

Drugs

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Throughout history, intoxicants were an important part of the war experience. The First World War was by no means an exception in that respect: its main “war drugs” were alcohol (mostly beer, brandy, rum, schnapps, wine, and vodka), morphine, and cocaine. These were both “prescribed” by military authorities and “self-prescribed” by soldiers. As in the past, the reasons for using drugs varied: from purely medical (killing the pain, anesthetizing, and energizing) to performance enhancement, from raising the fighting spirit to alleviating combat trauma, from strengthening bonds between companions to mitigating the fear of battle. Simultaneously and paradoxically, in many states temperance ideas gained in popularity and prohibitionist regulations were adopted.

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Introduction: The Psychopharmacological Heritage

Mind-altering substances in one form or another, used for one purpose or another, had accompanied armed conflicts over the centuries. The First World War, with its unprecedented scale, intensity, brutality, and psychological burden marked no departure from this long-standing and nearly universal historical practice.

The wartime mobilization of science fostered some significant advances, particularly in surgery (mainly orthopedic and plastic), anesthesia, disease prevention, and asepsis. The war significantly stirred the “aseptic conscience” in the pre-antibiotic era. Battles in northern [France](#) and [Belgium](#) were fought in fields that were heavily fertilized with manure and carried a huge bacterial load with pathogens responsible for tetanus and gas gangrene. Thus, finding effective methods to limit wound infections was particularly urgent. On the one hand, tetanus antitoxin was widely injected to injured soldiers (by the end of the war some eleven million doses of antiserum were administered), almost eliminating the infection.^[1] On the other hand, invasive antiseptics were introduced for chemical wound sterilization. The Carrel-Dakin irrigation method, developed by French surgeon [Alexis Carrel \(1873-1944\)](#) and British chemist [Henry Drysdale Dakin \(1880-1952\)](#), became increasingly prevalent on the [Western Front](#). The apparatus of their design allowed for continuous washing of wounds with an antiseptic solution of sodium hypochlorite and boric acid.^[2] Despite some criticism, for example by [Alexander Fleming \(1881-1955\)](#), who later discovered penicillin and who believed that chemical disinfection damaged the healthy tissues and had a detrimental effect on wound healing, the method was commonly recognized as effective in decreasing wound infections. The statistics are telling. By the [Battle of Somme](#) in July 1916, the rate of gas gangrene had declined by 75 percent compared to the previous year. The overall rate of hospital deaths from wounds documented in the war was 4.5 per 1,000, a markedly lower ratio than during past conflicts such as the American Civil War, which recorded 10.48 deaths per 1,000.^[3]

Research was also substantially catalyzed in pharmacology, although no new breakthrough drugs were developed to augment the medical armamentarium. Most importantly, the need to treat sick and wounded soldiers with remedies of the alike toxicity facilitated the standardization of drugs. Yet it was not merely for medicinal purposes that intoxicants were used on the battlefield. Pharmacology was also employed to ease soldiers' fear, calm their shattered nerves, and boost performance. To these ends, servicemen were both “prescribed” alcohol and cocaine by the authorities and also self-medicated themselves.

This article is an attempt to provide an overview of the multifaceted pharmacological world of the war. It begins with the discussion of the purely therapeutic application of morphine to kill pain and the use of anesthetics in surgery. Next, the extensive and common, though not universal, administration of alcohol rations by the belligerent states is presented in the context of prohibitionist measures introduced by many [governments](#) on their home fronts. The final section details the military use of cocaine, the plots of German narcotic subversion against France and [Britain](#), and the wartime cocaine panic in the latter which fostered the introduction of a national drug control regime.

Alleviating the Pain, Anesthetizing the Body

By 1914, little had changed in the art of analgesics since morphine had entered into use in the 19th century and was regularly employed during the American Civil War (1861-1865). The narcotic was routinely administered to subdue the pain of the wounded. Given the enormous number of servicemen who got injured, one of the predominant features of the First World War was the body-in-pain. Shrapnel from exploding shells ripped flesh and shattered bones, causing ghastly wounds. Injuries to the kidney, lungs, and bladder brought agonizing suffering, as did facial [mutilations](#). [Ernst Jünger \(1895-1998\)](#), a German soldier and intellectualist, aptly captured the essence of the trenches as “the home of the great god Pain”.^[4] The means to outdo the preponderance of this god was morphine sulfate, the most potent known analgesic, which took the wounded into a state of relief, solace, and in the possession of yet another god: Morpheus, the Greek god of sleep. As one soldier noted about his fellowman in acute pain: “the relief-giving little needle is inserted in his arm, and blessed morphia gives him sleep.”^[5]

When during the initial treatment and dressing of wounds front-line medics administered the injured morphine, they marked their foreheads with crosses in indelible ink in order to prevent drug overdose at further stages of medical care. A widely accepted recommended dose was one-fourth of grain (sixteen milligrams). Problems, however, abounded: patients were mistakenly issued the narcotic more than once and the badly injured were deliberately given larger amounts to ease their very severe pain. Moreover, if administered not as an injection but in tablet form, the absorption rate of morphine varied unpredictably. The risk occurred, too, when the wounded self-medicated themselves with morphine while awaiting professional aid. Morphine overdose could have been harmful because it obscured the clinical picture and hampered proper diagnosis. Often, the personnel at clearing stations and hospitals could not determine whether a patient’s condition resulted from the excessive intake of morphia or from his wounds.^[6] Thus concerns over the accurate dosage persisted and some physicians even argued that patients would be better off to undergo the pain until they reached advanced treatment stations.^[7]

Morphine continued to be regularly administered, frequently for weeks on end, during the subsequent treatment and recovery of patients. Unsurprisingly then, like in the previous armed conflicts of the 19th century, particularly the American Civil War and the wars of German unification, many veterans

developed an addiction. Perhaps the most famous of these patients-turned-morphinists was [Hermann Goering \(1893-1946\)](#), a fighter pilot ace and later powerful member of the Nazi elite and commander-in-chief of the *Luftwaffe*.

The narcotic was employed to kill not only the pain but sometimes also the hopelessly maimed servicemen. If a soldier had no chance of survival or had received horrendous injuries, doctors would, and not at all sporadically, order a humanitarian dose of morphine. Often unable to perform euthanasia themselves, they would ask [nurses](#) or fellow soldiers to administer a lethal injection.^[8] A British private, recalling heavy [casualties](#) in the Battle of Aubers Ridge in May 1915, remembered a man who “had no eyes, no nose, no chin, no mouth – and he was alive!”^[9] As neither the sergeant nor the doctor had enough courage to help him die, they ordered Mitchell to give him a fourfold dose of morphia.

Morphine sulphate was also used, next to atropine, omnopon, and sometimes ethyl-chloride, as a preliminary drug before anesthesia in surgeries. The practice of anesthesia itself had not considerably advanced from the mid-19th century but the war fueled some progress. So on the one hand, the same substances as before were employed: ether, chloroform, and nitrous oxide for general anesthesia and Novocain, adrenaline, or cocaine hydrochloride as local anesthetics. On the other hand, they were administered with greater awareness and attention than in the past. The experimentation and debate over a universal method of anesthesia endured as military surgeons began to recognize a close connection between anesthesia and the rates of mortality and morbidity. It became apparent that some patients died not from their wounds but because of the inappropriate use of anesthesia: the wrong choice of an agent, dose or method of delivery (be it gas and oxygen, spinal, or rectal). Yet it was not only the physical body under surgery that needed to be desensitized; the psyche of the fighting men called for strong detachment, too.

Beyond Mere Treatment: Alcohol

Widely sanctioned by cultural and social practices, drinking was inherent to soldiering and served four general purposes. The first was medical: to anesthetize, disinfect, and cure (it was believed to have potent and versatile healing properties). The second was mental-therapeutic: to numb emotionally (suppress fear, stress, and bad memories), relax, and reward for the hardships of combat. The third benefit was enhancement: to inspire courage and keep soldiers going. Finally, alcohol provided calories and extra energy (one liter of 12 percent wine has 500-700 calories, pure vodka has 2,800 calories, while rum has even up to 4,000 calories).

In the course of the First World War, governmental rations of alcohol and self-medicated drinking served all these time-honored functions. Moderate consumption was, in general, recognized as desirable, since it raised the fighting spirit and preserved morale. As alcohol boosted self-confidence and increased the willingness to take risks, inebriated soldiers felt invincible and could easier go over the top running toward the hostile fire. Drinking also strengthened bonds between companions and

built trust, vital for group cohesion. Finally, alcohol helped repress traumatic memories and cope with the actualities of [modern war](#).

While most of the belligerent parties provided their troops with regular rations of alcohol, at the home fronts the conflict worked in favor of temperance movements. The motivations for introducing state restrictions on the manufacture, sale, and consumption of alcoholic beverages varied. Dominating, though, was the disapproval of wasting crucial resources in the time of ultimate national emergency: uncontrolled drinking could have hampered the general mobilization of societies and jeopardized their productive energies. On ethical grounds, leisure drinking was presented as downright immoral and highly improper. Civilians should have sympathized with their troops, who were expected to make a supreme, if not always sober, sacrifice. And finally, because the consumption of alcohol in the strained time of war could get out of control, governments felt obliged to undertake measures to prevent social decadence and preserve public order.

Russia Goes Hard on Vodka

Shortly after the outbreak of the war, the tsarist [government](#) imposed restrictions on the trade in spirits, wine, and beer by revoking the previously issued manufacturers' licenses.^[10] In addition, not only the maximum allowed strength of alcohol was reduced from 40 to 37 percent, but also its sale in public places of entertainment became illegal. Overall, however, these measures turned out to be counter-productive. The Russians massively restored to running hooch, while the state income from the sale of alcohol considerably dropped, straining an already stretched war budget.^[11] Still, the unprecedented tsarist policy resonated abroad. In September 1914, the London *Times* offered an unduly optimistic account: "Since China proscribed opium [the author perhaps meant 1839], the world has seen nothing like it. We have been well reminded that in sternly prohibiting the sale of spirituous liquor Russia has already vanquished a greater foe than the Germans."^[12]

From the times of [Peter I, Emperor of Russia \(1672-1725\)](#), a soldierly allowance of vodka had been customary. Initially issued in the navy three times a week, in 1761 the practice developed into daily governmental rations known as *charka* (125 milliliters). It later became commonplace also in the [infantry](#), but in 1908 this long-standing practice was terminated.^[13] The reasons for the abolition were generally twofold. The first was the diminished fighting power of the Russian army, its poor combat efficiency, and jeopardized discipline in the aftermath of the humiliating [Japanese defeat in 1905](#). The second was the eroding authority of the individual officer-alcoholics and the overall officer corps.^[14] In 1913, the navy also abandoned *charka*, except in emergency situations, such as lengthy periods at sea or extreme weather.^[15]

Hence a Russian soldier in 1914 was expected to fight the Austro-Hungarians and Germans devoid of the formerly traditional provisions of vodka and, due to tsarist restrictions placed on its military supplies, having fairly limited access to drink. Not surprisingly then, when the fighting stopped on the [Eastern Front](#), soldiers eagerly traded bread, sugar, and other items with their German counterparts

for some alcohol.^[16] Tsarist prohibition, in short, boomeranged with the undermined fighting spirit of the troops. So, when the Bolshevik [Revolution](#) broke out in November 1917, some units celebrated by indulging in excessive drunkenness. Albeit prematurely, because soldiers would not find an ally in the communists, for whom alcoholism epitomized the tsarist oppressive order. They aimed to uproot drunkenness, the very instrument for the debasement of the working class.

Although under the 1908 tsar's edict soldiers could have been discharged for alcoholism, it was only the Bolsheviks who launched a firm anti-alcohol campaign. Recruits of the newly-established Red Army were dissuaded from drinking vodka. Alcohol was ruled out in the barracks and servicemen could even be sentenced to death for drinking on duty.^[17] The Bolsheviks reasonably feared that uncontrolled drinking could make troops unfit for combat with the Whites. When the fighting moved to [Ukraine](#), well-stocked with various forms of beverages, [Leon Trotsky \(1879-1940\)](#), the head of the Red Army, grew anxious. Preventively, he issued a draconian order under which many soldiers caught drunk in the units deployed on the southern front during the Ukrainian campaign were shot on the spot.^[18]

Historically, however, the ambitious Bolshevik temperance plans were doomed to failure. In August 1941, in an attempt to encourage its troops to face the advancing *Wehrmacht*, Stalinist authorities reintroduced daily rations of vodka: one hundred grams a day.^[19]

Alcohol in Britain: Foe or Ally?

The temperance fervor also ran high in Great Britain. In 1915, the minister for munitions and soon-to-be prime minister, [David Lloyd George \(1863-1945\)](#), declared: “[W]e are fighting Germans, Austrians, and Drink; and, so far as I can see, the greatest of these three deadly foes is Drink.”^[20] On another occasion, he fulminated that drinking deteriorated the nation's productive powers and was doing England “more damage in the War than all the German submarines put together.”^[21] [George V, King of Great Britain \(1865-1936\)](#) also joined the abstinence campaign by announcing the “King's Pledge”, which banned all alcohol from the royal households until the war's end. In 1915, the Central Control Board was established and quickly restricted the alcohol market, for example by limiting pub opening hours and reducing the strength of spirits. Also, beer became three-quarters weaker than usual and its production declined from thirty million barrels in 1914 to nineteen million in 1917.^[22]

But was alcohol equally damaging for the troops on the front as it was claimed to be at home? Traditionally, English sailors and infantrymen were issued provisions of wine, beer, brandy, and from the 18th century on, mostly rum. A common belief held that moderate amounts of alcohol provided “Dutch courage” that made for better warriors. The phrase derived from the English soldiers fighting in the Netherlands in the English-Dutch wars of the 17th century who developed the habit of fueling their fighting spirit with one or two sips of a Dutch gin.^[23] In the late 18th century, the ration of rum in

the British forces was half a pint per soldier per day, but in the following century, it was significantly reduced both in the infantry and the navy.^[24] A daily allowance was discontinued in the 1890s but was reintroduced when the [British Expeditionary Force](#) arrived at the [Western Front](#) in September 1914. The distribution of rum belonged to the commander of a division. Officially, the army justified the practice entirely and exclusively as a medical necessity: as a remedy for fatigue, stress, and hardships during arduous campaigning. So, formally, commanders were expected to consult military doctors, but most were willing to unconditionally grant alcohol to their men.^[25] The rations of thick, dark, and very strong (about 80 percent) rum were modest yet pretty regular. A standard allowance was 2.5 ounces, or about seventy milliliters, every day for soldiers in the trenches and twice a week for those behind the front lines or on rest. It was delivered in ceramic jars marked with the initials "S.R.D." that stood for "Special Rations Department" but which was commonly translated by soldiers as "Services Rum Diluted", "Seldom Reaches Destination", or "Soon Runs Dry".

Rum, inherent to the life of the British soldier, became synonymous with combat. Mornings in the trenches usually began about 4:30 a.m. Men were given tea, bread, bacon, and as [Paul Fussell \(1924-2012\)](#) noted:

[if they] were lucky enough to be in a division whose commanding general permitted the issue of the dark and strong government rum, it was doled out from a jar with the traditional iron spoon, each man receiving about two tablespoonsful. Some put it into their tea, but most swallowed it straight. It was a precious thing, and serving it out was almost like a religious ceremonial.^[26]

To foster a fighting mood before going over the top soldiers were given a double ration of rum which they usually drank blended with coffee, tea, or cocoa. [Siegfried Sassoon \(1886-1967\)](#), a British poet and infantry officer, recalled his first days on the front line: "The raiders had been given only a small quantity [of rum], but it was enough to hearten them as they splashed up the communication trench."^[27] And Major [Gerald Achilles Burgoyne \(1874-1936\)](#) noted: "A drop of rum in our tea works wonders."^[28] Rum, routinely administered also to the wounded and dying, was so vital to the British war effort that during an attack, as one soldier movingly described, "pervading the air was the smell of rum and blood".^[29] In 1922, during the hearing by the parliamentary committee investigating the problem of "shell shock" (war trauma), the medical officer, Lieutenant Colonel [James S. Y. Rogers \(1868-1949\)](#), remarked: "Had it not been for the rum ration I do not think we should have won the war."^[30] So, whereas alcohol was blamed for threatening the very fabric of British society, it was believed to have greatly benefited its armed forces.

France: Salutary Pinard and Evil Absinthe

What rum was for the British army, wine was for the French. But before it became a standard provision of the troops at the beginning of the 20th century, soldiers had received a small daily ration of distilled alcohol (one-sixteenth of a liter).^[31] The change in the military drink of choice was pushed

through by the grapevine growers and wine producers who suffered from overproduction and low prices. The [government](#) contracts would secure them lucrative incomes. Thus at the outbreak of the war, every *poilu* (the nickname for the French soldier) was allowed a quarter of a liter of a low-quality red wine known as *pinard*. Quite often, before an attack servicemen were also given brandy. As the conflict progressed, the rations increased to half a liter and in 1918 some units distributed even up to one liter per man per day. In 1917, the French Army consumed 1,200 million liters of wine. Should the war have continued to the end of 1918 it was expected to have used as much as 1,600 million liters that year.^[32]

In the fall of 1914, wine manufacturers from the Midi region donated substantial stocks of *pinard* to the army. On this occasion, a special song was composed whose refrain urged soldiers to drink the wine of victory and enable the French nation to celebrate “a lovely drunkenness of glory”.^[33] One of the verses pledged that wine, which “inspires arms to take up their task”, will give *poilu* “strength, energy, [and] courage”.^[34] In 1936, Marshal [Philippe Pétain \(1856-1951\)](#), the WWI hero, declared that “of all the supplies sent to the army during the war, wine was surely the most highly anticipated and appreciated by the soldier.”^[35] The post-war adoration and cult of wine developed into a national myth closely associated with the widespread belief that it truly saved France.

And yet, the French authorities were also concerned with the effects of drunkenness on the [morale](#) of the nation and its troops. The beginning of the war coincided with the prohibition of absinthe, the spirit made of wormwood, anise, fennel, and other herbs. Although it contained only tiny amounts of the hallucinogenic compound called thujone, the authorities blamed absinthe, the consumption of which totaled thirty-six million liters in 1910, for causing degenerative addiction among the population. Thus on 16 August 1914, the government prohibited its sale by an emergency decree, while in February 1915 the legislative assembly outlawed the production, distribution, and sale of absinthe. France, in fact, followed [Switzerland](#), the [USA](#), and other countries where this drink had already been banned under the pressure of temperance forces and due to concerns over its supposed role in facilitating tuberculosis, epilepsy, insanity, and crime. The restrictions in France were further extended to cover the production of spirits (the maximum strength allowed now being 23 percent) and its marketing (selling to women became forbidden).^[36] The fall of absinthe resulted, in short, from alarms over the nation’s fitness in the heightened wartime atmosphere.^[37]

The Germans and Austro-Hungarians

The French maintained that wine proved strategically superior to beer, a primitive beverage which allegedly contributed to the defeat of [Germany](#). Yet beer was for the Germans precisely what wine was for the French: the essential part and manifestation of [national](#) identity. An almost patriotic habit of beer drinking was grounded in the specific Prussian understanding of Germanness. In 1777, in his *Coffee and Beer Manifesto*, [Frederick II, King of Prussia \(1712-1786\)](#) advocated:

His Majesty was brought up on beer and so were his ancestors and his officers. Many

battles have been fought and won by soldiers nourished on beer, and the king does not believe that coffee-drinking soldiers can be depended on to endure hardship or to beat his enemies.^[38]

However, drinking habits among the ranks of the German army were slightly more diverse. Whereas units from Bavaria were indeed likely to be administered daily rations of beer, units from the wine-producing regions of Rhineland were often issued wine. Thus servicemen in the trenches received daily allowances of either half a liter of light beer, one-fourth a liter of wine, or 125 milliliters of brandy or schnapps.^[39] As for the Habsburg army, soldiers were mainly served wine. The “full rations” issued when supplies were fully available and undisrupted included half a liter a day. Yet, the “normal portion” administered to soldiers in battle did not usually include alcohol.^[40]

In both Germany and Austria-Hungary, unlike in other belligerent states, there was little concern over intemperance and alcohol did not become the subject of moral concern or state control. A marked decline in alcohol production (in the case of beer in Germany down to 30 percent of pre-war levels) and restrictions on its sale did not stem from any prohibitionist policies but were spawned by the concerns over the unnecessary diversion of scarce grain supplies.^[41] It was the scarcity of the essential brewing ingredients, such as sugar, grain and potatoes, that caused beverage shortages in the two main Central Power countries.

Italy

The general wartime scarcity of resources was also the main reason behind a moderately restrictive alcohol policy adopted by Italy, which showed patterns similar to those of France but in a way also analogous to those of Germany and Austria-Hungary. While the Italian anti-alcohol movement reached its peak around 1913, the war quite effectively brought an end to the temperance debate and activities.^[42]

Aside from the home front, like most other belligerent countries Italy regularly supplied its troops with liquid “spiritual fuel”.^[43] Under the strict discipline imposed by General Luigi Cadorna (1850-1928), the army’s chief of staff, Italian soldiers had at their disposal only two authorized means to mitigate the hardships of combat: sex and alcohol. Military brothels aside, wine was an indispensable part of the soldier’s rations. As a standard provision amounted to a quarter of liter of wine per man per day, it took as much as 50,000 liters to meet daily demands of an army of 200,000 men. In addition, when extra allowances were issued (occasionally also of brandy or grappa), not only were they enthusiastically welcomed but sometimes even proved essential for maintaining morale and raising the fighting spirit.^[44]

In the aftermath of the disastrous defeat in the Battle of Caporetto in November 1917, the Italian army lost large amounts of materiel to the Central Powers, including nearly five million liters of wine and 1,600 liters of cognac.^[45] The subsequent preoccupation with the alcoholic trophies by the enemy

forces had probably given the Italian army time to recover its composure. This example reveals that at times a hostile deprivation of beverages may paradoxically be salutary. Yet, how about self-deprivation?

An Exceptionally Dry Army

In the United States, where the temperance movement had gained in popularity, drinking was presented as thoroughly unpatriotic and unethical. The war only brought grist to the mill for the anti-alcohol crusade. Its activists populistically proclaimed sobriety “the bomb that will blow kaiserism to kingdom come”.^[46]

Even before Congress approved the eighteenth constitutional amendment in December 1917, which came into force in January 1920, the prohibition had already extended to American soldiers: they were to stand out from their drinking European counterparts. Contrary to the British or German military cultures of the time, the Americans did not regard alcohol as the source of “liquid courage” but as overtly debilitating. The ultimate goal was, insisted Secretary of the Navy [Josephus Daniels \(1862-1948\)](#), to give America “the soberest, cleanest, and healthiest fighting men the world has ever known”.^[47] In 1917, the *U.S. Army Manual of Military Training* instructed servicemen:

Do not drink whiskey or beer, especially in the field. It will weaken you and favor heat exhaustion, sunstroke, frostbite, and other serious troubles. Alcohol muddles the mind and clouds thoughts, and so causes a feeling of carelessness and silliness that may ruin some military plan, or give the whole thing away to the enemy and with it the lives of yourself and your comrades.^[48]

Already in 1901, the Canteen Act banned “the sale of, or dealing in, beer, wine or any intoxicating liquors by any person in any post exchange or canteen or army transport or upon any premises used for military purposes by the United States.”^[49] On entering the war in April 1917, Congress extended these regulations to the sale of alcoholic beverages beyond military camps wherever American troops were stationed. Total prohibition then was to cover an area of up to five miles around each army post which made the sale of alcohol to men in uniform illegal. In practice, however, given the ubiquity of alcohol on the Western Front, it was impossible to keep military personnel completely dry. Thus the commander of the [American Expeditionary Forces](#), General [John Pershing \(1860-1948\)](#), allowed his men deployed in France light wine and beer. In sum, overall, the USA neither issued alcohol to its soldiers nor accepted their alcoholic self-medication.

Enhancement: Cocaine in the Trenches

In the early 19th century, European militaries began to consider what traditionally had been practiced by the Andean peoples: the use of coca leaves for improving physical endurance.^[50] Later, three years after cocaine was isolated in 1859, the German pharmaceutical company Merck of Darmstadt launched its manufacture and marketing. The new product was advertised as “a stimulant which is

peculiarly adapted to elevate the working ability of the body, without any dangerous effect.”^[51] [Theodore Aschenbrandt \(1855-?\)](#), a Bavarian army physician, made his name in 1883 as the first to carry out experiments with cocaine on soldiers conducting maneuvers. Aschenbrandt recognized the potential utility of the drug in its appetite-suppressing effect and supposed that it could help reduce army food supplies by up to 20 percent.^[52] It was, however, cocaine’s stimulating propriety that proved beneficial during WWI.

Military Doping

At the outbreak of the hostilities, the drug was easily available at pharmacies, both as a sole medicine and as an ingredient in many popular medicaments and tonics used, for instance, for a runny nose and coughing. Because it reduces swelling of the mucosa and nasal discharge, one of the most popular American medicines, called Ryno’s Hay Fever and containing nothing but cocaine, was touted as the best cure for a clogged and sore nose.^[53] Overall, mass-produced cocaine, assumed to be as harmless as tobacco, was in widespread and common use well before the war. It should not be surprising then that it promptly found its way to the battlefield.

The drug was used by military medics as a local anesthetic but it was not its therapeutic application that is the most interesting. For cocaine was both issued by the authorities and self-prescribed by soldiers also for enhancement purposes. The rate of its consumption by fighting men remains unknown and there is no way to estimate the figures. Nevertheless, limited and often circumstantial evidence suggests that cocaine was dispensed by some of the armed forces to boost the troops and fuel their fighting mood. It helped soldiers calm down, focus, and improve performance. The drug was taken during long-distance flights by German fighter pilots and, as French records revealed, early airmen were particularly keen on the stimulant:

Cocaine infused into the few duelists of the air who made use of that cold and thoroughly lucid exaltation which – alone among drugs – it can produce ... at the same time it left intact their control over their actions. It fortified them, one might say, by abolishing the idea of risk.^[54]

Still, cocaine was much more popular among infantrymen than pilots. At the beginning of the war, it is said, the [German Army Command](#) planned each and every of its soldiers to be issued daily rations of cocaine to decrease their appetite and increase stamina. After realizing, however, that not enough drug for this purpose was available, the idea was abandoned; instead, troops were regularly distributed small cigars.^[55] A similar plan, though, was successfully carried out at the outset of WWII; this time the army was well-prepared and the drug of choice for *Blitzkrieg* was the much more powerful methamphetamine.^[56]

The British army for its part made use of a medicine available on the market from 1890 under the trade name “Forced March”. This gelatine-coated pill, which contained cocaine and cola nut extract, was part of the Tabloid brand products manufactured by Burroughs Wellcome & Co. This well-known

London pharmaceutical company was also the first to launch the production of cocaine in tablet form. It was an important development which marked a “pharmaceutical revolution” because the extended shelf-life of the drug enabled its more convenient storage and more hygienic intake. Tabloid, it was advertised, “allays hunger and prolongs the power of endurance”. The recommended dosage was one tablet “to be dissolved in the mouth every hour when undergoing continued mental strain or physical exertion”.^[57] The tablet had been successfully utilized during polar expeditions. [Ernest Shackleton \(1874-1922\)](#), Robert [Falcon Scott \(1868-1912\)](#), and [Roald Amundsen \(1872-1928\)](#) all explored Antarctica propelled by “Forced March”.^[58] These invigorating tablets were aggressively promoted, next to other Burroughs Wellcome’s cocaine-containing products such as Tabloid “Voice”, touted as ideal for singers, barristers, clergymen, and other public speakers longing to improve their voices.^[59] It is no surprise then that the British army’s command decided to try out “Forced March”. So, the troops “imbibed these convenient pills, perhaps helping them endure the rigours of trench warfare”.^[60]

Narcotic Panics

The French accused the Germans of smuggling cocaine into French cities and trenches to subvert their war effort. This Teutonic plot only added to a Germanophobic war psychosis. In 1916, the deputy Charles Bernard announced: “It seems that the Germans can’t beat us with their fire or their asphyxiating gas, so now ... they’re using cocaine and morphine to wear us down”.^[61]

Overall, cocaine use was more prevalent in France than in Britain but it was the latter that experienced a nationwide drug scare, in large part generated by the media, politicians, and military establishment. The *Times*, for instance, hailed the cocaine menace as “more deadly than bullets”.^[62] The problem was grossly overblown, to say the least, and presented as a dire threat not only to the British troops but also to the society and even the whole Empire. The hysteria ensued due to the Canadian contingents temporarily stationed on the Isles while awaiting their deployment to the Western Front. In January 1916, a Canadian major based near Folkestone in Kent traced the source of cocaine supply to his units: a London prostitute Rose Edwards and her pimp Horace Dennis Kingsley. The two were arrested and sentenced to six months’ hard labor for “selling a powder to members of HM Forces, with intent to make them less capable of performing their duties.”^[63] The trial revealed that some forty men in a local camp had developed an addiction. The incident, highly publicized, worked in favor of the proponents of introducing tight governmental control of habit-forming drugs. Other episodes involving the Canadians, such as robbery and a fatal beating, only confirmed the false media story that cocainism was imported to Britain by the Canadian troops.^[64] Although in pre-war [Canada](#) the increasing consumption of cocaine had indeed been recognized as an issue, it was by no means the Canadian servicemen who created the cocaine problem in Britain, where the demand for the drug existed well before their arrival. Yet the case provided a convenient pretext for launching the anti-drug campaign, which found a fruitful soil in the nation’s wartime

anxieties and suspicions.

In February 1916, London pharmacies were fined for failing to observe the restrictions of the 1908 Pharmacy Act when selling cocaine and morphine to military men. This law extended the scope of the earlier Pharmacy Act of 1868, which focused on opium, and also covered morphine, cocaine, and their derivatives. It limited the sale of these substances to pharmacies and required the sellers to keep records of all purchasers. Among the punished were the famous store Harrods and a well-known pharmacy Savory & Moore. The former offered small sets of morphine and cocaine with syringe and needles, advertised in the *Times* as “a useful present for friends at the front”,^[65] while Savory & Moore sold a mail-order medical kit containing cocaine and heroin. In the atmosphere of the Canadian plot, the press raised the alarm that supplying soldiers with intoxicants would compromise army efficiency. Yet the contrary was the case, as enlisted men self-medicated with cocaine not so much to deal with pain and gain relief – the purposes seemingly intended by the sellers – but to boost themselves in times of fatigue and to stay awake.^[66] On 12 February 1916, the *Times* warned that:

to the soldier subjected to nervous strain and hard work cocaine, once used, must become a terrible temptation. It will, for the hour, charm away his trouble, his fatigue and his anxiety; it will give him fictitious strength and vigor. But it will also, in the end, render him worthless as a soldier and a man.^[67]

The *Daily Chronicle*, too, heated up the hysteria by reporting that cocaine-starving soldiers were literally crawling into pharmacies. The newspaper informed that the habit “is driving hundreds of women mad. What is worse, it will drive, unless the traffic in it is checked, hundreds of soldiers mad”.^[68] Allegedly, the drug-crazed soldiers on the front turned aggressive and insubordinate. Moreover, early in 1916, the police confirmed the existence of an extensive underground market for cocaine in London. Dealers in the West End distributed it to military personnel through Soho prostitutes, known as “cocaine” or “dope girls”. Inexorably, in the public mind the drug was associated with sex, intemperance, and hostile subversion. The politicians, particularly Sir [Malcolm Delevingne \(1868-1950\)](#), the undersecretary of state at the Home Office, military commanders, and the media promoted and reinforced such views. As the drug, it was believed, got British soldiers addicted, it eroded their combat performance and undermined military discipline. Sir [Francis Lloyd \(1853-1926\)](#), a general in command of the London district, accurately captured the essence of the cocaine panic that overwhelmed public opinion:

I am told that this evil practice is exceedingly rife at the present time. It is doing an immense amount of harm, I am told. They say that it is so ingrained that once you take it you will not give it up.^[69]

The plague of addiction was therefore purportedly destroying the British Army. Public wartime disquiets, intensified by unverified and overblown fears of enemy conspiracy, were harnessed for political use. Because intoxicants were clichéd as a hostile foreign influence, a conspiracy theory

portrayed their supply as a secret weapon deployed by Germany, after all a pioneer country in the production of cocaine and its marketing in the United Kingdom. Thus the false myth of German cocaine sabotage was born. Ironically, however, it was in fact the British who successfully tried to make use of intoxicants as tools of war. In August 1917, British General [Edmund Allenby \(1861-1936\)](#), who sought to induce the Arabs to desert the [Ottoman](#) army, authorized [propaganda](#) leaflets accompanied with packets of [cigarettes](#) to be dropped from aeroplanes on Turkish positions in Palestine. As the enemy quickly became accustomed to searching for scattered tobacco, in October–November 1917, prior to a British attack in the Third Battle of Gaza, Allenby ordered the airdrop of cigarettes laced with opium. This subversive tactical ploy was reported to “render the Turkish troops immobile”.^[70]

The “Neutrality” Cocaine

By late 1915, however, Merck experienced a dramatic fall in the annual production of cocaine down to merely 447 kilograms, compared to nearly 9,000 kilograms in 1913.^[71] The war seriously interrupted international trade and impeded the supply of European factories with Peruvian coca leaves. This turbulence, though, supported the rapid development of Nederlandsche Cocaine Fabriek Ltd. (NCF).^[72] Established in March 1900 in Amsterdam as a joint venture of the Koloniale Bank and coca-plantation owners in the Dutch East Indies, the company produced cocaine from the coca grown in the colony. And the plant, introduced to Java in 1878, thrived in the local soil and climate. Soon the Dutch East Indies outpaced Peru as the leading provider of leaves.^[73]

The war was beneficial for NCF, which quickly evolved into an important cocaine factory capable of manufacturing up to 1,500 kilograms per year and with an estimated average annual production of 700 kilograms in 1914-1920.^[74] As the main competitors suffered (German pharmaceutical companies were cut off from raw materials by the international [blockade](#)), the Dutch wartime [neutrality](#) favored the vast expansion of a once-small company now eagerly exporting its commodity, benefiting from considerably increased military demands for the drug.^[75]

From Cocaine Scare to the Drug Control Regime in Britain

The claim that cocaine addiction was hitting the British forces hard was later unequivocally debunked. For example, the findings of the Select Committee on the Use of Cocaine in Dentistry revealed that:

no evidence of any kind to show that there is any serious, or, perhaps, even noticeable prevalence of the cocaine habit amongst the civilian or military population of Great Britain. There ... is hardly any trace of the practice having spread to British troops.^[76]

Nonetheless, with politicians and media drawing on the paranoid fears, the moral panic around cocaine turned into a mass hysteria over drugs in general. In such an explosive social climate and

relentless public pressure, the military command could not stay idle. The time was ripe to take emergency action in defense of Britain's fighting power. On 11 May 1916, the Army Council issued an order banning any unauthorized sale or supply of psychoactive substances (mostly cocaine, but also codeine, hemp, heroin, morphine, and opium) to any member of the armed forces, except for medical reasons and only by prescription.^[77] Any violation would constitute an offense punishable by six months' imprisonment. Further regulations were introduced under the [Defence of the Realm Act \(DORA\)](#). The law, passed four days after Britain entered the war in August 1914, served as the cover for various wartime regulatory schemes and social control mechanisms, including [censorship](#) and the aforementioned anti-alcohol measures. It allowed the executive to set up criminal offenses merely through regulation. So, under DORA's regulation 40B, passed on 28 July 1916, the sale of cocaine and opium-based products to military personnel without a prescription became prohibited for anyone except for medical practitioners, pharmacists, and veterinary personnel.^[78] Soldiers could face court-martial if accused of violating the ban. The historical importance of DORA 40B lay not so much in its scope (limited to cocaine and opium) but in the very essence of the prohibitive principle, i.e. putting particular substances under strict state control and criminalizing their sale and use. The subsequent Dangerous Drugs Act of 1920 retained most of the provisions of DORA 40B, thereby transforming the emergency wartime regulation into a permanent peacetime law now applying to all citizens. Also, the list of controlled substances was expanded to include cocaine, heroin, morphine, raw opium, and, to an extent, barbiturates. The act brought Britain in line with national drug control regimes introduced earlier by the United States (the Harrison Act of 1914) and the Netherlands (the Opium Act of 1919).

Conclusion

World War I not only facilitated greater consumption of cocaine and morphine but also gave rise to comprehensive national substance control regimes. Strained public moods merged with the temperance agenda unleashed a "prohibition wave" which swept over many belligerent states. At the same time, contrary to the goals pursued by the zealots of sobriety, governments (except for the American and Russian ones) supplied their forces with regular rations of liquid courage. Another notable exception worth mentioning was the Ottoman army, whose regiments were dry not only due to state prohibition on the consumption of alcohol (although the lucrative production, export, and local sale to non-Muslims were not banned) but largely because the morale of the ordinary Muslim soldier was grounded in Islam, which strictly prohibited alcoholic drinks. All in all, many combatants managed to survive the sheer brutality of this truly industrial warfare and remain sane owing to the depressant effect of alcohol and tobacco, the most popular intoxicating remedies of combat.

In the course of the First World War, mind-altering agents were used for both medical and non-therapeutic purposes, issued by the authorities as well as self-prescribed by soldiers. Sedative drugs such as alcohol, morphine, and opium helped to subdue the physical and emotional pain, relax, and alleviate the horrors of combat. Stimulants, such as cocaine and alcohol (but in small amounts), enabled men to keep going and get through everyday life at the front. In sum, psychoactive

pharmacopeia turned into a nearly inherent part of the very experience of modern war and combat, the experience powerfully and not merely metaphorically depicted in *Storm of Steel* (1920) by Ernst Jünger, who as a soldier during the war used cocaine himself, as an overwhelmingly intoxicating rush (*Rausch*).

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