Intravenous Drugs, Infectious Disease, and Intellectual Markets: A Global-Local History of Egyptian Narcotics Expertise

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Abstract
This paper examines the complicated origins of contemporary narcotics knowledge as well as the relationship between the markets (both illicit and intellectual) and technology that produce such knowledge. It traces the trajectory of narcotics research conducted in Egypt during the 1930s to the contemporary United States. Specifically, it shows how Egyptian doctors conducted studies on opiate consumption, withdrawal, rehabilitation, and the transmission of malaria via intravenous drug use that influenced approaches to public health in the United States. Drawing on this work, doctors in the United States produced research that continues to inform approaches to narcotics in the country, such as the understanding of withdrawal in studies concerning the current opioid crisis.

Three interconnected interventions emerge from this work that are relevant to policy makers and social scientists studying the opioid crisis in the contemporary United States. The first two are methodological: historical scholarship and popular media have often dismissed the sale and consumption of narcotics as criminal or immoral activity. This paper, however, acknowledges the political, economic, and, in particular, intellectual significance of illicit markets and those who engage in them. As a result, it shows how they produce intellectual markets that can span vast geographies and timeframes, such as those separating interwar Egypt and the contemporary United States. Additionally, this paper shows how medical technologies connect infectious and noninfectious epidemics both in terms of how patients experience them and how medical professionals understand them combining to constitute a public health crisis. Therefore, it promotes an understanding of substance use disorder as a combination of multiple public health concerns rendered visible, singular, and significant by the hypodermic needle. The third is historiographical: in framing Egypt as both a consumer of narcotics and an important producer of narcotics knowledge, this paper challenges the central position of the United States and Europe in the narrative of drug history and sheds light on the complicated webs of scientific knowledge production that underpin contemporary narcotics knowledge.
Biography
Mitch Bacci studies the history of narcotics and public health in the nineteenth and twentieth century Eastern Mediterranean at Harvard’s joint PhD program in History and Middle Eastern Studies.

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In the summer of 1929, a group of doctors at Cairo’s Qasr el-Aini hospital noticed a disturbing and perplexing trend among their patients. Alexander Gordon Biggam, the Scottish doctor in charge of the Medical Unit, and M. A. Arafa, the hospital’s Egyptian Resident Medical Officer, noted that “[d]uring the last year or so one has occasionally discovered a patient on admission to [the] hospital showing signs of repeated puncture by the administration of heroin intravenously.”\(^1\) As such cases “increased considerably” throughout the summer, the doctors recorded a dramatic spike in patients “suffering from a variety of diseases unconnected with the drug, their intravenous heroin addiction being discovered only during routine examination.”\(^2\) Initially, the doctors hypothesized that heroin addiction weakened the immune system and rendered these patients more susceptible to mosquito-borne illnesses like malaria. Upon further investigation, however, the physicians discovered that the heroin users had, in fact, contracted a malignant strand of tertian malaria by sharing hypodermic needles contaminated with the virus. In so, they discovered the previously-unknown connection between intravenous drug use and the spread of infectious disease that has since played an important role in public health and medicine around the world.

Arafa and Biggam’s research emerged from a crisis of public health in interwar Egypt. Throughout late 1920s and early 1930s, tons of European and, in particular, Turkish opiates diffused across the Eastern Mediterranean into Egypt, precipitating a heroin crisis that claimed nearly four-percent of its population and distinguished the officially independent country, yet de-facto British colony, as the largest consumer of narcotics in the world.\(^3\) Referred to in the Egyptian

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1 Biggam, A.G., “Malignant Malaria Associated with the Administration of Heroin Intravenously,” *Transaction of the Royal Society of Tropical Hygiene and Hygiene*, 1929, 147.
2 Biggam, “Malignant Malaria Associated with the Administration of Heroin Intravenously,” 147.
press as “the white death” (*al-mawt al-abyad*), the crisis triggered a local government response with global implications. In an attempt to better understand the growing crisis, Anglo-Egyptian doctors and public health officials conducted extensive research concerning substance use and rehabilitation. Their work not only helped the Egyptian government understand and address narcotics use, but also shaped the development of addiction and rehabilitation knowledge around the world and, in particular, in the United States. American doctors came to understand the transmission of malaria via intravenous drug use as well as the treatment of opiate withdrawal through the work of their Anglo-Egyptian counterparts. Physicians in the United States, in turn, produced research that continues to inform approaches to narcotics addiction and treatment, including the understanding of withdrawal in studies concerning the contemporary opioid crisis.

By examining how American doctors referenced, adapted, and built on the published narcotics research of Anglo-Egyptian physicians, this paper frames Egypt not only as a consumer in a global narcotics market, but also as a producer in a global market for narcotics expertise. In this way, the interwar Egyptian experience with narcotics demonstrates how the economic connections that contribute to public health crises also produce wide-ranging and long-lasting intellectual connections. Such relationships illustrate the geographically and temporally diffuse webs of scientific knowledge production that underpin contemporary systems of narcotics treatment. Furthermore, they show how technologies such as the hypodermic needle possess the potential to connect infectious and noninfectious epidemics both in terms of how they are experienced by patients and understood by doctors, thus amplifying their significance as a public health crisis.

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A History of Public Health, Drugs, and Disease

This research builds on historiographical and methodological trends in three distinct areas: the history of public health, narcotics, and disease. For the last few decades, the intellectual trajectory of the history of public health has reflected a globalizing thrust. In the late 1990s, scholars began to criticize the “enclosed” histories of public health in the decolonizing world.\(^5\) Drawing inspiration from Dipesh Chakrabarty’s critique of scholarship that reproduces a master narrative of European history, Warwick Anderson called upon historians of public health to abandon the tendency to focus on single nation states and adopt an analytical frame that understands “migrancy as much as situatedness.”\(^6\) Answering this call, Sunil Amrith’s *Decolonizing International Health* produces a history of international health in postwar India that grounds itself as much in national and regional events as it does in the global context of public health.\(^7\)

Similarly, historians of modern Egypt have in recent years begun to explore the connections between the production of knowledge within the nation state and global scientific discourse. Omnia El Shakry’s *The Great Social Laboratory*, for example, demonstrates how late nineteenth and twentieth century Egyptian social scientists and reformers adapted foreign knowledge by combining it with local intellectual traditions to launch social engineering projects based on “dialectically intertwined,” yet ideologically distinct modes of scientific inquiry.\(^8\)

Just as scholars of public health have embraced Chakrabarty’s project “provincializing Europe,” historians of narcotics have in recent decades moved to question the centrality of the West in the narrative of drug history.\(^9\) William McAllister’s *Drug Diplomacy in the Twentieth*

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\(^7\) Sunil S. Amrith, *Decolonizing International Health: India and Southeast Asia, 1930-65* (Palgrave Macmillan, 2006).


\(^9\) Anderson, 529.
Century, for example, provides a comprehensive overview of multilateral narcotics negotiations, which examines the role of cultivating nations (such as Turkey and Yugoslavia) alongside that of influential consumers and pharmaceutical producers (like the United States). While McAllister offers broad synthesis of the history of drug diplomacy, historians such as Liat Kozma have focused more directly on the impact of non-western states in shaping drug control and treatment throughout the twentieth century.

Beyond this geographic focus, recent methodological changes in the history of narcotics have transformed academic approaches to psychoactive substances. While historians have long acknowledged the significant political, economic, and cultural impact of commodities such as cotton and oil, only in recent years have they begun to look at narcotics in the same light. In Moral Nation, for example, Miriam Kingsberg examines how regulating narcotics shaped Japan's political legitimacy as a “moral nation” and empire. Furthermore, Ryan Gingeras’ Heroin, Organized Crime, and the Making of Modern Turkey gives heroin “discursive legitimacy” in contending that it cemented a symbiotic relationship between Turkish government officials and organized crime in modern Turkey that exists to this day.

As with narcotics, scholarly approaches to disease have changed greatly in recent years. While earlier approaches viewed bodies as suffering from specific diseases, more recent
scholarship frames disease as a system of connected symptoms in the body. Most notably, Annemarie Mol’s *The Body Multiple* shows this transition by looking at atherosclerosis not simply as an obstruction of the arteries, but as a number of symptoms fashioned into a specific disease through the use of modern medical technologies.\(^{15}\) In this way, Mol returns to an older view of the body as a connected system and moves away from the singular focus on disease that marked earlier scholarship.

This work responds to the aforementioned trends in four ways. First, it aims to open the “enclosed” history of public health in interwar Egypt.\(^ {16}\) The work of Anglo-Egyptian doctors informed research around the world and, therefore, it must be understood in a global as well as a local context. Second, this work challenges the dominant role that the United States plays in the narrative of drug history. Anglo-Egyptian doctors generated a wealth of knowledge concerning drug use, treatment, and withdrawal during the interwar era. However, American appropriation and dissemination of this research has obscured its origins and significance. Third, in lending “discursive legitimacy” to narcotics, it underscores the role that doctors in interwar Egypt played as producers of narcotics research, frames the country as an important market for narcotics knowledge, and, in so, conveys the convoluted origins of present drug control and treatment regimes.\(^ {17}\) Fourth, it shows how modern medical technologies not only forge multiple symptoms into a disease, but multiple diseases into an epidemic. Taking into account how patients experience these infectious and noninfectious epidemics as well as how medical professionals understand these epidemics combining to constitute a public health crisis, this paper demonstrates the need to approach substance use disorder not as a specific disease, but rather a combination of


\(^{16}\) Anderson, 529.

multiple public health concerns rendered visible, singular, and significant by the technology of the hypodermic needle.

The following work develops these arguments in four stages. First, it explores the local and global context in which Egyptian narcotics research occurred. Locally, the profitable and pervasive interwar opiate trade trigged unprecedented rates of heroin use in Egypt, which served as the impetus for Anglo-Egyptian drug research and turned local doctors into international narcotics experts. Globally, the nascent nature of narcotics expertise created an opening for Egyptian drug research and propelled this knowledge as it traveled from Egypt to the United States. Second, this work turns to the research itself, looking at how studies concerning the transmission of malaria via intravenous drug use served as the basis for Egyptian narcotics expertise. Third, it details the reception of Egyptian narcotics research in the United States and how American doctors drew upon Egyptian knowledge to inform their evolving notions of drug use and withdrawal, which continue to shape scholarship concerning narcotics. Finally, it concludes by highlighting three interconnected interventions of relevance to social scientists and policy makers concerned with the opioid crisis in the contemporary United States.

**The Local and Global Public Health Crisis**

*The Interwar Opiate Trade*

Local and global developments shaped the context in which Anglo-Egyptian doctors produced narcotics research. Locally, this research took place during a public health crisis that resulted from the profound impact of the interwar opiate trade on Egypt. The burgeoning interwar opiate trade coincided with a period of great economic, political, and social upheaval that reshaped much of Europe, the Mediterranean, and the Middle East between roughly 1918 and 1939. In these regions, the aftermath of the First World War, the impact of the Great Depression,
and their sweeping political reverberations contributed to an environment of economic
desperation that may have heightened the appeal of opiate cultivation, refinement, and trafficking.
Turkey, a country whose origins lie in the combined devastation of World War I, the Turkish War
of Independence, forced migration, and intense internal social conflict, emerged as one of the
world’s primary cultivators of raw opium during the 1920s.\(^{18}\) In 1928 Turkish opium-cultivating
regions such as Afyonkarahisar, Eskişehir, and Konya produced approximately 363,248 kilograms
of raw opium and during the late 1920s Turkey alone nearly supplied the demand from European
opiate refiners.\(^{19}\) Although companies in Switzerland, France, and Germany dominated the
process of opiate refinement until the late 1920s, international pressure from the League of Nations
forced them to introduce stringent opiate manufacturing regulations and during the early 1930s
Turkish firms absorbed their market share.\(^{20}\) With three alkaloid factories operating openly on the
Bosphorus that generated approximately one ton of heroin and morphine a month, in the early


\(^{19}\) Information on regions of opiate cultivation in western Anatolia can be found in the 1931 CNIB Annual Report. Central Narcotics Intelligence Bureau, Annual Report for the Year 1929, 71. Block details the extent to which Turkey supplied European refinement. Block, 320.

1930s Istanbul grew into the global epicenter of the highly lucrative opiate trade and the source of the largest share of opiates trafficked into Egypt.  

Once inside Egypt, opiates quickly moved through networks of intermediaries and dealers to a consumer base that the Egyptian Central Narcotics Intelligence Bureau (CNIB), which the Egyptian state created to address the crisis in 1929, estimated to affect at least 500,000 out of fourteen million Egyptians that same year.  

These users generally purchased opiates in powder form and consumed them via nasal inhalation (shamma) or intravenous injection (ḥaqana), for which they employed a variety of conventional and improvised apparatuses depending on their personal means.  

Sale and consumption of opiates grew most common in the coffee shops, alleyways, and shanties (‘ushash) of working-class areas such as the al-Zaher quarter of Bulaq in

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21 Istanbul’s alkaloid output figures can be found in the 1930 CNIB Annual Report. Central Narcotics Intelligence Bureau, *Annual Report for the Year 1930*, IX and 20.
Cairo and the al-Hamamil neighborhood of Alexandria. Indeed, the February 19, 1932 edition of The Times of London demonstrates the extent to which the opiate use spread among the Egyptian working class in reporting on the “curiosity” of a Cairo contractor who paid his laborers wages in heroin.

Despite such reports, the crisis was by no means solely a working-class phenomenon. Owing to the relative affordability of opiates, in the late 1920s and early 1930s, their use diffused widely across Egyptian social strata, geographic regions, and among such disparate demographics as farmers, merchants, artisans, government clerks, and landlords. Writing for the weekly Egyptian current events magazine al-Muṣawwar, Mohammed Aziz conveyed the wide socio-economic scope of opiate addiction in interwar Egypt by noting that opiate use “has penetrated into the nation (sha’b), striking the hand of the worker from artisans and farmers to the enlightened.” Sir Thomas Russell, who served as both Cairo Police chief and director of the CNIB from 1929-1946, reinforced Aziz’s claim in writing with palpable distaste while describing a working class neighborhood of Cairo that “the Bulaq settling pit quickly filled with the human debris from every class of Egyptian society.”

The broad socio-economic and geographic impact of the epidemic highlights the immense challenges that opiate use posed for the Egyptian state and society. In her work on the epidemic, Kozma demonstrates how such challenges framed opiate use as a public health crisis that Egyptian doctors used to advance their position vis-à-vis their British counterparts and to Egyptianize the

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26 Central Narcotics Intelligence Bureau, Annual Report for the Year, 1932, 114.
country’s medical profession. Likewise, the crisis served as an impetus for the local narcotics research that elevated Egyptian expertise in the nascent world of narcotics knowledge.

**Global Drug Policy and Public Health during the Interwar Era**

Although global interest in the regulation and treatment of narcotics had increased steadily since at least the early twentieth century, the interwar era witnessed a surge in drug diplomacy. The League of Nations, for which language pertaining to the “traffic in opium and other dangerous drugs” featured in its 1924 Covenant, constituted the locus of drug policy debates throughout the interwar era. During this period, the League’s Advisory Committee on the Traffic in Opium and other Dangerous Drug (OAC) hosted a number of narcotics negotiations that produced multilateral regulation treaties in 1925 and 1931. However, as McAllister notes, the lack of data concerning narcotics use, addiction, regulation, and treatment constituted a major obstacle to the work of the OAC.

While not a member of the League of Nations until 1937, Egypt played a prominent role in the OAC. During the Second Opium Conference in 1924-1925, Egyptian delegates drew sufficient attention to cannabis—which they viewed as “at least as harmful as opium”—for the committee to regulate it alongside opiates. Furthermore, the CNIB distributed thousands of annual reports (17,000 in 1934 alone) in Arabic, French, and English detailing Egyptian efforts and strategies to

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30 At the beginning of the twentieth century a confluence of technological, medical, religious, and political processes piqued global interest in narcotics regulation and ushered in an era of drug diplomacy beginning with the Shanghai Opium Commission of 1909. McAllister, *Drug Diplomacy in the Twentieth Century: An International History*, 27-33.

31 The Covenant of the League of Nations, article 23, section (c) states that League members “will entrust the League with the general supervision over the execution of agreements with regard to the traffic in women and children, and the traffic in opium and other dangerous drugs.” “Avalon Project - The Covenant of the League of Nations,” http://avalon.law.yale.edu/20th_century/leagcov.asp#art23.

32 McAllister, 79-133.

33 Ibid., 5-6.

suppress drug trafficking as well as to regulate and treat narcotics consumption in the country.\textsuperscript{35} Among the numerous countries that paid close attention to these reports was the United States. Stuart Jamieson Fuller, the US representative to the OAC, even noted the “high value of the Egyptian Government’s annual report” and that it “had a wide circulation in the United States.”\textsuperscript{36}

Beyond the country’s participation in League of Nations drug policy and diplomacy debates, Egyptian medical professionals also promoted the country’s narcotics expertise and situated it within global public health discourse. Such work first appeared in December 1928 when Egypt hosted the International Congress of Tropical Medicine and Hygiene in Cairo.\textsuperscript{37} The congress, which drew medical professionals from around the world, featured detailed research on the demographics and trends associated with drug use in Egypt, including articles titled “Investigations of Narcotics in Egypt,” by Dr. Abdel Wahab Mahmud and “[The] Heroin Habit in Egypt as Seen in Prisoners” by Aly Hassan El-Ramly.\textsuperscript{38} A summary of their work by W.L. Treadway, the Assistant Surgeon General at the Narcotics Division of the United States Public Health Service, subsequently appeared in the May 1930 edition of Public Health Reports. In the summary, Treadway framed the articles as being “of value as reflecting the relationship of the abusive use of narcotic drugs to the general health” and “of interest to the public health official.”\textsuperscript{39} As Treadway’s article demonstrates, the opiate crisis created an opening for Egyptian medical professionals to

\textsuperscript{35} League of Nations Advisory Committee on the Traffic in Opium and Other Dangerous Drugs, Minutes of the Eighteenth Session, 1934, 29.

\textsuperscript{36} League of Nations Advisory Committee on the Traffic in Opium and Other Dangerous Drugs, Minutes of the Eighteenth Session, 1934, 31.

\textsuperscript{37} Describing the congress in 1931, the Journal of the Egyptian Medical Association noted the following: “Although attracting at all time no little interest from the medical world, Egypt has been commanding greater interest medically ever since the last International Medical Congress which was held in Cairo in 1928.” “Editorial: A Series of Reforms,” Journal of the Egyptian Medical Association, 14, no. 1 (January, 1931): 1.

\textsuperscript{38} While Hassan emphasizes the transition from the consumption of hashish and opium in the period preceding the First World War to the use of cocaine and particular, heroin during the interwar period, Ramly focuses on growing trend intravenous drug use, as opposed to smoking or sniffing. Hassan attributes this switch to the financial prosperity that Egypt experienced after the war, which made it a profitable target for drug trafficking. W.L. Treadway, “The Abusive Use of Narcotic Drugs in Egypt: A Review”, Public Health Reports, May, 1930, 1239-1241.

\textsuperscript{39} Treadway, “The Abusive Use of Narcotic Drugs in Egypt: A Review,” 1239-1241.
situate their expertise in an emerging global public health discourse and forge international intellectual connections. A link between the production of narcotics knowledge in Egypt and its consumption in the United States emerged from this opening and developed further in the years that followed.

**Drugs and Tropical Disease: Egyptian Research and the Transmission of Malaria via Intravenous Drug Use**

The most widely circulated body of Egyptian narcotics research concerned a specific aspect of drug addiction that had broad ramifications for global public health. This research emerged in 1929, during the height of the Egypt’s heroin crisis, when the aforementioned team of Anglo-Egyptian doctors discovered and demonstrated the transmission of malaria though intravenous drug use. As states around the world grappled with opiate use and the spread of malaria, their findings and later work on addiction and rehabilitation circulated widely in contemporary medical journals and informed global understandings of narcotics as well as the interrelated nature of infectious and noninfectious epidemics.

*The Transmission of Malaria through Intravenous Drug Use in Egypt*

Based on their initial findings in the summer of 1929, Arafa and Biggam published a series of articles studying the connection between intravenous drug use and the spread of infectious disease as well as the treatment of malaria among drug users. Biggam’s 1930 “Note on Intravenous Injection of Heroin and Malignant Malaria,” which appeared in the CNIB’s *Annual Report for the Year 1929*, expands on the doctors’ initial research by studying the administration of heroin in Egypt. “It is stated,” Biggam reports, “that in some cases eye pipettes are employed instead of
syringes, a needle attached to the fine part of the pipette and the solution sucked up by the rubber bulb at the other end. I have also seen the drug administered by the man cutting his skin with a
sharp piece of glass and pouring the powder into the incision thus made." Similarly, Arafa and Biggam’s April 1930 article in the British Transactions of The Royal Society of Tropical Medicine and Hygiene explains the lack of sterilization practiced among intravenous drug users as conducive to the transmission of malaria. “Ordinary canal water,” according to the doctors, “is often employed for making up the heroin solution without any method of sterilization being attempted, and the pipette[s] are repeatedly filled with the blood and emptied again into the vein to ensure that none shall be left behind in the syringe.” Through these articles, Arafa and Biggam began to establish a causal link between intravenous drug use and the spread of malaria in Egypt as well as indicate the medical technologies (both formal and improvised) that formed this link.

Furthermore, Arafa and Biggam hypothesized about the reasons for the prevalence of intravenous drug use (as opposed to consumption via inhalation or smoking) in Egypt. In Biggam’s 1929 “Malignant Malaria Associated with the Administration of Heroin Intravenously,” research that Arafa and other Egyptians at least in part conducted, he claimed that in “no other country in the world” do drug users consume heroin intravenously. “The reason for the selection of this route of administration is,” he notes, “quite easily understood:”

The relief obtained, by those suffering from bilharzial conditions in Egypt, from the intravenous administration of tartar emetic first introduced by CHRISTOPHERSON, has popularised this route of medication amongst the inhabitants of Egypt, so that nowadays on many occasion [sic.] one is requested to give drugs intravenously, because the patient considers that he will gain much more benefit from this procedure than from administration by the ordinary route. The addicts, therefore, having great faith in the

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40 Users likely engaged in such behavior so as to avoid the high cost of syringes, which Kotwal notes sold for approximately fifty dollars in the United States before they were mass produced to administer penicillin. Central Narcotics Intelligence Bureau, Annual Report for the Year 1929, 65. Atul Kotwal, “Innovation, Diffusion and Safety of a Medical Technology: A Review of the Literature on Injection Practices,” Social Science & Medicine 60, no. 5 (2005): 1134.


42 It seems that Arafa and other Egyptian medial professionals at Qasr el-Aini carried out at least a large portion of the research because Biggam expresses his “indebtedness” to them for “the very valuable assistance rendered in obtaining histories from these cases, and for their help in carrying out various investigations on them.” Biggam, A.G., “Malignant Malaria Associated with the Administration of Heroin Intravenously,” 147-148.

43 Ibid., 148.
intravenous route for ordinary medicines, naturally consider that their special drug heroin will act much better when taken in this manner. They will also get a more immediate effect from it, and it is possible that they experience a greater effect from the administration of a smaller amount of the alkaloid.  

While the categorical nature of Biggam’s claim situating Egypt as the origin of intravenous opiate use necessarily invites skepticism, it coincides with the work of later scholars who have argued that the popularity of intravenous injection grew precipitously in the developing world as a result of the perceptible success of mass campaigns against smallpox, yaws, and kala-azar in the 1920s. Moreover, Biggam’s claim also demonstrates one of the ways in which later studies concerning drugs in the United States might have come to view Egypt and Egyptian research as central to their understanding of narcotics.

*The Treatment of Withdrawal and Relapse in Egyptian Intravenous Drug Users Infected with Malaria*

In addition to demonstrating the role of drug use in contributing to the spread of malaria, Arafa and Biggam’s research also focused on treating patients infected with the disease and addicted to opiates. The doctors already possessed a wealth of research concerning the treatment of malaria and, indeed, their 1930 article demonstrates that a combination of quinine and plasmoquine (another antimalarial) had the “satisfactory” effect of “clearing the blood of malaria parasites.” However, they had significantly less research into the treatment of drug withdrawal and relapse upon which to draw. Therefore, Arafa, Biggam, and another Egyptian doctor, A.

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44 In addition, Biggam notes that patients provided the reason of using heroin “for sexual purposes” perhaps in the same way that contemporary observers, such as Russell, remarked that fellahin consume hashish to address the loss of libido resulting from schistosomiasis. However, later studies indicate that, although Egyptians initially consumed opiates as aphrodisiacs, they drug quickly triggered a decrease in sex drive. Russell Pasha, *Egyptian Service*. Biggam, 1929, 148-149. A. G. Biggam, M. A. Arafa, and A. F. Ragab, “HEROIN ADDICTION IN EGYPT: AND ITS TREATMENT DURING THE WITHDRAWAL PERIOD,” *The Lancet* 219, no. 5670 (1932): 1932, 924.


Ragab, undertook an ambitious study that tested various techniques for treating withdrawal and relapse, which later influenced drug treatment in the United States.

In the April 1932 edition of the British medical journal *The Lancet*, Arafa, Biggam, and Ragab published an article titled “Heroin Addiction in Egypt and Its Treatment during the Withdrawal Period” that presented a detailed study of withdrawal and relapse among heroin users admitted to Qasr el-Aini Hospital. During the late 1920s and early 1930s the hospital set aside a number of beds to treat the epidemic of malaria among Egypt’s intravenous drug users. As that population decreased—according to the study, increased awareness of the dangers of sharing needles triggered a reversion to the previous method of consuming heroin via inhalation or “snuffing”—the hospital offered these beds to the user “who might voluntarily seek admission for treatment to assist him in his attempt to break off the heroin habit.” While conducting the study, the team of doctors treated four-hundred and sixty-one patients who largely remained in the doctors’ care for ten to fifteen days and underwent various procedures that aimed to alleviate their withdrawal symptoms and prevent them from relapsing.

Over the course of the study, Arafa, Biggam, and Ragab employed a number of techniques to address heroin withdrawal and relapse. These techniques, which originated from both foreign and local physicians, achieved, at best, mixed results. First, the doctors experimented with a procedure called autohemotherapy that entailed withdrawing and reinjecting the blood into a

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48 Biggam, Arafa, Ragab, 1932, 923
49 The article notes that “a report on this malaria infection among drug addicts has already appeared, and consequently we shall only state here that the news soon got about amongst addicts that a risk was run in the employment of the intravenous method, and that this route has now been almost entirely abandoned in favour [sic.] of the previous method of taking the drug by snuffing.” Patients’ reasons for seeking medical attention purportedly varied from a genuine desire to end their addiction to losing their job and inability to afford heroin. However, the doctors also noted that a “few seemed only to wish to break off the drug temporarily, since they realised that by so doing they could return to its use and once more for a time obtain the same pleasurable effect as they has originally experienced.” Ibid, 922-923.
50 Ibid., 923.
patient’s vein.\textsuperscript{51} Although the doctors noted the extensive use of this treatment for “skin and other diseases,” autohemotherapy provided “little or no relief” of patients’ withdrawal symptoms and “did not seem to influence in any way the tendency to relapse in spite of the claim of certain observers, for even patients who had received very large doses of blood relapsed almost immediately after leaving the hospital.”\textsuperscript{52} Second, functioning on the theory that heroin addiction interferes with the secretions of the endocrine glands, the group attempted to address patient withdrawal and relapse with insulin therapy, but was “unable to detect an benefit from this line of treatment.”\textsuperscript{53} Third, the doctors tried autoserotherapy, which they also referred to as phlyctenotherapy and blister therapy, involving the withdrawal and reinjection of fluid from an artificially induced blister into the patient.\textsuperscript{54} While the doctor who purportedly invented the treatment, Polys Modinos of Alexandria, reported its efficacy in a paper delivered to the Egyptian Medical Society in 1930, the group in 1932 found it to have no benefit, noting that: “We now have had a number of heroin cases under our care who stated that they had previously undergone blister treatment by Modinos and that they had relapsed very soon after completing the ‘cure.’”\textsuperscript{55}

Despite the ineffectiveness of autoserotherapy in addressing relapse, Modinos’ use of sedatives to alleviate withdrawal symptoms seems to have met greater success.\textsuperscript{56} According to the doctors, Modinos noted “very slight” withdrawal symptoms upon sedating his patients.\textsuperscript{57} Such results seem to have motivated the group to undertake a so-called “special substitution scheme,” which employed sedatives in place of heroin in an attempt to ween patients of the drug.\textsuperscript{58} After

\textsuperscript{51} Ibid., 925.
\textsuperscript{52} Here, “certain observers” seems to refer to an Abdel Wahab Mahmoud whose 1930 Drugs Yesterday and Today the doctors cite in the study. Ibid., 925-927.
\textsuperscript{53} Ibid., 926.
\textsuperscript{54} Ibid., 925-926.
\textsuperscript{55} It appears that addiction treatments lacking demonstrated efficacy and possibly constituting manipulative scams were common in Egypt during this period, as that case of the “secret remedy” that the article reports two doctors in Heliopolis offering, Ibid., 926.
\textsuperscript{56} Ibid., 925-926.
\textsuperscript{57} Ibid.
\textsuperscript{58} Ibid., 926.
initially beneficial results, the doctors recorded that this “method of substitution treatment we consider most satisfactory, especially where the confidence of the addict can be obtained, and it seldom fails to make his withdrawal period comfortable.”⁵⁹ Although “no beneficial effect on the tendency to relapse appeared to result,” the group simply attributed this to the “mental make-up of the individual” and concluded that the “results obtained from the sudden withdrawal of the heroin and the substitution of other drugs to replace it have given us such encouraging results that further trials of these methods seems indicated.”⁶⁰

In addition to researching the efficacy of certain treatments, Arafa, Biggam, and Ragab’s study also produced as wealth of more general information concerning the symptoms of opiate withdrawal. In a section titled “Withdrawal Symptoms” the doctors noted that “careful daily records were maintained showing the symptoms complained of by each case.”⁶¹ These commonly included: vomiting, diarrhea, perspiration, sneezing, yawning, and pain in the limbs.⁶² Furthermore the physicians developed a standard form for recording the frequency and severity of such symptoms.⁶³ This section of the Anglo-Egyptian team’s research constituted a concerted effort to quantify and develop a typology of withdrawal symptoms, which later informed similar studies conducted in the United States.

While their studies generated valuable knowledge concerning opiate treatment and withdrawal, the general tone of Arafa, Biggam, and Ragab’s research stressed the severity of the public health crisis that narcotics posed in Egypt. In fact, as early as his first publication on narcotics in 1929, Biggam notes the following about his theory concerning the transmission of malaria via intravenous drug use under a section titled “The Public Health Problem:”

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⁵⁹ Ibid., 927.
⁶⁰ Ibid.
⁶¹ Ibid., 924.
⁶² Ibid.
⁶³ Ibid.
If this theory of the production of this malignant malarial infection amongst the heroin addicts is correct it appears to me that we are faced with a problem of considerable importance to the inhabitants of Cairo. We are probably seeing only a very small proportion of these malaria infected heroin addicts, the great majority of them most likely avoiding admission to hospital where they fear that their drug [use] will be cut down or stopped altogether. The effect of this malaria infection on the drug addicts is serious, but still more so is the fact that the disease may not confine itself to this class of the community. We have in Cairo, I believe, mosquitos suitable for the transmission of malaria, the only thing lacking to prevent the disease from becoming prevalent being numbers of infected individuals. Now these would appear to be rapidly increasing in numbers, and unless steps can be taken to prevent further spread a serious infection of the healthy population may occur. Apart from the spread of malaria by these injections, other diseases, such as syphilis and typhoid during the septicaemia stage, may quite readily be so transmitted.64

Biggam’s effort to highlight the dangers that the transmission of malaria and other diseases via intravenous drug posed to the “healthy population” framed narcotics as an issue of “serious” concern.65 Such concern not only cast drug use as an important public health problem that emerged from the interrelated nature of infectious and noninfectious disease, but also undoubtedly shaped the reception of this body of Egyptian research abroad. In particular, this framing seems to have had an impact on its reception in the United States, which witnessed a spike in malaria transmission among the country’s intravenous drug users during the interwar period.

Tattoos, Transmission, and Treatment: Egyptian Research and Narcotics Knowledge in the United States

While the United States by no means constituted the only consumer of Egyptian drug research, Anglo-Egyptian narcotics knowledge had a significant impact on American public health discourse. Likely facilitated by the participation of British medical professionals (such as Biggam) in these studies, Egyptian narcotics research spread primarily through medical journals at a time when, similar to Egypt, the United States faced public health issues that emerged at the

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64 Biggam, 1929, 151.
65 Ibid.
intersection of substance use and the spread of infectious disease. This exchange informed the ways in which American medical professionals thought about drug use, treatment, and withdrawal during the 1930s–1940s, leading them to produce research that continues to shape approaches to narcotics in the United States.

*Egyptian Narcotics Knowledge and the Understanding of Malaria Transmission via Intravenous Drug Use in the United States*

In 1934, Milton Helpern, the Assistant Medical Examiner for the City of New York published a series of articles concerning the spread of malaria via intravenous drug use in the city that drew on the work of Arafa, Biggam, and Ragab. Helpern’s March 1934 “Malaria Among Drug Addicts in New York City,” begins by noting that in every fatality linked to malaria that occurred in New York during the previous four months “the deceased was a drug addict who injected heroin intravenously—the so-called ‘main-line shooter.’” Commenting on a method of administration that appears remarkably similar to that which the doctors in Egypt described, Helpern states that this “method of taking the drug is comparatively new in New York, but has been practiced for many years in other localities.” After indicating that this “method of malarial transmission among intravenous drug addicts was first described in 1929 by Biggam…in Egypt,” Helpern described the study that he conducted among one-hundred and fifty incarcerated drug users at Tombs Prison Correctional Hospital in Manhattan in November of 1933, which confirms the work of Anglo-Egyptian doctors concerning the transmission of malaria through intravenous drug use. Lastly,
Helpern echoed Biggam’s call to address a public health crisis by warning that “new cases continue to occur” and recommending a general survey of malaria in hospitals and the isolation of carriers of the disease.\textsuperscript{69}

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure3.png}
\caption{Helpern’s March 1934 report featured an ominous image of a hypodermic needle, as if to warn of the looming public health crisis of infectious and noninfectious disease to which the technology contributed. (Helpern, 1934).}
\end{figure}

\textsuperscript{69} Ibid., 479.
Only two months after Helpern’s March 1934 article, another group of doctors in New York City employed Arafa, Biggam, and Ragab’s research to reach similar conclusions about heroin consumption and the spread of malaria in the United States. In a May 1934 article in the *Journal of the American Medical Association*, physicians Emanuel Appelbaum and Ben B. Gelfand expressed astonishment that “until recently the relationship of malaria to drug addiction has been either not recognized or not fully appreciated.”\(^{70}\) Citing Arafa and Biggam’s work as the first case do so, Appelbaum and Gelfand use Egyptian research as a basis for understanding the relationship between the intravenous drug consumption and the spread of malaria.\(^{71}\) Their subsequent study based on drug users at Bellevue Hospital in New York City reaffirmed the findings of their Egyptian counterparts and determines that the “artificial transmission of malaria is now a recognized fact.”\(^{72}\) In line with previous Egyptian and American work, the doctors’ research brought them to the conclusion that this “extraordinary manner of malarial transmission may thus assume importance as a public health problem.”\(^{73}\)

Building on his previous research as well as that of Appelbaum and Gelfand, in October 1934 Helpern published a more substantial and definitive work on the transmission of malaria among intravenous drug users. In an article titled “Epidemic of Fatal Estivo-Autumnal Malaria Among Drug Addicts in the New York City Transmitted by Common Use of Hypodermic Syringe,” Helpern appears sufficiently certain of the connection between intravenous drug use and the spread of malaria that Arafa and Biggam first demonstrated to remark that: “It is apparent that a diagnosis of malaria is readily suggested and should always be considered a possibility when an

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\(^{71}\) Appelbaum and Gelfand, “THE ARTIFICIAL TRANSMISSION OF MALARIA AMONG INTRAVENOUS DIACETYLMORPHINE ADDICTS: PRELIMINARY NOTE ON THE USE OF ATABRINE IN MALARIA,” 1664-1666.

\(^{72}\) Ibid., 1668.

\(^{73}\) Ibid.
obscure fever is present in a known drug addict, especially of the type using the intravenous route for injection of drugs.” 74 Following a passage speculating about a link between homosexuality and drug use, Helpern continues:

The combination of fever and stupor or coma in any such person in whom drug addiction is apparent or suspected, warrants an immediate examination of the blood for malarial parasites. Stupor, coma, excitement, tremulousness, fever are symptoms which should not necessarily be considered manifestations of drug poisoning or drug withdrawal. Such interpretations were frequently given by the addicts themselves who in most instances were totally unaware of the origin of their symptoms and who in some instances considered the diagnosis of malaria either a joke or a fraud perpetrated on the addicts as a means of making them relinquish the drug habit. 75

Furthermore, Helpern frequently related his study of the crisis in New York City to that in Egypt. For example, he understands the dominant method for administering drugs intravenously in New York City in reference to Arafa and Biggam’s work. 76 Likewise, Helpern contrasts the type of malaria parasites afflicting drugs users and changes in this population with the research of his Egyptian counterparts. 77 In this way, he demonstrated that Egyptian research served as a constant point of reference for him and other American physicians.

76 Ibid., 111-123.
77 Ibid.
The frequency with which American doctors cited Egyptian research underscores the

Figure 4: An improvised syringe from a medicine dropper and a hypodermic needle for intravenous injection. The bottle cap served as a receptacle to prepare the solution, which the user filtered through a cotton wad and drew up into the improvised syringe. (Helpern, 1934).
Formative role it played in informing the understanding of narcotics in the United States. However, American studies tracing the strand of malaria in the United States to Egypt most clearly convey the centrality of Egyptian drug expertise to the formulation of narcotics knowledge in the country. This theory appears most prominently in the work of New York University Professor of Medicine and Pathology Harry Most. In 1940 Most published two articles that largely reiterated the work of the Anglo-Egyptian and American doctors concerning the causal link between intravenous drug use and the spread of infectious disease. The significant different between their work and Most’s was his assertion that Egypt constituted the origin of the epidemic of Plasmodium falciparum malaria in the United States based on the fact that a sailor with an “Arabic inscription tattooed on his forearm” appeared on the list of the epidemic’s early fatalities. While Most’s claim seems dubious at best, it parallels Biggam’s earlier assertion about the Egyptian provenance of intravenous drug use. In so, Most highlighted the centrality of Egypt and, more specifically, Egyptian drug research to the understanding of narcotics and public health in the United States during this period.

**Egyptian Narcotics Knowledge and the Treatment of Withdrawal and Relapse in the United States**

As in Egypt, while initial studies in the United States sought to understand addiction and treat drug users suffering from malaria, later research aimed to address withdrawal and relapse. In January 1938, the Medical Director, Lawrence Kolb, and former Assistant Surgeon, C.K. Himmelsbach, of the United States Public Health Service published an extensive study of contemporary withdrawal and relapse treatments. Their article details the nascent and complicated nature of studying addiction treatment during this period by noting that:

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80 Biggam, “Malignant Malaria Associated with the Administration of Heroin Intravenously,” 147-148.
Withdrawal therapy has attracted a great deal more attention and much is still being written about it. New treatments said to be specific are advanced from time to time and then discarded as useless or even harmful, or old treatments are revamped and presented as new. Endocrinology, immunology, and chemistry have been invoked to explain the ultimate nature of addiction and prove the virtue of certain lines of treatment. All of this, together with the fact that the treatment of physical addiction is so easy and yet so difficult and discouraging when the patient cannot be controlled, has tended to becloud the issue.\footnote{81}

In studying this beclouded issue, Kolb and Himmelsbach drew heavily on the research of Anglo-Egyptian doctors. For example, through the work of Arafa, Biggam, and Ragab, they understood Modinos’ autoserotherapy as a failure that only “caused considerable discomfort” for his patients.\footnote{82} Likewise, Kolb and Himmelsbach note that the Egyptian group’s research into autohemotherapy “had no effect on withdrawal symptoms nor did it have any tendency to prevent patients from relapsing, as had been claimed by observers.”\footnote{83} Analyzed in conjunction with similar studies from the United States, the Netherlands, and China, Arafa, Biggam, and Ragab’s research on the treatment of drug addiction led Kolb and Himmelsbach to conclude that “[n]o adequate theory of the ultimate nature of opiate addiction has been presented and treatments based on theories have been failures.”\footnote{84}

Although these studies, according to Kolb and Himmelsbach, fell short in their examinations of opiate addiction and treatment, they played an important role in helping the Americans understand and characterize withdrawal symptoms. In the American physicians’ section summarizing the studies, they construct the following typology of the “withdrawal phenomena” based on the research of the Arafa, Biggam, Ragab, and others:

When the morphine is withdrawn the reactive mechanism designed to counteract poisonous doses of it continues to work for some time. This causes powerful stimulation of certain functions under the control of the sympathetic—hence, the sweating, goose-flesh,

\footnote{83}{Ibid., 777.}
\footnote{84}{Ibid., 784.}
increased secretions causing vomiting and diarrhea, increased blood sugar from increased outpouring of adrenalin, raised blood pressure, etc...The entire central nervous system apparently reacts in the same way as the sympathetic; therefore, in withdrawal, more intense perceptions are received by centers that are more sensitive to them. Hence, the insomnia, pain, restlessness, anxiety, etc. In the final sections of the paper, Kolb and Himmelsbach employ these characterizations to develop, what they refer to as, “a quantitative method for estimating objective abstinence syndrome intensity.” Their “method,” in essence, constituted a system for determining the severity of withdrawal by assigning patients with points for a number of the symptoms listed in the above description of the condition. For example, Kolb and Himmelsbach assigned one point for each two mmHG increase in blood pressure, one point for signs of perspiration, three for goose bumps, and five for vomiting. The physicians intended these results to be collected in twenty-four-hour cycles and compared to previous data to quantify the intensity of a patient’s withdrawal symptoms. Kolb an Himmelsbach also included in their study the results of a preliminary test of their quantification scheme, which they conducted on sixty-five individuals suffering from substance use disorder.

Following the publication of Kolb and Himmelsbach’s article in 1938, their quantification scheme developed into an important tool for measuring withdrawal symptoms. According to the American Psychiatric Association’s 2015 edition of the Textbook of Substance Abuse Treatment, “[m]any scales have been developed to measure the magnitude of the signs of MOPR[hone] withdrawal in rats and mice and in humans, among the first and most useful is the Himmelsbach scale.” Furthermore, their system shapes research concerning the current opioid crisis in the

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85 Ibid., 783-784.
86 Ibid., 786.
87 Ibid., 788.
88 Ibid.
89 They likely conducted this research at the United States Narcotics Farm in Lexington, KY, where they led the infamous Addiction Research Center (ARC) from its inception. Ibid., 785 and Nancy D. Campbell, The Narcotic Farm (New York: Abrams, 2008).
United States. A 2015 study, for example, employs Kolb and Himmelsbach’s scale, with minor adjustments, in research that refutes the efficacy of smoking cannabis as a means of reducing opioid withdrawal symptoms during methadone dose tapering.91

Kolb and Himmelsbach’s quantification system, alongside the previously mentioned studies on the transmission of malaria via intravenous drug use, demonstrates the important role that Egyptian drug research has played in shaping narcotics knowledge and public health discourse in the United States from the 1940s to the present. Arafa, Biggam, and Ragab’s research served as a central point of reference for American doctors and public health officials, with which they compared, contrasted, and developed their own work. The influence of their research, from the spread of malaria in the 1940s to the contemporary opioid crisis, conveys not only the global impact of interwar Egyptian narcotics expertise and Egypt’s position as a market for narcotics knowledge, but also the convoluted origins of present drug treatment.

Conclusion

Egyptian narcotics expertise had a profound impact on global drug and public health discourse during the interwar period. This body of knowledge resulted from a combination of local as well as global developments that spurred the production and consumption of Egyptian drug research. On a local level, the lucrative interwar opiate trade and subsequent heroin crisis led Anglo-Egyptian doctors to study the relationship between intravenous drug use and the spread of infectious disease. Around the globe, the nascent nature of narcotics expertise increased international receptiveness to Egyptian drug research and fueled the dissemination of this knowledge. Together, these local and global phenomena led to a significant transmission of

91 The authors add items to Kolb and Himmelsbach’s system to “capture symptoms likely to emerge during an outpatient taper, such as sleeping difficulty.” Epstein, David H. and Preston, Kenzie L., “No Evidence for Reduction of Opioid-withdrawal Symptoms by Cannabis Smoking during a Methadone Dose Taper,” American Journal on Addictions 24, no. 4 (2015): 324.
narcotics knowledge from Egypt to the United States, where American doctors drew upon Egyptian research to inform notions of drug use and withdrawal that persist to this day.

In detailing the production of Egyptian drug expertise and its adaption in the United States, this paper makes three interconnected interventions of relevance to policy makers and social scientists examining the current opioid crisis in the United States. The first two are methodological: historical scholarship and popular media have long dismissed the sale and consumption of narcotics as criminal or immoral activity that only leads to crises in public health. This paper, however, acknowledges the political, economic, cultural, and, in particular, intellectual significance of illicit markets and those who engage in them. Thus, it demonstrates how illicit markets also produce intellectual markets that can span vast geographies and timeframes, such as those separating interwar Egypt and the present United States. In addition, this paper shows how modern medical technologies connect infectious and noninfectious epidemics both in terms of how patients experience them and how medical professionals understand them combining to constitute a public health crisis. Therefore, it encourages scholars, policy makers, and medical professionals to move away from a singular understanding of disease and to address substance use disorder as a combination of multiple public health concerns rendered visible, singular, and significant by the technology of the hypodermic needle. The third is historiographical: in framing Egypt as both a consumer of narcotics and an important producer of narcotics knowledge, this paper challenges the central position of the United States and Europe in the narrative of drug history and sheds light on the tangled webs of scientific knowledge production that underpin narcotics knowledge in the contemporary world.
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