Drugs, Alcohol and Addiction in the Long Nineteenth Century

Edited by
Dan Malleck

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IN THE LONG NINETEENTH CENTURY

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Volume II

HEALERS DISCOVERING AND TREATING ADDICTION

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INTRODUCTION TO VOLUME II

Medicalizing drugs, drink, and the habit

Physicians' role in defining and treating habituation is undeniable. In his highly influential article "The Discovery of Addiction" sociologist Harry Gene Levine placed the origins of the concept of addiction in the hands of American physician Benjamin Rush.[1] Although other historians, most notably those whose work looks outside of the United States, have contested the primacy of Rush in the medicalization of addiction, their debates do not contradict the importance of revolution-era physicians in problematizing habitual consumption of intoxicants.[2] It is just that for some the revolution was not American. In Britain, Thomas Trotter was making similar associations in the UK as Rush, and these can be connected to Enlightenment physicians who wrestled with the apparent vacation from reason represented by drunken bacchanalia in an Age of Reason. Investigators from several European continents, meanwhile, were conceptualizing habit as a mental and physical debility in the 1830s with a level of sophistication that English-speaking physicians would not explore for decades.

Although Anglo-American physicians' ideas about habituation were developing in the early part of the 1800s, it was not until later in the century that concerted effort emerged to define and understand addiction, more broadly construed, and especially to treat it. Giving evidence at the Earl of Mar's life insurance trial, Robert Christison's conclusion that there is no convincing evidence of lives cut short by the habit, but its physical effects must reduce lifespan persisted through much of the century. Indeed, inasmuch as the opium habit could cause a disordered physical condition (Christison mentioned especially the effect of opium eating on the digestive system), there is little evidence that physicians spent much time discussing habit as a pathological state until several decades after the Earl had shuffled off his mortal coil.[3]

The items in this volume trace the various ways that physicians and their scientifically inclined contemporaries examined the nature of habitual use of mind-altering substances. This introduction will explore some of the complicated aspects of inebriety medicine, and how physicians attempted to wrestle with both understanding substance addiction and figuring out how to treat it. Even a superficial reading of the titles demonstrates how persistent a dilemma habit (inebriety, addiction, dipsomania, etc) was for physicians. Nevertheless, as the

century drew to a close, more research was being published, and new ideas of the function of the brain affected the ideas about habituation. Simultaneously, increasingly sophisticated pharmaceuticals were being developed or discovered, and when their habit-forming properties became clear, they added to a flurry of discussion. Indeed, one of the singular ironies of the nineteenth-century discussions on habituation was that both cocaine and heroin were originally seen to be near miraculous treatments for addiction.

Although distinct substances, opium, alcohol, hashish, and later cocaine, not to mention a list of therapeutic substances that have since faded from use in medical treatment, such as chloral hydrate and assorted bromides, were often grouped together when medical investigators discussed habituation.[4] The connection was natural, given the limited information people had about drug taking, and the broad familiarity with drink. Notwithstanding that DeQuincey called himself an opium "eater" when he was drinking laudanum, the way it was ingested was not as important as the perception that habitual substance use was not merely the result of a substance being habit-forming, but rather caused by some flaw in the individual. To be sure, some investigators theorized about the properties of specific drugs that caused habit, but when contemplating habit itself, the seemingly intractable tendency to want to consume some mind-altering substance, physicians usually saw the process, whether mental or physical, as similar, even if the substance's effects were significantly different.[5]

The connection between the habitual use of drugs and alcohol was also an easy slippage because many of the English-language physicians who began discussing "inebriety" were heavily influenced by the temperance movement. As Berridge notes, the British inebriety physicians' work was so intertwined with the temperance movement that "the true scientific studies of alcoholism took place in the nineteenth century only on the continent."[6] The British Society for the Study and Cure of Inebriety had its roots in the Society for Promoting Legislation for the Control and Cure of Habitual Drunkards (1876), a group that emerged after persistent attempts failed to pass a law to force drunks into treatment.[7] The law that passed in 1878 was generally unsuccessful.[8] The same might be said for the American inebriety specialists. From its inception, the American Association for the Study and Cure of Inebriety (AASCI) engaged among themselves in arguments about the morality and sinfulness of habitual drunkards.[9] Some influential physicians such as Norman Kerr, the founding president of the British Society, did recognize the potential problems of equating alcohol and opium inebriety. Nevertheless the connection between temperance and the opium habit shaped what Berridge calls "a hybrid medical and moral theory."[10] We see such intermingling of moral and physical ideas in phrasing of titles such as "The evil of opium eating" and "The dogma of human responsibility" included in this collection, and books such as H H Kane's *Drugs that Enslave*.[11]

The idea of slavery was an important element of the discussions over the meaning of addiction. As Timothy Hickman explains, addiction has a "double meaning" connected to slavery: it can be passive (to be enslaved by something) and active

(to enslave yourself to something). Addiction held both meanings simultaneously, and this "double meaning" of addiction meant that one could be enslaved by something at the same time as being personally responsible for wilfully enslaving themselves. Hickman also notes that the term "addiction" itself was rarely used with respect to drug use before the end of the nineteenth century.[12] Nevertheless this notion of willfully binding oneself to a substance did manifest itself in discussions about inebriety, both to liquor and drugs, because the problem of the habit was a problem of free will. Can a rational individual who possesses free will actively enslave themselves to someone? Is that not a form of insanity? These were central issues in the inebriety literature through the century, and these questions persist.

Although for much of the first half of the nineteenth century the main substance of concern was alcohol, numerous observers recognized opium as an intoxicant, and considered its effects to be similar to those of to alcohol. In his *Essay . . . on Drunkenness*, Thomas Trotter did mention other drugs, including opium and cannabis (which he calls *bang*), but noted that these were not so problematic as alcohol even though they could bring on "delirium, stupor, and other phenomena of ebriety [sic]." The difference for Trotter was that even though these drugs could "produce nearly the same phenomena, and their habitual use almost the same diseases" they were not as common in Britain as alcohol.[13] Rush made a similar distinction, noting that opium was a dangerous poison and its use in suicide was familiar to many, but he saw the drink habit as much more problematic, even likening it to a "gradual suicide." He also argued that, unlike the drink (by which he meant the spirits) habit any opium habit was "easily broken" something also characteristic of the wine habit.[14] Scottish physician Robert MacNish noted that opium could also cause a habit, as seemed to be the case with all "stimulants and narcotics." Yet he, like Rush and Trotter, did not see opium (or, indeed, porter or ale) as nearly as problematic as spirits.[15] Alcoholic beverages, most notably stronger spirits, were the major intoxicants of concern.

Although aware of opium's habit-forming tendencies, English-speaking physicians tended not to be all that concerned about them at least before the middle of the century. Berridge notes that a major contribution to the changing face of opium was due to its poisonous nature. Public health concern about the number of deaths by opium (suicide, homicide and accidental deaths) "marked the beginnings of sustained medical intervention on the question of opium."[16] It was these drugs' poisonous nature that also fuelled discussions leading to the creation of pharmacy acts, which placed dangerous drugs on a "Poisons Schedule" and thereby restricted access to these products.[17] Berridge argues that physicians did not become concerned about opiate addiction treatment until a more nuanced disease concept emerged, something that was being debated more clearly with respect to the drink habit.

While people like Christison were arguing whether opium affected longevity, European physicians, as James Nicholls explains, were developing much more

sophisticated ideas about habit as a pathological state. German-Russian doctor C. von Brühl Cramer coined the term dipsomania in 1819 as a sort of "manic thirst" but by the 1830s this had transmogrified into something much more serious.[18] Jean Etienne Esquirol linked dipsomania to a broader concept of monomania, a condition in which an individual developed an inability to control themselves with respect to a specific behaviour. Dipsomania was not just a manic thirst, but an inability to control oneself when it came to drink. The term "alcoholism" was first used by Swedish physician Magnus Huss in 1849 to describe prolonged and heavy drinking. Huss also distinguished between chronic and acute alcoholism. As Nicholls explains "chronic alcoholism could involve constant drinking without the drinker necessarily ever getting blind drunk, while acute alcoholism was characterised by bouts of extreme intoxication." So "dipsomania" was often used by people who saw the condition of habitual drunkenness as a specific type of mental illness, while alcoholism was more often used to define a physiological condition.[19] Yet throughout the period, uncertainty persisted, and the terminology often overlapped.

Locating the seat of inebriety was not only important philosophically, but also therapeutically, because it could affect an understanding of the way to treat the condition. A disorder of the mind would be treated differently than a disorder of the body. Physicians who specialized in mental illness dealt with various ways that an individual could be alienated from "right reason," which is why doctors who dealt with mental illness were often called "alienists." If inebriety were a mental illness, treatment would involve retraining the mind away from its vicious appetite. In contrast, if the condition were physiological, treatment would involve physical intervention to treat the source of biomechanical dysfunction: remove the substance, strengthen the body with tonics and other medicines, and the addiction would be healed. This "somatic approach" had many modifications.[20]

Generally, however, most physicians recognized that treating drug or alcohol inebriety involved treating both the mental and physiological state. Discussions of institutional treatment of alcohol and drug habits included ways to deal with the physical condition, but also how to manage patients whose mental faculties were harmed or affected in different degrees. The extent to which a habit was considered mental or moral drove a range of therapeutic options. For example, the British Habitual Drunkards' Act (1878) was designed to keep drunks in the inebriate's home until they were healed. In a concession to the idea of liberty, the original act did not force drunks into these homes, they had to go voluntarily. However, once they were in the home, they had to remain there until the treatment regimen was complete, and if they left, they would forcibly be returned. Similar strategies were needed, so went the common wisdom, for other types of addictions. Kind and gentle or brutal and forceful, treatment required control over the patient and management of symptoms.[21]

A further disagreement by inebriety physicians was about how quickly to end the ingestion. Some advocated abrupt cessation of consumption, while others advocated varying lengths of time for withdrawal. This was especially the case

with opium addiction since many opium addicts who ended up in institutional care were middle or upper class, and were considered often less constitutionally capable of handling the trauma of abrupt withdrawal. Partly this was a consideration of the physical difference between a labourer and a brainworker, and partly this related back to the idea of how an addiction took hold. Neurologists like George Beard argued that the brain of elites was more complex and sophisticated than the brains of workers, and yet more fragile and prone to neurological shocks and damage. This is what, he and others argued, caused the addiction in the first place.[22] So to withdraw the drug abruptly would do damage to an already fragile neurosis. Many similar debates about the cause of addiction, the relationship between free will and physical disease, and the best way to end an addiction, persist in different ways today.

Debates about treatment took place in an environment of experimentation with patients willfully submitting themselves to medical treatment for their habits. Medical efforts to address the drink habit emerged from the temperance movement's ideas about drunks having lost their capacity to act freely. Physicians took the social problem of drunkenness and surrounded it with medical concepts; habitual drunkenness was redefined as the medical idea of inebriety. Inebriety treatment institutions grew out of the "therapeutic temperance" efforts of reformed drunkards to help their drunken colleagues break the habit. Some temperance organizations created "homes" where recovering drunks could live as they tried to recover. Jim Baumohl and William White note that these homes had a "simultaneously supportive and controlling character."[23] The earliest homes in the United States opened in Boston (1857), San Francisco (1859) and Chicago (1863). These places may have included medical support, but the main feature of such homes was the voluntariness of residency, the smallness of the institutions themselves, and the relatively short duration of stays.[24]

Inebriate homes were a grass-roots solution normally founded by voluntary associations, but as temperance reformers articulated concerns about the impact of inebriety on the family and the state, many pushed governments to create more institutional support for drunks. The nineteenth century was an era of asylum building, so many reformers figured the state should also take some responsibility for treating drunks.[25] Nevertheless, the value of such an institution was highly debated and at times could have limited support. American physician Samuel Woodward, who might be considered the founder of the medical temperance movement, published a series of essays making the case for inebriate asylums in the 1830s. Governments remained inactive until 1854 when the New York State legislature granted a charter for the creation of a United States Inebriates Asylum with the stipulation that the asylum be funded by public subscriptions, and that the operations would not begin until the asylum's backers could raise 10% of the estimated $50,000 needed to build it. The asylum, renamed the New York State Inebriate Asylum, did not open for another decade.[26] In 1850 Edinburgh physician Alexander Peddie began developing a plan for government-run institutions for the treatment of "the drinking insanity" with a goal of protecting drunkards

who were normally subject to censure by the law, when, as he said, they had no control over their condition.[27] These efforts faced continued scrutiny: the findings of a Select Committee on Habitual Drunkards (1872) led to the eventual passing of an Habitual Drunkards Act (1879) that allowed local governments to permit private organizations to set up inebriate retreats, but there were few takers.[28] Elsewhere state-run inebriety treatment had similar trouble catching on. In Canada physician James Bovell submitted a *Plea for Inebriate Asylums* to the legislature of the Province of Canada in 1862, but little appears to have been done for another decade. Even then it sputtered. Ontario passed the Inebriate Asylum Act in 1873 and a building was constructed in Hamilton, but owing to overcrowding in other provincial insane asylums, it was repurposed to a general asylum for the insane before it opened.[29] In the Australian colony of Victoria, private efforts in the 1870s to build inebriate asylums had limited success before a Royal Commission on Asylums for the Insane and Inebriate (1886) mandated that the state take over treatment. The Inebriate Asylums Act (1889) resulted the government establishing individual asylums for men and women. Other Australian colonies had varying degrees of success.[30] The role of government in inebriety treatment remained a difficult sell.

The challenge of establishing government-run asylums resulted from a number of factors, some unique to each jurisdiction, but one key issue remained central: many people did not see drunkenness as a disease that required treatment. This was the ongoing debate about habitual drinking, and it influenced discussions about the way to control drink around the world. It predates the period under examination, is manifest in the eighteenth-century debates about drunkenness discussed earlier, and even as medical investigation expanded and technical and physiological (and especially neurological) ideas became more sophisticated in the rush of nineteenth-century medical innovation, the idea that habitual drunkenness/inebriety/addiction was a disease was not universally acknowledged. Even physicians did not agree on the matter. At a time when religious conviction and spiritual explanations still often had primacy over biological explanations, and when vitalism was as salient as mechanism in medical arguments, having a habitual tendency could still be seen as a personal vice, a moral failing, and something that required individual dedication and salvation. Indeed, this sort of salvationist rhetoric was replete in early asylum arguments. Both Woodward and Bovell presented the reforming career of the drunkard as a "penitence-atonement-redemption cycle" where an alcoholic had to have descended to a level of misery before he would seek forgiveness for his behaviour and, usually through some intervention of a morally strong character (usually a woman or a preacher), be redeemed.[31] Even in secular arguments presenting inebriety as a biological problem, morality was not far from the picture, and as Arnold Jaffe notes "moralists charged that to call inebriety a disease was to offer people an excuse to indulge themselves and acquire a vice-begotten habit."[32]

The idea of addiction and its challenges were fairly well developed when another drug entered the picture: the wonder drug, cocaine. Isolated from the

coca plant in the mid-nineteenth century, cocaine rapidly gained attention from physicians after Austrian physician Carl Koller announced the results of experiments anaesthetizing the surface of the eye. Cocaine quickly gained the reputation of medical miracle, combined with its roots in technological advancements of German pharmaceutical science, meant, Joseph Spillane argues, "cocaine heralded this exciting new age of drug therapeutics."[33] An example of this enthusiasm may be seen in the remarkable expansion of articles by physicians experimenting on cocaine's usefulness. A report of Koller's experiments appeared in the US-based *Medical Record* on 11 October 1884. By the end of the year, over twenty articles on cocaine were published in the *Medical Record* alone, including several editorials and at least one letter claiming that Americans had isolated cocaine well before the Germans.

Cocaine's promise quickly manifested problems. Here the technological advance of cocaine joined morphine as a promising and valuable medical innovation that, in the wrong hands, could result in behaviour that some observers considered problematic. A mere two years after the *Medical Record*'s flurry of enthusiastic articles charting the value of cocaine, W A Hammond commented disdainfully about "the so-called cocaine habit" that was concerning physicians, but soon concern became the norm.[34] This problematization of cocaine was partly the result of its tonic value, and partly because it was a new drug and therefore not yet included on restrictive pharmacy act poison schedules. The tonic aspects of cocaine made it valuable in the proprietary medicine market, with numerous tonic wines such as the ubiquitous Vin Mariani offering themselves as restoratives, invigorators, and dealing with such evanescent self-diagnoses as neuralgia and neurasthenia. As Spillane notes, the tonic wine market predated the ascendancy of cocaine, and "coca" was often simply added to boost an already familiar brand. Moreover, its properties as a topical anaesthetic made cocaine a powerful tool in dealing with various other conditions. Cocaine toothpaste numbed tooth pain and cocaine in snuffs reduced sinus irritation and helped in hay fever. The ubiquitous "Catarrh cure" advertisements in late nineteenth-century periodicals, marketed to treat extensive nasal discharge owing to a swelling of the mucous membrane, were generally full of cocaine.[35] For the most part, such inclusions were entirely legal, since in many jurisdictions Pharmacy Acts normally restricted access to drugs that were prepared by pharmacists, leaving the proprietary medicine market wide open until the early twentieth century.[36]

Along with cocaine's inclusion in proprietary medicines, its perceived usefulness as a treatment for opium addiction, seemingly brutally ironic now, also served to introduce cocaine to an already vulnerable addict population. Several years prior to the experiments of cocaine as a topical anaesthetic, the tonic properties of coca had received some fervent endorsement, several of which are included in this volume. This interest was not without merit and should not be seen merely as a case of physicians looking to a new miracle drug (cocaine) to deal with addiction to the familiar and less-miraculous drugs (opium and alcohol). Cocaine's tonic properties were indeed useful in treatment regimens that involved stopping or

reducing the dosages of the addicting drugs, a process that could result in a range of physical traumas. A tonic to "stimulate" the system was considered valuable, rooted in ideas about how the body needed support and stimulation to heal. Nevertheless, cocaine's value as a stimulant also meant it was experienced by addicts, and sometimes resulted in a shift in addictive behaviour, or even multiple addictions. Moreover, cocaine became especially the drug of choice among educated and elite users. The concerns physicians expressed about opiate use among their professional brethren could be expanded to cocaine use. Asylum records often showed cocaine addiction among dentists and physicians, whose combined heavy work load and easy access to the drug made them especially vulnerable to addiction, a reality made stark by renowned inebriety physician T D Crothers in an article in the *Quarterly Journal of Inebriety* at the end of the century.

As physicians grew more aware of addiction, they also became concerned about what the habit said about their profession. As examinations into opium addiction proceeded, one thing remained obvious to physicians: much of the problem was their fault. Just as DeQuincey's habit was the result of medical intervention, so, too, many addicts with whom physicians interacted had developed their habit through medical treatment. It is not surprising, since opium was such an important part of the materia medica. On top of that many physicians provided patients with morphine and needles (a practice that some physicians found to be seriously problematic).[37] The reputational dangers of being seen as causing addiction in elite patients was joined to the very real concern physicians had about addiction in their own profession. The problem only accelerated with the increase in cocaine.[38]

These concerns about elite drug use fit clearly into a broader concern about the future of the nation. There were two main issues of medical concern here: women inebriates and inebriety as a cause or manifestation of degeneration. Several historians have noted that the female drinker was an especially problematic individual, and that women problem drinkers, that is, inebriates who ended up in some form of treatment, were often more prevalent than male drinkers.[39] A drunken female was more shocking to onlookers than a man. Women should not be drinking, the argument went, or at least should be well behaved and carry themselves better than men. They were, after all, the "mothers of the race" (a term used by many who wanted to protect women and their "sphere" in the home, but also many reformers such as the WCTU who saw this role as the "mother of the race" as a reason women should be more involved in politics). To the female drinker, concerned observers could add the elite opium and cocaine user. These people, in whom the future of the society was entrusted, were undermining the future for all.

Such discussions were underpinned by a broader concern over degeneration. Physicians discussed the drug and alcohol habits as examples of degeneration. Some argued that these habits were caused by inherited tendencies, but others

argued that an acquired habit could create degeneration in the children of alcoholics.[40] Some researchers pointed to the spurious evidence that children of drunkards more often become drunkards. Others, notably George Archdall Reid of the SSI posited a radically alternative perspective. He reasoned that, considering how vulnerable to inebriety more "primitive" races such as North American indigenous people and Africans could be, perhaps drinking and even drunkenness was an evolved protective behaviour. He argued that perhaps, in "civilized" western cultures those who were most constitutionally vulnerable to the worst effects of drink had already died off. His perspective was hotly debated in the SSI, with many preferring to see drink and drug using as causing degeneration. Gradually the SSI moved away from a firm degenerationist position, accelerated by systematic research at University College London which supported Reid's perspective. Much more careful research than just looking at families and making conclusions about heredity with little consideration of environmental factors affecting drinking behaviour found that there was little demonstratable difference in the tendency to degeneration in children of drunks versus the children of sober people.[41]

Such concerns of medical practitioners and the general public led ultimately to restrictive legislation (which will be discussed in subsequent volumes) but also opened a wide door for dubious market-based solutions. The most notorious and arguably successful inebriety doctor was Frances Keeley, whose "Bi-chloride of gold" cure for the drink and drug habit was part of a treatment regimen that involved residency at Keeley "Institutes" and a set process of weaning from the habit. There was considerable enthusiasm for Keeley's cure, so much that copycat cures like the "Father Murphy Gold Cure" appeared in the 1890s. Many physicians viewed Keeley's approach with suspicion, mainly because proprietary medicines were by definition secret, and physicians valued openness in treatment. Mason Lewis's article on proprietary medicines underscores the concerns about the secrecy, not the least of which problem was that many apparent inebriety cures were in fact full of the substance to which the person was enslaved, and simply created in the addict a need to buy and consume the so-called cure. Keeley and copycat cures combined a trust in the increased sophistication of chemical science, with the traditional focus on institutional treatment, and the ongoing public fascination with the idea of a "miracle cure" for addiction, all of which, as Timothy Hickman demonstrates, were symptoms of modernity.[42]

Headnotes for Volume II

1 Carpenter, George W., "Observations and Experiments on Opium" *American Journal of Science and Arts*, 13 (1828): 17–32

2 Christison, R., "On the effects of opium eating on health and longevity" *Edinburg Medical and Surgical Journal* 37 (1832): 123–35

3 Mart, G. R., "Effects of the practice of opium eating" *Lancet*, 1, (1831–32): 712–13

4 Eberle, John, "Effects of Opium Eating." *Boston Medical and Surgical Journal*, 6 (4 April 1832): 128–31
5 Little, R., "On the habitual use of opium" *Monthly Journal of Medical Science* 10 (1850): 524–31
6 Christison, R., "Supplement to the preceding paper [by Little] on the habitual use of opium, more especially the mode of cure" *Monthly Journal of Medical Science* 10 (1850): 531–38
7 Calkins, A., "Chapter XXIII: Opium contrasted with alcoholic beverages," in Calkins, *Opium and the Opium Appetite* (Philadelphia: J. Lippincott, 1871): 277–86

Opium had been known as a valuable medicine for centuries, but in the nineteenth century increasingly its value began to be balanced against its dangers. George Washington Carpenter was an American druggist and businessman. He opened his drug business in 1828 and also pursued an interest in natural science, mineralogy and botany. A classic gentleman-scientist, Carpenter assembled a large personal collection of natural ephemera including minerals and rare plants. His textbook *Essays on Some of the Most Important Articles of the Materia Medica* was published in 1831 and went through several reprints. This entry on opium, the first chapter of the textbook which was also published in the *American Journal of Science and Arts* (1828), is a useful example of a relatively non-judgmental discussion of opium and the opium habit in the early part of the century.

Robert Christison was a physician and toxicologist whose expertise on poisons was well known by the time he was approached to give expert testimony at the Earl of Mar insurance case described in this selection. The Edinburgh Life Assurance Company refused to make good on the Earl's insurance policy after it learned that he had been an habitual laudanum drinker. Christison was asked to make a determination on whether the habitual use of opium would shorten an individual's life. His conclusions demonstrate an attempt at objectivity but jump to the conclusion that, although there is no evidence that the opium habit does indeed shorten life, how could it not? Nevertheless, since the insurance company had not asked a specific question about the opium habit, it lost the case and was compelled to honour the policy.[43]

Surgeon G. R. Mart contributed his letter to the *Lancet*, outlining several cases of opium habit that he saw in his surgery in Soho Square in London. For Mart there was no question that the opium habit would shorten life even though at the time there was no evidence to support such an assertion. His confidence stands in marked contrast to Christison's more measured assessment of the question of opium and longevity written about the Earl of Mar case, and published the same year as Mart's letter.

The importance of Christison's assessment of the Earl of Mar case and of the work of DeQuincey on shaping understandings of opium can be seen in this editorial in *The Boston Medical and Surgical Journal* presenting several brief cases of opium habit, many of which conclude with the assurance that the patients continue

to enjoy good health.[44] This editorial also shows the close links that many observers saw between the effects of alcohol and opium on the body, although whether those links are due to the opium often being consumed with brandy (as laudanum) is uncertain.

Edinburgh-trained surgeon Robert Little (1819–1880) moved to Singapore in 1840 to join his uncle M. J. Martin in running a dispensary. In 1848 he was appointed coroner.[45] His article on opium habit (abridged from a longer document published in Singapore) includes both a medical assessment of the way locals were consuming it and statements condemning the government for encouraging the habit. What is especially important about this article, coming as it did from a community in which the mode of consumption of opium was distinctly different from that in Britain, is the follow-up article by Christison who lauds the paper as supplementing limited knowledge of the habitual use of opium.

Alonzo Calkin's *Opium and the Opium-Appetite* was an early examination of the opium habit as a proper medical condition. Calkins's (1804–1878) florid writing and detailed examination of a range of intoxicants (including alcohol, cannabis, tobacco, coca, tea and coffee) provide a valuable impression of the complex and still uncertain understanding of substance habituation in the latter part of the nineteenth century. In this selection, one of several in this collection, Calkins considers opium in contrast to alcoholic beverages.

Growing problem of iatrogenic morphine

8 McGillivray, D., "Excessive Use of Morphia, a DRAHM of the Sulphate taken at one Dose with impunity." *Canada Medical Journal* 5 (1869): 352–54
9 Mattison, J. B., "The Impending Danger." *Medical Record*, 11 (1876): 69–71
10 Francis, C. R., "On the value and use of opium." *Medical Times and Gazette* 1 (1882): 87–9; 116–17
11 Watson, W. S., "On the Evil of Opium Eating." *JAMA*, 14 (10 May 1890): 671–74
12 Crothers, T. D., "Criminality and Morphinism." *New York Medical Journal*, 95 (1912): 163–65

Dr. D. McGillivray was a graduate of McGill University and the attending physician to the county of Carleton General Protestant Hospital in Ottawa.[46] This brief report of his encounter with a morphine addict is notable for several reasons. First, McGillivray seems to have written it to share his surprise at the amount the individual could consume. Second, he does not seem to provide any indication of whether or how he attempted to treat the individual. Finally, the story seems to be more of a cautionary tale to other physicians to keep an eye on the amount of morphine they prescribe, since the denouement of the story, when the patient returned sickly and in decline before "death closed his sad career" again does not give any indication of how he treated the patient, if he even did.

J. B. Mattison's warning that "America is in peril of becoming a nation of opium inebriates" seems a prescient warning from someone who was quickly becoming an authority in the treatment of opium. At the time he was a physician in Brooklyn, NY, but within the next several decades he became a well-known figure in the treatment of addiction, offering his own eponymous Mattison Method of treatment.[47] In this article he outlines the problems of opium addiction being on the increase just as alcohol intoxication is declining. What is most significant of this article is that Mattison places the blame squarely on the shoulders of physicians, something McGillivray did only by implication.

C. R. Francis, a retired surgeon general of the Indian Medical Service,[48] wrote this article to the *Medical Times and Gazette* lamenting the fact that, as concern increased about the habitual use of opium, people seem to have lost sight of its tremendous value. As he reminds his readers, "Opium has always been considered one of the most valuable remedies in the Pharmacopoeia." He goes on to suggest that physicians should not be as conservative in their prescribing practice as they seemed to have become.

W. S. Watson's paper on the "evils" of opium eating, presented to the American Medical Association in 1889, surveys the current state of understanding of opium eating, and the various ways of treating it. Watson, president of the Riverview Sanitarium at Fishkill-on-Hudson, New York, muses that, if the problem is so bad, why are they not asking ministers to preach against opium eating in every pulpit? After evaluating the different ways of treating opium habit, Watson concludes with alarmist claims that "the evil is widespread; its victims are legion." It represents the panic that some physicians felt, while also showing how they were generally unclear on how best to deal with this problem.

Cocaine: miracle cure?

13 Stimmel, H. F., "Coca in the Opium and Alcohol Habits." *Therapeutic Gazette*, ns 2 (15 April 1881) 132–33; (15 July 1881): 252–53

14 LeForger, George, "Coca in the Opium Habit." *Therapeutic Gazette*, 6 (1882): 458

15 Marsh, J. P., "A Case of the Opium Habit Treated with Erythroxylon Coca." *Therapeutic Gazette*, 7 (1883): 359

16 Freud, S., "Coca" [Trans S. Pollack] *St. Louis Medical and Surgical Journal* 47 (1884): 502–5

Cocaine offered a tremendous opportunity to medicine. As a topical anaesthetic, cocaine had no equal, and its use allowed more discrete surgical intervention in dentistry and ocular surgery, as well as for general neurological pain. Its value was touted by Austrian ophthalmologist Karl Koller in 1884 and the article was quickly translated and disseminated for the English-speaking audience.[49] Cocaine was also a valuable stimulant, and it was in this application that many experiment-oriented physicians saw its usefulness in the treatment of addiction.

The article by H. F. Stimmel is typical of early enthusiasm, the results of his "very severe test" of cocaine resulting in his astonishment at the "wonderful, almost incredible effects of that new remedy." It is tempting to project backwards to see an ominous foreshadowing in Stimmel's observation that if the temptation for alcohol overcame his patient yet again, it would simply require another dose of coca.

Similar enthusiasm appeared in letters to medical journals such as those by George LeForger and J. P. Marsh. LeForger, an admitted opium habitué, touts cocaine as "a painless antidote" to the opium habit. Marsh, providing an account of his treatment of a woman whose morphine habit had expanded to require six syringes three times a day, calls coca "remarkable and suggestive" as a cure for the opium habit.

Most notorious of the articles in support of cocaine came from a young Austrian physician, Sigmund Freud (1856–1939), who notes that not only will the use of cocaine lead to the elimination of the need for inebriate asylums, but that it is also a useful personal remedy "after a debauch either in eating or drinking."[50] Freud was a friend of Koller and an early enthusiast of cocaine as a wonderous stimulant.[51]

Cocaine a menace

17 Hammond, W. A., "Remarks on Cocaine and the So-called Cocaine Habit." *Journal of Nervous and Mental Disease*, 13 (1886): 754–58
18 Mattison, J. B., "Cocainism." *Medical Record*, 42 (1892): 474–477; 43 (1893): 34–36
19 Lett, Stephen, "Cocaine Addiction and its Diagnosis." *Canada Lancet* 31 (December 1898): 829–32
20 "Cocaine Alley." *American Druggist and Pharmaceutical Record* Vol 37 (10 Dec 1900): 337–38
21 "Negro Cocaine Fiends." *Medical News*, 81 (1902): 895
22 Crothers, T. D., "Cocainism." *Quarterly Journal of Inebriety*, 32 (1910): 78–84

Initial recognition of the potential habit-forming character of cocaine was a mild form of denial. Basing his argument on personal experimentation with cocaine, W. A. Hammond argued that the "so-called" cocaine habit was not much more problematic than the coffee or tea habit. This article, originally presented at the New York Neurological Society, saw hearty disagreement from J. B. Mattison, who provided information about seven cases of cocaine habit, five physicians and two druggists. Yet others in the audience were not so convinced, with Dr. J. Leonard Corning appreciating Hammond's words because it would allay "prejudice against a most useful remedy."[52]

Yet such prejudice persisted, as more experience with cocaine led to more cases of habit. In a two-part article in the *Medical Record* Mattison offered extensive

evidence from physicians' reports and his own experience that a condition called "cocainism" needed to be taken seriously. It was most especially urgent because "Many an unfortunate who had gone down before the power of alcohol or opium built high hopes on this hapless assertion [of cocaine's therapeutic benefit] and . . . added a new link to the chain of his addiction."[53] Irish-born, Canadian addiction specialist Stephen Lett (1847–1905) added his experience at an elite asylum treating the sorts of professionals that Mattison also mentioned, noting that most cocaine addicts are "Neurotics . . . always on the lookout for some medicine or stimulant to quiet their unstable nervous organization."[54] He also suggests a urine test for cocaine use, which could be helpful in diagnosing a condition that patients might not be willing to admit.

The rising awareness of cocaine's addictive properties was soon followed with the recognition that it was not only a drug preferred by the "neurotics" and the brainworkers who ended up in asylums such as those run by Mattison and Lett. Accounts of cocaine use among "the colored and vicious white population" of southern cities was reported in numerous journals.[55] Both articles in the *American Druggist and Pharmaceutical Record* and the *Medical News* show how the cocaine habit was developed often as a result of the need among poor workers to keep their energy up while working long hours. Such usage, inspired if not expected by wealthier employers, was quickly interpreted as evidence of the lower mental faculties of such users.

In a 1910 article, T. D. Crothers (1842–1918), editor of the *Journal of Inebriety* and a long-time leader of the American inebriety physicians' community, discusses the two types of addicts: the "ill-fed degenerate and poisoned classes" for whom cocaine is "a revelation" so that they spend the rest of their lives in a "perpetual struggle to secure . . . and enjoy"; and the "intellectual classes" who are better at concealing it.[56] Indeed, Crothers's long experience in treating various forms of habit lead him to suggest that cocaine is worse than other addictions, and advise physicians always to "consider the possibility of the use of this drug" although growing legal restrictions on its access might reduce the number of cases a physician sees. He also advises that doctors do not inform patients when they are treating them with cocaine.

Heroin

23 Stewart, W. Blair, "Heroin" *Medical Bulletin*, 23 (1901): 86–88
24 Pettey, George E., "The Heroin Habit Another Curse." *Alabama Medical Journal*, 15 (1903): 174–80
25 Phillips, John, "Prevalence of the Heroin Habit: Especially the Use of the Drug by 'Snuffing.'" *JAMA* 59 (14 December 1912): 2146–47

The story of cocaine's transmogrification from miracle cure for addiction to the cause of a worse form of dependency was repeated and intensified with heroin. When the Bayer company isolated heroin in 1895, it was lauded as both a much

safer analgesic than morphine and a non-addictive way to treat opiate addiction. W. Blair Stewart's enthusiasm can be seen in parallel with the early enthusiasm for cocaine, demonstrating a range of uses to replace morphine, and observing that it "does not tend to produce habit" but at the same time he notes that doctors should be careful about putting "this drug in the hands of your patients" because it would likely be abused "and may lead to toxic symptoms."[57]

As with cocaine, the lustre soon fell away from heroin. A mere two years after Stewart's observations were published, Memphis physician George E. Pettey (1856–1920) was calling the heroin habit as "another curse." Pettey criticized the physicians who had extolled the virtues of heroin while being "misled by the claim of its promoters that even its prolonged use does not result in . . . habit."[58] Nevertheless, he still preferred heroin to morphine since it seemed the heroin habit took longer to develop. Even a decade later some physicians were lamenting the fact that many doctors were downplaying the addictive nature of heroin. Cleveland physician and one of the founders of the Cleveland Clinic Foundation, John Phillips (1879–1929), expressed a similar distain for the ignorance of physicians, noting that heroin was as dangerous as morphine and that too frequently physicians were telling their patients that there was no danger of habit.[59]

Considering drink, inebriety and cure

26 Carpenter, W. B., "Introduction" *Physiology of Temperance and Total Abstinence* (London: Henry G. Bohn, 1853): 1–6
27 Lewes, G. H., "Art IV: Physiological Errors of Teetotalism." *Westminster Review* New Series Vol 8 (July 1855): 94–124
28 Carpenter, W. B., "To the editor of the 'Westminster Review.'" *Westminster Review* (Jan 1856): 218–20
29 Beard, George M., "Causes of the recent increase of inebriety in America." *Quarterly Journal of Inebriety* Vol 1 (December 1876): 25–48
30 Willett, Rev. John, "The dogma of human responsibility: more especially as it related to inebriety." *Quarterly Journal of Inebriety* Vol 1 (Sept 1877): 193–211
31 Godding, W. W., "The Problem of the Inebriate." *JAMA* 8 (8 Jan 1887): 29–32
32 Hammond, Crothers and Carpenter, Edson, "Is drunkenness curable?" *North American Review* 153 (1891): 346–74
33 Harris, Walter T., "Alcohol: A poison, a medicine, a luxury." *South African Medical Journal* Vol 3 (November 1895): 184–91
34 Sullvian, William C., "The Criminal responsibility of the alcoholic." *British Journal of Inebriety* Vol 2 (1904–5): 48–53
35 Emerson, Charles P., "Alcoholism and disease." *The Survey* 25 (October 1910): 41–46

Discussions about the drug habit increased rapidly at the end of the century, while physicians had been aware of the problems of the excessive and habitual use of alcohol for decades, if not centuries, before. William Benjamin Carpenter

(1813–1885) a celebrated physiologist, captured the ideas of medical temperance in his *Physiology of Temperance and Total Abstinence*, in which he set out a series of propositions about the effect of alcohol on the human body. Such assertions, couched in the language of science and from a well-respected physician, was not without controversy, as can be seen in the extensive rejoinder launched by philosopher and amateur physiologist George Henry Lewes (1817–1878) and published in the storied, radical journal the *Westminster Review*, to which Carpenter replied calling Lewes' criticism "a charge of unprincipled venality."

Dr. George Miller Beard (1839–1883) was an American neurologist best known for his popularization of the term "Neurasthenia" a condition characterized by lethargy and ennui, often associated with middle class women, although applied to cases from both sexes. Beard also took an interest in inebriety, publishing *Stimulants and Narcotics, Medically, Philosophically and Morally Considered* (1871) in which he argued that the weakening neurological systems of the modern person made them more susceptible to intoxication. Beard's paper included here is a presidential address to the America Association for the Cure of Inebriates (later renamed the American Association for the Study and Cure of Inebriety). In it he attempts to make sense of the increase in inebriety in America, and in doing so contradicts Mattison's assertion that alcoholic inebriety was on the decline. Nevertheless, what is most notable about this article is how Beard connects inebriety to heredity and also how he observes the periodic nature of the condition. Sometimes a drunk is not a drunk.

Beard's biological interpretation stands in marked contrast with Rev. John Willett, the superintendent of the Inebriates' Home in Fort Hamilton, New York, and a founding member of the AASCI. Willett, a pastor, takes a decidedly moralistic approach to the problem of inebriety than medical colleagues.[60] The title alone indicates the idea of individual responsibility in inebriety. Although he lists several types of individuals who are exempt from blame, he spends much of his time outlining why most inebriates are "mentally and physically responsible for their debauches and for all the consequences resulting therefrom" although he also recognized that some cases were so extreme that medical rather than moral intervention was needed.[61]

Such debates between the moral and physiological seats of inebriety can be found in W. W. Godding's discussion of one "pathological specimen" of inebriety, to whom he refers as "the Col." Godding's article demonstrates the challenges physicians had in determining when a condition was inebriety, and when it was madness, and whether there was really a difference. As a superintendent at the Government Hospital for the Insane in Washington DC, Godding's view was decidedly towards inebriety as a mental illness. Was the disease "intellectual insanity"? Indeed, Godding's patient demonstrates the type of periodic inebriety discussed by Beard. What is most notable here is Godding's footnote, where he outlines the best way to deal with the inebriate: "shut him up" in an institution and "keep him" there.

By the 1890s the issue of the curability of inebriety had engendered considerable debate, and when Dr. William Hammond, T. D. Crothers, Elon N.

Carpenter and Cyrus Edson were invited to offer their answers to the question, the variety of meanings of inebriety appeared in sharp relief. Hammond (1828–1900), a founder of the American Neurological Association and a former military physician, saw little merit in the question of whether drunkenness is curable, preferring to look to legislative solutions, notably prohibition of alcohol and incarceration of inebriates. Crothers, a founder of the American Association for the Study and Cure of Inebriety and an internationally recognized specialist on addiction, challenged such ideas, arguing instead that a scientific examination of the treatment of inebriety suggested that inebriety could be cured by judicious institutional treatment. For Elon N. Carpenter, the superintendent of a Waldemere-on-the-Sound, NY facility treating "mental and nervous diseases, alcoholic and narcotic habitues," the answer hinged upon the type of drunkard that was being treated. Carpenter wryly observed that "some men are born drunkards, some achieve drunkenness, and some have drunkenness thrust upon them."[62] Cyrus Edson (1857–1903), a New York physician and commissioner on the Board of Health, employed ideas of hygiene to argue that understanding the causes of inebriety would help lead to a cure but tended to emphasize prevention and ignore the question altogether.[63]

The extended discussions of inebriety, combined with the increasing temperance movement around the world, led to questions about the value of liquor in medical treatment. Just as C. R. Francis reminded his colleagues of opium's value, South African physician Walter T. Harris reminded his audience at the South African Medical Congress that alcohol still had a use as a medicine, and he also did not dismiss its legitimacy as a luxury. In a country where black Africans' drinking was highly problematized, such sentiment was most likely aimed at a white audience.[64]

By the turn of the century inebriety physicians were more confident in their assertions that alcoholism was a disease, but moreover that unlike other diseases, alcoholics bore some considerable responsibility for the cause of this condition. Such was the case with William C. Sullivan, a deputy medical officer at a prison, who, not surprisingly, had a less sympathetic view of alcoholism given that he often would see prisoners who were drinkers, implying a causation that drink caused crime. By 1910 writers like Charles P. Emerson, a superintendent at a sanitarium, confidently could write in an issue of *The Survey* dedicated to inebriety (published by The Charity Organization Society of the City of New York) that not only was alcoholism a disease but that it was the "most important factor in the causation of many diseases."[65] Although a total abstainer, Emerson nevertheless claimed he was approaching his subject from the standpoint of scientific objectivity, something that was difficult in such a value-laden topic. His inclusion of alcohol as a cause in conditions ranging from hardening of the arteries to nervous disorders is followed by assertions that the only real cure was for the individual to have the "strength of will" to resist temptation.[66]

The benefits and dangers of hypodermic drug use

36 Anstie, F. E., "The hypodermic injection of remedies." *Practitioner* 1 (1868): 32–41
37 Albutt, T. C., On the abuse of hypodermic injections of morphia." *Practitioner* 5(1870): 327–30
38 Ansite, F. E., "On the effects of the prolonged use of morphia by subcutaneous injection." *Practitioner* 6 (March 1871): 148–57

As the article by noted physician Francis Anstie illustrates, the hypodermic was a therapeutic marvel. Anstie (1833–1874), a well-respected British physician and the editor of the journal *The Practitioner*, was also actively engaged in writing about alcohol and the alcohol habit. His medical examinations of drink and drug use predated the formal organizations such as the AACI and the SSCI, but he was not a teetotaler and supported the reasoned, dare we say temperate, use of alcohol. Thus before a reader views Anstie's disregard of the potential dangers of hypodermic use as indicative of ignorance or neglect, it is important to emphasize that therapeutic innovation that placed in the hands of physicians more control over dosages and treatment was important in mid-nineteenth century medical innovation.

Indeed, it soon became clear that the indiscriminate use of the hypodermic injections of habit-forming substances like morphine could be a problem. As T. Clifford Albutt wrote, also in *The Practitioner,* the enthusiasm for hypodermic needles has placed the practice "at the height of fashion." Albutt does not deny that that he was one of the writers whose enthusiasm bestowed such status on the practice and agrees that the hypodermic injection of morphia has "eminent virtues." He also warns his colleagues that hypodermic morphine injection can be seriously problematic when put to "careless use." He had seen numerous patients who had self-injected morphine and such cases have led him to believe that "injections of morphia, though free from the ordinary evils of opium-eating, might nevertheless create the same artificial want" as opium.[67] Anstie, for his part, remained cautiously critical of such warnings. His response to articles about the dangers of injection advised readers not to be too worried about creating the morphine habit in patients, just be careful. Nevertheless, over the next decades the connection between hypodermics and addiction persisted and grew.

Physicians and addiction

39 Mattison, J. B., "The Responsibility of the Profession in the Production of Opium Inebriety." *Medical and Surgical Reporter*, 38 (1878): 101–4
40 Mattison, J. B., "Morphinism in Medical Men." *JAMA*, 23 (1894): 186–88
41 Crothers, T. D., "Morphinism among Physicians." *Medical Record*, 56 (1899): 784–86
42 Dewey, Richard., "Addiction to Drugs, Especially in Reference to the Medical Profession." *Medical Age*, 18 (1900): 321–25

43 Happel, T. J., "Morphinism from the Standpoint of the General Practitioner" *JAMA*, 35 (1900): 407–9
44 Hynson, Henry B. et al., "Report of Committee on Acquirement of the Drug Habit." *Proceedings of the American Pharmaceutical Association*, 50 (1902): 567–75
45 Beal, J. H., "An Anti-Narcotic Law" *Proceedings of the American Pharmaceutical Association*, 51 (1903): 478–87

The overuse of hypodermic injections presented two challenges to physicians as a profession. First, doctors were aware that much of the addiction they saw in their better-off patients was iatrogenic, specifically the result of their own treatment with opiates. Although DeQuincey's self-medication of laudanum remained a case of which many writers were aware, individual medical experience of providing opium for patients and then finding that those patients continued to take opiates provided numerous cautionary tales. J. B. Mattison's article on the role of physicians in producing the opium habit captures the challenges faced by benign but ultimately problematic opiate prescription.

The second challenge that doctors faced was reputational and professional. As numerous elite addiction doctors could attest, many of their addicted patients were physicians. Hence addiction physicians such as Mattison and Thomas Crothers could draw upon long experience treating their colleagues' addiction, as well as the opium and morphine habit in professions such as pharmacists and dentists (who had easy access to the drugs) and other professionals such as lawyers. These were the sorts of "neurotic" patients that George Beard would argue were especially vulnerable to habituation due to their sophisticated mental apparatus. Such a phenomenon gave pause to Richard Dewy, the superintendent of the Milwaukee Sanitarium for Nervous and Mental Diseases in Wauwatosa, Wisconsin. In a paper presented to the Chicago Neurological Society, Dewy argued that, given the number of physicians who used opiates, alcohol, or sometimes both, addiction cannot be deemed an indication of degeneracy. He also cautioned his colleagues that the idea of the addicted doctor could threaten the reputation of the profession. "As a professional body, we should not only be virtuous, but *above suspicion*."[68] Degeneracy was also the topic of T. J. Happel, whose article in the *Journal of the American Medical Association* offers a more alarmist interpretation than Dewy. Noting that morphine addiction can lead to addictive tendencies in children, Happel offers a bleak vision of the future unless something is done, seeing asylums and almshouses "rapidly filled with degenerates" and many of the forms of degeneracy being traced back to morphine. For Happel, it was up to physicians to "keep the subject plainly before the people."[69]

Physicians were not the only medical profession concerned with the role of the profession in the expansion of drug addiction. Pharmacists knew that their role as gatekeepers to dangerous medicines, which in many jurisdictions was just being achieved at the end of the century, made them culpable in the spread of addiction. In 1902 a committee of the American Pharmaceutical Association presented

its efforts to survey its members in order to assess the role of pharmacists in the increase of addiction. The resulting report led the APhA to create a model narcotic law that states could use to shape their own legislation, which was presented and debated the following year.[70]

Treating the habitue/inebriate/addict

46 Levinstein, Edward, "On Morphinomania." *London Medical Record*, 4 (1876): 55–58
47 Levinstein, E., *Morbid Craving for Morphia*. Trans Charles Harrier (London: Smith Elder & Co, 1878): 1–10
48 Richardson, Benjamin Ward, "Morphia Habitués and their Treatment." *The Asclepiad: a Book of Original Research and Observation* (London: Longmans, Green and Company, 1884): 1–31
49 Sharkey S. J., "The treatment of morphia habitués by suddenly discontinuing the drug." *Lancet* (29 December 1883): 1130–31
50 Clarke, J. St. T., "Treatment of the habit of injecting morphia by suddenly discontinuing the drug." *Lancet* (20 September 1884): 491
51 Foot, A. W., "On morphinism." *Dublin Journal of Medical Science* 88 (2 December 1889): 457–70; Discussion 531–33
52 Jennings, Oscar, Chapter 3 and 4, *On the Cure of the Morphia Habit* (London: Bailliere, Tindall, and Cox, 1890): 45–68

German physician Eduard Levinstein (1831–1882) was a major figure pushing physicians towards a disease model of addiction. His work was the first attempt at a comprehensive study of the morphine habit, in which he defined morphine habit, "Die Morphiumsucht" (which was translated as "the morbid craving for morphine") as a physical disease treatable by physical methods. Levinstein's ideas, first presented to the Berlin Medical Society in 1875, were quickly translated into English and published in English-language medical journals in 1876. Two years later his book *Die Morphiumsucht* became an instant best seller among concerned physicians. Levinstein's recommended different treatment depending upon the patient: in some patients he would immediately cease treatment, whereas in others he would gradually diminish the dosages. What was key, though, was institutionalization, and medical treatment to deal with the various symptoms of withdrawal.

Levinstein was not the last word on the best way to treat morphine addiction. Noted British physician, champion of total abstinence, and physiologist Benjamin Ward Richardson (1828–1896) assessed three approaches to treating morphine addiction: substituting something else, such as alcohol or chloral hydrate, for the morphine; tapering the morphine doses; or abrupt withdrawal. He determined that the gradual reduction of the dosage was best. Others disagreed. Seymour J. Sharkey and J. St. T. Clarke provided medical journals with cases of patients who were taking what Sharkey called "almost incredibly large quantities of morphia" but

whose treatment included immediate cessation and medical support. In both cases treatment was considered a complete success.

In an article read at the Royal Academy of Medicine in Ireland, Dublin-based physician Arthur Wynne Foote (1838–1900) expanded Richardson's three methods to four: adding deception (injecting water instead of any active substance) to substitution, tapering, and abrupt withdrawal. Foote rejected the first two as "hardly worth serious consideration." A "true morphinist" would not be deceived by a water injection, while substituting morphine with cocaine or chloral hydrate was simply "handing the sufferer over from one enemy to another." Instead of choosing a best option, Foote quoted a range of practitioners, and the relative success of different approaches. One of these, Oscar Jennings (1851–1914), wrote *On the Cure of the Morphia Habit* as a guide to weaning patients from morphine, providing detailed drug therapies to support the patient through the process.

Patent medicines

53 Keeley, Leslie E., "Drunkenness: A Curable disease." *American Journal of Politics* (July 1892): 27–43
54 Mason, Lewis D., "Patent and Proprietary Medicines as the Cause of the Alcohol and Opium Habit or Other Forms of Narcomania-with some Suggestions as to How the Evil May Be Remedied." *Quarterly Journal of Inebriety*, 25 (1903): 1–13
55 Anon, "Father Murphy Institute" (Letter dated March 1904) in "Alcoholism ephemera, Box 1" EPH568, Wellcome Collection
56 *Murphy Gold Cure Co*. (ca. 1894) Pamphlet from the Canadian Institute of Historical Microreproductions, CIHM 37243. Original in Thomas Fischer Rare Book Room, University of Toronto

The expanding concern over the habitual use of alcohol and drugs was a fertile field for a variety of supposed remedies. While many legitimate physicians sought to find methodical approaches to treatment based on the extant science of the day, numerous opportunistic entrepreneurs offered their sure cures. Although many alcoholism cures doubtless included high proportions of alcohol, and many cures for the opium habit included high proportion of opiates, there were some approaches that skirted the borders of legitimate medicine and quackery. AASCI president Lewis Mason's article in the *Quarterly Journal of Inebriety* lamented the expansion of secret remedies to treat such a distressing condition.

Nevertheless, some proprietary methods could surpass such simple rejection by the medical community. The most notable among these was Lesley E. Keeley's "Gold Cure." Keeley (1836–1900) was a physician who trained at the Rush Medical College in Chicago and opened a private practice in Dwight, Illinois. In 1880 he founded a private sanatorium to treat alcohol and opium habits, using a secret remedy based on something he called the "Bi-chloride of gold." He sought to legitimize his work by publishing his ideas in reputable journals, although

medical journals were not enthusiastic about endorsing his business. Finding success in his method, he franchised the Keeley Institute model, seeing affiliates open in Canada, Mexico and Europe.

Keeley's approach received mixed reactions from practitioners. It was contrary to professional acumen to offer secret remedies, and so Keeley's cure appeared to be yet another dubious nostrum. Yet Keeley's methods were based upon more traditional approaches to addiction treatment: institutionalized care, regular tonics to boost the system and something akin to counselling. In publications he asserted that drunkenness and addiction were diseases, and his method—the Gold Cure and the institutional support—could cure them. The Gold Cure method was popular enough that other "Gold Cure" institutes opened up. This section includes literature from the Canadian-based "Father Murphy Gold Cure" company, its pamphlet that circulated in Ontario, and a letter of introduction as it sought to open a branch in London, England.

Institutions

57 Bellows, Rev. Henry W. and Prof. Roswell D. Hitchcock, *Addresses . . . in Behalf of the United States Inebriate Asylum* (New York: M. B. Wynkoop, 1855): 3–18
58 Peddie, A., "Appendix" in *The Necessity for Some Legalised Arrangements for the Treatment of Dipsomania, or the Drinking Insanity* (Edinburgh: Sutherland and Knox, 1858): 31–36
59 Anon, "Our Inebriates: Classified and Clarified by an Inmate of the New York State Inebriate Asylum." *Atlantic Monthly* (April 1869): 477–83
60 Anon, "Our Inebriates: Harbored and Helped, by an inmate of the New York Inebriate asylum." *Atlantic Monthly* (July 1869): 109–19
61 "Inebriate Asylums," Royal Commission on Asylums for the Insane and Inebriate, Colony of Victoria (1886): xvii–xx, cxix–cxxii
62 Grosvenor, J. W., "What shall we do with our alcoholic inebriates?" *Bulletin of the American Academic of Medicine* 2 (June 1895): 119–28
63 Watkins, Arnold H., "Inebriety or narcomania." *South African Medical Journal* Vol 4 (July 1896): 53–56
64 Rosenwasser, Charles A., "A plea for the establishment of hospitals for the rational treatment of inebriates." *Medical Record* 8 (May 1909): 795–98

In New York State, advocacy for an inebriate asylum began in the early 1850s, when the state legislature granted a charter to create an inebriate asylum provided the committee could raise capital of $50,000; it took over a decade to raise the minimum the committee needed to achieve the requirements of the charter.[71] The lectures by Rev. Henry W. Bellows (1814–1882) and Prof Roswell D. Hitchcock (1817–1887) were part of that campaign. Both argued for the need for an asylum to deal with what Bellows argued was "the immense proclivity of our people to this vice."[72] Both saw the asylum as a more humane way to treat the inebriate

than the current tendency to incarcerate the drunk until he was sober, but argued that drunkenness was not the same as crime, and that drunkenness was a vice not a crime, and the drunk was weak, not evil. Both also drew upon the ideas of Christian charity, seeing such an institution as essential to improve the nation and elevate the debased. When the asylum was finally constructed in Binghamton in the 1860s it received considerable attention from the public. Two articles included from the *Atlantic Monthly*, ostensibly written by inmates of the asylum, outlined the sort of good work that this "grand experiment in Social Science" was achieving, rhetoric that was infused heavily with temperance messaging.

Similar appeals to the state were found throughout the English-speaking world. Scottish physician Alexander Peddie (1812–1907) wrote his argument advocating for the creation of a state inebriety asylum around the same time that the New York temperance folks were building their revenue for the asylum, but his vision took far longer to realize. Nevertheless, Peddie's argument was seen as a foundational argument for state intervention in inebriety.[73]

Yet state-funded inebriate institutions were less readily realized. In the Canadian province of Ontario an inebriate asylum built in Hamilton Ontario was repurposed to be a lunatic asylum as the other asylums rapidly filled to capacity.[74] In the Australian colony of Victoria where several privately run inebriate "retreats" had been established, The Royal Commission on Asylums for the Insane and Inebriate called for the establishment of a state-run inebriate asylum. The government abolished private inebriate retreats in 1888, and purchased a previously private inebriate asylum, the Northcote retreat, in 1889.

Many people saw asylum treatment as the ideal way to deal with what seemed to be a growing trend towards inebriety. Buffalo, NY, physician J. W. Grosvenor lamented the lack of asylums for inebriates in a state that had the first inebriate asylum in the country; that his article was printed in the *Canada Lancet* might indicate that physicians in that country saw such an institution as long overdue. South African surgeon Arnold Watkins, after arguing that inebriety was a disease not a crime and that the only way to treat it was through institutional care, asked his audience "is it not time that South Africa followed the good example set . . . by other countries" and establish an inebriate home. New Jersey physician Charles A. Rosenwasser made a similar plea for his state, noting that "under proper treatment the outlook [for an inebriate's treatment] is as hopeful as it is in almost any other chronic disease" and that they can expect "marvelous results from the rational treatment of the inebriate."[75] Institutional treatment of inebriety was considered an imperative and necessity.

Notes

1 Harry G. Levine, "The Discovery of Addiction: Changing Conceptions of Habitual Drunkenness in America" *Journal of Studies on Alcohol* 15 (1978): 493–506.

2 Roy Porter, "The Drinking Man's Disease: The 'Pre-History' of Alcoholism in Georgian Britain" *British Journal of Addiction* 80 (1985): 385–96; Jessica Warner, "'Resolv'd to Drink No More': Addiction as a Preindustrial Construct" *Journal of Studies on Alcoholism* 55 (November 1994): 685–90; Peter Ferentzy, "From Sin to Disease: Differences and Similarities between Past and Current Concepts of Chronic Drunkenness"

Contemporary Drug Problems 28 (Fall 2001): 363–90; James Nicholls, "Vinum Britannicum: The 'Drink Question' in Early Modern England" *Social History of Alcohol and Drugs: An Interdisciplinary Journal* 22 (Spring 2008): 6–25.

3 Virginia Berridge, *Opium and the People: Opiate Use and Drug Control Policy in Nineteenth and Early Twentieth Century England* (London and New York: Free Association Books, 1999), p. 85.

4 For example, Alonzo Calkins, *Opoium and the Opium-Appetite: With Notices of Alcoholic Beverages, Cannabis Indica, Tobacco and Coca, and Tea and Coffee in Their Hygeienic Aspects and Pathological Relations* (Philadelphia: Lippincott, 1871); H. H. Kane, *Drugs That Enslave: The Opium, Morphine, Chloral and Hashisch Habits* (Philadelphia: Presley Blakiston, 1881); Norman Kerr, *Inebriety or Narcomania: Its Etiology, Pathology, Treatment, and Jurisprudence* (London: H.K. Lewis, 1894); Thomas Davison Crothers, *Morphinism and Narcomanais from Other Drugs* (Philadelphia and London: WB Saunders, 1902).

5 Sarah Tracey, *Alcoholism in America: From Reconstruction to Prohibition* (Baltimore: Johns Hopkins University Press, 2005) especially "Chapter 1: Disease concepts of Inebriety"; Berridge, *Opium and the People* especially "Ch 13: The Ideology of Opium: Opium Eating as a Disease"; Malleck, *When Good Drugs Go Bad: Opium, Medicine and the Origins of Canada's Drug Laws* (Vancouver: UBC Press, 2015) "Chapter 2: Opium in Nineteenth-Century Medical Knowledge" and "Chapter 5: Medicine, Addiction, and Ideas of Nation."

6 Berridge, *Opium and the People*, p. 154.

7 Ibid., p. 152.

8 Nicholls, *Politics of Alcohol*, p. 164.

9 Sarah Tracey discusses the AASCI's tension between morality and scientific objectivity in *Alcoholism in America*: *From Reconstruction to Prohibition* (Baltimore: Johns Hopkins University Press, 2005) for example, pp. 28–9.

10 Berridge, *Opium and the People*, pp. 154–5.

11 H. H. Kane, *Drugs that Enslave: The Opium, Morphine, Chloral and Haschisch Habits* (Philadelphia: Presley Blakiston, 1881).

12 Hickman, "The Double Meaning of Addiction," pp. 185–7.

13 Trotter, *Essay . . . on Drunkenness*, p. 43. By "diseases" Trotter is not defining habituation as a disease, but rather various physical ailments caused by chronic use.

14 Rush, *Inquiry*, p. 13.

15 The connection between opium and alcohol in early nineteenth-century medical writing is discussed extensively in Malleck, *When Good Drugs Go Bad* esp pp. 111–28.

16 Berridge, *Opium and the People*, p. 82.

17 See for examples, S. W. F. Holloway, *Royal Pharmaceutical Society of Great Britain 1841–1991* esp Chapter 5 "The 1868 Pharmacy Act" (London: Pharmaceutical Press, 1991); Berridge, "Chapter 10, the 1868 Pharmacy Act" *Opium and the People*, pp. 113–22; Malleck, "Chapter 3: Canada's First Drug Laws," *When Good Drugs Go Bad*, pp. 53–83.

18 F. W. Kielhorn, "The History of Alcoholism: Brühl-Cramer's Concepts and Observations" *Addiction* 91 (January 1996): 121–8.

19 Nicholls, *Politics of Alcohol*, p. 167.

20 Sarah Tracey, *Alcoholism in America* Chapter 3 "Institutional Solutions for Inebriety": 92–121.

21 Discussed in various places. Berridge, *Opium and the People*, pp. 150–70; Tracey, *Alcoholism in America*, pp. 107–14; Mariana Valverde, "'Slavery from within': The Invention of Alcoholism and the Question of Free Will" *Social History* 22 (October 1997): 251–68.

22 See George M. Beard, "Causes of the Recent Increase of Inebriety in America" *Quarterly Journal of Inebriety* 1 (December 1876): 25–48.

23 Baumohl and White, "Treatment Institutions" in Jack S. Blocker, David M. Fahey, and Ian R. Tyrrell, eds., *Alcohol and Temperance in Modern History: An International Encyclopedia* (Santa Barbara, CA: ABC-Clio Press, 2003) II: 619–24.
24 Jim Baumohl, "Inebriate Institutions in North America, 1840–1920" *British Journal of Addiction* 85 (September 1990): 1187–204; Crowley and White, *Drunkard's Refuge*; White, *Slaying the Dragon*.
25 Tracey, *Alcoholism in America*, pp. 16–18; Crowley and White, *Drunkard's Refuge*, pp. 1–13. On asylums see William F. Bynum, Roy Porter and Michael Shepherd, eds., *The Anatomy of Madness: Essays in the History of Psychiatry, Vol III: The Asylum and Its Psychiatry* (London and New York: Routledge, 1988); Roy Porter and David Wright, eds., *The Confinement of the Insane: International Perspectives, 1800–1965* (Cambridge: Cambridge University Press, 2003); Janet Miron, *Prisons, Asylums, and the Public: Institutional Visiting in the Nineteenth Century* (Toronto: University of Toronto Press, 2011).
26 Crowley and White, *Drunkard's Refuge*.
27 Nicholls, *Politics of Alcohol*, p. 163.
28 Ibid.
29 Heron, *Booze*, p. 142; Report of the Inspector of Asylums, *Sessional Papers of the Legislature of the Province of Ontario*, 1877, Sessional Paper 2, p. 34.
30 Milton James Lewis, "Inebriate Institutions (Australia)" in Blocker et al., *Alcohol and Temperance in Modern History* 1, pp. 312–313. Info on two asylum system comes from www.oddhistory.com.au/guys-hill-ub/inebriates-hill/. For NSW see the failed inebriate asylum project of the temperance advocates in Sydney: S*ydney Morning Herald*, September 25, 1874.
31 Dan Malleck, *Refining Poison, Defining Power: Medical Authority and the Creation of Canadian Drug Prohibition Laws, 1800–1908* (PhD Dissertation, Queens University, Kingston, 1999), pp. 156–61.
32 Arnold Jaffe, "Reform in American Medical Science: The Inebriety Movement and the Origins of the Psychological Disease Theory of Addiction, 1870–1920" *Addiction* 73 (1978): 139–47.
33 Joseph Spillaine, *Cocaine: From Medical Marvel to Modern Menace in the United States, 1884–1920* (Baltimore: Johns Hopkins University Press, 2000). p. 8.
34 See Timothy A. Hickman, *The Secret Leprosy of Modern Days: Narcotic Addiction and the Cultural Crisis in the United States, 1870–1920* (Boston and Amherst: University of Massachusetts Press, 2007), pp. 76–7; Spillaine, *Cocaine*, pp. 7–42.
35 Spillaine, *Cocaine*, pp. 137–9. See also Berridge, *Opium and the People*, pp. 220–2; Malleck, *When Good Drugs Go Bad*, pp. 89–93.
36 The Pharmacy Act in Great Britain was modified in 1892 to forbid the sale of proprietary medicines that contained scheduled poisons except through a pharmacist, thereby eroding the patent medicine market in that country. See Berridge, *Opium and the People*, pp. 130–1.
37 Courtwright, *Dark Paradise*, pp. 46–8; Berridge, *Opium and the People*, pp. 140–4; Hickman, *Secret Leprosy*, pp. 38–42.
38 Barry Milligan, "Morphine-Addicted Doctors, the English Opium Eater, and Embattled Medical Authority" *Victorian Literature and Culture* 33 (2005): 541–53; Courtwright, *Dark Paradise*, pp. 36–42; Spillaine, *Cocaine*, pp. 39–40; Berridge, *Opium and the People*, pp. 144–5.
39 Catherine Gilbert Murdock, *Domesticating Drink: Women, Men and Alcohol in America, 1870–1940* (Baltimore: Johns Hopkins University Press, 2002); Carol Mattingly, *Well Tempered Women: Nineteenth Century Temperance Rhetoric* (Carbondale, IL: Southern Illinois University Press, 1998); Warsh, "Oh Lord Pour a Cordial in Her Wounded Heart"; Tracey, *Alcoholism in America*, pp. 46–7.

40 Nicholls, *Politics of Alcohol*, pp. 171–6; Courtwright, *Dark Paradise*, pp. 124–6.
41 Nicholls, *Politics of Alcohol*, pp. 173–5.
42 Hickman, *The Secret Leprosy of Modern Days*. It is not ironic that Hickman's title comes from a phrase uttered by Keeley.
43 Discussed in Virginia Berridge, "Opium Eating and Life Insurance" *British Journal of Addiction* 72 (1977): 371–7.
44 It is unsigned although some believe it was written by Transylvania, PA, physician Dr John Eberle.
45 Biography of Little, OrnaVerum, www.ornaverum.org/family/little/little-robert-1819-summary.html
46 "Dr. D McGillivray" *Ottawa Daily Citizen*, 25 December 1866, p. 1.
47 Berridge, *Opium and the People*, pp. 151, 161.
48 Briefly mentioned in Timothy Alborn and Sharon Ann Murphy, *Anglo American Life Insurance 1800–1914: Mortality and Risk* (London and New York: Routledge, 2014), III 3, p. xv.
49 See H. Knapp, ed., *Cocaine and Its Use in Ophthalmic and General Surgery* (New York and London: G. P. Putnam's Sons, 1885).
50 Sigmund Freud, "Coca" [Trans S Pollack] *St. Louis Medical and Surgical Journal* 47 (1884): 505.
51 Berridge, *Opium and the People*, pp. 218–19; Spillaine, *Cocaine*, p. 18.
52 J. Leonard Corning responding to Hammond in W. A. Hammond, "Remarks on Cocaine and the So-Called Cocaine Habit" *Journal of Nervous and Mental Disease* 13 (1886): 758.
53 J. B. Mattison, "Cocainism" *Medical Record* 42 (1892): 474.
54 Stephen Lett, "Cocaine Addiction and Its Diagnosis" *Canada Lancet* 31 (December 1898): 829.
55 On the racial construction of black cocaine use, see Hickman, *Secret Leprosy of Modern Days*, pp. 72–80.
56 Thomas Davison Crothers, "Cocainism" *Quarterly Journal of Inebriety* 32 (1910): 79.
57 W. Blair Stewart, "Heroin" *Medical Bulletin* 23 (1901): 88.
58 George E. Pettey, "The Heroin Habit Another Curse" *Alabama Medical Journal* 15 (1903): 174. Pettey's dates are found on his grave, www.findagrave.com/memorial/88106816/george-eugene-pettey
59 "Phillips, John" *Encyclopedia of Cleveland History*, https://case.edu/ech/articles/p/phillips-john
60 Tracey, *Alcoholism in America*, pp. 28–9 on how Willett's views fit in the AACI ideas of intemperance.
61 Rev John Willett, "The Dogma of Human Responsibility: More Especially as It Related to Inebriety" (Reprinted from *Quarterly Journal of Inebriety* 1 (September 1877): 193–211) (Fort Hamilton (Printed at the Inebriates Home for Kings County, 1877): 10.
62 Crothers Hammond and Edson Carpenter, "Is Drunkenness Curable?" *North American Review* 153 (1891): 361. On Carpenter's background, see advertisement for the home in *Medical Review of Reviews* (26 December 1898): 19; also entry in *Directory for the Charitable Eleemosynary, Correctional and Reformatory Institutions of the State of New York* (Albany: James B Lyon, 1892), p. 290.
63 On Edison's background, see "Dr Cyrus D Edson Dies in New York" *Buffalo Evening News* 3 December 1903; "Dr Edson Exposed by His Partner" *Pharmaceutical Era* (3 September 1896), p. 306.
64 Julie Baker, "Prohibition and Illicit Liquor on the Witwatersrand, 1902–1932" in *Liquor and Labor in Southern Africa*, ed. Jonathan Crush and Charles Ambler (Athens, OH: Ohio University Press, and Durban, South Africa, Natal University Press, 1992): 139–61; Dunbar Moodie, "Alcohol and Resistance on the South African Gold Mines, 1903–1962" in Crush and Ambler, *Liquor and Labour*: 162–86.

65 Charles P. Emerson, "Alcoholism and Disease" *The Survey* 25 (October 1910): 43.
66 Ibid., p. 46.
67 T. Clifford Albutt, "On the Abuse of Hypodermic Injections of Morphia" *Practitioner* 5 (1870): 330.
68 Richard Dewey, "Addiction to Drugs, Especially in Reference to the Medical Profession" *Medical Age* 18 (1900): 325.
69 T. J. Happel, "Morphinism from the Standpoint of the General Practitioner" *JAMA* 35 (1900): 409.
70 Musto, *American Disease*, pp. 14–19.
71 Crowley and White, *Drunkard's Refuge*, pp. 21–3.
72 Henry W. Bellows and Roswell D. Hitchcock, *Addresses . . . on Behalf of the United States Inebriate Asylum* (New York: M B Wynkoop, 1855), p. 6.
73 Nicholls, *Politics of Alcohol*, pp. 162–4.
74 "Eight Annual Report of the Inspector of Asylums, Prisons etc for Ontario" Sessional Paper No 4, *Sessional Papers of the Province of Ontario* (1875), p. 8; "Ninth Annual Report of the Inspector of Asylums, Prisons etc for Ontario" Sessional Paper No 2, *Sessional Papers of the Province of Ontario* (1876), p. 1.
75 Charles A. Rosenwasser, "A Plea for the Establishment of Hospitals for the Rational Treatment of Inebriates" *Medical Record* 8 (May 1909): 798.

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Part 1

IS THE OPIUM HABIT A PROBLEM?

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1

GEORGE W. CARPENTER, 'OBSERVATIONS AND EXPERIMENTS ON OPIUM', *AMERICAN JOURNAL OF SCIENCE AND ARTS*, 13, 1828, 17–32

Opium

Its varieties and appearance in commerce, &c

THIS important article, from its extensive usefulness, in modifying and alleviating the most afflicting and painful diseases, incident to human nature, merits perhaps the most conspicuous place in the materia medica, and yet from the frequent abuse by injudicious administration, and more particularly, from improper pharmaceutical preparations, produces many injuries and distressing consequences. It is therefore an important inquiry to discover the causes of these inconveniences. For this end I have made a series of experiments, and am happy to submit the result, in the following observations. Before however, immediately entering upon the pharmaceutical preparations, it may not perhaps be improper to offer a very concise view of the *natural history* and physical characters of this article, as it occurs at the present day in our commerce.

Opium is the product of the Papaver Somniferum, and is the inspissated juice of the capsules of that plant. It has been improperly termed a gum by many authors and the error prevails to the present day. It is a native of the southern parts of Asia, it may however be raised in our gardens and is now cultivated in England on an imposing scale, and increasing for several years. It possesses the same properties as the Turkey or East India opium, and is more pure, containing a larger proportion of soluble matter. The Turkey opium has hitherto possessed the best reputation and has been considered superior to any other. Dr. Thomson* informs us, that he obtained nearly three times more morphia from the Turkey opium, than was yielded by the same quantity of East India. I have treated equal quantities of Turkey and English opium by the same process, and obtained twenty per cent. more

* London Dispensatory.

morphia from the latter than the former; this would sanction a superiority in favor of the English, which I believe it possesses, and which I think is to be attributed to the careful manner in which it is prepared.

The following are the prominent characters of the several varieties of opium, by which they may be easily distinguished.

Turkey opium is of a reddish brown colour possessing a strong narcotic odour, of a solid and compact consistence, when dry has a shining and uniform fracture of a dark brown colour, producing a reddish brown powder; the best kind is generally in flat pieces.

East India opium is of thin consistence, sometimes almost like that of honey; when dry it is more friable, its colour nearly black and possesses less bitter and a more nauseous taste than the *Turkey;* it has a strong empyreumatic odour, and not the narcotic heavy odour which is so sensible in the Turkey; it is considerably cheaper but much inferior in strength to the latter, and according to Dr. Thomson, contains but one third the quantity of morphia, and a larger proportion of narcotine, which renders it a far less desirable article. Dr. Coxe, in his valuable American Dispensatory, remarks, that one eighth the cakes is allowed for the enormous quantity of leaves with which they are enveloped. This opium is little used in this country and is seldom if ever to be found in the shops of our druggists.

English opium is generally in smaller cakes, frequently thin and flat, of a more permanent consistence, of a clear smooth fracture and is in a great measure destitute of leaves, stalks, and other impurities which generally accompany the preceding varieties. It has the general character of being superior in quality to the Turkey opium which chemical analysis* has determined. The quality of opium differs materially, even that from the same country, climate and soil. This arises, no doubt in many instances, from the manner in which it is prepared and cultivated. It is frequently found in our market mixed with leaves, stalks, seeds, &c. and from the great

* It is to chemistry that we are indebted for many important facts in relation to opium, and for the knowledge of the nature of morphia, and narcotine, the two active principles of opium, thus disclosing a very singular fact, that principles of a directly opposite nature exist in the same substance, and exercise individually their particular effects on the constitution. This entirely subverts several hypotheses which had been framed to account for the modus operandi of this medicine. Many are opposed to chemical analysis as a correct mode of discovering the virtues of medicines particularly vegetable substances. Dr. Young among others was of this opinion, and stated as an argument to support his doctrine, that Geoffroy discovered by chemical analysis that the soporific quality of opium depended upon the sulphur which it contained. (See Young on opium.) We might agree with Dr. Young, if the science of chemistry was in no greater advancement than in the times alluded to, and did experiments upon opium now lead to similar conclusions, we might as well reject as useless, the analysis of cinchona because a chemist has asserted that the comparative quantities of the active principles (quinine and cinchonine) yielded by the Carthagena bark were in proportion to the quantity yielded by the Calisaya as one to seventy. If errors so palpable as these would have retarded the spirit of investigation, or diminished the zeal of the scrutinizing chemist, the science, instead of holding the high reputation it now possesses, would long since have dwindled into obscurity. We must however expect that some errors and absurdities will creep into every department of science.

proportion of these admixtures in some opium, it would lead to the conjecture that the leaves were worked in when the opium was in a very soft and recent state, for the purpose of increasing its weight and the degree of its consistence. I have seen opium whose external characters possessed all the features of superior quality, and when broken, exposed a large proportion of the leaves and capsules of the poppy, which although it does not alter the particular effects, must diminish the activity of the opium in direct proportion to the quantity and weight of these extraneous and insoluble matters, and I have ascertained by careful experiments that the quantity of soluble or extractive matter by the same menstrua and process, yielded by different parcels of opium, varied from four and a half to five and six drachms in the ounce.

The consumption of opium is almost incredible. In the year 1800, 46,808 pounds were consumed in Europe, and the quantity has been increased largely every year since. In 1809 the revenue which the Bengal government derived from the sale of *opium* was £594,978 and the exports of opium from Calcutta to China alone in 1811–12, amounted to 4,542,968 Sicca Rupees, £567,871* The supply of Calcutta for 1827 is rated as follows:

Bengal, - - - - - - - - - - -	6,570	chests.
Mahia, - - - - - - - - - - - -	4,000	"
Mahia, smuggled, - - - - - -	1,500	"
Turkey, - - - - - - - - - - - -	1,000	"
	13,700	chests.

The supply for 1826 was 10,300 chests making an increase of 3,400 chests in the last year.

The speculating spirit in this article at Calcutta is at present said to be in a depressed state, which is attributed to the large supply, but is perhaps produced still more, by the scarcity of the circulating medium.

Although opium is prohibited by the Chinese government, yet about 2000 chests are annually imported into Canton the average sale price being 1200 dollars per chest making the amount annually expended by Canton for this drug the enormous sum of 2,400,000 dollars; about 40,000 pounds are annually imported into London.

In the provinces of Bahar and Benares, among the most productive of the East Indies, the common product of opium is 24 pounds to an acre, besides which the cultivator reaps about forty pounds of seeds. The preparation of the raw opium is under the immediate superintendence of the company's agent, who adopts the following method to prepare it. It consists in evaporating by exposure to the sun, the watery particles, which are replaced by oil of poppy seeds to prevent the drying of the resin. The opium is then formed into cakes, and covered with the petals of the poppy, and when sufficiently dried, it is packed in chests with the fragments of the capsules, from which the poppy seeds have been threshed out. It is said opium is sometimes vitiated with an extract from the leaves and stalks of the poppy and with the gum of the mimosa.

* Hamilton's East India Gazetteer.

The cultivation of opium in England if pursued extensively will influence the price of the article in our market.* It has lately been cultivated more successfully by a Mr. Young than any other person who has yet attempted its culture in Great Britain, and from which more flattering expectations are entertained of its success. Dr. Coxe however in his standard work, the American Dispensatory, observes it is apprehended that the climate of Great Britain will be an insuperable obstacle to its becoming a profitable branch of agriculture. It has been obtained in the United States where this objection will not prevail.† I think the southern states, particularly the Carolinas and Georgia are admirably adapted, from climate, soil, &c. for the cultivation of the poppy, and this plant if properly managed, would no doubt become a source of considerable profit to the cultivator, if not an immense revenue to the states and a most important addition to the productions of our country.

The opium raised in England, has been used for several years by physicians and surgeons, who pronounce it superior to the best Turkey and East India opium. One thing is very certain, it is prepared with more care and attention, and is more free from leaves and other impurities. The fracture of English opium, when dry, is as smooth and uniform as that of liquorice. What I have seen has been put up in small flat cakes and is of a good consistence. Opium is frequently put up in a soft state and packed with a large proportion of leaves to prevent the lumps from adhering together, these leaves adhering to the sides are gradually taken into the body of the opium, which with those previously incorporated with it, constitute the impurities already described.

Observations and experiments on the Pharmaceutical preparations and constituent principles of Opium; by George W. Carpenter.

Extract of opium

One of the advantages which the extract of opium possesses over the crude opium of commerce, is, that all the fœculencies and impurities having been separated, we obtain the soluble and active portion of the opium, in a pure state, and

* Messrs. Cowley and Stains of Wainslow in the season of 1822 raised 143 pounds of excellent opium from 11 acres and 5 poles of land, for which they received a premium from the society instituted at London for the encouragement of arts, manufactures and commerce. A medal has been given by the society to J. W. Jeston, Esq. surgeon, for an improvement in collecting the juice of the poppy, which consists in collecting it immediately after it exudes from the capsules instead of allowing it to be inspissated on the capsule. The capsule is scarified with a sharp instrument guaged to a proper depth, when the juice is scraped off with a kind of funnel form scoop, fixed into the mouth of a vial, when one vial is filled, the scoop is removed to another, and the juice is evaporated in shallow pans; some varieties are much more productive than others. (See transactions of the society of manufactures and commerce, vol. 41.)

Mr. Ball in 1796, received a premium from the society for the encouragement of arts for a specimen of British opium little inferior to the oriental. (Transactions of the society of arts, vol. 14, 260, 270.)

† Philadelphia Medical Museum, Vol. II, page 428.

as the insoluble and impure parts produce no effect, and constitute a considerable proportion of the bulk and weight, the opium of commerce must differ in proportion to the amount of these impurities, and consequently cannot be depended upon so well as the extract for activity or uniformity of strength. The extract of opium, as it is generally made, is very objectionable, not being more active than crude opium, and consequently is seldom or never employed by our physicians. From various modes and different menstrua which I have tried, I find the following to make the most eligible preparation, possessing most advantages both in the activity and persistency of the extract, as well as having a decided superiority over crude opium, by affording all its desirable effects, without any of its inconvenience or disadvantages.

Denarcotized acidulous extract of opium

Digest one ounce of coarsely powdered opium in one pound of sulphuric æther of the specific gravity .735 for ten days,* occasionally submitting it to a moderate heat in a water bath; distil off the æther and add fresh portions until it ceases to take up narcotine or act at all upon the opium, which may be readily known by dropping a little on a clean pane of glass which will leave no trace when the opium is completely exhausted. The second or third distillation will prove sufficient, and most of the æther may be saved, if prepared with care and in a proper apparatus. Professor Hare recommends the digestion of the opium in æther, to be performed in the Papins digesters; submit the opium thus treated to the action of spt. vin. Rect. eight ounces, acid acetic pur. one ounce,† aquæ seven ounces, and digest for seven days, filter and evaporate in a water bath to the consistence of an extract; this in fact will be an impure acetate of morphia, possessing most of the advantages of that valuable medicine. One ounce of the best Turkey opium yielded by this process six ounces of extract. Laudanum and other preparations may be made of the usual standard, calculating six ounces of the extract equivalent to one ounce of opium.

Denarcotized acidulous tincture of opium

Digest one ounce of coarsely powdered opium in one pint of sulphuric æther specific gravity .735, for ten days, occasionally submitting it to the influence of a moderate heat, until it ceases to act upon the opium, separate the opium and dry it, then digest in spt. vin., rect. eight ounces, acid acetic fort. two ounces, aquæ three ounces, for seven days and filter. This preparation will be found to possess great advantages over laudanum, and the black drop of the shops, to which it will be much preferred, inasmuch as it will be deprived of the stimulating principle

* When it is necessary to prepare it in haste, less time may be employed by subjecting the æther more frequently to the temperature of ebullition.

† Acid pyroligneous, pure.

(narcotine) which produces such distressing effects, and frequently prevents the administration of opium, where it might otherwise be extremely useful; the addition of acetic acid will contribute much to increase the calming or sedative effects which are most generally desired, and for which opium is particularly given. By its union with morphia, it forms in solution the active sedative salt of opium, (acetate of morphia,) and differs only from the solution of the acetate of morphia of the shops in its state of purity, and as the extraneous matter with which it is associated has no effect on the animal system, it may be considered as good an article, and should be preferred for general use in consequence of being much less expensive. As this preparation will always possess uniform strength, and a like proportion of opium, it certainly deserves a conspicuous place among our pharmaceutical preparations, and is justly entitled to supersede, entirely, the common black drop of our shops, which is a very uncertain preparation, differing every where in activity, from the indefinite and vague manner in which it is directed to be made, to say nothing of the worse than useless articles which enter into its composition, such as yeast, nutmegs, and saffron.* The black drop owes its superiority over laudanum to the acetic acid in its composition, and to that alone, and it will be admitted by those conversant with these materials, that acetic acid exercises a most powerful influence in modifying the effects of opium, and I can account for it in no other way than by its union with the morphia; which

* It is a circumstance of a singular nature that so imperfect and unscientific a preparation, should so long have maintained a place in our materia medica. I believe there is no formula for the most innocent compound in the pharmaceutical catalogue, so extremely indefinite in describing the mode of its preparation, and allowing so great a scope to the judgment of the operator. In the first place, the vinegar containing the opium, nutmeg, and saffron is directed to be boiled to a proper consistence. The activity of the preparation will consequently be subject to as much variation as the ideas of persons may differ in relation to what is termed a proper consistence, and while one person after evaporating perhaps one-eighth of the menstrua would consider it of proper consistence, another might think it necessary to reduce it one-fourth, and a third might even conceive that one half was the right consistence, and the strength of the preparation would consequently be subject to a like enormous variation. In the second place, we are directed to digest for seven weeks, and then place in the open air until it becomes a syrup. We cannot see the propriety of digesting so long a time, if it be at all necessary, when the menstruum if not saturated with opium by the previous boiling, has at least taken up all its soluble matter. Exposing it to the air until it becomes a syrup, is subject to as many objections as boiling to a proper consistence, and is almost as indefinite. The consistence of a syrup is of no fixed standard, but differing from a thin fluid to the density of honey. It is lastly directed to be bottled and a little sugar to be added to each bottle. What quantity is meant by a little sugar, and what size the bottles are to which it is to be added, we are left to surmise; the strength of the preparation will of course be diminished and subject to variation, in a ratio with the quantity which each individual may think proper to add, to say nothing about the worse than useless addition of sugar to what is already a syrup. We think an article so active as the black drop should be prepared with more care, and particular and specific directions given for the mode of its preparation. A very ingenious essay upon this subject is given by Mr. Thomas Evans, in the journal of the Philadelphia College of Pharmacy.

being thereby rendered more soluble this union will consequently facilitate or produce its effects, which are directly sedative in place of the stimulating effects of opium in its natural state. The Persians and others who make use of opium to excess, frequently swallow draughts of vinegar immediately after the opium. Dr. Crump observes, that when a patient finds himself in a distressed situation, he has recourse to a piece of opium as big as his thumb, and immediately after, drinks a glass of vinegar; this throws him into a fit of laughter and every extravagance of mirth, and frequently terminates in death.

To make the denarcotized extract, it has been recommended by M. Robiquet to make a watery infusion of the opium and to evaporate the aqueous solution to the consistence of thin honey; which is to be digested in æther instead of using the powdered or shaved opium, (as described in the above and in Dr. Hare's formula given in the preceding number of this journal.) I consider this a worse than useless expenditure, for the æther will act fully as well, if not more readily, upon opium in powder, than upon an extract containing water, and it is generally admitted, at least by the best authorities, Coxe, Thomson, and Paris, that the narcotic powers of opium are impaired by boiling in water, under exposure to air. Hence it is that the officinal preparation, opium purificatum, which formerly was highly recommended, is found to be no better than crude opium, perhaps even less active, from which circumstance it has become almost obsolete, and is rarely to be found in our shops. Under this article, Dr. Coxe in his American Dispensatory very justly observes, that in consequence of the changes which opium undergoes, by solution and subsequent evaporation (alluding to the opium purificatum,) well selected species of crude opium are to be preferred to this preparation. I cannot see the object or any advantages to result from making a watery extract, as the opium deprived of narcotine will be quite as subject to the action of proof spirits or any other menstrua with its fœculencies, as the crude opium. We do not make a watery extract of opium in the preparation of laudanum, and it would be quite as necessary in this as in the former case. Besides, water is not the most eligible menstruum for the solution of the active matter of opium. Morphia is sparingly soluble in water and the meconiate nearly the same; we therefore obtain but a portion of the sedative principle, as a part of the morphia will remain with the fœculencies undissolved, a less active preparation will therefore be made, but with more labor and expense than by submitting at once the crude opium to the action of æther, and the residue to proof spirits, as in the above formula, which the addition of acetic acid is admirably adapted to improve, by rendering the morphia more soluble, and consequently more active, in the same manner and nearly in the same ratio, as sulphuric acid united with quinine, which, by increasing its solubility, renders it much more active and efficient. Dr. Thomson, speaking of morphia, observes, that in its uncombined state, being scarcely soluble in water, or in the fluids of the stomach, it does not display its properties in a striking manner when exhibited alone, but these are very striking when combined with an acid, particularly the *acetic*. I would here remark that

the acetate of morphia* of the shops, is a sub-acetate and is less active than the acetate or super-acetate, which being a deliquescent salt, it is necessary to keep it in solution; it is therefore requisite in making the solution from the sub-acetate to add acetic acid rather in excess, than under neutralisation. The following is the formula I have adopted, which will make a handsome solution and is a preparation which will keep.

Sub-acetate of morphia - - - - - - - - - - - - 12 grs.
Alcohol acidulated with twelve drops of acetic acid pure
(concentrated pyroligneous acid) - - - - - - - 1 drachm.
Distilled water - - - - - - - - - - - - - - 1 oz.

Dissolve the morphia in the acidulated alcohol, adding the water by degrees, and filter; dose of the solution from fifteen to twenty drops.

This preparation has been very successfully used by Dr. Holcombe of Allentown, and Dr. Canfield of Arneytown, New Jersey, in cases where other preparations of opium produced such distressing effects as frequently to prevent its administration. This preparation is now extensively employed, and is attended with the happiest consequences.

Narcotine

By the following process I obtained narcotine in a perfectly pure state.

Digest one ounce coarsely powdered opium in one pint of æther for ten days, frequently submitting it to ebullition in a water bath; separate the æther, and add fresh portions, until the opium is exhausted; evaporate at the common temperature of the atmosphere, by placing the ætherial solution in a salt mouth bottle, remove the stopper and cover the mouth with bibulous paper, to prevent impurities falling in, and protract the degree of evaporation; as the æther is reduced, it leaves the sides of the bottle coated with crystals of narcotine; as the solution becomes more dense the crystals enlarge and accumulate, and the bottom of the vessel is covered with large transparent crystals, accompanied with a brown viscid liquor and extract which contains an acid, resin, caoutchouc, &c.; separate these substances from the crystaline mass, and wash the salt in successive portions of cold æther, to remove the extract. After the crystals have been sufficiently washed, dissolve them in warm æther and evaporate slowly as before, when most beautiful snow white crystals of perfectly pure narcotine will adhere to the sides of the vessel; those on the sides of the bottle assume plumose and aborescent forms which being made up of delicate acicular crystals of a silky lustre, possess a most beautiful appearance. As the ætherial solution becomes more dense by a concentration of the narcotine, the crystals enlarge and the bottom of the vessel, as before, is

* I found in one instance the morphia, under the *name* of acetate, perfectly uncombined with acid. This would certainly have a tendency to deteriorate the activity of this valuable medicine, and also to ruin the just reputation this article has acquired; it is therefore highly important to test this salt when you administer it in substance. When in solution it must be united with acid, as morphia is insoluble in water.

covered with perfectly pure narcotine, assuming the rhomboidal prismatic form, with some beautiful modifications of macled crystals; the crystals at the bottom and sides approaching the bottom, are perfectly transparent, while the most minute at the top are opaque being snow white. By picking out the largest and most regular crystals, and again dissolving them and evaporating and repeating the same process, each time selecting the largest and best crystals, I obtained perfect crystals one eighth of an inch in diameter, and I believe by continuing to operate in the same manner, much larger might be obtained, as they increased by every crystalisation.

Resin, caoutchouc, oil and acid

These substances are the constituents of the extractive matter which covers the crystals, and is separated in the manner above described; on evaporation it forms an extract without signs of crystalisation. This substance possesses all the heavy narcotic odour of the opium. The narcotine, when perfectly separated from this substance has very little odour and the denarcotized extract and laudanum possess less, in fact so little that they could hardly be detected as preparations of opium by the odour; the strong odour of the extract arises from the oil of opium which it contains. The activity of Baume's celebrated extract, is considered by Neuman to reside in the oil and resin. The acid which exists in this compound has not been sufficiently examined to enable us to say any thing definite in relation to it. The characters of the caoutchouc are very prominent. I have not tried the effects of this combination upon animals, nor have I seen a description of it, but judging merely from its sensible characters, it would appear more active than the narcotine.

Morphia

This substance exists in opium in union with meconic acid, its action on the human body is that of a sedative, and it possesses all the advantages which we may expect to find in opium, without any of its inconveniences. Different modes of preparation have been described by Robiquet, Derosne, Choulant, Statuerner and others. Dr. Thomson gives an easy method to obtain it in a state of purity. He employs ammonia instead of magnesia, to decompose the natural meconiate, &c. (see Annals of Philosophy for June, 1820.) The sedative powers of morphia become more manifest, when combined with an acid, particularly the acetic, which arises from increasing its solubility. Morphia is very soluble in olive oil, and according to the experiments of M. Majendie, the compound acts with great intensity. I am indebted to Dr. Coxe for the following interesting history of the crystaline forms of its saline compounds.

The *Carbonate* crystalises in short prisms.

The *Acetate* in soft silky prisms, and is very soluble and extremely active, more so than any other combination of morphia.

The *Sulphate* in arborescent crystals, next in solubility to the acetate and rather less active.

The *Muriate* in plumose crystals, much less soluble; when evaporated, it concretes into a shining white plumose mass on cooling.

The *Nitrate* in prisms grouped together.

The *Meconite* in oblique prisms sparingly soluble.

The *Tartrate* in prisms.

From either of the above combinations morphia may be separated by ammonia.

The acetate of morphia is the most active preparation, and as it is a very deliquescent salt, it is extremely difficult to obtain it in crystals. Under these circumstances, the following process has been recommended to make the acetate from the morphia.

Take morphia 4 parts, distilled water 8 parts, dilute the morphia in a porcelain vessel, afterwards add acetic acid sp. gr. 1.075, (pure concentrated pyroligneous acid,) until turnsol paper becomes scarcely red by its action; evaporate the solution to the consistence of syrup, continue the evaporation slowly either in the sun or in a stove, collect the salt and reduce it to powder.*

The sulphate is the next most active salt of morphia, and is employed where patients have been accustomed to the use of the acetate, for generally by varying the salts of alkaline medicines, their action may be kept up longer without increasing the dose too considerably. Formulas for the preparation of these salts in syrups, mixtures, solutions, &c. are given in Haydens, Formulary and Formulaire de Montpellier.

The other salts of morphia, with the exception of the citrate, tartrate and meconite have not yet been employed in medicine.

Meconic acid

Exists in combination with morphia, in crude opium, forming a meconite of Morphia; it is to this salt that laudanum owes its narcotic effects. Our distinguished chemist Dr. Hare, has in the preceding number of this Journal, given an easy process for obtaining this acid; the same gentleman has also given in the same number of the Journal, a very delicate test and an easy mode of detecting minute quantities of opium in solution. It consists in precipitating the meconic acid with acetate of lead; the meconic acid is liberated from the lead by sulphuretted hydrogen or sulphuric acid, to which add a solution of the sulphate of iron which produces a striking red colour. Professor Hare observes, that a quantity of opium not exceeding ten drops of laudanum may be detected in a half gallon of water; his observations on the subject are well worthy of the attention of the chemist and pharmaceutist.

* Pharmacopeia Gallica, 1818, page 387.

Fœculencies, &c

The fœculencies and insoluble matter of opium consist chiefly of the leaves, capsules and stems of the poppy; besides these however, extraneous matters are frequently found, having been fraudulently introduced to increase its weight. The insoluble matters in different parcels of opium vary from one and a half to near three drachms to the ounce.

The effects of opium are generally so well known that it is unnecessary to give a description of it.* Sometimes, however, it exercises very remarkable effects on the constitution, differing materially in its action on different individuals. A case is mentioned in the Archives Générales de Medicine for December, 1826, of a lady of nervous temperament, who on taking a draught in which there was

* The following particular account of the effects of opium on the Turks, by Baron de Tott, will no doubt be interesting to many readers. Speaking of those who give themselves up to its immoderate use, he says, "Destined to live agreeably only when in a sort of drunkenness, these men present above all a curious spectacle, when they are assembled in a part of Constantinople called *Teriaky Tcharchissy,* the market of opium eaters. It is there that towards evening one sees the lovers of opium arrive by the different streets which terminate at the *Solymania,* whose pale and melancholy countenances would inspire only compassion, did not their stretched neck, their heads twisted to the right and left, their back bones crooked, one shoulder up to the ears, and a number of other whimsical attitudes which are the consequences of the disorder, present the most ludicrous and the most laughable picture. A long row of little shops is built against one of the walls of the place where the mosque stands. These shops are shaded by an arbor which communicates from one to the other, and under which every merchant, without hindering the passage, takes care to place a small sofa for his customers to sit on, who place themselves in succession, to receive a dose proportioned to the degree of habit and want they have contracted. The pills are soon distributed, the most experienced swallow four of these, larger than olives, and every one drinking a large glass of cold water upon it, waits in some particular attitude for an agreeable reverie, which at the end of three quarters of an hour or an hour at most, never fails to animate these machines, but they are always very extraordinary and their manners very gay. This is the moment when the scene becomes most interesting; all the actors are happy, each of them returns home in a state of total ebriety, but in the full and perfect possession of a happiness which reason is not able to procure him. Deaf to the hootings of the passengers they meet with, who divert themselves by making them talk nonsense, every one of them firmly believes himself in possession of what he wishes. They have the appearance and feeling of it, and the reality frequently does not produce so much pleasure. The same thing happens in private houses, where the master sets the example of this strange debauch. The men of law are most subject to it, and all the Dervises used to get drunk with opium, before they learned to prefer the excess of wine. There are instances of persons getting drunk indifferently with opium or with brandy. There is a decoction made of the shells and seeds of the poppy; this the Persians call Locquenor, and they sell it publicly in all their cities as they do coffee. The Persians say it entertains their fancies with pleasant visions, and a kind of rapture; they very soon grow merry, and then burst into a laugh, which continues till they die away in a swoon. It is found by those who have a disposition for jesting, to increase that extremely. After the operation of the remedy the body grows cold, pensive and heavy, and in this dull and indolent situation it remains till the dose is repeated. It is curious to observe the countenances of those who use this decoction before it operates, and when its effects have taken place. When they come into the decoction-house they are dull, pale and languid, but as soon as the remedy begins to operate, they are quite changed, they run into all the extravagancies of mirth and laughter, and such an uproar is produced that it would be more proper to give it the name of madhouse than decoction-shop." (Crumpe on opium.)