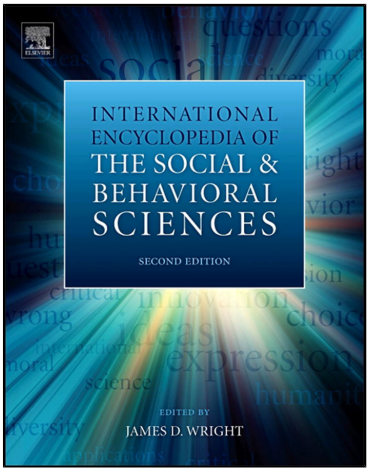

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Opiate Use and Abuse, History of

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Abstract

For millennia, opium was celebrated for its beneficial medical effects with no mention of the dangers of addiction. In the eighteenth century, the first documented cases of opium addiction appear along with prohibitions and illegal opium markets. This happens in China, and, then, in the early twentieth century roughly similar events take place in the United States. The transition from use to abuse is accompanied by changes in self-administration techniques (e.g., smoking), drug potency, economic conditions (e.g., an increase in disposable wealth and leisure time), and individual differences (e.g., genetic-based metabolic factors).

Archaeological evidence reveals that humans have been using mind-altering substances for thousands of years, and botanical and anthropological studies suggest that human drug use may be much older, perhaps stretching back to the Paleolithic Age. The inhabitants of early Neolithic settlements left behind fossilized psychoactive plant materials, wine-stained pottery, and containers that once held cannabis and ephedra (e.g., McGovern et al., 2004; Merlin, 2003). However, fossils and pottery may not capture the true age of psychotropic drugs. The opium poppy is a cultigen that has no known wild variants; this suggests an association with humans that predates the development of pottery. In support of the botanical evidence, anthropologists (e.g., La Barre, 1970) report that hunting societies placed more importance on drug-induced experiences than did agriculturists, suggesting that mind-altering substances were known prior to the advent of agriculture. Thus, our hominid ancestors may have been using intoxicants well before the Neolithic period. In contrast, the historical record provides no consistent evidence of drug abuse until relatively recent times. Descriptions of what we now call 'alcoholism' did not appear until the early seventeenth century (e.g., Warner, 1994), and accounts of opiate addiction first appeared in China in the eighteenth century (Spence, 1975). Thus, any mention of drug abuse comes quite late in the history of mind-altering substances. Indeed, commentary prior to the seventeenth century routinely praised opiates for their restorative powers, and early discussions of the ill effects of alcohol focused on drunkenness, with no mention of alcoholism. Other drugs have similar histories. For example, cocaine and marijuana were also once perceived as largely beneficial agents that promoted well-being. However, the story of the transition from use to abuse is best told by opiates. Opiates have long been the prototypical addictive drug, and we know much more about the history of opiates than the histories of cocaine and cannabis.

The Opium Poppy

The opium poppy is a widely cultivated annual herb that thrives in many temperate and subtropical regions of the world. Its scientific name, *Papaver somniferum*, translates as 'sleep-inducing poppy.' Although best known as a source for narcotic drugs, the plant also has nonintoxicating uses. Its seeds are tasty and can be turned into oils that are used in cooking, lighting, and painting. Its flowers are prized by gardeners and florists, ranging from white to pale blue to fire-engine red. Even its stalks serve practical ends. Some dairy farmers claim that poppy-fed cows produce the best milk for making yogurt (Booth, 1996). But, the opium poppy is most famous as the source of morphine. Morphine is nature's most potent pain killer, antiquity's most celebrated palliative, and the basis for heroin, the most notorious of all addictive drugs.

Opium

Opium is derived from the sap of the poppy's seed pod. This is a globular structure that begins to ripen once the poppy's petals have dropped off. Starting at about the size of a pea, it reaches the size of a small egg in about 10 or so days. As it ripens, the pod fills with morphine-rich sap, which can then be extracted by hand or machine. The non-mechanized method, which was universal until recently, requires only a sharp knife. The farmer scores the bulbous pod so that the sap oozes out and coagulates on the plant's surface. The sap is then scraped off, dried, and shaped into an 'opium cake.' The cake contains about 10% morphine by weight, plus a number of other psychoactive alkaloids, of which codeine is the best known.

Opium History: From the Neolithic to the Seventeenth Century

Sixth millennium BC European communities provide the earliest unambiguous evidence that the opium poppy was harvested for human use. Litter from these early settlements includes fossilized domesticated grains, the skeletons of domesticated animals, and fossilized opium poppy seeds and poppy seed cakes. Poppy seeds also show up in a structure, dating from 5700 BC, which archaeologists speculate was used for religious rites (Merlin, 2003). However, given the poppy plant's various uses, it is not possible to say definitively that Neolithic Europeans took advantage of the plant's mind-altering properties.

Representational artifacts provide the first direct evidence that opium was valued for its subjective effects. Mid-fourth

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millennium Sumerians inscribed clay tablets with an ideogram that refers to the opium poppy and has been translated as 'joy plant.' The Ebers papyrus, dating from approximately 1550 BC, lists some 700 medicinal potions, including one for colicky babies. It instructs concerned parents to mix opium with fly droppings and administer for four days (Booth, 1996). Bronze Age Greek artifacts (1600–1200 BC) depict the opium seed capsule in association with the gods of the night, sleep, dreams, and medicine (Nyx, Hypnos, Morpheus, and Asclepius, respectively). Greek myths and Homer's epics tell of opium's narcotic properties. Theseus uses opium to put Cerberus to sleep, the many-headed dog that guards Hades. In the Iliad, which is believed to date from the eighth century BC, Helen mixes 'nepenthe' with wine to soothe the distraught survivors of the Trojan War. Scholars believe that nepenthe was a mixture that contained opium.

The early written accounts of opiates were universally positive. In classical Greek and Roman texts and tales, opium soothes pain, quiets coughs, calms fractious babies, and relieves grieving warriors of their painful memories. There is no mention of abuse or even recreational use. The positive slant could of course be a matter of selective reporting. However, classical Greek and Roman essayists and philosophers valued moderation and did not hesitate to chastise their follow citizens for drunkenness and gluttony. (In *The Republic*, Plato describes drunkenness as a selfish myopic state and likens it to the psychology of lunatics and tyrants.) Thus, it is reasonable to suppose that if even a small number of people routinely abused opium, the philosophers and orators who stressed a balanced life would have held them up for criticism.

In the following centuries, medical texts become more detailed and comprehensive, thereby opening the way for negative as well as positive comment. But in regards to opium, the narrative turns even more salutary. Paracelsus (1493–1541), the leading medical figure of the sixteenth century, refers to tinctures of opium and alcohol by the made-up word 'laudanum,' a neologism derived from *laberle*, the Latin verb for 'to praise.' Elsewhere he refers to opium as the 'stone of immortality,' suggesting that opium extends life. Several generations later, Thomas Sydenham (1624–89), who is sometimes referred to as the father of English medicine, is even more laudatory. He writes, "among the remedies which it has pleased Almighty God to give to man to relieve his sufferings, none is so universal and so efficacious as opium."

Opium Becomes a Drug of Abuse

Opium's reputation is soon to change. In the first quarter of the eighteenth century, negative comments regarding opium and opium users begin to appear. In 1729 a government prohibits opium for the first time. These events take place in China.

Opium Smoking in China

In the early seventeenth century, shops in Jakarta and South China seaports began selling mixtures of opium and smoking tobacco. Soon after, Chinese living in Taiwan and along the Fujian coast began smoking pipes filled just with opium. This was new. For the first time in recorded history, significant numbers of people were using opium for nonmedical purposes (Zheng, 2005; Spence, 1975). Also for the first time, opium became the focus of criticism. The diary entry of a soldier stationed in Taiwan in 1724 notes that opium smoking was:

> … a harmful trap, set by the barbarians in Taiwan to ensnare Han Chinese: neophytes were given free meals and free opium at first, but once they were hooked they were made to pay. Addiction was common in Taiwan, and smoking had been widespread … . (Spence, 1975, pp. 147–148)

At about the same time, a local government official adds that opium smokers 'were either the criminal or the gullible.'

These passages are remarkable. For more than 5000 years, the historical record contains nothing but acclaim for the benefits of opium – "a gift from God that extended life" – but with the advent of smoking and recreational use, it turns into a quagmire for deviants and fools.

Opium Addiction in China

The disparaging remarks were followed by the first nationwide prohibition on opium. In 1729, Yongzheng, the emperor of China, banned opium smoking. However, the ban did not stop the growth of opium smoking. Opium smoking became widespread, affecting all social strata. Historians claim that the increase was directional, starting first with the educated and wealthy (e.g., Spence, 1975; Trocki, 2002; Zheng, 2005), but Chinese government officials of the day described opium's dissemination the other way around – with the 'poor and disreputable infecting' the upper classes, particularly their children. However, there is no doubt that over the course of the eighteenth and nineteenth centuries, opium smoking in China dramatically increased. Foreign interests, particularly the British East Indian Company, exploited the demand for opium. They joined forces with local warlords to set up illegal opium markets. This led to a series of wars with Britain over the importation of opium. Britain easily vanquished the Chinese forces. The resulting peace agreements called for the emperor to accept the opium trade, cede Hong Kong and other territories to the British, and submit to political and economic concessions that together initiated 'China's century of humiliation.'

On the basis of Dutch and British trading company records, historians have estimated the size of the opium market and the prevalence and frequency of opium smoking in China over the nineteenth and early twentieth centuries. Between 1729 and 1906, tons of imported opium increased from approximately 15 000 to 26 000. Domestic production increased dramatically as well so that at the beginning of the twentieth century, the Chinese were consuming about 54 000 tons of opium a year. In many towns, opium shops greatly outnumbered tea and wine shops, and in some regions, opium was the most widely cultivated plant (e.g., Fields and Tararin, 1970; Newman, 1995; Spence, 1975; Trocki, 2002). On the basis of these figures and other historical documents, Newman estimates that in 1906 between 50% and 60% of the population smoked opium two to four times a year, about 12% smoked once or twice

a day, and about 2% smoked four or more times a day. These numbers suggest that the percentage of Chinese who would have met today's criteria for addiction in 1906 was somewhere between 2% and 12%. Other experts come up with similar estimates of overall opiate use (e.g., Spence, 1975; Trocki, 2002). To help put these numbers into perspective, there is wide agreement that the prevalence of lifetime opiate addiction in the United States has remained well below 1% for years (e.g., Anthony and Helzer, 1991; Stinson et al., 2005), whereas lifetime alcoholism rates have been steady at about 13% for some time (e.g., Hasin et al., 2007). That is, in the late nineteenth century, the prevalence of opiate addiction in China may have been equal to the prevalence of alcoholism in the United States in the early twenty-first century.

In 1799, Emperor Kia King issued a more far-reaching ban on opiates, which was accompanied by a frequently quoted rationale for the new prohibitions. A version in Latimer and Goldberg's (1981) history of opium reads:

> The use of opium originally prevailed only among vagrants and disreputable persons … but has since extended itself among the members and descendants of respectable families, students, and officers of the government. When this habit becomes established by frequent repetition, it gains an entire ascendance, and the consumer of opium is not only unable to forbear from its daily use, but on passing the accustomed hour, cannot refrain from tears or command himself in any degree. The extraordinary expense of this article is likewise to be noticed … which the fortunes of the bulk of the community are unable to satisfy, and are therefore wholly dilapidated and wasted away. (p. 106)

The emperor's account, although now over 200 years old, describes many of the key elements of addiction as it is understood by researchers and clinicians today. Frequent use leads to withdrawal symptoms, compulsive use, and a general loss of will. To make matters worse, the opium market was an economic drain on China. The middlemen traded away valuable goods (e.g., silver and porcelain) to foreign traders – which they could then sell for a profit – for a commodity that literally went up in smoke.

Why China?

For thousands of years, opium was the physician and herbalist's most revered and powerful potion. But as soon as large numbers of people began using opium recreationally, it became a vector for personal and social problems. The most obvious explanation for this turn of events is the change in the mode of self-administration. Inhalation bypasses first-pass drug metabolism, allowing the circulatory system to deliver morphine molecules to the brain in a matter of seconds. As a result a given amount of morphine is much more concentrated when it reaches the brain, thereby producing a much stronger effect. The stronger effect attracted many new users.

But smoking cannot be the sole reason that opium addiction first emerged in China. By the eighteenth century, tobacco smoking was familiar to much of the world and opium was available throughout Europe, North Africa, the Near East, and Asia. The British were the major opium dealers and were ever eager to create new markets for their vast Indian opium fields. Opium smoking could have taken hold virtually anywhere. Yet only in China did it take place on a scale that prompted government prohibitions. Similarly, merchants from many countries encountered opium smoking in Southeast Asia in the seventeenth century, yet only those from China found an eager market for this new practice when they returned home.

Many factors contribute to drug abuse, and accordingly there are a number of different accounts of why opiate abuse first emerged in China. Spence (1975) suggests that opium smoking offered relief from the boredom and frustration that was endemic to the rigid social structure of eighteenth and nineteenth century China. Zheng (2005) makes the case that Chinese cultural traditions paved the way for opium smoking. Wealthy households and businessmen offered their guests and clients an after-dinner smoke of opium along with fine teas and tobacco. Moreover, in China opium already had a link with pleasure. According to some texts it was an aphrodisiac – a belief that seems to be unique to China. Thus, an aesthetic sensibility that extolled private pleasures prepared the way for opium smoking. Trocki (2002) emphasizes economics, particularly China's advanced consumer culture. He contends that China had a highly developed market system (relative to Europe), and that Chinese consumers embraced opium as the next, new, 'had-to-have' luxury.

Opium and the Genetics of Alcohol Metabolism

These three theories are reasonable and not mutually exclusive. It is easy to imagine that individuals trapped in a rigid social structure would turn to opium, and, similarly, it is easy to imagine that a culture that emphasized sensual pleasures, particularly those that could be pursued in quiet repose, would welcome opium, and given how avidly Chinese took to tobacco smoking, it is easy to imagine that they were now looking for something new to spend money on. However, these traits are not unique to China. People everywhere seek sensual pleasures, wish they could advance to a higher social status faster, and like new things. Since opium addiction occurs first in China, there should be one or more etiological factors that are unique to China.

The genetics of alcohol metabolism differentiates China from most other countries. The key fact involves the second step in the metabolic chain. First, alcohol dehydrogenase transforms alcohol into acetaldehyde, which is toxic. Then acetaldehyde enzymes detoxify the acetaldehyde. However, some people inherit an allele that results in a slow-functioning acetaldehyde enzyme. When they drink, the acetaldehyde toxins increase, resulting in dizziness, flushing, and increases in heart rate. These effects are correlated with low rates of binge drinking and low rates of alcoholism (Luczak et al., 2001). The allele that codes for the less functional acetaldehyde enzyme is much more common in Asians than in Europeans. For instance, in a study conducted at the University of California at San Diego about 50% of the Chinese students were positive for the slow-metabolizing allele, whereas for students of European ancestry there was not one positive case (Luczak et al., 2001).

Assuming that the distribution of the acetaldehyde enzyme alleles in Chinese Americans has not greatly changed, many

nineteenth century Chinese had no easy way to get intoxicated. Alcohol made them sick. Consequently for those who found pleasure in intoxication, opium filled a niche that heretofore had no occupants.

The genetic explanation is perfectly compatible with the psychological, cultural, and economic accounts, but is different from them in that it identifies a unique feature of China, thereby making China's unique history with opium more understandable. Finally, it should also be pointed out that each of these accounts presumes a sizable population with leisure time on their hands and disposable wealth. Opium was a luxury and smoking opium to the point of intoxication typically takes at least two to three hours of time.

Summary

For millennia, opium was the herbalist and physician's most effective and celebrated treatment for medical disorders. In the seventeenth century this changed. Chinese abroad and then at home began smoking opium. The practice spread across all social strata; use turned to abuse; and government officials placed restrictions on the sale and use of opium, labeling opium a 'trap' and its users 'criminal' and 'gullible.' Smoking, a new form of self-administration, helped trigger the transformation of opium from boon to bane. However, inhalation was not a sufficient causal factor. During the eighteenth century, opium smoking could have become widespread in many places, yet only in China did opium smoking reach proportions that resulted in a thriving black market and government prohibitions. This was due to a unique combination of factors, including relatively large amounts of disposable wealth, relatively generous amounts of leisure time, cultural values that stressed private, sensory pursuits, a genetic predisposition that discouraged alcohol consumption, and weakly enforced prohibitions. European and British economic and political exploitation of China must have played a role also, but Western colonialism was worldwide, whereas the 'opium epidemic' was unique to China.

When Addictive Drugs Were Legal in the United States

Prior to the 1914 Harrison Narcotics Tax Act, addictive drugs, including heroin and cocaine, were legal in the United States. This proved fertile grounds for the patent medicine industry. Scores of companies marketed mixtures of alcohol, opiates, and cocaine, with colorful labels and grandiose claims. *Mrs. Winslow's Soothing Syrup* "soothed any animal or human," particularly colicky infants, and Dr *McMunn's Elixir of Opium* relieved "morbid irritability of body and mind." Those who had no local pharmacy to go to could send away to Sears Roebuck and other mail order companies for the drug of their choice, including morphine (which came with the promise that it would keep husbands home at night, away from the saloon). There are no data on actual sales, but on the basis of import records and historical documents, Courtwright (1982) has estimated the amounts of opium and morphine (which chemists had synthesized in the early nineteenth century) consumed by Americans over the years 1827–96. Consumption peaked in the 1890s. In this decade, Americans consumed about 3685 tons of opium each year. Thus, over the second half of the nineteenth century and for almost two decades of the twentieth, opiates were legal and not difficult to find in the United States.

Americans appear to have had as easy access to opium as did the Chinese. Indeed in China, opium was officially illegal, whereas in America patent medicines laced with opium were legal and popular. Nevertheless, opiate use in the United States remained well below the rates in China. Assuming widely accepted population estimates (400 million and 70 million people, respectively), opium consumption in China was approximately 0.2700 pounds per person, and in the United Sates it was approximately 0.0033 pounds per person. However, the per capita calculations overlook important differences in the two countries. By the second half of the nineteenth century, opium smoking in China was most common among laborers and rickshaw pullers. In the United States, smoking was but one form of opiate self-administration, and the demographic correlates were diverse, varying with the mode of consumption.

Laudanum Drinkers ('Opium Eaters')

Laudanum was the most widely used opiate. For millennia, it was the healer's most reliable antidote for coughs, pain, and distress. But in the nineteenth century, laudanum became a drug of abuse. Thomas De Quincey's famous memoir of addiction, *Confessions of an Opium Eater* (1821), featured laudanum, and physicians began to specialize in the treatment of laudanum 'inebriates.' According to reports from druggists, physicians, and newspaper reporters, laudanum users included, men, women, the aged, the young, suburbanites, urbanites, and even the very well-to-do (Brecher, 1972; Courtwright, 1982; Musto, 1973). Although it is often stated that most laudanum users were women from well-to-do families (e.g., Brecher, 1972), this claim may reflect a sampling bias. Women were more likely to go to a physician or clinic for help in dealing with laudanum addiction than were men, so that the physician reports may be biased (Ahn, 1996). However, that some laudanum users were wealthy and female was intriguing. Consequently, newspapers began portraying laudanum as a refined, sophisticated indulgence. For example, an 1881 editorial in the *Catholic World* labeled laudanum drinking an 'aristocratic vice' that is more common among the educated and wealthy, although the writer goes on to say that it spares no one (quoted in Brecher, 1972).

Although laudanum attracted all sorts, there was a common factor in how it was used. Laudanum was consumed in private, behind closed doors. As a result, laudanum drinkers were not perceived as a threat to public safety. Instead, they were perceived as ill or neurotic, and among physicians, they inspired a new medical specialty, the study and treatment of 'inebriation.'

Opium Smokers

In the third quarter of the nineteenth century, more than 250 000 Chinese men immigrated to the American West to work as laborers. They laid railroad track, dug tunnels through the Sierras, and scoured the earth for gold and silver. They were

poorly paid, ostracized by non-Chinese, and terrorized by vigilante groups and organized labor. In the labor camps and Chinatowns, opium smoking flourished. In contrast to laudanum drinking, it was a group activity that took place in discreet, hidden-away rooms ('opium dens'). A few non-Chinese Americans joined in. In contrast to laudanum drinkers, they had a distinct demographic profile. In newspapers of the day, they were described as 'evil' men, 'fallen' women – gamblers and prostitutes (e.g., Courtwright, 1982). No one would confuse laudanum drinkers with opium smokers.

Heroin Sniffers

In 1895 the Bayer Pharmaceutical Company began marketing a semisynthetic opium-based drug they called 'Heroin.' This was a made-up word that suggests the German word for heroic (*heroisch*). The ads bragged that when it came to suppressing respiratory symptoms, 'heroin had no equal.' This claim rested on fact. Heroin is much more lipid soluble than morphine, which allows it to enter the circulatory system and brain more rapidly. As a result, a given dose of heroin is about 10 times more potent than the same amount of morphine. As the morphine content of opium is about 10%, heroin is about 100 times more potent than opium. The Bayer managers also claimed that heroin was not addictive. They were not being purposely misleading. A few Bayer employees had been persuaded to try heroin. As is often the case with initial exposure to heroin, the experience was highly unpleasant. Bayer officials concluded that this ruled out addiction.

The intoxicating effects of heroin soon became known and sought out. However, little is known about the first generation of heroin users. The most frequently cited reference is an 'eyewitness' account by Pearce Bailey (1916), a physician and New York State public health official who specialized in 'defectives.' According to Bailey, 'heroin sniffers' were young men who hung out in gangs in East Coast urban centers. They had quit school, rarely worked, and were often in trouble with the law. For these young men, heroin functioned as a badge of identity, signifying rebelliousness, and disdain for conventional employment. At the end of his article, Bailey proposed that state officials relocate the 'heroin boys' to a rural setting and allow the restorative powers of agricultural work to do its magic.

Did Addiction Increase in Epidemic Proportions?

Given America's history of prosecuting drug use, it is reasonable to suppose that drug use grew at epidemic proportions prior to the passage of the Harrison Narcotics Tax Act. However, historians estimate that there were never more than 300 000 opiate addicts prior to 1914 (Courtwright, 1982; Musto, 1973). This implies an overall prevalence of less than half of 1% (0.0043). This is markedly less than even the lowest estimates for China in the same period (e.g., 2%). The pre-prohibition rate is also within today's rates. In the most recent and largest national survey (Conway et al., 2006), lifetime frequency of opiate dependence was 0.3% and in the Epidemiological Catchment Area survey of the early 1980s (Anthony and Helzer, 1991), lifetime frequency of opiate abuse and/or dependence was 0.7%.

There is of course much uncertainty about these estimates, particularly those from a hundred years ago. Historians have to rely on indirect measures, such as pharmacy sales and taxes on imported drugs. Today's researchers have the advantage of a scientific research tradition and well-funded projects that enlist the help of trained interviewers. Nevertheless, the old and new survey results are in rather close agreement. The simplest explanation is that the lifetime prevalence of opiate addiction in the United States at the end of the nineteenth century and the end of the twentieth century were not that different, somewhere between about 0.3% to perhaps 0.7%, and likely closer to the 0.3% mark. The broader implication is that legal restrictions were not the only curb on opiate addiction in the United States. In support of this point, opiate use and addiction peaked in the mid-1890s, well before the Harrison Narcotics Act.

The Response to Opiate Use in the United States

Although there is no evidence of an addiction epidemic prior to the Harrison Act, opiate use did elicit interest and concern among physicians, social reformers, and politicians. A number of physicians began to specialize in the study and treatment of addiction, the Temperance movement added opium addiction to their list of concerns, and legislators began passing laws to limit the use of opiates.

Physicians

In the late 1860s, a handful of physicians founded a new specialty, the treatment and study of 'alcohol and drug inebriety' or what we would now call alcoholism and addiction. They built treatment facilities, founded the American Association for the Cure of Inebriety in 1870, and in 1876 began publishing the *Journal of Inebriety*. The editor and contributors were physicians, and the one common theme of the published papers was that alcohol and opiate inebriety were diseases (Weiner and White, 2007). However, these early addiction specialists met stiff and eventually overwhelming opposition. As they put it, the claim that addiction was a disease was met with 'hysterical denunciations.' The prevailing view was that 'inebriates' got drunk or high because they wanted to not because they had to (Levine, 1978).

The Legislative Response to Opium Addiction

The Association for the Cure of Inebriety was at loggerheads with a powerful grassroots temperance movement. Concerned citizens, clergy, politicians, and many physicians joined forces to end drunkenness, addiction to patent medicines, opium smoking, heroin sniffing, and saloons. Their efforts won wide support. In 1906 President Theodore Roosevelt signed into law the Pure Food and Drug Act, which called for patent medicine manufacturers to label their bottles with the warning 'May Be Habit Forming' and a list of the amounts of opium, cocaine, and alcohol. According to Musto (1973), the labeling act reduced patent medicine purchases by as much as one-third. Then in 1914 came the legislation that transformed American drug use and set the terms for American drug policy ever since.

The Harrison Narcotics Tax Act limited the use of opiates and cocaine to the practice of medicine. The legislation did not mention addiction nor define medical practice, but focused on the regulation of trade. However, the justice department targeted all use except for the relief of pain in medical settings (Courtwright, 1982; Musto, 1973). Doctors who had been prescribing opiates to addicts stopped doing so, and with few exceptions (e.g., cough syrups containing small amounts of codeine) Americans could no longer buy opiates or cocaine at their local pharmacy. Indeed using opiates and cocaine without a prescription was now a criminal act. Drug users were arrested and sent to jail. In a sign of the times, the Association for the Cure of Inebriety stopped publishing their journal in 1914, and in a few years the medically staffed sanatoriums for the treatment of addiction were a relic of the past (Weiner and White, 2007).

The Consequences of the Harrison Narcotics Tax Act

Following the Harrison Act, laudanum drinkers and opium smokers all but disappeared. Heroin use persisted, but because it was illegal, it became even more closely tied to criminal activity. Criminal gangs took over heroin's distribution, adulterated it with inert substances, and raised prices. Users switched to injecting heroin in order to get the same kick that snorting had provided. Apparently, laudanum drinkers were unwilling to inject themselves with a substance that by weight was about a hundred times more powerful than opium. Street addicts now included repeat offenders who had committed serious crimes. Among the first to document the transformation of opiate use in America were Lawrence Kolb and A.G. Du Mez, physicians who worked for the Public Health Service and specialized in addiction. They characterized the demographic consequences of the Harrison Act in the following words (1924):

> addiction is becoming more and more a vicious practice of unstable people, who, by their nature, have abnormal cravings which impel them to take much larger doses that those which were taken by the average person who so often innocently fell victim to narcotics some years ago. Normal people now do not become addicted or are, as a rule, quickly cured, leaving as addicts an abnormal type with a large appetite and little means of satisfying it. (p. 1191)

Put another way, the middle-class laudanum drinkers disappeared, so that the remaining addicts were hardened versions of Bailey's 'heroin boys.'

Lessons

The American Experience

Although opiates and cocaine were legal and widely available in the last half of the nineteenth century and early twentieth century, there was no opium epidemic, as in China, and the prevalence of opiate use and addiction may have been about what it is today. The simplest explanation is that for most Americans intoxication was usually not a particularly desirable state. For instance, intoxication interferes with the business of life, particularly conventional activities, so that most of the time it would be impractical to take heroin or other intoxicating drugs. Second, opium smokers and heroin sniffers included a disproportionate number of individuals who were unemployed, undereducated, and involved in illegal activities. Thus, the claim that drug prohibitions turned addicts into criminals is at best a simplification of the facts. Third, antidrug legislation reduced drug use in those who by today's standards would have been considered addicts. However, the legislative effects were selective. The Harrison Act virtually eliminated opium smoking and laudanum drinking, whereas heroin use persisted. Events much later in the century reveal that these differences were not strictly a matter of heroin's powerful pharmacological actions. Quit rates for heroin addicts are about the same as for other drugs (Anthony and Helzer, 1991; Stinson et al., 2005), and the correlates of quitting include the ordinary pressures of adult life, such as economic well-being, familial responsibilities, and the opinions of others (Waldorf, 1983), which is also the case for other drugs (e.g., Heyman, 2009).

The Transition from Use to Abuse

Laboratory psychopharmacology research shows that the behavioral effects of psychotropic drugs invariably reflect the setting and individual differences. For example, in rat studies the same dose of amphetamine can either increase or decrease reinforced lever pressing as a function of differences in the animals' reinforcement history. The history of the transition from opiate use to opiate abuse involves the same sort of contextual influences. Americans had access to opiates that were 10 (morphine) and 100 (heroin) times more potent than the opium available in China, yet the rates of opiate addiction in China were 10–20 times higher than in the United States. Conversely, the prevalence of alcoholism is substantially lower in China than in the United States, yet the United States has put more road blocks in the way of drinking (e.g., Xiang et al., 2009). Thus, to make sense of addiction it is necessary to take into account characteristics of the setting (e.g., legal prohibitions and cultural traditions), characteristics of the individuals (e.g., the genetics of drug metabolism), and characteristics of the pharmacological experience (e.g., the transition from drinking tinctures of opium to smoking opium).

See also: Drugs, Decriminalization of: Cultural Concerns; Drugs: Illicit Use and Prevention.

Bibliography

Ahn, C.H., 1996. Nineteenth-Century Morphine Addiction: A Socially Constructed Phenomenon (thesis). Harvard University, Cambridge, MA.

Anthony, J.C., Helzer, J.E., 1991. Syndromes of drug abuse and dependence. In: Robins, L.N., Regier, D.A. (Eds.), Psychiatric Disorders in America: The Epidemiologic Catchment Area Study. Free Press, New York, pp. 116–154.

Bailey, P., 1916. The heroin habit. New Republic 6, 314–316.

Booth, M., 1996. Opium: A History. Simon & Schuster, London, New York.

Brecher, E.M., 1972. Licit and Illicit Drugs; the Consumers Union Report on Narcotics, Stimulants, Depressants, Inhalants, Hallucinogens, and Marijuana – Including Caffeine, Nicotine, and Alcohol, first ed. Little, Brown, Boston.

Conway, K.P., Compton, W., Stinson, F.S., Grant, B.F., 2006. Lifetime comorbidity of DSM-IV mood and anxiety disorders and specific drug use disorders: results from the National Epidemiologic Survey on Alcohol and Related Conditions. Journal of Clinical Psychiatry 67, 247–257.

Courtwright, D.T., 1982. Dark Paradise: Opiate Addiction in America before 1940. Harvard University Press, Cambridge, MA.

Fields, A., Tararin, P.A., 1970. British Journal of Addiction 64, 371–382.

Hasin, D.S., Stinson, F.S., Ogburn, E., Grant, B.F., 2007. Prevalence, correlates, disability, and comorbidity of DSM-IV alcohol abuse and dependence in the United States: results from the National Epidemiologic Survey on Alcohol and Related Conditions. Archives of General Psychiatry 64, 830–842.

Heyman, G.M., 2009. Addiction: A Disorder of Choice. Harvard University Press, Cambridge, MA.

Kolb, L., Du Mez, A.G., 1924. The prevalence and trend of drug addiction in the United States and factors influencing it. Public Health Reports 39, 1179–1204.

La Barre, W., 1970. Old and new world narcotics: a statistical question and an ethnological reply. Economic Botany 24, 73–80.

Latimer, D., Goldberg, J., 1981. Flowers in the Blood: The Story of Opium. F. Watts, New York.

Levine, H.G., 1978. The discovery of addiction. Journal of Studies on Alcohol 39, 143–174.

Luczak, S.E., Wall, T.L., Shea, S.H., Bun, S.M., Carr, L.G., 2001. Binge drinking in Chinese, Korean, and white college students: genetic and ethnic group differences. Psychology of Addictive Behaviors: Journal of the Society of Psychologists in Addictive Behaviors 15, 306–309.

McGovern, P.E., Zhang, J., Tang, J., Zhang, Z., Hall, G.R., Moreau, R.A., Nuñez, A., Butrym, E.D., Richards, M.P., Wang, C., Cheng, G., Zhao, Z., Wang, C., Bar-Yosef, O., 2004. Fermented beverages of pre- and proto-historic China. Proceedings of the National Academy of Sciences of the United States of America 101, 17593–17598.

Merlin, M.D., 2003. Archaeological evidence for the tradition of psychoactive plant use in the old world. Economic Botany 57, 295–323.

Musto, D.F., 1973. The American Disease: Origins of Narcotic Control. Oxford University Press, New York.

Newman, R.K., 1995. Opium smoking in late imperial China: a reconsideration. Modern Asian Studies 29, 765–794.

Spence, J., 1975. Opium smoking in Ch'ing China. In: Waksman, F.E., Grant, C. (Eds.), Conflict and Control in Late Imperial China. University of California Press, Berkeley, CA.

Stinson, F.S., Grant, B.F., Dawson, D., Ruan, W.J., Huang, B., Sasha, T., 2005. Comorbidity between DSM-IV alcohol and specific drug use disorders in the United States: results from the National Epidemiological Survey on Alcohol and Related Conditions. Drug and Alcohol Dependence 80, 105–116.

Trocki, C., 2002. Opium as a commodity and the Chinese drug plague. In: Hanna, B., Woodley, E., Buys, E., Summerville, J. (Eds.), Social Change in the 21st Century Conference Proceedings: Refereed Conference Papers Brisbane, Queensland.

Waldorf, D., 1983. Natural recovery from opiate addiction: some social-psychological processes of untreated recovery. Journal of Drug Issues 13, 237–279.

Warner, J., 1994. 'Resolv'd to drink no more': addiction as a preindustrial construct. Journal of Studies on Alcohol 55, 685–691.

Weiner, B., White, W., 2007. The Journal of Inebriety (1876–1914): history, topical analysis, and photographic images. Addiction 102, 15–23.

Xiang, Y., Ma, X., Lu, J., Cai, Z., Li, S., Xiang, Y., Guo, H., Hou, Y., Li, Z.B., Li, Z.J., Tao, Y., Dang, W., Wu, X., Deng, J., Lai, K.Y.C., Ingvar, G.S., 2009. Alcohol-related disorders in Beijing, China: prevalence, socio-demographic correlates, and unmet need for treatment. Alcoholism: Clinical and Experimental Research 33, 1111–1118.

Zheng, Y., 2005. The Social Life of Opium in China. Cambridge University Press, New York, Cambridge, UK.