

Tropical Disease Campaigns in Panama: The Entanglement of American Colonial Medicine and Medical Humanitarianism

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From August 22 to September 2, 2005 I conducted research at the Rockefeller Archive Center (RAC), closely reviewing materials related to the International Health Commission/Board's (IHC/B) activities in the republic of Panama and the Canal Zone as well as the activities of the Yellow Fever Commission (YFC) in Latin America during the period from 1913 to 1921. My goal was to reconstruct the IHC/B's hookworm campaigns in Panama, with particular emphasis on Panama's role as a testing ground for hookworm interventions elsewhere in Latin America; to understand how the IHC/B health officers interacted with the U.S. health infrastructure and personnel that had been put in place as part of the construction effort; and to determine the connections between the yellow fever campaigns carried out between 1904 and

1914 and the campaigns of the YFC, founded by the Rockefeller Foundation (RF) in 1915, both of which were directed by the army physician Colonel William C. Gorgas. As is often the case when studying the history of international health, I was also interested in mapping the network of actors involved in these hookworm and yellow fever campaigns.

During my two weeks at the RAC, I consulted RF Record Group 5, Series 1.2, region-specific general correspondence for Panama (327) and the Canal Zone (206); RF Record Group 5, Series 3 Routine Reports, on Panama (327); RF Record Group 5, Series 2 Special Reports, which contains documents related to hookworm campaigns in Panama and yellow fever campaigns in Latin America; RF Record Group 5, Series 1.1, which includes a great deal of information on the YFC in the written correspondence between RF directors and Gorgas and other IHC/B officers; the Lewis W. Hackett Papers, Series 1.1 (Accession No. 33), which contains several folders pertinent to the years 1914-1920; Record Group 12, Series 1 Diaries, specifically those of Gorgas, Theodore C. Lyster, and Michael E. Connor; and RF Photographs related to Panama and the YFC. In addition, I consulted the biography files of approximately 30 RF health officers and took the opportunity to review the IHC/B Annual Reports for the years 1914 to 1921.

It is important to note that this research expands on and complements research on medicine and health in Panama that I have conducted over the past two years with the following archival materials: Papers of the Isthmian Canal Commission, Record Group 185, National Archives and Records Administration, College Park, Maryland; Papers of William C. Gorgas, Library of Congress, Washington, D.C.; and the Papers of Walter C. Reed, History of Medicine Division, National Library of Medicine, Bethesda, Maryland. In addition, I have reviewed ample

primary sources (such as articles in medical journals, memoirs, and periodicals) from the 1900 to 1920 period related to Panama, tropical medicine, and public health.

In this research report, I begin by setting the context of the Panama Canal circa 1900 and describing the tropical medicine campaigns carried out there under the aegis of the U.S. government during the construction period (1904-1914). I then discuss the arrival of Hackett in Panama in 1914, describing how he launched the RF's hookworm campaign and how his successors continued his efforts after he moved on to Brazil. In the last section I explore the relationship between Gorgas's yellow fever campaigns in Panama between 1904 and 1914 and the YFC's projects in Guayaquil, Ecuador and several other Latin American cities.¹ I conclude by analyzing the unique place of Panama – both the Canal Zone and the republic – in the development of U.S. tropical medicine and outlining what I think are intriguing questions about the overlaps and divergences between U.S. colonial medicine and medical philanthropy in Latin America more broadly in the early twentieth century.

The United States and the Construction of the Panama Canal

Between 1904 and 1914, the United States built a canal through the Panamanian isthmus, connecting the Atlantic and Pacific oceans via a waterway approximately 50 miles in length and located thousands of miles closer to major U.S. port cities than previous routes around the tip of South America. Motivated in large part by a desire for commercial expansion and geopolitical dominion, President Theodore Roosevelt helped to orchestrate Panama's secession from

¹ For more on the IHC and yellow fever campaigns see Alexandra Minna Stern, "Yellow Fever Crusade: U.S. Colonialism, Tropical Medicine and the International Politics of Mosquito Control, 1900-1920," in Alison Bashford, ed., *Medicine at the Border: Disease, Globalization and Security, 1850 to the Present* (London: Palgrave, 2006), 41-59.

Colombia in 1903. However, the price of Panama's new-found independence was high, namely the transfer, per treaty agreement, of the 500-square-mile Canal Zone to the United States. Legally designated an "unorganized possession," a colonial status analogous to Guam and American Samoa, the Canal Zone was accorded virtually no political autonomy until the mid-twentieth century and was not returned to the republic of Panama until 1999.²

Once in control of the Canal Zone and granted substantial authority over Panama's two key cities of Colon and Panama City, the United States formed the Isthmian Canal Commission (ICC) to oversee the gargantuan task of constructing a canal through the rocky and rough terrain of the isthmus. Based on a locks model, the ICC contracted a cadre of engineers and laborers to dredge and gradate, by expanding and narrowing, the lakes and rivers linking Panama's two coasts.³

The United States was intent on avoiding the mistakes that had deprived France of her chance to build a canal through Panama in the 1880s. More than any other problem – such as a lack of engineering know-how or labor power – infectious diseases had doomed the French effort, as upwards of about 20,000 laborers died, primarily from the mosquito-vector ailments of yellow fever and malaria. To some extent, the French were the victims of bad timing, undertaking the project of canal construction just as major discoveries in bacteriology and germ theory were being made by scientists such as Robert Koch and Louis Pasteur and two decades before the demonstration of the role of mosquitoes (and other intermediary vectors such as insects and rodents) in disease transmission. In addition, the French attempt was marred by

² See Michael L. Conniff, *Panama and the United States: The Forced Alliance*, 2d ed., (Athens: University of Georgia Press, 2001); John Major, *Prize Possession: The United States and the Panama Canal, 1903-1979* (New York: Cambridge University Press, 1993).

³ See David McCullough, *The Path Between the Seas: The Creation of the Panama Canal, 1870-1914* (New York: Simon & Shuster, 1977).

political scandals and criminal intrigue. At the end of the day, France's canal project left several financiers and politicians in jail as well as an intact colonial infrastructure in Panama, principally in and around Panama City.

When the ICC began canal construction in 1904, Gorgas was appointed Chief Sanitary Officer. Gorgas was a career army doctor who had spent most of the 1880s and 1890s in the American West and South pursuing frontier medicine and territorial administration. In the wake of the Spanish-American War (1898) he was ordered to Havana, Cuba to minister to the U.S. troops. Following commonplace sanitary protocols, including the cleaning of the streets and the purification of the water supply, Gorgas successfully countered typhoid outbreaks. However, when yellow fever struck in 1900, these same methods failed.

Fortunately for Gorgas, not far from Havana another army physician, Walter C. Reed, was conducting experiments that ultimately demonstrated that yellow fever was not spread via a water- or air-borne bacteria nor via fomites but by mosquitoes (specifically the species now known as *Aedes aegypti* and known then as *Stegomyia fasciata*). Although Reed was not able to identify the microbe responsible for yellow fever, a discovery that would have to wait for techniques capable of culturing viruses and the electron microscopes of the 1930s, in collaboration with several other scientists like Henry R. Carter he determined the disease's periods of incubation and infectivity. Based on this new knowledge, Gorgas designed a plan to contain yellow fever in Havana and environs that involved isolating infected patients in screened hospital beds, destroying adult mosquitoes through fumigation, killing mosquito larvae and eggs with larvacide and oils, and eliminating or capping sources of stagnant water. Combining military strategy and basic epidemiology, Gorgas divided Havana into sanitary districts, each overseen by a medical team that kept a detailed inventory of file cards on every house and water

source. Once this data was compiled, Gorgas's brigades swung into action, carrying out measures whose impact was soon felt. Within three months yellow fever had decreased markedly in Havana, from 1,400 cases in 1900 to 37 in 1901, and by 1902 had all but vanished.⁴ Keeping abreast of Gorgas's campaign, Reed repeatedly commended his colleague, telling him in June 1901, "I am astonished at the strength of your Mosquito-Destroying Sanitary Squad."⁵

When Gorgas arrived in Panama in 1904, he brought not only the lessons of Cuba with him, but broader familiarity with tropical medicine, an emergent field that combined bacteriology, parasitology, entomology, and epidemiology to study the etiology, transmission, and control of diseases usually associated with hot and humid climates. Tropical medicine was the birth child of late-nineteenth/early-twentieth century colonialism and imperialism, when scientists affiliated with projects of territorial and commercial expansion in Europe and the United States became interested in understanding "tropical diseases as a distinct group of afflictions."⁶ Because these diseases often negatively impacted laboring populations in newly colonized areas in Africa and Asia, colonizers were interested in containing them, both to enhance the health and labor productivity of the colonized and, if possible, to win local trust through curing or attenuating endemic and deadly ailments. As part of the colonial milieu, European and U.S. physicians in Africa, Asia, and the Americas frequently shared the values and prejudices of their colonial counterparts. However, they also were drawn to places such as Havana and Hong Kong by the possibility of making new discoveries in modern medical science and developing remedies, including vaccines and sera, to improve human health.

⁴ See McCullough, *The Path Between the Seas*; William C. Gorgas, *Sanitation in Panama* (New York: D. Appleton and Company, 1915).

⁵ Walter C. Reed to William Crawford Gorgas, June 5, 1901, Walter A. C. Reed Papers, MS C 48, National Library of Medicine, National Institutes of Health, Bethesda, Maryland.

⁶ Michael Worboys, "Tropical Diseases," in W.F. Bynum and Roy Porter, eds., *Companion Encyclopedia of the History of Medicine*, vol. 1. (New York: Routledge, 1993), 512-36, quote from p. 518.

Enter Lewis W. Hackett and the IHC

The completion of the construction of the Panama Canal in 1914 coincided with the IHC's launching of hookworm campaigns in Central America, the Caribbean, and several areas in Asia.⁷ Although not at the top of the list of demonstration sites, Panama figured early in the IHC's plans, as Lewis W. Hackett arrived there to begin work in May 1914.⁸ In accordance with the IHC's emphasis on international cooperation, operations did not begin without a formal request or invitation from the host country. This prerequisite reflected the IHC's desire to encourage target countries to invest, politically and financially, in the development of public health, ideally with the installation of a basic sanitary infrastructure capable of providing potable water, a functioning sewage system, clean streets, and at least some disease surveillance and treatment. Despite good intentions, such plans for binational partnership encountered many problems during the intense initial years of the IHC's hookworm campaigns (1913-1920), often because the host countries lacked funds or interest for public health, because the political culture was too volatile for sustained support, or because IHC officers lacked the political connections or cultural knowledge to achieve their stated goals. Moreover, many target countries were extensive territories that required daunting investments of money and labor, contained large numbers of vulnerable and sick people, and suffered from disrupted disease ecologies engendered by the social and economic processes associated with colonial labor regimes.

Such conditions awaited Hackett upon his arrival in Panama in 1914. Furthermore, he found himself in a nation whose decade-long experience of independence had been profoundly shaped by the U.S. occupation of the Canal Zone. From a sanitary perspective, Panama was a

⁷ John Farley, *To Cast Out Disease: A History of the International Health Division of the Rockefeller Foundation (1913-1951)* (New York: Oxford University Press, 2004); Steven Palmer, *The American Method: The Rockefeller Foundation's Hookworm Campaigns in Central America and the Caribbean* (Ann Arbor: University of Michigan Press, forthcoming).

⁸ International Health Commission (IHC), *Annual Report*, 1914, p. 63.

lopsided place, as the medical efforts of Gorgas and the Medical Association of the Isthmian Canal Zone had concentrated almost entirely on two cities (Panama City and Colon) and the labor encampments and indigenous villages located along the 50-mile length of the canal. Most of the country's tropical interior remained untouched by the hand of modern sanitation. Hackett's inaugural infection survey demonstrated this disparity: while 24.4% of children aged 6 to 18 were infected with hookworm in partially paved and modernized Panama City, an average of 69.1% were infected in the interior, with percentages exceeding 90% in villages such as Arraijan.⁹

Nevertheless, from the outset, Hackett, who exhibited the mixture of optimism and hubris that often characterized IHC health officers, was hopeful about the prospects for Panama's hookworm campaign. Soon after his arrival, he wrote to a colleague, "On the whole, I think the outlook is very favorable for intensive work of the best kind, followed by authoritative sanitary regulations."¹⁰ After two months in Panama, Hackett had established working relations with several members of the medical establishment, including United States Public Health Service and Panamanian health officials. They provided tips on how to navigate customs procedures, arrange the ordering of supplies, establish laboratories and dispensaries, and locate locals, usually young men with at least high school education, to serve as technicians and assistants.¹¹ In an effort to create an accessible set of field stations, Hackett initially decided to confine the hookworm campaign to the western side of the country, concentrating on the provinces of Panama, and later, Cocolé, Chiriquí, and Bocas del Toro. As he began to traverse these regions of the interior and set up the program, Hackett achieved what appeared to be an important victory in

⁹ Ibid, p. 65.

¹⁰ L.W. Hackett to Dr. Joseph H. White, May 16, 1914, Rockefeller Foundation (RF), Record Group (RG) 5, Series 1, Subseries 2, Box 9, Folder 126.

¹¹ See LWH to JHW, June 3, 1914, RF, RG5:1:2, Box 9, Folder 126.

fall 1914, when the Panamanian government agreed to found a Hookworm Department under the National Hygiene Board.¹²

One of the first towns where Hackett launched survey and dispensary work was La Chorrea (population: 4,000). In part because schoolchildren were an already assembled subject population in what were relatively scattered hamlets, Hackett and his team began the IHC's hookworm campaign in La Chorrea's four schools, which contained 250 students with hookworm infection rates ranging from 16.8 to 48.8%.¹³ In keeping with existing protocols and the centrality of a dispensary plan, infected schoolchildren were treated with one to four doses of thymol (and later the controversial and sometimes deadly chenopodium).¹⁴ At the same time, Hackett engaged in a public health communication campaign using the tools of the day: the plastering of posters in the streets, the distribution of leaflets, stereopticon presentations, and, as part of the "intensive method," door-to-door canvassing of homes for the purposes of testing and health education.¹⁵

If La Chorrea revealed the high hookworm infection rates typical of the Panamanian interior, it also demonstrated that the paucity of privies was at the root of endemic hookworm. As Hackett explained to Wickliffe Rose in a letter summarizing his work in La Chorrea, "the problem of the disposal of human excrement must be attacked by us at once."¹⁶ Thus began Hackett's and the IHC's attempt to encourage and oversee the building of modern latrines throughout the Panamanian interior, a preventive measure viewed as essential to hookworm prophylaxis. Yet unlike dispensing thymol or chenopodium, which RF officers could manage as

¹² See LWH to Secretary of Fomento, Panama, August 31, 1914, RF, 5:1:2, Box 9, Folder 127.

¹³ LWH to Secretary of Fomento, Panama, August 31, 1914, RF, RG 5:1:2, Box 9, Folder 127.

¹⁴ On chenopodium and occasional overdosage in children, resulting in death, see Palmer, *The Intensive Method*.

¹⁵ LWH to Wickliffe Rose, October 12, 1914, RF, RG 5:1:2, Box 9, Folder 127.

¹⁶ *Ibid.*

long as they maintained adequate supply and personnel, building enough functional latrines in interior regions to significantly impact hookworm infection rates required – per the RF’s own dictates – cooperation and coordination with both the host country and local communities. Not surprisingly, given the challenges outlined above, this crucial dimension of the hookworm campaign faltered and stalled, eventually tempering IHC’s enthusiasm about success in Panama. Furthermore, as John Farley has shown, the problems that Hackett and his successors encountered in Panama were common in other countries, leading by 1920 to what he calls a “retreat from hookworm.”¹⁷

The letters and reports contained in the RF archives RG 5:1:2, RG 5:2 # (special reports) and RG 5:3 # (routine reports), chronicle the trials and tribulations of the IHC’s hookworm campaign in Panama. For example, although Hackett had supposedly acquired the political and financial backing of the Panamanian government in 1914, principally through the creation of the Hookworm Department and pledges to fund various sanitary endeavors, this support proved to be quite evanescent. As W.T. Burres, who succeeded Hackett as director of the Panama campaign in early 1916, wrote in a December 1917 confidential letter to John A. Ferrell, RF Assistant Director General: “during normal times the complaint has been general among Panamanians that their Government has not done much for the Interior, and during the present time the same complaint exists.”¹⁸ In this nine-page overview of the difficulties with operations in Panama, Burres discussed the slight attention paid to and non-enforcement of sanitary regulations as well as the country’s abysmal financial situation, pithily concluding, “So much for the National Board of Health.”¹⁹ Facing these obstacles, which were frequently accompanied by disinterest in, if not

¹⁷ See chap. 5 of Farley, *To Cast Out Disease*.

¹⁸ W.T. Burres to John A. Ferrell, December 11, 1917, RF RG 5:2(subseries 327), Box 35, Folder 200.

¹⁹ *Ibid.*

opposition to, changing the status quo in local communities, the IHC soon realized that the desired plan of building latrines throughout the interior would remain a pipe dream. As Fred C. Caldwell, director of the Panama campaign in 1920 acknowledged in a synopsis of activities from 1914 to 1920, “the erection of public latrines has been discontinued.”²⁰ In addition, Caldwell noted the problems associated with the latrines that had been built, including private latrines, which frequently had not been installed with safeguards against water accumulation (thus easily becoming breeding pools for mosquitoes and other insects) nor were inspected on a regular basis.

Ultimately, without the existence of a basic sanitary foundation for their campaign in Panama, the IHC hookworm campaign became a losing battle against endemic disease and the much touted “intensive method” was abandoned. This, however, was not due to a lack of trying. For example, as Caldwell recorded, by 1920 the IHC’s program had reached towns in every Panamanian province and a total of 121,697 persons, 78.3% of whom were infected, had been examined and treated.²¹ Nevertheless, because reinfection was possible and common, at best the hookworm campaign achieved mitigation rather than the stated goal of eradication. In a striking irony, the IHC, whose officers were important players in the network of U.S. tropical and colonial medicine in the early 20th century, was adversely impacted in Panama by the preexisting U.S. colonial medical presence. Indeed, as Burres explained in 1917, the overriding imperative of synchronization with the Panamanian government and local communities was stymied by the “indirect and at times powerful influence of the American authorities.”²² This sentiment was also

²⁰ “Report on Work for the Relief and Control of Hookworm Disease in Panama, From July 14, 1914, to December 31, 1920,” Fred C. Caldwell, M.D., Director, IHC, RF, RG 5:2(subseries 327), Box 35, Folder 211.

²¹ Ibid.

²² W.T. Burres to John A. Ferrell.

aired in the IHC's 1921 annual report: "the development of local initiative" in Panama "has been stifled by the paternalistic policy of the Canal Zone."²³ Thus, although the retreat from hookworm in Panama should be understood as part of the broader shift of the RF's mission in the 1920s, it also needs to be placed against the backdrop of the health priorities and investments of Gorgas and the ICC during the construction of the canal. In conjunction with problems related to geography, the particularities of hookworm disease, and some skepticism and resistance to IHC's methods on the local level, the ICC's monopoly of the health system militated against the RF's hookworm program in Panama.

Exit Gorgas and the YFC

If the U.S. medical presence that Hackett and his successors encountered in Panama hurt the IHC's hookworm campaign, it had the opposite effect on the next major RF health effort in Latin America: yellow fever eradication. Compared to the recalcitrance of the helminthic disease of hookworm, the viral ailment of yellow fever had proven much easier to stem in Panama and elsewhere (at least for the medium term, as would become evident in the 1930s). Nevertheless, as the canal neared completion in the mid-1910s, American physicians and businessmen alike began to evince anxiety that yellow fever might re-emerge once ships began to cross the Panama Canal, and travel either up to the United States or across the oceans to Asia or Europe. This concern merged with the RF's belief in the "feasibility of eradicating yellow fever from the world," and prompted the Foundation to establish the Yellow Fever Commission (YFC) in

²³ IHB, *Annual Report*, 1921, p. 133.

1916.²⁴ Because of his international stature and proven track record, Gorgas was chosen to head the commission.

The YFC's initial objective was to identify the endemic foci or seed-beds of yellow fever infection in the Americas, primarily port cities that constituted key nodes in the chain of inter-American maritime commerce. The composition of the commission, which brought together scientists whose collaboration reached back to the Spanish-American War (including Gorgas, Juan Guiteras, and Carter), illustrated how U.S. tropical medicine could flow from military and uniformed agencies into RF medical philanthropy. The RF was emboldened by the prospects of total sanitary conquest and the showcasing of American medical might: "to eradicate yellow fever from these seed-beds and thus to rid the world of the disease, is the high adventure upon which the Rockefeller Foundation embarked in 1918 under the leadership of General Gorgas."²⁵

After a fact-finding reconnaissance trip in the summer of 1916, the YFC identified one key seed-bed of yellow fever: Guayaquil, Ecuador. After waiting for World War I to end so that Gorgas could lead the campaign, the YFC set out on its first major mission in 1918 to eradicate *Aedes* from Guayaquil, at the same time that it continued to monitor the Brazilian eastern coast and the Caribbean for signs of the mosquito-borne disease and plotted the extension of its field investigations to Mexico and West Africa.²⁶ Initially the eradication methods replicated what had been done first in Havana and in a much more comprehensive and prolonged fashion in Panama.

²⁴ Gorgas, "Rockefeller Foundation Health Board, Itinerary of Major General William C. Gorgas, Chairman of Yellow Fever Commission to South America, June 14 – December 12, 1916," Introduction, RF, RG 12:1(subseries diaries).

²⁵ "A Sequel to Cuba and Panama," IHB, *Annual Report*, 1919, p. 11.

²⁶ See correspondence in RF RG 5:1:1.

Guayaquil was divided into districts, each supplied with a sanitary squad. Standing water was eliminated, larvae destroyed, and within six weeks yellow fever had been contained.²⁷

One of the features of the YFC's work in Guayaquil that mirrored problems in Panama was the conflict over the need for a revamped water and sewage system in the city, which several YFC members deemed necessary to rid the city of multitudinous spots of mosquito breeding. However, because of the IHC's focus on a narrow eradication approach, RF Director Rose refused to invest in what he considered to be the responsibility of the Ecuadorian government. As Farley has argued in the case of Guayaquil, "the Health Board's goal, as Rose made clear in his Working Plan for Ecuador, was to eradicate yellow fever from Guayaquil in order to eliminate it from the west coast of South America. They could not wait on the long-term betterment of water and sewage systems."²⁸ Despite this, the RF maintained unwavering faith in yellow fever eradication, illustrated by the fact that even without the cost of investing in infrastructural projects abroad, the foundation nevertheless managed to devote the majority of its financial resources to yellow fever, up to 50% of its budget from 1925 to the late 1930s.²⁹

A closer look at the YFC's initial activities from 1916 to 1920 illustrates the degree to which yellow fever eradication continued to revolve around the Panama experience. For example, during his tours of potential yellow fever hot-spots, Gorgas sent hundreds of copies of his book *Sanitation in Panama* to Latin American political and sanitary authorities, clearly viewing it as the supreme instruction manual.³⁰ In addition, because the Canal was now the primary route

²⁷ Gorgas, "Sanitation in Guayaquil," RF RG 5:2(special reports); Arthur I. Kendall and Mario G. Lebrado to WC, November 2, 1918, RF RG 5:2(special reports), Box 30, Folder 181; also see Marcos Cueto, "Sanitation from Above: Yellow Fever and Foreign Intervention in Peru, 1919-1922" *Hispanic American Historical Review* 72 (1992), 1-22.

²⁸ Farley, *To Cast out Disease*, 92.

²⁹ *Ibid*, p. 88.

³⁰ See, for example, letters from Gorgas to Rose requesting that he send out copies of books to Latin American physicians and diplomats in RF, RG 5:1:1.

between the Atlantic and Pacific Coasts of South America, the YFC's trips often returned to the Canal Zone to embark on the next phase of a journey, a stay-over that inevitably invoked in Gorgas many nostalgic memories of his reign on the isthmus. Finally, Panama was regularly Gorgas's point of comparison for the yellow fever efforts that he and his colleagues initiated in Ecuador, Peru, and Guatemala. He wrote in his diary in 1916, "in case of work at Guayaquil I think it would be necessary to put up three or four properly screened and sanitary homes for our employees, such as those put up for our employees at Panama. If this were done it would not be a permanent expense as, when we were through with them, they could be sold at such a price as would cover the original expenditure."³¹ He also regularly compared the tropical climates he encountered with what he remembered of Panama, writing in April 1919 while in Guayaquil, "the weather is still extremely hot. I don't recollect feeling at Panama anything nearly so oppressive."³²

At the same time, however, the Guayaquil experience evolved in two new directions. First, it was there that Arthur I. Kendall, Dean of the Northwestern University Medical School, and Hideyo Noguchi, researcher at the Rockefeller Institute, established a laboratory dedicated to yellow fever (which existed from July to September 1918).³³ According to letters Rose received from Kendall and other members of the YFC, their research group was met warmly in Guayaquil, where officials let them operate with liberty.³⁴ Notably, it was in Guayaquil that Noguchi first identified the microorganism that he believed caused yellow fever (which he labeled *Leptospira icteriodes*). Although what Noguchi actually found was a spirochete bacteria,

³¹ Gorgas, "Rockefeller Foundation Health Board," July 4, 1916, RF, RG 12:1(subseries Diaries).

³² Gorgas 1919-1920 Diary, April 11, 1919, RF, RG12:1(subseries diaries).

³³ See, for example, letters between Arthur I. Kendall and Gorgas in RF RG 5:1:1; also see IHB, *Annual Report*, 1918, pp. 83-88.

³⁴ See AIK to WR, July 11, 1918, RF RG 5:1:1, Box 33, Folder 544; on Gorgas's job offer see Gorgas 1919-1920 diary, RF RG 12:1(subseries diaries).

not the yellow fever virus, he produced both a serum and vaccine that were administered (causing neither harm nor help) to thousands of people in Latin America. It was not until the 1930s that Noguchi's findings were disproved; until then a combination of support from the powerful Rockefeller Foundation and an inter-American medical system that undervalued the research of Latin American scientists allowed Noguchi to hold sway, even as his findings were being challenged by laboratories in Brazil and West Africa. Second, it was in Guayaquil that another YFC officer, Michael Connor, implemented an ingenious plan to eradicate mosquito larvae in water urns and tins by using fish. This effective method, which reduced *Aedes* breeding in small containers from 100% to less than 2% was fairly well accepted by locals. Furthermore, it symbolized a departure from the measures employed up to that point by the YFC, in part because it was formulated based on community patterns of water shortage and utilized the readily available local species of "chata" or sardine.³⁵

U.S. Colonial Medicine and Medical Philanthropy: Overlaps and Divergences

Panama holds a unique place in the ambivalent relationship between U.S. colonial medicine and medical philanthropy in the early 20th century. In recent years it has become second nature for many scholars to depict the IHC as the vanguard of U.S. colonial medicine. Certainly, many IHC officers partook of, and some perpetuated, the racial prejudices and commercial ambitions that were commonplace during that era and framed the discourse of tropical medicine. Yet examining the arrival of the IHC to Panama in 1914 and its subsequent travails suggests that the hookworm campaign in that country suffered because of the pre-existing U.S. colonial health system, including its paternalism and the antagonism it had

³⁵ Michael Edward Connor, "Part Played by Fish in the Control of Yellow Fever at Guayaquil, Ecuador," RF RG 5:2(special reports), Box 30, Folder 181; also see Cueto, "Sanitation from Above."

engendered among some Panamanians. This entanglement and its link to Panama continued after the opening of the canal when the Great Eradicator of yellow fever, Gorgas, was appointed director of the YFC and transported his techniques and theories to the southern hemisphere. Cherry picking several colleagues with whom he had collaborated starting in Cuba in 1900 and who had made key discoveries in tropical medicine, Gorgas carried the banner of U.S. colonial medicine into the RF. Yet, when YFC officers set foot in sovereign countries such as Ecuador and Peru they consciously, and sometimes quite sanctimoniously, strove to embrace a new brand of health diplomacy. As Kendall wrote to Rose in 1918 after returning from Guayaquil, many Ecuadorians were “keenly alive to the impression somewhat generally held by the Anglo-Saxon race that the Latin Americans are untrustworthy, of doubtful antecedents, and of swarthy color.” For his part, Kendall hoped to overcome such misperceptions, primarily through the YFC and dissemination of its great works, which, in his eyes, were defined by “international humanitarianism.”³⁶

In addition to connecting the RF’s hookworm and yellow fever campaigns through the Isthmus of Panama, this report hints at several areas that merit further analysis. First, what was the relationship between Panama (as an epicenter for U.S. tropical medicine) and nearby countries in Central America, especially Guatemala, where the RF embarked on various health campaigns? Second, I want to examine and compare with much greater scrutiny and precision the RF yellow fever campaign in Guayaquil (1916-1920) and the campaign in Panama City (1904-1906) to assess similarities, differences, and change over time in two moderately-sized Latin American cities. Finally, I am very interested in writing an article on the role of the “diary”

³⁶ AIK to WF, October 2, 1918, RF RG 5:1:1, Box 33, Folder 544.

for RF officers and the Foundation more generally. Who was the diary's intended audience? How does a medical diary, usually written by a male public figure, differ from the kinds of diaries often incorporated into historical analysis (often introspective and written by women)? What can diaries tell us about the personalities and professional styles of prominent RF men and life stories? These are just a few of the intriguing questions I will explore as I continue to mine the rich historical materials in the RF archives.