death was an assisted suicide as his physician and personal friend, Dr. Max Schur, administered him a lethal dose of morphine.

12). Source: http://www.nida.nih.gov/PDF/TobaccoRRS_v16.pdf.

“The cigarette is a very efficient and highly engineered drug delivery system. By inhaling tobacco smoke, the average smoker takes in 1–2 mg of nicotine per cigarette. When tobacco is smoked, nicotine rapidly reaches peak levels in the bloodstream and enters the brain. A typical smoker will take 10 puffs on a cigarette over a period of 5 minutes that the cigarette is lit. Thus, a person who smokes about 1½ pack (30 cigarettes) daily gets 300 “hits” of nicotine to the brain each day. In those who typically do not inhale the smoke—such as cigar and pipe smokers and smokeless tobacco users—nicotine is absorbed through the mucosal membranes and reaches peak blood levels and the brain more slowly.

Cigarette smoking produces a rapid distribution of nicotine to the brain, with drug levels peaking within 10 seconds of inhalation and there is a “kick” caused in part by the drug’s stimulation of the adrenal glands and resulting discharge of epinephrine (adrenaline). The rush of adrenaline stimulates the body and causes an increase in blood pressure, respiration, and heart rate. However, the acute effects of nicotine dissipate quickly, as do the associated feelings of reward, which causes the smoker to continue dosing to maintain the drug’s pleasurable effects and prevent withdrawal.

... nicotine activates reward pathways—the brain circuitry that regulates feelings of pleasure. A key brain chemical involved in mediating the desire to consume drugs is the neurotransmitter dopamine, and research has shown that nicotine increases levels of dopamine in the reward circuits. This reaction is similar to that seen with other drugs of abuse and is thought to underlie the pleasurable sensations experienced by many smokers. For many tobacco users, long-term brain changes induced by continued nicotine exposure result in addiction.”¹³

13). Source: http://www.nida.nih.gov/PDF/TobaccoRRS_v16.pdf.

Other yet undetermined components of cigarette smoke inhibit monoamine oxidase, an enzyme important in the breakdown of the amine neurotransmitters, including dopamine, which reinforces the effects of nicotine and contributes to tobacco dependence.

Recent research shows that tobacco is more addictive to young people than to older people, with children being far more susceptible to addiction than adults over 45.

Animal studies by NIDA-funded researchers have shown that acetaldehyde, another chemical found in tobacco smoke, dramatically increases the reinforcing properties of nicotine and may also contribute to tobacco addiction. The investigators further report that this effect is age-related: adolescent animals display far more sensitivity to this reinforcing effect, which suggests that the brains of adolescents may be more vulnerable to tobacco addiction.

While 80% of alcoholics are smokers, the vast majority of them will die of tobacco related illness instead of alcohol related illness.

There is a very strong correlation between mental diseases and smoking, especially among young people. The causative relation is not clearly established though, and it is hard to determine whether mental diseases predispose to smoking, or smoking causes mental diseases. What is clearly established though is that nicotine withdrawal often causes anxiety and depression. Up to 80% of schizophrenics are smokers.

Medical uses and health benefits of tobacco

Tobacco belongs to the solanaceae botanical family, a plant family including potatoes, tomatoes, pepper, paprika, chili, eggplants, goji berry, petunia, nightshade, datura, belladonna, mandrake, and many other edible vegetables, fruits and roots as well as medicinal plants and drugs, many of them with psychoactive properties. Solanaceae species are typically rich in alkaloids with various level of toxicity ranging from mildly irritating to fatal at small doses, as is the case for belladonna, datura or mandrake.

Native Americans revered tobacco as a sacred plant, a link between the human and the world of the spirits. Tobacco was mostly

used for shamanistic purpose for ritual and medicinal use. It was often used in conjunction with other psychoactive substance such as jimsonweed (*datura*).

“They [the tobacco plants] are *diyin* – holy people – holy spirits, like *ye’ii*, with great medicine. And they are very dangerous. You have to use them with respect, as prayers and offerings in ceremonies, so they’ll reward you. But if you use them without respect, if you smoke them like cigarettes, their power will kill you.”¹⁴

In a sense, Native American intuitively understood the amazing affinity of tobacco with the intricate wiring of the brain, an affinity that may also explain its astounding addictive power. Nicotine mimics the actions of acetylcholine, a major neurotransmitter in both the peripheral nervous system (PNS) and the central nervous system, and a neuromodulator of many other neurotransmitters. Acetylcholine is involved in muscular activity, as well as learning, memory, and mood. The nicotinic receptors are one of the two main cholinergic receptors. They activate the release of dopamine and are important components of the dopaminergic reward system. Nicotine stimulates acetylcholine receptors and may enhance concentration, learning and memory. Freud probably had a point when he claimed that smoking helped him concentrate and organize his thoughts.¹⁵

The loss of acetylcholine in neuronal circuits responsible for learning and memory seems to cause the cognitive symptoms of Alzheimer’s disease. Numerous studies have been conducted over the years to investigate the correlation between smoking and the incidence of Alzheimer disease. Strangely enough, according to an analysis conducted by UC San Francisco, tobacco industry sponsored research show a slight decrease of the incidence of Alzheimer disease

14). “Tobacco Use by Native North Americans: Sacred Smoke and Silent Killer,” Joseph C. Winter.

15). “Cigarette Smoking a Risk Factor for Alzheimer’s Disease, Study Shows,” Science Daily, Feb. 2 2010.

among smokers, while independent studies show an increase of about 72%.

It is remarkable that of all the major illegal psychoactive substances, tobacco is virtually the only one without significant medical use. Alcohol is the most widely used disinfectant; opium was long considered a panacea and morphine is still a major pain killer; cocaine is major topical anesthetic; amphetamines were considered miracle drugs when first discovered by the pharmaceutical industry. Still, tobacco use reduces stress and enhances performance. Its behavioral benefits include arousal, increased attention and concentration, enhanced memory, reduced anxiety, and appetite suppression. Further research is still warranted considering the amazing affinity of nicotine with the brain circuitry. Proper dosage and delivery modes need to be explored. It might be possible to develop nicotine-like drugs to treat cognitive deficit disorders such as schizophrenia, attention deficit disorder, or Alzheimer's and Parkinson's diseases.¹⁶

It is also remarkable that, unlike most psychoactives, there is little benefit to moderate use of tobacco as tobacco damage starts at a very low dosage. Only 10% of tobacco smokers can maintain moderate smoking without getting addicted. To be fair, alternate delivery methods, such as nicotine patches or nicotine gums, haven't been as thoroughly investigated as smoking, and may provide beneficial effects without the harm of smoking. Oral tobacco is far less harmful than smoked tobacco. Tobacco may have been victim of excessive vilification and deserves a second look with alternate methods and patterns of use. After all, tobacco was a sacred plant and social facilitator in many Native American cultures. Maybe all that is needed is a lot of respect for a very powerful plant.

Finally, it should be noted that unlike most other psychoactive substances reviewed in this book – alcohol, prescription drugs,

16). "Nicotine Enhances Learning And Memory: Could This Lead To New Alzheimer's Medications?" Science Daily, Apr. 5 2007.

and illegal drugs – tobacco is not associated with any significant social harm such as unintentional or intentional injuries, risky and dangerous behavior, or violence. Second-hand smoke is the only societal harm related to tobacco, and it has been largely remedied through extensive smoking bans in public spaces.

Chapter 10:

Prescription psychoactive drugs

“All things are poisons, for there is nothing without poisonous qualities. It is only the dose which makes a thing a poison.”

Paracelsus 1493–1541

“From now on it will be the function of the doctor to save humanity from vice, as it formerly has been that of priest... Mankind considered as creatures made for immorality, are worthy of all our cares. Let us view them as patients in a hospital; the more they resist our efforts to serve them, the more they have need of our services.”¹

Dr. Benjamin Rush, founding father of the United States, founder of American psychiatry

Opium, either directly or in myriad preparations, was undoubtedly the most widely prescribed psychoactive medicine from antiquity to the 19th century. Technological improvements allowing the extraction of active principles led to a rapid diversification of the pharmacopeia starting at the beginning of the 19th century with the discovery of morphine, codeine, quinine, cocaine, aspirin, and heroin. The pharmaceutical industry has grown by leaps and bounds since then. The global pharmaceutical market was estimated at \$825 billion in 2010, equivalent to the 15th largest economy in the world, just behind the South Korean economy and well ahead of the Netherlands. It is growing at a brisk rate of 4-7% and should pass the trillion-dollar mark before 2015 thanks to explosive growth in emerging countries,

1). Repeated from Foreword to Section 1.

China leading the trend, with a growth rate over 26%.² Over 48% of the US population reported past-month use of prescription drugs in 2005-2008. 9% reported use of analgesic, 8.9% of antidepressants and 4.5% of anxiolytics, sedatives and hypnotics.³ 11% of the population used 5 or more prescription drugs. 1 in every 5 children and 9 out of 10 elderly were on medication. Health care expenses range from 17.6% of GDP in the US to 8-12% in most developed countries. Americans spent \$234.1 billion for prescription drugs in 2008, more than double what was spent in 1999⁴ and nearly six times the \$40.3 billion spent in 1990. Pharmaceutical expenses still represent a puny 10% of national health care spending.⁵

There are currently tens of thousands of OTC or prescription psychoactive drugs on the market. The vast majority of those have followed the same disturbing pattern since morphine was first isolated in 1806, and soon touted as a universal panacea until its strongly addictive power was discovered. Heroin was first thought of as a cure for morphine addiction. It was the “heroic drug,” capable of curing pretty much any disease under the sky. Cocaine had a similar fate. The first barbiturate, Barbitol, was marketed by Bayer under the trade name Veronal in 1903, and barbiturates soon became some of the most popular drugs of their time; the behavioral disturbances and physical dependence potential of barbiturates were only recognized in the 1950s. Barbiturates are easily overdosed and can be deadly when combined with alcohol. They were the favored chemical murder or suicide substance of choice from the 1920s well into the 1960s. Their prescription is currently rather limited, and they have been replaced by benzodiazepines, discovered in 1963 (Valium, Librium).

Barbiturates were replaced by metaqualone mostly in Europe and Asia in the 60s and 70s under various names, such as Mandrax or Quaalude. The recreational use of metaqualone also peaked in the

- 2). <http://www.pharmaceutical-drug-manufacturers.com/articles/pharmaceutical-market-trends-2010.html>.
- 3). [http://www.cdc.gov/nchs/data/10.pdf#094](http://www.cdc.gov/nchs/data/hus/10.pdf#094).
- 4). <http://www.cdc.gov/nchs/data/databriefs/db42.htm>.
- 5). <http://www.kff.org/rxdrugs/upload/3057-08.pdf>.

70s, but it is still popular in various parts of the world such as South Africa thanks to its very low cost.

Amphetamine was first synthesized in 1887 from the plant derivative ephedrine (found in ephedra), but its use only took off in the 1930s when the Benzedrine inhaler was marketed as a decongestant and offered as amenities on transatlantic flights. Amphetamines were widely used during WWII. Hundreds of millions of doses of Methedrine were liberally distributed to combatants by the Germans and the Allies alike. Hitler may have been an intravenous methamphetamine addict. A large stockpile of methamphetamine from the Japanese military flooded the market after the war.

Benzedrine inhalers were restricted to prescription use in 1965. Amphetamines are still used by military personnel around the world and distributed widely to child soldiers and gang members, especially the infamous “maras.” Its close relative methamphetamine was approved by the FDA in 1943 for the treatment of narcolepsy, mild depression, postencephalitic parkinsonism, chronic alcoholism, cerebral arteriosclerosis, and hay fever. All of these indications have since been removed, and methamphetamine is currently approved for the treatment of ADHD and exogenous obesity under the trademark name Desoxyn. Methamphetamine is one of the most addictive and dangerous psychoactive substance known to man. Its abuse often leads to violent, psychotic, and extremely dangerous behavior. Its use on children for treatment of ADHD is unconscionable.

Tricyclic antidepressants (TCAs), which are predominantly serotonin and/or norepinephrine reuptake inhibitors, were discovered in the 1950s. The most widely used TCA, Amitriptyline, is used to treat anything from depressive and anxiety disorders, attention deficit hyperactivity disorder, eating disorders, to bipolar disorders, and even nocturnal enuresis in children. Amitriptyline is addictive and particularly dangerous in overdose as well as in combination with alcohol or other antidepressants.

TCAs have been mostly replaced by newer antidepressants, such as selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs), supposedly with less

nefarious side effects. Psychostimulants of amphetamine fame have been renamed neuroenhancers, the rising new pills on the block.

Main classes of prescription psychoactive drugs

Prescription psychoactive drugs can be broken down into analgesics, anesthetics, sedatives/tranquilizers, antipsychotics, antidepressants, anticonvulsants, and psychostimulants, all with varying degrees of abuse and addiction potential. The recreational appeal of prescription psychoactives depends to a large extent on their action on the reward system. A detailed discussion of prescription psychoactives is well beyond the scope of this book, and we will mostly focus on the issues of abuse and addiction through over-prescription and/or diversion.

Opiates are the most abused type of prescription drugs. Opiates remain the most efficient analgesics in medicine, either in their natural form (morphine and codeine), semi-synthetic (heroin, oxycodone, hydrocodone, buprenorphine, and hydromorphone), or fully synthetic (fentanyl, meperidine/pethidine, and methadone). Opiates are also used to relieve cough or diarrhea. Oxycodone (under the brand name Oxycontin, Percodan or Percocet), a powerful analgesic meant for cancer patients, and Vicodin (a blend of acetaminophen and hydrocodone), are among the most abused opiates in the US.

Opiates affect dopamine release and the endorphin system in the brain. They inhibit neurotransmitter release and bind to opioid receptors, mimicking the action of endogenous opioid peptides. As they directly affect the brain reward system, they are highly conducive to abuse or addiction. Although most prescription opioids come in tablet form for oral ingestion, the tablets are often crushed by abusers, and sniffed or injected for faster and more potent action. Health care professionals, especially anesthesiologists and nurses, are vulnerable to prescription psychoactives addiction, especially opioid addiction, due to their easy availability and the stressful nature of the profession.

Stimulants are on par with opiates when it comes to abuse and addiction and may have surpassed them in the 2010s. Stimulants mimic monoamine neurotransmitters, including norepinephrine

and dopamine, increasing the dopamine level in the brain. They were the miracle drugs of the 50s and 60s but have been toned down substantially and are currently prescribed mostly for ADHD, narcolepsy, or certain types of depression. Major prescription stimulants include dextroamphetamine (Dexedrine and Adderall) and methylphenidate (Ritalin, Concerta). Methylphenidate is structurally similar to amphetamine with pharmacological effects similar to cocaine. Both dextroamphetamine and methylphenidate have high potential for abuse and addiction. Their use for ADHD is highly controversial.

CNS depressants, sometimes referred to as sedatives and tranquilizers, are the next class of abused prescription drugs, with benzodiazepine (Librium, Valium) leading the pack. Benzodiazepines act primarily on GABA receptors, resulting in sedative, hypnotic, anxiolytic, anticonvulsant, and muscle relaxant action. Barbiturates are other major CNS depressants, but their medical use has been fading away since their peak in the 70s. Phenobarbital (Luminal) is still the most widely used anticonvulsant in the world. CNS depressants are highly addictive and can be easily overdosed.

Sleeping pills such as Zaleplon (Sonata), Eszopiclone (Lunivia, Lunesta), Zolpidem (Ambien) also have recreational appeal with some potential for abuse and addiction.

SSRI and SNRI antidepressants act mostly on serotonin reuptake, and their full benefits may take weeks to manifest, reducing considerably their appeal for recreational use. They nonetheless create dependence, and need to be discontinued gradually in order to avoid unpleasant or dangerous side effects, such as suicidal tendencies or uncontrollable bursts of anger and violence.⁶

Antipsychotic drugs are also rarely used recreationally but are nonetheless highly addictive (you probably guessed it). Long-term use of antipsychotic may lead to shrinking gray matter in the brain.⁷ Antipsychotic drugs are the fastest growing drug category in the world.

6) David Stipp, "Trouble in Prozac," *Fortune*, November 28 2005.

7). Donald C. Goff, MD, "Antipsychotics and the Shrinking Brain," *Psychiatric Times*, May 3 2011.

The vast majority of prescription psychoactive substances have numerous contra-indications and side effects, weight gain being the most frequent with most substances except psychostimulants. Other side effects include dry mouth, dizziness, drowsiness, and sexual dysfunction. Of course, prescription psychoactives also have undeniable health benefits when used properly, but we will see that this caveat is not always met in practice.

Let's divert a moment and look at some of the particularities of the *modus operandi* of the pharmaceutical industry for a better understanding of the issues related to prescription drugs use and abuse.

The patent engine

New drugs are patent protected for 20 years from the patent application date in the US as well as in most developed countries, but the drug approval process is extremely costly and convoluted and may take 8 to 10 years at a cost of hundreds of millions of dollars. Therefore, actual protection is more in the 10- to 12-year range. Extensions are possible under complex circumstances, giving rise to a prosperous patent litigation industry. Patented drugs command a hefty premium while under protection, allowing pharmaceutical companies to recoup their development costs and draw cushy profits. Once patents expire, and usually after somewhat lengthy legal battles, generic drugs kick in and prices drop off a cliff, typically by up to 80% within a few years.

The patent cycle is the engine of the prescription drug industry, as pharmaceutical companies must constantly try to come up with new widgets when their patents expire and their aging blockbusters fall into generic purgatory, sucking up their profits and eroding the bottom line. In the case of psychoactive substances, curiously enough, long-term negative side effects tend to surface as the drugs reach their patent expiration and a new generation comes to the rescue to save the day with yet another new gimmick.

Thus, selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs) produced

stellar blockbusters such as Prozac, Paxil, Celexa, Luvox, Cymbalta, Lexapro, and Zoloft. Prozac created a veritable fad in the early 1990s with claims that it could change lives and cure not only depression, but also shyness, low self-esteem, and compulsiveness. Cymbalta, a SNRI, was the number two top selling drug in the US in 2005. SSRIs and their close relatives SNRIs now ring in a not too shabby \$12 billion in the US alone. Cymbalta and Lexapro brought in a cool \$2.6 and \$2.5 billion respectively in 2010. As Cymbalta and Lexapro are headed for patent expiration inferno, Viibryd (vilazodone HCl) is ready to step in to save the day as traditional SSRI are increasingly coming under fire with potential side effects such as a sharp increase in suicidal tendencies and heart attacks. Its new gimmick: it is “the “first and only” selective serotonin reuptake inhibitor (SSRI) and a serotonin 1a receptor partial agonist and has a better safety profile than its aging competition.”⁸ But the new Holy Grail of anti-depression is expected to come from triple reuptake inhibitors (TRI) that block the reuptake of serotonin, norepinephrine and dopamine. The pharmaceutical industry is investing heavily in this new class of anti-depressants.⁹ There is already a triple reuptake inhibitor on the market, though not on the legal market, its main drawback being that its patent has long since expired. It is called cocaine.

Meanwhile, there is of course very little evidence that the new generation of drugs will perform any better than the older ones.

A whopping one in 20 American and 100 million people worldwide are now on some type of psychoactive medication. The pill-popping rate is so high that pharmaceutical breakdown products from urine are detectable in waterways and accumulate in fish tissues and other aquatic animals, even ending up in tap water, according to recent research conducted by Bryan Brooks and his colleagues

- 8). Ben Comer, “New depression med hopes to grab a piece of the \$12 billion pie,” Medical Marketing & Media, January 25 2011, <http://www.mmm-online.com/new-depression-med-hopes-to-grab-a-piece-of-the-12-billion-pie/article/194970/>.
- 9). Yanqi Liang, PhD, and Elliott Richelson, MD, “Triple Reuptake Inhibitors: Next-Generation Antidepressants,” Primary Psychiatry, 2008.

at Baylor University in Waco, Texas. Strange things like sex changes were observed in catfish or beavers.¹⁰

The stakes are huge as AstraZeneca estimated the worldwide market of neuroscience at \$137 billion in 2010¹¹, up from \$19 billion in 1997. If neuroscience was a country, it would be the 54th largest economy in the world. The market has exploded over the past decade and is projected to grow over \$300 billion by 2018 with an accelerated growth rate of 10% per year. Antipsychotic, antidepressant, and anticonvulsant drugs currently dominate the CNS market.¹² US sales of antipsychotics and antidepressants rose from \$500 million in 1987 to \$20 billion in 2004, a 40-fold increase!

Antipsychotics are the leading drug class and fastest growing category within neuroscience. Sales rose from almost nil when chlorpromazine was released onto the market in 1953 under the brand name “Largactil” to \$14 billion in the US and \$22 billion worldwide in 2008. The new class of antipsychotic drugs called “atypical antipsychotics” is on fire, as sales more than doubled from \$6.2 trillion in 1995 to \$14.3 trillion by 2008. In the children population, the use of atypical antipsychotics skyrocketed, increasing 800% from 1995 to 2005.¹³ The bestselling Quetiapine (Seroquel) cashed \$3.7 billion in sales in the US alone in 2010, \$5.3 billion worldwide.¹⁴ Zyprexa (olanzapine) cashed in \$5.4 while up and coming competitor Abilify had sales of \$3.5 billion.¹⁵

10). Forrest Wilder, “There’s Something in the Water. Scientists take a closer look at the chemicals coming out of your tap,” Texas Observer, July 8 2010.

11). http://www.astrazeneca-annualreports.com/documents/2010/therapy_review_area_factsheets/neuroscience.pdf.

12). <http://neuroscience.utoronto.ca/Assets/UTNP+Digital+Assets/retreat/obi.pdf>.

13). Brenda Goodman, “Study: Newer Antipsychotic Drugs Are Overused – Researchers Say Many Doctors Prescribe Drugs Despite Lack of Evidence of Effectiveness,” WebMD Health News, Jan. 7 2011.

14). Ibid.

15). <http://www.drugpatentwatch.com/ultimate/preview/tradename/index.php?query=ABILIFY>.

Antipsychotics are a pharmaceutical marketer's dream come true as treatments last for years, if not a lifetime, and are not meant to cure but to maintain. Antipsychotics were originally developed for the maintenance of schizophrenia. They have since been extended to the far more profitable bipolar disorder market. They are now prescribed for conditions ranging from post-traumatic stress disorder to social anxiety disorder (excessive shyness) and generalized anxiety disorder, premenstrual dysphoric disorder, and compulsive shopping. To quote a remarkably candid article by pharmaceutical marketer Vince Parry, "healthcare marketers are taking the concept of "branding a condition" to new levels of sophistication" creating "ownable syndromes" and laying out strategies "for fostering the creation of a condition and aligning it with a product."¹⁶ Stock analysts predict growth for the foreseeable future with continued widening of the definitions of illness.

The explosion of the antipsychotic market is fueled in large part by the aging of the population and the resulting explosion of Parkinson's and Alzheimer's. Psychopharmaceutical marketing wizardry, coupled with the growing pressure of daily life and the increasingly competitive educational environment, have created an outbreak of real and imagined mental diseases in children as parental care and attention is delivered in pill form. Mental disorders, be they personality, mood, psychotic, developmental, anxiety, panic, eating, or addiction disorders, are on the rise, thanks to increased awareness and improved pharmaceutical marketing. Mental afflictions have long lost their stigma. They are even becoming weirdly fashionable as normal up and down mood swings, for instance, are repositioned as quasi-faddish bipolar disorder. Long seen as a pariah, the ugly duckling of medicine, psychiatry is having spectacular revenge in what has already been dubbed "the brain century."

16). Vince Parry, "The art of branding a condition," *Medical Marketing and Media*; May 2003.

Cosmetic psychopharmacology – the “worried well” and the medicalization of normalcy

Prescription psychoactives tend to blur the lines between therapeutic use and recreational use. The de facto seal of approval conferred onto them by their pharmaceutical status tends to shroud their potential for abuse or addiction, giving them an illusory perception of safety. To further complicate the issue, “cosmetic psychopharmacology” seems to be an emerging issue for prescription psychoactives, where “cosmetic psychopharmacology” refers to their use by healthy people as physical, cognitive or mental performance enhancers, in the workplace, academics, the military, sports, or daily life in general. Cosmetic psychopharmacology differs from recreational use, as recreational use is essentially sybaritic and hedonistic, whereas cosmetic psychopharmacology is mostly performance-driven for functional enhancement. Such cosmetic psychopharmacology could be viewed as cosmetic surgery for the mind and raises thorny ethical issues for the health care professional, such as medicalization of normalcy and the incestuous relationship between health providers and the pharmaceutical industry.¹⁷

It could be argued that the focus of medicine has shifted over the past decades from disease cure and prevention, to health maintenance or enhancement and beyond with the emergence of medical practices ranging from artificial reproduction to hair transplants and plastic surgery. If plastic surgery for physical enhancement is ethically acceptable, mental or cognitive enhancement through cosmetic psychopharmacology should be equally acceptable. The psychiatric profession is struggling with the growing demand for prescriptions of psychoactives such as neuroenhancers or antidepressants by healthy patients.¹⁸

17). Cynthia M. A. Geppert, MD, PhD, MPH and Peter J. Taylor, DO, MA, “Should Psychiatrists Prescribe Neuroenhancers for Mentally Healthy Patients?” *Psychiatric Times*, April 1, 2011.

18). Laura Weiss Roberts, MD, MA and Shaili Jain, MD, “Ethical Issues in Psychopharmacology, Considerations for Clinical Practice, *Clinical Psychopharmacology*, May 6 2011.

Furthermore, an increasing number of conditions that were considered a normal part of daily life have been medicalized as people's tolerance for mild symptoms keeps lowering, and awareness of their ailing condition is revealed to them through clever pharmaceutical marketing. Such is the case for anxiety, depression, postpartum depression, hot flashes, hyperactivity, social phobia, and even shivering, BDD/Body dysmorphic disorder (dysmorphophobia, poor self-image), trichotillomania (excessive hair pulling), and gambling, as well as numerous other conditions. Being sad, anxious or depressed is a normal response to life events, but normal sorrow or anxieties are routinely repositioned as clinical conditions and treated with the appropriate pills, as the stroke of a pen is increasingly replacing counseling for the convenience of the practitioner, but to the likely detriment of the patients. Shyness and social reticence, such as fear of speaking in public or anxiety before a job interview, have been relabeled "Social Anxiety Disorder" or SAD with the launch of Paxil, propelling it to a top seller position in the market.

Turning quality-of-life issues and occasional and normal annoyances into medical conditions by exploiting the concerns of the cohorts of "worried well" may bling like a jackpot as the Holy Grail of approval of a new drug by the FDA and other health authorities legitimizes the condition as a problem with a medical solution. The "worried well" are kept duly worried by the quasi-obsession for self-improvement and fitness, as well as an endless string of mental health scares fueled by the media and more often than not orchestrated by the psychopharmaceutical industry itself.

Viagra was the forerunner of this new class of quality-of-life drugs. The wild success of the morphing of impotence, an embarrassing and slightly shameful condition, into medicalized "erectile dysfunction," better known by its acronym ED, has propelled pharmaceutical marketers into a frantic search for the next quality-of-life blockbuster. Johnson & Johnson launched dapoxetine (Priligy), a short-acting selective serotonin reuptake inhibitor (SSRI) prescribed for PE (premature ejaculation) in various European countries, with applications pending in the US, Canada, Mexico, and several other

countries. Pfizer and others are working on a similar drug while trying to convince health authorities that they are addressing a legitimate medical condition.¹⁹ Treatments for FSAD (female sexual arousal disorder, the good old frigidity), anorgasmia, and hypoactive sexual desire disorder are all in the pipeline. Meanwhile, marketers stay busy pumping the newly discovered or repositioned afflictions.

The issue is not likely to go away anytime soon as pharmaceutical companies are busily developing new miracle pills to fine tune our mental environment on demand and invent novel “ownable syndromes” to align with their pending products, creating all kinds of solutions in search of a problem. Cures are in the pipeline for a host of novel pathological conditions and new pills to treat compulsive infidelity disorder; trust pills or likeability pills may be coming soon to a pharmacy near you. In the quest for pathologizable conditions, the brain is a gold mine, as mental conditions are quintessentially subjective, and there are no objective diagnostic measures in psychiatry.

To further compound the issue, thanks to the sleek direct-to-consumers marketing by pharmaceutical companies, patients are increasingly dictating their prescriptions to the health professionals, so that the prescription decision increasingly rests on the patient manipulated by pharmaceutical propaganda. Health professionals in turn willfully oblige and are often lavishly rewarded by all kinds of perks such as fancy dinners, posh vacations thinly disguised as medical congresses, or good old kick-backs, even though those are illegal in many countries.

At the same time, the medicalization of normalcy has changed expectations in anything from sexual performance to height, to menopause, or aging. It is redefining normalcy itself, with the pharmaceutical companies having huge vested interests in such normalcy redesigning.²⁰ People are of course entitled to reasonable

19). Natasha Singer, “Sure, It’s Treatable. But Is It a Disorder?” *New York Times*, December 12 2009.

20). Peter Conrad, “The Medicalization of Society: On the Transformation of Human Conditions into Treatable Disorders,” *The Johns Hopkins University Press*, Apr 20 2007.

access to life enhancing modalities, but this raises complex issues of responsibility, pharmaceutical propaganda, and manipulation of public opinion, with the danger of medicalization of deviance or medical social control.

It is perfectly legitimate for instance for the aging to wish to maintain their mental performance as long as possible, especially if there are known risks of degenerative brain diseases. Likewise, they are entitled to a healthy sexual life. At issue is who should pay for it, and where to draw the line. Postponing the onset of Parkinson's or Alzheimer's has clear and substantial health benefits. It greatly reduces the overall cost of such diseases and enhances the quality of life of the patient. Likewise, maintaining a proper body mass has immense health benefits and can result in substantial health costs savings. But are pills preferable to proper diet and exercise? Survivors of extreme traumatic events such as rape, assaults or earthquake typically need some support, but are pills the best way to go? Should the stress, pain and sadness caused by the loss of a loved one, a divorce or the breakdown of a relationship be washed out with pills? At issue is whether the chemical route is the best approach to addressing such problems in the first place, and who should bear the cost.

With an aging population and the increased prevalence of lifestyle diseases, health expenditures are getting more and more unsustainable in many parts of the world, especially in developed countries. Such issues are clearly beyond the scope of this book but raise another issue which is central to our topic, the issue of proper regulation of substances more geared to quality of life, performance enhancement, lifestyle choices, and hedonism than to medicine per se. One may wonder whether such substances are within the scope and jurisdiction of traditional medicine in the first place. At the end of the day, it might boil down to a turf battle, as the already hotly contested borders between traditional medicine, and complementary and alternative medicines, nutrition and the health and wellness industry in general, are getting increasingly blurred with the explosion of brain foods, smart drinks, super-foods, vitamins and other nutritional supplements. At stake is a share of the ever-growing pie of health insurance coverage as a share of the

pie is a quasi-guarantee of a steady flow of income and profits for the foreseeable future, or at least until patent expiration. If health maintenance for the healthy is within the scope of medicine, what about the well-being of a person and his adjustment to his physical and social environment? Can't the reasonable pursuit of hedonistic satisfaction be considered a lifestyle choice? Closer to our topic, how would the currently illegal psychoactive substances fit into the picture in a post-prohibition regime?

Prescription psychoactive drug abuse, a 21st century epidemic

Prescription drug abuse is the fastest growing drug problem in the world. The problem is particularly acute in the US, where it is now the second most important drug abuse issue after cannabis. According to the International Narcotics Control Board (INCB), more people abuse legal narcotics than heroin, cocaine, and ecstasy combined.²¹ NIDA defines prescription drug abuse as “any intentional use of a medication with intoxicating properties outside of a physician’s prescription for a bona fide medical condition, excluding accidental misuse.”²² Ironically, prescription drugs seem to displace other types of substances, mostly cocaine and heroin. One third of recreational drugs initiates began with prescription drugs in 2009, surpassing marijuana.

In the US, emergency room visits involving pharmaceutical drugs have almost doubled to approximately 1.2 million from 2004 to 2009. This figure does not include adverse reactions to pharmaceuticals taken as prescribed,²³ which would probably double the figure. According to the CDC, 27,658 unintentional drug overdose deaths occurred in the United States in 2007. Out of these, 12,000 were

21). “Urgent Action Is Needed Against The Growing Problem Of Prescription Drug Abuse,” INCB press release, 24 February 2010.

22). Wilson M. Compton, Nora D. Volkow, “Abuse of prescription drugs and the risk of addiction,” National Institute on Drug Abuse, Drug and Alcohol Dependence 83S, 2006.

23). <http://www.whitehousedrugpolicy.gov/news/press11/010611.html>.

attributable to opioid analgesics, far more than heroin and cocaine combined. These figures have more than doubled from over a decade ago. Non-medical abuse of legal drugs leading to hospitalization has now caught up with illegal drugs. The rate of unintentional drug overdose death in the US has gone up from 1.2 per 100,000 people in 1971 to 9.2 per 100,000 in 2007.²⁴

As domestic medicine cabinets overflow with all kinds of substances, and psychoactive prescriptions for children and youth become ubiquitous, the ease of access, coupled with a mistaken perception of safety reinforced by widespread direct to consumer advertising, lead to an explosion of non-medical use.

Prescription drug abuse is a quite difficult issue to deal with as powerful conflicting interests are at stake, and health practitioners want to preserve reasonable access for legitimate use by their patients, while the pharmaceutical industry wants to preserve its profits, lobbying tooth and nail to maintain the status quo. Drug delivery systems have been reformulated. Newer pills come in abuse-proof form, such as slow release or patches that do not easily produce a rush, and therefore lose their recreational appeal. Some pills are more difficult to crush and may turn into jelly, so that they cannot easily be snorted or injected.

Addiction by prescription – Big Pharma and greed addiction

Official statistics about prescription drug abuse probably don't even tell half the story and tend to overlook the worrying issue of overzealous prescription, an issue that has been around ever since morphine was prescribed for every condition under the sky in the early 1800s. To quote Dr. Des Jarlais, "The dichotomy between good drugs prescribed by doctors and bad drugs sold on the street [or bad

24). http://www.cdc.gov/HomeandRecreationalSafety/Poisoning/brief_full_page.htm, CDC's Issue Brief: Unintentional Drug Poisoning in the United States.

abused prescription drugs stolen in the family medicine cabinet] is just bad science.”²⁵

The problem is so widespread that in one of the largest settlements in US history, pharmaceutical companies have agreed to pay out over \$5 billion in 2011 for the illegal marketing of antipsychotic drugs. “These settlements were based on allegations that antipsychotic drugs are being inappropriately prescribed to some of the most vulnerable patients, including children and teenagers in psychiatric hospitals, juvenile prisons and foster care, as well as elderly patients in nursing homes.”²⁶ AstraZeneca settled for \$520 million for off-label marketing and violation of the Federal Anti-Kickback statute for its blockbuster Seroquel.²⁷ According to a decade-long study, 44.3% of hospitalized children and adolescents in the US were treated with antipsychotics. The percentage rose to 51.7% for children aged 5 to 12 years.²⁸ Children in foster care and juvenile detention centers in Florida are routinely sedated with antipsychotic drugs while their doctors receive kick-backs from the drug companies.²⁹

SSRIs and SNRIs are related to suicidal or homicidal tendencies, and may lead to uncontrollable outburst of violence. According to various sources, more than half of school shootings and violence all over the world were caused by children or adolescent either taking antidepressants or withdrawing from them.³⁰ My own son was savagely attacked out of the blue during a field trip by one of his classmates

25). Abigail Zuger, “A General in the Drug War,” New York Times Profiles in Science – Nora D. Volkow, June 13 2011.

26). <http://www.consumerjusticefoundation.com/20110530371/big-business/illegal-antipsychotic-marketing-settlement-reached>.

27). “AstraZeneca to Pay \$520M over Drug Marketing,” CBS News, April 27 2010.

28). Arline Kaplan, “Nearly Half of Kids in Inpatient Psychiatric Program Receive Antipsychotics,” Psychiatric Times, May 23 2011.

29). Michael LaForgia, “Drugging juveniles: Doctors hired to evaluate kids in state custody have taken huge payments from drug companies,” Palm Beach Post, May 21 2011.

30). The following site has an exhaustive compilation of school shooting incidents around the world, as well as other reports of antidepressant-related violence: <http://www.ssristories.com/index.php?p=school>.

who bit him hard enough to cause bleeding. The schoolmate had forgotten to take his ADHD medication on that day.

Up to 50% of teen suicides may be associated with antidepressants and antipsychotics. The FDA issued in 2005 a Public Health Advisory titled: "Suicidality in Adults Being Treated with Antidepressant Medications." The warning states: "Adults being treated with antidepressant medications, particularly those being treated for depression, should be watched closely for worsening of depression and increased suicidal thinking or behavior. Close watching may be especially important early in treatment, or when the dose is changed, either increased or decreased." The warning was updated in 2007 to include children and adolescents.

Still, prescribing psychoactives goes on unabated, with children and the elderly as the prime targets. In its final report published in 2003, the New Freedom Commission on Mental Health (NFC), established by President George W. Bush in 2002, calls for "the early detection of mental health problems in children and adults through routine and comprehensive testing and screening."³¹ This recommendation, viewed by some as Orwellian in nature, opened the gates for TeenScreen and similar mental health screening services.

The "TeenScreen" National Center for Mental Health Checkups was launched in 2003 to offer voluntary screening for depression and suicide risk to every American teenager, and is routinely offered in schools throughout the US. The program produces up to 80% false positives, with the associated trauma on children for being flagged as suicidal, bipolar, OCD, ADHD, etc. TeenScreen is widely viewed as a marketing and recruiting ploy by the psycho-pharmaceutical industry, as kids who screen positive are referred to mental health services, sometimes without parental consent, or even against their will. TeenScreen and similar programs may have been quite

31). <http://www.mentalhealthcommission.gov/reports/reports.htm>, President's New Freedom Commission on Mental Health, Commission Reports, Final Report, July 22 2003.

instrumental in feeding the explosion of psychoactive prescription in children.

According to US Senator Charles Grassley, “three Harvard experts whose research contributed to an explosion of antipsychotic drug use in children failed to report a combined \$3.2 million in company consulting fees, in violation of Harvard’s rules.”³² Dr. Joseph Biederman, a world-renowned Harvard child psychiatrist widely credited for the explosion of use of antipsychotic medicine in children, failed to report \$1.6 million in earnings from pharmaceutical companies. He helped to fuel a controversial 40-fold increase in the diagnosis of pediatric bipolar disorder between 1994 and 2003.³³

According to a 2005 census to assess the rates of mental illness in the US based on detailed questionnaires about people’s deepest thoughts and behavior, a whopping 46% of Americans will suffer from a mental disorder during their lifetimes. “In any given year, 18 percent of respondents suffered from a serious anxiety disorder, 10 percent from depression or bipolar illness, 9 percent from an impulse disorder, and 4 percent from alcohol or drug addiction.” Harvard University epidemiologist Ronald C. Kessler, who directed the huge study, found these results depressing.³⁴ I personally find it depressing that Dr Kessler didn’t question the validity of the test in the first place. There is good news in the study for the psychopharmaceutical industry though, and plenty of room to grow: only 40% of those deemed qualified as mentally ill had received some kind of treatment. Dr Kessler wants “to figure out how to improve the quality of the care these patients receive.” It shouldn’t come as a surprise that Dr Kessler’s study was sponsored in part through grants from the psychopharmaceutical industry.

32). “Psychotropic prescriptions for children soar; conflicts of interest, informed consent under scrutiny,” Association of American Physicians and Surgeons, November 10 2008.

33). Gardiner Harris and Benedict Carey, “Researchers Fail to Reveal Full Drug Pay,” New York Times, June 8 2008.

34). Jamie Talan, “Half Are Mentally Ill,” Scientific American, September 21 2005.

Industry-serving overzealous diagnosing of mental illness has reached alarming proportions. Mental disorder disability increased nearly 2½ times between 1987 and 2007 in the general US population; they saw a staggering 35-fold increase among children in the same two decades. Mental illness is now by far the leading cause of disability in US children.³⁵

The psychopharmaceutical industry uses professionals, patients, and users' platforms, often directly or indirectly funded by the industry itself, as soundboards for its propaganda machine. Thus, in a typical article titled "Breaking the Silence" posted on the Parent Guide News website, Lorraine Kaplan sounds the alarm: "Mental illness is second only to heart disease as the leading cause of disability in this country and worldwide, according to the World Health Organization (WHO) and Harvard University... Twelve percent of children and adolescents have a diagnosable mental illness requiring treatment."³⁶

The extent of over-prescription and the damage it causes is not well documented, as most studies nowadays are financed by the pharmaceutical industry and often shrouded as "trade secrets." A particularly dangerous form of over-prescription is polypharmacy, the prescription of a cocktail of drugs more or less designed to counteract each other's side effects, but that often create a snowball effect. Some drug combinations, such as monoamine oxidase inhibitors (MAOIs) and SSRIs, can be fatal. Psychoactive drugs may also interact adversely with other drugs, such as cardiovascular drugs.

The worst part of the story is that all of these psychoactive drugs may be useless to treat the conditions they are supposed to address in the first place. According to Irving Kirsch, antidepressants are no more effective than active placebos; active placebos are drugs that produce side effects similar to those of the tested drug, inducing patients to believe that they are taking the real medicine.³⁷ Meanwhile,

35). Marcia Angell, "The Epidemic of Mental Illness: Why?" The New York Review of Books, June 23 2011.

36). <http://www.parentguidenews.com/Catalog/SpecialNeeds/BreakingtheSilence/>.

37). Irving Kirsch, "The Emperor's New Drugs: Exploding the Antidepressant Myth," Basic Books, 2010.

as prescription psychoactives affect the brain's neurotransmitters balance, their side effects are very real. According to Robert Whitaker, prescription psychoactives worsen mental illness, not to mention their negative effects on the heart and liver and their host of associated conditions, from obesity and diabetes to cardiovascular diseases. Whitaker claims that prescription psychoactives are the major cause of the recent epidemic of mental illness.³⁸

Part of the problem has to do with the approval process. While new psychoactive drugs may be tested over a few weeks, the typical trial period being eight weeks, their use generally spans months or years, if not a lifetime, with practically unpredictable results. Furthermore, drug companies pick and chose the information they want to release to the health authorities. Thus, at least four suicides of healthy volunteers were linked to a clinical trial by Eli Lilly of the drug duloxetine marketed under the brand name Cymbalta to treat depression, and repackaged as Yentreve for urinary incontinence. Data showed that middle-aged women taking duloxetine for urinary incontinence had a suicide attempt rate of 400 per 100,000 person-years, more than double the rate among women of a similar age. The information was withheld as a trade secret.³⁹

Side effects, which some argue are the drugs' real effects, can take years to surface. Many of these drugs have been linked to increased risks of hyperglycemia, diabetes, liver, kidney, or cardiovascular damage, among other irreversible conditions, in addition to weight gain, sexual dysfunction, restlessness, lethargy, hypotension, parkinsonism, or even premature labor and birth defects. Antipsychotics have been linked to reduced gray matter in the brain.⁴⁰ They may also cause neuroleptic malignant syndrome, a

38). Robert Whitaker, "Anatomy of an Epidemic: Magic Bullets, Psychiatric Drugs, and the Astonishing Rise of Mental Illness in America."

39). Jeanne Lenzer, 'Drug Secrets, What the FDA isn't telling.' Slate, Sept. 27 2005.

40). David Cyranoski, "Antipsychotic drugs could shrink patients' brains – Experts say findings should not dramatically change current prescription practices," Nature, 7 February 2011.

life-threatening neurological disorder that affects between 0.2% and 3.23% of patients.⁴¹ Antidepressants and antipsychotics are addictive for all practical purposes, even if the psychopharmaceutical industry uses the sanitized term “discontinuation syndrome” to describe the symptoms attached to cessation of use, which include: insomnia, nausea, vomiting, anorexia, diarrhea, anxiety, agitation, restlessness, and even psychosis.

The long-term effects on children are even less understood, but evidence seems to be mounting that psychopharmaceuticals have a wide range of adverse effects, from stunted growth, to cognitive impairment, and increased risk of depression and anxiety in adulthood. The website for Effexor, an SNRI antidepressant, displays the following safety warning: “Antidepressants increased the risk compared to placebo of suicidal thinking and behavior (suicidality) in children, teens, and young adults.”⁴² If a “safety device” in a car was making the car more dangerous, the “safety device” would be promptly recalled and banned. An article published in May 2011 in the *Psychiatric Times* about ethical issues of psychopharmacology states: “Psychopharmacological competency necessitates a sensitivity to ethical considerations.”⁴³ In an opinion piece published in April 2011, Leo Bastiaens talks about “impressionistic diagnostic assessments in clinical settings.”⁴⁴ This, about substances that will get into the brain with often unpredictable consequences!

The effects of over-medicalization are also felt through generations. Antipsychotics and antidepressants may affect not only the epigenome of women, but the epigenome of their offspring as well. According to research by health insurer Kaiser Permanente, the use of SSRI antidepressant in the year

41). Anthony L. Pelonero, MD, James L. Levenson, MD and Anand K. Pandurangi, MD, 1998, “Neuroleptic Malignant Syndrome: A Review.”

42). <http://www.effexorxr.com/>.

43). Laura Weiss Roberts, MD, MA and Shaili Jain, MD, “Ethical Issues in Psychopharmacology, Considerations for Clinical Practice,” *Psychiatric Times*, May 6 2011.

44). Leo Bastiaens MD, “Poor Practice, Managed Care, and Magic Pills: Have We Created a Mental Health Monster?” *Psychiatric Times*, April 29 2011.

preceding pregnancy doubles the risks of autism. There is a three-fold increase if the drug is taken during the first trimester of pregnancy.⁴⁵ Antidepressants also increase the risk of preterm birth⁴⁶ and adverse effects in the newborn in general. Similar risks may be associated to the use of antipsychotics.

According to the US Department of Health and Human Services, adverse drug events (ADEs) in hospitals alone result in more than 770,000 injuries and deaths each year in the US alone. 9.7% of ADEs cause permanent disability. ADEs double the risk of death according to estimates.⁴⁷ Fatal ADEs voluntarily reported to the FDA increased 2.7-fold from 5,519 in 1998 to 15,107 in 2005.⁴⁸ Despite the scope of the problem, there are no official counts of total fatal ADEs in the US, but estimates put them over 100,000 per year. Fatal ADEs are the seventh leading cause of death in Sweden, with 3% of all deaths.⁴⁹ According to the WHO, ADEs are among the leading causes of death in many countries and ADE-related costs, such as hospitalization, surgery and lost productivity, often exceeding the cost of the medications.⁵⁰ The incidence of psychopharmaceuticals on fatal

45). Lisa A. Croen, PhD; Judith K. Grether, PhD; Cathleen K. Yoshida, MS; Roxana Odouli, MSPH; Victoria Hendrick, MD, "Antidepressant Use During Pregnancy and Childhood Autism Spectrum Disorders," *Archives of General Psychiatry*. July 4, 2011. doi:10.1001/archgenpsychiatry.2011.73.

46). Rita Suri, M.D., Lori Altshuler, M.D., Gerhard Helleman, Ph.D., Vivien K. Burt, M.D., Ph.D., Ana Aquino, B.S., and Jim Mintz, Ph.D., "Effects of Antenatal Depression and Antidepressant Treatment on Gestational Age at Birth and Risk of Preterm Birth," *American Journal of Psychiatry* 164:1206-1213, August 2007.

47). <http://www.ahrq.gov/qual/aderia/aderia.htm>.

48). Laurie Barclay, "Reported Serious and Fatal Adverse Drug Events More Than Doubled Between 1998 and 2005," *Medscape Medical News*, <http://www.medscape.com/viewarticle/562642>.

49). Wester K, Jönsson AK, Spigset O, Druid H, Hägg S, "Incidence of fatal adverse drug reactions: a population based study," *British Journal of Clinical Pharmacology*, April 2008.

50). <http://www.who.int/mediacentre/factsheets/fs293/en/index.html>, Medicines: safety of medicines – adverse drug reactions, Fact sheet N 293, updated October 2008.

ADEs is not well documented but seems to heavily affect children and youths, as well as the elderly. Active duty military personnel and war veterans have also been identified as an at risk population.⁵¹ The fatalities due to over-prescription likely far surpass overdose by non-medical use of prescription psychoactives.

In their pursuit of ever-growing profits, psychopharmaceutical companies have engaged in reckless practices that rival those of street drug peddlers. Just like street drug pushers, they too target children and adolescents. Unlike illegal drug pushers, they also target the elderly. It is quite ironic that the current explosion of pharmaceutical psychoactives is paralleled by an explosion of designer drugs in the illegal drug marketplace.

The pharmaceutical corporations shouldn't necessarily be blamed for this state of affairs, as the primary purpose of any corporation, regardless of its activity, is the sustained maximization of its profits for the greatest benefit of its shareholders. The particular activity of a given corporation is just the means that the corporation is choosing to fulfill its primary goal. Even though a corporation is ultimately an organization of individuals, the primary loyalty of those individual is to the corporation, at least while officiating for the corporation, especially at the higher echelons of the corporate hierarchy. Bending the rule-making process in their favor as far as they can, and then bending the rules as close to the breaking point as possible, is just one of the means for corporations to fulfill their primary obligation. In their pursuit of profit maximization, pharmaceutical corporations do not leave anything to chance. Their influence extends from the spheres of power to academia to the media, and to the public, without forgetting of course the health care providers. For instance, the vast majority of mandatory continuing medical education is directly or indirectly sponsored by the pharmaceutical industry that also funds the majority of academic research. There is a revolving door between the industry and regulators, practice, and academia, creating endless potential conflicts of interest.

51). Allen Frances, MD, "Polypharmacy, PTSD, and Accidental Death From Prescription Medication," *Psychiatric Times*, March 9 2011.

While there is no denying the immense benefits to public health brought about by the progress of medical science, medicine has lost sight of its founding obligation of first doing no harm and is clearly overstepping its boundaries as the medicalization of normalcy increasingly amounts to moral and social engineering. As the medical model embeds itself deeper and deeper into the societal meta-model through the growing appropriation of daily life, are we relinquishing too much power to the medical establishment? Such a worrisome evolution may have both unforeseeable and highly predictable consequences, such as the creation of an unsustainable system, and the very real risk of bankrupting advanced economies.

Pharmaceutical companies and their financial backers have long been drooling at the prospect of medicalizing the healthy. Thirty years ago, Merck's chief executive, Henry Gadsden, candidly expressed to *Fortune Magazine* his frustration at being limited to the diseased, and wished to be able to sell his wares like chewing gum or any other consumer product.⁵² His wish might be granted as we speak, and the brain is the launching pad for the medical takeover of our daily life as the inherently subjective nature of mental afflictions makes them ideally expandable. With Disruptive Mood Dysregulation Disorder (DMDD, also known as Temper Dysregulation), the newest syndrome on the block, approved by the DSM-5 Scientific Review Group⁵³ in July 2011, the psychopharmaceutical industry is getting dangerously closer to its Holy Grail of medicalizing everything.

Nowhere is the invasion of medicine into our private lives more troublesome than in the field of neurology and psychiatry, as by tampering with the human brain, it reaches into the very essence of our humanity. It could worriedly be argued that psychiatrists have remained faithful to Dr Rush's original intent.⁵⁴ But, at a time when

52). Alan Cassels and Ray Moynihan, "Pharmaceuticals for healthy people – US: selling to the worried well," *Le Monde Diplomatique*, May 2006.

53). Allen Frances, MD, "DSM-5 Approves New Fad Diagnosis For Child Psychiatry: Antipsychotic Use Likely to Rise," July 22 2011.

The Diagnostic Statistical Manual (DSM) is the psychiatric bible. Its next edition, DSM-5, is due out in 2013.

54). See opening quote at the beginning of the chapter.

exuberance, restlessness, vivaciousness, impulsivity, or resistance to homework are routinely diagnosed as ADHD, and deviance, eccentricity, and natural idiosyncrasies are turned into mental illness, it might be time to step back, take a deep breath, and look at where all of this is heading.

Practitioners, for one, need to be reminded of their Hippocratic Oath to do no harm. They also need to be reminded that a health care practitioner has some ethical obligations to his patients first, which supersede even his corporate loyalty. The practitioner should never lose sight of his patients' best interest, and his personal interests, especially his personal financial interests, should never interfere with his decision making with his patients. Drugs should only be used when their benefits clearly outweigh their potential risks. As such, the frivolous prescribing of substances marketed as harmless although mostly untested for their intended use, should be stopped, and psychopharmaceuticals should only be prescribed in cases showing clear benefits.

In any case, before being brought into potentially lengthy neurochemical treatments, patients or their guardians should be entitled to full and accurate disclosure through easily understandable communication and information for informed consent. Risks and benefits of the treatment should be clearly explained, as well as the risks and benefits of alternative treatments, including placebo, and the risks and benefits of no treatment at all.⁵⁵

Last but not least, the power of the pharmaceutical industry should be reined in, as the industry is under no obligation to self-regulate unless it serves the best interests of its corporations. Corporations have vastly more power than individuals. Unless this power is properly balanced and kept in check by institutions that truly represents the public interest, the power of corporations will destroy whatever is left of our free societies. Democratic institutions are supposed to represent public interest and protect and promote the common good. Unfortunately, our institutions are increasingly

55). Steven Woloshin and Lisa M. Schwartz, "Think Inside the Box," New York Times, July 4 2011.

impregnated by corporate power and money, as democracies morph into moneycracies.

Conclusion

Neurochemical imbalances have been correlated to most mental conditions. Medicine intends to chemically correct these imbalances under the false assumption that such neurochemical imbalances are the cause of the neuropsychiatric disorders, while they are merely symptoms of the disorders. The root causes of mental illness could probably be found in the complex interactions of genes and the environment at large. They are influenced by interacting factors ranging from cellular environment to diet, physical, familial and social environment, and mental attitude. Epigenetics has clearly demonstrated that genetic factors alone, while they certainly may indicate a predisposition to specific mental illnesses, are rarely their major determining factor.

There is no denying the usefulness of psychopharmaceuticals in some circumstances, but such drugs do not cure mental illnesses, they merely mask symptoms, while they have short- and long-term side effects and can create addiction and dependence. The chemical route is generally neither the only nor the most effective option for mental problems, even if it is certainly the most practical and least demanding for the practitioner. Furthermore, the use of psychoactive drugs creates neurochemical imbalances of their own in healthy people. Thus, antipsychotics can produce so-called “negative symptoms” associated with schizophrenia in non-psychotic users.

Even though our understanding of the brain has progressed dramatically over the past decades, the brain is an extremely complex organ that is still rather poorly understood. Furthermore, it is highly simplistic and reductionist to equate the workings of the brain to the chemical exchanges taking place within the brain. As we have seen in Chapter 6, all psychoactive substances interfere with the neurotransmission process within the brain with both short- and long-term consequences that are still not well understood. Long-term use of psychoactive substances alters the neural environment

and tricks the brain into maladaptive responses. The adaptation to an artificial cellular environment influences neuroplasticity and affects the brain's neural network, resulting in temporary neurobiological and behavioral changes that may become permanent, especially in children and youths. Therefore, extreme caution should be exercised in the repeated use of neuroenhancers or psychoactive substances in general, regardless of their legal status.

Prescription drugs should serve as a cautionary tale on the path to re-legalization of currently illegal drugs. Considering the powerful financial interests that could be unleashed by re-legalization, it could end in a substantial worsening of the substance abuse issue if proper regulations are not set in place. Harms and benefits should be properly evaluated in the policy design and implementation process. Unfortunately, financial contributions to electoral campaigns are some of the weightiest benefits in lawmakers' balance sheets in their policy-making process. Unless individual citizens and advocacy groups are vigilant and weigh in with enough strength, the re-legalization process could very well be derailed and appropriated by powerful corporate interests, which will make it much more susceptible to pressure away from the best public interest. It is a dire assessment of the prohibitionist regime that even that worst-case scenario would still be a marked improvement over the current situation.

Chapter 11:

Illegal drugs

“The greatest social control power comes from having the authority to define certain behaviours, persons and things.”

Conrad and Schneider (Deviance and Medicalization)

It is well beyond the scope of this book to go into great detail about the various illegal drugs on the market. Numerous books are already dedicated to the subject (see suggested reading at the end of this book). The Internet is crowded with hundreds if not thousands of sites with all kinds of information of widely varying reliability, the best known and one of the most respected being www.erowid.com. We will review the major classes of psychoactive substances to highlight the arbitrariness of the legal status of the ostracized psychoactive substances.

Cannabis and Cannabinoids¹

“How many murders, suicides, robberies, criminal assaults, holdups, burglaries and deeds of maniacal insanity it causes each year, especially among the young, can only be conjectured...No one knows, when he places a marijuana cigarette to his lips, whether he will become a joyous reveller in a musical heaven, a mad insensate, a calm philosopher, or a murderer...”

HARRY J ANSLINGER Commissioner of the US Bureau of Narcotics
1930-1962

- 1). Further readings: <http://www.cannabis-marijuana.com/refs/index.html> a huge database on anything cannabis.

Cannabis is by far the most commonly used illegal drug in the world with estimates for past-year use in 2009 ranging from 125 to 203 million people or 2.8% to 4.5% of the world population aged 15-64;² up to 50% of the total US population may have tried it at least once. The percentage of current users rose from 5.8% in 2007 to 6.6% in 2009 in the US. Its use is widespread throughout Canada, Europe, Australia, and many other parts of the world.

Cannabis or hemp, also known as marijuana, weed, kush, pot, dope, bhang, charas, ganja, Mary Jane, reefer, skunk, kif and a few dozen other names, refers to the leaves and flowering tops of the plants *cannabis indica* and *cannabis sativa*. *Cannabis sativa* is a hardy plant that can grow to up to 15 feet in three to five months in the outdoors and in as little as 60 days indoors under artificial lighting, making it an extremely profitable indoor crop. Hashish is produced by collecting the resin found in abundance on the flowering tops. Morocco, Afghanistan and Lebanon are the leading producers of hashish. Marijuana is grown in virtually every country in the world.

According to archeological evidence, the use of cannabis probably started in China 12,000 years ago. The Chinese used the seeds in food by 6,000 BC. Its medicinal use has been traced back to a Chinese herbal treaty dating from around 2,727 BC. The Scythians, in what is now Afghanistan and Iran, were using it for intoxicating purpose around 2,000 BC. At about the same time, the Vedas, the most sacred book of India, mentions cannabis as one of the five sacred plants of the god Shiva. To this day, Shiva worshippers make a cannabis resin called charas that they smoke abundantly for ritualistic purpose.

Cannabis was introduced to Europe by the Scythians around 500 BC and was mostly used for fabrics and ropes, as well as medicinal preparations. With the ban on alcohol, the recreational use of cannabis and hashish spread rapidly throughout the Muslim world. Hemp was brought to the US by the settlers; its cultivation was made mandatory for farmers in Virginia in 1619 and hemp was grown by

George Washington and Thomas Jefferson. Cannabis was part of the American as well as European pharmacopeia until the late 1900s and was found in numerous medicinal preparations. The cannabis variety cultivated for the production of hemp fiber contains hardly any THC, the main ingredient responsible for the psychoactive effect of the plant. The original Ford Model T was made with hemp plastic and was designed to run on hemp ethanol.

Even at the height of the reefer madness orchestrated by Harry Anslinger and his puppet master William Randolph Hearst, the recreational use of cannabis, conveniently renamed marijuana in the US, was marginal at best. It was mostly cantoned to racial minorities and jazz musicians, allowing for its easy ban without bothering anybody who counted, or with a voice loud enough to be heard. Hemp farmers discovered too late that they had been voted out of business, even though their particular variety had absolutely no psychoactivity. Foul play was suspected from the wood-pulp paper industry led by paper and media magnate William Randolph Hearst who fueled the anti-reefer panic, on alleged fears that his nascent empire might be threatened by far superior hemp paper.

Whether out of hazard or necessity, the popularity of marijuana took off with its prohibition and kept growing as such prohibition grew tougher before exploding as the beat generation gave way to the hippy generation and the counterculture, and marijuana became a symbol of defiance and rebellion. Marijuana was stripped of all medical value by the 1961 United Nations Single Convention on Narcotics Drugs, thanks to Anslinger's unrelenting international lobbying. It was classified alongside heroin and cocaine as "having strong addictive properties" and/or "a risk to public health."³

Cannabis differs from other illicit drugs in the sense that the cannabis plant has many uses besides its psychoactive and medicinal uses. Hemp is a low THC variety of cannabis. It produces a strong fiber that has been used for ropes and fabrics for at least 10,000 years.

3). For a more detailed timeline of marijuana history see: <http://news.bbc.co.uk/2/hi/programmes/panorama/4079668.stm>.

Hemp seeds have been used for human and animal consumption since the oldest time. They are rich in essential fatty acids and omega-3, and have one of the highest protein contents behind soya, with a near complete amino acid profile. Cultivation of industrial hemp is still prohibited in the US, even though it is permitted in Canada and many European countries. China and India are the world's largest producers of industrial hemp. Hemp is a hardy plant and went feral, being known as ditch weed, when its cultivation was discontinued in the US. The DEA has spent hundreds of millions of US taxpayers' dollars over the last two decades, pulling out billions of feral hemp plants in the futile attempt to eradicate the stubbornly hardy and otherwise innocuous weed, even though smoking it would make one sick long before it would get him high. It looks good on congressional reports though, and makes the DEA eradication campaign look impressive if one omits the fact that 98.5% of marijuana eradication consists in fact of pulling out harmless but hardy weeds.⁴

Medical applications of cannabinoids

Cannabis contains more than 400 different chemical compounds, including over 80 cannabinoids, called phytocannabinoids to contrast with the brain-produced endocannabinoids, the two major being THC (delta-9 tetrahydrocannabinol) and CBD (cannabidiol); other cannabinoids include cannabinal (CBN) and tetrahydrocannabivarin (THCV). THC is the main psychoactive ingredient while CBD seems to act as a THC antagonist and appears to modulate its effects. In its natural state, cannabis contains its own antidote and modulator, as is often the case in nature. Many medicinal herbs have reduced side effects compared to their isolate active ingredients as they often contain constituents that may mitigate the side effects of their dominant active ingredients.⁵

- 4). <http://newaghempeconomy.com/2011/04/20/your-tax-dollars-at-work/>.
- 5). J. McPartland and E. Russo, 2002, Cannabis and cannabis extracts: greater than the sum of their parts, Journal of Cannabis Therapeutics.

Advances in the chemistry and pharmacology of cannabis and the discovery in 1990 of the endogenous cannabinoid signaling system⁶ opened the gate to the better understanding of the action of THC and other cannabinoids on the brain. As we have seen in Chapter 6, THC mimics the neurotransmitter anandamine and links equally with the cannabinoid receptors CB1 present mainly in the central nervous system, and CB2 present mainly in the peripheral nervous system and the immune system. The action on CB1 receptors is responsible for the “high” induced by cannabis. Through their action on CB1 receptors, THC and CBD act as glutamate inhibitors, which may explain their beneficial effects on chronic pain, chronic depression, and degenerative neurological conditions, such as Parkinson’s and Alzheimer’s diseases. Both THC and CBD may be neuroprotectors and antioxidants.⁷

Research into the benefits of cannabis has been considerably hampered by its illegal status and the official denial of its potential health benefits. Furthermore, the effects of THC are far from being well understood. Because of its mixed stimulatory/inhibitory effects on neurotransmitter release, it may be either excitant or depressant; it can be anticonvulsant in some or proconvulsant in others, anxiolytic in some or anxiogenic in others.⁸ The list of conditions that may benefit from the use of cannabis is growing daily with varying degrees of arbitrariness. Considering the role and function of the endocannabinoid system in the central nervous system, the peripheral nervous system and the immune system, and

6). See Chapter 5 – “The Endocannabinoid System.”

7). David Baker, Gareth Pryce, Gavin Giovannoni, Prof Alan J Thompson, “The therapeutic potential of cannabis,” *The Lancet Neurology*, Volume 2, Issue 5, Pages 291 – 298, May 2003.

See also <http://www.cannabisdoctorsnetwork.com/medical-marijuana-uses.php>.

8). R G Pertwee, “The diverse CB1 and CB2 receptor pharmacology of three plant cannabinoids: Δ^9 -tetrahydrocannabinol, cannabidiol and Δ^9 -tetrahydrocannabivarin,” *British Journal of Pharmacology* 2008 January; 153(2): 199–215.

considering that the endocannabinoid system modulates virtually all the neurotransmission systems in the brain, the multiple potential benefits of exo-cannabinoids is not surprising though. Thus, the use of cannabis by cancer and HIV patients to prevent nausea and vomiting, or for appetite stimulation and pain control, is well known, but it appears that cannabinoids may have anticancer properties as well. Cannabinoids seem to regulate cell survival; they may induce apoptosis, the self-destruction of cancerous cells, without affecting healthy cells through the CB2 cannabinoid receptors.⁹

The pharmaceutical industry is trying to cash in. Synthetic THC_s, such as Marinol and Nabilone, are already on the market in various parts of the world, allowing the DEA to claim: “Medical marijuana already exists. It’s called Marinol.” The DEA tries to contrast, quite unconvincingly, good Marinol in its pill form with bad marijuana in its smoked form.¹⁰ Potheads are not impressed. This being said, ingestion through smoke inhalation is probably not the best delivery system for cannabis used for medical purpose.

CBD (cannabidiol) plays an important modulatory role in cannabis as a potent antagonist of CB1/CB2 receptor agonists (such as THC) and may mitigate the negative effects of THC. CBD seems to have antipsychotic properties and may counteract the potential effects of THC on individuals with schizophrenic predispositions. CBD also exhibits anticancer, anti-diabetic, antiepileptic and antibacterial properties.

Route of administration

Even though there is a growing emphasis on the medicinal applications of cannabis products, especially in the US, the bulk of their use throughout the world remains recreational. Opponents

- 9). Herrera B, Carracedo A, Diez-Zaera M, del Pulgar TG, Guzmán M, Velasco G, The CB2 cannabinoid receptor signals apoptosis via ceramide-dependent activation of the mitochondrial intrinsic pathway, *Exp Cell Res*, 2006.
- 10). <http://www.justice.gov/dea/ongoing/marinol.html>.

of medical cannabis contend that in most cases, medical cannabis amounts to not much more than recreational use with a medical fig leaf.

Smoking through anything from a simple joint to all kind of paraphernalia remains the preferred route of administration of cannabis products. This method has lots of drawbacks though, as marijuana smoke is at least as harmful as tobacco smoke, aggravated by the fact that marijuana smokers other than Bill Clinton hold the smoke as long as possible to increase its effect. To quote Barack Obama, "That's the whole idea!"

Cannabis can also be ingested, typically in cookies or pastries; there are even plans to market "soda-pot." Ingested cannabis is slow acting, taking at least one hour to get its full effect, and can be far more potent than smoked cannabis as first-pass metabolism by the liver breaks down THC to a more potent psychoactive metabolite. On a visit to Morocco during my hippy days, a nonsmoker friend of mine with no prior cannabis experience decided to try a good serving of a local cannabecake and laid flat for three days, tripped out of his mind. THC being liposoluble, it absorbs faster when ingested with fatty foods.

Vaporizers have been devised to remedy the inconvenience of other modes of administration. According to California NORML, "Vaporization is a technique for avoiding irritating respiratory toxins in marijuana smoke by heating cannabis to a temperature where the psychoactive ingredients evaporate without causing combustion... vaporizers can efficiently deliver cannabinoids while eliminating or drastically reducing other smoke toxins. ... Alternative devices, such as water pipes, have been shown to be ineffective at reducing the tars in marijuana smoke."¹¹

Tinctures and other preparations or their recipes¹² are available on the Internet. Colorado-based Organalabs offers a line of products including sub-lingual tablets (CannaTabs), honey oil, portable

11). <http://www.canorml.org/health/vaporizers>.

12). <http://www.erowid.org/experiences/exp.php?ID=41802>.

vaporizers and cartridges, all made with their CO₂ extracted cannabinoids.¹³ British-based GW Pharmaceuticals offers Sativex mouth spray for MS sufferers. Finally, cannabis can be used topically in unguents for the relief of aches and pain.

THC concentration seems to be sharply on the rise thanks to hybridization, cloning and improved cultivation practices. THC content of seized marijuana has increased substantially from 3 to 4% in the 1980s to 10% to 14% or more by 2010, with some varieties, such as the infamous skunk or kush, exceeding 20% THC. At the same time, CBD content has decreased dramatically¹⁴. This may explain the increase in psychotic episodes related to acute use of marijuana. High cannabidiol (CBD) strains have been developed for medical patients who don't care about the psychoactive side effects.

The sharply increased marijuana THC level due to the technological innovations of hybridization, cloning and hydroponics are likely to lead to a disease of excess, just like other technological innovations have done in the past for other psychoactive substances, such as morphine/heroin for opium, cocaine for coca leaf, amphetamines from ephedra, and before that, distilled alcohol. As we have seen already, technological innovations that radically alter the potency of a psychoactive substance create an adaptive gap that translates into diseases of excess. This is also true for diet, as processed foods are directly tied to a plethora of diseases of excess, starting with obesity and cardio-vascular diseases.

Some users argue that high THC marijuana requires lower intake to get the same effect and thus, lowers smoke exposure. While this is true for smoked inhalation, it doesn't change the fact that higher-potency marijuana produces a more acute high and therefore, creates a sharper homeostatic imbalance. Not to mention that it is much easier to abuse high THC marijuana than its low THC counterpart, just like you get drunk much faster with vodka than with beer or wine.

13). <http://www.organalabs.com/cannatabs.htm>.

14). Median CBD Potency Decreasing In Confiscated Marijuana Samples, Study Says, February 10, 2011 – Santa Monica, CA, USA http://norml.org/index.cfm?Group_ID=8478.

Toxicity, tolerance, addictivity¹⁵

While Anslinger's ranting against the "killer weed" have long been debunked, marijuana is still the object of outlandish exaggerations from its opponents and proponents alike. This being said, even NIDA¹⁶ acknowledges (the highlight is mine):

"Our understanding of marijuana's long-term brain effects is limited. Research findings on how chronic cannabis use affects brain *structure*, for example, have been inconsistent. It may be that the effects are too subtle for reliable detection by current techniques. A similar challenge arises in studies of the effects of chronic marijuana use on brain *function*."¹⁷ This is a huge step-back from previous quasi-apocalyptic claims.

Meanwhile, the California chapter of NORML admits:

"Just as most experts agree that occasional or moderate use of marijuana is innocuous, they also agree that excessive use can be harmful. Research shows that the two major risks of excessive marijuana use are: (1) respiratory disease due to smoking and (2) accidental injuries due to impairment."¹⁸

Official reports emanating from government agencies from all over the world over the past 120 years have almost unanimously concluded that cannabis is relatively harmless, being far less harmful than alcohol, and should be legalized or at least decriminalized. These reports have been scrupulously ignored by the very governments that commissioned them in the first place. Such reports include:

- 15). WHO Project on Health Implications of Cannabis Use, A Comparative Appraisal of the Health and Psychological Consequences of Alcohol, Cannabis, Nicotine and Opiate Use, August 28 1995.
<http://www.parliament.the-stationery-office.co.uk/pa/ld199798/ldselect/ldsctech/151/15105.htm>, Science and Technology – Ninth Report, UK House of Lords, November 1998.
- 16). The National Institute on Drug Abuse (NIDA) is part of the National Institutes of Health (NIH), a component of the US Department of Health and Human Services.
- 17). <http://www.nida.nih.gov/researchreports/marijuana/marijuana3.html>.
- 18). <http://www.canorml.org/healthfacts/healthmyths.html>.

- The European Commission Report on Global Illicit Drugs Markets 1998-2007 (“Cannabis use has become part of adolescent development in many Western countries.”)
- Recommendation on the reform of the conventions on drugs, European Parliament, 12/23/2002
- The Canadian Senate Special Committee on Illegal Drugs, 37th Parliament, 1st Session, (January 29, 2001 – September 16, 2002)
- The National Commission on Marihuana and Drug Abuse (the Shafer Report commissioned by Richard Nixon) (1973)
- The La Guardia Report (1944)
- Indian Hemp Drugs Commission (UK, 1893-4)

Cannabis has plenty of side effects, such as relaxation, euphoria, sensory alteration or altered perception of space-time, which are mainly in the eye of the beholder as the nature of the side effect is largely a function of the intentionality of use, and some side effects of medicinal use might be the desired effect of recreational use. However, there is wide agreement that:

- Cannabis and cannabinoids have extremely low acute toxicity: nobody has ever died of cannabis overdose.
- Cannabis intoxication leads to perceptual, psychomotor and cognitive impairment. It may affect driving or operation of machineries in general, which may be compensated for by an overly prudent or slow operation, contrary to alcohol that tends to promote risky and aggressive behavior. Besides, stoned cannabis users are likely to crash on their couch while alcohol abusers are more likely to crash in their cars.
- Acute cannabis intoxication may provoke excessive sedation, dizziness, numbness, loss of coordination, sensory deprivation or nausea, or even psychotic episodes that may last anywhere from a few hours to a few days and include delusion, confusion, anxiety, panic, paranoia, hallucinations, depersonalization, memory loss and depression.

It should be noted that THC being strongly lipophilic (meaning that it is readily soluble in fats), it accumulates in the fat tissues in the body and continues to be released into the bloodstream long after impairment has worn off. This makes it difficult to monitor cannabis impairment and to design the equivalent of an alcohol breathalyzer. The complete elimination of THC may take weeks or even months in heavy users, which might explain why cannabis withdrawal is extremely mild, if it even exists.

The lipophilic nature of THC explains why inhaled cannabis doesn't produce a rush. Inhalation is the fastest and almost instantaneous delivery route to the brain for the vast majority of psychoactive substances. However, the instant absorption and unlimited storage of THC by neutral fat limits its concentration in the plasma. The membrane lipid bilayer of the blood-brain barrier seems to restrict the access of THC into the bilayer receptors and limit its concentration in the brain.¹⁹ Unlike crystal meth, crack cocaine, or heroin, that produce an almost instantaneous and extremely powerful rush upon inhalation, the maximum high of cannabis is reached within 15 to 30 minutes of inhalation.

Because of its illegal status, the effects of patterns of use of cannabis are not well documented. Thus, there are no data regarding the long-term effects of regular moderate use of cannabis. The major side effects of regular use are related to smoking and are similar to those experienced by cigarette smokers, despite claims to the contrary by some cannabis advocates. In other words, such side effects are due to the smoke rather than the dope itself. Little is known of the long-term effects of regular use via routes other than smoking, and whether it may have health benefits, as is the case with regular moderate use of alcohol.

Chronic abuse, though, has well documented side effects, including: memory loss, reduced cognitive performance, impairment

19). Gabriel G. Nahas, "The pharmacokinetics of THC in fat and brain: resulting functional responses to marihuana smoking," *Human Psychopharmacology: Clinical and Experimental*, Volume 16, Issue 3, pages 247–255, April 2001.

in complex cognitive function, apathy, loss of motivation and energy. Cannabis may be a major cause of psychosis and schizophrenia in vulnerable people. Teenage users are particularly at risk, although cannabis use might be part of a complex constellation of factors rather than a cause per se. Recent research seems to indicate that long-term heavy use leads to reduced volume of the hippocampus, which regulates emotion and memory, and the amygdala, involved with fear and aggression.²⁰

Cannabis and cannabinoids alter the brain's homeostatic balance just like any other psychoactive substance, and their regular use influences neuroplasticity. Therefore, early onset and regular use of cannabis will have the most profound effects during adolescence when the brain goes through an intense formatting process. Cannabis use has been consistently linked to a negative attitude towards school, poor school performance, and early school dropout. Likewise, cannabis use should be avoided during pregnancy.

Other than the effects of smoking, which can be remedied by changing the administration mode, cannabis doesn't seem to have any long-term physiological effects contrary to most drugs of abuse.

Heavy users develop tolerance, which doesn't seem to be the case with occasional moderate users. Addiction to cannabis is a rather controversial issue and dependence estimates range from 2% to 50%, depending on the estimator's spin. The definition of regular users itself varies from weekly users to daily users. It is debatable whether a daily user smoking a joint a day is any more addicted than the daily drinker of a glass of wine is alcoholic. US estimates are totally skewed and a self-fulfilling prophecy, as they are typically based on requests for treatment while treatment is often mandatory for users who test positive either in court or the workplace, and do not necessarily reflect addiction. The UK Department of Health sums it up neatly:

20). Long-Term Cannabis Users May Have Structural Brain Abnormalities, Science Daily, June 3 2008, <http://www.sciencedaily.com/releases/2008/06/080602160845.htm>.

“Cannabis is a weakly addictive drug but does induce dependence in a significant minority of regular cannabis users.”²¹

Quitting cannabis use, even after a long period of abuse, is usually straightforward, and withdrawal symptoms, if any, are typically mild and short-lived. Cases of more acute withdrawal symptoms have been reported for long-time abusers who have taken high doses on a regular basis over 15 years or more. I personally used both marijuana and hashish intensively for a few years in my early 20s, and so did most of my friends at that time. I quit without the slightest problem, without even thinking about it, as did most of my friends. I just grew out of it, which seems to be a rather typical cannabis use career.

Opiates

The opiates category includes opium and all its derivatives and synthetic analogs: morphine, codeine, heroin, thebaine, hydromorphone, oxymorphone, hydrocodone, oxycodone, methadone, and fentanyl. Opium is obtained by incision of the immature seed pods of opium poppy (*Papaver Somniferum*); the latex that exudes dries out to a gummy brown residue that is then scraped off after two to three days.

The history of opium is quite fascinating and from the Trojan War to the conquests of Alexander to the Opium Wars to the Vietnam War, it has often been inextricably intertwined with history, even up to this day when it is playing an extremely significant and critical role in the Afghan War. The cultivation and use of opium poppy for ritual or medicinal purposes goes back at least to the Neolithic Age, over 7,500 years ago, in southern France or Spain. The cultivation of poppy, *Hul Gil*, the “joy plant,” and the production of opium from poppy juice, was described in Sumerian tablets found at Nippur, south of modern Bagdad, from 3,400BC. From Sumer, cultivation of opium poppy spread into Assyria, Babylon, Egypt, and the rest of the Mediterranean world, where it was the object of a flourishing trade and was occasionally used as currency.

21). <http://www.parliament.the-stationery-office.co.uk/pa/ld199798/ldselect/ldsctech/151/15105.htm>, *ibid*.

Opium has been part of the pharmacopeia since the Egyptians. It has played a very important role in medicine ever since. Up to this day, morphine is the painkiller of choice in extreme circumstances. Paracelsus claimed: “I possess a secret remedy which I call *laudanum* and which is superior to all other heroic remedies,” just as heroin would be the heroic drug few centuries later. Laudanum [literally: “something to be praised”] was an extract of opium in brandy, thus in effect, a morphine tincture.

Opium was taken orally until the 17th century, when the Dutch started smoking it in Formosa (Taiwan). The habit spread to the natives, and from there to mainland China. Smoking is a far more powerful method of absorption than oral ingestion and created a first wave of addiction. After reaching epidemic proportions, primarily in Asia, under British active sponsorship at the end of 19th century and the beginning of the 20th century, raw opium use has been on the decline since then. It barely registers on the War on Drugs radar screen, at least in the developed world. Meanwhile, there has been an explosion in the use of its derivatives, mostly heroin.

Morphine was the first alkaloid extracted from opium in 1803; to this day it remains a major analgesic. Having low oral activity, it is mostly injected and is highly addictive. Codeine was isolated next; it is far less biologically active than morphine, but has good oral activity and is far less addictive, making it useful in cough medicine and drops. Morphine injection was meant to be a cure for opium addiction. Heroin, discovered in 1898, was supposed to cure morphine addiction. Methadone, the first synthetic opioid, was developed in 1937 to cure heroin addiction. It is just as addictive, without the high, and can easily become deadly in multi-drugs combinations. The verdict is still out on buprenorphine.

As we have seen in previous chapters, opioids directly affect the dopaminergic reward pathway by mimicking the opioid peptides in the brain (enkephalins, endorphins, and dynorphins) and inhibiting their production, creating addiction after a short period of regular use. While there is no denying that opioids are potentially dangerous substances, particularly when taken intravenously, the major harm related to their use derives from

their illegal status. Huge variation in purity is the leading cause of overdose. Adulterants are the main cause of intoxication and side effects, ranging from ulcers, abscesses and inflammation, to respiratory problems or renal failure. The major harm related to injection drug use results from needle sharing and the spread of hepatitis and HIV/AIDS. UNODC estimates that 18% of global injection drugs users are HIV infected and 50% have hepatitis.²²

Even though the abuse of prescription opioids is growing rapidly, especially in Western countries, heroin is still the most widely used and abused opioid in the world; it is mostly used intravenously. It is remarkable that Iran, virtually the cradle of opium, has by far, the highest rate of opiate addiction in the world, a dubious distinction it has kept for the last century, which may be traceable to a multi-millenary tradition of use. Unfortunately, thanks in large parts to the War on Drugs, traditional opium addiction has been replaced by heroin addiction. Iran used to produce the finest quality opium in the world, one of the most beautiful products I ever tried.

Thanks to the Afghan War and the de facto alliance between the US government and the Afghan war/drug lords, the underworld has been flooded with high quality, cheap heroin since the turn of the century. The first decade of the 21st century has seen an explosive outbreak of heroin use worldwide. The most vulnerable countries in the developing countries are particularly affected, especially Africa and the former Soviet republics, as well as India or Indonesia, while not sparing of course the Afghan and Pakistani opium sanctuaries. In some Asian, Central and Eastern European countries, injection drug use (IDU) is now the main route of transmission of HIV; the living conditions of injection drug users are often beyond squalid.

Lower prices and higher purity seem to have induced a change in the mode of administration. Injecting is losing ground to snorting and smoking (or chasing), substantially lowering the psychological barrier of entry to heroin use without lowering its destructive consequences. Heroin is frequently used in conjunction with cocaine,

22). http://www.unodc.org/documents/data-and-analysis/WDR2011/World_Drug_Report_2011_ebook.pdf, UNODC World Drug Report 2011,

alcohol and other drugs such as amphetamine or barbiturates. Speedball, a mix of heroin and cocaine for injection, seem to be gaining momentum within the addict community. Heroin users are typically multi-substance users.

While some users are able to control their use,²³ it is undeniable that opioids in general and heroin in particular are extremely addictive and dangerous. Two of my closest friends both committed suicide as a consequence of their heroin addiction. I also witnessed some horrific heroin stories. The most horrific took place in a junkie house in the south of Paris in the early 70s. One of the junkie couples had a baby who suffered from chronic thick phlegm accumulation in his throat, causing the baby to choke on a regular basis, which the parents left mostly untreated, just digging with their fingers through his throat to remove the excess mucus. One night, the baby fell off his crib and spent the night stuck between the crib and an oil heater, unable to cry because of the mucus in his throat. His parents lying next to him were too stoned to even realize what was happening. The heater got imprinted in the child's cranium. I could never garner the courage to find out what ultimately happened to the child.

Cocaine

The coca leaf has been chewed for at least 5,000 years by Andean populations who used it for energy and endurance, and to cut the feeling of hunger. The Incas started large-scale cultivation of the coca bush in Peru around 1,400 AD. The Spaniards promptly took over and taxed the coca plantations in the 1,500s. They distributed coca leaves liberally to their forced laborers working the silver mines to increase productivity.

The alkaloid cocaine was isolated in 1855 by Gaedecke and further refined by Dr. Albert Nieman in 1862. Cocaine soon became fashionable and was added to all kinds of wines, elixirs, and other preparations including sodas, such as the original Coca Cola of course. Cocaine itself was touted as a panacea thanks to its stimulating

23). See Chapter 6: "Patterns of use – Drug careers – Use, abuse and addiction."

properties and its miraculous power as a local anesthetic. Famous adepts and early adopters included Sigmund Freud, King George V, Queen Victoria, a few popes, and the fictitious Sherlock Holmes. Merck's nascent fortune owed much to its cocaine production. Freud authored "Über Coca" in 1884 and performed clinical studies for Merck and other cocaine producers in the late 1880s and 1890s. It is notable that Freud gave up his cocaine addiction apparently without much problem, but could never give up smoking, even while it was clearly killing him. Other notable cocaine addicts throughout history include Ulysses S. Grant, Sarah Bernhart, Robert Louis Stevenson, John Belushi, Stephen King, Robin Williams, Whitney Houston, and G.W. Bush. Barack Obama freely admits to his cocaine use during his college years.

The fate of cocaine as an international commodity and its subsequent banning after World War I might have been affected by the fact that the cocaine industry was largely dominated by the Germans, but never took off with the British.²⁴ Cocaine died out after World War I to reemerge in force in the 1970s and 80s in the US, a time when it became extremely fashionable and even *de rigueur* among the who's who of entertainment, finance and politics. Cocaine is undoubtedly the drug of power, as it enhances and heightens the headiness of power and success through the intoxicating sense of omnipotence and invulnerability it confers. The abuse of both cocaine and power leads to delusion and paranoia.

The cocaine craze turned into a cocaine scare with the advent of crack cocaine, a low cost form of cocaine which is smoked instead of snorted, and took over the inner cities and ghettos. Rumor has it that the crack epidemic was intentionally launched on the African-American communities and the urban underclass. Crack is, in fact, cocaine's base. It was used long before the crack scare was even invented. It is more potent and more addictive because, being smoked, it reaches the brain much faster than through snorting, provoking a very short and extremely intense high, soon followed by

24). Paul Gootenberg, "Andean Cocaine: The Making of a Global Drug," The University of North Carolina Press, Jan 2 2009.

a painful crash, which in turn provokes powerful cravings, leading to binge use and potential addiction.

There are other dangers associated with the administration mode of crack: crack is dehydrating and causes sore and cracked lips. Crack pipes often cause burns and blisters. They are typically made of glass that splinters and can cut the lips; therefore, crack users often have sores on the lips. The sharing of crack pipes may promote the spread of hepatitis and possibly HIV/AIDS.

It has been suggested that the danger of crack has been grossly exaggerated. While it is true that crack lends itself to binge use and that its addiction is extremely destructive, most users find it so painful and disruptive that they give up spontaneously; a rather small percentage of users ever get addicted. Crack use is really a class issue, as the most impoverished and marginalized segments of the population have been predominantly hit; crack is in truth a blight of the urban poor.²⁵

It should be noted that the cocaine craze and the subsequent crack epidemic of the 1970s and 80s seems to have been largely a US phenomenon. Cocaine has never been such a widespread problem in Europe, with the possible exception of Spain and the UK, while only in the UK did crack ever take off. Many European countries have witnessed a substantial increase in cocaine use from 2005 and on, probably related to a shift in activity by the cocaine cartels and the expansion of cocaine trade through West Africa.²⁶

Many cocaine users are socially integrated and even very successful individuals, which contribute to its attraction and its cachet, as cocaine use doesn't in any way bear the social stigma born by opioids for instance. Perception has somewhat changed over the first decade of the 21st century, and cocaine seems to have lost some of its glamour. It has lost substantial market share, at least in the US, only to be replaced by amphetamines and prescription drugs. Crack, on the other hand, is mostly used by marginalized and

25). Craig Reinerman and Harry G. Levine, "Crack in the Rearview Mirror: Deconstructing Drug War Mythology," *Social Justice* Vol. 31, Nos. 1-2. 2004.
26). <http://www.emcdda.europa.eu/online/annual-report/2010/cocaine/5>.

disadvantaged groups such as sex workers, problem opioid users and, sometimes, specific ethnic minorities.²⁷ Sentencing discrepancies in the US reflects the cultural bias against crack and its users, as until 2011 crack minimum sentencing requirements were quintuple those of cocaine although the substances are essentially identical, but targeting a vastly different clientele.

In the brain, cocaine binds to the reuptake transporters for the monoamines dopamine, serotonin, and norepinephrine, blocking their activity. Thus, the receiving neurons stay continuously stimulated and the monoamine levels increase in the synapses. The increase in synaptic dopamine and serotonin creates feelings of well-being and euphoria, while the increase in norepinephrine, the “fight or flight” neurotransmitter, gives a sense of arousal, alertness, energy and power, as well as anxiety and paranoia at high doses. High norepinephrine levels heighten heart rate, blood pressure, respiration rate, and body temperature, and may enhance athletic endurance and performance. Cocaine overdose may cause tachycardia, hypertension, heart attack, respiratory failure, strokes and seizures.

As the effects of cocaine wear off, monoamine levels in the brain fall below normal, causing depression, irritability and fatigue, initiating a craving process. On repeated use, the brain adjusts to this over-stimulation by lowering its monoamine production and shutting down monoamine receptors, creating a monoamine imbalance. Cocaine affects an epigenetic process called “histone methylation” by repressing G9A, a histone demethylating enzyme, an essential mediator and an important regulator of dendritic spine plasticity that plays a critical role in epigenetic control of gene expression. Such epigenetic changes persist long after cocaine use has been discontinued, which may explain the relatively high relapse rate of cocaine addiction.²⁸

27). Ibid.

28). I. Maze, H. E. Covington III, D. M. Dietz, Q. LaPlant, W. Renthal, S. J. Russo, M. Mechanic, E. Mouzon, R. L. Neve, S. J. Haggarty, Y. Ren, S. C. Sampath, Y. L. Hurd, P. Greengard, A. Tarakhovsky, A. Schaefer, E. J. Nestler, Essential role of the histone methyltransferase G9a in cocaine-induced plasticity. *Science* 327, 213–216, 2010.

Cocaine is often used in conjunction with other drugs; casual users tend to use it with alcohol. When taken with alcohol, cocaine is metabolized into cocaethylene within the body; cocaethylene is more potent and longer lasting than cocaine, with stronger binding on dopamine reuptake transporters. It also has higher cardiovascular and liver toxicity. As casual social drinking and cocaine sniffing gains traction in the clubs and bar scene, health experts fear an increase in heart failures among young adults.²⁹

The addictive power of cocaine is a matter of great debate. The official stance is that cocaine is one of the most, if not the most addictive substance known to man. However, in 1995, the World Health Organization (WHO) and the United Nations Interregional Crime and Justice Research Institute (UNICRI) conducted the largest global study on cocaine use ever undertaken. Its report concluded: "Use of coca leaves appears to have no negative health effects and has positive, therapeutic, sacred and social functions for indigenous Andean populations. ... occasional cocaine use does not typically lead to severe or even minor physical or social problems ... a minority of people start using cocaine or related products, use casually for a short or long period, and suffer little or no negative consequences, even after years of use."³⁰ Under threat by the US delegation, the publication of the study was banned by the World Health Assembly. In any case, cocaine withdrawal is not in any way as painful as heroin withdrawal. There has been a big drop in use in the US over the first decade of the 21st century, which seems to indicate that most people just give up cocaine use spontaneously.

Strangely enough, as we have seen in the previous chapter, the so-called triple reuptake inhibitors, substances that block the activity of the reuptake transporters for dopamine, serotonin, and norepinephrine, are viewed as the new frontier in anti-depression

29). Jamie Doward, "Warning of extra heart dangers from mixing cocaine and alcohol," *The Observer*, Sunday 8 November 2009.

30). *The Natural History of Cocaine Abuse: A case study endeavour*, Programme on Substance Abuse – World Health Organisation, September 1995, <http://www.tni.org/archives/docs/200703081415045872.pdf>. See also: <http://www.tni.org/primer/coca-leaf-myths-and-reality>.

by the neuropharmaceutical industry, and are predicted to dominate the market by 2020. Cocaine is a triple reuptake inhibitor.

Amphetamines and ATS stimulants

As we have seen in the previous chapter, amphetamines have the dual status of prescription drugs and illegal drugs. They are available both in the legal prescription market and the illegal market, with a substantial amount of diversion from the legal to the clandestine market. The illegal market for amphetamine and amphetamine-like stimulants (ATS) has grown substantially over the 1990s and 2000s pretty much all over the world and, according to UNODC, worldwide consumption now surpasses the use of heroin and cocaine combined. ATS, especially methamphetamine and ecstasy, surpass even cannabis in some Asian countries, and have become the primary drug threat there. The percentage of ATS users in treatment centers goes from 50% in Japan to 59% in the Philippines and over 80% in Thailand. Interdiction efforts are hampered by the ease and low cost of manufacturing, as well as short supply chains from production to consumer.³¹

Amphetamines and methamphetamine are the drugs of choice within a disparate set of subcultures ranging from bikers, to truck or taxi drivers, to military personnel, to the gay scene, the music scenes (underground, rock, punk, techno, hard rock), or the nightlife scene: clubbers, DJs, barmen, waiters, bouncers, hostesses, sex-workers, etc.

Amphetamines can be ingested, snorted or injected; crystal methamphetamine is usually snorted, smoked or injected. The administration route is the determining factor of the rush intensity.

Like cocaine, amphetamines cause increased dopamine, norepinephrine and serotonin levels in the synaptic cleft, but the process seems to be different as amphetamines reverse the action

31). UNODC report, "2010 Patterns and Trends of Amphetamine-Type Stimulants and Other Drugs: Asia and the Pacific," A Report from the Global SMART Programme, November 2010.

of monoamine transporters, while cocaine just blocks their activity. Their effects are similar to those of cocaine, though more pronounced: over-confidence, increased energy, wakefulness, concentration, alertness, and motor and speech activities; improved performance in physical and mental tasks; reduced fatigue; decreased social or sexual inhibitions. At high doses, ATS may cause restlessness, tremors, anxiety, dizziness, tension, irritability, insomnia, confusion, aggression, and, in some individuals, psychotic symptoms and panic states. Physical symptoms include acute increased heart rate and blood pressure. ATS are often taken in binge, resulting in a common after-effect known as 'crash' that may last several days, with symptoms such as depression, fatigue and sleeplessness or even suicidal tendencies.³²

Amphetamines, and even more so methamphetamine, are neurotoxic and cause severe damage to dopaminergic and serotonergic neurons that are probably irreversible. They are highly addictive, especially when smoked or injected, and can lead to psychotic, dangerous and violent behavior, paranoia, feelings of persecution and auditory, visual and tactile hallucinations (perception of parasites in the skin is typical). The so-called "speed freaks" are almost universally feared and despised in the drug scene.

Methamphetamine also leads to severe physical damage. Meth being a vasoconstrictor, its continued use cuts off the normal flow of blood to the tissues and destroys capillaries, resulting in loss of skin elasticity and premature aging. Sores, ulcers and acne tend to develop. Dry mouth and obsessive teeth grinding causes the so-called "meth mouth" characterized by rapid tooth decay and loss, as well as oral tissue decay. Dried foamy saliva in the corner of the mouth is one signature clue of amphetamine users. Severe weight loss is also frequent.³³ Chronic amphetamine users have elevated risks of cardiac and cerebrovascular pathology, with highly increased risks of infarction and stroke.

32). "Problem amphetamine and methamphetamine use in Europe," EMCDDA, Lisbon, November 2010.

33). <http://www.pbs.org/wgbh/pages/frontline/meth/body/>.

Ecstasy – Designers drugs/party drugs

A relative newcomer on the drug scene, MDMA/ecstasy is usually classified as an ATS – amphetamine-type stimulant – although its effects differ markedly from those of amphetamines. Chemically, MDMA is a cross between methamphetamine and mescaline, with both stimulant and hallucinogenic properties.

MDMA was discovered in 1912 by Merck Laboratories, and was mostly forgotten until the 1950s when some limited experiments were conducted. Its recreational use started in the 1970s and attracted the attention of Pr. Alexander Shulgin while he was teaching pharmacology at University of California, Berkeley. Pr. Shulgin tried MDMA on himself in 1976 and became a fervent proselyte of the substance from then on. He went on to discover over 230 psychoactive compounds.

MDMA was used in some psychotherapy circles in the late 1970s and early 80s thanks its power to lower patients' defenses and increase capacity for introspection, as well as to enhance communication and empathy with the therapist.

MDMA recreational use took roots in the club and gay scene in the early 1980s. It then spread and exploded in the rave scene in the US and Europe, especially the UK. It was classified as a Schedule I controlled substance in the US in 1985. The ban on MDMA didn't seem to affect much its recreational use as ecstasy has been the second most used illegal drug behind marijuana in most of the world since the 1990s, going regularly in and out of fashion at different times in different parts of the world.

Psychotherapeutic use has not vanished entirely; limited human studies are allowed in the US, Spain, Switzerland and the Netherlands. MDMA has recently been tested as psychotherapy catalyst in the treatment of PTSD and “appears to remove obstacles to effective trauma processing.”³⁴

34). Michael C. Mithoefer, MD, “Does MDMA Have a Role in Clinical Psychiatry?” *Clinical Psychopharmacology*, May 6 2011.

MDMA is almost always taken orally in capsules or tablets. It reaches maximal blood concentrations within 1.5 and 3 hours after ingestion. It is then slowly metabolized and eliminated, decreasing to half peak concentration over 8 hours, after the effects have faded away. Thus, there is substantial tolerance build-up. Taking subsequent doses will not substantially increase the effects, but it considerably raises MDMA blood level, and therefore, the potential for negative reactions.

MDMA reverses the action of serotonin transporters, releasing serotonin into the synaptic cleft, and stimulating serotonin receptors. MDMA also increases levels of the neurohormones oxytocin, prolactin, and cortisol. Serotonin is key to the subjective effects of MDMA. Oxytocin is involved in stress response, reduction of fear response, and increased sociability. MDMA reduces anxiety and produces disinhibition, euphoria, and a sense of empathy and intimacy with others, as well as mild sensory perception and time distortions. At high doses, its potential side effects include increased heart rate and blood pressure, hyperthermia and dehydration or over-hydration, with risks of water intoxication and cerebral edema.

Ecstasy is often adulterated with mixtures of amphetamines and other substances such as MDA, pseudo-ephedrine, BZP or ketamine. Ketamine is a dangerous hallucinogen that may produce near-death like experiences. Dosage in street ecstasy may vary from zero to 200 mg or more. 80 to 120 mg is considered a safe dosage. Many users take more than one pill at a time, substantially increasing potential negative side effects.

MDMA/ecstasy is considered mildly addictive at best, and relatively harmless. A mean harm rating by independent experts, published by the UK-based Lancet in 2007 and endorsed by the Global Commission on Drug Policy in June 2011, ranks MDMA as number 18 out of 20 common psychoactive substances, well behind alcohol (#5) and tobacco (#9).

MDMA is strongly related to the electronic music scene, especially the rave and trance scene, although it has migrated to other subcultures. It was the forerunner of designer drugs, also called club drugs or party drugs. Designer drugs are popping up like

mushrooms all over the world, with at least 24 hitting the European market in 2009 alone. As their name suggest, they are designed to circumvent current legislations and are offered for a while, mostly through the Internet, until made illegal and promptly replaced.

Hallucinogens³⁵

Hallucinogens, often called entheogens³⁶, may have been the first psychoactive substances used by humans. They are strongly related to the emergence of shamanic and religious experiences. Hallucinogen is a misnomer as these substances rarely provoke hallucinations per se, but rather produce profound perceptual distortions and synesthesia (cross-sensory perception), as well as an altered sense of self. They often trigger transcendental or mystical experiences, accompanied by a sense of blessedness, sacredness, cosmic oneness and unity. At the other end of the spectrum, psychedelic can provoke “freak-out,” a psychotic reaction characterized by intense fear and panic, paranoid delusions and total confusion.

The exact action of hallucinogens is still poorly understood, but seems to be closely related to the serotonin system. SSRI antidepressants inhibit the action of hallucinogens. Most hallucinogens share a common chemical backbone with serotonin and seem to activate the 5-HT_{2A} serotonin receptor. The serotonin system is involved in the control of behavioral, perceptual, and regulatory systems, including mood, hunger, body temperature, sexual behavior, muscle control, and sensory perception; it is closely related to the religious and mystical experience. 5-HT_{2A} receptors are found in a number of specific brain regions, particularly along the cortical-thalamic pathways. 5-HT_{2A} receptors in the prefrontal cortex may be particularly relevant in hallucinogenic effects. 5-HT_{2A} activation disrupts sensory processing and transmission of

35) See Chapter 5, “Hallucinogens and other types of mind alteration.”

36). Entheogen is derived from the Greek theos (god, the divine) and genos (create, generate).

information from the thalamus to the cortex.³⁷ It seems that sensory signaling gets mixed up in the process, inducing synesthesia as people may see sounds and hear colors.

According to James L. Kent, Psychedelics turn off the brain's information-filtering system. "If normal consciousness moves in a straight line along a spectrum of many possible states, psychedelics represent a unique and reversible destabilization of this linear spectrum where consciousness can assume multiple points of consciousness simultaneously."³⁸ Hallucinogens may induce intense neuroplasticity that may lead to substantial neural rewiring and may manifest in significant personality changes.

Hallucinogens are extremely powerful and unpredictable substances that should be treated with the outmost respect. Albert Hoffman, the discoverer of LSD, warned that if used improperly, LSD "can hurt you, it can disturb you, it can make you crazy." He likens psychedelics to nuclear fusion for the mind that "attack the spiritual center of the personality, the self."³⁹ Many consider that such substances belong to psychotherapeutic, shamanistic or neo-shamanistic practice and experience, and that their recreational use is absolutely nonsensical and potentially dangerous. Psychedelics are definitively not for the unprepared, and require proper environment and an adequate support system.

Set and setting are critically important to the psychedelic experience. They can make the difference between a blissful ecstatic experience and the most dreadful hellish nightmare. Both types of experiences can be life-changing; a bad trip can, and does, destroy lives. One of my university friends, and one of the most brilliant minds of his generation, ended up in a psychiatric hospital, having

37). <http://visionlab.harvard.edu/Members/Olivia/tutorialsDemos/Hallucinogens&Percept.pdf>. Hallucinogens & Perception, Olivia Carter, 2007. See also: http://www.erowid.org/psychoactives/pharmacology/pharmacology_article2.shtml.

38). James L. Kent, "Psychedelic Information Theory: Shamanism in the Age of Reason," CreateSpace, October 2010.

39). John Horgan, "Doubts about psychedelics from Albert Hofmann, LSD's discoverer," Scientific American, Sep 24 2010.

completely lost it on a bad trip. Another friend of mine was given acid in a drink in the former Moroccan hippy town of Diabat, South of Essaouira. She subsequently got lost and was apparently followed all night by a pack of stray dogs and a one-eyed man. After a night of feverish search, we found her the next morning in a complete vegetative state and drove her back nonstop to Paris. She had to be spoon-fed, and urinated and defecated on herself. She never recovered, to the best of my knowledge.

Hallucinogens are not considered addictive. A single use creates total tolerance that gradually disappears over several days, preventing repeated use. LSD, mescaline, and psilocybin exhibit mutual cross-tolerance. It should be noted that the vast majority of users don't go much beyond a single experience, a handful at most. Most multiple users have sporadic patterns of use.

Hallucinogens are relatively safe; overdoses are virtually unheard of, although accidents and suicides have been attributed to their use. Emergency department (ED) visits from patients with adverse reactions to hallucinogens are relatively uncommon and represented 0.5% of all drug related ED visits in 2007 in the US.⁴⁰

Taking hallucinogens with other drugs is extremely unwise and potentially dangerous; mixing with alcohol should be avoided. LSD is often used as a club drug together with gamma-hydroxybutyric acid (GHB), MDMA/ecstasy and ketamine.

There has been a resurgence of interest in psychedelics since the turn of the millennium in psychotherapeutic and medical circles. According to EMCDDA, "in the past few years, a growing number of studies using human volunteers have begun to explore the possible therapeutic benefits of drugs such as psilocybin, LSD, DMT, MDMA, ibogaine and ketamine. These studies are looking at psilocybin and other hallucinogens to treat a number of otherwise intractable psychiatric disorders, including chronic depression, post-traumatic stress disorder, and drug or alcohol dependency."⁴¹

40). <https://dawninfo.samhsa.gov/files/ED2007/DAWN2k7ED.htm#Sect2.2>.

41). <http://www.emcdda.europa.eu/publications/drug-profiles/mushrooms#prevalence>, European Monitoring Centre for Drugs and Drug Addiction.

LSD⁴²

LSD, often called acid, is arguably the most revered hallucinogen, reigning supreme in the psychedelics realm. The mere mention of its name sends shivers down the spine of those who experienced it.

The truly hallucinating history of LSD

The history of LSD reads like a cross between James Bond and Lord of the Rings, a psychedelic cloak-and-dagger tale, a plot straight out of the fertile imagination of conspiracy theorists. It tells how the attempted recuperation by MKULTRA, one of the most shameful, twisted and secretive undercover programs of US history with roots in Nazi Germany, of an accidental discovery by an absent-minded Swiss scientist, may have helped launch the 60s counterculture and unleash the psychedelic revolution. This is how it goes (in an extremely abridged version, the real plot having enough twist, turns and sub-plots to fill volumes):

Germany had developed some nifty technology during World War II. As objectionable and repulsive as their experimental setups may have been, the Nazi's mind control technology in particular had the former Allies surreptitiously drooling. Both the US and Soviet secret services were intensely coveting the brains behind the technology, or at least the perpetrators' brains, as nothing useful was left of the brains that had been the objects of the experiments. Thus was born in 1945 the ultra-secret Operation Paperclip to recruit former Nazi scientists, including convicted war criminals. Nuclear and rocket scientists, as well as torture and mind control specialists, were in particularly high demand. Soon, NASA and other US science-based projects were "brained" by substantial gray matter of Nazi origin. Wernher von Braun, Arthur Rudolph, Erich W. Neubert, Kurt Blome, Dr. Hubertus Strughold, and hundreds of rocket scientists and other specialists had their biographies cleaned

42). Martin A. Lee and Bruce Shlain, "Acid Dreams: The Complete Social History of LSD: The CIA, the Sixties, and Beyond," Grove Press, Jan 21 1994.

up and paper-clipped to their files (hence the name of the operation) before entering the US.⁴³

Operation Paperclip gave birth to several offspring such as Project Chatter in 1947, or Project Bluegrass in 1950, which morphed into Project Artichoke (I didn't make that up!) in 1951. Project MKULTRA was launched by order of then CIA director Allen Welsh Dulles on April 13, 1953, to study mind control, interrogation, behavior control and modification, and other niceties. MKULTRA was headed by poison expert Dr. Sidney Gottlieb, the "Black Sorcerer," whose nefarious plots would make a conspiracy theorist proud. Fidel Castro seems to have been a favored target of his schemes, with such ploys as poisoned cigars, wetsuits or fountain pens; sprayed LSD in Castro's TV studio; or even thallium in his shoes to make his beard fall off. Dr. Gottlieb also approved the MKULTRA subproject on LSD on June 9, 1953, allowing the use of LSD on consensual, coerced and unsuspecting subjects – including children, inmates, mental patients, soldiers, and San Francisco brothels patrons, starting with MKULTRA members themselves.⁴⁴ But I am getting ahead of myself here.

Swiss scientist Albert Hofmann working for Sandoz Laboratories first synthesized LSD on November 16, 1938, while investigating the chemical and pharmacological properties of the rye fungus ergot. He put it aside for five years until April 16, 1943, when he probably

43). For more detailed information: <http://www.operationpaperclip.info/> or US government archives: <http://www.archives.gov/iwg/declassified-records/rg-330-defense-secretary/>.

44). Jim Marrs, "The Rise of the Fourth Reich: The Secret Societies That Threaten to Take Over America," Harper Paperbacks, Jun 23 2009.

For more reading than you will ever care to do, see:

"Project MKULTRA, The CIA's program of research in behavioral modification" (the Church committee report), August 3rd, 1977, http://www.nytimes.com/packages/pdf/national/13inmate_ProjectMKULTRA.pdf.

http://www.aarclibrary.org/publib/contents/church/contents_church_reports.htm.

http://pw1.netcom.com/~ncoic/cia_info.htm.

<http://www.wanttoknow.info/mindcontrol10pg#ciadocs/>.

licked his fingertips while re-synthesizing the substance, and was sent tripping. Hofmann recalls: “At home I lay down and sank into a not unpleasant intoxicated-like condition, characterized by an extremely stimulated imagination. In a dreamlike state, with eyes closed (I found the daylight to be unpleasantly glaring), I perceived an uninterrupted stream of fantastic pictures, extraordinary shapes with intense, kaleidoscopic play of colors.”

This first experience prompted him to self-experiment and he absorbed 250 micrograms of LSD on April 19, 1943, known as “Bicycle Day” in psychedelic circles. His hallucinated bicycle trip back home is now part of psychedelic lore, as he panicked for a while and was haunted by demons and other creepy creatures before calming down to report: “little by little I could begin to enjoy the unprecedented colors and plays of shapes that persisted behind my closed eyes. Kaleidoscopic, fantastic images surged in on me, alternating, variegated, opening and then closing themselves in circles and spirals, exploding in colored fountains, rearranging and hybridizing themselves in constant flux... It was particularly remarkable how every acoustic perception ... transformed into optical perceptions.”⁴⁵

LSD started getting some attention in the early 1950s, mostly in the psychiatric and psychoanalytic circles; major American and European medical centers undertook LSD research, producing over 1000 scientific papers, several dozen books, and six international conferences. Among well-known early adopters were writer Aldous Huxley, psychoanalyst Sidney Cohen, and Dr Humphry Osmond who gave LSD to recalcitrant alcoholics with a claimed 50% success rate one year after treatment.

Upon hearing about it, the CIA promptly became fascinated by LSD and its seemingly endless possibilities as an interrogation tool, as truth serum or lie serum, for brainwashing, to seed confusion within the enemy, to create super combatants, to trip entire cities by dropping small amounts in the water supply, and on and on. Project

45). Cited in <http://www.skeptically.org/recres/id8.html> (the fascinating copy of Hofmann’s own notes on his discovery and subsequent self-experiment).

MKULTRA was the ideal vehicle to run the CIA's LSD experiments. Never had the CIA put its hands on such a powerful substance and their imagination went wild, ironically liberated by the very substance they were trying to exploit as they were their own first guinea pigs. The CIA is even rumored to have bought Sandoz's entire supply of LSD, 10 kg or about 100 million doses, to make sure it wouldn't fall into Soviet hands. One can only imagine what would have happened had the KGB put their hands on 100 million doses of LSD, and the psychedelic revolution had exploded in the USSR instead of the USA!

The story becomes extremely confusing from then on, and is open to the wildest speculations from conspiracy theorists and common people alike. Thus, Al Hubbard alias "Captain Trips," for instance, who introduced to LSD over 6,000 high-profile individuals from academia, church, finance, and politics, is suspected to have worked for MKULTRA and the Canadian secret services among others.⁴⁶ Al Hubbard was allegedly convinced that he was on a divine mission; in his zealous fervor, he may have attempted instead to subvert MKULTRA from within. The theory is not so far-fetched, as a common fantasy of acid-heads at the time was to give acid doses to unsuspecting people, preferably in positions of power, such as politicians and business people, hoping to "turn them on" as a means to accelerate the psychedelic revolution and change the world.

As MKULTRA members were even experimenting on each other without warning, according to one theory, some MKULTRA members became LSD devotees themselves and intentionally provoked the counterculture revolution. Another theory claims that MKULTRA's attempt to use LSD to destroy the growing peace movement seriously backfired. In any case, after years if not decades of wild experimentations, the CIA concluded that LSD was way too unpredictable to be of any use.

The history of Project MKULTRA will probably remain shrouded in mystery as CIA Director Richard Helms ordered the destruction of all MKULTRA files in 1973, and nobody will ever know how many

46). http://www.erowid.org/chemicals/lsd/lsd_media1.shtml.

people participated in the CIA's LSD experiments. The US Congress launched an investigation through what became known as the "Church Committee." 20,000 documents resurfaced in 1977, having mysteriously escaped Helms' destructive order. In one of the opening statements of the Church Committee report, Senator Ted Kennedy declared: "The Deputy Director of the CIA revealed that over thirty universities and institutions were involved in an "extensive testing and experimentation" program which included covert drug tests on unwitting citizens "at all social levels, high and low, native Americans and foreign." Several of these tests involved the administration of LSD to "unwitting subjects in social situations.""

Thus, MKULTRA was most likely directly or indirectly involved in the experiments conducted by Timothy Leary and Richard Alpert at Harvard University. In an amazing case of poetic justice, the substance that was supposed to turn its users into fully controllable zombies ended up turning them into uncontrollable rebels, churning out spiritual awakenings and epiphanies, as well as a fair amount of freak-outs, to be totally honest. The history of LSD is full of extremely colorful, larger than life characters, groups and communities, such as Timothy Leary or Richard Alpert (alias Guru Ram Dass), of course, but also Abbie Hoffman, Allen Ginsberg, Ken Kesey (a MKULTRA guinea pig) and his Merry Pranksters, the Brotherhood of Eternal Love, the Hog Farm, or the Grateful Dead. It featured the Beatles, Jimi Hendrix, and pretty much an entire generation of musicians and artists, culminating in the fabled Woodstock rock festival in August 1969. The proverbial genie was out of the bottle, not to get back in any time soon.

LSD was banned in the US in 1967 and all scientific research was ended. Nobody knows the fate of the 100 million doses allegedly in CIA possession if they ever existed, although, of course, zillions of conspiracy theories are circulating about their fate.

Pharmacology of LSD

LSD is one of the most potent drugs yet discovered as its activity starts at 20 micrograms, a typical dose being between 20 and 80

micrograms based on analysis of collected street samples.⁴⁷ Doses of 100 to 200 micrograms or more were not unheard of in the 60s. LSD is 100 times more potent than psilocybin, and 4,000 times more potent than mescaline. The first effects start within 20 to 30 minutes of oral ingestion and last 6 to 8 hours, and even up to 12 hours, with a peak within 2 to 4 hours. Unpredictable flashbacks may occur without warning within days of use, and may keep occurring years after use. Ozzy Osbourne claimed in 2011 that he still had LSD flashbacks from his LSD use back in his Black Sabbath days, in the early 1970s.⁴⁸

LSD is often offered in small blotters and more rarely in tablet form. LSD rapidly degrades in the presence of light, heat, and oxygen, therefore street content depends on storage practices, especially for blotters, which may partly explain the substantial variation in street LSD content.

Other hallucinogens – psilocybin/magic mushroom, mescaline/peyote

Psilocybe mushrooms, also known as “magic mushrooms” or “shrooms,” seem to have been used for shamanistic purpose since the Mesolithic Age, and were used by pre-Hispanic populations in Central and South America. Vice president of J.P. Morgan & Co R. Gordon Wasson and his wife Valentina are claimed to be the first Westerners to actively participate in an indigenous mushroom ceremony in 1955; at least they were the first millionaires to do so. The mushrooms’ active compounds, psilocin and psilocybin, were first identified in 1958 by Albert Hofmann. Psilocybin is produced by over 200 species of fungi, mostly of the genus *Psilocybe*. Psilocybin mushrooms are currently the most popular and commonly available

47). http://www.erowid.org/chemicals/lsd/lsd_article3.shtml.

48). <http://rocknewsdesk.com/world-news/ozzy-still-gets-lsd-flashbacks/385/>.

natural psychedelics. Prevalence of use in Europe in 2009 ranged between 0.3% and 8.3% of youths (aged 15-24 years) for lifetime use and 0.2% and 2.8% for last-year use.⁴⁹

The effects of psilocybe mushrooms are similar to LSD, though more dose dependent as psilocybin content can vary a great deal.

Mescaline occurs naturally in the peyote cactus as well as San Pedro cactus and the Peruvian Torch cactus (*Echinopsis Peruviana*), as well as other Cactaceae. Mescaline was first isolated and identified in 1897. The peyote cactus appears to have been used at least 5,600 years ago in the Rio Grande area of Texas. Its use probably spread from Mexico to Oklahoma and Texas. Its ritual use seems to have spread around 2,000 years ago. In the 19th century, the Native American Church spread the use peyote in religious practices as part of a revival of native spirituality. The recreational use of peyote or mescaline seems quite limited and its use is mostly entheogenic.

Multi-substance use

Multi-substance use has been on the rise over the past decade, both with prescription drugs and illicit drugs. Medical practitioners routinely prescribe multiple-drug cocktails, supposedly trying to balance or counter the side effects of these drugs, even though there is little understanding of the short- or long-term effects of such combinations. Illicit drugs users do the same, combining uppers and downers as well as more exotic combinations, often in multi-substance binges.

According to the 2011 UNODC World Drug Report, consumption of combinations of drugs rather than just one illicit substance is becoming more common, increasing the attached risks. For 2006, DAWN estimates that 741,425 (CI: 674,198 to 808,652) ED visits involved nonmedical use of prescription or OTC pharmaceuticals

49). <http://www.emcdda.europa.eu/publications/drug-profiles/mushrooms#prevalence>.

or dietary supplements. The majority of these visits (54%) involved multiple drugs.

The bottom line is that multi-substance use amounts to hazardous and potentially extremely dangerous neural engineering and should be highly discouraged.

Conclusion to section 2

The brain is a very peculiar organ that is constantly reinventing itself through neural rewiring in the processes of adaptation, memory and learning. As neurons adapt to their neurochemical environment through neurotransmission, they create, change and cancel dendritic spines and terminal buttons, building, transforming or discarding synaptic connections. Within the neurons themselves, genes are activated or de-activated and their expression is modified.

All the sensations and stimuli that we perceive through our senses, what we see, hear, smell, taste, or touch, are converted into electro-chemical signals that are sent to our brain for processing and management. From there, the brain decides what actions and reactions are required, then sends electro-chemical signals back to our muscles. The brain also manages all the bodily functions that we take for granted, such as digestion, respiration, circulation and so on through electro-chemical signaling. Our environment, whether external through our senses or internal through our organs, is translated into electro-chemical signals for neural processing. Thus, under natural conditions, the brain's neurochemical environment is a chemical representation, a model of our external and internal environment.

Psychoactive substances interfere with the natural neurotransmission process and create an artificial neurochemical environment, distorting our inner neurochemical model, creating changes in neurotransmitters functions, affecting neural rewiring and gene expression. Such changes are maladaptive responses and may become long-lasting with repeated use. Addiction is first and foremost a maladaptive process, the brain's adaptation to repeated alterations of its neurochemical environment. The reward dopaminergic system that is key to adaptation and learning is particularly affected as

psychoactive substances typically induce a decreased sensitivity to natural reinforcers.

Needless to say, the legal status of a particular substance has absolutely no bearing on its action on the brain; legal or prescription psychoactive substances can have just as negative side effects on the brain as the ones currently illegal. The potential dangers of illegal drugs are increased tremendously by their illegal status thanks to dosage uncertainty, unknown adulterants and unsanitary administration practices.

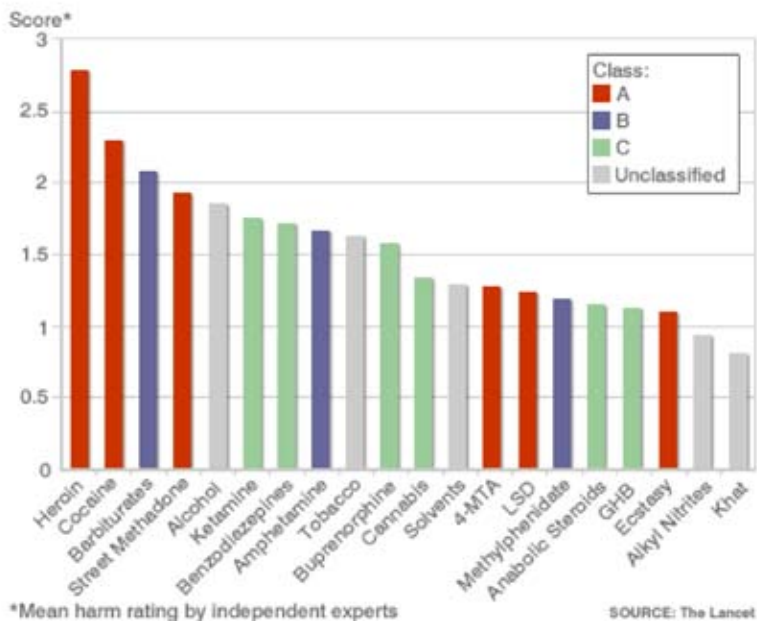
Upon administration of a psychoactive substance, the rapidity and intensity of delivery in the brain determines the acuteness of the neurochemical disruption and the strength of the adaptive response. Thus, the administration mode is the key determining factor of the severity of the adaptive response.

A combination of genetic, epigenetic and environmental factors may result in temporary or chronic neurochemical imbalances in the brain, and psychoactive substances may temporarily remedy such imbalances. Thus, all psychoactive substances have potential therapeutic effects. The key to more permanent remediation of such neurochemical imbalances probably hinges on epigenetic and environmental changes. Such environmental changes most likely include mental environment thanks to the reflective function human beings are endowed with which allows them to potentially affect their own neural environment, as well as their own inner environment (through diet) or outer environment.

For reasons still not well understood, humans as well as other species, seem to have a mind alteration drive. The mind-altering use of psychoactive substances for ritualistic or hedonistic purposes has been part of human life since the dawn of humanity and probably beyond. All cultures throughout history have had ritualized events of collective intoxication, the function of which is poorly understood and may be cathartic, the letting go of a collective safety valve that serves the purpose of social bounding and lubrication. Each culture seems to have its own dominant psychoactive substance that acts as social lubricant and facilitator.

However, as much as we may seem to be wired for mild use of psychoactive substances as well as, most likely, their occasional abuse, we are clearly not wired for repeated abuse. Furthermore, the technological innovations that have led to the discovery of concentrates and pure active ingredients and new synthetic components as well as direct routes of administration such as inhalation or injection have created an evolutionary adaptive gap and are inherently pathogenic; they triggered an epidemic of the disease of excess that is addiction

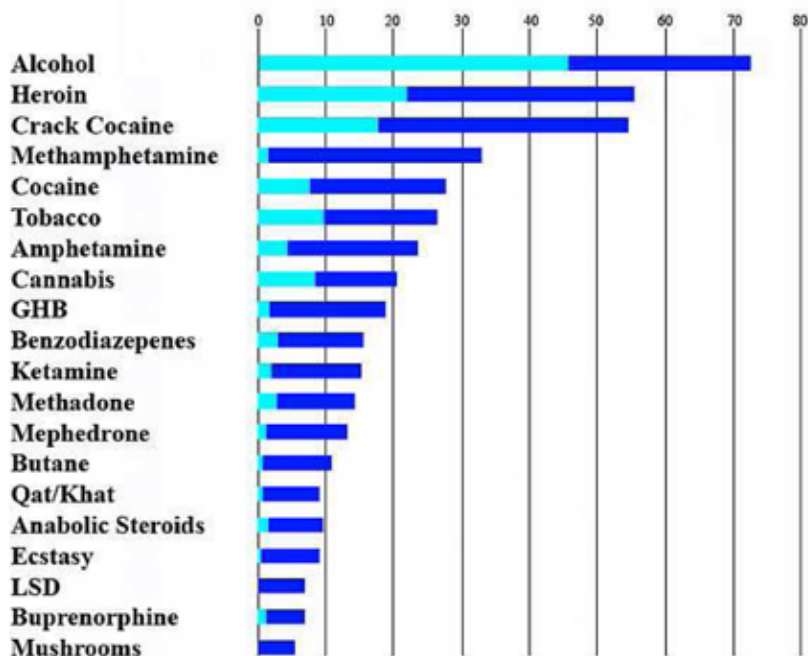
As an addendum, the following tables from the prestigious UK publication “The Lancet” speak for themselves.¹



1). David Nutt, Leslie A King, William Saulsbury, Colin Blakemore, “Development of a rational scale to assess the harm of drugs of potential misuse,” Lancet

Harm Caused by Drugs

■ Harm to others
 ■ Harm to users
 *With a maximum possible harm rating of 100



Adapted from "Drug harms in the UK: a multi-criteria decision analysis", by David Nutt, Leslie King and Lawrence Phillips, on behalf of the Independent Scientific Committee on Drugs. The Lancet.

Section

3

Beyond the War on Drugs

Chapter 12:

Changing attitudes

“What has been the effect of coercion? To make one half the world fools, and the other half hypocrites.”

Thomas Jefferson

“The true hypocrite is the one who ceases to perceive his deception, the one who lies with sincerity.”

André Gide

The very term of War on Drugs has long prevented any open debate as dissenters were demonized as anti-patriotic or worse, and the very idea of even discussing alternatives was deemed as sending the wrong message, and therefore totally taboo. Decriminalization and legalization are labeled as capitulation. Prohibitionists have probably known for a long time that they are indeed on very shaky grounds and that their policies wouldn't stand honest scrutiny. They have used censorship, scare tactics and fear-mongering, as well as a fair amount of intimidation and mud throwing, to prevent any open discussion. Several attempts have even been made to silence anti-prohibitionists and to criminalize dissent. They failed in the US Congress but were more successful at the UN.

A 1997 report from the UN International Narcotics Control Board called for criminalization of any opposition to the War on Drugs, with the INCB's US representative, Herbert Okun, playing a vital role in developing the UN's censorship standards. The report criticizes “reputable medical journals” for “favouring the ‘medical’ use of cannabis,” since “such information... tends to generate an overall climate of acceptance that is favourable to” illegal drug use. It also

attacks the marketing of non-psychoactive hemp products, such as clothing and foodstuffs, for “contributing to the overall promotion of illicit drugs.” By trying to silence skeptical voices, drug warriors further weaken their authority and credibility.¹

While the general public has long been far more tolerant than their politicians, as evidenced by the growing number of states adopting medical marijuana laws through ballot initiatives, attitudes are finally starting to change. Decision makers are slowly coming out of the War on Drugs closet. There is a growing number of influential people worldwide calling for the end of drug prohibition, including many former heads of state and high-ranking officials. Among them are President Jimmy Carter, former chairman of the US Federal Reserve Paul Volcker, former US secretary of state George Shultz, former UN secretary general Kofi Annan, former Greek prime Minister George Papandreou; ex-Presidents Cesar Gaviria, from Colombia; Ernesto Zedillo and Vicente Fox, from Mexico; Fernando Henrique Cardoso, from Brazil and Manuel Zelaya from Honduras, not to mention Evo Morales from Bolivia. Former Mexican President Vicente Fox has been particularly outspoken. It is doubtful that realization fell upon these people after leaving office. Robert McNamara, one of the master architects of the Vietnam War, shockingly acknowledged that he believed the war was terribly wrong and that he knew it was terribly wrong all along, and he still spearheaded it! All these ex-Presidents waged a war they didn't believe in just because it has been waged for the past hundred years.²

Drug use is really a lifestyle issue, a social issue and a public health issue. Making it a criminal issue has had terrible consequences. Chief among them are the takeover of the drug trade by powerful and ruthless drug cartels, the destruction of the lives of millions of harmless drug offenders through incarceration, and the unnecessary exposure of children and teenagers who are consistently targeted

- 1). “A Duty to Censor: U.N. officials want to crack down on drug war protesters,” Paul O. Coffin, *Reason*, August/September 1998 issue.
- 2). Robert S. McNamara with Brian VanDeMark, “In Retrospect: The Tragedy and Lesson of Vietnam,” 1995.

as easy prey and often foot soldiers by drug gangs in developed countries and even more so in emerging countries.

How many current heads of state keep fighting this unwinnable war just because it makes for good sound bites and wins votes, or to appease their US protector and get crumbs of its financial largesse? Could this be the case for current US President Barack Obama or French President Nicolas Sarkozy or even current Mexican President Felipe Calderón? What will it take for these and other decision-makers to show the courage to end the disastrous War on Drugs and take charge responsibly of drug production and trade, instead of leaving it in the hands of extremely dangerous and powerful international criminal organizations?

Indulgence and hypocrisy at the top

Despite the vilification and demonization of illegal drug use, despite the stigma attached to it by the official propaganda, fully 50% of US adults have used illegal drugs at least once in their lifetime. This includes the last three US presidents, all 2000 and 2004 presidential candidates, Vice President Al Gore, vice presidential candidate Sarah Palin, ex-Speaker of the House Newt Gingrich, Supreme Court Justice Clarence Thomas, New York Mayor Michael Bloomberg, California Governor Arnold Schwarzenegger, and probably the vast majority of sitting US congressmen and senators. Add to that former UK Prime Minister Tony Blair and current Prime Minister David Cameron. You can safely throw into the lot members of most European governments and parliaments. Steve Jobs, hailed as one of the most creative people on the planet, lists his LSD experience as one of the defining events of his life. Current French first lady Carla Bruni readily admits to her frequent multi-substance use throughout her career.

The list of successful politicians, businessmen, entrepreneurs, and all types of decision makers who have indulged without any dramatic consequences and whose careers were obviously not destroyed by their indulging episodes goes on and on. It is a well-established fact that the vast majority of users are responsible users

and the at-risk abusers are a small minority, across all psychoactives, whether alcohol, prescription drugs, or illegal drugs.

If we were to ask these people if their indulgence was really so evil, their experience so destructive and so frightening, that ordinary citizens should be denied the right to indulge under any circumstances, I am willing to bet that the answer would be a lot of embarrassed mumbo jumbo or Newt Gingrich-style bombastic nonsense and bravado.

Newt Gingrich deserves a special lifetime award for hypocrisy. He has repeatedly tried to push legislation requiring the death penalty for drug traffickers (which incidentally is prohibited under international law) and went as far as proclaiming “I want a World War Two style victory plan – a decisive, all out cataclysmic effort to break the back of the drug culture.” But he admitted to smoking pot in the 1970s because it “was a sign that we were alive and in graduate school in that era.” “See, when I smoked pot it was illegal, but not immoral. Now, it is illegal AND immoral. The law didn’t change, only the morality. That’s why you get to go to jail and I don’t. Any questions?” Yes, does he really believe his own bullshit?

To further confuse the issue, the same Newt Gingrich wrote a letter to the editor, published in the March 19, 1982 issue of the *Journal of the American Medical Association*, warmly embracing medical marijuana. But then, Newt Gingrich is quoted by his ex-wife (on whom he cheated with one of his aides while vociferously pursuing Bill Clinton in the infamous Monica Lewinski case) as saying: “It doesn’t matter what I do, people need to hear what I have to say. There’s no one else who can say what I can say. It doesn’t matter what I live.”³ One really wonders why people are so cynical about their politicians. Amazingly enough, Newt Gingrich is still a very influential politician with an extremely devoted, albeit dwindling following.

3). August 10 2010, “Newt Gingrich: The Indispensable Republican,” *Esquire Magazine*.

Fact is, the sons and daughters of the ruling class (and their mothers and fathers too) can safely indulge within limits and without much fear of the law. But for all the privileged who safely indulge in the comfort of their penthouses or their fraternities or sororities – where indulging is often a rite of passage – what happens to the legions of the less fortunate who fall into the nets of the US justice system for minor drug offenses and see their lives shattered, often because they have the wrong skin color and the wrong checking account balance? According to the FBI website, there were 1,702,537 drug abuse violations in 2008, down from 1,841,182 in 2007, but still the number one cause of arrests.

The Obama administration initially expressed its intention to de-prioritize enforcement on users and to respect state medical marijuana laws, but intentions haven't been followed by actions and three years into his presidency, his drug czar is cracking down on medical marijuana dispensaries like never before.

US

Congressman John M. Coffee from the state of Washington was probably the earliest and lone voice of dissent within the US political circles from 1937 to 1946. Most people were so enthralled by the witch-hunts and moral panicking that they really didn't quite understand what was going on, or didn't seem to care as long as it was winning votes at the polls. The 1944 "La Guardia Committee Report on Marihuana" was another dissonant note in the witch-hunt chorus that was promptly trashed and discredited. Rufus King and his ABA/AMA commission were met with the same fate in 1956.

The 1960s counterculture swung the doors wide open, making a mockery of pretty much anything standing for authority as heavy clouds of marijuana smoke hovered over counterculture gatherings while people started indiscriminately inhaling, dropping or shooting all kinds of substances, often paying dearly for it. The moral majority watched in horror and dismay, promptly electing Nixon to save the day.

When the “National Commission on Marijuana and Drug Abuse” appointed by Richard Nixon issued its report in 1972, recommending decriminalization of marijuana, it was promptly swept under the carpet.

Nixon’s demise and the Carter administration saw the high point of political support for drug reform in the US. President Carter declared to Congress in 1977: “Penalties against possession of a drug should not be more damaging to an individual than the use of the drug itself; and where they are, they should be changed. Nowhere is this more clear than in the laws against possession of marihuana in private for personal use...Therefore, I support legislation amending federal law to eliminate all federal criminal penalties for the possession of up to one ounce [28g] of marihuana.” Dan Quayle, US Representative and future Vice President under President Bush, echoed in March 1977, “Congress should definitely consider decriminalizing possession of marijuana... We should concentrate on prosecuting the rapists and burglars who are a menace to society.”

Meanwhile, by the 1980s, roughly 50% of the US adult population had indulged in some illicit substance at least once in their lifetime while regular use reached 20%. This can only be described as a massive case of civil disobedience, not unlike what happened during alcohol prohibition in the 1920s. This eventually translated at the polls. 121 years after leading the way into drug prohibition, California led the way out of it when voters approved the “Medical Use of Marijuana Initiative” (Proposition 215) by 56% of the votes on November 5, 1996. Fifteen other states would soon follow.

The “Regulate, Control and Tax Cannabis Act of 2010” (Prop. 19) managed to get 4,504,771 votes (46.4%) despite unanimous opposition across the political spectrum, despite threats from the Federal government, and even though it was considered poorly written by both proponents and opponents of legalization. Democratic state legislator Tom Ammiano introduced legislation in the 2010 session of the California State Legislature that would legalize, tax and regulate marijuana in California in much the way that the state controls and taxes alcohol; former Republican governor Arnold Schwarzenegger’s support for similar measures is well known.

Bob Barr, former Republican Congressman and Federal prosecutor of President Clinton impeachment fame, was once one of the staunchest supporters of the War on Drugs. He now supports the end of prohibition of marijuana and the end of the War on Drugs altogether; he is even a lobbyist for the “Marijuana Policy Project,” or MPP, and in 2009 helped overturn his very own Barr amendment of complete Federal prohibition of medical marijuana.

Senator Jim Webb, the most prominent advocate of a complete reevaluation of the War on Drugs and of the US legal system in general, authored the “National Criminal Justice Commission Act” of 2009. The act was cosponsored by the entire Senate Democratic leadership and enthusiastically welcomed by prominent liberal bloggers. It got support across the entire political spectrum, reaching in to the moderate center with support from Sen. Lindsey Graham (R-S.C.), Sen. Arlen Specter (D-Penn.), and Supreme Court Justice Kennedy.

“Let’s start with a premise that I don’t think a lot of Americans are aware of. We have five percent of the world’s population; we have 25 percent of the world’s known prison population,” Webb said on the Senate floor when introducing the bill.

“There are only two possibilities here: either we have the most evil people on earth living in the United States; or we are doing something dramatically wrong in terms of how we approach the issue of criminal justice.” Senator Webb announced in 2011 that he will not seek reelection.

Former republican Colorado Congressman Tom Tancredo said it’s time to consider legalizing drugs; Mike Gravel, former Democratic Senator from Alaska is also a fervent supporter of drug legalization, and so is Congressman Barney Frank. Former Republican Governor Gary Johnson of New Mexico unsuccessfully tried to decriminalize marijuana and open a debate on drug legalization. His bid for the 2012 GOP nomination is partly run on a drug-legalization platform.

On June 23, 2011, Congressmen Barney Frank and Ron Paul Introduced on Capitol Hill the first-ever bill to end marijuana prohibition at the Federal level, titled “Ending Federal Marijuana Prohibition Act of 2011.”

There are hundreds if not thousands of groups and organizations promoting some form of legalization, one of the most active and credible being the Law Enforcement Against Prohibition (LEAP), an association of former cops, prosecutors, and judges that have joined together to end prohibition. Prominent advocates of drug legalization include Nobel Prize winners Milton Friedman and Linus Pauling, conservative columnist William F. Buckley Jr., former secretary of state George Shultz, financier George Soros, and the Cato Institute, to name but a few.

Latin America

Latin America having been one of the main victims of the War on Drugs, it is not surprising that it is the part of the world where calls for reform are loudest. Uruguayan President Jorge Batlle became the first sitting head of state to call for drug legalization in 2000.⁴ In February 2011, Colombian President Juan Manuel Santos declared in an interview with *Semana*, a Colombian news magazine, “if the world decides to legalize and thinks that that is how we reduce violence and crime, I could go along with that.”⁵ Even Mexican President Felipe Calderón declared in August 2010 the legitimacy of debate on drug legalization, although this hasn’t so far been followed by any concrete steps to start the debate. Most Latin American countries from Mexico to Argentina have decriminalized drug use.

“The Latin American Commission on Drugs and Democracy” is a group of former Latin American presidents who are calling for an end to the War on Drugs and an open debate on drug legalization. It includes Cesar Gaviria from Colombia, Ernesto Zedillo and Vicente Fox from Mexico, Fernando Henrique Cardoso from Brazil, and Manuel Zelaya from Honduras. Vicente Fox has been the most vocal and unapologetic proponent of legalization.

4). “Uruguayan President Becomes First Head of State to Call for Legalization of Drugs, Story Ignored by US Press,”

<http://stopthedrugwar.org/chronicle-old/166/uruguay.shtml>, 12/29/00.

5). “Colombian president supports legalizing drugs if it reduces violence and crime,” *MercoPress*, February 14 2011.

Gustavo de Greiff, former attorney general of Colombia and former ambassador to Mexico, has claimed for the past 20 years that “the only path to ending narco-trafficking is drug legalization: that is to say, the regulation of its production and sale.” He affirms that legalization doesn’t have to produce a rise in the consumption of drugs and, in fact, will end the violence, the corruption, and the progressive breakdown of society caused by narco-trafficking. “What provokes this violence, as well as the commerce, is its illegal nature, producing enormous profits for drug traffickers and corrupt authorities, a business that will be difficult to stop as long as there are consumers.” Dr. de Greiff is one of the very few high-ranking officials who dared to openly advocate legalization while in office, attracting the ire of the US government. At the height of the bloodshed in Colombia, he opened direct talks with the drug cartels to negotiate their surrenders and pleas, which was probably the wisest thing to do under the circumstances, but infuriated the US government who retaliated by revoking his US visa and launching a mudslinging campaign against him.⁶ In view of the trail of US shady dealings with notorious drug traffickers, from Lucky Luciano and the Italian Mafia during and after World War II, to the Asian drug lords through the 1970s, to Noriega, the Iran-Contras affair, and more recently to Hekmatyar or Ahmad Walid Karsai, it is rather ironic that the US government dared to reproach Dr. de Greiff for negotiating with his enemies for the good of his country while it was being destroyed by failed US policies, especially as the drug lords are a direct consequence of these failed policies.

EU

Europe has traditionally been much more lenient than the US; there is a de facto decriminalization of drug use in most EU countries, as possession of small quantities is largely tolerated. In 2003, a

6). James Brooke, “Bogota Journal: A Captain in the Drug War Wants to Call It Off,” New York Times, July 08 1994.

See also http://en.wikipedia.org/wiki/Gustavo_de_Greiff.

European Parliament committee even recommended repealing the 1988 United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances, finding that:

“Despite massive deployment of police and other resources to implement the UN Conventions, production and consumption of, and trafficking in, prohibited substances have increased exponentially over the past 30 years, representing what can only be described as a failure, which the police and judicial authorities also recognize as such . . . The policy of prohibiting drugs, based on the UN Conventions of 1961, 1971 and 1988, is the true cause of the increasing damage that the production of, trafficking in, and sale and use of illegal substances are inflicting on whole sectors of society, on the economy and on public institutions, eroding the health, freedom and life of individuals.”⁷

Portugal decriminalized use in 2001. The debate is ongoing in the UK, where the media have embraced the drug reform cause. The BBC is running an ongoing series highly critical of the War on Drugs while the Guardian and the Economist are advocating legalization. Bob Ainsworth, former UK Defense Secretary in charge of drug policy in the Blair government, stunned the British political establishment by declaring the War on Drugs an abysmal failure and advocating legalization and control of all drugs, accusing the media of being an echo chamber for the War on Drugs propaganda machine and getting in the way of a “grown-up” debate on the subject. He was just reiterating the opinion of Mo Mowlam (1949-2005), the minister responsible for UK Drug Policy from 1999 to 2001.⁸

To coincide with the 50th anniversary of the 1961 United Nations Single Convention on Narcotic Drugs, a new All Party Parliamentary

- 7). Recommendation on the reform of the conventions on drugs, European Parliament, 12/23/2002.
- 8). Mo Mowlam, “Fight terror: legalise the drugs trade. Prohibition only fuels criminality, corruption and violence,” The Guardian, Thursday 19 September 2002.

Group was launched on March 18, 2011, in the UK to promote the urgent need for drug policy reform, to promote health-oriented policies based upon scientific evidence, and to promote the reform of the United Nations Drug Conventions.⁹ The group includes Baroness Manningham-Buller, who served as Director General of MI5, the Security Service, between 2002 and 2007; Lord Birt, the former Director-General of the BBC; Lord Macdonald of River Glaven, until recently the Director of Public Prosecutions; and Lord Walton of Detchant, a former president of the British Medical Association and the General Medical Council.¹⁰

India

In his endorsement of the Global Cannabis Commission Report issued by the UK-based Beckley Foundation in 2010, the Leader of the Opposition in the Upper House in India, Jaswant Singh, writes: “In India, historically and culturally, associations with psycho-active substances have never been a cause of social concern. Because of the nature and self-regulating systems of our society, India has never really needed any externally imposed ‘rules’, or even ‘management’ of its production, consumption or ceremonial and ecclesiastical intake. Such activities, never ‘hidden’, were and are accepted as cultural norms, restricted only by society’s restraints. Consequently, cannabis, opium and similar natural products remained free of any ‘underground’ dealings – until, that is, ‘control and commerce’ arrived.”¹¹

India has indeed a long tradition of use of cannabis and hashish for religious, medicinal and festive purposes. Holi, one of the most joyous and beloved of numerous Hindu festivals, is celebrated on the full moon day of lunar month Phalguna (February/March) in India,

9). The Beckley Foundation – press release, The Times, Monday March 21 2011.

10). Martin Beckford, Health Correspondent, “It’s time to decriminalise drug use, say peers,” The Telegraph, 20 Mar 2011.

11). <http://www.beckleyfoundation.org/2010/09/29/cannabis-commission-endorsements/>.

Nepal, Sri Lanka and increasingly in other countries with large Indian diaspora (Malaysia, South Africa, UK, US, etc.). People throw colored powder and water at each other. Bhang, a traditional preparation made with ground buds and leaves of cannabis mixed with milk, ghee, and spices, is typically consumed during the Holi festival, either in a drink called Thandai or in chewy little balls called 'golees'.¹²

The International Community: UN, WHO, UNESCO, etc.

Discontent about the failure of the War on Drugs has been brewing for quite some time within the international organizations under the UN umbrella. UNESCO has issued various reports quite critical of existing drug policies and the World Health Organization has often voiced barely veiled criticism of the War on Drugs.¹³

The World Bank published in May 2010 a report titled “Innocent Bystanders: Developing Countries and the War on Drugs” by Philip Keefer and Norman Loayza, that is a scathing indictment of the War on Drugs and advocates some form of legalization.

Mr. Anand Grover, Special Rapporteur of the United Nations Human Right Council, delivered a scalding report to the UN General Assembly on August 6, 2010: “The current international system of drug control has focused on creating a drug-free world, almost exclusively through use of law enforcement policies and criminal sanctions. Mounting evidence, however, suggests this approach has failed, primarily because it does not acknowledge the realities of drug use and dependence. While drugs may have a pernicious effect on individual lives and society, this excessively punitive regime has not achieved its stated public health goals, and has resulted in countless human rights violations... When

12). www.holifestival.org.

13). See already quoted 2004 WHO report “Neuroscience Of Psychoactive Substance Use And Dependence” or Degenhardt L, et al., “Toward a Global View of Alcohol, Tobacco, Cannabis, and Cocaine Use: Findings from the WHO World Mental Health Surveys,” PLoS Medicine, 1 July 2008.

the goals and approaches of the international drug control regime and international human rights regime conflict, it is clear that human rights obligations should prevail.”¹⁴ The report was warmly welcomed by the European Union in the EU statement on crime and drugs to the UN General Assembly.¹⁵

The Vienna Declaration, calling for reform of international drug policy, was adopted as the Official Declaration of the XVIII International AIDS Conference, held in Vienna from July 18 to 23, 2010. This is the largest biennial public health conference in the world, attracting about 20,000 delegates internationally. The 2010 conference was convened by the International AIDS Society along with various international conference partners, including the World Health Organization (WHO), the Joint United Nations Programme on HIV/AIDS (UNAIDS), the United Nations Office on Drugs and Crime (UNODC), and the European Commission. The Vienna Declaration highlights the failure of current drug policies and calls for the development of new policies based on scientific evidence.¹⁶ The Vienna Declaration has been endorsed by hundreds of politicians and scientists from all over the world.

The Global Commission on Drug Policy was launched in January 2011 to “build on the successful experience of the Latin American Commission on Drugs and Democracy.” The commission affirms: “There is a growing perception that the ‘War on Drugs’ approach has failed. Eradication of production and criminalization of consumption did not reduce drug traffic and drug use. In many countries the harm caused by drug prohibition in terms of corruption, violence and violation of human rights largely exceeds the harm caused by drugs.” Its slate of prestigious members includes Kofi Annan, former UN Secretary General; Paul Volcker, former chairman of the

14). Anand Grover, Special Rapporteur, “Right of everyone to the enjoyment of the highest attainable standard of physical and mental health,” United Nations General Assembly, A/65/255, August 2010.

15). http://www.europa-eu-un.org/articles/en/article_10168_en.htm.

16). <http://www.viennadeclaration.com/wordpress/wp-content/uploads/2010/11/The-Vienna-Declaration-Progress-thus-far.pdf>.

US Federal Reserve; Ernesto Zedillo, former president of Mexico; George Papandreou, former prime minister of Greece; César Gaviria, former president of Colombia; Fernando Henrique Cardoso, former president of Brazil; George Shultz, former US Secretary of State; Javier Solana, former EU High Representative; and Virgin tycoon Richard Branson.

Calls for drug reform come from every part of the globe. Former French Polynesia President Oscar Temaru wants to legalize marijuana in Tahiti. The ever growing list of reform advocates includes former Spanish Prime Minister Felipe Gonzales and his former drug czar, Araceli Manjón-Cabeza.

There is no doubt that opposition to drug prohibition is growing all over the world and voices of discontent are getting louder. Marijuana legalization is probably a matter of when rather than if. We may be at long last approaching the Galilean moment when people free themselves from the War on Drugs propaganda and finally realize that the psychoactive world is not flat and two-dimensional; that demonization doesn't work; that the use of psychoactive substances is a complex, multidimensional issue that won't go away just by trying to legislate it out of existence.

In the closing chapters, we will look at ways out of this conundrum.

Chapter 13:

Critical analysis of prohibitionism and its premises

“Laws do not persuade just because they threaten.”

Seneca

“If people let government decide what foods they eat and what medicines they take, their bodies will soon be in as sorry a state as are the souls of those who live under tyranny. A society that will trade a little liberty for a little order will lose both, and deserve neither.”

Thomas Jefferson, Notes on Virginia

“The Greatest dangers to liberty lurk in insidious encroachment by men of zeal, well-meaning but without understanding.”

Justice Louis Brandeis, 1928 – engraved on the Capitol Building

We will mostly focus in this chapter on US drug policy, as the US initiated drug prohibition at the beginning of the 20th century and has imposed its own policies on the international community ever since, being the sole drug control superpower. As pointed out by Laurent Laniel in a UNESCO discussion paper, the US is probably the largest producer of social science research on illegal drugs in the world, most of it critical of prohibitionist policies. It is also the source and inspiration for most of the world’s drug policy. Nevertheless, US policymakers have systematically ignored this research, even when it was sponsored by the US government itself. Thus, US drug policy making has been largely immune even to its own policy research and is mostly guided by “conventional wisdom,” which is itself molded by the

policymakers in the first place.¹ “Conventional wisdom”² describes ideas generally accepted as true although not necessarily based on sound research or factual evidence and is often an obstacle to the acceptance of new information or concepts, sometimes to the point of denial. It is related to the “normalcy bias” and what I will refer to below as “model.”

Let’s start by stating the obvious: the ascension of not one but three illegal drug users in a row to the US presidency constitutes an existential challenge to the prohibitionist regime. The fact that some of the most successful people of our time, be it in business, finances, politics, entertainment or the arts, are current or former substance users is a fundamental refutation of its premises and a stinging rebuttal of its rationale. A criminal law that is broken at least once by 50% of the adult population and that is broken on a regular basis by 20% of the same adult population is a broken law, a fatally flawed law. How can a democratic government justify a law that is consistently broken by a substantial minority of the population? What we are witnessing here is a massive case of civil disobedience not seen since alcohol prohibition in the 1930s in the US. On what basis can a democratic system justify the stigmatization and discrimination of a strong minority of as much as 20% of its population?

We must then ask ourselves why drug prohibition has been such a failure, and even more puzzling, why drug prohibition is still the rule of the land after over 100 years of continued failures. Being a mathematician and a logician, I will put my degree to proper use and venture an explanation based on model theory.

No matter how we look at it, the prohibitionist model doesn’t stand scrutiny, be it from an economic, utilitarian, judicial, logical,

- 1). Laurent Laniel, The Relationship between Research and Drug Policy in the United States, UNESCO, Management of Social Transformations – MOST, Discussion Paper No. 44, 1999.
- 2). John Kenneth Galbraith, in The Affluent Society (1958) gave this famous definition: “It will be convenient to have a name for the ideas which are esteemed at any time for their acceptability, and it should be a term that emphasizes this predictability. I shall refer to these ideas henceforth as the conventional wisdom.”

moral or constitutional perspective. Still, it endures to this day! The major failures of prohibition have been already exposed all throughout this book.

- The socialization and amplification of costs coupled with privatization of profits to criminal enterprises seal the financial and economic failure of drug prohibition.
- Mass incarceration and massive law enforcement don't seem to have any effect on drug use and feed a destabilizing organized crime, illustrating the judicial failure of the War on Drugs.
- The global security threat caused by the War on Drugs and the consequent spread of global crime are destabilizing and threatening a growing number of countries around the world.
- The War on Drugs is a public health failure, causing tens of thousands of preventable deaths every year, if not hundreds of thousands worldwide, caused by unsanitary administration practices and the subsequent spread of AIDS and other infectious disease not only within the injecting community, but also to their sexual partners and children.
- The War on Drugs is a human failure, resulting in the incarceration of millions of harmless citizens worldwide, with the attached stigmatization and discrimination, ruining not only the convicts' lives, but also affecting their spouses and children.

The next chapter being dedicated to the harm reduction issue, I will reserve discussion on this topic. My purpose here is not to engage in a lengthy philosophical discussion of the various possible approaches to drug prohibition and their merits or lack thereof; therefore I will focus on the logical and the moral issues raised by drug prohibition. A different approach could be taken, and it has often been argued for instance that the War on Drugs violates the US Constitution.³

3). Roger Pilon, "After Prohibition: An Adult Approach to Drug Policies in the 21st Century," Chapter 3: "The Illegitimate War on Drugs," Cato Institute, 2000.

The flawed prohibitionist model⁴

All we see, hear, feel and think is mediated or created by the brain through the processing and interpretation by our neural networks of the percepts received from our senses. The percepts accumulate and organize in memory; each new percept is evaluated through the structured filter of memory within the brain in a feedback process, as experience in turn reshapes these neural networks. These mostly unconscious mental representations and their relations can be viewed as “models,” the physiological manifestation of which is the neural network itself. Our implicit built-in model consists of the mostly unconscious mental representations and sets of rules relating these representations that shape our perception of and interaction with the world in a self-reinforcing process, the filter through which we experience the world around us. To use a computer analogy, the built-in model is the software and the meta-information such as libraries, vocabulary, dictionaries, thesauri, databases, spreadsheets, and all the various tools that allow the evaluation and processing of information, as well as the creation of new information.

Models are influenced by genetics, culture and life experience to a lesser degree – life experience, itself being shaped by genetics and culture. In a way, each individual has his or her own built-in model of reality, his or her own universe. Think of a model as the dynamic set of mental symbols and images through which we relate to the world and to which we connect our experience of the world in a feedback process. Our built-in model filters our perception, which in turns reinforces the model, giving it a large amount of rigidity or inertia as confirmation bias and avoidance of cognitive dissonance tend to reinforce the model. Thus, mental constructs and attitudes such as denial, fanaticism, close-mindedness and open-mindedness, and flexibility or the lack thereof are self-reinforcing. Neuroplasticity

- 4). This section is largely my own theory as I haven't seen much written on this topic and even less has been written on model theory as it applies to prohibitionism. Very few researchers acknowledge prohibitionism as an ideology in the first place. This approach is closely related to representational realism or representationalism.

can have limiting and constraining or liberating and expanding consequences. Our belief system can be viewed as the conscious tip of our built-in model. Things are slightly more complicated, as we generally relate to our own reality not through a single model, but rather through a set of models that are not necessarily compatible, leading to endless internal conflicts that may be externalized.

There is typically widespread concordance between individual models within a particular culture, as each individual model stems from and feeds into a societal meta-model in a feedback process. Occasionally, there are clashes between individual experiences of reality and their societal meta-model, leading to deviance or dissidence among some individuals who evolve inner models that more accurately reflects their own experiences of reality. Thus, we can see how deviance is perceived as threatening to the societal meta-model. Various deviants with similar deviances may congregate to form subcultures that develop in parallel to or in reaction against the dominant culture. Some subcultures may become dominant over time as their meta-model shifts from a deviant status to a dominant status, a process often accompanied with upheavals and social fractures; such was the case of the Judeo-Christian culture or the Islamic culture for instance, that initially were deviances before gaining dominance.

The implicit meta-models of humanity have evolved considerably over the ages. Our most distant ancestors experienced the world through an animist or magical model where even plants and inanimate objects had souls, while reality and the surrounding environment was ruled by supernatural entities called gods whose behavior was often unpredictable and who had to be pleased and pacified in order for things to run smoothly. There are of course times when events and reality clash with our models of the world and stubbornly refuse to fit into the model. Humans predictably react to such conflicts with denial according to what is called "the normalcy bias." This normalcy bias is what drives us to ignore change, especially when things turn sour, to go into denial and act as if nothing had happened when a catastrophic event challenges the status quo. While perceptual experiences may shape our inner models, those perceptions were patterned through our existing models in the first place, so that we

tend to filter in perceptions that reinforce our model, filtering out percepts that challenge the model.

In primitive societies for instance, droughts were typically dealt with by rituals and sacrifices. But when the gods failed to deliver the expected rain, it was not unheard of for the populace to cut the priest's throat for his failure to communicate properly with the gods, as it was inconceivable that the gods themselves could be powerless. Likewise, the pre-Galilean world was flat and Earth was the center of the universe, which made it extremely difficult for the newly emerging astronomical science to properly render the movements of celestial objects. Only through political savvy was Galileo spared the Inquisitor's pyre.

Post-Galileo, Newton and his followers viewed the world as a hugely sophisticated mechanical work, like a giant clock whose invisible wheels were moving everything from celestial objects to the soon to be discovered atoms and electrons. Prohibitionism emerged from this well ordained clock-like Newtonian world, in an age when reason and virtue, with a little help from the new moral science, were on the verge of fixing all human flaws, coercively if necessary, while the newly emerged Homo Economicus had to be kept sober in order to be productive. It was the golden age of ideologies, as among long-forgotten utopias, the seeds were planted of socialism, fascism, and the already mentioned prohibitionism.

Homo Economicus proved largely fictitious or at least a little more complex than originally envisioned. For the economy to function properly, Homo Economicus needed his double and alter-ego, Homo Consumericus. Homo Consumericus had to be pleased and seduced into more and more consumption, increasingly for sybaritic purposes as the satisfaction of basic needs was not sufficient to fuel the voracious appetite of the production apparatus. As it happens, Homo Economicus himself needed to be reasonably satisfied to maintain productivity. Not only did Homo Sapiens have some difficulties fitting squarely into his new Homo Economicus suit, but Homo Lucidus was totally left out of the picture, ignored, and repressed. It was quite fitting then that the repressed Homo Lucidus should have a grand return in the second half of the Freudian century.

Einstein and his theory of relativity were soon to throw a wrench into the well-oiled Newtonian world, and quantum theory did even more damage. All these well ordained wheels were sent flying in all directions, sometimes simultaneously as uncertainty struck. Prohibitionism sprang from a quaint but now obsolete orderly, predictable three-dimensional world, but our universe is now 11-dimensional and unpredictability rules as order emerges from chaos and entire galaxies sink into black holes; even worse, our universe might just be one of zillions in the multiverse.

At the same time, our understanding of the inner workings of the human brain evolved considerably. Thus, it was discovered that the sybaritic search for hedonistic satisfaction is deeply ingrained in human nature. Our brain is wired for pleasure, and the pleasure/reward system plays a central role in brain activity, being closely related to motivation, social bonding, memory, and learning, among others. Regulating virtue is not so obvious anymore, especially when virtue is averse to pleasure. Furthermore, recent advances in neuroscience clearly indicate that substance dependence is a complex disorder of the brain just like any other neurological or psychiatric illness.

Worse, the human brain seems to be wired to respond specifically to substances commonly found in nature and their derivatives, such as opium, cannabis, tobacco, ephedra, alcohol, and other psychoactive substances. Of course, Homo Sapiens had discovered these substances a long time ago, and so most likely had his forerunners, so that the use of these so-called psychoactive substances is deeply ingrained in human nature. As noted by Richard Rudgley, "The universal need for liberation from the restrictions of mundane existence is satisfied by experiencing altered states of consciousness."⁵ Humans often operate in a mostly mild and occasionally severe state of mind alteration and have done so since the dawn of time. We even naturally enter into a mind-altered state every single night as we dream. Caffeine is the most commonly used psychoactive substance in modern societies, mostly through all kinds of caffeinated drinks from cappuccino

5). Richard Rudgley, "Essential Substances: A Cultural History of Intoxicants in Society" (Kodansha globe series), Aug 1995.

to soft drinks. Most people occasionally seek more drastic mind-altering modalities and all societies have their dominant psychoactive substances, which are alcohol in most of the world, khat in large parts of Africa, coca leaf in the Andean regions, and cannabis in Central Asia, North Africa, and a growing number of subcultures throughout the world. Every culture since the dawn of history has had ritualized events of collective intoxication typically combining music, dance and substances, be it Solstice or New Year celebrations, bacchanals, Mardi Gras, carnivals⁶, Holi, Kumbha Melas⁷ or the myriad other pageants and festivals dotting the calendars of every culture. For various reasons that we have exposed in other parts of this book ranging from globalization to the proliferation of rebellious dissident subcultures and their recuperation into the mainstream, people increasingly are not satisfied with their dominant psychoactives and seek diversification to satisfy their mind alteration drive.

As we have seen in the first section of this book, the original intent of prohibitionism was the eradication of “vice,” a term under which were dumped all kinds of behaviors deemed immoral, such as gambling, alcohol abuse and sexual depravity – homosexuality, pornography and prostitution. Notwithstanding the difficulty in even defining vice, prohibitionism is based on the faulty premise that morality can be legislated, that it can be coercively imposed. When it failed to rein in vice, prohibitionism fell with a vengeance on some psychoactive substances that were bundled as “drugs” and became demonized and vilified beyond recognition. Thus, the very foundation of prohibitionism is flawed as it negates one of the fundamental attributes of human nature, the sybaritic search for hedonistic gratification and the mind alteration drive.

- 6). Carnivals and Mardi Gras are the descendants of the bacchanals.
- 7). Holi is one of the most popular Hindu festivals. Kumbha Melas are gigantic Indian pilgrimages taking place every 3 years in 4 rotating locations, going back to the same location every 12 years. Seventy million people gathered in Prayag (Allahabad) in 2007 over 45 days. Millions of Sadhus, wandering holy men, gather at the Kumbha Melas, often smoking large quantity of charas, a handmade hashish.

All the flaws of the prohibitionist model derive from this failure to take into account the critical function of the pleasure/reward system in human behavior. Prohibitionism also violates one of the basic human rights affirmed in the US Declaration of Independence: “We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. – That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed.” Many legalization advocates argue that prohibition exceeds the limits of government’s authority and not only fail to secure these “unalienable Rights,” but trample them.

Of course, prohibition of the vilified substances didn’t remove their appeal and even seemed to enhance it substantially. As we have seen throughout this book, thanks to the inescapable law of supply and demand in a market economy, a booming shadow economy soon sprang up to satisfy the illegal demand created by prohibition. The shadow market kept growing in symbiosis with the repression intent on suppressing it, and so did the collateral damage caused by both. Violence and crime on one hand and encroachments of civil liberties and mass incarceration on the other kept feeding each other in an ever escalating crescendo, while the health consequences exploded, with the AIDS epidemic among others.

Prohibitionism is a consequentialist disaster and a self-fulfilling prophecy, creating a self-reinforcing model to justify its own existence. It makes dire predictions about the use of drugs and then creates the conditions that ensure such predictions come true. It claims that drugs are evil and that drug use will destroy the user’s life and then makes sure it actually does. Prohibition creates a distribution system, the illegal drug market, which has all the incentives to nudge users towards the most dangerous substances administered in the most dangerous possible way, then it invents the gateway theory to justify itself. It marginalizes those who fall into abuse and addiction, and shuts off access to help. Those caught in the criminal justice system as a result of their involvement with illegal drugs see their societal prospects plummet. The indelible stigma it puts on them will bring discrimination for the rest of their lives.

None of the last three US presidents, Bill Clinton, G.W. Bush or Barack Obama, would have stood even a remote chance of being elected had they been convicted on drug use charges, as they could have been, had the law of the land been imposed on them. Al Gore, Clarence Thomas, Sarah Palin, Newt Gingrich, Rush Limbaugh, Glenn Beck, and a flurry of pundits of all denominations would be complete unknowns, mere statistics in the War on Drugs footnotes. While G.W. Bush could get away with the joke “When I was young and irresponsible, I was young and irresponsible,”⁸ most of those caught in the criminal justice system just don’t have this luxury.

The prohibitionist model is full of contradictions and inconsistencies. There is a fundamental inconsistency in the regulation of the various psychoactive substances, as there is no logical rationale other than cultural and historical coincidence for the legal status of each particular substance. Likewise, the regulation of the use of drugs versus other potentially harmful or morally objectionable activities such as gambling or extreme sports is inconsistent. There is no logical rationale for bundling marijuana with far more dangerous substances, nor is there for the medicalization of alcohol abuse versus the criminalization of illegal drugs use.

The rationale for the acceptability of medical use of certain substances such as opiates, amphetamines or barbiturates while their recreational use is prohibited is tenuous at best. After all, Viagra, Cialis or Levitra are recreational drugs with a prescription fig leaf. Many prescription psychoactives are just as addictive as their illegal counterparts. Does the laboratory brand name give them a seal of legitimacy? Does a prescription miraculously change the nature of a substance and give it a moral seal of approval? Sooner or later the pharmaceutical industry will come up with a “pleasure deficit disorder” or “reward deficit disorder” and launch a whole new class of synthetic drugs in an attempt to cash in on the lucrative psychoactive market place.

8). Quoted in BBC News, “In Depth: US Elections Profiles, George W Bush: Out of his father’s shadow, November 8 2000.

Prohibitionism and moral relativism: Faulty premises and false assumptions of prohibitionism⁹

Prohibitionists often claim the high moral ground to defend their position, probably because they know that their moral standing is actually very shallow. People from Steve Forbes to George Bush or America's first "drug czar" William Bennett talk about drugs "tearing the moral fabric of society." William Bennett affirms: "The simple fact is that drug use is wrong. And the moral argument, in the end, is the most compelling argument."¹⁰ He adds: "Drug use degrades human character, and a purposeful, self-governing society ignores its people's character at great peril." To echo Douglas N. Husak, what, exactly, do drug prohibitionists believe to be immoral about recreational drug use?¹¹ Assuming that drug use is indeed immoral, what makes it criminal? After all, many actions or behaviors, such as lying or adultery, are considered immoral while not necessarily being criminal. Similarly, many people consider homosexuality, pornography or gambling immoral; still most of these people, especially in Western countries, wouldn't consider criminalizing these lifestyle choices or activities.

As already seen, the prohibitionist model is flawed because it fails to take into account a fundamental trait of human nature, the mind alteration drive. The founding dogma of prohibitionism, that morality can be legislated and coercively imposed, is equally flawed as no system of government can force morality on its citizenry.¹² The US Supreme Court has repeatedly acknowledged "Our obligation is

- 9). For a detailed discussion of the issue of drug use and morality see Douglas N. Husak, "Drugs and Rights," Cambridge Studies in Philosophy and Public Policy, 1992.
- 10). William Bennett, "The Plea to Legalize Drugs Is a Siren Call to Surrender," in *Drugs in Society*, ed. Michael Lyman and Gary Potter, Cincinnati, Anderson Publishing Co., 1991.
- 11). Douglas N. Husak, "Drugs and Rights," Cambridge Studies in Philosophy and Public Policy, 1992.
- 12). Bob Rodzaj, *Legislating Morality*, Vision.org, Spring 2001 Issue.

to define the liberty of all, not to mandate our own moral code.”¹³ Justice Kennedy added in *Lawrence et al. v. Texas* in 2003: “Liberty protects the person from unwarranted government intrusions into a dwelling or other private places.” One can probably argue that the body is the most private of all places, so we should be protected from unwarranted government intrusions into our bodies, and therefore what we put into our bodies is beyond government control.

Legalizing morality assumes of course that morality can be defined and agreed upon in the first place. Morality is generally defined as a system of ideas of right and wrong conduct. Roy F. Baumeister defines morality as the set of rules that enable people to live together, self-control being the moral muscle.¹⁴ The devil, as always, is in the details. Morality is one of the thorniest and most divisive issues in social sciences. While the moral relativists argue that morality is a social construct, moral scientists claim that morality is part of human nature. The truth probably lies somewhere in between. We most likely have an innate sense of good and bad, while most moral rules are clearly social constructs and there are no objective standards of morality.¹⁵ We share some moral traits such as empathy, altruism or conflict resolution with highly social mammals, especially primates.¹⁶ On the other hand, slavery, human sacrifices or even cannibalism were once morally acceptable while they are perceived as repulsive nowadays and were clearly social constructs. Adultery is morally reprehensible in most cultures, but the treatment reserved to adulterers in some Muslim countries is considered barbaric in most Western countries. Polygamy is the norm in Muslim countries, while it is frowned upon in most of the rest of the world. Yet, if polygamy or polyandry were adopted by 20%

13). *Planned Parenthood of Southeastern Pa. v. Casey*, 505 U.S. 833, 850 (1992) quoted in *Lawrence v. Texas*, 539 US 558 (2003).

14). Roy F. Baumeister, Julie Juola Exline, “Virtue, Personality, and Social Relations: Self-Control as the Moral Muscle,” *Journal of Personality*, Volume 67, Issue 6, pages 1165–1194, December 1999.

15). Douglas N. Husak, “Drugs and Rights,” *ibid*.

16). Shermer, Michael, *The Science of Good and Evil*, New York, Times Books, 2004.

of the population of any country where it is currently prohibited, the laws of that country would probably be changed and such practices would become morally acceptable.

The case of homosexuality is quite relevant to the issue of drug use. The perception of homosexuality has varied widely throughout history and across cultures. Bisexuality was the norm in classical Greece, the birthplace of Western civilization. The symposium (which means “drinking together”) was a gathering of men where sexual intercourse with partners of both sexes was routine and perceived as just another form of entertainment. The mentor and his disciple typically had homosexual relations in what would be labeled as pederasty nowadays.¹⁷ Homosexuality is illegal in 29 African countries and punishable by death in Uganda.¹⁸ It was long illegal or morally reprehensible in most Western countries, but has gained wide acceptance over the past few decades. Many states and countries have legalized or are considering legalizing same sex marriage.

Pornography is another relevant example: explicit display of sexual activity was widespread in most ancient cultures and from Greek or Etruscan vases to frescoes and sculptures adorning Indian temples, to Persian, Chinese or Japanese miniatures, to pre-Colombian figurines, examples abound of elaborate displays of sexual intercourse in any imaginable combination and position. Thus, pornography is clearly a sociocultural construct more specifically linked to monotheist religions. Views on pornography are evolving rapidly in Western countries, and many contemporary billboards advertising or music videos would have been considered pornographic a mere 50 years ago.

Unlike homosexuality or pornography though, the use of psychoactive substances was generally accepted throughout history, with the possible exception of excessive drunkenness that was often frowned upon. Throughout history, there has been prejudice

17). Brent Pickett, “Homosexuality,” Stanford Encyclopedia of Philosophy (SEP), *First published Tue Aug 6, 2002, substantive revision Fri Feb 11, 2011*, <http://plato.stanford.edu/entries/homosexuality/>.

18). Legal Status of Homosexuality in Africa, AfrolNews, http://www.afrol.com/html/Categories/Gay/backgr_legalstatus.htm.

or outright prohibition against various substances ranging from chocolate, to potatoes, to tobacco, to coffee. Meanwhile, opium has been considered a medicine since the dawn of civilization while its recreational use has been limited. It was not until the beginning of the 20th century that drug use suddenly became morally repugnant, thanks in large parts to the unrelenting efforts of US policymakers. As we have seen in our opening chapter, the first drug scare was the result of a disease of excess brought about by successive technological innovations, starting with the invention of pipes for smoking opium which created an addiction epidemic, mainly in China. The isolation of the active principles of opium and coca leaves, coupled with the overzealousness of snake oil doctors and licensed doctors alike, later created another addiction epidemic, mainly in the US, affecting mostly middle-aged housewives.

Prohibitionism itself was sparked by another technological innovation, industrial distillation, which provoked an epidemic of alcohol abuse of biblical proportions. The first drug prohibition laws in the US were targeted at racial minorities. They were successful thanks to a succession of moral panics allied to the fact that the first addiction epidemic was largely accidental and caused by prescribers' ignorance. Furthermore, the incriminated substances had no real constituency besides ostracized racial communities that were viewed with extreme suspicion by the general population.

There is absolutely no logical reason why moderate or responsible use is morally acceptable for alcohol while it is not even conceivable for illegal substances. Likewise, a valid moral rationale would be hard to find to justify treating alcohol addiction as a medical condition while the use of heroin or even marijuana is considered immoral and criminal. This demonstrates the success of the prohibitionist propaganda in shaping "Conventional Wisdom." The same propaganda systematically stereotypes illegal drug users and depicts the worst-case scenario as the norm.¹⁹ Just imagine the effect on the population if doughnuts for instance were systematically depicted through their worst effects, consistently displaying grossly

19). Douglas N. Husak, *ibid.*

overweight people afflicted with all kinds of repulsive afflictions ranging from coronary diseases or diabetes to gangrenous limbs. The horrified population would soon beg for a complete ban on doughnuts. They would ask that doughnuts dealers be thrown in jail and the key be thrown away.

To fit into the prohibitionist model, drug users are either demonized or victimized, being painted either as degenerates or helpless victims. The vast majority of illegal drug users are not much different from the average drinker. Most of them use periodically and/or in moderation, with occasional heavier use. Some are chronic abusers and/or addicts. They live normal, productive lives.

This leads us to one of the flawed dogmas of prohibitionism, that drug use inevitably leads to drug abuse and therefore is immoral as drug users lose free will and self-control. As we have seen in Section 2 of this book, this fallacy is not supported by factual evidence, as there is little difference between the incidence of abuse and addiction among illegal drug users and users of the legal drugs, alcohol, tobacco or prescription drugs. With the notable exception of tobacco, use of psychoactive substances, both legal and illegal, tends to peak in the early 20s and then most users either give them up altogether or revert to episodic use, while a small percentage develop a lasting pattern of abuse or addiction. Occurrences of addiction are more frequent in the case of tobacco, amphetamines, heroin and alcohol.

While prohibitionists typically allege that drug use is immoral because it results in loss of free will and self-control, some legalization advocates argue that all drug use is not abuse and that responsible use allows better control of one's mood and state of mind, as the user may relax or get stimulated as he/she wishes. There is wide agreement though that abuse and addiction result in some loss of free will and self-control, which is true for any type of addiction. What then differentiates drug addiction from other types of addictions such as alcoholism, food addiction or compulsive gambling? Is there such a fundamental difference that one type of addiction is merely morally reprehensible while the other is both reprehensible and criminal? Alcohol abuse may lead to a total loss of control which largely rivals the loss of control induced by other substances such

as heroin or amphetamines. According to a study published by the Brookhaven National Laboratory, “overeating in obese individuals shares similarities with the loss of control and compulsive drug taking behavior observed in drug-addicted subjects.”²⁰

Prohibitionists often invoke the harm drugs inflict on the user and on others as valid grounds for their moral judgment, bundling as always use and abuse. Aside from the fact that many human activities from driving to mountain climbing or eating present risks to oneself and to others, the different treatment of alcohol, tobacco and prescription drugs invalidates that prohibitionist argument. Drug use cannot be prohibited because of reckless use any more than driving can be prohibited because of reckless driving, or alcohol can be prohibited because of reckless drinking. As noted by Ira Glasser, executive director of the American Civil Liberties Union, “Excessive and compulsive consumption of alcohol or tobacco does not justify imprisonment, police searches or seizures of property.”²¹ On the other hand, government is justified in protecting its citizens from reckless drivers and reckless substance users alike. To quote Jeffrey A. Schaler, “We accept the need for government to protect us from one another, and we agree that the exercise of liberty at the expense of another’s freedom constitutes crime. But should the values of the majority dictate the personal behaviors of a minority when such actions harm no one else? Is it constitutionally proper for the government to protect us from ourselves?”²² More appropriately, how harmful must a human activity be before it should be made illegal? If people have a right to keep and bear arms, how can they be prohibited from keeping and using the substances of their choice? Curiously, many gun rights advocates are also fervent prohibitionists.

- 20). Gene-Jack Wang, MD, Nora D. Volkow, MD, Panayotis K. Thanos, PhD, Joanna S. Fowler, PhD, “Similarity Between Obesity and Drug Addiction as Assessed by Neurofunctional Imaging: A Concept Review,” Brookhaven National Laboratory, <http://www.bnl.gov/thanoslab/Thanos%20PDF/JAddDisease1.pdf>.
- 21). Ira Glasser, executive director of the American Civil Liberties Union, Testimony before the Criminal Justice, Drug Policy, and Human Resources Subcommittee, US House of Representatives, June 16 1999.
- 22). Jeffrey A. Schaler, PhD, The Drug Policy Problem.

Prohibitionists claim that drug use is “contagious” as people socializing with drug users may more easily be seduced into use themselves. The same could be said of alcohol or food addiction for that matter. Various studies have shown that obesity is “socially contagious.”²³ As obesity afflicts over 30% of the US population and according to NIDA, 23% of individuals who use heroin become dependent on it,²⁴ it could be argued that food addiction (93 million) is more dangerous than heroin addiction (anywhere between 100,000 and 399,000 depending on the official report you are reading). NIDA estimated the number of past month heroin users at 213,000 in 2008,²⁵ less than half being actual addicts. According to the same NIDA, 1 in 11 people who use marijuana become addicted, a figure that seems grossly inflated. In 2006, prescription pain medications were involved in more overdose deaths than heroin and cocaine combined.²⁶ So on what moral grounds are marijuana, cocaine or heroin treated differently from prescription drugs and alcohol? Curiously, most substance abuse campaigns from either the NIH (National Institute of Health) or WHO, do not differentiate between all psychoactive substances, from tobacco and prescription drugs to crack cocaine and crystal meth, that tend to be bundled together from a public health perspective. The logical next step would be to have public policies common to all substances based on their effects.

Prohibitionists claim that drug use causes crime, whereas in fact most drug-related crime is a direct consequence of prohibition itself. While it is true that substance abuse is often related to violent

23). Roxanne Khamsi, “Is obesity contagious?,” New Scientist, 25 July 2007.

24). <http://www.nida.nih.gov/infofacts/heroin.html>.

25). Ibid – There are striking inconsistencies between different official estimates of heroin users in the US. **The 2009 National Survey on Drug Use and Health** claims that heroin abuse rose from 213,000 in 2007 to 399,000 in 2008, an increase that is suspicious in itself. Strangely enough, the 2007 figure is identical to the NIDA figure for last month use the same year. Is NSDUH equating last month use and abuse? This would be a gross exaggeration. Furthermore, NSDUH gives a 1.4% lifetime heroin use. If 23% of lifetime users were addicted, the addict figure would be over 700,000. <http://oas.samhsa.gov/NSDUH/2k9NSDUH/2k9Results.htm#Ch2>.

26). http://drugfactsweek.drugabuse.gov/files/teenbrochure_508.pdf.

or criminal activity, the relationship between substance abuse and violence and crime is much stronger for alcohol, amphetamines and cocaine than for marijuana or opiates, and criminalization just exacerbates the problem. Of course, bearing and using arms is even more strongly related to crime as the vast majority of violent crime in the US is related to firearms.

What truly rattles the prohibitionists' moral compass is the recreational use of drugs, their use for hedonistic gratification. Such an attitude has its roots in the original puritan impulse to prohibition. Erik van Ree describes the War on Drugs as a puritanical campaign of terror.²⁷ Needless to say, such an attitude is increasingly at odds with the instant-gratification tendency of the consumerist society. Why then should the recreational use of drugs be more objectionable than recreational alcohol use? Isn't the use of Viagra, Cialis or Levitra recreational and sybaritic for all practical purposes? Food is often consumed for its gratifying and sybaritic qualities as well. As noted by Craig Reinerman, "once it has satisfied hunger and provided essential nourishment, food shares with drugs the aim of producing sybaritic delight. Foods and drugs are bound up with one another as part of the same social occasions."²⁸ Meals meant for enjoyment are typically accompanied by the absorption of various psychoactive substances that may vary according to the culture and typically include coffee, alcohol and tobacco in Western countries, but may include khat, cannabis or opium in other parts of the world. Other than for the dominant psychoactive status of alcohol and tobacco, there is no logical rationale for the moral acceptability of some substances versus others. As noted by Craig Reinerman, "food and drugs are both articles of pleasure, in the consumption of which some people overindulge occasionally while a smaller fraction do so more frequently. A still smaller number develop a truly unhealthy relationship with their substance of choice."²⁹

27). Erik van Ree, University of Amsterdam, "Fear of Drugs," *International Journal of Drug Policy*, vol.8, no.2, 1997.

28). Craig Reinerman, 2007, "Policing Pleasure: Food, Drugs, and the Politics of Ingestion," *Gastronomica*, Summer 2007.

29). Craig Reinerman, *ibid*.

In conclusion, the moral ground on which prohibitionists stand is indeed very flimsy, and it can be argued with Douglas N. Husak that “adults have a moral right to use drugs for recreational purposes” and “a government exceeds the moral limits of its authority when it incarcerates its people for merely using recreational drugs.” To quote Ronald Reagan, who nonetheless launched the second wave of the War on Drugs, “Government exists to protect us from each other. Where government has gone beyond its limits is in deciding to protect us from ourselves.”

Prohibitionism is based on a fundamental mistrust of people and a negation of their ability to make the proper choices for themselves at the most personal and intimate level: what they choose to put into their own body. Prohibition assumes that people are basically feeble, foolish and irresponsible and need to be protected against themselves; this attitude goes well beyond the War on Drugs and permeates our modern societies. We do not trust people to be capable of making informed decisions, of assessing their own risks; while most people believe they, themselves, are capable of doing so, they believe that others clearly are not. Prohibitionism ultimately stems from totalitarian paternalism, institutionalized infantilism, which is arguably the dominant ideology across the planet nowadays – and might have always been as theocracies or monarchies are clearly far more infantilizing than democracies, the king’s subjects being often referred to as his children.

Prohibition is not practically and efficiently enforceable

If there is any lesson to be learned from the 100 years history of drug prohibition, it is that prohibition is not practically and efficiently enforceable. Ultimately, it is a destructive exercise in futility. Even countries with extremely stringent drug policies such as the death penalty for drug trafficking still have a drug problem.

Solvents, gasoline and glue, which are among the most damaging psychoactive substances, cannot be efficiently regulated as drugs. As we have seen in the first section of this book, several

technological innovations are considerably raising the stakes and making the enforceability of drug prohibition policies even harder. At a time when hydroponics allows anybody with a spare bathroom or garage to grow marijuana at his or her convenience, and when amphetamines can be produced on almost any kitchen counter, drug prohibition must resort to increasingly intrusive methods for ever-diminishing returns. As pressure rises on cocaine traffickers, and as cocaine infatuation recedes, amphetamine use is exploding, which can hardly be considered as a positive development by anybody who knows anything about these two drugs. New designer drugs pop up on the market like mushrooms. Technological innovations make conceivable devices that would cause mind alteration by stimulating specific brain centers within the pleasure/reward system. How would prohibition handle such a challenge?

As they have since the dawn of humanity and whether we like or not, people will use mind-altering substances commonly labeled “drugs,” both legal and illegal, and drug trade will take place, both legal and illegal. Making some of these “drugs” illegal didn’t make the drug problem disappear; for all appearances, it made it much worse and may have created it in the first place.

Except for those policies that impose restrictions on individual freedom and civil liberties that are so severe as to be incompatible with even the most restrictive democratic or semi-democratic societies, all previous attempts at prohibition of psychoactive substances have failed. This includes alcohol prohibition in the USA from 1920 to 1933 and the current global War on Drugs, so far. There are absolutely no reasons to believe that prohibition will ever succeed.

The resilience of the prohibitionist model

In our rapidly evolving societies, the societal meta-model is always a few steps behind society’s forerunners, the one most likely to shape the meta-models of the future. Regulations are at best an expression of the societal meta-model at the time they are enacted. Furthermore, regulations are generally reactive rather than proactive, therefore they tend to manifest a rather conservative or even already

outdated societal model. But the effects of regulations are felt well beyond the time they are enacted and therefore, they become increasingly obsolete and out-of-sync with the evolution of society as time goes by. Drug policies, still firmly rooted in the 19th century prohibitionist ideology, are no exception. By refusing to account for current research and by refusing to question the founding dogmas of prohibitionism, drug policies are getting increasingly obsolete as the disconnect between policies and scientific understanding keeps growing. Still, many obsolete regulations remain in effect long after they have served their practical usefulness. This is the case even for policies that have recognized detrimental effects, especially if such policies had ulterior motives to begin with.

To better illustrate this point, let's look at another example of misguided policy with ulterior motives and catastrophic unintended consequences: clerical celibacy in the Catholic Church.³⁰ Although most early priests were married and had children, throughout most of its history, the Catholic Church tried with varying success to impose celibacy on the priesthood. Emperor Justinian I declared children of priest illegitimate in the 6th century. Clerical celibacy has left a trail of broken lives and abused or illegitimate children ever since. Clerical celibacy was finally imposed by the Lateran Councils in 1123 and 1139 and all clerical marriages were dissolved as the Pope started consolidating his political power; the clergy became of course even more bisexually promiscuous and abusive than ever.

Many historians suspect that the celibacy rule was designed to reinforce the power of the Papacy and protect the Church's material possessions, avoiding their dispersion through inheritance. This perception is reinforced by the fact that the Catholic Church went on a material acquisition binge for centuries, encouraging families to give one of their sons and their inheritance to the Church and

30). There is an abundance of documents regarding the issue of clerical celibacy, its history and consequences. For a short but thorough review, see: Rev. Thomas Doyle, J.C.D., C.A.D.C., "A Very Short History Of Clergy Sexual Abuse In The Catholic Church," <http://www.crusadeagainstclergyabuse.com/htm/AShortHistory.htm>.

getting into the dubious “indulgences” business among other nefarious schemes. Indulgences were like a timeshare in the afterlife as wealthy individual could buy pardons for their sins and thus secure a coveted space in paradise. In a way, Catholics were great marketing innovators, but their detractors suspect ulterior motives in the celibacy as well as the indulgences issue.

The corruption of the Church, especially the issues of the selling of indulgences and clerical celibacy, was the cause of the Reformation movement that led to the Protestant schism in the 16th century, which cost the Church a big chunk of its membership. Pope Sixtus IV levied taxes on bordellos and on priests who maintained mistresses; Pope Alexander VI Borgia turned the Vatican into a bordello and fathered at least seven children, including possibly one with his own daughter, Lucrecia. There is wide consensus outside the Catholic Church, and increasingly within the Church itself, that the child molestation scandal currently shaking Catholicism is to be blamed on clerical celibacy.

It is rather ironic that a policy meant to protect the Church’s material assets resulted in huge financial losses as a consequence of the scandal; meanwhile, priests have left the Church in droves to escape the celibacy rule, which is also the major impediment to the recruiting of new priest. Despite those potentially existential threats, the Church’s highest hierarchy remains firmly in denial, refusing to see the link between clerical celibacy and child abuse or the precipitous drop in recruitment, to the increasing dismay of its followers. While most other Christian denominations are stable or growing, the Catholic Church has been in constant decline for the last 50 years or more, especially in the West. Weirdly enough, marriage is acceptable in the Eastern Catholic Church and the pope recently made overtures to breakaway Anglicans, enticing them with a waiver of the clerical celibacy requirement. Over 10,000 married priests are currently officiating with church’s blessings within the Catholic Church.³¹

31). A Brief History of Celibacy in the Catholic Church,
<http://www.futurechurch.org/fpm/history.htm>.

There are striking parallels between drug prohibition and clerical celibacy in terms of ulterior motives, catastrophic unintended consequences, huge collateral human, material damage, denial by the faithful under the spell of a powerful propaganda machine, and threats of censorship. The Catholic Church threatens excommunication; prohibitionists label their opponents as immoral and unpatriotic which often sounds like excommunication. Any challenge to the status quo is labeled as capitulation. There is even the existential threat as we have seen in Central American or West African countries such as Guatemala or Guinea-Bissau or even some US cities such as Camden, New Jersey. The resilience of such failed policies in spite of overwhelming evidence against them is a striking testimony to the amazing power of “conventional wisdom” and the “normalcy bias.” Propaganda and censorship are key to the resilience of any totalitarian model, as they shape and mold conventional wisdom to turn half-truth and outright falsehoods into received truths.

Prohibitionism and ulterior motives

Drug prohibition started in the US as a discriminatory ploy against Chinese migrants in California and has kept its discriminatory taint all the way to this day. It started with the opium scare against Chinese migrants, followed with the cocaine scare against African Americans and went on with reefer madness, the marijuana scare against Mexicans, each scare punctuated with moral panic and massive propaganda deployment. Prohibition still disproportionately targets racial minorities in the US as well as in other parts of the world.

The racial disparities in the drug war are well documented and have been studied extensively, the disparity between crack and powder cocaine sentencing being a striking example of racial discrimination, but policies and practices still widely ignore those studies. In the US, the African-American community is disproportionately victimized, with 35% of the arrests for drug possession, 55% of the convictions, and 74% of the incarcerations even though use rate is lower than with Caucasians. Racial disparity increases with the severity of punishment and African Americans account for 80% of the life

imprisonments! Latinos are also targeted, though to a lower extent. Children are affected as well, as African-American children are nearly nine times more likely and Latino children are three times more likely than white children to have a parent incarcerated.³²

Among the many plights facing convicted felons, disenfranchisement, the loss of voting rights, might be perceived as one of the lesser harms, but one with long-term damaging consequences as populations feel further alienated and without representation within the spheres of power. 5.3 million people were disenfranchised in the US as of 2004; one in every eight adult black males is ineligible to vote.³³ Unsurprisingly, the abstention rate is much higher in populations with a high rate of disenfranchisement as such populations have little faith in the electoral process and its potential to address their grievances.

It is no accident that Nixon declared the first War on Drugs at the height of the counterculture movement, as drugs, especially marijuana and LSD, were one of the rallying symbols of the counterculture which embodied all that Nixon and his backers feared and abhorred most. This was also the height of the civil rights and black power movements. Nixon's attacks on civil liberties under the guise of the War on Drugs can hardly be seen as mere coincidence. The choice of bellicose rhetoric is no accident either, as the US has been in a permanent global state of war for the past 70 years with no end in sight, the bellicose rhetoric dominating foreign policy and shaping internal politics all along.

The Cold War started right after the 1945 Yalta Conference at the end of World War II, leading to McCarthyism and a first wave of assault on civil liberties. The War on Drugs ran in parallel to the Cold War for a while until the War on Terror took over, with civil liberties and human rights being collateral damage all along. This global state of war generated a flurry of regional conflicts orchestrated overtly or covertly by the US: Korea and Vietnam, of course, but also endless conflicts in Central and South America from Chile to Nicaragua,

32). Race and the Drug War, Drug Policy Alliance.

33). Nicole D. Porter, "Expanding the Vote: State Felony Disenfranchisement Reform, 1997-2010," The Sentencing Project, October 2010.

Salvador or Guatemala, not to mention the first Afghan War. Not surprisingly, the War on Drugs was often caught in the middle of this global and regional warfare, mostly in quite ambiguous ways.

Meanwhile, despite Eisenhower's warnings, there is little doubt that "misplaced powers" have risen disastrously;³⁴ the military industrial complex is an over-reaching octopus with an annual budget surpassing 1.2 trillion dollars when all hidden expenses are taken into account.³⁵ The War on Drugs gave rise to a new "misplaced power" with the emergence of the powerful prison industrial complex.³⁶

With the high level of incarceration of racial minorities, civil asset forfeiture, the excessive use of undercover manpower and covert operations, the chronic "anti-drug" justifications for diverse military and police activities,³⁷ and an array of other civil rights infringements and human rights violations, the temptation to view ulterior motives in the War on Drugs is overwhelming. As already noted, propaganda and censorship together with mass incarceration of drug deviants under the prohibitionist regime has turned the US into a de facto police state, which might have been the ulterior motive all along, as prohibition might just be a pretext for eroding civil liberties, a tool for controlling people.

34). Dwight Eisenhower presidential farewell address, 1961: "The potential for the disastrous rise of misplaced powers exists and will persist."

35). Christopher Hellman, "The Real U.S. National Security Budget: The Figure No One Wants You to See," Huffington Post, March 1 2011.

36). Judge James Gray, *ibid*.

37). Levine, Harry G. (2001), "The secret of world-wide drug prohibition: The varieties and uses of drug prohibition," *Hereinstead*, October 2001.

Chapter 14:

The debate over harm reduction

“The only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant. He cannot be compelled to do or forbear because it will be better for him to do so, because it will make him happier, because, in the opinions of others, to do so would be wise, or even right. These are good reasons for remonstrating with him, or reasoning with him, or persuading him, or entreating him, but not for compelling him...Over himself, over his own body and mind, the individual is sovereign.”

John Stuart Mill, *On Liberty*

“The ultimate result of shielding men from the effects of folly is to fill the world with fools.”

Herbert Spencer

The concept of harm reduction or harm minimization is increasingly taking center stage in the debate about substance abuse policies. Whether you think that drugs are inherently evil, or you think that humans have an inalienable right to put in their body any substance they see fit without hurting others, a large majority should be able to agree on the concept of reducing the harm that may be caused by drug abuse. Harm reduction is arguably the best metric to evaluate the efficiency of substance abuse policies.

Although it has been mostly applied to drug use, the concept of harm reduction or harm minimization can be extended well beyond substance abuse. Many human activities or behaviors, such as driving, firing arms, horseback riding, boxing, wrestling, extreme sports,

or even riding a bike or skateboarding are potentially, though not intentionally, harmful to oneself and/or others.

In fact, harm reduction could be the guiding principle for addressing a whole range of issues, from poor diet to environmental issues, and for all practical purpose, harm reduction according to such extended understanding has been one of the implicit guiding principles of safety-driven policies for the longest time. But harm reduction in such extended meaning is rather complex, as it doesn't happen in a vacuum; harm reduction policies must be acceptable to the greatest number of people in order to be efficiently and practically implementable.

Harm reduction must take into account an array of potentially conflicting factors such as traditions and culture, subjectivity and perception, civil liberties and individual freedom, economic limitations, and entrenched political, economic and financial interests to name but a few. In consequence, harm reduction must derive from a holistic approach to have any meaningful bearing.

What is harm reduction?

Harm reduction can be defined as “a set of practical strategies, policies, programs, services and actions directed toward reducing or containing the adverse health, social and economic consequences to individuals, communities and society of high-risk activities such as alcohol and other drug use or gambling.”¹

An extended definition could be “a range of modalities, strategies and policies designed to reduce the harmful health, social and economic consequences of human activities.” In a way, harm reduction is risk management with a pragmatic, holistic twist. Harm reduction

- 1). Alberta Alcohol and Drug Abuse Commission (AADAC), Policy On Harm Reduction.

December 2001, Harm Reduction Coalition, “Principles of Harm Reduction,” <http://www.harmreduction.org/section.php?id=62>.

UK Harm Reduction Alliance,

http://www.ukhra.org/harm_reduction_definition.html.

derives from a pragmatic, realistic approach and acknowledges the wide variations in human behaviors and motivations without moral preconceptions. It doesn't aspire to forcibly change human nature and must take into account the unintended consequences of policies, as well as the short-term and long-term consequences of human activity. Looking at harm reduction from that perspective, we can draw lessons from existing harm reduction/risk management policies related to other human activities. We will look more particularly at driving, firing arms and unhealthy/harmful eating habits.

The vast majority of human activities, even things as simple and basic as walking or eating, present a certain level of risk. When you walk out of your house, you might slip on a banana peel or dog poop and break your neck. You might choke on a bone or get some food-borne disease, not to mention all the horrendous endless pain and suffering associated with over-eating and its litany of long-term chronic consequences. Some activities, such as heroin injection or over-eating, present a danger mostly to oneself, while other activities such as driving, boxing or certain team sports like football or hockey present a danger to oneself and others. Others, such as firing arms, present a danger mostly to others. Most high-risk activities impose a financial burden on society, which may be at least partially compensated for through the levy of an excise tax.

Transportation is certainly the most ubiquitous human activity with substantial potential harm. Driving, one of the favored means of human transportation, is an inherently dangerous activity that can become vastly more dangerous when done while engaged in a variety of distracting activities such as text messaging, talking on a cell phone, adjusting the radio or CD player, rearranging make-up, fondling, arguing with a spouse, scolding the kids, or while under the influence of a number of substances. This, incidentally, raises the issue of low-risk responsible driving versus high-risk hazardous driving, a rather universal issue when it comes to human activity.

Eating is a necessity, and proper diet has immense benefits while poor eating habits inflict humongous costs to the unhealthy dieter himself, and to society at large. The societal cost of poor eating habits reaches the trillion-dollar mark in the US alone. Firearms are

dangerous, and so are cars, motorcycles or skateboards. Alcohol is potentially dangerous, and so are heroin, Ritalin or Valium, not to mention junk food, soft drinks and tobacco.

Through the ages, and increasingly over the last 100 years or so, humans have come up with all kinds of devices and safety schemes, infrastructure, policies and regulations to minimize the risks associated with a wide array of human activities. Front and rear bumpers, turn signals, safety belts, airbags, anti-lock brakes, traffic lights, road signs, freeway interchanges, overpasses, and merge lanes are just some of the devices and infrastructure which, together with rules and regulations, aim to substantially reduce the risks associated with driving. As a result, driving-related casualties have decreased considerably over the years.

Driving is actually a perfect example of how harm reduction/risk management policies work. Driving presents some danger not only to the driver himself, but also to passengers, to other drivers and their passengers, and to other people who may be in the vehicle's trajectory. It even presents some dangers to the population at large as a result of driving-related pollution, causing an increase in respiratory and other diseases. Driving presents of course some obvious benefits as a facilitator of human movement, so despite its risks, nobody in his right mind would advocate prohibiting driving. Every time a new harm-reducing modality is implemented, it usually comes at a cost, which must be viewed as added harm, so it goes on the negative column of the harm balance sheet.

For instance, while the technology conceivably exists to create a car with super-resistant materials and so many security features as to make it virtually accident-proof, the cost would soon become prohibitive; moreover, unless all cars were built on the same model, it would just push the bulk of the harm unto other cars. Another alternative would be to change the rules and lower the speed limit to 20 miles per hour, but that would defeat the purpose of efficient and convenient transportation. So, right here we can see that harm reduction, at least as it applies to driving, is a matter of compromises, of checks and balances.

Economic interests also often get in the way of harm reduction. This is particularly true for the driving-related harms that are not direct and instantaneous, such as an accident, but are rather long-term, diffuse and widespread, such as the effects of car-generated pollution on people's health or the disastrous effects of massive oil imports on trade balances and energy independence. Nevertheless, over the years and despite strong industry opposition, regulations and devices such as gas mileage requirements or catalytic converters have been implemented to reduce this type of harm. Here we can see the conflict between the right of car makers to make a profit for their shareholders, executives' addiction to fat bonuses, and drivers' desire to drive big, powerful cars, versus the right of the population to have a safe and clean environment, the disastrous consequences of dependence on rogue nations for energy supplies, and the ever-increasing debts pushed onto future generations.

Different countries have different approaches, and while Europe tends to favor collective well-being, the US generally favors individual rights. Americans remain addicted to their iconic SUVs and other gas guzzlers, although the 2008 crisis shook this addiction to its roots and the US automotive landscape has been profoundly transformed, hopefully for the better.

Subjectivity and perception play a critical role in harm reduction implementation. They are like a deforming lens that grossly amplifies certain facts while minimizing others. Of course, they are routinely manipulated by the powers in place for ulterior motives. The War on Drugs and the War on Terror are prime examples of manipulation of public subjectivity and perception through scare tactics to push through dubious agendas. It is doubtful that the ill-named Patriot Act would have ever gone through without instilling massive doses of fear into the public. Likewise, the War on Drugs apparatus was shoved onto the world through intensive demonization and fear mongering.

As another illustration of the influence of subjectivity and perception, one of the most famous recalls in automobile history, the Firestone/Ford Explorer tire recall, resulted from 119 to 250 casualties

and 3,000 catastrophic injuries in the US over several years². This is most likely less than the monthly toll of texting while driving,³ but lawyers and the media lined up against Firestone/Ford, and their 241 tires per million defect-rate grabbed the headlines for months. Computer manufacturers can only dream of such a low failure rate, by the way, but nobody has ever died of a computer crash to the best of my knowledge. In the meantime, texting while driving barely gets a footnote. Laws have been passed against texting while driving, but lots of people still ignore them, which raises the issue of practical and efficient enforceability.

Throughout the world, driving is not a right but a privilege, and drivers must obtain a license showing that they are fit to drive; this license usually needs to be renewed on a regular basis. There is a rather broad consensus worldwide on driving safety and how to obtain it, even though there are wide differences in implementation, as anybody who has ever ventured on the roads of Mumbai, Karachi, Djakarta or Cairo can attest. The most impoverished countries don't have the means to implement efficient driving policies, infrastructure is rudimentary, and vehicles are often borderline dangerous. Nevertheless, over time countries tend to harmonize their safety and driving regulations.

The same cannot be said of firearms for instance, where regulations vary from severe restrictions in most developed countries such as Europe, Australia or Japan, to extremely lax and laissez faire laws as in the US. Curiously enough, while the restrictive gun control found in Europe and most developed countries have wide popular support, Americans are fiercely and divisively supportive of their own extremely lax regulations. Still, more than a million people have been killed with guns in the United States since 1968 and there are at least 250 million firearms in circulation, which is probably more than all the rest of the world outside war zones combined. México's

- 2). "Firestone tire recall legal information center,"
<http://www.firestone-tire-recall.com/pages/overview.html>.
- 3). Anna Vander Broek, "'Distracted driving' gets more attention," 2/1/2010, MSN Money.

restrictive laws are nullified by the lax policies of their northern neighbors, as an endless flow of smuggled weapons keep flooding the country. Impoverished countries, once again, don't have the means to implement efficient policies and are plagued by gun violence among the many scourges affecting them.

150,000 Americans have been gunned down since 9/11, 80 more die every single day, and absolutely nothing has been done about it; on the contrary, the gun lobby is as powerful as ever. Contrast this with the trillions of dollars that have been spent on anti-terror protection since then. A hefty portion of every plane ticket bought since 9/11 goes towards terror prevention, incidentally more than enough to buy a basic gun. 10,000 people, twice as many as the 9/11 victims, die every week in the US as a consequence of poor eating habits. Here, in a nutshell, we can see the effects of subjectivity and perception, traditions and culture on the policy-making process. 9/11 was a hugely traumatic event that still looms overbearingly on the American psyche. Their foreign origin made the 9/11 perpetrators all the more easy to demonize, unlike the Oklahoma bombers who created a great sense of unease within the country. Gun ownership raises the issue of civil liberties and individual freedom in the US where it is a real powder keg that politicians tackle at their own risks. The effects of poor eating habits are long accumulating and take years if not decades to manifest. The poor eaters are your family or neighbors, their suppliers are the corner grocery store, the manufacturers are the all-powerful agro-industry, which raises the issue of complex, deeply intertwined entrenched political, economic and financial interests.

The cost issue

Central to the harm reduction discussion is the cost issue. While the human and environmental costs are harder to determine, the financial cost can be more easily evaluated and may serve as an objective metric of policy efficiency. We can draw lessons from existing harm reduction policies (according to the extended definition used above) and their financial balances. Ultimately, we should be concerned with

cost allocation and what portion of the bill is thrown onto taxpayers or future generations.

Besides gas and car maintenance, driving implies all kinds of costs to society, which must be covered one way or another. Such costs include roadway system maintenance, traffic monitoring and policing, car accidents, health and environmental costs caused by exhaust gases pollution, and defense expenditures to protect the oil supply – the cost of the Iraq War alone surpasses the trillion dollar mark and keeps mounting. While the environmental bill mostly keeps accumulating, the majority of the other costs must be taken care of one way or another. The cost of car accidents is more or less covered through car insurance. To cover most or part of the remaining costs of driving, many countries impose a vehicle registration tax and an excise tax, which is reflected in the price of gas. Still, there are some wide variations and as of January 3, 2011, the average gas price per gallon varied from a high of \$7.98 in the Netherlands to \$3.31 in the US⁴. A number of countries such as Venezuela, Iran, Saudi Arabia, Egypt or China even subsidize gas. Gas costs about \$0.87 per gallon in Venezuela.⁵ Most economists estimate that it is heavily subsidized in the US where the true cost might be as high as \$11 per gallon, as the country bears the vast majority of the world's oil-related defense costs. The difference between the pump price and the real cost is picked up partly by the taxpayer, the bulk of it being mostly dumped onto future generations as a ballooning trade deficit and budget deficit, to which should be added the environmental deficit.⁶

The picture is even worse for the cost of firing arms, where taxes collected on bullets and guns are totally insignificant compared to the health care, law enforcement and economic costs of firing arms.

4). <http://www.eia.doe.gov/emeu/international/gas1.xls>.

5). "Gasoline and diesel usage and pricing," Wikipedia.

6). "How much are we paying for a gallon of gas?" Institute for the Analysis of Global Security, <http://www.iags.org/costofoil.html> – Milton R. Copulos, "The Hidden Cost Of Oil: An Update," The National Defense Council Foundation, January 8 2007 <http://www.ndcf.org/>.

The cost of poor diet doesn't fare much better as the yearly tab now reaches the trillion-dollar mark in the US, spread between economic costs such as loss of productivity and health cost. Some of the health cost is absorbed by health insurance, contributing to higher insurance premiums, the rest ending up in Medicare-Medicaid as the health consequences of overweight and obesity disproportionately strikes the poor and the elderly. This would be partly offset by taxes collected throughout the manufacturing and distribution network if the agro-industry was not one of the major recipients of government subsidies. To be totally fair, the positive effects of a healthy diet offset to some extent the negative consequences of unhealthy diet, which means that in a way healthy dieters subsidize junk food addicts. Furthermore, overweight people tend to live shorter lives than their healthier counterparts. Therefore they collect Social Security and get retirement benefits for shorter periods of time, partly compensating for their inflated health costs, thus reducing their overall cost to the economy. Accounting and balance sheets can be quite heartless.

Junk food and soda tax proposals are discussed by various states amid fierce industry opposition. Denmark was the first country in the world to have a junk food tax; others like Taiwan or Romania are considering it.⁷ Closer to our main topic, excise taxes are collected on alcohol and tobacco. In a sense, safe drinkers subsidize problem drinkers through that excise tax, which is unavoidable as it would be impractical to have an excise tax applying only to problem drinkers.

Excise tax

Anybody can claim a legitimate right to his or her lifestyle choices as long as they do not intentionally endanger others or do not present an inordinate threat or impose an undue burden or cost on society.

As we have seen above, many lifestyle choices and human activities in general present undeniable potential danger to society or result in costs to be borne by society. While single occurrence

7). "Should the UK tax high-fat junk food to cut obesity rates?," BBC Panorama, 15 November 2010.

or individual patterns might be minimally harmful, global patterns place an undeniable burden on society when abuse is accounted for. Ideally, this burden should be compensated through an appropriate excise tax collected on the sale of products or services related to the activity causing the harm. Taxation should try to achieve taxpayer neutrality or better, meaning that potentially harmful activities shouldn't impose a financial burden on taxpayers.

The excise tax should have two components:

- A compensatory component to cover the economic cost placed on society as a result of the activity; this cost should include education, prevention and treatment.
- A deterrent component proportional to the degree of harm caused by the activity to discourage people from behaviors with the highest potential harm. The deterrent component should only apply to those activities that impose a substantial societal burden.

Of course, in the real world, most potentially harmful activities are not subject to excise taxes and when they are, the excise tax rarely covers the societal cost. Such is the case for alcohol for instance, where the excise covers a small fraction of the societal costs in most countries. Nevertheless, we should keep this aim in mind when designing drug policy reform.

Lessons learned from other harms

Looking at how harm reduction/risk management strategies and policies are designed and implemented when they apply to driving, firing arms or harmful eating habits, we can see that logic and reason often clash with a disparate set of factors, blurring or preventing rational decision-making. Subjectivity and perception, often fed by sensation-hungry media, lead to irrational resource allocation and aberrant policies. Powerful entrenched interests have the power to derail even the most obvious reforms. Privatization of profits and socialization of risks are the rule rather than the exception, and taxpayer and/or future generations are left to pick up at least part

of the tab of the vast majority of harm-causing human activities. In summary, here are some of the issues to address when trying to design and implement efficient harm-reduction strategies and policies:

- Balancing costs and benefits
- Subjectivity and perception vs. hard facts
- Practical and efficient enforceability
- Entrenched political, economic and financial interests
- Cost to the taxpayer or to future generations

In a culture driven by 15-second commercials, political messages have to be delivered in sound-bites and the “sound-biteability” of an issue, is often the guiding factor of policy design or action, and posturing often trumps logic and reason. This is one of the major obstacles to sound and rational policy-making. Drug reform is a rather complex issue which cannot be easily encapsulated in sound-bites to in turn be converted into votes at the polls.

Harms related to illegal drug use⁸

The issue of harms caused by illegal drugs use is quite complex and distinction should be made between harms related to drug use per se and harms created by drug policies. To further complicate the issue, prohibition doesn’t discriminate between patterns of use, and bundles together safe and responsible recreational, therapeutic or ritualistic use with high-risk use, abuse and addiction. Even responsible use can cause significant harms to the user, to his proximate environment

- 8). For a detailed discussion of the issue of harm augmentation, see the remarkable book by Judge James P. Gray, “Why Our Drugs Laws Have Failed and What We Can Do About It: A Judicial Indictment of the War on Drugs,” Temple University Press, 2001. I highly recommend this thorough, passionate and courageous book, based on Judge Gray’s personal experience, by a veteran judge of the Superior Court in Orange County, California, and ex-drug warrior.

See also: Robert J. MacCoun and Peter Reuter, “Drug War Heresies: Learning from Other Vices, Times & Places,” Cambridge University Press, 2001.

Rolles S, “After the War on Drugs: blueprint for regulation,” Transform Drug Policy Foundation, 2009, www.tdpf.org.uk/Transform_Drugs_Blueprint.pdf.

and to society at large, as prohibition turns difference and lifestyle choices into deviance with catastrophic consequences.

The harm caused by drug use can be broken down into primary harms to the user and secondary or societal harms to third parties.

The harms to the user can in turn be broken down into short-term acute health harms (intoxication and overdose) and long-term chronic health harms (addiction, long-term effects of use, diseases related to ingestion methods: HIV, hepatitis, etc.). To these we should add harms inflicted by society to the drug user (personal societal harm), mostly as a consequence of prohibition: discrimination, marginalization, incarceration, and the personal stigma of a criminal record.

The societal harm of drug use can be broken down into harms borne by proximate environment (family and close ones), harms borne by the social environment (neighborhood and workplace), and harms borne by society at large (crime, corruption, burden on the justice system, and economic burden).

In addition, prohibition has created huge and growing geopolitical harms thanks to the crime and corruption it generates.

I refer my readers to the chapters on individual substances for more details on the potential harms of the major psychoactive substances. I will just give a summary of findings from previous chapters. We will first examine the harms related to drug use per se, which are common to all psychoactive substances irrespective of their legal status, before focusing on harms created by drug policies.

Harms related to the use of psychoactive substances

Primary harms to the user

Short term acute health harms

Most psychoactive substances have some level of acute toxicity which can range from temporary uneasiness, such as nausea or dizziness, to permanent tissue damage or even death. The toxicity depends on the substance, its concentration and the administration mode. Poly-drug use may dramatically increase toxicity. Tolerance

somewhat lowers toxicity and a heroin dose that would be fatal to an initiate might be barely enough for a rush to a long-time addict.

Intravenous injection is by far the fastest route and the most dangerous and accident-prone administration mode, as action is almost instantaneous; it is also comparatively the highest cause of death by overdose. Smoking and inhalation are the second fastest and most powerful administration mode, with the substance quickly reaching the bloodstream through the lungs. This administration mode also negatively affects the respiratory system. Snorting or sniffing is substantially slower than smoking and inhalation, and require higher doses for comparable effects. Oral ingestion is by far the safest and slowest mode of ingestion as the digestive system is quite robust and built to accommodate a wide variety of ingests. The ingested psychoactive substances reach the bloodstream quite slowly, often over several hours, and substantial amounts are metabolized and eliminated in the process.

The toxicity of the substances varies widely from almost no toxicity, as is the case of marijuana, to high acute toxicity, as with injected heroin or amphetamines. The lack of quality control in illegal drugs significantly increases the risks associated with toxicity as their concentration may vary widely; adulterants themselves may be toxic.

Long-term chronic health harms

A single administration of certain substances such as hallucinogens may have long-lasting effects. This is the infamous flashback effect and the much more dramatic “freaking-out.” Hallucinogens may even trigger temporary or permanent psychiatric conditions such as anxiety, depression or psychosis.

Other than hallucinogens, the long-term health harms of psychoactive substances are rather complex and depend on a wide variety of factors such as pattern of use, administration mode, and the environment of use – the set and setting. Injection on a street corner, in a crack house, or in a dirty bathroom is immensely more dangerous than supervised injection in a semi-clinical setting.

Cigarette smoking has low acute toxicity, but high long-term risks. Responsible drinking is beneficial for health while binge drinking and alcoholism are extremely dangerous. Long-term amphetamine use or binge use leads to dangerous psychotic behavior. Some argue that smoking marijuana is at least as dangerous as smoking tobacco, while several studies seem to indicate that it doesn't increase the risks of lung cancer.⁹ In any case, regular heavy marijuana smoking significantly increases the risk of respiratory conditions such as cough, phlegm, or lung infections. Some people have been able to maintain a low profile heroin habit for years or even decades, living somewhat normal lives, while others plunge into an addiction inferno after a few injections. Heroin, though, is one of the most addictive psychoactive substances.

Distinction should be made between moderate use and excessive use and addiction, but while abundant research exists about the benefits of moderate use of alcohol, such data doesn't exist for illegal drugs for obvious reasons. Likewise, the use of prescription drugs and their benefits and contra-indications are widely documented. Regular exposure to tobacco smoke, either directly or through "second-hand smoke," is detrimental to the health even in moderate amounts. Circumstantial evidence seems to indicate that regular moderate use of marijuana is not detrimental to health and may have positive health benefits. Likewise, Andean people have been using coca leaves in various forms for thousands of years without negative side effects, and probably with substantial health benefits.

Generally though, long-term excessive use of psychoactive substances has severe health repercussions. Injection leads the pack with the highest risk of overdose and heightened risks of a plethora of injection-related diseases such as HIV/AIDS, hepatitis, abscesses, collapsed veins, and substance related diseases such as heart diseases, kidney failure, pneumonia, etc.

9). Marc Kaufman, "Study Finds No Cancer-Marijuana Connection," Washington Post, May 26 2006.

Secondary or societal harms to third parties

The societal harm of the use of psychoactive substances can be broken down into harms borne by the proximate environment (family and close ones), harms borne by the community and social environment (neighborhood and workplace), and harms borne by society (crime, corruption, burden on the justice system, and economic burden). Secondary harms are closely tied to patterns of use, and while moderate use causes little or no societal harm in and of itself, problem use may impose considerable harm to others. Of course, prohibition skews the whole picture, as criminalization may land even moderate users in the claws of the justice system, with potentially catastrophic consequences on family and disproportionate cost to society as we will see below.

The secondary harm of problematic use varies a lot according to the substance of abuse. The secondary harm of excessive smoking is mostly the health related burden to society, which is increasingly covered by the excise taxes levied on tobacco products. In contrast, the societal cost of alcohol or amphetamines abuse is extremely high, as those substances tend to induce violent, impulsive, erratic and risky behavior. Marijuana or opiate abusers tend to be sedate and harmless, but still significantly impaired for driving or operating equipment. Opiate abusers often experience hard landings and may become extremely aggressive.

The brunt of the secondary harm of problematic use is typically borne by the proximate environment, mostly children and spouses, in the form of violence, abuse, neglect, and broken families. Such harm disproportionately affects the most destitute who are typically on the fringe and do not have the resources to cope with this extra burden.

Substance abusers pose a substantial danger to their communities through myriad factors: belligerence, petty crime, loitering, civil disturbance, impairment while driving or operating machinery and equipment, etc. Finally, problematic use causes heavy harm to society, mostly added burden on the justice and the health care systems.

Far from harm reduction, prohibition actually augments substantially all the harms related to the use of the psychoactive

substances which have been decreed illegal and creates a whole set of harms of its own.

Harms caused by drug prohibition

There is a growing perception, as this book clearly demonstrates, that drug prohibition has widely failed to reduce harm and its unintended consequences have even caused enormous harm augmentation on many different levels. The War on Drugs failure being the topic of the first half of this book, I will just recap the major findings, without getting into the details again.

At the root of all the evils unleashed by drug prohibition and the War on Drugs are the illegal trade and the illegal marketplace it has created and nurtured. As we have seen in our first section, drug trafficking arose as an unavoidable consequence of prohibition as it attempts to violate the inescapable law of supply and demand. The War on Drugs and drug trafficking grew in symbiosis, feeding on each other. The War on Drugs thus nurtured powerful criminal organizations and greatly increased drug-related violence, corruption and crime in quantity, intensity and scope. As the DEA keeps expanding, so does drug violence. While the DEA has offices in 63 countries, drug violence and corruption are now destabilizing entire regions of the world, from Central America to West Africa and Afghanistan/Pakistan with an ever-growing geopolitical cost. This is of course the major harm caused by prohibition, out of which all other harms derive.

The illegal status of drugs turns tens of millions of otherwise innocuous human beings – users and small-time dealers – into criminals, stigmatizing and marginalizing them, cornering them into criminal careers. In most countries, there is a de facto discrimination against current and former drug users, who face restricted access to appropriate health care, employment, or social benefits.¹⁰ Once they are caught into the criminal justice system, people see their options

10). Ending Discrimination Against People With Alcohol And Drug Problems, 2003, www.jointogether.org/discrimination.

greatly reduced and are denied access to all but low-paying jobs, leaving them without any real incentive to abandon their criminal career. In the US, people with drug convictions are banned from public housing and from receiving Federal aid, making it impossible for them to reintegrate into society.

To make things worse, far from the stated goal of rehabilitation, the prison system has turned into a brutal recruiting and training facility, a university in crime, churning out repeat offenders and career criminals. Most people are far more dangerous when they get out of jail than when they went in. Hundreds of millions of people have been incarcerated as a consequence of this madness, often turned into hardened criminals. 7.2 million people, 3.1% of the adult US population, is either in jail or under judicial supervision. 6.6% of the population will serve time in their lifetime, a percentage that rises to 11.3% for all males, 17% for Hispanic males, and a mind-blowing 32% for black males!¹¹ Jail becomes a rite of passage in some communities.

Violence and incarceration often lead to broken families as spouses and children are left destitute, feeding a vicious circle of marginalization and poverty. Entire neighborhoods are destroyed when drug dealers take over or when their youths end up in jail or in a cemetery.

Violence permeates almost all levels of drug trafficking and retail dealing is often controlled by gangs, where violence becomes a rite of passage rewarded by a drug dealer job. Small-time dealers are often petty criminals as well; by socializing with them, drug users get used to law-breaking, resulting in erosion of respect for the rule of law. Criminalization is a self-reinforcing process: by facilitating their socialization with criminal elements, prohibition further facilitates the slide of drug users into crime. This leads to a further erosion of respect for the law, especially among minorities that are inordinately targeted by the War on Drugs.

11). Thomas P. Bonczar, "Prevalence of Imprisonment in the U.S. Population, 1974-2001," USDOJ, Bureau of Justice Statistics, August 17 2003, <http://bjs.ojp.usdoj.gov/content/pub/pdf/piusp01.pdf>.

The illegal drugs distribution system, which for all practical purposes is a form of network marketing system, incentivizes users to become dealers, encouraging them to recruit acquaintances into their network to sustain their habit. Prohibition turns heavy users into proselytes.

From the mountains of Afghanistan to cyberspace, from El Salvador, Guatemala or México to American or European neighborhoods, myriad subcultures revolve around drug trafficking. The first job offer to an unqualified youngster in Sinaloa or Chihuahua is likely to be as “sicario”¹² for the cartels; most families there have at least one member involved in the trade. From the West African slums to southeast LA, from the remote Afghan valleys to the Brazilian favelas, drug trafficking is intertwined with and sustains the local economies, often providing seed money, operating finances, lavish customers, and its own version of tax collection and law enforcement.

As we have seen throughout this book, children are often prime victims of the War on Drugs as drug trafficking organizations use them as foot soldiers and cannon fodder. Adolescents are prime market targets for drug dealers, with disastrous consequences since people who have never used any psychoactive substances by the age of 20 are highly unlikely to ever start, while the earlier the initiation to psychoactive substances, the higher the risk of future abuse and addiction.

Drugs being illegal, there is, of course, no quality control; products are unreliable and often adulterated with widely varying concentration resulting in intoxication or overdose. Fear of prosecution prevents people from asking for help even in critical situations, often leading to unnecessary deaths. Needle sharing and unsafe administration practices result in the spread of HIV, hepatitis or other infectious diseases. At-risk populations are further marginalized and reluctant to seek much needed help. There is no access control either and children of any age, or mentally unstable people have easy access to illegal drugs.

12). Hired gun.

Addiction of his customers being in the dealer's best interest, far from leading them to a drug rehabilitation center, drug dealers turn their customers onto harder drugs, which is the main reason for the so-called gateway effect.

The US initiated the hopeless and senseless drug prohibition crusade over a century ago. To fight the monster of its own creation, it created over the years a monstrous and invasive enforcement apparatus that is spreading over the planet, imposing its repressive approach to the rest of the world thanks to US hegemonic policies. This vast enforcement apparatus is severely eroding civil liberties all over the world, unnecessarily destroying lives, trampling the rights of minorities, destroying local economies and eco-systems. It keeps feeding on its own destruction and failures, and the more it misses its avowed goals, the more destruction it brings, the more powerful it gets. To make things even worse, this invasive presence generates plenty of resentment within local populations, fueling further anti-American sentiment.

Of course, the 10,784 DEA employees as of 2009 are just the tip of the iceberg. Taking into account the weight on law enforcement, justice and prison systems, the War on Drugs employs hundreds of thousands if not millions of people in the US alone. The criminal justice system employs an astounding 2.4 million people in the US, more than 1.6% of the active population,¹³ a substantial number of them as a consequence of the War on Drugs.

This, the employment of hundreds of thousands of people all over the world, though mostly in the US, most of them directly or indirectly at the charge of US taxpayers, is about all the War on Drugs has to show for all the mayhem and chaos it is sowing over the planet, for the trillions of dollars it has soaked up and is still soaking up. Drug use is spreading everywhere. Drugs are as easily available as ever. New drugs keep emerging all over the place. Whenever a drug is in decline, another is taking over. This had been the case between 2007 and 2010 when cocaine supply and use decreased, just to be replaced and more by amphetamines, leaving a trail of gruesome

13). Larry J. Siegel, "Criminology," 9th edition, 2009.

psycho-killings throughout Central America. These jobs do not produce any wealth. They do not improve other people's lives. On the contrary, they inflict widespread misery. This repressive apparatus routinely undermines human rights and ignores basic civil liberties while eradication campaigns create ecological disaster. There have to be better ways to stimulate job creation!

The cost of madness

The War on Drugs is the most twisted and perverse case of privatization of profits and socialization of costs. The entire income derived from the production and commerce of drugs is privatized, financing criminal organizations, which in turn creates more problems. Meanwhile, taxpayers pick up the bill not only for the consequences of drug use, but also for the consequences of their illegal status: violence and crime, corruption, law enforcement, etc., which far outweighs the societal cost of drug use and inflates it considerably.

But the real cost goes well beyond the direct cost as mandatory minimum sentencing further exacerbates the problem and stretches states and local budgets beyond the limit, overwhelming the justice and prison systems. In order to comply with Federal requirements, states are reduced to cut into the very heart of education budgets, compromising future generations at a time when an ever-growing burden is pushed onto them. California spends more on law enforcement than on education! Safety nets such as mental health or welfare for children are dismantled, pushing more people into poverty. Newark, New Jersey, had a major police layoff in November 2010. Camden, also in New Jersey, the second most dangerous city in the US, laid off half its police and firefighting forces on January 18, 2011; militias are taking over law enforcement. Violent crime jumped over 250% in the aftermath.¹⁴

14). Liz Goodwin, Violent crime spikes after Camden halves police force, The Lookout, March 7 2011.

This is a dangerous and self-destructive trend with potentially devastating mid-term and long-term consequences. To top off all of this, there is the staggering societal cost of violence, broken families, destroyed neighborhoods, and the vicious cycle of marginalization and poverty. Estimates of the total direct and indirect costs of the War on Drugs vary between 200 and 300 billion dollars in the US alone. The US Justice Department estimates the consequences of drug abuse as “an overburdened justice system, a strained health care system, lost productivity, and environmental destruction” to the tune of 215 billion dollars per year.¹⁵

And this is happening in the wealthiest country in the world! Most developing countries just do not have the resources to fight such a plight; a growing number of countries are being overwhelmed.

Lots of human activities have risks attached to them, as is the case of driving, among others. Most people who take on driving drive safely; some drivers drive recklessly and endanger themselves and others. This is not a good enough reason to ban driving. Most people use psychoactives safely, and the use of psychoactives has been going on much longer than driving. The fact that some people abuse psychoactive substance is not a good enough reason to ban them, especially when the most abused substances are legal.

There is a growing realization throughout the world that the prohibitionist model is fatally flawed, and that alternatives are urgently needed. We will explore such alternatives in our next chapter.

15). USDJ – National Drug Threat Assessment 2010.

Chapter 15:

The debate over legalization

“I think what was truly depressing about my time in UKADCU was that the overwhelming majority of professionals I met, including those from the police, the health service, government and voluntary sectors held the same view: the illegality of drugs causes far more problems for society and the individual than it solves. Yet publicly, all those intelligent, knowledgeable people were forced to repeat the nonsensical mantra that the Government would be ‘tough on drugs’, even though they all knew that the Government’s policy was actually causing harm.”

Julian Critchley, former head of UK anti-drug co-ordination unit
(UKADCU)

It should be quite obvious by now that the current prohibitionist drug policies are in dire need of reform, and that the status quo is not an option. How then can current drug policies be reformed, and can they be reformed in the first place, or should drug prohibition be repealed altogether? Current international treaties pose specific challenges and limitations to drug reform. We will address this issue at the end of the chapter. Let’s first look at the various options and their relative advantages and disadvantages.

To begin with, the regulation of psychoactive substances should be stripped of its obsolete ideological foundation and be based on sound evidence-based policies. Substance abuse should be viewed as a public health issue, not a criminal issue. Policies should be founded on respect of individual freedom and human rights with the goal of reducing harm, addressing the public health and public safety concerns without overly encroaching on civil liberties. They should be based on rights and the responsibilities attached to the exercise of those

rights. Legislators should stop trying to legislate private lives. What informed consenting adults do to themselves or between themselves without intentionally endangering others is their sole responsibility. As a corollary, they should be held responsible for the potentially though not intentionally harmful consequences of their acts.

The limits of decriminalization

More and more countries are moving away from the strict US prohibitionist model towards some form of decriminalization. This is the case in most of Europe and Latin America as well as Australia. The United States is particularly schizophrenic on the issue, with the Federal government remaining the world's prohibitionist in chief while a growing number of states are adopting some form of decriminalization or semi-legalization with a medical marijuana fig leaf.

The issue is hotly debated at the international level. After initially opposing it as a potential violation of international drug treaties, the UNODC even endorsed decriminalization in its 2009 annual report. Addressing Portugal's decriminalization, the report affirms: "These conditions keep drugs out of the hands of those who would avoid them under a system of full prohibition, while encouraging treatment, rather than incarceration, for users. Among those who would not welcome a summons from a police officer are tourists, and, as a result, Portugal's policy has reportedly not led to an increase in drug tourism ... It also appears that a number of drug-related problems have decreased."¹ But the International Narcotics Control Board (INCB) in its 2009 annual report is concerned that "[t]he movement [towards decriminalization] poses a threat to the coherence and effectiveness of the international drug control system and sends the wrong message to the general public."² At the International AIDS Conference held in Vienna in July 2010, more than 13,000 clinicians,

- 1). http://www.unodc.org/documents/wdr/WDR_2009/WDR2009_eng_web.pdf.
- 2). http://www.incb.org/pdf/annual-report/2009/en/AR_09_English.pdf.

researchers, and public policy experts signed a declaration calling for the global decriminalization of drug use and the implementation of evidence-based policies to halt the rampant spread of HIV infection among injecting drug users (IDUs).³

While it pushes their limits, decriminalization doesn't violate the current international treaties and can be implemented without major international upheaval. Decriminalization also reduces harm to the users, helping them to seek treatment, protecting them from the claws of the justice system, while alleviating pressure on said justice system. In theory, it allows the reallocation of law enforcement resources towards the fight against drug traffickers and organized crime. As decriminalization reduces use only marginally at best, one must assume that the effects on drug trafficking are minimal. Decriminalization seems to reduce crime related to drugs acquisition. In that sense, decriminalization succeeds in reducing micro-harms, the harms at the individual and community level. But decriminalization fails to address the quality control issue and, unless it is accompanied by other harm reduction practices, it doesn't sensibly reduce hazardous administration practices. More importantly, if decriminalization narrowly addresses some of the use issue, it fails to address the arguably far more important supply issue, as well as the most globally damaging effects of prohibition and drug trafficking, the macro-harms, the harms to societies and to nations, chief among them organized crime and its associated violence and corruption.

Decriminalization is really just a patch, a temporary fix that alleviates some problems but ultimately leaves intact or even strengthens the black market, which totally defeats the purpose. Furthermore, just as prohibition was really intended to minimize the impact of illegal drug use on Western countries, decriminalization minimizes the impacts of prohibition on using countries but fails to

3). Vienna Declaration urges global decriminalization of drug use, The European AIDS Treatment Group, 28/07/2010.

address the harms imposed on producing and transiting countries by the illegal drug trade. So while it is certainly a step in the right direction, decriminalization is clearly not the whole answer.

Selective legalization

Momentum is growing in favor of some degree of legalization, with wide support in favor of marijuana legalization, especially in Western countries. The global youth culture already operates in post-prohibition mode. Consumption and possession of small quantities of cannabis are already decriminalized in many states and countries. In the US, medical marijuana, which for all practical purposes is legalization with a medical fig leaf, is slowly but surely eroding marijuana prohibition. Cannabis is semi-legal in the Netherlands and widely tolerated throughout Europe. All these measures might be viewed by some as a step in the right direction, but they still leave organized crime in control.

It is debatable whether selective legalization of the softer psychoactives, mainly cannabis, might lead to an explosive growth of the black market for hard drugs. It could be argued that a legal access to relatively mild psychoactive substances might dry up the demand for harder substances. But wide availability of alcohol didn't prevent the dramatic rise in the use of other substances. On the other hand, users of mild psychoactives get exposed to hard psychoactives mostly through their supply channel, which wouldn't be the case if soft psychoactives were legalized. Therefore, selective legalization would likely result in a dramatic decrease in undue exposure to hard psychoactives.

The scant data available, based mostly on the Dutch experience, seems to indicate that selective legalization will most likely reduce the incidence of hard drug use, especially if it is coupled with appropriate harm reduction policies for injection drug users such as needle exchange and injection rooms. Separation of the hard and

soft markets was the motive behind the semi-legalization of cannabis in the Netherlands in the 1970s.⁴

Considering that marijuana users constitute the vast majority of illegal drug users, its legalization would be a giant step in the right direction and would greatly relieve the law enforcement and justice systems. However, it should be noted that, for reasons that are not clear to academics, but are obvious to anybody with any kind of drug experience, the commerce and use of marijuana generates much lower violence and crime than the commerce and use of hard drugs. Also, marijuana is produced all over the world. A substantial part of its trade takes place independently of organized crime and within social networks or through small-scale growers/traffickers.⁵ Therefore, the impact of marijuana legalization on organized crime might not be as substantial as claimed by marijuana legalization activists. It would certainly unburden the criminal justice system.

While selective legalization will allow law enforcement to focus on hard drug trafficking, it will also allow organized crime to focus on the same hard drug trafficking. If there are any lessons to be learned from the past, there is no reason to believe in a positive outcome of such a scenario.

The case for legalization

Even though the case for re-legalization seems quite overwhelming, prohibitionists raise some extremely valid issues that should be addressed properly. The argument put forward by most prohibitionists is surprisingly weak and poorly founded though. This might be due to the fact that legalization advocates have an undue burden of proof to defend their case, given the tremendous bias towards the status quo and the propaganda advantage enjoyed by prohibitionists.

- 4). Cohen, Peter, & Arjan Sas, 1997, Cannabis use, a stepping stone to other drugs? The case of Amsterdam. In: Lorenz Böllinger, 1997, Cannabis Science, From prohibition to human right.
- 5). Robin Room, Benedikt Fischer, Wayne Hall and Simon Lenton, "Cannabis Policy: Moving Beyond Stalemate," Oxford University Press, March 26 2011.

The DEA issued a “Summary of the Top Ten Facts on Legalization,” that should, I assume, be considered the official position on the topic, all of them surprisingly weak. I will comment on them below:⁶

- Fact 1: We have made significant progress in fighting drug use and drug trafficking in America. Now is not the time to abandon our efforts. *Comment: What progress? Very few people outside the core war drug warriors would agree with this statement.*
- Fact 2: A balanced approach of prevention, enforcement, and treatment is the key in the fight against drugs. *Comment: Most legalization advocates can give a qualified agreement to this statement. They will disagree on the type of enforcement needed. They would probably contend that enforcement doesn't require criminalization.*
- Fact 3: Illegal drugs are illegal because they are harmful. *Comment: This is an oxymoron. While some illegal drugs are more harmful than others, some legal drugs such as some prescription drugs or alcohol and tobacco are far more harmful than some illegal drugs such as marijuana.*
- Fact 4: Smoked marijuana is not scientifically approved medicine. Marinol, the legal version of medical marijuana, is approved by science. *Comment: This is about as lame as an argument as can be.*
- Fact 5: Drug control spending is a minor portion of the US budget. Compared to the social costs of drug abuse and addiction, government spending on drug control is minimal. *Comment: Legalizing advocates would say rather: At \$40 billion dollars per year according to government estimates (and over \$100 billion when all costs are truly accounted for), total US Federal and state spending on drug control*

6). “Summary of the Top Ten Facts on Legalization,” in Speaking out against Drug Legalization, U.S. Department of Justice, Drug Enforcement Administration, May 2003.
<http://www.justice.gov/dea/demand/speakout/index.html>.

is quite substantial but the social costs of prohibition is much higher.

- Fact 6: Legalization of drugs will lead to increased use and increased levels of addiction. Legalization has been tried before, and failed miserably. *Comment: Drugs are ubiquitous already. Controlled legalization if properly implemented can limit access for the most vulnerable populations and reduce abuse and addiction⁷. Where and when was legalization tried before? Legalization of alcohol has been tried and nobody in his right mind would suggest going back to alcohol prohibition.*
- Fact 7: Crime, violence, and drug use go hand-in-hand. *Comment: Prohibition creates crime and violence.*
- Fact 8: Alcohol has caused significant health, social, and crime problems in this country, and legalized drugs would only make the situation worse. *Comment: The alcohol issue is quite complex due to the dominant psychoactive status enjoyed by this substance in Western culture. Alcohol use in Western countries has been substantially reduced over the past few hundred years. Alcohol prohibition far worsened the alcohol problems.*
- Fact 9: Europe's more liberal drug policies are not the right model for America. *Comment: If true, this would be a sad case of American exceptionalism.*
- Fact 10: Most non-violent drug users get treatment, not jail time. *Comment: While this might be true in other countries, this will be news to the millions of people who have done time for drug use in the US.*

One of the most recurring claims of prohibitionists is that legalization would provoke an epidemic of substance abuse and addiction. Considering that there is already an over-abundance of both legal and illegal psychoactive substances, we can reasonably

7). See next chapter: "A roadmap to controlled re-legalization."

assume that the overall appetite for mind alteration is currently being met, and that the overall pattern of use will remain stable, so that legalization will mostly result in substance substitution. With proper regulations and nudging, such substance substitution may even have overall positive societal consequences.⁸

Some prohibitionists invoke the loss of economic productivity as a legitimate justification of prohibition, an argument that some of their opponents find objectionable if not outright repulsive and a manifestation of materialism run amok with the supremacy of Homo Economicus. It should be noted that there is little difference between the direct economic productivity loss caused by legal or illegal drugs, except that prohibition adds its own loss of productivity due to incarceration, health consequences of hazardous administration practices, etc. One of the most absurd arguments in favor of prohibition is “that legalization would help to create a large black market for drugs.”⁹

Most legalization advocates agree with most of prohibitionists’ assertions and assessments on the issues raised by drug use, abuse and trafficking such as their impact on communities and neighborhoods, the vulnerability of children, the undermining of social institutions, the destruction of families, the burden on the educational, law enforcement and justice systems, the temptation of corruption, etc. In a typical case of model-dependent inference, prohibitionists and legalization advocates draw radically different conclusions from their assessments.

In “Drugs: getting a fix on the problem and the solution” for instance, Mark H. Moore argues that society has a legitimate interest in trying to regulate the use of drugs, since their use can have substantial negative social consequences. Mr. Moore advocates

- 8) Nadelmann, Ethan, “Thinking Seriously About Alternatives to Drug Prohibition,” Daedalus, 1992.
- 9). “Drug Legalization: Why It Wouldn’t Work in the United States,” Edmund Hartnett, Deputy Chief and Executive Officer, Narcotics Division, New York City Police Department, New York, http://www.policechiefmagazine.org/magazine/index.cfm?fuseaction=display_arch&article_id=533&issue_id=32005.

a “rational regulatory scheme for controlling the availability of psychoactive substances according to reasoned estimate of their potential for abuse and their value in legitimate medical use.”¹⁰ Legalization advocates would probably give their qualified agreement to both statements, while arguing that prohibition has proven to be an extremely irrational regulatory scheme because it is not a regulatory scheme, but a prohibitionist scheme to begin with. Among other limitations, it doesn’t allow a reasoned estimate of drugs’ potential for abuse and their value in legitimate medical use.

A worn-out argument of prohibitionism is the claim that legalization sends the wrong message and amounts to surrender and endorsement. Such a fallacy can be easily debunked, as the “message” has been so utterly discredited that a majority of people stopped listening to it a long time ago, if statistics of use are any indication. Moreover, starting with junk food and tobacco, many things are legal while being generally disapproved. Nobody in his right mind will claim that tobacco is good for the user. Replacing the uncontrollable illegal trade with a controlled marketplace is vastly different from saying that it’s OK and safe to use illicit drugs. Far from giving up and far from an endorsement, controlled re-legalization would be finally growing up, being realistic instead of being in denial, being in control instead of leaving control to the underworld.

In “Legalizing Drugs: a dangerous idea,” Charles B. Rangel¹¹, a fervent prohibition advocate, raises valid questions regarding which drugs should be legalized, and if so, how they would be produced, distributed and controlled; whether dosage and administration would be regulated; how to deal with addicts and how to deal with initiates and experimenters; and issues such as age limits, operating under the influence (driving, public transport, and operation of equipment that may endanger others); crack cocaine and extremely damaging substances, etc. These are some of the most daunting

10). “Drugs: getting a fix on the problem and the solution” in “The Legalization of Drugs (For and Against)” by Doug Husak and Peter de Marneffe, Cambridge University Press, Sep 12 2005.

11). Charles B. Rangel, “Legalizing Drugs: a dangerous idea,” *ibid*.

issues on the path to legalization and they will be addressed in detail in our next chapter.

Limits of the pure free market approach

Milton Friedman and libertarians tend to favor a pure free market approach to the psychoactive marketplace. While free market economies excel in managing supply and demand of goods and services, they fail to effectively manage the societal costs attached to any product or service as they offer no efficient mechanism for managing said societal costs. They are particularly powerless to deal with long-term consequences such as over-fishing, resource depletion, pollution, climate change – and possibly addiction for that matter. The functions of free markets are to manage private property and private interests in general, but the air we breathe, the atmosphere, our oceans, or the planetary ecosystem are clearly beyond their reach, just as much if not more than the administration of justice or national security.

To quote the same Milton Friedman, “there is one and only one social responsibility of business – to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud.” Mr. Friedman equates the doctrine of “social responsibility” to collectivism and affirms: “In an ideal free market resting on private property, no individual can coerce any other, all cooperation is voluntary, all parties to such cooperation benefit or they need not participate. There are no “social” values, no “social” responsibilities in any sense other than the shared values and responsibilities of individuals. Society is a collection of individuals and of the various groups they voluntarily form.”¹²

This would be fine and dandy if societies were peopled with purely rational individuals of the Homo Economicus type who, among other economically rational choices and behaviors, knew how to optimally manage their mind alteration drive, and never

12). Milton Friedman, “The Social Responsibility Of Business Is To Increase Its Profits,” The New York Times, 1970.

abuse or get addicted as this would go against their own economic interests. This is a limitation that Mr. Friedman himself readily acknowledges. Mr. Friedman is absolutely right though that the sole responsibility of businesses is the maximization of profits, therefore, corporations should not be expected to act for the common good, as this will occur only when acting for the common good happens to serve their primary profit maximizing objectives, by giving them a competitive advantage for instance. Individuals being motivated by their self-interest shouldn't be expected to act for the common good either, although some argue that the common good is the aggregate concordance of individual self-interests. Some free market advocates contend that the invisible hand of the market, the economic *deus ex machina* so fervently worshipped by free market adepts religiously bent on interpreting the arcane sayings of John Adam Smith's economic bible, in its infinite benevolence, will take care of the common good. There are all reasons to believe that the invisible hand of the market will go the way of the quaint Newtonian invisible wheels formerly ruling the known universe, and sink into obsolescence. Economic systems are just far too complex and unpredictable. They are ruled by the uncertainty principle and the laws of order and chaos rather than by a hypothetical invisible hand, and a benevolent one on top of that.

In a democratic society, the government is supposed to be a representative of the people and therefore its main function is to act for the common good and promote and defend the public interest, even with all the trappings that acting for the common good may entail. We should heed Milton Friedman's warnings though, that government projects, not being hampered by the necessity of generating profits, and with access to almost unlimited taxpayers' capital, take a life of their own and end up serving the self-interests of bureaucrats putting their self-preservation above their mandate to act for the public good.¹³ The War on Drugs is, after all, one of

13). Milton Friedman, "The Drug War as a Socialist Enterprise," From: Friedman & Szasz on Liberty and Drugs, edited and with a Preface by Arnold S. Trebach and Kevin B. Zeese, Washington, D.C., The Drug Policy Foundation, 1992.

those governmental programs run amok. Another limitation on government acting for the public good is that politicians require increasingly a huge amount of capital to be elected, capital that they mostly get from business interests who see this capital infusion as an investment, as they rightly should, getting their return on investment through legislations favoring their own interests. Still, for all their flaws and imperfections, it can be agreed, reluctantly, and with lots of caveats, that democratic governments may be the best protectors of public interests and best warrantors of the common good, one caveat being, of course, to define and agree on what constitutes the common good in the first place.

Pure free market economies tend to give an undue advantage to the most socially damaging products and services, as reducing societal harm typically entails extra costs that are unlikely to be recouped, especially in the case of long-term societal harms; this advantage is generally compensated by proper regulations on waste disposal, pollution control, labor laws, etc. In the case of psychoactive substances, public interest rests on minimizing distribution and consumption of potentially harmful products, which conflicts squarely with the best interest of the free psychoactive marketplace where virtually all players, from supply to drug testing and treatment, would have a vested interest in the highest possible consumption of the most addictive substances. In a pure free market economy with no restriction on promotion and sale, all advertising resources would be dedicated to the promotion of use, the promotion of drug testing, or the promotion of drug treatment; there would be no economic interest for promoting minimization of use; prevention of abuse or addiction and harm reduction would be totally outspent.

In this sense, a pure free market approach may lead to the nightmarish scenarios flaunted by the prohibitionists, although Ethan Nadelmann argues that such a free psychoactive marketplace might indeed work efficiently.¹⁴ In any case, most legalization advocates think that the psychoactive marketplace must be regulated appropriately in order to minimize societal costs. It could be argued

14). Ethan Nadelmann, *ibid.*

that such societal costs, once identified and accounted for, would be better managed through a market approach rather than a statist approach, the government acting minimally to guarantee that the societal costs are indeed minimized and covered within the psychoactive marketplace. The prohibitionist approach being an extreme statist approach, the most humane and efficient substance abuse policy probably lays somewhere in between the extremes of ultra-statist prohibition and a total laissez faire free market. A more definitive argument against a pure free market approach is that its chances of being acceptable to the public are nil.

Global legalization of production, consumption and trade

The War on Drugs is a global war that affects virtually every country of the world and that must be addressed globally. Worldwide legalization is the only long-term solution, and the only way to control both supply and demand, to curb the associated violence and crime. Tobacco is a great example of how public health policies and public opinion campaigns can successfully help reduce harmful use. It is of course critical to legalize and regulate the entire supply chain: production, transformation, distribution and retail. For that, the international community must come up with a general framework to properly regulate the market, leaving enough flexibility to take into account regional idiosyncrasies. Countries may design the policies that best suit their particularities and allow them some reasonable degree of experimentation. At the same time, there should be enough coordination to discourage the black market, which could still flourish if significant pricing or access disparities exist between neighboring countries.

Compliance should be elective and non-mandatory, not unlike the model adopted at the end of prohibition in the US, where some counties or states elected to stay dry. Actually, there are vast differences in alcohol regulations between countries, as many Islamic countries impose some form of prohibition. A similar scheme could be applied

to the regulation of psychoactive substances, where all countries who decide to legalize and regulate would agree to adhere to certain rules and principles of harm reduction, taxation, prevention, education and treatment.

The yearly cost of the War on Drugs when everything is factored in (law enforcement, legal cost, incarceration cost, medical cost, economic cost, etc.) runs into the hundreds of billions of dollars in the US alone. The figure is much higher when we take into account the costs of associated crime, broken lives and other derived costs. All of that is wasted, and actually worsens the issue instead of resolving it. The cost of this insanity worldwide is staggering.

Legalization (maybe under UN auspices) would bring in hundreds of billions of dollars in revenues and stabilize many countries now on the brink of collapse, some absolutely strategic for world peace like Pakistan and Afghanistan. It would create millions of legal jobs to replace the ruthless underground economy of the current drug trafficking, bringing an entire shadow economy above ground. It would also finance some effective prevention program (as it has for tobacco use), and reduce drug use by minors, the most vulnerable population, and a soft and easy target of drug pushers. Most importantly, it would deal a major blow to organized crime and terrorism around the planet, cutting off their main revenue source and depriving them of their government-financed recruiting and training facilities: the prison system itself. The prison system is the prime recruiting and training facility of Muslim extremists and terrorist organizations, as well as organized crime worldwide.

Transit countries would be one of the clear beneficiaries of legalization as they wouldn't be needed anymore, removing a major source of instability, corruption and violence.

Legalizing adult drug use would be a vast improvement over drug prohibition, which promotes crime, violence and corruption while tens of millions of Americans, hundreds of millions of people worldwide, still use illicit substances.

Controlled re-legalization is the only realistic option for emerging countries

Emerging nations are currently facing an epidemic of substance abuse that needs to be addressed urgently. Pressed to choose between a prohibitionist approach bleeding red ink for the foreseeable future for a guaranteed failure, and a more moderate approach of controlled legalization that can be self-funded and may ultimately yield a more desirable outcome than prohibition, one would expect that most countries will opt for the latest, even with threats and pressure from the US.

Emerging countries cannot afford to spare their already stretched resources on implementing an efficient prohibition policy when even developed countries, despite all their resources, have been unable to do so. With their rapid urbanization, emerging countries are facing an explosive epidemic of drug use and abuse. In Pakistan, India and Central Asia, for instance, the implementation of stricter anti-drugs regulations under US pressure has resulted in opium use being replaced by heroin addiction, which can hardly be viewed as progress.

Implementation of controlled legalization on the other hand is much simpler and self-funded. Sales of licenses after proper background checks may be a way to fund the initial cost of implementing controlled legalization, while excise taxes fund operating expenses. As the main enforcement of regulations in a controlled legalization regime is left to the supply chain, a relatively light control apparatus is sufficient to ensure that the various agents of the supply chain, who are clearly identifiable, do indeed abide by the rules that govern them. In contrast, a prohibitionist regime, where all actors are unknown, and virtually the entire population must potentially be controlled, requires an extremely heavy enforcement apparatus, which might not necessarily be unappealing to political regimes with a covert totalitarian itch.

Expected US opposition to controlled re-legalization and why it may not matter

Considering the vitriolic, vociferous, ultra-polarized and even paralyzed political climate in the US, moves towards re-legalization are highly unlikely to come from the banks of the Potomac. In such an overly conflictive, belligerent, and explosive environment, any agreement on even the most pressing and obvious issues is virtually impossible, with the exception of defense policies, which for all practical purposes are really offense policies. The mere fact that one side takes a position on any issue is ground enough for the other side to vociferously take the opposite view, even when it had previously favored its opponent's position. Therefore, it is totally unrealistic to expect any type of reform to come from the US, at least at the Federal level. Reform, if it ever comes, will come from individual states, with California, Washington State, Colorado and New England leading the way.

The political climate is much more favorable in Latin America and Europe. A European/Latin American/Caribbean initiative on drug legalization is not unrealistic, nor is it unrealistic to expect Canada and Australia to join such an initiative. In Asia, India, with its long tradition of psychoactive use, would be a likely supporter and other countries may follow. Some US states might join too, leaving the Federal government in a quandary, as retaliation would be unthinkable. If critical mass is obtained with some of the major producers and consumers on board, the movement would be irreversible.

The War on Drugs started with the American century, just before World War I. America was in expansion mode during most of this century, which allowed her to unilaterally push her agenda onto the rest of the world. The War on Drugs has been one of the pieces of the US hegemonic agenda, a cultural imposition of its dominant psychoactives, tobacco and alcohol, onto the rest of the world, with corollary protectionist policy against foreign psychoactives, in a cultural war. History will probably point to the 2007-2009 financial crash and economic crisis as marking the end

of the American century. Let's hope that it will also mark the end of the War on Drugs.

The end of the American century means that the US would be powerless if a majority of producing, transiting and consuming countries were to agree on a legalization scheme. A "Kyoto Protocol" for legalization would work, especially if ratified by Canada and México.

Winners and losers of re-legalization¹⁵

As policy making is first and foremost a matter of compromise and horse trading between conflicting interests, identifying potential winners and losers can be a useful preliminary step to distinguishing potential opponents and supporters, as well, most importantly, as swing players. While it is easy to figure out who stands to lose from legalization, potential winners are harder to spot, primarily because the legalization framework is still undefined.

Organized crime will undoubtedly be the greatest loser of legalization. Drug lords and narco-terrorists all over the world will see a very substantial loss in revenues. Street gangs will also lose their main source of income and some of their recruiting appeal.

The prison industrial complex also stands to sustain heavy losses, which is exactly why it spent so much money trying to defeat California Prop 19.

The medical marijuana industry stands to lose the tax-free cushy profits it derives from operating in the gray zone of semi-legality. On the plus side, it will get hassle-free operation and increased access to the market, tempered by increased competition.

The drug testing industry stands to lose somewhat, but drug testing won't disappear altogether.

15). For a detailed discussion of winners and losers of the War on Drugs, see Judge Jim Gray interview "Judge Jim Gray On The Six Groups Who Benefit From Drug Prohibition," <http://reason.tv/video/show/judge-jim-gray>. Also: "The Hopelessness of Drug Prohibition," Chapman Law Review, Spring 2010.

The vast War on Drugs bureaucracy may appear to stand to bear heavy losses too, but a closer look reveals a different picture as a new bureaucracy will be needed for all the control mechanisms necessary for a successful implementation of controlled re-legalization.

Politicians will lose one of their favorite one-liners and vote-getters. As the tide has already started to turn against the tough-on-drug fallacies, the one-liners might have lost their power anyway. After repeating their senseless mantra for decades, politicians will need to use their imagination.

In the winner column, we can safely place the users who will benefit from consistent, reliable products, safer practices, and an end to legal persecution.

Children and adolescent will be better protected as there won't be drug dealers hanging around to push their wares. They won't have easy access to potentially damaging substances at an age when they are particularly vulnerable.

The taxpayers will be clear winners as well, as they will finally stop subsidizing organized crime and picking up the bill resulting from its nefarious activities.

If we assume, as noted above, that the overall appetite for mind alteration is currently met, and therefore will remain stable and will mostly result in substance substitution, then all current providers of legal mind-altering products may seem to stand to lose from legalization. Thus, the alcohol and tobacco industries are candidates for the loser column. This was probably the motivation behind the strong opposition to California Prop 19 by the liquor industry. Here again, a closer look may bring a different conclusion as all legalization would do is bring above ground an existing commerce that is currently operating underground and therefore, totally unregulated. It may produce a spike of newly-legal psychoactive consumption, but provided that proper education is available, the spike is likely to be short-lived. People who currently do not use psychoactive substances (including alcohol and tobacco) are not likely to start because of legalization. The case of the pharmaceutical industry is more ambiguous and will hinge on whether or not pharmaceutical firms are allowed to get into the recreational drug business.

Legalization and the UN

The so-called “controlled substances,” which is the official euphemism for illegal drugs, are regulated by three international conventions intent on creating global drug prohibition: the 1961 Single Convention on Narcotic Drugs, as amended by the 1972 Protocol; the 1971 Convention on Psychotropic Substances; and the 1988 Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. Under these conventions, parties may strengthen their domestic policies but may not weaken them. The 1961 Single Convention also created the International Narcotics Control Board (INCB or the Board). This organ is responsible for overseeing the implementation of the three UN drug control conventions.¹⁶ The US is the undeniable and all-powerful architect and chief enforcer of these UN conventions, routinely using its hegemonic position and its economic power to bring in line restive members.

Policies pursued by countries such as Holland, Portugal or Switzerland may be about as far as any country can push the limits of the international system. Any move towards formal legalization would require either a revision of the treaties, or a complete or partial withdrawal from the current regime. Revision to the conventions can take place through modification or amendment. Modification consists in altering the regime of a particular substance through re-scheduling or outright deletion. Amendment refers to the formal alteration of a convention article which affects all the parties. The process for both modifications and amendments is so constraining, convoluted and cumbersome, so strewn with obstacles, that the chances of getting any through are remote at best. And if this was not enough, the 1988 Convention has no termination clause, and consequently, will never be terminated; it will remain in force even if it has only one signatory. In essence, the UN, under US impulse,

16). David R. Bewley-Taylor, “Challenging the UN drug control conventions: problems and possibilities,” *International Journal of Drug Policy* 14, 2003. Most of this section is derived from this article. See also: The Beckley Foundation, *Global Cannabis Convention Report, Extended Summary*, 2010.

created an extremely tight and restricted framework with little maneuvering space and threw the key away.

The last option left to dissenting countries would be withdrawal from the treaties, as Bolivia did on June 23, 2011.¹⁷ Individual countries may opt out of specific provisions by filing a written denunciation with the Secretary General. In practice, denunciation by a single country would draw the ire of the US and its prohibitionist cohorts, and that country would be dumped as a pariah “narco-state,” with the economic and other sanctions attached to this dubious status.

The only viable option would be for a strong enough coalition of drug reformists to challenge the prohibitionist regime and denounce part or all of the treaties, or walk away from them altogether. Such a coalition could realistically include European, Latin American, and Caribbean countries, together with Canada, Australia and some Asian countries. Such a coalition would have sufficient clout and credibility to withstand pressure from the prohibitionists, and the mere threat of denunciation might force reform, as reform would be more palatable than total collapse of the treaties.

Another option would be for dissenting parties to just disregard part or all of the treaties. This would pose difficulties of its own, chief among them the general weakening of the international treaty system. The US would be in a weak position to challenge such a move though, having already set precedents by withdrawing from the Kyoto Treaty, repudiating the 1972 Anti-Ballistic Missile treaty, and un-signing itself from the International Criminal Court.

The danger of a free-for-all approach and the urgency of coordination

The War on Drugs front is showing signs of deep structural cracks as we move into the second decade of the 21st century and the end of the American century. Countries after countries are relaxing their

17). Mattia Cabitza, “Bolivia to withdraw from drugs convention over coca classification – President Evo Morales says chewing coca leaves is a cultural heritage and ancestral practice,” *The Guardian*, June 23 2011.

regulations, a move pioneered by the Netherlands a few decades ago. All drugs have been decriminalized in Portugal, Spain, Italy, Argentina, Brazil, Uruguay, and México. Switzerland has one of the most ambitious addict maintenance programs in Europe. In the US, many states have adopted medical marijuana and/or marijuana decriminalization. Many Latin American countries are either in favor of legalization, or at least willing to open a debate on the subject. While this movement is welcome, this free-for-all approach might lead to a maze of regulations throughout the world, which would leave transnational crime firmly in charge of production and wholesale distribution of illegal drugs, which is where the bulk of the profit as well as the bulk of the violence, corruption and crime is being generated. Worse, it may facilitate the expansion of the drug syndicates and have its own set of unintended consequences.

Thus, it is urgent to initiate a worldwide move towards global, concerted legalization, like a Kyoto Protocol for psychoactive substances. The guiding principles should be clearly laid out, and every aspect of the psychoactive drug trade should be addressed: production, transformation, distribution, and retail sale to the public under a multi-tiered *“legalize, tax, control, treat and educate”* regime, a controlled re-legalization. The bottom line is: Can organized societies do a better job than organized crime at managing and controlling psychoactive substances?

In the next chapter, we will explore in more details how controlled re-legalization could be implemented.

Chapter 16:

How to end the War on Drugs – a pragmatic roadmap to controlled re-legalization

“From my experience of being responsible for drugs policy... I came to the conclusion that legalisation and regulation of all drugs was the only way to reduce the harmful effects of this unstoppable activity.”

Mo Mowlam (1949-2005)
Minister responsible for UK Drug Policy 1999-2001
The Guardian, 19 September 2002

In this chapter, we will examine how controlled re-legalization can reduce or eliminate prohibition-induced harm augmentation; what harm augmentation, if any, we might expect from controlled re-legalization; and what steps can be taken to minimize such potential harm augmentation drawing on the lessons learned from harm reduction policies for alcohol, tobacco and prescription drugs as well as in other domains such as driving or obesity.

It is important to first lay out clear and realistic objectives in order to determine the best possible way of reaching these objectives. The Transform Drug Policy Foundation based in the UK set the general underlying goal of an effective drug policy reform as: “to reduce or eliminate the range of direct and indirect harms associated with drug use and misuse.”¹ This is fine as a guiding principle but is not explicit enough and we need to get more specific.

1). ‘After the War on Drugs: Options for Control,’ Transform Drug Policy Foundation, 2004, <http://www.tdpf.org.uk>.

As we have seen throughout this book, at the root of all the evils unleashed by drug prohibition and the War on Drugs are the illegal trade and the illegal marketplace it created and nurtured, out of which all other harms derive. Moreover, prohibition-induced harm far outweighs usage-induced harm. Consequently, the primary goal of any substance abuse reform should be black market reduction. We don't believe that complete elimination of the black market is a realistic expectation considering that there is still a black market for tobacco and alcohol even though these products are legal in most of the world. We can draw lessons from tobacco and alcohol, as the remaining black market for these substances derives mostly from vastly differing taxation and regulation in neighboring countries. With proper international coordination, the black market can be marginalized, however, to the point of not being a significant threat.

I propose the following hierarchy of goals:

1. To greatly reduce, dismantle and if possible eliminate the illegal drug market. To reduce the presence and influence of organized crime. To reduce drug-related crime. The dismantling and elimination of the illegal drug market requires the dismantling of the prohibition system that created it in the first place.
2. To reduce harm to existing users through safe and controlled legal access. To reduce the number of abusers/addicts; to reduce drug related deaths; to improve the health of remaining users/addicts; to improve their social integration.
3. To reduce or eliminate the financial burden placed on taxpayers by the consequences of drug use and drug prohibition. To achieve taxpayer neutrality.
4. To reduce initiation, especially among minors. Long-term improvements are predicated on substantially curbing initiation.
5. To control and greatly minimize access to minors; eliminating access to minors altogether might be a laudable goal, but it is about as realistic as absolute sexual abstinence to reduce teen pregnancy.

6. To reduce harm caused by problematic users to their proximate environment and to society at large.
7. To prevent as much as possible moderate, responsible users from becoming problem users.
8. To place reasonable access restrictions to the most damaging substances for new users and casual users.
9. To acknowledge the legitimacy of the non-medical use of psychoactive substances and the potential danger of their abuse.
10. To respect the civil liberties and lifestyle choices of informed, consenting adults as long as these choices do not intentionally endanger others. To end discrimination against users of psychoactive substances.

I believe these are realistic and attainable goals provided that the right policies are put in place. Unlike the fairly rigid prohibitionist model, there should be a lot of flexibility in the application of drug reform to allow for experimentation and adaptation to local realities. It should be obvious by now that those who wish to use psychoactive substances will go to great lengths to satisfy their desire and it is far more advantageous for society to satisfy their need than to let the black market take care of it. The guiding concern shouldn't be whether it is moral or immoral to provide psychoactive substances to those consenting adults who wish to use them, but what is the least harmful way to do it.

Policies shouldn't be set in stone, but should rather be a work in progress, especially in the initial stage. Containment of abuse and reduction of the spread of use of the most dangerous substances should be the top priorities in the initial phase. Last but not least, regulations and policies should be practically and efficiently enforceable. Unrealistic goals based on faulty premises typically have disastrous unintended consequences for which society bears a heavy cost. Drug policies should strive to minimize the potentially harmful consequences of drug use and not create a whole set of far worse harms of their own.

Despite the abundant literature about the War on Drugs, surprisingly little has been written about the concrete way to replace the existing prohibitionist policies. The most thorough and credible work on the subject so far comes from the Transform Drug Policy Foundation in the UK who published the groundbreaking *'After the War on Drugs: Blueprint for Regulation'* by Stephen Rolles in 2009. Some of the solutions explored below have been inspired by this report.² I also borrowed from Ethan Nadelmann's seminal work, "Thinking Seriously About Alternatives to Drug Prohibition," *Daedalus*, 1992; 121: pp. 87-132.

A report commissioned by the Beckley Foundation from the UK and published on March 26, 2011, drafts a detailed "framework convention on cannabis control" that should be required reading for lawmakers involved in the issue.³ This framework could be extended and adapted to other psychoactive substances.

Re-legalize

The thorniest issue when talking about legalization is where to draw the line? Which substances should be legalized and what level of control should be applied to each substance? Which substances, if any, should remain prohibited? The case of psychedelics, that can have long-lasting negative effects even from a single use, and the case of the most addictive substances such as heroin, crack cocaine or crystal meth, are indeed harrowing. Access to such substances should obviously be as restricted as possible to reduce their potential harm. Pragmatism and practicality rather than principled moralism should be the leading guideline of policy making. The solution might

- 2.). See also: Judge James P. Gray, "Why Our Drugs Laws Have Failed and What We Can Do About It: A Judicial Indictment of the War on Drugs," Temple University Press, 2001.
Robert J. MacCoun and Peter Reuter, "Drug War Heresies: Learning from Other Vices, Times & Places," Cambridge University Press, 2001.
- 3). Robin Room, Benedikt Fischer, Wayne Hall and Simon Lenton, "Cannabis Policy: Moving Beyond Stalemate," Oxford University Press, March 26 2010.

be humane, compassionate access to addicts only in a safe, semi-medical setting with proper access to treatment.

If re-legalization succeeds in eliminating or greatly reducing the black market in other substances, and if the needs of the addicts can be legally met, the remaining crack cocaine and crystal meth market in particular might be so reduced as not to be viable for drug trafficking organizations. The market for potential new users is by an order of magnitude the riskiest and least profitable and would be made even less attractive by the prospect of losing the customer once he becomes most profitable. The case of heroin is more complex as this substance has a much longer history of use and more established markets. Heroin would probably still be manageable within such a regime.

One of the potential benefits of a properly designed re-legalization would be the inversion of the law of diminishing returns away from law enforcement and towards organized crime.

Tax

Harmonization of taxations is critical to black market reduction and might be the only realistic way to possibly eliminate it altogether for most psychoactive substances. Differences in taxation and availability tend to nurture the black market, as is currently the case for alcohol and tobacco black markets. At the same time, while Western countries can sustain a high level of taxation on psychoactives and still undermine the black market, such is not the case for India, or even more so, Pakistan, Afghanistan and central Asia; a high level of taxation there would result in a resurgence of black markets. Therefore, taxation should be adapted to local realities. As already stated, international regulation should mostly aim at eliminating black markets and reducing harm associated with substance abuse.

Taxation should try to achieve taxpayer neutrality or better, and drug use shouldn't impose a financial burden on taxpayers. By taxpayer-neutral or positive, we mean that the entire direct and derived costs of the use of psychoactive substances would be covered by the proceeds of the excise tax and licensing fees, possibly with a profit to the taxpayer.

This can be achieved through the levy of excise taxes in addition to regular sales taxes or value-added taxes in vigor in each country. Such taxes should have a deterring effect as well, nudging users towards less potent substances. Marijuana should be taxed according to its total THC content, with the tax per total THC content rising substantially with THC concentration. Similar schemes are already in place for alcohol and taxes per total alcohol content are typically much higher for hard liquors than for beer and wine.

Cocaine, heroin or morphine should have much higher taxes and far more restricted access than opium or coca leaf teas and preparations. The psychoactive substances should be prepackaged for a certain type of use, with taxation and restrictions appropriate for the given mode of use. Users should be nudged towards the milder modes of administration, teas or prepackaged drinks at the lower end of the spectrum, then tablet form for oral ingestion rather than powder form for nasal ingestion, inhalation or injection. Injection should obviously be the more severely restricted, but not to the point of sending users back to the black market.

Taxpayer neutrality shouldn't take precedence over the primary goal of eliminating the black market and its associated crime. Even if tax revenues do not completely cover the societal cost of drug use, at least in the initial phase, taxpayers will be immensely better off than in the current prohibitionist regime where they are stuck with the entire bill not only of the prohibition-inflated societal cost of drug use, but also of the societal cost of prohibition. Meanwhile, all the profits feed a shadow economy that breeds insecurity and instability, generating even more societal costs.

It might still be beneficial to subsidize use to heavy users and injecting addicts to reduce the spread of drug use and to establish contact with a typically extremely marginalized population. Once contact is established, it becomes possible to nudge the problem user towards treatment and bring him back to less harmful behavior and patterns of use or even abstinence altogether. At the same time, heavy users being typically retail dealers and as such the major initiators, by subsidizing heavy users, we eliminate their need to retail and initiate. Furthermore, without the heavy users market, the drug traffickers' potential market is reduced to new and occasional users, which is a

far less profitable and highly unreliable market for them. Therefore, a dual pricing policy with subsidized pricing for registered heavy users and addicts and much higher pricing for new and occasional users can be workable as new and occasional users are more likely to prefer a known, quality-controlled product from the legal market to an unreliable black market product of unknown composition and concentration. Thus, a dual pricing policy shouldn't hinder the goal of black market elimination while it would greatly reduce initiation and occasional use.

Finally, the bulk of the excise tax proceeds should be earmarked to alleviate the social cost of substance abuse and for prevention and treatment programs. Part of the proceeds of excise taxes in developed countries could be earmarked for aid to emerging countries to help them face the challenges of substance abuse.

Societal costs should be reviewed on a regular basis by an independent body and excise taxes should be adjusted accordingly in order to avoid the overly influence of powerful interests, as is often the case with alcohol and tobacco taxes in many countries, where excise taxes cover a tiny fraction of societal costs. In the US for instance, the excise tax on alcohol was last increased in 1991 and hasn't even kept up with inflation.⁴

Control

Controlled legalization is not meant to be an endorsement in any way, shape, or form. It is a practical and pragmatic way of establishing effective control and reducing harmful use while respecting human rights and civil liberties. Practicality, efficiency and enforceability should be the guiding factors in drawing legislation. Although this might be much to ask from politicians and lawmakers, legal posturing should be avoided as much as possible as it is absolutely pointless to enact more vote-catching but practically unenforceable regulations or regulations that cause more harm than good.

4). The Case for Alcohol Excise Tax Increases, <http://www.cspinet.org/booze/taxguide/AlcoholTaxIncreases.pdf>, Center for Science in the Public Interest.

The basic message should be a truthful and credible warning about the potential dangers of each psychoactive substance. Once adult individuals have been properly informed and warned, if they are still determined to use psychoactives, it is vastly preferable that the commerce takes place in a controlled and regulated system than in a totally unregulated underworld. Of course, access to minors should be as tightly controlled as possible. Tobacco is a great example of how public policies and education can successfully help reduce harmful use, as tobacco use has decreased as much as 50% in many parts of the world despite strong opposition from the tobacco lobby. The grip that the tobacco industry still holds over many emerging countries should serve as a cautionary tale of the power of corporate greed in shaping public policies.

Most proponents of legalization advocate a two-tiered system differentiating between hard and soft psychoactives.

Soft psychoactives would include essentially marijuana and other cannabinoids while hard psychoactives would include heroin, cocaine and amphetamines. Opium and coca leaves or coca drinks should probably be placed in the soft psychoactives category as well, at least in countries where their traditional use is widespread. Soft psychoactives could also possibly include ecstasy.

The case of hallucinogens is more complex and there is some real danger that maintaining an illegal status for hallucinogens might leave them as the turf of last resort for drug traffickers and lead to an epidemic of use, especially for drugs such as ecstasy and designer drugs. Arguing against such a scenario is the fact that the prevailing mindset and culture within the hallucinogen community is vastly different from traditional drug trafficking and is essentially non-violent, proselyte, almost cultist. But then, organized crime has shown its incredible resilience, flexibility and adaptability.

Soft psychoactives such as marijuana and cannabis would be sold just like alcohol and tobacco currently, with added restrictions on promotion and packaging. Just like there is a limit on the alcohol content of hard liquors at 40% alcohol in most countries, there should be a maximum THC content in both marijuana and hashish.

This wouldn't apply of course to home grown crops as that would be practically unenforceable.

Hard psychoactives would follow a modified prescription drug model. The level of control of specific psychoactives would depend on the substance and its intended mode of administration.

Functional thresholds of impairment should be established for each substance. Users should be prevented from activities involving public safety issues while impaired: DUI of course, but also operation of any type of equipment that might pose security issues to the public such as transportation or heavy equipment. Nobody should be allowed to operate under the influence. Sanctions could range from temporary suspension to permanent loss of driver's license or other licenses, mandatory treatment to regain suspended licenses, and similar sanctions. Incarceration should be a sanction of last recourse for dangerous repeat offenders.

Regulatory options

While opinions vary wildly about what re-legalization could look like, the free market laissez faire model held up as a scarecrow by the prohibitionist propaganda machine is only advocated at the fringe of the political spectrum, within the ultra-liberals and the ultra-libertarians. So cocaine is not likely to show up any time soon on supermarket shelves or billboards.

Most legalization advocates favor a pragmatic approach, driven by the stated goal of harm reduction and crime reduction with respect for human rights and individual freedom. At the end of the day, policy reform will be a compromise and a work in progress at least in the initial stages, looking for a workable solution rather than an elusive ideal solution. It will be a compromise between conflicting priorities, like establishing reasonable access restrictions, especially for the most dangerous substances, avoiding the risk of re-igniting the illicit market, respect of privacy, the legitimate right of people to dispose of their own body, and protecting them and others against the potentially devastating effects of impulsive decision making. But the biggest challenge of drug policy reform will be to keep at

bay commercial interests and making sure that they do not end up hijacking the reform. Commercial interests are already stepping into some parts of the world such as the US where medical marijuana has spawned a burgeoning of highly profitable businesses flourishing in the gray zone created by the medical marijuana laws. In a weird de facto alliance with prison guards fighting to protect their inmates' turf, northern California growers were generally opposed to California Prop 19 on the ballot in November 2010 as they didn't want to see taxation cut into their cushy profits.

Drug policy reform will start with a clean slate and cannot be held hostage at the onset by deep-pocketed entrenched interests at least within its proponents. There are of course plenty of entrenched interests within the opponents of drug reforms, starting with the prison industrial complex and the War on Drugs bureaucracy who have a vested interest in the status quo. In any case, there is an opportunity to do it right from the start, drawing lessons from alcohol, tobacco, prescription drugs and others.

To properly rein in economic interests, the activity of companies involved in the production or commerce of psychoactive substances could be limited so that a particular enterprise couldn't be involved in more than one class of substances (cannabis/marijuana, opiates, amphetamine-like, etc) or one type of trade (wholesalers could be prevented from entering into the retail trade for instance). Pharmaceutical companies could be prohibited from getting into the recreational substance business to avoid potential conflicts of interest. There could also be geographical limitation to limit the emergence of powerful multinational corporations.

One could argue that the restrictions on promotion and sale necessary to reduce the potential harm of psychoactives are inherently incompatible with the primary profit motivation of private enterprise. Restricting the production and/or commerce of psychoactives to non-profit organizations, at least for hard psychoactives, might be a viable option to remove the profit incentive and focus on harm reduction.

State monopolies may be a way to manage the psychoactive marketplace as is currently the case in various states and countries for alcohol and/or tobacco. If one argues that drug use is immoral and

that the primary goal of drug legalization is harm reduction and crime reduction, it may seem immoral then that private enterprises profit from that activity and state monopolies would be preferable to private enterprise as the derived profits would benefit the common good, at least in a democratic society. This, of course, assumes that democratic governments are the embodiment of the will of the people and act for the common good. It is fair to say that, in many parts of the world and especially in the US, government is perceived as bloated, wasteful, inefficient, and overly infringing on private lives. Therefore, there is danger that a purely statist and bureaucratic approach to psychoactive trade and retailing may end up being so constraining and inefficient that it would defeat the purpose and turn users away back to the black market. State monopolies could also become such a critical source of revenues that it might influence public policy to lose sight of the primary goal of reining in substance abuse.

Looking at the private enterprise approach, we should note that the most efficient tax collection system in many parts of the world is sales tax collection. We should also note that tobacco sales are mostly run by the private sector and tobacco restrictions are enforced by the retailers. In both cases, the various actors in the private sector act as de facto tax collectors and law enforcers, at comparatively very little cost to the government, and the system operates with reasonable efficiency. So, marketplace-enforced regulation is an efficient control method that can be achieved at a relatively modest cost. This approach leaves the door wide open to corruption though as offenders could easily bribe their way out of infractions in many parts of the world. This could be mitigated by international monitoring in countries lacking the proper enforcement infrastructure or subject to chronic corruption.

In any case, the choice between state monopolies, non-profits, and private enterprises should be left to individual countries as long as each nation commits to abiding by the general guidelines set by the international community. As mentioned already, widely different policies are likely to favor the reemergence of smuggling and black markets.

Regulatory issues:

In order to reduce multi-drug use and to discourage the shift from soft drugs to hard drugs, there should be different types of sales licenses for different classes of substances, and on-premises consumption should be regulated. Ideally, rules and regulations concerning psychoactive substances should apply to all substances according to their potential harms, as many legalization advocates argue; practically though, considering how entrenched the alcohol, tobacco and psychopharmaceutical industries are, this noble goal should probably be put aside for the time being. Attempts to cover all substances under the same umbrella would lead to one of two options:

- Wide adoption of current alcohol, tobacco and prescription drugs regulations which might end up being too lenient and generally inadequate.
- Broad opposition from tobacco, alcohol and psychopharmaceutical industries if existing regulations were substantially strengthened, with the potential to derail reform altogether.

Some basic rules should be shared by all establishments where psychoactive substances are either sold or consumed:

- Sales should be to authorized customers only. Some countries who wish to experiment with more lenient policies might have residency restrictions to discourage narco-tourism. Some substances might be subjects to user's licenses and/or prescription.
- Sales to minors should be strictly prohibited and infractions should lead to heavy fines, temporary or permanent suspension of license, and/or criminal charges.
- Sales to overly intoxicated individuals should be prohibited.
- Retail outlets and venues for consumption on premises should be restricted by density, zoning regulations, and so on at the discretion of local authorities. In general, such outlets should be prohibited near schools, sports arenas, parks, or other venues where children and youths tend to congregate.

Licensed points of sale

All transactions should be done through specialized establishments and subject to maintaining proper licensing and abiding by local regulations. Infractions would be punished by fines and/or temporary or permanent suspension of license.

Soft psychoactives could be offered in licensed establishments similar to liquor stores or tobacco stores. Such licensed establishments could be the existing liquor or tobacco stores or could be a new class of licensed establishments. Factors favoring existing establishments are the ease of implementation and reduced regulatory infrastructure, as it would just require an extension of existing bureaucracies and control apparatus. As a drawback to this option, people would be unduly exposed to soft psychoactives and it may encourage multi-substance use. It also raises the issue of which existing establishment could get the soft psychoactive license.

Arguing in favor of specialized retail outlets for soft psychoactives is the fact that this would reduce exposure to motivated people only and discourage multi-substance use. Also, the sale of cannabis and marijuana usually comes with all kind of paraphernalia and often involves all kinds of ancillary products such as pipes, vaporizers, etc. Finally, marijuana/cannabis legalization is likely to result in many secondary products such as cookies, drinks, etc. which will also probably require their own sets of regulations and control. Overall, the specialized outlets option is probably preferable but this decision should be left to local authorities.

Points of sale for hard psychoactives should be different from points of sale for soft psychoactives. Coca leaves, teas, or mild coca drinks could also be available at soft psychoactive points of sale, which might have a nudging effect away from hard psychoactives.

On-premises consumption

Illegal drugs are currently routinely used in many venues and events such as clubs, concerts, raves, dances, etc. Tobacco smoking restrictions in such venues should be extended to all smoking.

The issue of authorized sale for on-premises consumption should probably be left to local authorities. Consumption itself is more difficult to control and monitor, especially for ingestible substances. As a rule, overly intoxicated people should be denied entrance and people should be expelled from premises if they become overly intoxicated.

Venues along the Dutch coffee shops model could be established for consumption of cannabis products where the sale and consumption of alcoholic products is prohibited. In general, multi-drug use should be discouraged as it may be dangerous and often leads to abuse.

Pharmacy-type outlets for sale, counseling and possible administration

Hard psychoactives should be available exclusively behind the counter through qualified professionals capable of recognizing problem use and giving proper counseling to their customers; the old apothecary or druggist profession might need to be dusted off. Such outlets could be connected to treatment centers or drug clinics; they could be accredited existing pharmacies or new, dedicated outlets. It should be noted that most hard psychoactives are currently available with prescription and acknowledging their recreational use wouldn't require major changes to existing infrastructure. The recreational use of such substances presents specific challenges however, that must be properly addressed.

The substances should have various levels of restrictions according to their harm potential. As a general rule, they should be offered in single dose units prepackaged for specific administration modes and sales could be restricted to quantities that discourage abuse. Injection drugs should be single-packed with a syringe and subject to heavy excise tax. Various schemes could be designed to discourage heavy use, such as heavier taxes or mandatory registration of multiple doses purchases.

Addicts who agree to get a user license could have controlled access to subsidized substances, possibly in exchange for counseling

and/or the added restriction that administration must take place in safe-injection booths at the point of sale. As we have seen in previous sections, safe-injection booths can greatly reduce the initiation of new users. Ideally, purchases by registered users should be monitored through a centralized computer system to prevent the addict from patronizing several outlets.

Policies should be adjusted for both legal and black market responses. Strengthening access restrictions should be weighed against the potential diversion of demand towards black market sources. At the end of the day, it should boil down to finding the fine line where access restrictions to the most damaging substances are as high as possible without reigniting the black market. These access restrictions might need to be set rather low in the initial stage, to root out the black market and to attract as many heavy users as possible. They could be readjusted as the black market is phased out.

It should be noted that no system will be foolproof and determined users will always go a long way to satisfy their needs. Some substances will be diverted, including to minors. Some pharmacists will abuse their position for financial gain or other reasons. Problem users will resist help and treatment; maintenance is often the best that can be achieved with heavy users. All safety barriers are broken sooner or later, which is not a good enough reason to forego them altogether. Extra focus should be placed on curbing initiation and preventing people from becoming heavy users in the first place.

It might be useful to view the recreational use of hard psychoactive substance as we view other particularly dangerous recreational activities such the most extreme sports. All efforts should be made to discourage people from engaging in such activities and to make the activity as safe as possible for those who choose to engage in it anyway.

Membership based licensed premises

Cannabis clubs already exist in Belgium, Spain, Canada, New Zealand and some states in the US. The Native American Church is allowed to cultivate and distribute peyote to its members. Membership-based

venues such as clubs or churches offer an intriguing alternative as they offer an extra layer of control and could have various conditions or restrictions. Considering that the harmful effects of psychedelic substances are strongly related to the environment of use, this is probably the best option for these substances as it could provide proper environmental and emotional support.

Advertising, packaging, branding

Advertising and promotion should be prohibited for hard psychoactives and severely limited to specialized print or web publications for soft psychoactives. No TV or billboard advertising should be allowed.

Packaging should have clearly marked and legible health warnings written in plain language similar to those found on cigarettes, occupying at least 50% of printable space. In addition, hard psychoactives should have generic packaging and an insert with more detailed warnings and contra-indications also written in plain language printed in a readable font size. The marijuana/cannabis industry, currently operating in the twilight zone created by growing decriminalization, has already adopted some form of branding, varietal and origin. The industry is likely to breed connoisseurs somewhat along the lines of wine connoisseurs and branding by varietal and origin is probably unavoidable for cannabis.

Regulating production and wholesale trade

It should be noted that there exists already legal production and wholesale distribution of plant-based and pharmaceutical-based psychoactives. Opium is legally produced in various countries ranging from England to India, Australia, France and Turkey. There is some legal production of coca leaf in Bolivia and Peru for local consumption and for export. The Peruvian state monopoly Enaco SA's customers include the makers of the cookies "cocalletas" or the local energy drink Vortex as well as the Stepan Company from Maywood, New Jersey. The Stepan Company in turn sells decocainized coca

extracts to the Coca Cola Company, the cocaine being sold to St Louis-based Mallinckrodt Inc.⁵

Therefore production for non-medical use would just require expansion of existing regulations and structures to accommodate the transfer of the currently illegal production and wholesale trade into the existing legal channels.⁶ As much as possible, farmers already involved in the production of currently illicit crops should be brought into the legal production system and their working conditions should be improved according to fair trade practices. This would have the added benefit of cutting supply to the illegal trade.

The case of people currently involved in drug trafficking is far more complex. Considering the high level of violence and lawlessness of the drug trafficking underworld, it would be extremely unwise to allow the drugs lords into the legal drug trade. At the same time, with the notable exception of blood-stained operatives such as hired guns and their bosses, every effort should be made to reintegrate low-level operatives such as mules and street-level dealers back to a legal productive role in society, although preferably not in the legal drug trade. Real politics will most likely dictate though that in some parts of the world such as Afghanistan, the blood-soaked drug lords will be put in charge of the legalized trade. After all, they are currently operating under de facto US protection. Still, proper control will depend on reputable wholesale as much as possible, especially for hard drugs. Tightly controlled state monopolies might be the most reliable option for the wholesale commerce of hard drugs.

Finally, there is the issue of home production, mostly for marijuana. Attempts to regulate too tightly such production would be pointless and just another practically unenforceable policy. Home production should be for personal use or gifts to friends and limited in quantity. Any commercial production should of course be adequately regulated.

5). María Amparo Lasso, *The Business of Legal Coca*, Tierramérica, 2006.

6). Stephen Rolles, 'After the War on Drugs: Blueprint for Regulation,' Transform Drug Policy Foundation, 2009.

Educate and prevent

Education and prevention has had limited success with alcohol. According to some estimates, problem drinking represents close to 80% of the sales of alcohol. The alcohol industry shows very little inclination to curb such extremely profitable behavior. To further complicate the issue, alcohol is an important source of tax revenues in many countries, as well as a source of popular votes, and few politicians dare to tackle the issue head-on. And there is of course the cultural significance of alcohol in Western civilization. This notwithstanding, drunk driving has been substantially reduced in most Western countries and so have the most harmful consequences of alcohol abuse. Overall though, the case of alcohol is not the best example for drug policy reform as it clearly illustrates the extreme difficulty of implementing sensible policies when facing deeply entrenched interests.

Unlike other psychoactive substances, the case of tobacco offers a good model of efficient education and prevention policies. A combination of smoking bans in public places and education campaigns has succeeded in bringing down tobacco consumption by over 50% or more in many industrialized countries. More importantly, the cultural perception of smoking changed dramatically as smoking was deglamorized, a change that was partly driven or at least amplified by mass media and global culture. Smoking is just not cool anymore. This happened despite the fierce opposition of the tobacco lobby who threw in the fight every dirty trick in the books, which eventually backfired and turned public opinion against them. Hundreds of millions of people quit smoking worldwide over the past 30 years or so, without throwing anybody in jail! What better proof do we need that regulation and education can and does work?

We can contrast this with illegal drugs, especially marijuana, that are almost universally glamorized in popular culture. By bundling marijuana with heroin and cocaine, the War on Drugs propaganda completely backfired and lost all credibility. As the marijuana message is ridiculed, the much more valid message on harder drugs is discredited as well. Cocaine is often viewed as the drug of the

rich and famous. Heroin is romanticized in some subcultures such as Goths and punkrockers. Likewise, the dire warnings about fried brains on drugs do not withstand the reality of three US presidents in a row who have admittedly indulged, with at least one of them having abused, not to mention Steve Jobs and a string of other extremely successful entrepreneurs. As we have mentioned before, illegal drugs are an integral part of the global youth culture and from pop stars to sports stars, a large number of youth role models are notorious indulgers, which further chips away at the credibility of the prohibitionist propaganda.

This, the glamorization of drug use in entertainment and media, is probably the major obstacle to curbing the spread of abuse. It shouldn't be an insurmountable task though, as tobacco used to be far more universally glamorized in pop culture, when cigarette manufacturers were paying stars and starlets to exhibit and use their products and actors were rarely seen on screen without a cigarette.

Propaganda giving way to credible education would be a step in the right direction. Intelligent, credible and properly targeted public health campaigns would go a long way towards reducing substance abuse, and the focus should be on abuse. Campaigns targeting the most at-risk populations might be more efficient than generic and often overly simplistic campaigns. Generally well-intended but grossly misguided public campaigns often amount to preaching to the choir and further alienate the most at-risk populations. To make things even worse, such public campaigns are commonly used as political tools to demonstrate toughness and send a message of "not giving up," geared to reassuring the potential electorate. The media and entertainment industry probably have far more power in shaping public opinion, and public health campaigns cannot succeed if they are not properly echoed by the media. Of course, the media and entertainment industry are not monolithic, at least in democratic societies; on the contrary, they are getting more fragmented by the day thanks to the "new media" of Internet and social networks, which increases the difficulty of spreading a consistent message. On the other hand, the media fragmentation means that virtually any group can find a voice and an expression in the media landscape, allowing

messages to be targeted to widely varying potential audiences, with the media often operating as echo chambers for their own audiences. In any case, a change of attitude within the media and entertainment industry would help immensely as no education campaign can succeed without their participation.

The major improvement brought by controlled legalization will be at the point of sale. While the dealer is crassly and unapologetically pushing his wares, trying to cross-sell and up-sell, never hesitating to peddle his products to minors, legal retailers not only should be prevented from promoting their products in any way, shape or form, but should be required to issue proper warnings, especially concerning the dangers of multi-drug use. Sales to minors would result in fines, suspension of licenses, and/or criminal charges, especially on recidivism. Hard drugs would be sold in pharmacies or specialized outlets by properly trained personnel and delivered with some form of prescription with limitations on quantities. Counseling should be available. Administration could be done in situ, especially for injection drugs, which would eliminate the morbid fascination with the injection ritual that typically precedes initiation to injection, resulting in a dramatic reduction of new injection users. One of the clearest benefits of re-legalization would be the segregation of soft psychoactives and hard psychoactives and the resulting drop in hard psychoactive use.

Another clear benefit of legalization would be bringing heavy users under control. Heavy users are typically retail dealers, the foot soldiers of the illegal drug trade, the street corner peddlers, and the main recruiters. Heavy users not only make up 80% of the demand, but they also supply the vast majority of the rest of the market. Removing heavy users from the black market pyramid scheme would dry up the market and crumble the pyramid; it is arguably the most efficient way to fight the black market. It would also greatly reduce the flow of new recruits at a far lower cost than existing policies. This is what the Swiss accomplished, and why the Swiss addict population is aging for lack of new recruits. Once heavy users are removed from the illicit marketplace, there is just not enough demand left to sustain a black market.

Finally, proper control would reduce diversion to other users, particularly to minors. Control should be especially tight for hard drugs.

Treat

Legalization would be counterproductive without proper treatment policies. Legalization will allow reaching out to the currently marginalized at-risk population of problem users, giving an opportunity to nudge them toward treatment and hopefully cure. At the same time, if discrimination against substance abusers decreases, it will be much easier to bring them back into a productive role in society, which is probably the surest way to overcome substance abuse and addiction.

The War on Drugs propaganda often bombards us with horror stories of desperate junkies hitting bottom. While the fall of many addicts can indeed be harrowing, it is doubtful that they would have fallen so deeply and so desperately if they had gotten their supply from a legitimate source such as a pharmacist or a specially trained health professional. Early detection of problem use would be one of the clear benefits of legalization, allowing early intervention. Let's face it – no dealer is going to send their junkies to a rehabilitation center. Early detection of problem use will also immensely benefit children who are often the innocent victims of their parents' addictions.

Another clear health benefit of legalization would be a dramatic reduction in the spread of blood-borne diseases such as HIV/AIDS and hepatitis, especially if injection is only done at the point of sale under proper supervision.

Treatment facilities should be readily available, unlike the situation currently prevalent in most of the world. Part of the proceeds from the psychoactive excise taxes should be earmarked for treatment. In the initial phase, reallocation of resources from the current repressive and punitive policies could provide the initial cost of building up proper treatment infrastructure. As much as possible, a community-based approach should be favored, forging alliances with local charities and non-profit support groups such as Alcoholics

Anonymous (A.A.) and Narcotics Anonymous (N.A.). In-patient addiction treatment should be the option of last resort.

The issue of under-age substance use and abuse

Early onset of psychoactive use is a strong predictor of problem use in adulthood, and the substance-related damage increases dramatically for younger users. Early substance abuse disrupts brain development in adolescents and young adults. Last but not least, for every substance except prescription drugs, individuals who have abstained by the time they reach the age of 21 are likely to keep abstaining and are very unlikely to ever abuse.⁷ Therefore, the mid- and long-term performance of any substance abuse policy is predicated upon postponing initiation and curbing adolescent and youth use. Drug reform policies should place special emphasis on this goal.

The failure of prohibition policies to reduce children and youth use is quite obvious, but in order to be more successful, controlled re-legalization must take into account the issues specific to adolescent substance use, as these issues differ widely from the issues of problem use by adults. The example of alcohol and tobacco is ambiguous and sobering as, while underage smoking has been on the decline in most Western countries over the past 30 years, it has stubbornly plateaued since the early 2000s. Meanwhile, underage drinking is stable or growing in many parts of the world.

Underage substance use, whether legal or illegal, is a vexing and thorny issue involving adolescent decision making and risk-taking and must be seen in the wider context of adolescents' greater propensity than adults for risk-taking behaviors.⁸ Therefore adolescents will present specific challenges in designing effective substance abuse policies. The objectives and the means differ widely between policies geared towards adults and towards adolescents. Policies geared towards adults mostly focus on cessation while those geared towards

7). See Chapter 5 – Psychoactive substances and the brain.

8). See Chapter 6 – “Psychoactive substances and the growing mind.”

adolescents focus on postponing or reducing initiation and avoiding that occasional use turns into regular use or abuse.

Availability and desirability are the two major determining factors of substance use for adolescents.

Under the current prohibitionist regime, paradoxically, the availability of illegal drugs is equal or greater for adolescents and youths than it is for adults – older adults have little or no access to illegal drugs. Even worse, illegal drugs are ubiquitous for the most at-risk youth populations. While controlled re-legalization would substantially restrict underage access, heightened access restrictions to alcohol don't seem to have much effect on underage drinking and do not reduce underage availability.

Greater restrictions to underage access do not necessarily lower availability, as even though underage purchase of alcohol is prohibited in most countries, alcohol is generally readily available through family and peers and underage access often takes place through young adults or even family members, usually older siblings. The minimum legal drinking age is a rather porous barrier and alcohol easily drips down to lower age layers, the main reason being that underage youths, especially those closer to legal drinking age, socialize with young adults. Young adults may feel sympathetic to the plight of their younger peers, while supplying them with liquor raises their standing and prestige among their underage peers.

According to the 2008 National Survey on Drug Use and Health (NSDUH), two thirds of underage drinkers do not pay for their alcohol, and the proportion is even higher for female and younger drinkers. One fact seems to elude the authors of the survey though: underage drinkers drink substantially less when their drink is provided by a parent or guardian than when it is provided by an unrelated adult.⁹ This is consistent with Mediterranean drinking cultures that favor moderate drinking and let even children drink small quantities of alcoholic drinks, teaching responsible drinking at a relatively young age.

9). <http://www.oas.samhsa.gov/2k8/underagegetalc/underagegetalc.htm>.

The cultural function of alcohol is probably the main reason for the easy availability and high desirability of alcohol, the desirability being further increased by the effect of expectation due to the minimum legal drinking age. Substance use in general can be considered contagious; individuals who have substance using friends or siblings/family are more likely to become users themselves as a result of increased availability and heightened desirability linked to modeling and peer acceptance.

Desirability and availability being the two major determining factors of substance use, in order to be efficient, a substance abuse policy must properly manage the desirability/availability dynamic. Reduced availability of a given substance may end up having unintended consequences. Individuals with high desire for mind alteration might settle for less desirable and usually far more dangerous substances if more desirable substances are less available. For instance, children and younger adolescents are likely to settle for undesirable and damaging inhalants such as gasoline, glue or solvents because they are easily and cheaply available while older individuals with better economic means and/or social connections will have easier access to more desirable substances such as alcohol, marijuana, etc. Use of inhalants is rare among adults. Likewise, a relative shortage of cocaine that started around 2006 in the US resulted in an explosion of use of less desirable and far more dangerous amphetamines. A crackdown on opium from Iran to India has resulted in heroin addiction of epidemic proportions in that part of the world.

Greater availability probably explains the recent rise in prescription psychoactives use and abuse by youths and adolescents as these substances are increasingly prescribed to adults and children alike and can easily be found in many home medicine cabinets. Reducing availability is far more complex than access restriction, therefore psychoactive substances policies should aim at reducing underage availability; but this is a thorny issue as misguided policies can easily backfire.

The desirability of specific substances is mostly cultural and is of course predicated by the desirability of mind alteration in the first place. Social norms, prevalence of use within the community, family

or peer group and level of adult supervision influence both availability and desirability. Prices and economic resources influence economic availability. Thus, crack cocaine ends up being more readily available to economically disadvantaged populations.

As we have already noted, peer pressure is an important contributing factor to the desirability of substance use which is perceived as an enhancer of social status and peer acceptance and translates a twisted desire to conform. It should be noted though that adolescents tend to congregate with like-minded groups, but even the apparently safest kids can end up “hanging out with the wrong crowd.”

Cigarette smoking or drinking is often perceived as proof of manhood; it makes youths feel grown up. Smoking marijuana is viewed as an act of rebellion. Other factors that influence desirability can be summed up as:

- Genetics and family influence.
- Personal values.
- Social anxiety and stress-related disorders. Substances, especially alcohol, and increasingly marijuana or even ecstasy, are used as social lubricants and facilitators.
- Alternatives or the lack thereof.
- Social factors (family and peers, community, culture and/or subculture, the media).
- Expectations. Alcohol provides a typical case of expectation buildup. When youths finally reach drinking age, they often celebrate with a particularly excessive episode.
- High-status role models reinforce the perception of positive norms and expectations of substance use.

These factors are mostly interrelated and mutually reinforcing. Most of these factors, such as sub-cultural and community influences, are beyond the reach of policymakers. So, what can be done to reduce and postpone youth initiation and use?

Various approaches have been suggested to reduce substance availability and desirability, or to lower the influence of peer pressure

through social resistance training skills or life-skills training. Strategies focusing on personal and social skills development, such as assertiveness, self-image, self-satisfaction, decision making, problem solving, etc. appear to be the most successful.

Strategies to reduce underage availability

In a controlled market, reducing diversion from the legal adult supply is the most efficient way to reduce underage availability, but this requires adult cooperation, especially from young adults. We have seen that this can be challenging for the least tightly controlled substances as is already the case with alcohol. On the other hand, youth access to hard psychoactives is likely to be greatly diminished by controlled legalization, as under the current prohibitionist regime, the dealer doesn't restrict sales to minors; quite the contrary. In addition, hard psychoactives can be protected from diversion by adopting some of the measures already recommended for limiting propagation from adult users to non-users, especially underage users, such as:

- Single dose packaging.
- High pricing policies for occasional users; unit price could increase for purchasing multiple doses of hard psychoactives to further discourage diversion.
- Subsidized supply to heavy users and addicts in exchange for controlled administration.
- Safe-injection booths at the point of sale.

While diversion reduction should be rather successful for hard psychoactives provided that proper access restrictions are set in place, it will present more challenges for soft psychoactives, especially marijuana since social norms and prevalence of use for this substance are more conducive to underage diversion. The so-called gateway effect created or at any rate widely amplified by the current prohibitionist regime will be greatly reduced if not totally eliminated, however, and the substantial decrease in underage hard psychoactive use that can be expected from re-legalization would be

a vast improvement from the current situation. It can also be argued that marijuana will partly displace alcohol as substance of use or abuse. As alcohol is far more damaging and harmful than marijuana, replacing youth alcohol use with marijuana use may result in net harm reduction.

Other strategies should be implemented to reduce underage use of soft psychoactives, starting with reducing availability from youth social networks. There is for instance a lack of legal venues for many underage activities. As a result, raves, dances, or trance take place illegally, setting the stage for all kinds of other illegal activities to take place. Such events constitute one of the major venues for substance initiation, use and abuse. Although their commercial viability might be debatable, substance-free venues for music and dance open to underage patrons would certainly be progress from the current situation; they might even be attractive to adult patrons seeking a substance-free environment. Such establishments could have preferential tax status to encourage their operation.

Adolescent risk-taking is the result of a need for emotional intensity through sensation-seeking and thrill-seeking. Thrill-delivering modalities that deliver the rush without the risk might also be part of the solution. Sport venues have traditionally provided such outlets. It is a well-known fact that adolescents involved in regular activities that can channel their sensation-seeking proclivity are much better protected against substance use than those left to fend for themselves.

But at the end of the day, reducing underage availability under a regulated legal regime depends in large part on adult attitudes, especially young adults, and their readiness to extend their own legally obtained substances to their younger peers. Adult supervision of youth venues could be an option in some cultures, but in most Western countries, adults are the ultimate thrill-busters for adolescents.

Strategies to reduce desirability

There is very little that policies can accomplish directly to reduce the desirability of psychoactive substances as desirability is mostly determined by expectations and by personal and sociocultural

factors. There is a general consensus for instance that substance abuse prevention programs have minimal noticeable effects on youths; some of them even have adverse effects on at-risk youth populations.¹⁰ Legalization would remove the forbidden fruit attraction only for adults. Marijuana's status of rallying symbol of rebellion will fade away with legalization though, which should diminish its appeal to a certain extent. Point of sale advertising (or the lack thereof) or packaging restrictions have no effects either; underage users typically do not get their supply from a store and when they do, theirs is not an impulse buy but a carefully planned operation. After all, the current packaging of illegal drugs is as generic as can be, which doesn't seem to affect their desirability.

Policies can indirectly influence youth attitude by promoting alternatives and addressing the root causes of substance abuse such as poor self-esteem, depression or plain boredom, not to mention discrimination and poverty. As we have seen, adolescents crave intensity, and on the positive side, they can become intensely motivated. Diverting their sensation-seeking tendencies towards positive goals might be the best way to decrease the desirability of psychoactive substances.

Deglamorizing substance abuse would also help as the credibility of anti-substance messages is severely eroded when the ambient culture is permissive of substance use and role models are frequently notorious users or abusers.

Strategies to reduce susceptibility to peer pressure

Peer pressure is generally viewed from the perspective of those subject to peer pressure and rarely addresses the issues of those exerting pressure on their peers. It should also be noted that not all peer pressure is necessarily negative. Peer leaders can have far more credibility than adults in delivering positive messages on substance abuse prevention and resisting social influence in general. Therefore,

10). Informing America's Policy on Illegal Drugs: What We Don't Know Keeps Hurting Us, 2001, Commission on Behavioral and Social Sciences and Education (CBASSE).

peer pressure strategies should address both ends of the peer pressure spectrum, from those exerting the pressure to those susceptible to it.

Peer pressure is a complex phenomenon tied to a group dynamic that is often based on false assumptions and faulty or exaggerated perception about what “others” are doing such as sex, alcohol or drugs so that the group itself generates its own pressure. Nonetheless, any group has one or a handful of leaders and a vast majority of followers. In that sense, while more challenging, working on the few exerting the pressure might be an efficient way to tackle negative peer pressure.

Susceptibility to peer pressure is influenced by various mutually reinforcing factors such as insecurity, lack of confidence, low self-esteem, poor communication skills, lack of assertiveness, poor social skills, poor academic performance, and sense of isolation from peers or family. Of course, these are rather complex issues that may result from widely different family environments ranging from neglectful or abusive to overprotecting or overbearing, and such issues most strongly affect the most disenfranchised. Therefore, generic self-esteem building and social resistance skill training have little or no impact on the most at-risk children and adolescents, which paradoxically include both bullies and their victims. Bullies typically toughen up as a survival tactic and their bullying is often the result of self-esteem deficit and poor conflict resolution skills. They are usually the most risk-prone kids and the most prone to substance abuse while their “bad boy” aura tends to attract and fascinate their peers, especially their female peers. Early detection and neutralization of potential bullies through individualized esteem-building, social skills and conflict resolution skills could have substantial benefits as bullies are the one most likely to exert peer pressure. In general, peer pressure resistance skills should be as personalized as possible for maximum efficacy. The social approach should take precedence over the punitive approach as the punitive approach can be extremely counter-productive.

It should be noted that a certain amount of risk-taking and rebelliousness is part of the growing up process commonly called adolescence; the elimination of the most benign form of rebellious

expression might lead to more extreme alternatives. Through what channels will the adolescent's rebellion and risk-taking propensity manifest itself? The mass media's voracious appetite for recuperation and absorption of rebellious expression keeps pushing such rebellious expression further and further to the fringes. As rap gives way to hip hop and housewives get tattoos and body piercing, rebellious youth fall into more extreme forms of rebellious expression.

Harm reduction to be expected from controlled re-legalization

While most harm reduction advocates tend to focus narrowly on decriminalization, safe injection practices, education and treatment, such measures fail to reach the root of the problem, which is the illegal trade. Only controlled re-legalization can greatly weaken or even virtually eliminate the illegal trade. All other harm reductions will follow, finally bringing psychoactive substances under control.

Provided that controlled re-legalization is properly designed and implemented throughout the entire supply chain with close coordination between the producing and consuming countries, the illegal trade can be virtually eliminated. It is noteworthy that legalization would eliminate the need for transiting countries, which are currently the most affected by the illegal trade. Eliminating narco-violence and corruption would greatly weaken criminal organizations as the proceeds from drug trafficking often represent their major source of income. To quote former US Ambassador to the UN John R. Bolton, "There is no doubt that corrupt activities tied to criminal organizations and the drug trade are mutually reinforcing."¹¹ Re-legalization would deal a severe blow to narco-terrorists who would have nowhere to sell their wares, as only licensed producers would be allowed to sell their products under strict restriction.

11). Statement by Ambassador John R. Bolton, U.S. Permanent Representative to the United Nations, on Combating Crime and Corruption: The U.S. Partnership with UNODC at Work, in the United Nations Trusteeship Council Chamber, December 15 2005.

Controlled re-legalization would help stabilize producing and transiting countries and regions, such as Colombia, Bolivia, Peru, Central America, West Africa, and the Afghanistan/Pakistan conundrum. Many narco-guerillas around the planet would probably not survive. Some rogue states such as Myanmar or North Korea might collapse.

The elimination of drug-related offenses coupled with a substantial reduction in criminal activity and violence brought about by controlled re-legalization would in turn result in a dramatic decrease in drug-related law enforcement, prosecution and incarceration, freeing scarce resources and allowing reallocation of freed resources to fight real crime. This in turn would put more pressure on criminal organizations, further weakening them. Thus, the current downward spiral of diminishing returns for law enforcement can be reversed through legalization, as organized crime would see greatly diminished returns thanks to the loss of drug trafficking revenues. This would lead to further diminishing returns as law enforcement could finally turn the tide and dedicate more focused attention to the most damaging crimes, putting more pressure on organized crime and making it harder and costlier to generate profits. As a result, criminal careers would lose much of their appeal and criminal organizations would dwindle.

Drug trafficking has an incredible competitive advantage over any other type of crime including other vice crimes, except white collar crime; white collar criminals get rarely caught and when they do, they typically get very lenient sentences. But unlike white collar crime, drug trafficking doesn't require any qualifications. The best part of it is the abundance of willing and eager "customers/victims." No other crime can compete as nobody wants to be robbed, extorted, kidnapped, assaulted, raped, etc. As long as crime pays so handsomely, there are plenty of recruits for it. Some criminal elements currently involved in drug trafficking will turn to other forms of crime when drugs are legalized, but many more will just give up their criminal careers altogether if the returns of criminal activity plummet sufficiently.

Controlled re-legalization would greatly reduce drug-related crime as the various players in the supply chain wouldn't need to resort to violence to resolve their disputes. Drug-related prostitution and petty crime would also decrease as heavy users wouldn't need to resort to these types of activities to finance their habits.

Controlled re-legalization would drastically cut down enrollment in the university of crime that is the prison system; the prison system in turn would spit out far lower numbers of criminal graduates, resulting in a substantial reduction in criminal activity. Besides, most drug dealers do not consider themselves criminals.

Controlled re-legalization would eliminate accidental overdose and intoxication due to adulterated products, removing the added hazard created by unreliable products of unknown composition and concentration. It would reduce or eliminate the spread of HIV/AIDS among injecting drug users. It would allow reaching out to at-risk and marginalized populations.

Early detection of problem use would nudge users towards early treatment and/or protect children and dependents, greatly reducing the most harmful effects of problem use.

A general amnesty and clearing of criminal records for all non-violent convicted drug offenders would remove the stigma on their personal and professional lives and allow former offenders to reintegrate into society in a productive way.

Proselytizing would be substantially reduced as heavy users wouldn't need to recruit new users into their network. Psychoactive substances would be available only in authorized retail outlets subject to strict regulations regarding promotion and sale in order to maintain their license, further decreasing proselytizing.

The adoption of a Swiss model for hard drugs delivery where hard drugs are administered in specialized sanitary facilities would eliminate injection initiation by injecting users. As we have seen, such a model has virtually dried out the flow of new injecting users in Switzerland.¹²

12). Martin Killias and Marcelo F, "The Impact Of Heroin Prescription On Heroin Markets In Switzerland," Aebi University of Lausanne, Switzerland.

Minors would be better protected as the need for foot soldiers and cannon fodder would evaporate. Sales to minors would be strictly prohibited as offenders would run the risk of losing their licenses.

Excise taxes levied on psychoactive substances would finance efficient prevention and treatment programs. We can draw lessons from the tobacco experience to greatly reduce the potential abuse of psychoactive substances.

Taxpayers would be vastly better off. If the re-legalization is properly designed, the use of psychoactive substances should be taxpayer-neutral or even taxpayer-positive instead of being a financial black hole. At a time of accelerating budget deficits in many parts of the world, especially among industrialized countries, re-legalization would contribute hugely to the balance sheets of most countries, to the tune of over \$100 billion per year for the US alone once the huge reduction in law enforcement and other War on Drugs related expenditures are taken into account, as well as the proceeds from the excise taxes. The economic benefit would be much higher as revenues currently generated by the shadow economy would be brought into the legitimate economy. Depending on the type of regulation applied, the marijuana industry could develop into something similar to the wine industry, with varietals and the equivalent of wineries and all the related economic activity, employment, taxes, etc. The hemp industry itself could generate substantial economic activity. Besides paper and fabrics, hemp fiber can be used in construction to reinforce concrete or for insulation. Hemp seeds have incredible nutritional value and contain high amounts of protein and essential fatty acids. Besides its dietary applications, hemp oil can be used in cosmetic, skin care, and beauty products.

As a fringe benefit, re-legalization of marijuana would revive the hemp industry and could generate substantial economic activity. ; hemp seed oils and extracts can be used for body care and skin care products. Hemp fiber is extremely resistant and comparatively light, and was used for anything from clothes to ropes to parachutes and sails. Hemp paper is also extremely resistant and long-lasting and can be very thin; it is used for cigarette paper and to print bibles or banknotes. Hemp paper is naturally white; the process to produce it

is vastly more environmentally friendly than producing paper from wood pulp and requires far less energy.

Overall, a comparative analysis of the respective costs and benefits of prohibition versus controlled re-legalization heavily favors the latter, and while the prohibition balance sheet is bleeding red ink with no end in sight, the re-legalization balance sheet can run in the black from the start. The benefit is much higher once accounting for the economic activity that would be generated.

Harm augmentation that can be expected from re-legalization

One of the major arguments against legalization is that it would create an epidemic of substance abuse of biblical proportions. This is of course one of the fallacies of the prohibitionist propaganda that doesn't withstand close analysis. The idea that people would start shooting heroin and sniffing cocaine all day long if these substances were legal is rather condescending and idiotic at best, if not plainly insulting. Let's look at it more closely.

Alcohol is legal and alcohol abusers are relatively rare, despite the intense propaganda and the cultural bias in its favor and despite its over-abundance and often overwhelming pressure to use or abuse in many social functions and venues such as bars, clubs, weddings or funerals. At its peak in the 1980s, cocaine was about as available as alcohol and lots of people tried it, but the vast majority of them, myself included, just gave it up spontaneously. There is absolutely no reason to believe that people who are currently alcohol and drugs abstainers or moderate drinkers or users would start using and abusing heroin or cocaine if these substances were legally available with appropriate controls and health warnings. On the contrary, there are good reasons to believe that use and abuse of injecting drugs will go down as we have seen already.

Heroin or cocaine are currently just about as easily available as marijuana or ecstasy to drug users but the vast majority of them still stay away from harder drugs, not to mention that drug dealers are not likely to give any warnings against their potential harmful effects.

Ironically, access to harder drugs would be far more restricted in a properly designed controlled legalization than in the current black market regime. More importantly, the sale of hard drugs would be segregated from the sale of soft drugs.

It is very likely though that re-legalization will cause a substantial uptick in the use of marijuana and other soft psychoactive substances, especially in the initial stage as people satisfy their curiosity and may want to figure out by themselves what the fuss was all about. Many people occasionally seek some form of mind alteration for various purposes such as social lubrication, festivity enhancement, relaxation or stimulation, to fight loneliness, depression or boredom or for plain sybaritic purposes, but most people have no interest in operating in a quasi-permanent altered state, going about their life constantly or frequently drunk or high on any type of substance.

The contention that once people start using psychoactive substances they lose all willpower and rapidly become enslaved to their new habit is pure fallacy that is not supported by factual evidence. While it is true that heroin, amphetamines and tobacco are extremely addictive, it is much easier to give up cocaine than tobacco, and marijuana addictivity is psychological at best. I personally smoked a lot of marijuana and cannabis for a short while in my early 20s and got tired of it very soon, not particularly liking the fuzzy way it made me feel, and I know a lot of people like me. I also know an awful lot of people who use marijuana occasionally and who live otherwise completely normal productive lives.

Light to moderate mind alteration is the norm rather than the exception in our societies. Caffeine, either as coffee, tea or caffeine drinks, is the psychoactive of choice in most of the world. But there are absolutely no indications that the vast majority of people are seeking more potent forms of mind alteration.

While most experts agree that re-legalization is likely to lead to more users, at least for marijuana, there is broad disagreement on whether this would lead to more abuse, and if it did, whether and to what extent the increase in marijuana abuse would just displace other forms of substance abuse. There is little doubt that some displacement of substances will take place, but substituting

marijuana for heroin, cocaine and other harder drugs is generally seen as positive and would result in net harm reduction. Substituting marijuana for alcohol is more debated, with some arguing that it too should be seen as positive because alcohol-related harms far exceeds marijuana-related harms, alcohol abuse leading to more violent, risky and destructive behavior.

In any case, if there is an increase in abuse, it will not all come from substance substitution. Some of it will come from multi-substance abuse. Multi-substance abuse already exists and it is hard to predict whether re-legalization will result in an increase in this type of abuse. A lot will depend on education and control. At least users will be strongly warned against the potential dangers of multi-substance use. There is even the possibility that multi-drug use involving marijuana and harder drugs could decrease if the access restrictions to hard psychoactives were sufficiently higher than the access restrictions to soft psychoactives considering that the access restrictions to all illegal substances are currently pretty much identical.

Finally, some of the increase in marijuana abuse may come from new users altogether, although the Dutch and Portuguese experiences seems to indicate that semi-legal access doesn't increase use and there is no reason to believe that fully legal but properly controlled access would lead to increase of use.

Therefore, it is likely that legalization will result in a decrease in injection drug use, and while use and possibly abuse of marijuana are likely to increase, the total use-related harm is likely to decrease once taking into account all psychoactive use and substance substitution. This leaves us with all the substances in between, such as ingestible ATS, ecstasy, and other designer drugs or even cocaine for snorting.

Designer drugs present a peculiar challenge because they have become rather ubiquitous as we have seen in the first section of this book, thanks to their ease of production. Thus, there is a real danger that establishing high barriers of entry for these substances would just perpetuate an illegal trade that is particularly hard to dismantle while low access restrictions will not curb consumption. It will all boil down to education, abuse prevention, and cultural attitude, which is shaped to a large extent by entertainment and media.

In conclusion, as counter-intuitive as it might appear at first glance, and with the significant caveat of underage use, any increase in use-related harm from re-legalization is likely to be minimal provided that proper controls and preventions are set in place.

Some harm augmentation will actually come from a rather different direction, and it will affect primarily the parts of the world that have most suffered from the War on Drugs: the producing and transiting countries. There, powerful criminal organizations have long been addicted to their immense profits and as they lose their major source of income, they are likely to step up their other criminal activities, such as kidnapping, extortion, armed robberies, etc. Therefore, re-legalization is likely to provoke an explosion of non-drug related violence in these parts of the world, at least initially. The international community should stand ready to help the affected countries to avoid their falling into further chaos. The international community has a duty to help them get out of the semi-permanent state of lawlessness into which the War on Drugs contributed to plunge them.

There is a distinct possibility of an increase in non-drug-related crime in industrialized countries as well in the initial stage as criminal organizations and gangs look to compensate for their loss of income. Industrialized countries are generally better prepared to face these types of challenges, not to mention that freeing up resources from the War on Drugs would allow more focused attention to other crimes.

Transiting countries will also be affected economically as the loss of drug trafficking revenues will significantly disrupt local economies. Farmers currently involved in drug production might be affected as well, although they should be brought into the legal production as much as possible.

Finally, as a result of re-legalization and the ensuing drop in prison population, the prison workforce would also decrease, resulting in layoffs and loss of prison-related economic activity. The prison-industrial complex would be trimmed down and the value of the shares of related companies might collapse.

Conclusion:

A Call to Action

Contrary to what the War on Drugs propaganda would have us believe, the sky will not fall and all hell will not break loose with re-legalization. Hell! Hell is already loose in many parts of the world. Under a well-designed and internationally coordinated “legalize, tax, control, prevent, treat, and educate” regime, what will fall are the incarceration rate and the crime rate. What should dramatically fall are the direct casualties of the War on Drugs, the gang warfare, and the corruption. What will probably fall is the casualty rate due to substance abuse, thanks to quality control and more sanitary and less hazardous practices. Let’s not dream, though; all the above won’t disappear overnight, nor will they in the foreseeable future. But they will sure be substantially reduced. Let’s make it happen!

After reading this book, you will hopefully be convinced of the destructive inanity and hopeless failure of the War on Drugs. Still, without a drastic paradigm shift, there are no reasons why the War on Drugs couldn’t go on another 40 years and more. To foster changes in our democratic societies, one of two fundamental ingredients is needed: money or people; of course it doesn’t hurt to have both. The money here is clearly behind the status quo, even if some high-profile/high net worth individuals, such as George Soros and Peter Lewis, have put their weight behind the drug policy reform movement. Therefore, numbers are needed to precipitate change, so my conclusion will be a call to action.

No matter what corner of the world you presently call home, you are probably affected one way or another, and your actions can make a difference. There is a multitude of ways you can get involved. There are groups and organizations all around the planet, and if there are none near you, you can find zillions in cyberspace. I would highly

recommend focusing on the most powerful, most credible, and most established organizations to maximize efficiency. Among these organizations, LEAP (Law Enforcement Against Prohibition – <http://www.leap.cc/>) particularly stands out. These groups need your support. They have been fighting in the trenches for years or even decades, and they need your help.

There are also various initiatives circulating over the Internet, mostly as petitions. Join them, sign them, support them, and help their diffusion by sharing them via email or the social networks.

As we go to press with the first edition of “World War-D,” we are launching an ambitious initiative that you can check on our website **www.worldwar-d.com**. The initiative calls for President Calderon of Mexico and President Santos of Colombia to lead a coalition of the willing to legalize and properly control the production and commerce of currently illicit drugs.

Support for fundamental drug policy reform is clearly growing throughout the world, producing a flurry of analysis and recommendations, but thus far this movement has failed to coalesce into concrete action. It is like a saturated crystalline solution. A catalyst is needed to precipitate the crystallization of this support into meaningful reform. The major obstacle is that no single country wants to venture down the legalization path by itself. I believe an alliance of two key players could provide the catalyst needed to crystallize a strong coalition.

As far as I can see, presidents Felipe Calderon of Mexico and Juan Manuel Santos of Colombia are the best potential candidates to instigate such an initiative, with the possible assistance of UN Secretary General Ban Ki-Moon. As far-fetched as this might seem to most of you, I believe there is a distinct possibility of this happening. I also believe that 2012 offers a unique window of opportunity for such an event to take place. Please, visit the “Activism” section of our website, **www.worldwar-d.com**, to check the status of the initiative and to support it. You will also find a list of recommended organization in that section. We support in priority the organizations that take a clear stand in favor of the legalization of all drugs.



“World War-D” revolves around the simple but fundamental question:
“Are organized societies capable and willing to manage and control psychoactive substances, instead of leaving it to organized crime?”

Jeffrey Dhywood obviously thinks they are, and explains why and how.

“World War-D” clearly demonstrates that prohibition is the worst possible form of control. The so-called “controlled substances” are effectively controlled by the underworld at a staggering and ever-growing human, social, economic, and geopolitical cost to the world.

“World War-D” lays out a concrete, pragmatic, and realistic roadmap to global re-legalization under a multi-tiered *“legalize, tax, control, prevent, treat, and educate”* regime with practical and efficient mechanisms to manage and minimize societal costs. Far from giving up, controlled legalization would mean being realistic instead of being in denial; being in control instead of leaving control to the underworld. It would abolish the current regime of socialization and inflation of costs and privatization of profits to criminal enterprises, depriving them of their main source of income and making our world a much safer place.

“I find that Mr. Dhywood has written one of the best and most comprehensive books on the drug problem that I have read. He builds a strong case for legalization and regulation with a very convincing argumentation; I subscribe to it entirely.”

Gustavo de Greiff, Attorney General of Colombia from 1992 to 1994



www.worldwar-d.com

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