CONTROLLING MALARIA AND MEN: ROCKEFELLER HEALTH INTERVENTION IN "PORTO RICO", 1920-1926

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This project intended to explore the historical origins of asymmetrical development of colonized countries through a focus on health status and relatedly, the public health structure. The clear presence and imposition of the US and its health system, and the extent and depth to which it affects and intervenes in the daily lives of the colonized, is particularly telling; yet, public health is a phenomenon hidden from public and academic scrutiny. This project attempts to explore cooperation among corporations and government as co-conspirators in the development of a public health system in colonized countries, and the different development experienced as a result of colonization. Its particular emphasis is on the role of foundations, which I had originally conceptualized as passive observes. Instead, the Rockefeller Foundation in particular was a powerful player controlling or benefiting from both sets of interests.

The study of health and organizational involvement in public health development has always presented the image of an altruistic and charitable gesture towards disadvantaged populations, perhaps a measure of governments commitment to its citizens. The issue became even more interesting to consider in the context of colonialism, where definite and material power imbalances have life and death consequences. Puerto Rico, still an unincorporated territory of the US, presented a wonderful case to consider these relationships, particularly in the early period of US occupation and intervention in it, 1898-1926.

Despite the fact that I had limited access to government data which curtailed my investigation of the years from 1898-1920, the RF data illuminated all three organizations role within the development of public health in Puerto Rico. The role of the Rockefeller Foundation also suggests the relationships between colonization and health status. It seemed likely that health should be affected by underdevelopment, the result of colonization. I also explored how the construction of health and disease played a role in the legitimating the presence of the colonizing country.

Interestingly, historians writing on Puerto Rico often note health as the only arena in which improvements were made to living standards during this period.

This project attempted to deal with two possible outcomes. First, that health might improve in the interests of preserving and maintaining the colonial influence through the acquisition of some measure of public favor. Second, that health might worsen as a result of underdevelopment and the colonial presence. The findings of this study show that parts of both were true in the case of Puerto Rico.

While health may have improved to some extent in regards to particular diseases, the occurrence of epidemics increased. Further, there is some preliminary evidence to show that health played a role in stabilizing the colonial administration. It also seems clear that the changes in export crops and increasing capitalist production created new health problems for some populations, largely men of color working in the coastal areas in sugar plantations, as well as the poor increasingly migrating into urban or semi-rural areas. Finally, this study shows that health initiatives were inextricably enmeshed with the goals of US capitalists invested in maintaining a work force.

Method

In trying to understand the relationship between politics and health, it initially seemed obvious to begin looking at the initiatives and work of various departments of US government. Two issues emerged, however, which shifted my attention from the government. First, and perhaps most importantly, a shortage of funds and time limited my work at the National Archives. Second, I came to understand that in what has been called the formative period of American medicine, foundations were the major influence on its direction and development.[1]

There were two initiatives that the Rockefeller Foundation (RF) was engaged in at this time in Puerto Rico (PR). The first began earlier and related to uncinariasis, anemia, and hookworm all diseases related to each other. Their first site was in Utuado, on a sugar and coffee plantation, where the government would then locate the Institute for Tropical Medicine and Hygiene. The majority of RF's activities, however, occur after 1920. I chose to focus on their second initiative, malaria.

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[1] see Duffy, John. 1993. *From Humors to Medical Science; A History of American Medicine.* Urbana: University of Illinois Press. Also, Brown, Richard. 1960. *Rockefeller Medicine Men; Medicine & Capitalism in America.* Berkeley: University of California Press.

I used all data the RF had on its activities regarding malaria in PR at this time. Included are project reports, correspondence, the International Health Board records,[2] IHB reports, and reports on malaria. Missing from this study are some overlapping data from the hookworm initiative, and other political debates and events which arose during this time which, while not directly related to malaria, illuminates the positions RF took.

This project was a preliminary analysis of a subset of the data I collected at RF. As a result, it does not rely heavily on secondary analysis nor does it significantly respond to it. Instead, it tries to unravel the story the documents tell. This decision was conscious, as there is no data on the history public health in PR during this period. I therefore felt it necessary to attempt to read the documents with as little attempt to superimpose a theoretical explanation as possible. Obviously, however, my perspective was influenced by my readings and training and although I have tried to limit its affect, I may not have been as successful as I had hoped.

Historical Context

Public Health efforts can be said to have begun in Puerto Rico on June 29, 1899, six months after the Treaty of Paris in which it was ceded to the United States was signed, with the establishment of the board of health. Its earliest project was to deal with the 'smallpox scare', a general vaccination which had reached epidemic (50 cases[3]) proportion by the standards of the early 20th century. Before 1910, the direction of public health work would shift[4] repeatedly to different

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[2] The International Health Division, later Board worked closely in conjunction with the Rockefeller Foundation. They merged in 1927 and RF acquired all their documents. I have treated them as the same entity in this project, because there was no data to suggest that there was any distinction in the minds of doctors or officials, and there is no evidence that any actions or ideas were ever in conflict.

[3] Davison, L.P. 1899. "Report on the Sanitary Conditions of Ponce", *Public Health Reports*. 14:April 21, pp.42.

[4] As most of my data depended on the Commissioner of Health (Ruiz-Soler) activities, I ignored whether this was truly a shift or transferrence of responsibility or not. If it wasn't, there may have been much more PH work going on at that time and the lack of organizational cooperation would be another phenomenon to investigate in future research.

organizations; the office of the Governor, the Superior Board of Health, the Department of Interior, the Health, Charities and Correction Department and later the Labor, Charities, and Correction Department, the Sanitation Service, etc. Even from its early beginnings, however, the data suggests that different forms of public opinion resisted public health initiatives[5].

Evidence of economic and political interests abounds throughout the collected data. First, it seems apparent that the location of these initiatives were on or near sugar plantations. For instance, the site selected for the ITMH was 1 mile from Utuado, at the coffee and sugar plantation known as San Andres. This was also where the RF located its uncinariasis campaign, and where the earliest anemia commission of the government (1904, 1905) had inaugurated its campaign.

The second phenomenon evidencing political and economic interests lie in the project of development, in this case not only directly in terms of the exportation of profits, but also indirectly through scientific and technological development, with all the political and economic rewards it offered the US. For example, even as early as 1913, the Institute of Tropical Medicine and Hygiene worked in conjunction with the Surgeon General of the Army to study "tropical diseases as they exist in Porto Rico".[6] This emphasis on research at the expense of service is a trend shared by all interests, with the exception of a handful of government[7] initiatives. Their building was originally slated to serve as a quarantine hospital, but was instead turned over to the institute by the director of sanitation. Research on sprue/hookworm[8] was one of the prime objects of the institute. Municipal physicians seldom made visits to the sick poor in the country.

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[5] More excavation needs to be done in this area. It is only hinted at in official reports in the early years of US involvement in PR, and later often overlaps with labor movement struggles.

[6] quoted in Public Health Reports, vol XXVIII:50, pg.2681, Dec. 12, 1913.

[7] Government only; any collaborations with other organizations meant a severe curtailment of any service. The service offered in collaborations was not only limited, but also depended on the individual as a research subject whose other maladies had to be controlled in order to continue research.

[8] Patients bring a specimen of feces to the clinic. King reported on this saying, that they were most commonly brought in safety match boxes and the "cajita" has become synonomous with the fecal specimen.

As mentioned earlier in this paper, I was particularly interested in my original proposal, with the idea so prevalent among historians that health status and the health care system improved under US administration of Puerto Rico. This information is used here to contextualize the malaria initiative. Data from Public Health Reports, the journal of the Marine Hospital Service,[9] illuminate health status trends. Briefly summarized in table 1.1 are the trends for selected diseases, for selected years. I chose Ponce and January in the interests of consistency of data, its proximity to other health initiatives[10].

From the beginning, the US perceived many diseases to be on epidemic levels in Puerto Rico. In fact, there were special reports on particular diseases every year. An 1899 general report on Ponce found typhoid and venereal diseases to be common, and TB to be the primary killer.[11] In the early 1900's, there were supposed epidemics of smallpox, influenza, yellow fever, etc. In 1910, it was hookworm. In 1918, the influenza epidemic. In fact, epidemics and death were indeed the byproducts of US involvement in PR. In the case of malaria, for instance, which RF doctors thought was in epidemic levels, sugar plantations increased the incidence of and conditions necessary for malaria.

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[9] see Mullan, Fitzhugh. 1989. *Plagues and Politics: The Story of the United States Public Health Service.* New York: Basic Books, Inc. for general overview of development of US Public Health System.

[10] Ideally, I would have used annual reports to control for any prevalence of health problems for January. I had difficulty finding annual reports, and probably will have to compile my own.

[11] Davison, L.P. 1899. "Report on the Sanitary Conditions of Ponce", *Public Health Reports.* 14:April 21, pp.42.

Table 1.1.

Vital Statistics[12] for selected diseases in Ponce[13] for the Month of January, 1902-1907

	Ponce				
	Digestive	TB	Malaria[14]	Anemia[15]	Deaths
1902					84
1903	44[16]	4	5	5	103
1904	22	14	24	19	147
1905	16	16	7	7	156
1906					
1907	25	29	10	1	117

* Consistently the largest single category, includes Gastro-Enteritis, Enteritis, Gastritis, and Entero-colitis

The above table (1.1) shows the severity and extent of digestive diseases and TB, yet the establishment of a TB hospital to serve the poor did not occur until 1918. Before that time, the majority of government efforts to deal with the "white plague" consisted of legislation to monitor its extent, and the lives of those who had been affected by it. As early as 1899, the Board of Health resolved to disinfect houses that had been occupied by a person sick with TB, that their effects be disinfected or burned, and to make this resolution public through other physicians and the newspaper.[17] In the same week they had found isolation impractical due to

[12] This data was taken from the *Public Health Reports*. It ranges from weekly reports, to monthly reports, with the months after1908 difficult to find.

[13] I have focused on Ponce only for the purposes of illustration. Ponce and San Juan are the only two cities for which I have consistent morbidity and mortality data before 1910, and they seem to follow the same trend, with Ponce consistently showing higher numbers of cases for the same diseases (see Map 1.1). I also focused on Ponce because, as opposed to San Juan, I could obtain figures for Respiratory and Nervous diseases.

[14] The figures for Malaria are slightly higher in the summer months, in some years approaching the number of cases of TB, although this is not generally the case.

[15] Uncinariasis leads to anemia in advanced stages.

[16] To compare the extent of the problem of these diseases and their severity, 55 cases of bubonic plague in Puerto Rico in 1913 were enough to classify it as a epidemic. This classification was enough to call RF doctors into 'public service' for the plague, despite this foundations protest.

[17] Davison, L.P. 1899. "Report on the Sanitary Conditions of Ponce", *Public Health Reports*. 14:April 21, pp.42.

the widespread nature of the disease[18] and proposed a city "pesthouse" for the isolation of these cases because it would be cheaper than their "removal" to the quarantine station.[19]

Table 1.1 also shows the death rate did not decrease but rather remained relatively steady around the 1910's.[20] It in fact increased in most towns after this. Table 1.2 shows the mortality rates for all submunicipalities for the years 1910 to 1920. They show that whereas most towns experience an increase in mortality, those in which RF had done demonstration projects had decreased their death rates before RF even appeared there. These tables prove that not only were initiatives for malaria not located in the areas with highest mortality, but they were not focused on the most pressing diseases causing this mortality, particularly digestive diseases.

In serving patients, the ITMH really did not do other kinds of tests or medical care, but King's report on December 12, 1913 notes that of special cases, he treated 44 of pulmonary TB, and in comparison only 5 of malaria. It seems clear then, not only through reports which may not have been accessible to doctors but were to policymakers, but also through practice that doctors were aware of the severity of TB in comparison to malaria. In 1913, malaria had only appeared in two municipalities, and the public health reports classifies its extent as limited. The question naturally arises then...

Why would the government, corporations, and RF give so much attention to malaria? What does it mean that public health officials and the Rockefeller

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[18] Sanders, W. H. 1899. *Public Health Reports*. vol. XIV:6 (Feb. 10), pp. 179-183.

[19] Glennan, A.H. 1899. *Public Health Reports*. vol. XIV:6 (Feb. 10), pp. 185-6. Glennan was a surgeon for the US Marine Hospital Service.

[20] Unlike in other colonial administrations, no where in the data, either before or after 1910, is it suggested that patients were afraid of or untrusting of the doctors. In fact, Dr. Earle in 1924 specifically notes that people patronize the clinics. RF RG5 S1.2 B185 F2391. The problem lie in the lack of medical attention for "50 to 70 per cent" of the population. There are few doctors, and those that exist are very poorly paid, they seldom visit rural areas, and there are few hospitals throughout PR. By necessity, "Under these circumstances it results that the greater part of the rural population rely upon home remedies or upon the ministrations of some person in the neighborhood who has acquired a reputation for treating the sick." King, W.W. 1913. "Public Health Work in Porto Rico; A Report Of The Work Of The Institute Of Tropical Medicine And Hygiene Of Porto Rico", *Public Health Reports*. Vol.18:50, December 12. pp.2683.

Table 1.2

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INFORME DEL COMISIONADO DE SANIDAD DE P. R.

MORTALITY RATES

Estado demostrativo de la mortalidad en Puerto Rico comparada por pueblos. Tanto por mil sobre la población.

Pueblos	1909 a 1910	1910 a 1911	1911 a 1912	1912 a 1913	1913 a 1914	1914 a 1915	1915 a 1916	1916 a 1917	1917 a 1918	1918 a 1919	1919 a 1920
Adjuntas	17.28	19.53	20.	18.61	16.33	18.05	23.65	24.24	29.67	42.23	23.24
Aguada	23.55	29.03	25.83	23.10	21.09	23.25	23.57	32.56	34.19	59.16	33.21
Aguadilla	22.36	21.29	24.06	21.07	20.90	20.35	20.79	25.65	23.60	35.03	26.15
Aguas Buenas	16.76	15.99	21.44	20.30	14.16	14.35	21.16	25.21	29 59	32.65	13.98
Aibonito	14.05	18.25	20.24	19.18	14.55	16.08	14.47	17.51	22.62	23.61	20.13
Añasco	26.72	26.33	35.67	29.24	24.72	24.09	27.53	34.11	30.13	47.72	31.01
Arecibo	24.56	28.07	29.75	23.51	21.22	24.12	22.08	32.18	29.61	32.70	28.49
Arroyo	27.23	34.36	26.11	10.58	21.97	24.61	23.92	34.16	27.59	26.30	25.16
Barceloneta	.....	28.69	27.04	24.62	18.19	19.71	23.50	36.37	32.68	36.11	23.41
Barranquitas	12.09	12.69	11.52	11.38	8.70	10.78	23.50	11.72	13.96	19.90	13.39
Barros	14.04	14.36	16.40	13.20	12.72	14.23	17 39	12.62	21.18	31.04	16.44
Bayamón	24.84	26.60	27.54	23.25	20.98	14.59	21.03	31.21	24.23	24.19	23.78
Cabo Rojo	26.12	21.79	24.13	23.62	18 56	19.95	20.69	25.45	28.32	33.93	23.69
Caguas	28.97	27.02	23.76	16.12	19.32	20.02	23.64	35.16	33.95	35.53	26.00
Camuy	14.99	18.01	26.70	23.64	16,17	20.78	20.54	23.73	24.34	29.80	21.44
Carolina	21.33	24.95	20.02	19.27	15.53	15.01	16.61	21.25	18.12	18.04	20.35
Cayey	22.70	24.10	28.45	31.88	22.54	21.77	27.19	38.14	37.58	37.92	24.59
Ceiba	.....	.....	.....	.....	.....	.....	26.40	39.49	34.41	32 57	26.62
Ciales	15.32	15.47	17.35	20.41	16.80	19.11	18.44	23.53	28.55	30.77	22.19
Cidra	15.05	15.55	23.33	19.43	13.68	16.12	17.79	26.98	29.99	30.35	18.87
Coamo	20.02	18.08	15.21	14.55	13.17	15.58	15.71	17.02	18.20	21.44	15.94
Comerio	13.70	15.72	16.75	19.29	14.80	17.44	18.57	24.49	28.29	26.56	16.45
Corozal	12.56	12.28	15.48	11.29	7.40	9.09	10.31	11.36	13.17	21.38	15.79
Dorado	16.38	14 85	23.42	17.57	16.11	21.02	18.27	24.41	22.93	26.53	20.19
Fajardo	32.55	28.56	30.65	27.33	21.44	27.69	29.30	39 52	32.99	29.11	23.35
Guaynabo	.....	.....	.....	19.11	20.91	19.11	21.49	35.08	29.13	31.70	15.28
Guánica	.....	.....	.....	.....	.....	16.58	12.68	15.05	17.73	16.56	21.37
Guayama	33.43	32.59	31.40	29.94	23.45	25.21	35.48	40.55	27.20	31.15	24.47
Guayanilla	18.74	18.32	16.85	15.70	11.64	19.02	20.65	18.86	24.12	30.04	19.45
Gurabo	20.02	21.04	24.65	22.71	19.96	13.97	15.24	26.08	24.72	21.48	23.06
Hatillo	15.60	17.10	20.45	18.54	15.52	24.65	25.17	24.68	28.07	33.60	19.29
Hormigueros	.....	.....	.....	33.41	18.64	21.23	21.63	31.53	26.97	45.09	23.78
Humacao	19.49	24.43	24 48	23.43	15.58	15.31	18.02	27.78	30.91	27.08	22.21
Isabela	20.29	20.02	22.72	19.50	15.60	17.25	15.23	20.44	19.45	23.36	18.58
Jayuya	.....	.....	24 13	21.40	21.69	19.94	23.74	23.54	28.99	34.63	20.38
Juana Díaz	26.51	28.78	23.69	24.68	19.38	21.46	26.71	32.21	27 21	29.60	25.20
Juncos	23 43	33.03	31.26	28 30	26 02	19'81	24.06	39.67	31.15	25.63	26.77
Lajas	15.81	21.99	20 03	19.66	13.86	13.46	16.41	17.97	19.88	21 26	19.23
Lares	20 97	21.75	20.59	19.54	17.39	20.47	17.37	25 54	33.18	44.29	20.32
Las Marías	22.20	18.61	19.11	17.12	12.74	15.93	16.03	19.41	23.90	32.45	18.63
Loíza	17.01	19.87	17.90	15.96	14.26	14.84	17.82	25.32	28 07	33.80	20.74
Luquillo	.....	.....	.....	.....	.....	26.22	26.26	38.03	29.63	41.07	25.60
Las Piedras	.....	.....	.....	.....	.....	16.87	14.93	25.42	29.79	33.61	18.83
Manatí	20.18	23 55	26.08	22.62	20.25	20.52	21.20	27.25	28.11	28.05	23.91
Maricao	25.43	23.05	17 04	21.51	22.07	23.61	23.75	29.76	26.12	38.84	20 50
Maunabo	18.58	21 43	30.14	24.80	21.01	17.32	22.81	28.55	32.15	33.48	20.19
Mayagüez	31.94	30.83	24.85	31.67	25.65	26 99	30.86	36.93	35.68	46.76	32.11
Moca	15.69	16.11	19 62	18.26	18 67	16.63	19.64	28.02	27.67	41.33	21.78
Morovis	12.27	13.95	14.94	18.50	13.33	15.28	17.61	20.13	22.91	30.88	18.01
Naguabo	23.11	25.34	29.60	24.81	16.25	13.97	15.25	23.46	31.71	24 28	27.23
Naranjito	10.25	10.84	10.76	11.67	11.25	10 08	12 59	14.41	14.84	21.57	14.65
Patillas	27 55	28.80	28.58	24.64	21 74	19.83	23.04	29.82	29.94	29.66	21.49
Peñuelas	19 68	20.93	18.43	17.93	13 34	17.68	20 60	24.94	24.27	36.36	16 31
Ponce	25.50	26.06	25.57	24.11	20.12	22 96	31.21	34.51	32.41	35.13	28.58
Quebradillas	23 80	24.22	25.84	21 68	19 02	19.82	21.77	29.62	31.37	33 65	22.33
Rincón	19.79	21.41	22.19	20 68	18.53	23.54	20.09	30.62	27.68	48.79	29.97
Río Grande	28.39	26.12	25.08	26 57	20.11	18.10	21.87	28.77	28.71	32.09	25.13
Río Piedras	18.06	22 80	21.50	22.75	18.03	21.07	22.39	32.64	29 10	28.18	22.62
Sabana Grande	26.82	23.91	23 85	27.58	18.28	18.31	19.51	26.87	32.68	58 28	21.78
Salinas	27.71	27.26	16.68	22 40	16 94	18.74	29.67	27.19	18.04	27.37	26.91
San Germán	23.21	26.84	25.52	22.77	16.77	15.00	21.10	26.73	28 96	33.01	21.87
San Juan	27.63	28.35	29 26	25 93	23.22	24.49	24.93	28.81	28.25	29.21	24.09
San Lorenzo	15 83	18.53	19.20	19.51	17.57	15.35	19.41	29.24	26.19	28.34	19.52
San Sebastián	17.77	15 34	18 11	15.20	17.01	18.61	17.87	22.70	26.55	36.82	20.27
Santa Isabel	28.74	28.60	27.65	23.26	17.61	18.57	27.64	34.47	38.87	31.57	32.93
Toa Alta	16.76	18.62	20 22	16.39	14.42	14.26	20.13	23.54	21.39	25.40	16.46
Toa Baja	22.07	23.39	27 01	21.87	20.25	17.07	22.77	22.81	22.74	22.38	21.02
Trujillo Alto	17.62	19.98	15.00	21.61	16 25	13.09	14.91	19.26	16.85	24.55	19.14
Utuado	21.65	22.14	19 92	20.31	18.69	17.97	19.30	23.89	27.13	37.34	21.73
Vega Alta	19.67	22.08	25.88	23 83	19.50	21.32	21 32	23.46	22.80	20.43	26.47
Vega Baja	21.98	22.74	24.38	19.90	19 13	22.47	21.61	28.34	31.78	25.18	31.64
Villalba	.....	.....	.....	.....	.....	.....	.....	.....	22.94	35 34	21.70
Yabucoa	16.96	22.66	29.73	23.93	19.10	18.25	16.12	28.53	20.05	33.01	25.63
Yauco	21.90	22.07	23.25	32.87	15.68	23.21	23.41	27.62	32.87	32.33	26.82
Vieques	25.0	28.34	22.42	24.56	15.18	22 71	22.54	29 15	25.58	27.12	26.01
Culebra	10 6	7.30	5.61	10.14	7.78	11 32	4.86	7.65	5.13	5.52	9.54
Isla entera cada año	22.1	23.45	24.97	22.35	18.44	19.78	21.92	28.45	27.71	31.75	23.33

Malaria initiatives unsuccessful

Mortality/year for the entire island:

Foundation had access to and knowledge of this data? What do their actions tell us about their motivations in PR?

The stated goals of the Sanitary Department were "to decrease mortality, increase natality, and to obtain greatest longevity within the limits fixed by nature on human existence, a trilogy, which resting on nuptiality and on sound fecundity, constitutes the characteristics of modern sanitary science."[21] This statement reflects the contradictions not only between the health status at that time and the initiatives that did not service the largest problems, but would also being contradicted by the earliest attempts at fertility control of Puerto Rican women.[22]

It should not surprising that public health officials even took note that the death rate was increasing. Dr. King of the US Marine Health Service not only noted that the death rate was increasing, but also suggested an explanation for it. He writes,

> "The general death rate is increasing, principally from diseases of the digestive apparatus, one of the principal causes being lack of proper food. The great staples, as flour, potatoes, rice, beans, meal, and dried fish, which constitute the principal articles, are imported duty free by a few houses having a monopoly, and are raising the prices beyond the reach of the lower classes who then must resort to inferior food. This monopoly is protected by a prohibitive tax. This lack of their accustomed food I think is the principal cause of the deaths, though other causes are at work."[23]

The food supply was at the mercy of politico-economic developments occurring at this time, particularly those concerning tariffs where high tariffs on goods exchanged between PR and the US and no tariff relief made the purchase of adequate food impossible for most. This situation is exacerbated by the Foraker Act

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[21] Public Health Reports, Report of the Commissioner of Health of Porto Rico, 1919. From the Report of the Governor of Porto Rico, 1919, pgs. 127-232.

[22] This is much in evidence in the work of Lopez, Iris. 1993. "Agency and Constraint: Sterilization and Reproductive Freedom among Puerto Rican Women in New York City", *Urban Anthropology and Studies of Cultural Systems and World Economic Development*. 22: Fall/Winter, p. 299-323; and Laura Briggs, dissertation in progress. Also worthy of note is the film, *La Operacion.*

[23] King, W. W. 1900. *Public Health Reports*. vol.15:30, July 27, p.1912-3. King was an Assistant Surgeon in the US Marine Hospital Service.

of 1900,[24] which among other things, which established that all goods that moved between the island and the mainland were to be carried by US shipping lines, which were more expensive. The facts that the majority of PR's food was imported, incomes were lower in PR, and there was a large loss of money when PR converted to the US monetary system, made the acquisition of adequate food[25] virtually impossible. The structure is thus set by the Foraker Act for the success of US business, at the expense of the lives of Puerto Ricans.

Even the reports (Caroll, Sherman, Hanna) that were ordered by Congress after the Foraker Act furthered the project of capitalist expansion. Although Congress did see fit to implement many of the recommendations made in these reports for improved health care, these acts had another aspect that was inextricably tied to the maintenance and usefulness of Puerto Rico's colonial status. "American business entrepreneurs and administrators could come to Puerto Rico to produce and sell goods without fearing disease and with the assurance of finding a reasonably health and minimally educated population to labor in the cane fields and the factories."[26]

The Foraker Act also set the terms of the civilian government, which would affect the direction in which social policy and ideology would guide the development of a public health system. It provided for rule by US civilians appointed by War Department and the president and approved by Congress. The Governor would be presidentially appointed, and until 1946, all appointees were North Americans. These officials had the power to name other government officials. Dietz writes that this political configuration "influenced the direction of

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[24] In future research, I will have to investigate the 1917 Jones Act's possible repercussions onhealth, as well as other political and legislative developments.

[25] Dr. King, Assistant Surgeon in the US Marine Hospital Service writes the death rate increases as a result of diseases of the digestive apparatus, "one of the principal causes being lack of proper food. The great staples, as flour, potatoes, rice, beans, meal, and dried fish, which constitute the principal articles, are imported duty free by a few houses having a monopoly, and are raising the prices beyond the reach of the lower classes who then must resort to inferior food. This monopoly is protected by a prohibitive tax. This lack of their accostomed food I think is the principal cause of deaths, though other causes are at work." King, W.W. 1900. *Public Health Reports*. vol.15:30, July 27. pp.1912-3.

[26] Dietz, James L. 1986. *Economic History of Puerto Rico; Institutional Change and Capitalist Development*. Princeton: Princeton University Press, p.93.

socioeconomic development and ideological training" (p.87) So, we can deduce that many of the social services 'provided' by the US were in line with this vision and ethos. This legal and political configuration of power no doubt delimited the form that health initiatives would take, which of them would be funded, etc. This structure also illuminates the underlying ideology reflecting the US attitudes towards the life and health of Puerto Ricans.

The economic crisis aside, disease and epidemics would also be created by the specific forms US capital development would take. Not only were these initiatives intent on maintaining a labor force, but they also created the very conditions they had focused on. The increase in production, as well as the conversation of the Puerto Rican economy from a coffee and sugar export economy to a sugar monoculture in the late 1900's, created many specific health problems for laborers working with and near coffee and later sugar plantations. In many ways, Puerto Ricans paid the price of 'development' with their lives.

The role of the national bourgeoisie remains complicated to me at the writing of this paper. Medicine may have been the only profession that conferred some status to the elite of Puerto Rico, for having no formal administrative political power, the legal profession offered no real opportunities. A 1902 legislative act provided for the appointment of a director of health, this appointee and his successors being Puerto Rican physicians. On one hand, this act or the very existence of the department may have been an attempt to pacify the elite.[27] On the other, it suggests ways in which that same elite class cooperated in US political and corporate exploitation of the island. The direction and character the public health system would take was not in the interests of the majority of Puerto Ricans, as the neglect of many diseases that resulted from poverty would show.

THE ROCKEFELLER DATA

As can be shown from the above table, neither malaria nor anemia/uncinariasis/ hookworm,[28] which the RF chose to focus on, represented as

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[27] The data to be presented on malaria supports this as the reality for Puerto Rican doctors who were suffered the consequences of RF opinions of them.

[28] Of these, anemia seems the more important. An RF official writes "the control of soil pollution is by far the most important of all health problems throughout the whole of the tropical

significant a problem in PR as other diseases, particularly digestive diseases and TB. An attempt to serve an altruistic aim of serving public health in general then was not present in this period. What's more, TB initiatives by RF did not begin until 1930, although it is omnipresent in government reports of the health situation in PR. The question of expressed goals of the RF, "The Welfare of Mankind Throughout the World"[29] are contradicted by the initiatives that were supported. In this paper, I will explore motivations for focusing on one of the RF's two initiatives during this period: uncinariasis, which malaria.

Letters from the RF officials suggest that health improvement would result in a more competitive colony, and was therefore part of the process of development. For example, in a 1920 letter from Victor Heiser he states that regardless of the extent of RF support and involvement in PR, "it seems to me imperative that the health conditions in Porto Rico be improved if that island is successfully to compete with its neighbors."[30] What is most telling, however, is that he sees this competition resulting from a strong labor force. His following sentence states that "A laboring force so thoroughly depleted in physical strength can scarcely be expected to hold its own."[31]

His statement shows that the goals of maintaining a strong labor force and capitalist development, at least for the US, were inextricable. What's more, he feels that a strong labor force will make PR competitive, while we know that the majority of profits derived from the exports the laborers worked on went directly to US corporations and their shareholders. What's more, we know that development depends on undevelopment (Frank, Navarro) which includes the arena of health. While part of this development/underdevelopment follows the traditional models

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and subtropical regions of the world, except possibly in limited sections where malaria overshadows the soil pollution diseases." RF RG5 S1.2 B185 F2391. This initiative began earlier, lasted longer, and had a much more complex organization which included sharing doctors during epidemics, affiliations with Governor Roosevelt, etc. My lack of knowledge about the coffee industry, which this initiative involved as well as sugar, discouraged me from exploring that data at this time.

[29] in RF charter.

[30] letter from Victor Heiser to John Turner; 2/13/1920. RF RG5 S1.2 B92 F1284

[31] Ibid.

outlined by dependency theorists, another part of development was in scientific advances made at the expense of lives of Puerto Ricans.

The relationship between the development of sugar interests in the island, or capitalist expansion in PR, was not unidirectional. The desires of large US sugar corporations to maintain a labor force, and the goals of the Rockefeller Foundation to expand capitalism and its ideology were only part of the incentive for the RF for public health intervention in PR. The betterment of health status in PR was especially desirous because in itself, it directly improved productivity. Reciprocally, the increasing exportation and rising prices of sugar played a central role in making these health initiatives attractive to RF.

For the RF that would guide the government agenda for Puerto Rican health, the prices of sugar directly affected what initiatives the RF thought would be feasible. For example, in considering extending malaria control to Barceloneta in 1924, the lead physician says "Central appears to be making money at the present time and I believe it is interested in doing something."[32] The RF expected that all its initiatives would be taken over eventually by either these corporations or the government.[33] Health is then both symptom and cause of development, productivity, and politics. Later in the same letter, Earle relates that "Sugar cane is good so far this year for rain has come at a good time, the price seems to be going up a little, and the Unionist party has won the elections over the whole island so that there ought to be plenty of money next year."[34]

Brown's discussion of the RF shows us how government and foundation policy were linked, and succeeded because they served the interests of the corporate classes. He argues that foundation programs were "intended to develop and strengthen institutions that would extend the reach and tighten the grasp of capitalism throughout society."[35] In the case of colonialism, however, this

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[32] letter from Dr. Earle to Dr. Howard, Nov. 11, 1924. RF RG5 S1.2 B185 F2391.

[33] Before this, Earle says "Plazuela could be persuaded to assume most of the cost, depending somewhat on the crop and on the price of sugar." Ibid. The sugar central at Barceloneta is Plazuela Central.

[34] Ibid.

[35] Brown pg.9.

development also occurs through discourses on race, the tropics, civilization, and Americanization. The goal was to Americanize and assimilate Puerto Ricans, after all, and prevent its independence which challenged both political and economic interests.

The growth of health services in Puerto Rico was stimulated the desire to 'bring civilization', i.e. the fruits of modern sanitation, to Puerto Rico. The goals of modernization and Americanization represent not only a discourse akin to 'manifest destiny' and the 'white man's burden', it also represented a way to justify capital expansion in the traditional form of colonialism. The 'tropical other' is constructed through a discourse on bio-cultural vulnerability, leaving the political, psychic, economic, and physical landscape of Puerto Rico and Puerto Ricans open for exploitation, and once internalized, lessens the threat of large scale popular movements towards independence. The latent goal is to control and assimilate.

Colonial discourse in other countries has constructed the colonized body as dirty. This has served the purpose of ideologically justifying intervention, i.e. to civilize, control [epidemics and bodies[36]]. This project is further complicated by constructions of the subject population as lacking in civil spirit, and therefore unworthy of citizenship without the 'progress' in teaching Puerto Ricans the values and benefits of sanitation, hygiene, and cleanliness [which parallels the way America constructs itself]. A representative example of 'American's' perception of Puerto Rico is worth quoting at length:

> "We met a large number of people, some influential citizens, the may who was that day in office (they change it seems every week or so there) and had lunch at the Rotary Club where I gave a short talk. All in all Ponce was a rather discouraging sight for me. They have a beautiful Casino and Country Club but the dirtiest and roughest streets in the island. We met some of the apparently most intelligent people in Porto Rico but no one seems to be all worked up over things,-even typhoid fever-except to try and place the blame. I was surprised that they put up with such things and I told some of them so. Apparently on each question they line up on both sides and do not get anything done or else all is left to politicians who waste all the money. Certainly Ponce will not get anywhere on its own initiative."[37]

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[36] The early part of the eugenics movement worldwide should find a place in this study, which I would like to consider in future research.

[37] letter from Dr. Earle to Howard, Oct. 15, 1924. RF RG5 S1.2 B185 F2391.

A discourse on filth and sanitation is accompanied with complementing discourses of modernization, and in the Puerto Rican case, Americanization. The paternalistic attitude omnipresent and ubiquitous to date builds upon and reproduces a discourse that Puerto Ricans cannot govern themselves, their health, their bodies, and therefore much less their own country. The Puerto Rican is constructed as everywhere constructed as ignorant of their own situation which the US has insight into, and trivial in 'personalizing' politics or wasting money, or changing leaders daily, etc. This constructed bio-cultural vulnerability necessitates US control, surveillance, and order. That Americanization was a clearly defined goal of the health service from the inception of US involvement is clear as early as 1899, when Captain Davison of the Fifth Infantry states in his report that "Our great Republic can not afford to retard the introduction of Western civilization ten or fifteen years by too close a hand at the purse strings. Good sanitation is the sign visible of this civilization."[38]

Much like the Major General Brooke's order that the name of Puerto Rico be changed to "Porto Rico", an action James Dietz calls "an Americanized corruption of Spanish", so were the bodies of Porto Ricans corrupted in the drive to 'Americanize the natives'. Much in evidence are the stereotypes of difference, racial impurity, lack of civil spirit, and general unfitness for home rule/independence. The documents are rife with examples of the paternalistic patronizing attitudes towards Puerto Ricans as incapable of self government...for example, Victor Clark, in a report by the Brookings Institution, writes that the Foraker Act was designed to "prevent their political inexperience from provoking crises or engaging them in unwise public projects".

The rewards to the Rockefeller Foundation for its involvement with Puerto Rico not only related to capitalist expansion, but also medical advances. Historians of health, and of the American medical profession in particular, have well documented its problems of authority and viability during this period. During this period, the American medical profession had another goal: to prove its worth on a global scale and more specifically, to compete with Britain in colonial expansion, scientific innovation, and capitalist development. See Briggs. Beyond its more

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[38] Davidson, L.P. 1899. "Report on Sanitary Conditions in Porto Rico", *Public Health Reports.* vol:14:May 5, pp.641. Davison was Captain of Fifth Infantry in charge of Sanitation and ex officio President San Juan Board of Health.

global aspirations, the campaigns for uncinariasis and malaria also had much practical relevance to much of the RF's work in the American South at that time. For example, the hookworm was discovered in Puerto Rico. These medical advances were made through the use of tests on, at the expense of, Puerto Ricans. These scientific explorations with a "subject" population also served to minimize the consequences of medical abuses.

Malaria

The RF began its demonstration campaign in 1920 in the districts of Quebradillas and Guánica. Guánica was, after all, the largest sugar municipality on the island.[39] Sugar interests were inextricably linked to malaria for many reasons. First, largely rural populations had to be attracted to coastal areas to work on these plantations. The development of health care provided an incentive for migrants to come to coastal areas.[40] Second, sugar plantations increased the numbers of the Anopheles mosquito which carried malaria, particularly because they necessitated the creation of irrigation ditches where these mosquitoes bred. What's more, irrigation kept the soil wet, and when it rained, this water also stagnated. Another factor encouraging RF involvement with malaria was that it was understood as a "serious complicating factor with hookworm disease,"[41] and therefore involved a project they had already committed to.

They also relied on information about the problems it posed for the Central Aguirre Sugar Company's labor force and their offer of financial cooperation in making their decision. They surveyed PR before committing any funds, finding the area in the heart of the sugar region, which "if control measures on a limited area should prove successful, large sugar interests are prepared to supply the funds for

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[39] Dietz, 1986.

[40] Informal conversation with Eduardo Bonilla-Silva. Also confirmed by a Nov. 28, 1924 from Earle to Howard in which he says "Very little labor goes to the coast to work in marious regions." which must pose a particularly pressing problems for large sugar centrals such as those in Guanica.

[41] From Minutes of the International Health Board, 2/16/1920, on "Porto Rico Malaria Survey Appropriation." RF RG1.1 S243I B3 F41.

extending the work over the infected region."[42] The project was therefore not only a means to collaborate with corporations and have them 'foot' at least part of the bill, but also this work was viewed as a means to acquire more power, do work "applicable to many other tropical agricultural regions"[43], extend their influence/intervention into other regions and countries, and be a central player in scientific developments and technology.

This cooperation proves to be a trend in RF initiatives. RF was not only interested in developing capital's interests in PR, but also was unwilling to engage in projects without the collaboration of either government or corporations, preferably of both. This trend also demonstrates that RF was unlikely to take any positions or begin any projects that would stand opposed to corporate interests. As RF started receiving more requests for assistance, this alliance made the position they defended even more insidious and destructive.[44]

It is also clear the RF saw this as an opportunity to get "experience in connection with malaria control in the tropics."[45] Interrelated was an exchange of technology between Arkansas and PR, and scientific development, where RF wanted to test successful control measures in the 'tropical agricultural conditions'. These three forces, financial cooperation, scientific advancement, and racial desires to explore the 'tropics', all played critical roles for the decision to become involved with malaria.

The 1920 RF collaboration with Central Aguirre on malaria control began at the RF's invitation. In a Feb. 1920 letter, Victor Heiser asked for permission to do a malaria survey on their plantation, advising them that they must be prepared to finance the operations for malaria control measures.[46] In response, Mr. Luce

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[42] Ibid.

[43] Ibid.

[44] In 1930 for example, despite national US attention on child health and lack of adaquate milk, RF not only dismissed the problem, but actively stood in the way of other attempts, such as those of the American Relief Commission, Child Health Fund Incorporated, to intervene in the situation.

[45] Ibid.

[46] Letter from Victor Heiser to Mr. Henley Luce, President of Central Aguirre Sugar Co., Feb. 17, 1920. IHB RG5 S1.2 B 92 F1284.

From Gobierno de Puerto Rico, Departamento de Sanidad, oficina del Comisionado. Informe del Comisionado de Sanidad de Puerto Rico, Año Fiscal de 1919-1920. San Juan, PR

RF initiatives: ☐

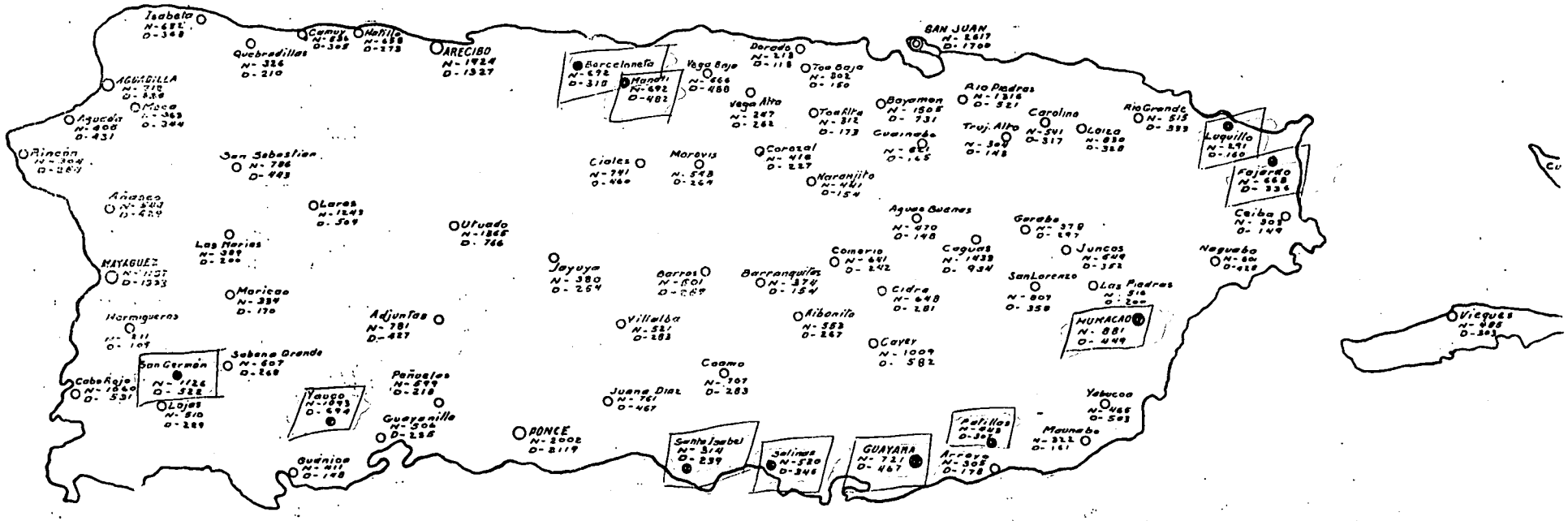
GOBIERNO DE PUERTO
DEPARTAMENTO DE

ISLA DE PUERTO

NACIMIENTOS Y D
1919 - 1920

Julio-1920 N.
Fi

N= Births
D= Deaths



• = Malaria Work

p.16a

responds that he will put it in front of the board and notes in the second paragraph of a 2 paragraph letter that "strikes still continue in Porto Rico; and the news which I get is not particularly encouraging."[47] Heiser attempts to sell Aguirre by responding to this concern, and urges him to take advantage of the benefits of modern sanitation as it has "proved of great economic value" in other countries.[48] Especially present in the minds of both parties then are not only interests of improving profits by both increasing production[49] or maintaining a labor force, but also the protest and mobilization of laborers against them, which malaria control is either supposed to compensate for financially, and/or ameliorate the situation politically.[50]

It seems that part of the RF objectives included making its work a precedent for policy. As noted earlier in this paper, foundations provided the support necessary for the most tremendous growth American medicine has enjoyed in its entire history (1900-1930). The fact that the RF is the only foundation contributing to the growth of health services in PR could mean that the goals of RF initiatives were the only ones ever institutionalized, and set the stage for later developments in PR relative to health concerns. It was already obvious in 1920 that the RF intended to involve the government in malaria control, reciprocally taking less responsibility over time to make it entirely government led work.

They say in various different documents that no other course of action, beyond collaboration, is safe. The 1920 malaria control demonstration project did not follow the same trajectory of government and corporate cooperation with RF initiatives. It had secured only corporate interest and involvement, and had

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[47] Letter from Luce to Heiser, Feb. 18, 1920. RF RG5 S1.2 B 92 F1284.

[48]Letter from Heiser to Luce, March 10, 1920. RF RG5 S1.2 B 92 F1284.

[49] The relationship between the cost of health initiatives and sugar cane productivity is also stated in Dr. Earle's letter to Howard on November 11, 1924. "If mosquito control is not entirely successful at the start little will be lost financially because of the increase in productivity of the cane lands." RF RG5 S1.2 B185 F2391.

[50] is confirmed in Green (the doctor supervising the project) 1923 report, where he says Aguirre's interest was stimulated due to "large economic loss was caused by the great prevalence of malaria throughout their estates and desiring to improve the health of their employees." RF RG5 S2 B21 F131.

therefore fallen into disfavor with another powerful RF official, Dr. Hector H. Howard of the International Health Board, Director of the West Indies. In a memo to Heiser, Howard tells him that :

> "While the need for something to be done in Porto Rico is distressingly evident, yet the need for relief and control work does not always coincide with favorable opportunity and conditions promising success. If it has been necessary to carefully safeguard our co-operative work in other West Indian colonies with certain obligatory and restrictive conditions (and I feel that it has), I believe it more necessary to follow these well established lines in Porto Rico without material deviation, not only because of the immensity of its health problems, but also because of its form of government and its conflicting political factions. I have always felt that it was better not to do work at all than to attempt to do it under conditions which do not give reasonable promise of success."[51]

Dr. Grant, anxious to begin work on malaria in Guayama, PR, wrote a letter to Heiser in July of 1920 telling him that this site could produce favorable results, but that the government was waiting on Central Aguirre as it[Guayama] was surrounded by its property.[52] Howard was also anxious to begin work in Guayama where the RF/IHB would have had support from Dr. Ruiz-Soler, then Commissioner of Health. He included in this proposal the stipulation that Dr. Ruiz-Soler would have 'nominal' supervisory power over the Aguirre project. Howard felt that this support would enable funding for draining which would benefit not only malaria control, but also "permanent drainage work such as is really necessary from other standpoints."[53] This would then meet the objectives of both corporations, and perhaps more importantly, government. This proposal seems to have been made because Howard feared too much control by Aguirre of the malaria control project. He even offered reasons why their financial contribution should not be accepted, and favored IHB covering all expenses for 1921[54], stating that a

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[51] Memo from Howard to Heiser, 3/18,1920. RF RG5 S1.2 B92 F1284.

[52] letter from Grant to Heiser, July 23, 1920. RF RG1.1 S243H B3 F35. In a Sept. 19, 1922 Memo, Dr. Green explains that "although the headquarters of the Central Aguirre Sugar Company were located at Aguirre, their properties were distributed along about 40 miles of the coast." RF RG5 S2 B21 F133.

[53] Memo from Dr. Howard; Sept. 24, 1920. RF RG5 S2 B21 F132.

[54] Although Howard's reason clearly focuses on having control over the research agenda, the project, and its findings (RF RG5 S2 B21 F132), Green portrays RF as not wanting to accept money in the event the project is unsuccessful. In a September 19, 1922 memo from Dr. Green: "In the fall of 1919 it was decided that inasmuch as malaria had never been controlled by the

solution for new problems in malaria control would be a "valuable contribution to malaria control throughout the tropics."[55]

Dr. Howard is the most ubiquitous player in the relationship between PR and RF. His proposals not only are successful above the already developing RF/Aguirre relationship, in changing its trajectory, but also undermines other critical RF officers later protests. For this reason, I believe his beliefs and goals were the norm for RF activities in PR. His desire to remain somewhat autonomous of corporate interests and his favoring of the government/RF alliance reflects the foundation not as merely a puppet of corporations such as Aguirre, but more as powerful players in the health initiatives that would be carried out during this period in PR and other 'tropical' regions. His proposal also reflects the belief that more could be done with the project if not completely subjected to corporate goals. So, we see how through Dr. Howard the focus and goal of the project shifts from merely corporate alliance, to strategic political maneuvering.

On May 18, 1922, Wycliffe Rose sends a letter to Mr. Green (the doctor/researcher carrying out the project at Aguirre) protesting the costs of the project, suggesting not only the financial inability of Aguirre to take the work over, but also the relative low worth placed on the lives of Puerto Ricans. "I should be disposed to think that if it costs this amount to control malaria for the population which you have, you will find the per capita cost so high as to make it impracticable for the company to continue operations on this basis." He goes on to suggest Green prepare this figure and tells him that "If it should appear that the per capita cost of the control measures should go very far beyond $1, the work may be considered as impracticable for the corporation to continue it."[56] Two weeks later Green replies, suggesting that a loss to Aguirre due to malaria of over $1.00 per capita be demonstrated. More importantly, the notes that the Department of Health

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International Health Board in the tropics, or for that matter, by any agency in the cane lands, that the funds of the Central Aguirre Sugar Company could not be used to finance this work." RF RG5 S2 B21 F133. The importance of this twist in meaning lie in its interpretation: to interpret RF denial of funds for experimental work as charity vs. the denial of funds for control over work.

[55] Ibid.

[56] RF RG5 S1.2 B132 F1761.

is awaiting this data to determine the feasibility of this work for its own department.[57]

The issue here is that both money and science are clearly in focus, and 'public health', the stated goals of the RF and of the Department of Health in PR are no where to be found. Even more surprising is the distance Dr. Green felt for protecting the lives of the citizens of PR. In a 1922 letter, he discusses how 'lucky' another doctor was to work with a population without immunity to malaria, and "who were, therefore, so susceptible to malaria, that large number of deaths would result should they live in unprotected areas."[58] In speaking abstractly of a vulnerable population needing medical intervention as its savior, he felt the benefits lie with an automatically ensured 'success' of an anti-malaria campaign as well as scientific developments to be made, rather than the costs of lives.

This attitude towards public health, or the good of the Puerto Rican population are mirrored by the general RF officials. Just as they had ignored the problems with digestive diseases and TB, they were more interested in achieving success in their initiatives, rather than some altruistic or humanitarian aim of aiding the 'progress' of health status. Howard confirms this vision in 1924 when the suggestion of doing a malaria survey in Ponce, the city with the highest morbidity in PR, is raised. He not only refuses to commit to malaria control in what he sees as the most difficult territory for mosquito control, but the protective stance to corporate interests also is reflected.

> "I am fully convinced that control can only be secured by having the city buy all cane lands within two or three miles of the outskirts of the city and have cane cultivation and irrigation abandoned altogether, and do extensive drainage work in this area. This means the expenditure of a large sum. These lands could be put to no use probably but for cattle grazing which would bring but small return."..."mosquito control could never be accomplished."[59]

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[57] Ibid, May 30, 1922.

[58] RF RG5 S1.2 B132 F1762.

[59] letter from Howard to Dr. Earle, Sept. 19, 1924. RF RG5 S1.2 B185 F2391.

The irony of Ponce's proximity to Guanica, whose role as the largest sugar cane plantation on the island and therefore of encouraging the prevalence and spread of malaria, cannot be missed.

When health and life is in focus, it is relative to 'American's' [read white Americans, as Puerto Ricans had been granted US citizenship under the Jones Act of 1917]. Wycliffe Rose felt that, based on Green's findings, it was not "economically feasible to control malaria."[60] Dr. Green justified the project by pointing to the reduced cases of malaria among "Americans in Aguirre,"[61] clearly pointing to the lives and bodies of a population that would make the expenditure of money worthwhile.[62] What's more, the justification for this work included the ability to lead an even more comfortable life[63] for those ['Americans'] who "have always lived under the best conditions, in screened houses."[64] He goes on to note that the effect has not been the same among laborers,[65] but does not incorporate a fact he mentions later, that "Only a very small percentage of the total population in this area live in screened houses."[66]

His reasons why the results had not been as successful as for 'white' Americans, dealt with the increased cost of control work due to the strike[67] going

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[60] Memo from Rose to Green on Oct. 18, 1922. RF5 S1.2 B132 F1762. Specifically, Rose was talking about Green's method of reducing mosquito breeding as not economically efficient. This same method was used, however, in later initiatives. What's more, it was increased production that had indirectly increased the breeding of the mosquito, so to have used this method instead of treatment of individual patients with quanine seems alot like it would have called Central Aguirre to have taken responsibility for the environmental hazards to health they had created...

[61] Ibid. Letter from Green to Rose, Feb. 14, 1923.

[62] Green's final report in 1923 showed that the per capita cost was $4.37. RF RG5 S2 B21 F131.

[63] i.e. discard "their mosquito nets so that instead of being better protected they had less mechanical protection." 1923 Final Report; RF RG5 S2 B21 F131.

[64] letter from Green to Rose on Feb. 14, 1923. RF RG5 S1.2 B156 F2046.

[65] Ibid.

[66] 1923 Final Report; RF RG5 S2 B21 F131.

[67] His 1923 report shows he had no idea what the strike was for, but still felt legitimate in reporting about it. He writes "On January 15th, nearly all of the laborers working in the cane fields in the Aguirre unit struck for more money and fewer hours, or something of the kind." RF RG5 S2 B21 F131.

strongly in PR at that time. As a result of the strike, people refused to cut cane and those that did were being watched by the special police.[68] Fourty-four had been shot and three killed had been from that region. In discussing the strike, race is not absent from the concept of 'American' and worthiness of life, as he makes clear that "All of the men have been shot in the back which is characteristic of these people."[69]

Despite the fact that Green reports "an increase in the amount of malaria in the two years [1921 and 1923]" and that "The density of Anopheles mosquitoes in other sections has increased during the same period"[70] the RF in 1924 begins a similar demonstration project in malaria control in Fajardo. The initiative not only attempted to control mosquito breeding, but also administered quinine to patients.

This project, unlike that at Aguirre, involved cooperation with several corporate, private, and government interests. The project began in Fajardo, home of the Fajardo Sugar Company, with the company paying a large part of the expenses for draining of swamps and work in the cane fields. Dr. Earle headed the project in PR and his summary in 1926 noted that the town of Fajardo and property

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[68] Although I was not able to find more information about this strike at the time of writing this paper, it seems to have coerced labor, at least at Aguirre. Green writes "In fact there was an excess of labor in spite of the strike. This resulted in establishing a sort of warfare waged by the agents of the strike leaders upon the laborers who were at work in the cane fields. This condition made it dangerous for oilers and inspectors to work in the cane fields. The danger was greatly increased due to the fact that the belligerent forces were composed of non-workers employed for the purpose of shooting and in other ways intimidating the men at work in the cane fields. These gun-men were not acquainted with the oilers and inspectors working in the cane fields and therefore, although the "mosquito-men were respected by both the strikers and the workers, they had no protection from the real sources of danger. Oilers were working in adjacent cane fields on two occasions when shots were fired at the cane cutters.

"Shortly after this time special police were employed to protect the cane cutters while at work in the fields. These police were also a source of danger to the oilers as they were not acquainted with the oilers and had recieved orders to shoot anyone entering or leaving the cane fields near the workers." RF RG5 S2 B21 F131.

The sensitivity to a turbulent political situation is raised repeatedly even in this period. The RF could have taken a more pro-active stance, even in claiming safety for themselves from indiscriminate shooting. There is no data to suggest however, that RF ever opposed any use of violence on local or state levels.

[69] Ibid.

[70] 1923 Final Report; RF RG5 S2 B21 F131.

owners were other financial contributors. The project was also the result of political and financial cooperation with the Insular Department of Health.

The same patterns occur in this initiative as the previous one. Sugar production is still central,[71] as are concerns over the development of corporate interests on the island.[72] This particular initiative, however, sheds better light on underlying issues surrounding status, authority, and legitimacy. This theme extends into frustrations surrounding medical knowledge, and racialized understanding of Puerto Rican doctors as inferior.

In a July, 1920 letter from Dr. Grant to Dr. Heiser, his discussion of a lack of overall statistical knowledge demonstrates not only his unfamiliarity with other diseases stressing the Puerto Rican population, but also reflects the general lack of education and the small level of decision making power doctors in the field had in comparison to those at the RF/IHB. Similarly, Dr. Earle approaches the same question early in his involvement in this initiative, only he does have knowledge of the statistics on TB. Dr. Earle, however, does not trust these figures either because of the alarm they cause in the papers for the "supposed increase in these diseases" or because "a few cases of malaria are reported now and then"[73] and he has an investment in making this seem a pressing problem than in perhaps really is.[74]

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[71] Letter from Earle to Howard, Sept. 8, 1924. "It is interesting to note that the soils are known to be more acid in Fajardo for large amounts of lime are needed to increase the crop of cane." RF RG5 S1.2 B185 F2391.

[72] Letter from Earle to Howard, Sept. 8, 1924. "A central like that at Fajardo with a payroll of some 2000 or more and a population in its colonies of much greater size would be richly repaid by the services of a full time health officer to study their problems. The opportunities for work for one in such a position would be unlimited." RF RG5 S1.2 B185 F2391.

[73] Letter from Earle to Howard, Sept.8, 1924. RF RG5 S1.2 B185 F2391.

[74] In fact, Earle had also felt that malaria was underreported. See his letter to Howard on June 20, 1925. RF RG5 S1.2 B217 F2769. He also felt that many cases of malaria were being conflated with digestive diseases, and called 'gastroenteritis'. See his Oct. 28, 1925 letter to Howard. RF RG5 S1.2 B217 F2770. Finally, he suggests an avenue for further research. He suggests in his 1925 report on malaria surveys in PR that Dr. Grant "thought he noticed a relation between mortality rates and the economic conditions of the Island. For instance, those years when salaries were high and the budgets large showed lower mortality rates." RF RG5 S2 B21 F133. Reprinted in *Porto Rico Health Review*. vol.1:4, October 1925. pgs. 12-18. I'm inclined to think high salaries relates to better nutrition and increased living standards in general, but it suggests that some type of spurious relationship may exist in reporting mortality, and perhaps morbidity.

It is in this affiliation between the Insular Department of Health and the RF that health as a tool of the colonizer is suggested. In a letter from the governor, Gov. Towner suggests their work is effective because of their tact. His next sentence suggests what exactly about this work is effective, i.e. public appreciation of foreign intervention through health, that is because RF is "making it understood and appreciated by the people."[75] This is obviously also a concern of the RF, who wants to maintain its alliance with government. In a 1924 letter to Dr. Earle, Howard tells him "We must not underestimated the effect of public opinion properly diverted. If we "sell" public health work to the people of Porto Rico they will take care of the policies of Doctor Ortiz."[76]

Again, the RF was not merely a puppet of political interests. Howard's action to refuse financial cooperation from Aguirre, and the benefits to the RF of favoring its alliance with government becomes clearer in 1924. In Earle's letter to Howard, he discusses how "It would certainly be much better if a more efficient local health department could be developed on the plan of county health departments in which the malaria problem would receive the major attention."[77] The RF thus strategically creates its political position as a powerful player in the agenda setting of health initiatives for the government. This affected the health initiatives that would be carried out during this period in PR as well as other 'tropical' regions.

RF influence was not only limited to the public health agenda, however, but it also affected the selection of doctors, physicians, and engineers that were in RF favor. It seems clear that continued involvement of RF in the public health of PR depended on many conditions favorable to their 'success' as defined above, and they would threaten to withdraw support if their political desires were unmet. Howard writes that unless the Department of Health is earnestly concerned with malaria, "and unless this earnestness is shown by the early appointment of an engineer and physician, the best that can be secured, I shall most certainly recommend to our Board that malaria activities be discontinued when the survey is

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[75] RG5 S1.2 B156 F2044.

[76] letter from Howard to Dr. Earle, Sept.19, 1924. RF RG5 S1.2 B185 F2391.

[77] RF RG5 S1.2 B185 F2391.

ended."[78] Completely absent from this is their stated goal of "The Welfare of Mankind Throughout the World."

There are two forces at work in the position of Puerto Rican doctor's status. First, on a historical level this lack of medical advancement tied into a distrust of medical practice in general.[79] Dr. Grant's letter tells us the salary of another field doctor in the uncinariasis campaign, $100,[80] paralleling literature discussing the relative lack of status, authority, and the low pay during this period in medicine's history. This phenomenon provides insight into the difficulty of carrying out initiatives with high turnover rate among doctors and personnel in general.

Second, the ethnocentrism and racism of Rockefeller doctors directly affected the way they understood the work Puerto Rican doctors were doing, the relative worth of this work, and any possibilities for collaboration. As doctors, any possible status did not exempt them from prevalent stereotypes of Puerto Ricans as lazy. In a letter from Howard to Dr. Hill who worked with anemia, for example, he tells him that work with him and Earle was not popular among Puerto Rican doctors because "when they come out on your post for duty they are expected to do something, and under ordinary circumstances they would do very little. They are not pleased with the assignment to do the anaemia or hookworm campaign nor the malaria survey work evidently."[81] The belief that Puerto Ricans lack a work ethic extends into the way they perceive the involvement in politics and government where "they do only as much as they please."[82]

It seems obvious from boxes of data on fellowships that in judgments about what qualifies an 'adequate candidates' RF personnel see service to the sick poor as

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[78] Letter from Howard to Rolla B. Hill, Feb. 7, 1925. RF RG5 S1.2 B217 F2775.

[79] Duffy, Brown.

[80] as compared to the salary of RF doctors for that time, which ranged from $2,000 to $4,000.

[81] letter from Howard to Hill, Feb.7, 1925. RF RG5 S1.2 B217 F2775. He says later in the same letter, "The truth of the matter is that everywhere you see this apathy and unconcern about malaria control among the average public health workers, because most of them know but little about malaria except that they have observed that malaria control means hard work which for some reason does not seem to appeal to them."

[82] letter from Howard to Hill, Feb.7, 1925. RF RG5 S1.2 B217 F2775.

inferior work. There are two types of doctors; Dr. Ruiz-Soler as Commissioner of Health, and others such as Dr. Fernos who succeeds him, who enjoy some level of respect from RF doctors, and 'the rest', those being municipal doctors. The status these doctors lacked was particularly important in the light that any recommendations to the government resulting from the initiatives which they were involved in would go through RF.[83] It is also particularly important because there was a strict code of conduct, which although unspoken, nevertheless meant lost financial and educational opportunities for Puerto Ricans who dared to have any independent aspirations that differed from those the RF had graced them with[84]. In a 1924 plan to reorganize the medical department, these attitudes become increasingly clear, as does the relative worth of their work in his eyes.

In two letters Earle writes to Howard, he demonstrates both his paternalistic idea of Puerto Rican doctors, and the value of the work. In the second, he discusses a young doctor who is more interested in anemia work than malaria, and wouldn't collect some types of data because he felt it was a job for inspectors. he writes that this doctor "feels a little too much his own importance and I believe if he gets a few bumps he will learn a great deal."[85] Even in regards to the more 'respectable' and politically powerful doctors, he dismisses their work. he writes, "I cannot help but feel that with the removal of the burden of 90% of hookworm disease and 30-40% malaria, and with intelligent efforts directed at tuberculosis and other transmissible diseases there would be no work for a large number of these municipal doctors. Possibly Dr. Ortiz realizes this and if given direction of the activities of these doctors he may get more *real public health work* done [emphasis mine]."[86]

His quote not only illuminates the status of non-legitimated/relatively powerless Puerto Rican physicians, but also a different definition of public health. Based on this statement, public health work is not work for the majority of the

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[83] RF RG5 S1.2 B185 F2391.

[84] In a Dec. 11, 1924 letter, Howard tells Earle that although the doctor he spoke of may have been capable, he was unlikely to get a fellowship from RF because had not taken the opportunity to work on malaria in Aguadilla. RF RG5 S1.2 B185 F2391. (see footnote below)

[85] Nov. 28, 1924 letter from Earle to Howard. RF RG5 S1.2 B185 F2391.

[86] RF RG5 S1.2 B185 F2391.

public which is 'poor', nor dealing with epidemic proportions of communicable diseases such as TB. Instead, the "real public health work" seem to lie in the realm of research and politics. In fact, the public health was developing by leaps and bounds and more effective treatments and causes of disease were being found.

Malaria was in very low concentration in the interior rural areas of the island because the mosquitoes can't live in higher altitudes and mountain regions. The racially white 'jibaro' lives in these regions, where blacks and mulattos were more often located in coastal areas. It was in these coastal areas that malaria, when found, was concentrated. A geographic predisposition, however, and a socially constructed concept of either biological weakness or disease carrier among blacks and mulattos represents two very different conceptions of race in Puerto Rico.

A survey was also made of Salinas for future work as "one of the regions most severely attacked by malaria"[87], and Humacao in 1925. In '26, this work was extended to Yauco, Guayama, Santa Isabel and Luquillo. The infection rates were studied from the standpoint of race, and a 1926 report states that "a definite tendency for a higher parasite rate in the negros" existed. The discourse on racialized groups as diseased and contaminating other, as well as the biologization of race becomes especially apparent here, when he notes that "race may be one of the factors at work in *causing a relatively high parasite rate*[emphasis mine] in Porto Rico" even though he notes that the 'spleen rate', which when larger indicate malaria infection, "was almost the same as in whites"[88], and only 1/10 of his sample was classed as 'negro'.

These studies clarify that the laboring class of sugar cane workers was not only understood as ethnically distinct from the white American RF doctors, but also racially variable. Race formed a central discourse for Rockefeller doctors to understand this class of workers, and informed a concept of what 'minority' carried malaria, potentially 'infecting' other [white and mulatto] workers, and would thus have to be controlled or eliminated. The conflation of the negro with the parasite in

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[87] In 1926 Preliminary Annual Report, 1926 summary, "Demonstration in Malaria Control at Fajardo, Porto Rico" by Dr. W. C. Earle to Mr. Howard. RF RG5 S3.243H B72.

[88] From Report of Bureau of Malaria Control, 1926-27. RF RG5 S3.243I B74. Quotes taken from pg.21.

the above quote clearly demonstrates the latent meanings of disease and 'malaria *control'.*

Ponce which has been repeatedly mentioned throughout the paper and in the documents presents one such case. While the city is close to the largest sugar central on the island, there are many ways to think about malaria control within the city. At times, the RF takes some responsibility and admits the case seems daunting. Often, it is blamed on the political officials within Ponce which change often, or are apathetic to sanitation. More often, it is blamed on the stubborn residents of Ponce who won't leave or move. Some documents talk about how malaria develops in the water under houses. The Rockefeller Foundation, however, focuses on controlling population as its only feasible solution. They in fact say in many different ways and instances that "malaria control cannot be attempted in such a region without some control over the population and without some control over water."[89] Whether it be through social construction of lazy Puerto Ricans who lack a work ethic and civil spirit, dirty Puerto Ricans who don't know what's good for them, implicating their ignorance, or the general paternalistic attitude and conditional involvement within a self-interested initiatives, the Rockefeller Foundation did not, in fact, live up to their goal of "The Welfare of Mankind Throughout the World."

Conclusion

It seems clear that the way the Rockefeller Foundation defined public health was not in terms of their stated goals, "The Welfare of Mankind Throughout the World", but rather in terms of their definitions of research and outcome success. This meant that projects that were not understood as having a high likelihood for success were bypassed from the outset. The reasons stated by Howard for not pursuing a malaria control of Ponce, before the survey was even begun, provides evidence of the goals of the RF in PR.

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[89] RF RG5 S2 B21 F132.

Yet, malaria did decrease in Puerto Rico but less so than other diseases. The political situation of PR directly affected the health status of its citizens, as did capitalist development. The effect RF had in terms of intervention merely slowed the process of infection and spread, but didn't effectively change the trend. Epidemics, especially TB, continued unchecked and unabated by the financially and politically powerful RF. The findings of this study clearly identify the specific character of thier initiatives which both ignored the severest health problems, as well as those causing them. That their initiatives were linked to sugar interests, and that they played a role in setting the government's public health agenda, provide clues as to how health care and health status would develop in PR's history.

The inextricable alliances of the RF with corporate interests and government policy also are clearly outlined from both malaria initiatives pursued in the 1920's. On one hand. they wanted the involvement of corporations to finance these initiatives. On the other, they were unwilling to sacrifice the power and role they would enjoy on setting the Department of Health's public health's agenda. This study complicates a simple understanding of health status as a simple reflection of corporate interests to maintain a healthy work force by providing an understanding of the political interests of RF and the government at work.

Finally, this study provides preliminary evidence of how health played a role in securing some public support in favor of the colonial administration. In its analysis of discourse, it points to the political desires of both capitalist exploitation and poltical desires to maintain PR as a colony. The findings also reflect that race and understandings of a bio-cultural vulnerability not only served to legitimate intervention in lives, both through health initiatives and colonial administration, but to the very definition of the labor force and those that were included in RF narrow efforts.

Directions for Further Research

There are multiple avenues I would like to pursue directly related to this analysis, and in future work. Chief among these concerns is a development of my analysis of the discourse on Puerto Rico as a diseased nation. This will accomplish two different objectives. First, it will allow me to integrate work on other countries that emphasizes military health. Second, it will allow me to understand how the

colonizer perceived work and life in PR. Whereas in many other studies on colonialism and disease the colonizer moved to the colony and thus stimulated public health work to protect their health, this does not seem to be the case in PR. This focus will enable me to contextualize Dr. Walter C. Earle's statements: "I seem to be gradually picking up all the diseases they have in Porto Rico and mention dengue as the latest." "I wonder what else they have in Ponce besides dengue, typhoid, and malaria."[90]

This study also requires a more comparative analysis on coastal health and rural health. Rural health is obviously ignored, and the majority of the Puerto Rican population at this time lives in rural areas. Perhaps a preliminary analysis on the anemia/uncinariasis/hookworm campaign would help fill in alot of the gaps in this study.

I would also like to explore the relationship between health and migration. This relationship is suggested through the data where doctors construct malaria as a problem to either a) move people out of Ponce, a geographically advantageous location for military, economic, and political initiatives or b) to prevent Puerto Ricans for reaping any benefits of 'development'. For example:

> "This particular doctor is interested because he and several others bought water and light and are trying to get the people to move up. Another group has bought some of the cane fields and are preparing to sell lots there. Unfortunately more land is being bought for these subdivisions in the part bordering the cane fields. It will mean that much more cane field to buy later on. I told Dr. Ortiz about it in the hope that the might stop further building in the malarious district but I guess he won't do anything about it."[91]

For future work, I would like to supplement this data and understand alot of issues that the documents briefly mention in passing. Chief among these concerns are those related to public opinion. Dr. Ruiz-Soler's 1919 Report to The Governor suggests that there was some public protest of health interventions. He writes: "Public opinion has not always been unanimous in accepting certain sanitary measures." I would also like to investigate the which were made against the RF's campaigns by physicians which are multiply present even in this small sample of data.

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[90] RF RG5 S1.2 B185 F2391.

[91] RF RG5 S1.2 B185 F2391.

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