In Search of the "Philanthropic Plum:" Diabetes Research, Hookworm Interventions, and Comparative Philanthropy in Historical Perspective

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My dissertation research in Belize this year is an ethnographic project tracing the trajectory of two nutritionally-related diseases in this Central American country, one infectious (parasitic infection) and the other non-communicable (diabetes mellitus). To contextualize the contemporary data I have collected about how people negotiate available care systems today, I visited the Rockefeller Archive Center in October of 2009 to deepen my understanding of the historical fields in which these two diseases are embedded with respect to then-British Honduras. I was especially interested in learning more about how past Rockefeller philanthropic interventions for worm diseases and diabetes mellitus relate to modern international health initiatives for these same health issues: What might any parallels reveal about the broader political meanings of these programs over time, and what can any shifts in their recurring tropes suggest about the novel structures of public-private philanthropy today?

The Rockefeller philanthropic interventions in these diseases involved two distinct Rockefeller institutions: the Rockefeller Institute for Medical Research, with its expertise in medical science, and the public health work of the Rockefeller Foundation (RF) through its International Health Division. The RF's "Hookworm Survey" in British Honduras first began in 1915-1916, largely as an extension of its work elsewhere in Latin America. The survey's stated intent was to estimate hookworm's importance "as a cause of diminished efficiency among the people,"[1] thus linking, from the beginning, the elimination of this parasite explicitly to manpower and the country's potential development. Dr. Lewis Hackett, graduate of Harvard Medical School and veteran of hookworm campaigns elsewhere in Central America, managed the survey throughout the country's six districts. In his official report on southern British Honduras, Hackett reiterated the connection between disease and productivity: "I only wish to point out once more that, in my opinion, ankylostomiasis [hookworm disease] in this district is so prevalent as to seriously threaten the vital energy of a great portion of its inhabitants."[2]

But while Hackett saw hookworm treatment as a possible keystone for bolstering the health and productivity of the rural communities in southern British Honduras, the local people themselves often had a rather different view of the programs. Hackett noted that the local Creoles referred to him as "Buckra," an African word for master -- pointing toward the volatile and deep-seated

colonial histories of racial tension in which the RF program unfolded...[3] "In southern districts, where most of the people are Caribs, it was found almost impossible to get them either to come up for examination or to construct privies," exclaimed one report about southern Belize's Garifuna people,[4] a mixed West African and Amerindian ethnic group who were known for their fierce independence. In the initial British Honduras Hookworm Survey report, the program's uneven reception was couched in subtler, more positive terms: the people were "willing to take the treatment, and ready to avail themselves of simple sanitary measures for eradicating the disease, *provided such measures were made obligatory to all."*[5]

Persistent issues of community resistance to hookworm treatment in parts of British Honduras eventually lead to the proclamation of Ordinance No. 18 of 1918, known as the "Hookworm Ordinance." It read in part:

Any person who, without reasonable excuse, refuses or fails to bring and leave a sample of his feces at the appointed time and place, shall, on summary conviction, be liable to a fine not exceeding twenty-five dollars, and, in addition, if the Court so orders, to be detained in custody by such person and in such place as the Court orders until a sample of his feces is obtained.[6] Locals could also be detained in custody "for the period of seven days during which treatment for hookworm disease may be administered by a health officer, reasonable force being used if necessary."[7] In this ordinance, hookworm testing and pharmaceutical deworming treatment were not simply presented as available services, but as such urgent needs that citizens who refused them were viewed as a grave risk -- perhaps not only to the security of British Honduras's first nationwide health intervention, but also to one of the first early gestures of state authority in which colonial governance reached into the country's more remote corners.

In places such as Mexico and Brazil, policymakers often viewed the RF hookworm (and later, yellow fever) interventions as a possible way of solidifying the infrastructures of growing nations. But in the case of British Honduras, many early reports suggested that the fractured fluidity of this anomalous country -- increasingly visible through these early health reports -- in fact made it "unsuitable" for more *extended* efforts to combat hookworm. As Hackett wrote of his survey trip in a letter to Dr. Wickliffe Rose:

In the interior we encounter mainly Indians and mestizos -- and ignorant, affable and dirty folk. They are so unintelligent that the use of chemopodium, administered in the dispensary, is indicated...an *intensive campaign would be impossible.* The men are scattered through the forest during ten months of the year ‘bleeding chicle' and wander into Guatemala and the Yucatan.[8] Later in his official report, Hackett again linked Belize's fluid "national boundaries" to "the impossibility of waging an intensive campaign."[9] Or, as Wilbur A. Sawyer wrote of British Honduras in 1936, almost twenty years later, "He [the Medical Adviser to the British Colonial Office], as well as I, realizes that the country is backward and very poor and that this may limit the possibilities of cooperation."[10] Benjamin E. Washburn reported of the landscape of health in Belize in the following year that there was still no medical school or laboratory, and that of the three doctors working in the "ramshakly" hospital, one was a Jamaican and another a Cyprian Turk, while the only doctor he met in Stann Creek was a 40-year-old Hindu retired from the Malay Medical Service.[11] The doctors, like their patients, came and went from various foreign countries -- making the possibilities over time largely unfeasible for the continuity of both the caregivers necessary to sustain IHB health programs over the years, and the interventions '

intended recipients. Yet these pragmatic issues in British Honduras also gave way to a rupture in one of the program's dominant metaphors: hookworm represented a risk of breached boundaries causing ill health, perhaps of both bodies and nations. In the war against hookworm, the population at risk had to first be circumscribed -- and if it could not be bounded coherently, it could not be treated either.

These survey notes and brief colonial exchanges regarding the medical system in British Honduras are also glimpses into the deeply intertwined themes of early health interventions and statecraft. In a sense, efforts to extend these projects failed simultaneously in British Honduras's early history. Hookworm, from the beginning, has been viewed as a disease of groups and nations, a security risk and source of poverty, an explanation for why certain countries could not prosper. But the difficulty in getting local people to adhere to these same hookworm interventions also gives us a glimpse into the actual functioning of British Honduras's commonwealth government during this period, with limited practical reach into the remote and ethnically diverse corners of Belize. The short-lived hookworm survey in British Honduras thus reflects a kind of paradoxical narrative -- the public health rhetoric held that eliminating hookworm would bring about rapid development, but a certain level of developmental infrastructure and national coherence was also initially required before an extended hookworm campaign would even be put into place. With the medical administration in colonial British Honduras often as piecemeal and nomadic as the inhabitants of these poor tropical villages, the Rockefeller hookworm activities in British Honduras were commensurately short-lived, withdrawing only a few years after the initial survey.

In contrast to the Rockefeller Foundation's hookworm interventions in British Honduras and throughout Latin America, the insulin therapy programs for diabetic patients, organized around the same time under the auspices of the Rockefeller Institute, were limited strictly to the United States and Canada. However, certain details in the British Honduras files still foreshadow the coming epidemic of diabetes that today has become the leading cause of death in Belize. "Vegetables are not as plentiful as they should be," wrote one RF observer in a 1937 description of the Belize City marketplace.[12] Despite sugar cane being a leading agricultural industry, the initial Hookworm Survey of British Honduras listed "refined sugar" as a prime import even then.[13] These records importantly highlight that, unlike many surrounding countries, where agricultural histories were once tied to traditional grains and healthy crops that local people had grown for centuries, British Honduras's early eclecticism also represents a history that has been tied to a dependence on imported, refined, and largely unhealthy foods from its very beginnings.

Interestingly, the same Frederick Gates who was instrumental in the creation of the RF's international hookworm efforts was himself a diabetic, and played a major role in persuading John D. Rockefeller, Jr. to support insulin therapies in their earliest stages. As he wrote of his own experiences with insulin in a 1923 letter to Rockefeller: "Already the results of the treatment are simply magical" For 14 years I have been afflicted with this distressing over secretion of sugar."[14] In another letter that same year, he wrote to Rockefeller in strong support of insulin therapy's philanthropic promise: "This is the greatest philanthropic plum of the generation waiting to fall into your hands, and I want you to have the benefit of it."[15]

Rockefeller soon agreed, and his gift of $150,000 initiated a groundbreaking program in which

select hospitals in the U.S. and Canada offered insulin supplies to needy patients who otherwise could not afford the new drug. Administered by the Rockefeller Institute, the funds were disbursed by a committee of Rockefeller philanthropic advisors that consisted of Gates, Simon Flexner and Arthur Woods. The funds were to be used to treat diabetic patients as well as to teach physicians how to use insulin to treat diabetes. The excitement of this program is palpable in the newspaper clippings from that year. The *Globe* called it a "Complete Cure" for diabetes. "New Serum Dooms an Age-Old Curse," read a headline in the*Evening Telegram.*[16]

But insulin, of course, does not cure diabetes. It only controls the disease, with doses measured carefully against glucose intake day after day. This did not stop the international excitement stirred by the enthusiastic headlines announcing Rockefeller's support of insulin therapy. People wrote from around the world desperately describing their diabetic symptoms and that of their dying loved ones; some letters were followed by announcements about the death of the patient for whom help had been requested. The folders that contain these requests are filled with letters from Salvador and Costa Rica, Zaragota and Barcelona in Spain, British India, Norway, France, Mexico and Hungary.[17] But, as one woman's request for help outside the U.S. was answered in 1924: "[The Rockefeller's insulin provision] activities, however, have not gone beyond this country."[18]

There is something interesting about looking at these diabetes files side by side with reports from the RF's international campaigns. In the case of the ankylostomiasis program in British Honduras, the hookworm pharmaceuticals were at times being forced on citizens who actively resisted them even at risk of imprisonment. Meanwhile with diabetes, desperate pleas for insulin therapies were arriving from around the world, without institutional recognition of any medical need outside the United States. This stark contrast underscores the fact that while hookworm was considered an international issue and security risk, diabetes from the beginning was inscribed as a domestic disease requiring only national intervention and patient responsibility.

But one fascinating file suggested that diabetes *could* be a pressing international issue -- if it were contagious. A very interesting series of RF correspondence took shape around an "outbreak" of diabetes *inspidus* in India in 1952, as RF staff investigated the possibility that the disease may be caused by a virus. A retrospective look at the files today makes one wonder if this outbreak of diabetes *inspidus* in fact more closely resembles diabetes *mellitus*. This sudden surge of diabetes cases in India was linked to a nutritional change in types of local grain and develops within family groups -- traits that are common to diabetes *mellitus* but not to *inspidus*, which most commonly appears either at birth or due to brain or kidney injury, so an "outbreak" pattern would be highly unusual. However, the form of diabetes described in this India file is characterized mainly by excessive urination and "the thirst," symptoms that diabetes *inspidus* shares with *mellitus* exactly. In fact, the word "diabetes" itself comes from the Greek word *diabainein* for siphon -- a reference to frequent urination -- while the designations *inspidus*, bland, or *mellitus*, honey-sweet, referred to a practice ancient doctors relied on, as tasting the flavor of a patient's urine was the only way to determine which of the two types of diabetes had caused their symptoms.

In any case, in this particular instance, diabetes suddenly became a pressing international issue. A flurry of letters, observational studies, and drafted articles about the etiology of this mysterious

diabetes epidemic began to circulate between the British Indies and the Rockefeller Foundation offices in New York.[19] The connection between this outbreak and its evident link to particular grain sources was pointed out by the observing doctor, but the experts who weighed from afar continued resisting this connection. As Dr. Richmond Anderson wrote in a 1952 letter to Dr. J. A Kerr, at the Virus Research Centre, "The suggestion that it is primarily a nutritional deficiency seems to me a little farfetched." Shortly afterward, Kerr wrote in a subsequent letter to Robert Briggs Watson: "Having come to the conclusion that a virus is probably not involved in this episode, I feel that I should now withdraw as completely as possible from participation in the matter." The pages of this file, which end without resolution or intervention, reveal an astonishingly persistent emphasis on contagion within the international health community. The same outbreak continued to affect people's lives in India far beyond 1952 -- but without a known pathogen to identify, this diabetes epidemic fell outside the network of institutional responsibility and slipped quietly off the public health radar.

Observations about such trends in past Rockefeller philanthropic campaigns against worms and diabetes can add historical depth to our understandings of how these same programs are unfolding today. It is interesting to note that some of the pharmaceutical players that are mentioned in the Rockefeller files as suppliers for the early campaigns -- such as Bausch & Lomb Optical Company in hookworm interventions, and Merck in insulin research production -- have today become the new institutions spearheading these same campaigns. Today Merck's international donation of the anti-parasitic drug ivermectin has become a new paradigm of corporate philanthropy. Meanwhile Bausch & Lomb, a prominent manufacturer of glucometer machines that allow diabetics to test their blood sugar, publishes many of the leading pamphlets and informational literature on diabetes care in the United States. The pharmaceutical corporations' position has changed from supplier for philanthropic institutions, to today themselves becoming leading disseminators of information and treatment. It is provocative to consider what fundamental shift in neoliberal structures occurred to make this possible -- to what degree are new global health figures like Merck or individuals like Bill Gates following in the philanthropic footsteps of the business tycoon John D. Rockefeller, and where do their interests, contexts, markets and motivations differ?

Yet this pronounced shift in corporate roles also gives way to an overarching continuity in certain ideas of contagion and boundaries ascribed to these two diseases. To this day diabetes is primarily treated and addressed on a *domestic* level by national health institutions, while HIV and parasitic diseases remain prominent targets of international health policy and treatment campaigns. In past interventions, diabetes was considered a sickness of single individuals, and -- as the India files' classification of the diabetes "outbreak" as *insipidus*rather than *mellitus* may suggest -- perhaps so deeply associated with affluence that when the disease has emerged in contexts of scarcity, it is often not recognized or acknowledged. Meanwhile hookworm from the beginning has been a symbol of poverty, a disease not of individuals but of groups, struggling populations and nations.

The political function of contagion is important to consider in the different trajectories of these two diseases. Unlike hookworm, the diabetes narrative cannot be broken down simply into a man versus pathogen storyline, where the health institution intervenes like an ally during wartime. The diabetes plotline is much more intertangled, since the disease is mainly caused by unhealthy

food -- usually imported from the very same developed countries sending health aid. Intervention for diabetes is not a one-time battle or dose, but a lifelong struggle of daily hedging. This is a case where the so-called "war metaphor" does not fit the disease -- a narrative rupture perhaps proportionate with the overwhelming lack of funding for diabetes internationally. Every day around the world, people die because they do not receive the insulin and other diabetic medications they need to survive. Although the "war metaphor" is often criticized in global health campaigns, examining the fate of international diabetes care over time forces us to ask what actually happens to care when this metaphor breaks down. Is the war metaphor in fact what makes fighting a disease internationally possible, or deemed worthy?

Even a brief comparison between diabetes and hookworm as seen through these Rockefeller files begins to lay bare ideas of risk and contagion in public health, and the moral underpinnings at stake in philanthropic medicine. What meaning lies behind our continuing global focus on infectious diseases, when emerging statistics show that the human burden of chronic illness now often far outstrips contagious disease in much of the developing world? Why do certain diseases elicit sentiments of sympathy or even paternalism, and others attitudes of patient/country responsibility? How do mechanisms of pharmaceuticals and narratives of development play a role in shaping ideas about which populations we think must be helped, and who is expected to save themselves?

ENDNOTES

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1. Rockefeller Foundation Archives, Record Group 5, series 2, sub-series 425, box 42, folder 254. "Hookworm Survey: British Honduras," p. 1. (Hereafter RFA with record group (RG) and series).

2. RFA, RG 5.1.2, series 425, box 11, folder 166.

3. These racial tensions in the colony continued and even escalated during the IHB's later yellow fever campaign, as this passage -- ironically from an inspection conducted by a man named Colonel White -- reports: "There is at present, and has been for some years, a decided anti-white feeling among the negro population. Two years ago there was a serious riot on the part of

discharged negro troops and houses were burned and sacked...As the representatives of the International Health Board in Belize were members of the white race, this fact tended to make the work more difficult than ordinarily it would have been. It took several months for the negro population to understand and believe that the International Health Board was working for the benefit of humanity at large and not especially for the white race." (RFA, RG 5.2 subseries 425, box 42, p. 16-17).

4. RFA, RG 5.2, sub-series 425, box 42, folder 256.

5. RFA, RG 5.2, sub-series 425, box 42, folder 254, "Hookworm Survey: British Honduras," p. 2.

6. Ibid, p. 20.

7. Ibid, p. 20.

8. RFA, RG 5.1.2, sub-series 425, box 32, folder 498.

9. RFA, RG 5.3, series 425, report # 7249, box 171, folder 2103.

10. RFA, RG 2, series 1936, sub-series 425, box 136, folder 1015.

11. RFA, RG 2, series 1937, sub-series 425, box 150, folder 1110, p 1-3.

12. RFA, RG 2, series 1937, sub-series 425, box 150, folder 1110, p. 2.

13. RFA, RG 5.2, sub-series 425, box 42, folder 254, "Hookworm Survey: British Honduras," p. 4.

14. Frederick T. Gates Collection, box 2, folder 36.

15. Rockefeller Family Archives, Record Group 2, Rockefeller Boards series, box 45, folder 456, page 2.

16. Rockefeller University Archives, Record Group 210.3, Business Manager's Subject Files, box 14, "Insulin" file. Acknowledging the discovery of insulin in Canada, the first grants from the special "Insulin fund" went to Toronto General Hospital and the Hospital for Sick Children (Toronto), with subsequent grants to Presbyterian Hospital of New York, the Physiatric Institute (Morristown, New Jersey), the Johns Hopkins University (Baltimore), Presbyterian Hospital (Chicago), Barnes Hospital (St. Louis), Lakeside Hospital (Cleveland), the Medical Department at Stanford University, the University of Michigan, Touro Infirmary (New Orleans), Royal Victoria Hospital (Montreal), New England Deaconess Hospital (Boston), University Hospital in Iowa City, Minnequa Hospital in Pueblo, Colorado and the University of Pennsylvania in Philadelphia.

17. Rockefeller University Archives, RG 210.3, box 7, "Diabetes" file and box 14, "Insulin."

18. Ibid.

19. RFA, RG 6.7, box 146, folder 1060.

20. Ibid.