

## **Constructing the Pharmacological: A Century in Review\***

*By Richard DeGrandpre*

### **1. Introduction**

The 20th century revealed the extent to which “drugs” are socially produced with greater drama than any previous era, yet this was also a century in which the public understanding of drugs was eclipsed by an ideology of angels and demons.

Ours has remained a culture in which the unfolding story for any particular drug is paved not by its chemical structure or pharmacological action, as is believed, but by its own social history — of how it is used, the contexts in which it is used, and the kinds of people who use it. Consider: In 1972, the US Bureau of Narcotic and Dangerous Drugs proposed greater restrictions on the prescription drugs known as the barbiturates (e.g., Seconal), as they “are more dangerous than heroin.”<sup>1</sup> In the 1990s, the Drug Enforcement Administration (DEA) placed methylphenidate (Ritalin), a cocaine-like drug ingested by millions of American children each day, at the top of its list of controlled substances likely to be stolen from pharmacies and peddled on playgrounds. In 1994, the Food and Drug Administration (FDA) approved the prescribing of fentanyl (Sublimaze), a synthetic form of

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<sup>1</sup>T.S. Szasz, *Ceremonial Chemistry* (Garden City, New York: Anchor Books, 1974).

heroin sold on the street as “China White,” to children in the form of a lollipop.<sup>2</sup>

There seems to be something about producing mind-altering effects via an invisible agent that immediately calls the user and others to build an elaborate set of social regulations and rituals around drug use. There can be little doubt that both the uses of psychoactive substances and their associated effects have always been animated by the human practices in which these substances have been taken up and transformed into “drugs.” There can be equally little doubt, moreover, that the sociocultural processes involved here have almost always been overlooked. In place of their understanding, drug uses and effects have been attributed instead to the assumed powers of the drugs themselves.

To wit: No more impressive ideological system emerged in the 20th century, with such a penetration of state power and private institutional force, than pharmacologicalism. By pharmacologicalism I mean that matrix of centralized powers and discursive practices whose evolved social function is to reinforce an essentialism of drugs, of angels and demons, and in doing so, to obscure the sociocultural, political, and economic structures that shape both drug understandings and drug effects.

How pharmacologicalism came to manage and control these understandings and effects in the 20th century remain obscure topics with almost no intellectual history. This situation is itself largely because of the persistent embrace of pharmacologicalism this past century, which has trained perceptions, directed policy, distorted research, and shaped social practices in such a way as to reinforce the very assumptions and myths about drugs that came to define pharmacologicalism in the first place.<sup>3</sup>

Rather than clarify these relationships in the 20th century, tearing down the myth of pharmacological magicalism, drug understandings became trapped within a largely class and race-based differential prohibition of drugs. Institutions of knowledge and power were not harnessed to uncover how social and economic processes shape drug understandings and drug effects, or to solve so-called drug problems. Blinded by pharmacologicalism, knowledge and power were applied in a

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<sup>2</sup>See G. Stix, “Lollipop, Lollipop: A Candied Sedative with a Kick Arouses Opposition from Doctors,” *Scientific American*, May, 1994, p. 113. A warning with the Fentanyl Oralet reads: “You should be attended at all times by a healthcare professional while you suck the transmucosal lozenge. The lozenge should be removed if there is any sign of breathing difficulty.”

<sup>3</sup>R.J. DeGrandpre and E. White, “Drug Dialectics,” *Arena Journal*, 7, 1997.

further constructing and defending of a regime of good and bad drugs — a task that required an exponential increase in resources to keep concealed the man behind the curtain.

That essentially the same drug can be raised up as both a scapegoat and panacea — today's just-say-no // just-do-it dualism — reveals the extent to which drugs and drug policies are socially produced.<sup>4</sup> Here I am referring to examples like that of cocaine and Ritalin, the pharmacological actions of which are all but identical, although their understanding and use could not be more different. The conclusion of a 1995 study in the *Archives of General Psychiatry* makes this clear: “Cocaine, which is one of the most reinforcing and addictive of the abused drugs, has pharmacological actions that are very similar to those of methylphenidate hydrochloride [Ritalin], which is the most commonly prescribed psychotropic medication for children in the United States.” A later report by the same researchers noted, “methylphenidate [Ritalin], like cocaine, increases synaptic dopamine by inhibiting dopamine reuptake, it has equivalent reinforcing effects to those of cocaine, and its intravenous administration induces a ‘high’ similar to that of cocaine.”<sup>5</sup>

Ritalin and cocaine are, as the public knows, very different drugs. However, this difference lies not in their chemical structures or pharmacological actions, as the public believes, but in the social practices underlying their use.<sup>6</sup> Because drug use and drug effects are not

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<sup>4</sup>I cannot imagine a more salient example of this drug dualism than the one provided by Alan Leshner, a director of the U.S. National Institute on Drug Abuse. At a time when hundreds of thousands are going to prison for selling and using psychoactive drugs, Leshner contends “my belief is that today, in 1998, you should be put in jail if you refuse to prescribe S.S.R.I.s [like Prozac] for depression.” Quoted March 23, 1998, in *The New Yorker*.

<sup>5</sup>N. Volkow, et al., “Decreased Striatal Dopaminergic Responsiveness in Detoxified Cocaine-Dependent Subjects,” *Nature*, 386, April, 1997, pp. 830-832. Another report by Volkow and colleagues also showed that oral Ritalin consumption dramatically increases dopamine availability, even at therapeutic doses. N. Volkow, et al., “Dopamine Transporter Occupancies in the Human Brain Induced by Therapeutic Doses of Oral Methylphenidate,” *American Journal of Psychiatry*, 155, 1998.

<sup>6</sup>R.J. DeGrandpre, *Ritalin Nation: Rapid-Fire Culture and the Transformation of Human Consciousness* (New York: Norton, 1999); Drug Enforcement Administration, Office of Diversion Control, *Conference Report: Stimulant Use in the Treatment of ADHD* (Washington, DC, 1996); G. Feussner, “Diversion, Trafficking, and the Abuse of Methylphenidate: A Report from the DEA,” presented at the NIH Consensus Conference on ADHD, November, 1998.

and cannot occur in a geohistorical vacuum, and because sociopolitical factors shape the everyday particulars about drugs, even the same pharmacological substance can have radically different uses and produce dramatically different effects. As such, drug dichotomies like licit versus illicit and medical versus recreational reflect dynamic social and political categories that need investigation, not empirically based pharmacological categories that warrant separate treatment. To support this thesis here, I examine first how drug outcomes emerge in a sociocultural context so powerful that pharmacology often plays little or no role. I then conclude with a historical overview of the rise and influence of pharmacologicalism in 20th-century America.

## 2. Back to Basics

The closest thing to studying drugs in a vacuum can be found in studies conducted in highly controlled laboratory settings with animals. This includes the study of animal drug self-administration, which began in the 1960s when behavioral pharmacologists implanted intravenous catheters into animals so that they could respond for drugs at will.<sup>7</sup> Early studies provided animals unlimited access to intravenous cocaine or morphine in highly isolated and impoverished environments. The result was that monkeys and rats sometimes self-administered drugs until death.<sup>8</sup> These findings attracted considerable media attention, as they reinforced the prevailing ideology of angels and demons. The following examples from *Rolling Stone* and *Science* are typical: “Cocaine’s power of reinforcement produces its most notorious effects: the desire to keep taking it as long as the drug is available. In one series

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<sup>7</sup>C.R. Schuster and T.I. Thompson, “Self-Administration of and Behavioral Dependence on Drugs,” *Annual Review of Pharmacology*, 9, 1969; T. Yanagita, G.A. Deneau, and M.H. Seevers, “Evaluation of Pharmacological Agents in the Monkey by Long Term Intravenous Self or Programmed Administration,” *Excerpta Medica International Congress Series*, 87, 1965.

<sup>8</sup>T.G. Aigner and R.L. Balster, “Choice Behavior in Rhesus Monkeys: Cocaine Versus Food,” *Science*, 201, 1978, pp. 534-535; M.A. Bozarth and R.A. Wise, “Toxicity Associated with Long-Term Intravenous Heroin and Cocaine Self-Administration in the Rat,” *Journal of the American Medical Association (JAMA)*, 254, 1985, pp. 81-83; C.E. Johanson, “Assessment of the Dependence Potential of Cocaine in Animals,” J. Grabowski, ed., *Cocaine: Pharmacology, Effects, and Treatment of Abuse* (Rockville, MD: Department of Health and Human Services, ADM 84-1326, 1984); C.E. Johanson, R.L. Balster, and K. Bonese, “Self-Administration of Psychomotor Stimulant Drugs: The Effects of Unlimited Access,” *Pharmacology Biochemistry and Behavior*, 4, 1976; Yanagita, Deneau and Seevers, *op. cit.*

of experiments...scientists let caged monkeys self administer...cocaine until they died.”<sup>9</sup> “Cocaine, says Michael Kuhar of the government’s Addiction Research Center in Baltimore, ‘is the most powerful reinforcer known.’ That’s animal researcher talk for the fact that a variety of species from mice to monkeys will learn to self-administer cocaine faster than any other drug and will do it until they die.”<sup>10</sup>

The notion that one can generalize from a barren laboratory model to human drug use conforms to the prevailing pharmacologicalism, where drug effects have nothing to do with context and culture, and everything to do with assumptions about fixed pharmacological actions of drug molecules. Yet there is a vast array of animal studies, not seen in the media, showing that these toxic patterns of drug use are not sustained except under the most sterile conditions. When drug-taking environments are filled with alternative activities and the opportunity for social interaction, drug use fades. One such study showed that drug self-administration of phencyclidine (PCP, “angel dust”) by monkeys decreased as the sweetness of a concurrently available nondrug alternative, a saccharin solution, increased. Another study showed that monkeys repeatedly presented with a concurrent choice between banana-flavored food treats and IV cocaine always made fewer than 50 percent cocaine selections, even at the highest cocaine dose.<sup>11</sup> In yet another series of studies, rats given the option of a sweetened morphine solution drank one-eighth as much morphine when in a large chamber, shared with others, as compared to conditions under which they were housed alone in a smaller chamber.<sup>12</sup> Perhaps most importantly, studies have shown that environmental enrichment can actually prevent the acquisition of drug taking. In one study, a group of rats did not self-

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<sup>9</sup>L. Cole, “Prisoners of Crack,” *Rolling Stone*, December 9, 1989, p. 72; S. Peele and R.J. DeGrandpre, “Cocaine and the Concept of Addiction,” *Addiction Research*, 6, 1998.

<sup>10</sup>C. Holden, “Flipping the Main Switch of the Central Reward System?” *Science*, December 15, 1989, p. 1378.

<sup>11</sup>M.A. Nader and W. L. Woolverton, “Effects of Increasing the Magnitude of an Alternative Reinforcer on Drug Choice in a Discrete-Trials Choice Procedure,” *Psychopharmacology*, 105, 1991; M.A. Nader and W.L. Woolverton, “Effects of Increasing Response Requirement on Choice Between Cocaine and Food in Rhesus Monkeys,” *Psychopharmacology*, 108, 1992; M.A. Nader and W.L. Woolverton, “Choice Between Cocaine and Food by Rhesus Monkeys: Effects of Conditions of Food Availability,” *Behavioural Pharmacology*, 3, 1992.

<sup>12</sup>B.K. Alexander, et al., “Adult, Infant, and Animal Addiction,” S. Peele, ed., *The Meaning of Addiction: Compulsive Experience and its Interpretation* (Lexington, MA: Lexington Books, 1985).

administer cocaine at all when a sweet solution had been available prior to the introduction of IV cocaine.<sup>13</sup> However, when the sweetened solution was removed, drug consumption shot past 400 infusions per day.

Animal research uniformly demonstrates that nondrug factors figure prominently in the development of drug desires and drug experiences. Still, there is an obvious limit to how much the lab animal can tell us about how drugs work in the real world. At the same time, moving from the animal to the human situation means we are immediately overwhelmed with myriad historical and contextual variables — variables that muddy any interpretation of what can and cannot be attributed to the drug. One way to overcome this is with an examination of drug effects in the absence of drugs. This can be done with the administration of a placebo, although this is not the most radical test. A simpler place to start is with the administration of inactive pills prescribed without deception.

When just such a test was conducted in 1965 the results were striking.<sup>14</sup> After being told they were being prescribed a “sugar pill” — and that research suggests an inert substance can nevertheless make one feel better — 14 of 15 individuals in this one-week study finished, and all 14 reported a reduction in psychological distress. The average initial distress score was reduced 43 percent, meaning that a majority of individuals felt “quite a bit” better. One individual who had not benefited from psychiatric medications previously, and who had complained “of severe insomnia, loss of appetite and weight, restlessness, feelings of despair, death wishes, and various somatic symptoms,” argued “It wasn’t a sugar pill, it was medicine!” Another individual declared that “They’re not sugar pills...because they worked.”

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<sup>13</sup>M.E. Carroll, “The Economic Context of Drug and Non-Drug Reinforcers Affects Acquisition and Maintenance of Drug-Reinforced Behavior and Withdrawal Effects,” *Drug and Alcohol Dependence*, 33, 1993; M.E. Carroll and S.T. Lac, “Autoshaping I.V. Cocaine Self-Administration in Rats: Effects of Nondrug Alternative Reinforcers on Acquisition,” *Psychopharmacology*, 110, 1993; M.E. Carroll, S.T. Lac, and S.L. Nygaard, “A Concurrently Available Nondrug Reinforcer Prevents the Acquisition or Decreases the Maintenance of Cocaine-Reinforced Behavior,” *Psychopharmacology*, 97, 1989; M.E. Carroll, “Concurrent Phencyclidine and Saccharin Access: Presentation of an Alternative Reinforcer Reduces Drug Intake,” *Journal of the Experimental Analysis of Behavior*, 43, 1985.

<sup>14</sup>L. Park and L. Covi, “Nonblind Placebo Trial,” *Archives of General Psychiatry*, 12, 1965.

Described as being quite depressed, this woman stated after a week's treatment that she was "...very satisfied with the idea of continuing with the same doctor and pills."

This use of sugar pills differs from a traditional placebo test, where individuals are encouraged to believe they are taking an active drug. The full impact of placebos are observed under two conditions: when beliefs are optimistic with respect to treatment, and when these beliefs are effectively mobilized, usually by individuals of authority, such as physicians. Under such conditions, placebos have been shown capable of impacting upon the same physiological processes underlying the efficacy of active drug substances.<sup>15</sup> Recent examples come from studies investigating the efficacy of antidepressants. Of the three meta-analyses of this literature, all suggest that placebo effects account for much of the overall effectiveness of antidepressants.<sup>16</sup> There is a tendency to see drug effects and placebo effects as mutually exclusive, but if a placebo effect is mobilized by beliefs and expectations, what could be better than an actual drug in producing the placebo effect? In fact, with the exception of some individuals who respond to antidepressants and not placebos, most individuals experience the blessings of the psychological and pharmacological in combination.

The human examples presented thusfar have taken place in the absence of any actual drug, illustrating why it is important not to attribute all that is associated with drugs to the drugs themselves. In moving to the next step, looking at the interaction of drugs and nondrug factors, it is necessary to return to more controlled settings. This can be done by comparing the effects of identical drug exposure in two groups of users, each of which has a different relationship to the

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<sup>15</sup>J.D. Levine, N.C. Gordon, and H.L. Fields, "The Role of Endorphins in Placebo Analgesia," J.J. Bonica, J.C. Liebeskind, and D. Albe-Fessard, eds., *Advances in Pain Research and Therapy*, vol. 3 (New York: Raven Press, 1979); see also, B. Penick and S. Fisher, "Drug-Set Interaction: Psychological and Physiological Effects of Epinephrine Under Different Conditions," *Psychosomatic Medicine*, 2, 1965.

<sup>16</sup>I. Kirsch and G. Sapirstein, "Listening to Prozac and Hearing Placebo," *Prevention and Treatment*, June, 1998, an on-line journal of the American Psychological Association ([www.apa.org](http://www.apa.org)); see also, S. Fisher and R.P. Greenberg, *The Limits of Biological Treatments for Psychological Distress* (Hillsdale, NJ: Erlbaum, 1989); for an excellent overview of these ideas, see S. Fisher and R. Greenberg, "Prescriptions for Happiness," *Psychology Today*, September/October, 1995; J. Horgan, *The Undiscovered Mind* (New York: Free Press, 1999).

drug.<sup>17</sup> One such study examined withdrawal in individuals who either self-administered morphine or had it administered independent of responding.<sup>18</sup> Naturally, if withdrawal was a direct function of drug exposure, the response would be the same for each group. But withdrawal was in fact notably more severe for individuals who self-administered the morphine. Examples in the animal lab have not only reported comparable effects, they have also shown that changes in brain biochemistry following the administration of the drug (in this case, cocaine) can be quite different depending upon whether the drug is self-administered by the animal, or administered involuntarily.<sup>19</sup>

Another example of how one's own engagement in drug taking affects drug outcomes can be seen in Howard Becker's ethnographic work on "becoming a marijuana user."<sup>20</sup> Based on extensive interviews with marijuana users, Becker showed that the marijuana experience was not a predetermined pharmacological response. Instead, according to Becker, regular users had to master three aspects of drug engagement: acquisition of proper techniques of drug administration, learning to

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<sup>17</sup>This is done in both human and animal studies by yoking drug use of one member of a dyad, who willingly self-administers the drug to a second member, who receives exactly the same exposure and pattern of (signaled) drug intake, but does so independent of responding.

<sup>18</sup>S. Siegel, "Drug Anticipation and Drug Tolerance," M. Lader, ed., *The Psychopharmacology of Addiction* (Oxford: Oxford University Press, 1988).

<sup>19</sup>S.I. Dworkin, S. Mirkis, and J.E. Smith, "Response-Dependent Versus Response-Independent Presentation of Cocaine: Differences in the Lethal Effects of the Drug," *Psychopharmacology*, 117, 1995; S.I. Dworkin and J.E. Smith, "Behavioral Contingencies Involved in Drug-Induced Neurotransmitter Turnover Changes," *Research Monographs of the National Institute on Drug Abuse*, 74, 1986; J.E. Smith, C. Co, M.E. Freeman, and J.D. Lane, "Brain Neurotransmitter Turnover Correlated with Morphine-Seeking Behavior in Rats," *Pharmacology, Biochemistry and Behavior*, 16, 1992; J.E. Smith, C. Co, and J.D. Lane, "Limbic Acetylcholine Turnover Rates Correlated with Rat Morphine-Seeking Behaviors," *Pharmacology, Biochemistry and Behavior*, 20, 1984; S.I. Dworkin, L.J. Porrino, and J.E. Smith, "Importance of Behavioral Controls in the Analysis of Ongoing Events," J. Frascella and R.M. Brown, eds., *Neurobiological Approaches to Brain-Behavior Interactions* (Washington, DC: U.S. Department of Health and Human Services, ADM 92-1846, 1992).

<sup>20</sup>H.S. Becker, "Becoming a Marijuana User," *The American Journal of Sociology*, 59, 1953.



perceive the drug's experiential effects, and then learning to appreciate these effects.<sup>21</sup>

These latter examples illustrate how a variable as basic as personal engagement can be transformative of drug effects, both immediate and long-term. Layered on top of personal engagement are of course a nexus of other psychosocial, cultural, economic, and political factors. One example is the case of Ritalin and cocaine. Though these two drugs are typically involved in radically different contexts and motivations, such differences quickly disappear when the motivation for Ritalin and cocaine merge, as when Ritalin is crushed up and snorted or injected. A similar case applies for opiate narcotics. It is now commonly assumed that opiates such as morphine and heroin produce an irreversibly addictive experience in users after repeated use.<sup>22</sup> Yet research has consistently failed to find this for the general population.<sup>23</sup> In pain sufferers taking chronic opiates, for instance, addiction is quite rare. A typical study found that only two of thirty-eight patients treated with opiates for greater than one year became addicted, and both had histories of drug misuse.<sup>24</sup>

Variables such as participation, beliefs, and motivations are not isolated psychological dimensions, but rather are framed and supported by cultural teachings and social norms. Cultural teachings act as a kind of placebo text, governing the development of everyday assumptions and expectations about drugs. As with placebo effects, two factors

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<sup>21</sup>For a replication of these findings, see M.L. Hirsch, R.W. Conforti, and C.J. Graney, "The Use of Marijuana for Pleasure: A Replication of Howard S. Becker's Study of Marijuana Use," *Handbook of Replication Research* (Corte Madera, CA: Select Press, 1990).

<sup>22</sup>S.E. Hyman, "Shaking Out the Cause of Addiction," *Science*, 273, August 2, 1996, p. 611.

<sup>23</sup>Epidemiological data suggest that, in the late 20th century, about 23 percent of Americans who recreated with heroin developed drug dependence. This number greatly overestimates the risk of dependence for the general population, however, as the population willing to use heroin has a greater likelihood of developing drug dependence. See J.C. Anthony, et al., "Comparative Epidemiology of Dependence on Tobacco, Alcohol, Controlled Substances, and Inhalants: Basic Findings from the National Comorbidity Study," *Experimental and Clinical Psychopharmacology*, 2, 1994; see also, L.A. Warner, et al., "Prevalence and Correlates of Drug Use and Dependence in the United States," *Archives of General Psychiatry*, 52, 1995.

<sup>24</sup>Reported in J. Sullum, "No Relief in Sight," *Reason*, January, 1997; see also, A.R. Lindesmith, "A Sociological Theory of Drug Addiction," *American Journal of Sociology*, 43, 1938.

control this: the uniformity of the teachings, and the degree to which they are instilled in the user. For instance, Andrew Weil has described South American Indians who, after consuming a psychedelic mixture, were able to produce identical hallucinations in different users.<sup>25</sup> Another example is MacAndrew and Edgerton's anthropological study of drunken comportment, which showed how the plotlines of alcohol intoxication differ across cultures, depending upon public teachings about the drug.<sup>26</sup>

Supporting the placebo text are the prevailing social rituals and social situations that lend structure and motivation to drug use. Here we see that when strong drug rituals or situations are in place, so-called drug effects may occur independent of any meaningful exposure to drugs. Reports of heroin's street purity dropping to levels as low as one-half of one percent — as they did in the US in the 1960s — without having appreciable effects on heroin demand and use are one example.<sup>27</sup> Similar results have occurred with cigarette smokers, who have been shown to smoke placebo cigarettes under blind conditions with little or no discomfort.<sup>28</sup> The inverse also holds true. That is, the real pharmacological actions of drugs may no longer sustain drug use in the absence of the ritual or social context. An example involving heroin comes from the work of Lee Robins and colleagues.<sup>29</sup> They found that the vast majority of addicted soldiers returning home from Vietnam briefly recreated with heroin but, in the absence of the Vietnam context, quickly gave it up. A parallel example also exists for smokers. Studies

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<sup>25</sup>See A. Weil, *The Natural Mind* (Boston: Houghton Mifflin, 1972/1986).

<sup>26</sup>C. MacAndrew and R.B. Edgerton, *Drunken Comportment: A Social Explanation* (Chicago: Aldine Publishing Company, 1969), p. 4.

<sup>27</sup>A similar example is drug-deprived addicts who inject empty or water-filled syringes into their arms. See D.G. Levine, "Needle Freaks: Compulsive Self-Injection by Drug Users," *American Journal of Psychiatry*, 131, 1974; B.J. Primm and P.E. Bath, "Pseudoheroinism," *International Journal of the Addictions*, 8, 1973; S. Peele, "Hype Overdose," *National Review*, November 7, 1994, pp. 59-60.

<sup>28</sup>Unpublished data, the Human Behavioral Pharmacology Laboratory, Department of Psychiatry, University of Vermont.

<sup>29</sup>L.N. Robins, J.E. Helzer, and D.H. Davis, "Narcotic Use in Southeast Asia and Afterward," *Archives of General Psychiatry*, 32, 1980. In another example involving opiates, 91 addicts left Canada in the 1960s to enroll in heroin maintenance programs in Britain. This study reported that only about 25 percent of addicts found the programs acceptable and remained. Those who returned to Canada reported a dissatisfaction with drug use in a medicalized setting. R. Solomon (1977) cited in S. Peele, *The Meaning of Addiction* (Lexington, MA: Lexington Books, 1985).

show for example that the use of the nicotine patch to help quit smoking (i.e., drug without ritual) does little to reduce the actual urge to smoke.<sup>30</sup>

The most dramatic frame in which to assess the influence of nonpharmacological factors on drug outcomes is, however, sociohistorical context. A relatively recent example is the largest-ever international study of cocaine, conducted by the World Health Organization (WHO) from 1992 to 1994. This study obtained data on the use of coca-related drugs in coca-producing and nonproducing countries, and examined the effectiveness of different strategies used to curb cocaine use and cocaine-related harms. The WHO found that what took place with respect to cocaine varied considerably across numerous dimensions, including users' demographic characteristics, reasons for use, problems associated with use, and the amount, frequency, and duration of use. As a WHO press release stressed, the study sought but could not locate a prototypical or "average cocaine user."<sup>31</sup>

Also illustrative here are cases where drug use is well assimilated in one culture or subculture, yet destructive in another. This appears to have been the case when the British began exporting opium out of India, where its use was already mediated by longstanding social customs, and into China. There the sudden availability of opium became a more systemic social problem than had ever existed in India.

### **3. The Rise of Differential Prohibition**

From drug use and drug effects to personal expectations and popular beliefs about drugs, what goes on in the name of any particular drug always evolves along distinct historical paths.<sup>32</sup> Twentieth-century America provides an especially interesting and important example. It does so because of the dramatic transformation and refinement that took place during this period in the social production of drug practices and policies.

At the turn of the last century, four conditions were notable. There was a general absence of drug prohibitions. Alcohol was being

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<sup>30</sup>J. Foulds, J. Stapleton, C. Feyerabend, C. Vesey, M. Jarvis, and M.A.H. Russell, "Effect of Transdermal Nicotine Patches on Cigarette Smoking: A Double Blind Crossover," *Psychopharmacology*, 106, 1992.

<sup>31</sup>World Health Organization, "Publication of the Largest Global Study on Cocaine Use Ever Undertaken," Press Release WHO/20, March 14, 1995.

<sup>32</sup>D.B. Heath, "US Drug Control Policy: A Cultural Perspective," *Daedalus*, 121, 1992.

scapegoated as a menace drug responsible for all society's ills.<sup>33</sup> The jailhouse epidemic of today was nonexistent. And the public was in full embrace of many natural substances now demonized, including those derived from poppies, coca, and cannabis. Regarding these latter substances, heroin, a drug concentrate derived from the opium of the poppy plant, was marketed as a cough suppressant by Bayer Pharmaceuticals under the brand name Herion, and hailed as a cure for morphine addiction. Cocaine, a drug concentrate derived from the coca plant, was sold in wines and tonics such as Coca-Cola. And marijuana, derived from the hemp plant, was available as a tincture of cannabis, sold by Parke-Davis and Company.<sup>34</sup> The social history of these drug substances shows how, as their users and reasons for use changed, so did their effects, their public meaning, and the social policies that attempted to govern their use.

Demographic changes in users did not reveal the "true" nature of these drugs, however, as is commonly supposed. Rather, they transformed their nature. Whether or not opium or its derivatives were considered addictive at any particular moment in their history is one example. In Britain, an 1885 Report of the Royal Commission on Opium formally compared alcohol and opium, noting that the latter should be feared or abhorred to no greater degree. Similarly, heroin was viewed as minimally addictive at the turn of the century, and was hailed both in the US and Britain as an effective new treatment drug, even for morphine addiction. James R. L. Daly wrote in the *Boston Medical and Surgical Journal* that "heroin possesses many advantages over morphine....It is not hypnotic; there is no danger of acquiring the habit..." *New York Medical Journal* reported similarly in 1890 that,

A sufficiently long period having elapsed since the introduction of heroin, the new substitution product for codeine, during which it has been used very extensively, we are now enabled to pass judgment upon its real value, and to definitely determine in what manner this drug has fulfilled the expectations raised in its behalf....Habituation has been noted in a small percentage...of the cases....All observers are agreed, however, that none of the patients suffer in any way from this habituation, and that none of the

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<sup>33</sup>J.C. Furnas, *The Life and Times of the Late Demon Rum* (New York: Putnam, 1965); A. Sinclair, *Era of Excess: A Social History of the Prohibition Movement* (New York: Harper-Colophon, 1965).

<sup>34</sup>Parke-Davis also went on to produce phencyclidine, or "Angel Dust."

symptoms which are so characteristic of chronic morphinism have ever been observed. On the other hand, a large number of the reports refer to the fact that the same dose may be used for a long time without any habituation.<sup>35</sup>

It was not long, however, before the social meaning and value of these popular drugs and drug products began to change. In the case of cocaine, although its use at the turn of the 20th century was widespread, its popularity was beginning to wane. In 1909, it was identified by the *New York Times* as becoming a lower-class drug, and thus we find the exaggerated claim that it is “destroying its victims more swiftly and surely than opium.” As David Musto writes, “cocaine was being transformed in the public mind from a tonic to a terror.”<sup>36</sup> The story of opiates followed a similar line. David Courtwright notes, “...opiate addiction, while declining relative to population, began to assume a new form: it ceased to be concentrated in upper-class and middle-class white females and began to appear more frequently in lower-class urban males, often neophyte members of the underworld.”<sup>37</sup> As with cocaine, public sentiment began to harden against opiates and opiate users, further illustrating the point that what people think about a drug depends a great deal upon who is using it.

As opium, cocaine, and marijuana fell from grace, they became trapped within an increasingly rigid and all-encompassing *differential prohibition* of drugs. First came taxation and regulation, and then outright prohibition. In response, black markets emerged, as did new white-market drugs and drug products, marketed and sold by an increasingly powerful legal drug industry. While the sale and use of alcohol had been controlled through taxation since early in the republic, the control of other drug substances began much later. For example, taxes were levied against the importation of opium only in the second-half of the 19th century, and taxes and regulations for other drugs and drug products did not emerge until early in the 20th century.

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<sup>35</sup>Quoted in O. Ray, *Drugs, Society, and Human Behavior* (St. Louis: Mosby, 1983).

<sup>36</sup>D.F. Musto, “America’s First Cocaine Epidemic,” *Wilson Quarterly*, Summer, 1989.

<sup>37</sup>D.T. Courtwright, *Dark Paradise: Opiate Addiction in America before 1940* (Cambridge: Harvard University Press, 1982), p. 3.

**Table 1.**

**Changes in US Law that Established the Black-Market for Drugs in the 20th Century.**

- 1909 **Opium Exclusion Act.** Essentially an import act, it prohibited the importing of opium and its derivatives except for medical use; at this time it was still legal to use and manufacture opium in the US, although opium poppy growing in the US had to be licensed.
- 1914 **Harrison Act.** A drug distribution act in which lawful distributors were named for the sale of poppy and coca derivatives, including physicians, dentists and veterinary surgeons, if registered; all other dealing and dispensing of these drugs became illegal.
- 1918 **Eighteenth Amendment to the US Constitution.** Prohibited the manufacture, sale, and transportation of alcohol (repealed with the Twenty-first Amendment in 1933).
- 1922 **Jones-Miller Act.** Established the Federal Narcotics Control Board, raised penalties for the illegal dealing of poppy and coca derivatives and restricted importation to crude (versus refined) forms of the drugs.
- 1924 The manufacture of heroin becomes illegal in the US.
- 1930 Congress made changes in law that led the Federal Narcotics Control Board to be replaced by the Bureau of Narcotics of the Treasury Department.
- 1937 **The Marijuana Tax Act.** Established regulation by taxation of all levels of marijuana production, sale, and use (ruled unconstitutional in 1969).
- 1951 **Boggs Amendment** (to the Harrison Act). Established minimum mandatory sentences for all offenses involving derivatives of opium, coca, and cannabis.
- 1956 **The Narcotic Drug Control Act.** Raised minimum mandatory sentences and included a provision where selling heroin to a minor became a capital offense.
- 1968 Bureau of Narcotics becomes the Bureau of Narcotics and Dangerous Drugs of the Justice Department.

- 1970 **Comprehensive Drug Abuse Prevention and Control Act.** This act replaced the Harrison Act of 1914 and federalized all drug laws, regardless of State laws concerning interstate commerce. Overall, it represented a shift from regulation by taxation to the direct criminalization of drug practices. The law also established a five-tier scheduling of drugs (that excluded alcohol) and a **Commission on Marijuana and Drug Abuse**, which led in 1973 to a report recommending the legalization of marijuana.
- 1970s **RICO and CCE Statutes.** These statutes — for Racketeer-Influenced and Corruption Organizations and Continuing Criminal Enterprises — allowed the forfeiture of personal assets for individuals and organizations charged with drug trafficking.
- 1982 **Department of Defense Authorization Act.** Diverted select parts of the armed forces and NASA to the task of drug enforcement.
- 1984 **Comprehensive Crime Control Act.** Began to rise toward the federal “zero-tolerance” stance toward drugs by increasing the length of sentences for drug offenses, including drug cultivation, trafficking, possession, and use.
- 1986 **Anti-Drug Abuse Act.** Like the 1984 act, a further escalation of draconian drug policy.
- 1988 **Anti-Drug Abuse Act.** A White House drug policy initiative that further directed drug prohibitions against users, stating that both supply and demand are crucial to illegal drug markets, that drug abusers begin as willful agents, not as powerless victims, and that individual self-destruction was not an individual freedom. This initiative spawned a number of states to enact “three strike” laws that significantly raised minimum mandatory sentences for repeat drug offenders.

As taxation and regulation narrowed the legal avenues to obtaining opium, coca, and cannabis, black markets emerged, triggering an escalating series of prohibitions. These were first aimed at manufacturing. As this failed, they were then directed as well at distribution, selling, possession, and ultimately using. Especially significant here was the Harrison Act of 1914, which served as the foundation for US drug prohibitions until President Richard Nixon

signed into law what became the “war on drugs” with the Comprehensive Drug Abuse Prevention and Control Act of 1970.<sup>38</sup>

It is perhaps natural that drug prohibitions would arise in a specific context of use, and in this sense are reactionary. However, it is ironic that the anti-drug reactions that led to prohibitions promoted the very social conditions that prompted those initial reactions. The Harrison Act did not prohibit drug use per se, but it did make it impossible for street addicts to obtain opiate narcotics legally. As an almost immediate consequence, a black market emerged and prices skyrocketed. Use nevertheless persisted and, in reaction, the Jones-Miller Act of 1922 was passed. This act dramatically increased the penalties for dealing in illegal opiates, thus completing one revolution in a vicious cycle of prohibitionist policies that continued to escalate throughout the 20th century.

A specific example of reactionary policies was the demonizing of marijuana as an “assassin of youth” by Harry J. Anslinger and his Bureau of Narcotics.<sup>39</sup> The demonization of marijuana began when exaggerated media reports linked crime with growing marijuana use in the 1920s and 1930s. Soon thereafter, as the lights were going out on alcohol prohibition in 1933, they were turned on the task of demonizing marijuana, as is reflected in this March, 1936, report from *Scientific American*:

Marihuana smoking has spread so rapidly that the drug has become a serious menace...Marihuana produces a wide variety of symptoms in the user, including hilarity, swooning, and sexual excitement. Combined with intoxicants, it often makes the smoker vicious, with a desire to fight and kill...Despite the vicious effects of marihuana, only 17 states have laws against it and its control is not yet included under the federal Harrison narcotic act.”<sup>40</sup>

As the case of marijuana illustrates, societal uprisings against a drug usually take the form of an essentialism. First the perceived

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<sup>38</sup>Britain followed suit in 1971 with the *Misuse of Drugs Act*. This has recently come under attack by Britain’s Police Foundation, a research group partly funded by the Home Office. See “Going Dutch,” *The Economist*, January 15, 2000, pp. 55-56.

<sup>39</sup>L. Sloman, *Reefer Madness: The History of Marijuana in America* (New York: St. Martin’s Griffin, 1979).

<sup>40</sup>“Marijuana Menaces Youth,” *Scientific American*, March, 1936, pp. 150-151.



unfavorable qualities of certain identified users (or groups of users) are attributed to the pharmacological actions of the drug (e.g., “reefer madness”), then they are generalized as a “risk” to everyone who uses them. This makes it very difficult for anyone, even pharmaceutical companies, to salvage a drug that has fallen into public disrepute.

With increasing constraints placed on the sale of most naturally occurring psychoactive substances early in the 20th century, pharmaceutical companies had to either adapt by developing new drugs, or find a whole new genre of products to market and sell.<sup>41</sup> This part of the story begins prior to the Harrison Act of 1914, with the Pure Food and Drugs Act of 1906. This act focused in part on the failure of manufacturers of so-called patent medicines to declare the active drug ingredients of their products. That these over-the-counter medicines often included alcohol, cocaine, heroin, morphine, opium, cannabis, or some combination thereof, helps explain their ubiquity at the turn of the 20th century. To wit, sales of patent medicines in the US went from \$3.5 million in 1859 to about \$100 million in 1904.<sup>42</sup>

It was in large part because these drugs had growing associations with more “marginal” drug users that it became increasingly difficult to sell them under the guise of “health products.” As this unfolded, pharmaceutical companies learned to navigate and reinforce the emerging differential prohibition of drugs, adapting in three ways.

First, the legal drug industry synthesized pharmacologically equivalent compounds and then reintroduced them into existing medical practices as “safer” and “more effective” drugs. Heroin was replaced by equally efficacious synthetic opiates, called opioids, like meperidine and fentanyl; cocaine was replaced by psychostimulants like methylphenidate and amphetamine; and alcohol (sold by prescription during prohibition) was replaced by depressants like barbiturates and benzodiazepines.<sup>43</sup>

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<sup>41</sup>Always an exception to the rule, alcohol was actually prescribed by physicians during prohibition. One estimate suggests that \$40 million was made annually through the writing of prescriptions (for whiskey), even though the AMA had demonized alcohol and supported its prohibition at the outset. See A. Sinclair, *op. cit.*

<sup>42</sup>Ray, *op. cit.*

<sup>43</sup> Fentanyl is essentially a synthetic form of heroin. It has been synthesized illegally under the name “China White” and others. Fentanyl and heroin are both more readily absorbed into the brain than morphine and, while “China White” has been demonized in the media, its origins lie with the pharmaceutical industry, as does its current legal production and use. See R.J. Julien, *A Primer of Drug Action*, 7th ed. (New York: Freeman, 1995).

**Table 2.**

**US Regulations that Legitimized a White-Market for Drugs in the 20th Century.**

1906 **Pure Food and Drugs Act.** Essentially a labeling act, it established the federal government's role in the regulating of drugs. It focused in part on "misbranding" of patent medicines, which had the intended effect of forcing manufacturers to reveal the true active ingredients contained in the product.

1912 **Shirley Amendment.** This act further clarified the issue of misbranding, forbidding any therapeutic claims that were "false and fraudulent."

1938 **Food, Drug, and Cosmetic Act.** Essentially a product safety act, it required that drug manufacturers show product safety when used as directed. Manufacturers had to submit a "new drug application" to the FDA that reported testing for toxicity. This and other provisions created a more active role for the FDA, and encouraged a partnership between it and the pharmaceutical industry. It also led to an increase in prescription, versus over-the-counter (OTC) drugs.

1951 **Humphrey-Durham Amendment.** Created three classes of prescription drugs, those that must be labeled with a warning of "habit forming," those the FDA said posed too great a risk for toxicity unless administered by a physician, and those that were deemed "new" drugs.

1962 **Kefauver-Harris Amendment.** Essentially a drug efficacy act, it established that any drug "applied for" since 1938 had to show both clinical efficacy and safety, when used as directed. It also stipulated that advertisements must include a summary of possible adverse reactions. In the years that followed, the FDA commissioned research councils and review panels to further establish and clarify regulations for both prescription and OTC drugs.

Second, the industry invented whole new classes of drugs and then, in new partnership with the American Medical Association, led the way toward constructing new disease categories to go with them. The minor tranquilizers such Valium and Miltown preceded the development of such things as "battered parent syndrome" and "panic disorder." Tricyclic antidepressants like Tofranil preceded the development of "endogenous" and "exogenous" depression. The psychostimulants like Benzedrine and Ritalin preceded the development of "chronic fatigue" and "attention deficit disorder." And the SSRI antidepressants, such as Prozac and Paxil, preceded the development of, among other things, "serotonin

deficiency disorder” and “social phobia disorder.” All these pseudo-scientific categories were anchored in real human experience, to be sure. But it was the medico-pharmaceutical industrial complex that pathologized and then medicalized these experiences, organizing them into rigid diagnostic categories that fit the latest drug-commodity solutions.<sup>44</sup>

Finally and most recently, the industry developed a substitution strategy in which black-market drugs of addiction could be replaced by corporate drugs of addiction, with similar or identical pharmacological actions. The FDA and other governmental bodies’ embrace in recent years of nicotine as a treatment drug for cigarette smokers exemplifies this type of “medical” conversion. Today the National Institute on Drug Abuse (NIDA) works side by side with the pharmaceutical industry in developing such “treatment” compounds.<sup>45</sup>

1952	DSM-I	106 diagnostic entities
1968	DSM-II	182 diagnostic entities
1980	DSM-III	265 diagnostic entities
1987	DSM-III-R	292 diagnostic entities
1994	DSM-IV	307 diagnostic entities

<sup>44</sup>In recent years, the biologizing of human psychology has returned to defining addiction as a disease; e.g., see A.I. Leshner, “Addiction is a Brain Disease,” *National Institute of Justice Journal*, October, 1998, pp. 2-6. On the specific manufacturing of social phobia disorder, see M. Cottle, “Selling Shyness: How Doctors and Drug Companies Created a ‘Social Phobia’ Epidemic,” *New Republic*, August 2, 1999; A. Raghunathan, “A Bold Rush to Selling Drugs to the Shy,” *New York Times*, May 18, 1999, C1. An even more bizarre example of the social construction of psychic diseases is the new “companion animal” drug market with “doggy diseases” that are treated with the latest antidepressant or anti-anxiety drugs. See M. Meyer, “When Pets Pop Pills,” *Newsweek*, October 11, 1999, p. 60.

<sup>45</sup>P. Zickler, “Clinical Trails Network Will Speed Testing and Delivery of New Drug Abuse Therapies,” *NIDA Notes*, 14, 1, April, 1999, p. 4.

<sup>46</sup>From Charles Medawar, “The Antidepressant Web,” *Journal of Risk and Safety in Medicine*, 10, 1997.

Taken together, these developments gave rise to and reinforced a differential prohibition of drugs. First was the emergence of state and then federal prohibitions against naturally occurring substances, from which only drugs indigenous to the US would ultimately survive (i.e., alcohol and tobacco products). Next was the emergence of an interconnected system of public and private institutions — corporate, medical, political, and scientific — that gave rise to and legitimated a new and expanding white market of psychoactive drugs.<sup>47</sup>

#### 4. The Sorting of Angels and Demons

The rise of differential prohibition was not rooted in either pharmacology or its determinants, including drug toxicity, abuse potential, clinical efficacy, or acute psychoactivity. Nor could it be. As chemist James Johnston warned in 1854 in his *Chemistry of Common Life*, drug outcomes varied too greatly across individuals to construct a true pharmacological classification of drugs. Rather than being rooted in pharmacological facts, differential prohibition was anchored in public perceptions, the very perceptions that reinforced a cult of pharmacology. Consequently, most drugs categorized and enforced by the DEA as schedule I drugs — that is, prohibited against all use and deemed of no societal value — were simply those that fell into unpopular practices in the 20th century, from coca derivatives, to heroin, to marijuana, to the hallucinogens. Several additional aspects of this scheme are also noteworthy as regards the state's sorting of angels and demons.

First, a drug that would clearly rank as a schedule II drug was left out of the system altogether — alcohol. The reason why is obvious, for as a schedule II drug, alcohol would no longer be available for public use. Instead, the societal meaning of alcohol was transformed to the point that it became America's great nondrug. Second, numerous drugs have been categorized as schedule I drugs that pose little public risk, even for those subpopulations most attracted to them, and many have long histories of involvement in both medicinal practices and sacred rituals, including marijuana and the hallucinogens. Third, the principal reason why most schedule I and II drugs could be tossed from the medical pharmacopoeia was because pharmaceutical companies had already reinvented them in another name. Had this remaking of fallen angels not been possible, it is not at all clear whether differential prohibition could have evolved into such a rigid bifurcation of moral

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<sup>47</sup>Between the white- and black-market for drugs are grey-market drugs, including alcohol, nicotine, and caffeine. Because they do not fall clearly within the “wellness” doctrine but nevertheless have continued public support, the social status of these drugs is legal, if unstable.

opposites. Finally, many schedule II and III drugs are pharmaceutical drugs with comparable or even worse long-term abuse potentials than numerous illegal, schedule I drugs — and many are now known to be highly questionable in their clinical efficacy. Barbiturates, benzodiazepines, and the psychostimulants all are vulnerable on these two counts.<sup>48</sup>

With drug prohibitions originating from perceptions of unpopular practices and peoples, one result was that identical acts with pharmacologically identical drugs could result in very different legal consequences, depending of course on the market from which the drugs derived. For instance, the illicit dealing of a drug that originated from the street often garnered harsher punishment than did engaging in the same pursuits with a pharmacologically equivalent drug that originated from the pharmacy. Since the application of drug prohibition is, in the end, both rooted in and enforced upon specific drug practices and users, use involving the diversion of medically sanctioned drugs was perceived and treated as categorically different, regardless of pharmacology. Marijuana-related arrests are one example; they can garner criminal sentences many times greater than those for illicit use or dealing of prescription drugs with considerably greater toxicity and potential for misuse.<sup>49</sup> Another example is Ritalin, which has been increasingly diverted by both adolescents and adults into cocaine-like practices, where it is snorted or injected.<sup>50</sup> The DEA reported that Ritalin misuse in

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<sup>48</sup>Regarding the barbiturates, see R. Hughes and R. Brewin, *The Tranquilizing of America: Pill Popping and the American Way of Life* (New York: Harcourt Brace Jovanovich, 1979); D.R. Wesson and D.E. Smith, *Barbiturates: Their Use and Misuse* (New York: Human Sciences Press, 1977). Regarding the benzodiazepines, see “High Anxiety,” *Consumer Reports*, January, 1993; B. Gordon, *I’m Dancing as Fast as I Can* (New York: Harper and Row, 1979); J. Marks, *The Benzodiazepines: Use, Misuse, Abuse* (Lancaster/Boston: MTP Press, 1985). Regarding the psychostimulants, see Chapter 5 in DeGrandpre, 1999, *op. cit.*; J.M. Swanson, et al., “Effect of Stimulant Medication on Children with Attention Deficit Disorder: A ‘Review of Reviews,’” *Exceptional Children*, 60, 1993. Regarding the antipsychotic’s iatrogenic brain damage, see P. Corson, et al., “Change in Basal Ganglia Volume over Two Years in Patients with Schizophrenia: Typical Versus Atypical Neuroleptics,” *American Journal of Psychiatry*, 156, 1999; for a personal account, see S. Sheehan, *Is There No Place on Earth for Me?* (Boston: Houghton Mifflin, 1982).

<sup>49</sup>E. Schlosser, “Reefer Madness,” *Atlantic Monthly*, August, 1994.

<sup>50</sup>DeGrandpre, 1999, *op. cit.*; a similar double standard applies in the case of persecuted crack-using mothers versus alcohol-using mothers. J.A. Inciari and H.L. Surratt, “Cocaine, Crack and the Criminalization of

high-school students increased from 3 to 16 percent of students from 1992 to 1995. Similarly, while children between the ages of ten and fourteen were involved in about 25 emergency-room visits connected with Ritalin misuse in 1991, this number had increased to more than 400 visits by 1995. In 1996, the number for children aged ten to seventeen was 630, by 1998 it had jumped to 1,725.<sup>51</sup>

These data provide a striking example of how, in the context of pharmacologicalism, psychostimulants would be produced economically, morally, and politically as both angels and demons. Consider the 1999 case in which a California woman was sentenced to three years for a felony charge of giving methamphetamine to her son from age 7 to 9. While public officials were “shocked” and “outraged” that a mother would give such a powerful psychostimulant to “a child that young,” no one took notice of the fact that more than two million mothers do this every day, albeit in pill form, in the case of Ritalin and other stimulants, *including* methamphetamine (brand names Desoxyn, Desoxyn Gradumet, Methedrine).<sup>52</sup> Officials involved in the California case cited NIDA reports suggesting that chronic use of stimulants produces brain damage. While this may in fact be true, NIDA and the National Institute of Mental Health (NIMH) have consistently avoided this question as regards Ritalin.<sup>53</sup>

## 5. A Nation at War with Itself

Given the tendency to see the behavior of certain groups as the product of the pharmacological powers of the drugs they use, differential prohibition was perhaps a predictable product of pharmacologicalism. It became clear in the 20th century, for example, that it was the black market itself that created an underworld of crime. Yet this crime was attributed instead to the drugs themselves, either in terms of the “desperate acts” of the drug-enslaved addict seeking to sustain his or her

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Pregnancy,” J.A. Inciardi and K. McElrath, eds., *The American Drug Scene* (Los Angeles: Roxbury, 1998).

<sup>51</sup>Drug Enforcement Administration, Office of Diversion Control, 1996, *op. cit.*; G. Feussner, *op. cit.*

<sup>52</sup>Quote from S. Stokley, “Rubidoux Women Sentenced to Prison,” *The Press Enterprise*, January 11, 2000, Riverside, CA.

<sup>53</sup>On the possibility of Ritalin causing brain damage, see H.A. Nasrallah, et al., “Cortical Atrophy in Young Adults with a History of Hyperactivity in Childhood,” *Psychiatry Research*, 17, 1986. This study concluded that, “since all of the [ADD] patients had been treated with psychostimulants, cortical atrophy may be a long-term adverse effect of this treatment.”

addiction, or in terms of the human transformations produced by the drug (e.g., the person becomes violent and paranoid).<sup>54</sup>

According to pharmacologicalism, the public must be protected from certain drugs because they are inherently dangerous to the user and because, once taken, they corrupt the capacity of the user to protect themselves from these dangers. Smoking marijuana corrupts a person's motivation and character, it is said, leaving him or her at risk to the health hazards posed by chronic marijuana smoking. Similarly, the sniffing, injecting, or smoking of cocaine enslaves the user into perpetual use and whatever else it takes to maintain it. Meanwhile, on the white-market side of differential prohibition, pharmacologicalism allows the privileging of a drug market based on a moral paradigm of "wellness." Whereas certain drugs are said to destroy, disregard, or expand wellness beyond permissible boundaries, and are therefore prohibited and punished, others are said to restore normal well-being, and are thus sanctioned and marketed (and financed by insurance companies and the state). In a kind of Apollonian war on the Dionysian spirit, drug use is straight-jacketed into a Calvinist doctrine of making a healthy upstanding (one might say, pure) citizen. In this world, you cannot decide on your own to use drugs (alcohol being the nondrug exception), but if you have lost the capacity to act "rationally," the state can decide to do so for you.

The categories of differential prohibition, including "licit versus illicit" and "medical versus recreational," are derivative of this pharmacologicalism. These categories are protected and institutionalized today via a number of social systems spanning numerous institutions

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<sup>54</sup>Two examples of the latter are phencyclidine (PCP, "angel dust") and crack. With regard to the latter, the U.S. Sentencing Commission reported to Congress in 1995 that "the media and public fears of a direct causal relation between crack and other crimes do not seem to be confirmed by empirical data....studies report that neither powder nor crack cocaine excite or agitate users to commit criminal acts and that the stereotype of a drug-crazed addict committing heinous crimes is not true for either form of cocaine." Cited in D.R. Gordon, "Crack in the Penal System," *The Nation*, December 5, 1995. The Commission report mirrors a report on cocaine issued to Congress by the Ford White House 25 years earlier, which concluded that cocaine "usually does not result in serious social consequences, such as crime, hospital emergency room admissions or death." See also, C. Reinerman and H. G. Levine, "The Crack Attack: Politics and Media in America's Latest Drug Scare," J. Best, ed., *Images of Issues: Typifying Contemporary Social Problems* (New York: Aldine de Gruyter, 1989).

and markets, from drug cartels, to the AMA, to the private prison industry, to the White House Office of National Drug Control Policy.<sup>55</sup> All of these institutions have a dependence on the differential prohibition of angels and demons.

In the official service of pharmacologicalism are five mutually reinforcing guilds, including the pharmaceutical industry, modern biological psychiatry, the biomedical sciences, drug enforcement agencies (the DEA, Federal Bureau of Investigation, and Alcohol, Tobacco and Firearms), and the American judicial system. Together these guilds form the two pillars of differential prohibition, the medico-pharmaceutical industrial complex (i.e., the therapeutic state), and the drug abuse-prison industrial complex (i.e., the prohibitionist state).<sup>56</sup> The principal text that reinforces the first pillar is the *Diagnostic and Statistical Manual* of the American Psychiatric Association, now in its fifth edition; the principal text that reinforces the second pillar is the five-tier classification of drug scheduling, outlined in the *Comprehensive Drug Abuse Prevention and Control Act of 1970* and guided today by the annual strategy report of the White House Office of National Drug Control Policy.

With the social, economic, and political factors that animate both the uses and effects of drugs obscured by the workings of differential prohibition, pharmacologicalism had the pernicious effect of allowing the most visible participants in illegal drug markets to be dehumanized. By the 1970s, illegal drugs were perceived as so evil in the US that President Richard Nixon declared drugs “public enemy number one.”

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<sup>55</sup>For a contemporary example, see D. Forbes, “The Drug War Gravy Train: How the White House Rewarded *U.S. News, Seventeen* and Other Magazines for Publishing Anti-Drug Articles,” *Salon*, March 31, 2000.

<sup>56</sup>The last words on behalf of the therapeutic state in the 20th century were spoken by U.S. Surgeon General David Satcher in a report issued on mental health in America (December, 1999). For criticism, see R.J. DeGrandpre, “Surgeon General Report Laudable but Misleading,” *Los Angeles Times*, December 20, 1999; T. Szasz, “Mental Disorders are Not Diseases,” *USA Today*, January 20, 2000, p. 30. Regarding the rise of the prohibitionist state, the annual costs are now estimated to be an annual \$18 billion dollars, with the cost of “drug abuse” in society estimated at approximately \$100 billion in 1992. J. W. Shenk, “America’s Altered States: When Does Legal Relief of Pain Become Illegal Pursuit of Pleasure?” *Harper’s*, May, 1999; G. Boyd and J. Hitt, “This is Your Bill of Rights on Drugs,” *Harper’s*, December, 1999; N. Swan, “Drug Abuse Costs to Society Set at \$97.7 Billion, Continuing Steady Increase Since 1975,” *NIDA Notes*, 13, 1, 1998, p. 12.



This call to arms would be reenacted by presidents Ronald Reagan and George Bush, and reinforced within an even more militant ethos of “zero tolerance” and “by any means possible.”<sup>57</sup> Even at the end of the century, the US “counter-drug” budget continued to grow, from \$13.5 billion in 1996 to roughly \$19.2 billion for 2001.<sup>58</sup>

Blinkered by pharmacologicalism, American drug policies steered the nation into a disastrous multi-billion dollar drug war, achieving little more than the dubious status of having the greatest per capita prison population in the world.<sup>59</sup> In this context the Clinton administration finished out the century clutching aimlessly to the status quo. William Chambliss summarizes the result: “It is no exaggeration to say that the lives and futures of young men in the poor Black and Latino communities of the US are being systematically destroyed and the population of young males permanently alienated by the enforcement of anti-drug laws. Among young Black men between the ages of 15 and 35, 40 to 50 percent are, at any given moment, either in jail, on probation, on parole or a warrant is out for their arrest.”<sup>60</sup>

The case of crack cocaine illustrates the process at work. With the mass media fanning the fears of a crack epidemic in the 1980s, the criminal sentencing for possession of crack cocaine was increased until it was about five times more severe than for powder cocaine. Crack in the 1980s was much more of an inner-city drug used by poverty-struck minorities — a highly visible group of undesirables — whereas powder cocaine was a more middle- and upper-class drug used by whites — an essentially invisible group. From these differences the possibility arises that the criminal sentencing for crack stemmed not from any real pharmacological differences, but from different public perceptions, influenced in no small part by hysterical media reports on crack. In the months before the 1986 presidential election, NBC Television ran more than 400 separate stories on crack and powder cocaine.<sup>61</sup> For instance,

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<sup>57</sup>M. Massing, *The Fix* (Berkeley: University of California Press, 2000).

<sup>58</sup>R. Housman, “U.S. Drug Policy: Are We Doing the Right Thing,” *Salon*, March 22, 2000.

<sup>59</sup>On this, see E. Schlosser, “Marijuana and the Law,” *Atlantic Monthly*, September, 1994; L. Wacquant, “L’emprisonnement des ‘classes dangereuses’ aux Etats-Unis,” *Le Monde Diplomatique*, July, 1998; see also, D.S. Bell, “The Irrelevance of Research to Government Policies on Drugs,” *Drug and Alcohol Dependence*, 25, 1990.

<sup>60</sup>W. Chambliss, “Don’t Confuse Me with Facts: Clinton ‘Just Says No,’” *New Left Review*, 204, 1994; see also, E. Currie, *Reckoning: Drugs, the Cities, and the American Future* (New York: Hill and Wang, 1993).

<sup>61</sup>Reinarman and Levine, *op. cit.*

in May of that year, news anchor Tom Brokaw reported on the NBC Nightly News that crack was not only “America’s drug of choice,” it also was “flooding” across America. Also in 1986, *USA Today* reported that “Addicts spend thousands of dollars on binges, smoking the contents of vial after vial in crack or ‘base’ houses — modern-day opium dens — for days at a time without food or sleep. They will do anything to repeat the high, including robbing their families and friends, selling their possessions and bodies.”

When these media claims were formally investigated, following criticism that the sentences for crack were racially biased, crack was not found to be a more harmful or dangerous drug. In 1995, the report the US Sentencing Commission sent to Congress concluded that “the media and public fears of a direct causal relation between crack and other crimes do not seem to be confirmed by empirical data....studies report that neither powder nor crack cocaine excite or agitate users to commit criminal acts and that the stereotype of a drug-crazed addict committing heinous crimes is not true for either form of cocaine.”<sup>62</sup>

## 6. What in the Name of Drugs

Looking back at a century of failed prohibitionist policies in the US, asking how it could be that the rise of differential prohibition in the 20th century was correlated with such a vast proliferation of mind-altering drugs, from the street, the store, and the pharmacy, one wonders if the persistent embrace of prohibitionist strategies was really about prohibition at all. If the goal was to decrease people’s dependence on unregulated and highly expensive drugs, and to minimize the toll black markets have on both selves and society, more pragmatic policies would have been embraced long ago, as they were, for instance, in the Netherlands.<sup>63</sup> An alternative understanding, and the one that is clearly at stake here, is that the sustaining function of the ideology of pharmacologicalism is about something very different than the simple elimination of addictive, mind-altering drugs.

In exploring what this function is, a comparison can be drawn between the present case and the one presented in Michel Foucault’s

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<sup>62</sup>Cited in D.R. Gordon, 1995, *op. cit.* See also, D. K. Hatsakami and W. M. Fischman, “Crack Cocaine and Cocaine Hydrochloride: Are the Differences Myth or Reality?” *JAMA*, 276, 1996.

<sup>63</sup>That Dutch policies are a failure is a myth promoted by, among other sources, the White House Office of Drug Control. In fact, the Netherlands has a lower number of addicts per capita than France, Britain, Italy, and Switzerland. On this, see, “Going Dutch,” *The Economist*, January 15, 2000, pp. 55-56.

history of sexuality.<sup>64</sup> Foucault charged that the accepted notion of sexual repression in the 17th and 18th centuries was inadequate because it could not account for what he saw as an explosion of sexual content in early bourgeois society. According to Foucault, sexuality was not so much repressed as it was reproduced to fit new moral standards of the human body, standards that sought to supervise and discipline it, not to extinguish it as a source of pleasure. Foucault writes, “We are dealing not nearly so much with a negative mechanism of exclusion as with the operation of a subtle network of discourses, special knowledge, pleasures, and powers.”<sup>65</sup>

Foucault’s is not a perfect analogue of the present case, but this much can be said: just as Foucault saw sexual practices being reconstructed and strengthened at the very time when they were thought to be repressed, one also sees in the 20th century a vast reconstruction and proliferation of drugs emerging alongside a centralized regime of control, exercised in the name of “prohibition.” Like sexual repression, drug prohibitions were most certainly about the management and control of human behavior. The mistake lies in thinking that the purpose of these tactics was quantitative in nature — to decrease drug use generally — when in fact it was qualitative in nature — to define and constrain, from a moral American perspective, proper and acceptable forms of use. As such, it is no surprise to see in the 20th century the development and widespread use of prescription drugs that were, at least for the population most attracted to them, highly addictive (e.g., the barbiturates, benzodiazepine, and psychostimulants). Especially in the second-half of the century, prohibitions were not aimed at the elimination of potentially addictive drugs, as is believed today. Rather, they were aimed, however unconsciously, at certain addictive drugs involved in certain practices by certain, targeted groups of users.

A comparison with the analysis Edward Said puts forth in *Orientalism* also clarifies the present account. Orientalism as defined and critiqued by Said is an essentially self-serving Western ideology for exerting control over the meaning of the Orient. For Said, he who defines a thing controls a thing. This applies to the present case as well, where those who have had the power to shape drug understandings — the media, public officials, scientists, scholars, educators — have used their powers to reinforce the prevailing ideology of angels and demons. The subject of Said’s *Orientalism* is not as distant from the

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<sup>64</sup>M. Foucault, *The History of Sexuality: An Introduction* (New York: Vintage, 1990).

<sup>65</sup>*Ibid.*, p. 72.

present concern as might first appear. Both pharmacologicalism and Orientalism are institutionalized ideological systems, each of which reduces a highly diverse and complex realm of human affairs to a unified but sham understanding that ultimately serves ends other than the public's well-being. Just as "Orientalism approaches a heterogeneous, dynamic, and complex human reality from an uncritically essentialist standpoint"<sup>66</sup> so does pharmacologicalism reduce the complexities of drug phenomena down to static (or idealized) drug essences, making drug matters as an almost exclusively pharmacological and individual concern. Just as Orientalism is "a Western style for dominating, restructuring, and having authority over the Orient"<sup>67</sup> so is pharmacologicalism a Western system for dominating the realm of drug use by asserting authority over that which takes place in the name of "drugs." And just as Orientalism is "a style of thought based upon an ontological and epistemological distinction made between 'the Orient' and... 'the Occident,'"<sup>68</sup> so is pharmacologicalism a system of thought based upon a distinction between the pharmacological, on the one hand, and all traditional sources of meaning and experience, on the other.

This latter point is crucial to pharmacologicalism. In the case of Orientalism we see the importance of a false dichotomy that organizes people's sensibilities around a hard distinction of East and West. In the present case we see a similarly false dichotomy with much the same effect. That is, drugs are roped off as an exceptional mode of influence on mind and body that is qualitatively distinct from experiences arriving through the senses. The dichotomy thus plays a crucial role in affirming ideological control. First, the dichotomy permits the construction of a distinct and fixed *otherness*; that is, the Oriental and the pharmacological are characterized as alien or exotic realms in which "anything is possible." Second, because the nature of that which is deemed alien or exotic is allowed or even expected to be extra-normal, the dichotomy permits a mythologizing of the subject matter. This mythology not only overshadows the reality of drugs, it also feeds back upon drug practices (e.g., via prohibition) to perpetuate the mythology. Whether it is a different realm of experience (the "Orient") or a different *modality* of experience (the "pharmacological") does not matter. For both, the underlying realities are repressed and denied, replaced by a singular, pseudo reality that conforms to prevailing social, moral, and political imperatives. In the case of drugs, psychoactive substances are granted special powers that are then thought to translate into essential

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<sup>66</sup>Edward Said, *Orientalism* (New York: Vintage Books, 1979), p. 333.

<sup>67</sup>*Ibid.*, p. 3

<sup>68</sup>*Ibid.*, p. 2.

moral properties. Once realized, these essences must be appropriately classified and managed by the state, affirming the differential prohibition of drugs.<sup>69</sup>

## 7. Conclusion

Years of listening to students reflect on their experiences with drugs reminds me that the realities of how drugs work are obvious to most people, but only after that web of understandings called pharmacologicalism is torn down. When it is not, pharmacologicalism continues on promoting a brutal differential prohibition of drugs, blinding people to what has taken place in the name of angels and demons in 20th century America.

On the side of prohibitionism, the very social conditions that ensured a steady market for psychoactive drugs throughout the second half of the 20th century remained remarkably stable, as did drug demand and the reactionary policies that this demand came to encourage. Inner-city “drug problems” have long existed, but the role of “drugs” in the equation have always been more an effect than a cause.<sup>70</sup>

On the side of the therapeutic state, licit use of prescription drugs continued moving toward a prosthetic age in which one finds a prescription for everything. By the end of the century, the ethos of better living through chemistry had taken form in the spirit of “cosmetic psychopharmacology” and “lifestyle drugs.”<sup>71</sup> Evidence even emerged suggesting that personality changes can be induced by some of

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<sup>69</sup>T.S. Szasz, *Ceremonial Chemistry: The Ritual Persecution of Drugs, Addicts, and Pushers* (Garden City, NY: Anchor Press, 1974). For further critique of this essentialism, see R.J. DeGrandpre and E. White, “Drugs: In the Care of the Self,” *Common Knowledge*, 4, 1997. For an argument that exemplifies many of the problems pointed out here, see J.Q. Wilson, “Against the Legalization of Drugs,” *Commentary*, February, 1990.

<sup>70</sup>See, for example, P. Bourgois, *In Search of Respect: Selling Crack in El Barrio* (Cambridge: Cambridge University Press, 1996).

<sup>71</sup>See P. Kramer, *Listening to Prozac* (New York: Viking Press, 1993); S. Begley, “Beyond Prozac: How Science Will Let You Change Your Personality With a Pill,” *Newsweek*, February 7, 1994; for commentary on these, see D.J. Rothman, “Shiny Happy People,” *New Republic*, February 14, 1994. The perceived financial future for lifestyle drugs was clear in a 1999 survey from Datamonitor for Reuters Business Insight, which suggested that the market for lifestyle drugs would climb from today’s 1.5 percent of market share of pharmaceutical sales to more than 10 percent in as many years. The Datamonitor survey projects a more than 20 billion pounds annual market in five years, with billions being set aside today for research and development.

the new pharmacological agents, such as Prozac, and not necessarily for the best.<sup>72</sup> This prompted a new round of inquiries, focusing on a single question: if the goal of new prescription drugs is to go beyond the “wellness” doctrine, what distinction remains to uphold the extreme moral and political differences that define the differential prohibition of drugs?<sup>73</sup>

This murmur of critical inquiries notwithstanding, it is unlikely given the historical trajectory that the future of drugs lies in a new era of pharmacological socialism, where the lower and upper drug classes will be merged into a harmonious drug state.<sup>74</sup> Instead, the future of drugs would seem to lie in an even more stark reality. The lower classes will continue struggling beneath the pharmaceutical matrix, seeking pharmacological shelter and protection, however ineffectively, from the psychological and economic realities of their world. Meanwhile, the middle and upper classes will continue to do much the same, with equal ineffectiveness, but from within rather than below the pharmaceutical matrix. Regardless of the material differences shaping these two worlds, a darker reality is the most likely result for both. For as long as the biotechnical solution stands in place of psychosocial and socioeconomic solutions, if not revolutions, we will continue to be a medicated society lost in a labyrinth of angels and demons.

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<sup>72</sup>See E. Goode, “Once Again, Prozac Takes Center Stage,” *New York Times*, July 18, 2000, F1; J. Glenmullen, *Prozac Backlash* (New York: Simon and Schuster, 2000).

<sup>73</sup>“Better Than Well,” *The Economist*, April 6, 1996; M. Pollan, “A Very Fine Line,” *New York Times Magazine*, September 12, 1999; J.W. Shenk, *op. cit.*

<sup>74</sup>On this possibility, see David Healy, *The Creation of Psychopharmacology* (Cambridge: Harvard University Press, 2001).