



## Dressage and Showjumping With the Four Horsemen of the Apocalypse: Cocaine, Nicotine, Opiates, and Alcohol

A Review of

*Brain-Robbers: How Alcohol, Cocaine, Nicotine, and Opiates Have Changed Human History*

by Frances R. Frankenburg

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Reviewed by

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At first I thought *Brain-Robbers* was an over-simplified book attempting to tackle an incredibly complex and necessarily complicated subject using a style of writing that, to me, felt almost too easy to read. It contrasted sharply with the weighty scientific books in which I normally find my nose, leaving me feeling patronized and spoken-down to. The prose felt disjointed and unnatural, as if it was written in bullet-points. I almost gave up; thinking there was nothing here for me, as a doctor (an MD), to get my teeth into. How wrong I was.

*Brain-Robbers* is a wonderful book of great importance. It covers the developmental history, pharmacology, cultural impact and clinical relevance of alcohol, cocaine, nicotine and opiates—our planet’s most ubiquitous and influential substances. And the writing style, which I had at first so badly misjudged, soon transmogrified into a read that kept me captivated. Intoxication pervades the text, mixed with drunken incoherence amidst the 19th, 20th and 21st century politics underpinning successive generations, so flawed in their drug policy. It is a deliriously inebriated story and the writing style suits it perfectly.

What is about the ruling classes’ authoritarian restrictions that paradoxically popularize the activities they strive so hard to repress? The answer, which becomes apparent from the very beginning of *Brain-Robbers* is: hypocrisy. The book journeys from one failed social policy to another. From London’s 18th century alcoholism and the profitable trade of tobacco, to the gritty drug ghettos of modern times, we see racism, prohibition, greed, oppression and control of the poor; our chronic inability to see the wood for the trees that allows these passionately sought-after drugs to run roughshod over human sensibility and judgment.

Prohibition of opium at the beginning of the 20th century was frank racism against the Chinese—just as cannabis prohibition had a primarily anti-Mexican agenda and Nixon’s “War on Drugs,” his perennial hatred of “blacks and hippies,” fuelled his anti-LSD stance. This war has always been about bigotry and economics and not, as we are still told today, about health or morals. Thank you, politicians, for your wisdom and care of our welfare!

Alcohol has been with us ever since fruit’s first accidental fermentation. (As an intoxicant, however, alcohol is far younger and less fundamental than psilocybin mushrooms.) The drink’s contribution to our laws and politics is pervasive. Prior to 1913, the U.S. economy had no such thing as income tax, as over 90% of taxes were collected solely from alcohol-associated revenue. Indeed, it was prohibition that forced the U.S. government to invent a new form of non-alcohol related taxes—as well as spawning an inevitable explosion of organised crime. *Brain-Robbers*, which is undoubtedly aimed primarily at an American audience, covers well the founding of Alcoholics Anonymous and the Temperance Movement (but omits the important role LSD played in the former). There are similarly detailed descriptions of the clinical syndromes associated with alcohol intoxication, addiction and misuse that will delight clinicians and drinkers alike.

Throughout *Brain-Robbers*, the author has a tendency to stray from the path into minute details of loosely associate characters. The detailed minutiae of Carry Nation’s developmental history left me flummoxed. But then, perhaps it is all part of the confusing intoxication of this book. Who knows where one’s high will be carried next? And as we move into the section on cocaine one is treated to a comparably exhaustive description of the Incas and the silver-hungry Spanish marauders exploiting the natives. Such attention to details, therefore, left me disheartened, as a clinician, to find the section dedicated entirely to “sniffing” drugs, concluded without a single mention of the proper term for this activity, insufflation.

No detail was spared, however, on documenting William Halsted. Historically fascinating and beautifully written, we see this poor man’s struggle with cocaine and opiates; getting himself tied up in knots treating one with the other, but managing in the process to develop Johns Hopkins University—a revolutionary place, back then and still today—where contemporary studies with psilocybin are leading the world’s stage in pharmacology research. Addictions also feature heavily in Sigmund Freud’s life. *Brain-Robbers* beautifully links his penchant for cocaine, his links with Fleiss, the nose, psychiatric morbidity and the wonderful “nasal neurosis”—describing how these all played a part in the development of psychoanalysis and the birth of modern psychology.

The peculiar popularity of nicotine is treated with appropriate distain. Its pharmacology and cultural heritage is marvelous—second to none, perhaps—but just like that of cocaine, alcohol, and opiates, it is the politics that are most shocking. Tobacco spread across the globe carried by silk, gold, potatoes, tomatoes, opium and slaves, casting an evil shadow on the lows with which humans have managed to exploit one another. Indeed, one wonders whether learning from the mistakes and successes of history is actually of any benefit, given our inability to ever change. James The First’s moral and religious objection to smoking tobacco (that lead to Sir Walter Raleigh losing his head, whilst still clutching his pipe between his lips) is analogous to the current holier-than-thou moralistic stance of the war on drugs. Today’s war is not fought on the grounds of health or wellbeing (with all contemporary data robustly showing that prohibition merely increases the harms and usage of drugs) but rather is still a battle of “good versus evil”; a war where the casualties are

common people, collateral damage in political greed games, carved up and auctioned off to the highest bidder—be that the mafia, the prisons or the pharmaceutical industry.

Cigarettes march ubiquitously through our lives, infiltrating all strata of society, tackled only relatively recently by the late-to-catch-on, medical profession. (In my own medical training I remember we paid patients in cigarettes for taking part in examinations.) And the role of state-sponsored big industry in the tobacco conspiracy is far from over. *Brain-Robbers* describes the *Cipollone v. Ligett* case that has rumbled since the 1980s, revealing the conflict between health, public freedom and governmental withholding of information. So much attention focused upon such a small molecule with a strong affinity for nucleus accumbens mediated dopamine activity!

The trouble with the opiate drugs is that they work too damn well! Opiate intoxication is inextricably linked not only with pain relief, spirituality and sexual pleasure, but also with artistic creativity. *Brain-Robbers* describes the *de rigueur* use of opiates as tools for creativity in the 19th century. I was astonished to learn it was a young (pre-Sir, pre-St. Paul's cathedral) Christopher Wren, whose fascination for opiates led to his developing the world's first syringe, using a bladder and a sharpened quill. Now that is something you don't learn every day.

*Brain-Robbers* certainly opens up a wealth of new links and associations associated with drug misuse and drug users. From electric eels to slavery we learn how greed fuelled the drugging of the masses with opiates; delivered alongside sham religious morality. And what better example of the pseudo-moralistic agenda is there than the Opium Wars themselves—where trade and profit, oppression and greed came ahead of everything else? The typically power-driven exploits of Imperial Britain *force* the Chinese to buy its opium, produced under slave labour in colonized India, on pain of death; a turn of events that lead, ironically to that most genteel or British past times: drinking tea. Funny how things work out, isn't it?

Many of the opiate-addicted Chinese immigrated to America, strong-armed into cheap labour for the railroads, where they experienced high levels of poverty, poor health and discrimination—and were maligned for their opium use, which was compelled upon them in the first place. The subsequent prohibition of opium in America was, therefore, more about social control and racism than anything else. No changes there then.

From opiates we then get a *Brain-Robbers* tour of the brain itself, which is necessarily simplified. We are treated with the marvelous history of neuroscience, including lovely phrases such as "our prefrontal cortex allows us to face our own mortality." The author exquisitely describes many complicated aspects of neurophysiology. I particularly liked her description of the brain as a "bowl of soup." After reading this there are no excuses for not knowing the complex pharmacology of alcohol, nicotine, cocaine and opiate drugs—not to mention their historical journeys through out cultures. All four drugs act differently but share the common effect of increasing dopamine activity from the ventral-tegmental area to the nucleus accumbens and the pre-frontal cortex. It is the efforts by the brain to try and counter this increased dopamine activity that, in part, results in the development of addictions.

By the time I got to the end of the book I was hooked and wanted to read more. The final section on addictions clearly and compassionately explains the complex relationships between psychology, physiology, social issues, politics and economics in a manner that

avoids stigma and is easy to understand. It looks at addictions from three paradigms: as a brain disease, as trauma and social-related phenomena and as a matter of choice. Brain changes occur as a result of taking the drugs themselves, producing a chronic down-regulation of the dopamine system and diminished prefrontal cortex activity. This subsequently impairs judgment and creates the syndrome of physical addiction, including tolerance, withdrawal syndrome.

Though often woefully neglected, social factors and trauma are important precedents for addictions. Economic status and childhood abuse factors also cause physical brain changes, resulting in a chronic lack of endorphins leading to the development of a child and adult who is unable to experience appropriate levels of rewards without the artificial stimulation of exogenously introduced chemicals. So it is better to cuddle your kids—or risk them reaching for the bottle later in life to make up for it.

But no discussion about addictions would be complete without looking at the concept of choice. The concept of free will can not be ignored (or “loss of control” as AA put it), which leaves us wondering *who* becomes an addict? This is a difficult question to answer because addiction changes across geography and through time. Is opium addiction in the 19th century and crystal meth addiction in the 21st century the same thing? Who knows? *Brian-Robbers* provides a splendid trip through the brain, culture and pharmacology of addictions. It is a great book; leaving one just as full of questions as one gets answers. This is always a good thing.