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Colonial Healthcare and the U.S. Naval Government of Guam, 1898-1939

A SENIOR HONORS THESIS SUBMITTED TO THE DEPARTMENT OF HISTORY

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A view of Agaña, [Guam], however, to one who has not visited the island since the beginning of the American occupation, gives the impression that a modern Herculean cleaning of an Angean stable has been accomplished.

Surgeon F.E. McCullough, U.S. Navy, 19071

Introduction

In 1939 Chief Commissioner A.C. Suarez acknowledged that "the greatest and most lasting contribution" of the Naval Government of Guam, "has been that the Americans have been uniting in their efforts to educate the natives to live in a more sanitary manner, commonly called - the American way." Nearly sixty years later, scholar Robert F. Rogers concurred: "the American navy's record in public health on Guam," he wrote, "was exemplary." In his description of the tactics used to combat parasitic disease on the island in the early 1900s, however, Governor Robert E. Coontz outlined one of the more severe health policies of the U.S. Naval Government. "We took . . . about eighty hookworm children . . . from the same school if possible," he wrote, "kept them for two weeks [in the Naval Hospital] . . . and took them in again six months later." Hospitalization was mandatory and children were detained often without parental knowledge or consent. Despite its awareness that intestinal worm infections were, according to the 1904 Department of Health and Charities, "entirely remediable," the Medical Department primarily looked to Guam's children as prospective patients.⁵ In the early years of the U.S. Navy's occupation of Guam, the Navy specifically targeted native schoolchildren in their campaigns to improve health and sanitation.

⁵ Hattori, Colonial Dis-Ease, 9.

¹ F.E. McCullough, "Guam: Reports on Health and Sanitation for the Years 1907 and 1908," *United States Naval Medical Bulletin* 3, no. 3 (1909): 322.

² A.C. Suarez, "Less Death Rate in Guam," Guam Recorder 2 (September 1939): 253.

³ Anne Perez Hattori, Colonial Dis-Ease: US Navy Health Policies and the Chamorros of Guam, 1898-1941, Pacific Islands Monograph Series, no. 19 (Honolulu: University of Hawai'i Press, 2004), 165.

A Robert E. Coontz, From the Mississippi to the Sea (Philadelphia: Dorrrance & Company, 1930), 337.

th American continent.⁶ Soon after, as Puerto Rico, American Samoa, and the Philippines ne under American control, the nation redefined itself as a colonial power. The United States idenly became "an entirely new mother country," following in the footsteps of the other perial world powers. Despite its continental expansion, the U.S. had not maintained colonies the formal sense until the early 20th century. The official acquisition of "newly acquired ossessions beyond the seas," as well as new dependent peoples, troubled many Americans tho disapproved of this European-style imperialism.8 According to historian Timothy Maga, the navy hoped to make Guam a shining example of American power and good intentions in he Pacific." To legitimize its authority over the Chamorros of Guam, the Naval Government promoted its achievements in the areas of health and sanitation. By improving the health of the natives, especially that of children, the Navy's presence on the island, while undemocratic and imperialistic in nature, became philanthropic and essential for indigenous survival.

The acquisition of Guam in 1898 represented the first U.S. colonization beyond the

The theme of American benevolence is apparent in the very names of the medical facilities on Guam. In 1905, Governor George Dyer named the public health agency the Department of Health and Charities, and "charity" was listed as a departmental sub-field in the government's organizational chart until 1938. In contrast, the division responsible for the healthcare of military personnel held the plain title: the Medical Department. 10 In addition, the first civilian hospital, built in 1901, was named the Maria Schroeder Hospital in recognition of charitable activities of the wife of Governor Seaton Schroeder. The official hospital for military

⁶ Department of the Navy, Administrative Office, American Naval Occupation and Government of Guam, 1898-1902, by Henry P. Beers, Administrative Reference Service Report, Office of Records Administration (Washington D.C.: Government Printing Office, 1944), 5-8.

7 Leonard M. Cox, *The Island of Guam* (Washington D.C.: Government Printing Office, 1926), 37.

⁹ Timothy P. Maga, Defending Paradise: The United States and Guam, 1898-1950 (New York: Garland Publishing, 1988), i.

personnel and their dependents, on the other hand, was simply known as the Naval Hospital.

Such nomenclature reinforced the image of the Chamorros as beneficiaries of American colonial philanthropy.

From the earliest accounts of the American arrival on Guam, the Navy emphasized the deplorable sanitary conditions and poor health of the majority of Chamorros. As late as 1951, reports continued to refer to Spanish Guam as a "tropical slum," and the inhabitants as "decimated, spiritless and mongrelized." The Chamorros were portrayed as desperate peons, eager to exchange Spanish rule for that of the American Navy. Promoted as examples of benevolence, the children-targeted health policies helped to justify the American military domination of Guam. The aggressiveness of sanitary laws and health policies, such as forced hospitalization, was partly impelled by the Navy's desire for statistical improvements in native health.

A more complete understanding of such policies requires a background in the racial and medical theories of the early twentieth century. For reasons this paper will explore, Americans considered the tropics, and the indigenous members of "tropical races," to be inherently unhealthy and unsanitary. Such preconceptions influenced the measures taken by the Navy to teach schoolchildren the "American standards" of personal hygiene and cleanliness. As a result, Chamorro children were bombarded with intrusive physical and cultural inspections to a degree far greater than most adults. Despite the Chamorro's status as colonial subjects, similar attempts to inculcate schoolchildren with American hygienic practices occurred throughout the

¹⁰ Ibid., 23

¹¹ Emilie G. Johnston, "Medical Services for the Island of Guam Until World War Two," Guam Recorder 1 (October 1971): 41.

Department of the Navy, U.S. Navy Report on Guam, 1899-1950, Office of the Chief of Naval Operations (Washington D.C.: Government Printing Office, 1951), 1-2.

¹³ Frederick J. Nelson, "Why Guam Alone is American," Proceedings of the United States Naval Institute 62, no. 8 (August 1936): 1132; Oscar King Davis, "The Taking of Guam," Harper's Weekly, 20 August 1898, 830.

210s and 1920s in American schools at home. African-Americans, Native Americans, and outhern and Eastern European immigrants experienced similar sanitary instruction as part of the process of "Americanization."

The Navy believed assimilation into American culture was thoroughly beneficial to the

chamorros. A November 1935 editorial from the Navy-sponsored monthly *The Guam lecorder* proclaimed that the entire Navy was "united in speeding the day when in thoughts, anguage and ideals the people of this lovely island are thoroughly Americanized and may truly njoy the full benefits of an American form of government." Nevertheless, the "full benefits" of civilian participation in government were not granted to the Chamorro for another fifteen rears and the Navy maintained complete political control. The Navy sought to Americanize the social customs and health practices of the Chamorros, but drew the line at surrendering its colonial authority. For Guam to be an acceptable site for a U.S. naval station, and to ensure American "self-protection and efficiency," the Chamorros would need to adjust to American standards of health and cleanliness. 17

At the dawn of the Japanese invasion and occupation of Guam in 1941, the U.S. Navy brided itself on its achievements in Guam. Navy surgeon F.E. McCullough claimed that a 'modern Herculean cleaning of an Angean stable" had been accomplished. Although most of the Navy's approaches suggested a racist paternalism, McCullough was correct to say that

⁸ McCullough, "Reports on Health," 322.

⁴ Hattori, 157-185.

The Guam Recorder was founded in 1924 by W. W. Rowley, a former sailor, and was purchased by the Navy in 1933. The periodical was billed as "the Naval Station's most complete and interesting record." From Hattori, 207; lack Flynn, "Leave Your Mark," Guam Recorder 12 (November 1935): 202.

⁶ The Organic Act of Guam was passed by the Congress of the United States in 1950. This established a civilian administration, a limited measure of self-government, and brought the period of military rule under colonial urisdiction to an end. Paul Carano and Pedro C. Sanchez, A Complete History of Guam (Vermont: Charles E. Futtle Company, 1964), 319.

⁷ G.L. Dyer, Guam, 21 June 1904, Annual Report 1904, in Guam: Brief Extracts from Publications, Memoranda Furnished Congress, General Orders, and Annual Reports for 1901-1904, Relative to the Island of Guam Washington D.C., Government Printing Office, 1905), 103.

"were it not for the persistent treatment by the medical officers of the navy, the mortality . . . would probably be double the present rate." The Navy provided the Chamorros with free medical care, modern hospitals, and well-trained physicians. Coming at the high price of colonial domination and political repression, the Navy's reorganization of healthcare did benefit the Chamorro population. This paper investigates the tensions between the costs and benefits of the health policies of the U.S. Naval Government.

Part 1: Colonial Contact, Disease, and Tropical Medicine

In some countries foreigners and natives are as differently affected by certain contagious disorders, as if they had been different animals.

Charles Darwin, The Voyage of the Beagle, 1839²⁰

Prior to the arrival of the United States Navy, the Chamorros of Guam had experienced several hundred years of colonial rule. Spanish explorers encountered the Marianas Islands in the mid-1500s and established permanent residence on Guam. As in the Spanish colonies of the West Indies and Central and South America, the combination of native resistance to settlement and exposure to unknown diseases resulted in an epidemiological crisis that decimated the indigenous Chamorros. According to the Jesuit priest Sanvitores, who lived in Guam from 1668 until 1672 when he was killed by natives, previous to European exploration of the Marianas, the population of Guam was reasonably healthy; the Chamorros had "few ailments" and therefore knew "few medicines." The immunologically isolated population of Guam suffered tremendously from the microscopic transfer of germs from explorers, whalers, and travelers who crossed through Micronesia during the sixteenth and seventeenth centuries. Due

¹⁹ Ibid., 323.

²⁰ Charles Darwin, Voyage of the Beagle (New York: Modern Library, Random House, 2001), 388.

²¹ Francisco Garcia, "Vida y martirido de el venerable Padre Diego Luis de Sanvitores de la Compania de Jesus, primer apostol de las Islas Marianas," Madrid, 1683; quoted in Laura Thompson, Guam and Its People (New York: Greenwood Press, Princeton University Press, 1947), 197.

²² Johnston, "Medical Services for the Island of Guam," 38.

to the twin effects of disease and incessant warfare, the Spanish census of 1710 suggested a depopulation rate of approximately ninety-five per cent. ²³

In a recent study of cultural response to disease in the nineteenth and twentieth centuries, Alan Bewell observed that a huge epidemiological range existed throughout the world; "an entire people might be dying from an epidemic, while another group inhabiting the same place, drinking the same water, and breathing the same air was unaffected."24 Motivated by the success of Spain's colonial endeavors, other European powers began to carve up portions of the tropical world and met with similar public health catastrophes. By the nineteenth century, decades after the colonization of Guam, colonial officials in Africa, Asia, and the Pacific Islands faced the problem of disease exchange on a massive scale. The "globalization of disease" highlighted the immunological differences between peoples and contributed to the development of racial and cultural myths produced by colonialism. Physical environments and native peoples were conceptualized as "healthy" or "unhealthy" against a backdrop of attempts to understand exotic or newly encountered diseases.²⁵ As Europeans constructed new colonial empires in tropical regions of the globe, they faced an epidemiological crisis similar to the one faced by the Spanish in previous centuries. New approaches to biomedicine, new scientific discoveries, and new explanations for crippling epidemics were desperately needed, both by the conquerors and the conquered. Western colonization of the tropical world depended heavily on whether Europeans could control the diseases that attacked both themselves and their colonial subjects. Due to this hindrance, the discipline of tropical medicine began to develop into a permanent and significant subspecialty.

²⁵ Ibid., 4.

²³ Frederick J. Nelson, "Why Guam Alone is American," 1131; Hattori, 15.

²⁴ Alan Bewell, Romanticism and Colonial Disease, Medicine and Culture Series, ed. Sander L. Gilman (Baltimore: Johns Hopkins University Press, 1999), 3-8

The history of modern tropical medicine begins with an examination of nineteenthcentury military health concerns, for colonial campaigns were generally initiated by military forces. Beginning in the mid-1800s, the British and United States governments mandated frequent, comprehensive reports on military health.²⁶ As troops in British colonies fell ill to unfamiliar diseases, colonial medical officials, as well as the wider medical community, began to search for treatments. Due to the limitations that disease placed on imperial expansion, the British Colonial Office saw tropical medicine as an integral part of its strategy for colonial development. In 1899 the establishment of both the London and the Liverpool Schools of Tropical Medicine institutionalized the emerging discipline; however, most physicians of the era received no formal training in tropical medicine.²⁷ The original courses taught at the London School were designed specifically for colonial medical officers, although other civil practitioners, including medical missionaries, were enrolled as well.²⁸ The dominant London School focused on disease-specific research while the Liverpool School developed unique features, such as epidemiology and advocated for new approaches to public health and sanitation.²⁹ In 1906, the Royal Society of Tropical Medicine and Hygiene was founded, and tropical medicine became a more respected specialty.³⁰ A 1909 article in the Journal of the American Medical Association argued for the establishment of an American school of tropical medicine, claiming that as early as 1898, "nearly all of our leading medical journals . . . advocated the establishment of a course of tropical medicine in every medical school." Author E.N. Tobey noted that "tropical medicine is of vital importance" to civilian as well as military

²⁹ Ibid., 33.

Philip D. Curtin, Death by Migration: Europe's Encounter with the Tropical World in the Nineteenth Century (Cambridge: Cambridge University Press, 1989), 1-3.
 Dane Kennedy, "The Perils of the Midday Sun: Climatic Anxieties in the Colonial Tropics," in Imperialism and

²⁷ Dane Kennedy, "The Perils of the Midday Sun: Climatic Anxieties in the Colonial Tropics," in *Imperialism and the Natural World*, ed. John M. MacKenzie (Manchester: Manchester University Press, 1990), 121.

²⁸ Worboys, "Manson, Ross and Colonial Medical Policy," 25.

doctors home and abroad as discharged soldiers and sailors, diplomatic and consular agents, missionaries, engineers, and merchants returned from Guam, Cuba, or the Philippines.³¹ The importance of tropical medicine grew significantly as Western nations became increasingly connected, commercially and politically, with the tropical world

Early medical research was aimed at "misasmatic" diseases, illnesses blamed on "miasmas" or poisonous vapors from soil or swamps. ³² Initially, the field was closer to being a biological subject because of its focus on ecology and natural history. ³³ Prior to the germ theory of disease, tropical diseases were classified as such based on their prevalence in colonial populations. In his authoritative 1939 study, *A History of Tropical Medicine*, Henry Harold Scott acknowledged, "we have no definition of the term 'Tropical Medicine.' . . . If we extend our limits to 'diseases met with in warm climates,' this apparently small extension in reality comes to include nearly all the ills that flesh is heir to, except, perhaps, frost-bite." ³⁴ The most commonly considered tropical illnesses included malaria, yellow fever, yaws, sleeping sickness (African trypanosomiasis), and Dengue fever; however, the list was and remains long. Some diseases, notably leprosy, cholera, typhoid, smallpox, tuberculosis, and plague were classified as tropical more recently. Such diseases had besieged Europe and North America previous to nineteenth-century imperial expansion; however, as indigenous communities suffered extensively from Western germs, epidemics of plague or cholera in Europe were gradually

³¹ E.N. Tobey, "The Need for a School of Tropical Medicine in the United States," Journal of the American Medical Association 52, no. 14 (April 1909):1099-1100

³⁰ Roy MacLeod, "Introduction," in *Disease*, *Medicine*, and *Empire*: Perspectives on Western Medicine and the Experience of European Expansion, ed. Roy MacLeod and Milton Lewis (London: Routledge, 1988), 8.
³¹ E.N. Tobey, "The Need for a School of Tropical Medicine in the United States," Journal of the American

 ³² Ibid., 12.
 ³³ Michael Worboys, "Manson, Ross and Colonial Medical Policy: Tropical Medicine in London and Liverpool, 1899-1914," in *Disease, Medicine, and Empire: Perspectives on Western Medicine and the Experience of European Expansion*, ed. Roy MacLeod and Milton Lewis (London: Routledge, 1988), 22.

³⁴ Henry Harold Scott, A History of Tropical Medicine: Based on the Fitzpatrick Lectures Delivered before the Royal College of Physicians of London, 1937-1938, vol. 1 (London: Edward Arnold & Company, 1939), 1.

forgotten. Europeans were no longer experiencing the high mortality that characterized earlier epidemics.

Between the 1600s and the mid-twentieth century, the Western world passed through a radical demographic change. Dubbed a "mortality revolution" by historian Philip D. Curtin, a dramatic change in death and birth rates resulted in high population growth. Due to factors including improved public sanitation and progressive medical techniques, the general health of Europe and the U.S. improved. Cholera, leprosy, and other diseases existed primarily in the tropics, where immunologically isolated peoples were now suffering. Scott recognized that these diseases "disappeared [in Europe], but not because they were driven out by marvellous discoveries in medicine; they faded away before the general amelioration of our state of living as a result of improvements in sanitation."35 In the mid-nineteenth century, many polluted urban centers in Europe and America began to improve. According to a 1928 children's book on the history of hygiene, "toward the end of the nineteenth century the great sanitary awakening came."36 Huge improvements in public sanitation emerged as notions of cleanliness and hygiene began to gain widespread support from physicians and lawmakers. In addition, progress in medicine and medical technique occurred as a result of new scientific developments.

As Western colonial powers improved living conditions at home, many of these illnesses began to fade away. While the majority of these diseases continued to afflict the temperate world, they did so on a smaller scale, and soon became characterized as peripheral and foreign. Europeans enjoyed their relative biological immunity while indigenous peoples under European colonial rule suffered from smallpox, measles, and cholera. Although sailors,

³⁵ Ibid., 1.

soldiers, colonial administrators, and missionaries frequently returned to Europe and America afflicted by such diseases as malaria and yellow fever, as well as a variety of psychological illnesses, these cases were attributed to the tropical climate as well as to contact with diseased natives. This led to the conceptualization of the tropical world as fundamentally unhealthy and unhygienic. By creating a separate category for tropical diseases, Westerners psychologically banished their secondhand illnesses to the tropics, applauded their own superior health and civilization, and became increasingly convinced of the biological and racial inferiority of the non-white.³⁷

As in the case with Guam and the arrival of both Spanish and American conquerors, the colonization of the tropics forced the interaction of ethnically diverse populations, often resulting in racial characterizations on behalf of the colonized and the colonizer. European and American colonists generally arrived in the tropics with preexisting convictions that justified the denial of sovereignty that was central to imperialism. Biological conceptions of human subspecies, or races, popularized by such naturalists as Johann Friedrich Blumenbach and Arthur de Gobineau, were deeply entrenched in the minds of most Westerners. The five races—the Caucasian or white race, the Mongolian or yellow, the Malayan or brown, the Negro or black, and the Amerind or red race—were not considered to have stemmed from one original source. Rather, each race was distinct and possessed particular social and biological attributes which resulted in a rigid racial hierarchy. Every physician learned these basics of human biological organization in introductory classes; every member of society recognized differences between the races. The dominance of the white race over others was so complete that most

³⁶ Grace T. Hallock, A Tale of Soap and Water: The Historical Progress of Cleanliness (New York: Cleanliness Institute, 1928), 72.

³⁷ David Arnold, "Introduction: Disease, Medicine and Empire," in *Imperial Medicine and Indigenous Societies*, ed. David Arnold (Manchester: Manchester University Press, 1988), 7-8.

people unquestionably accepted imperfect scientific arguments that today seem ludicrous. Everything from cranial measurements to skin color to eyelid width helped to explain scientifically why the white race was superior to the others. This was widely accepted in Western science.³⁸

Some of the most interesting scientific principles to which physicians and scientists turned were related to the conviction that intense heat and high humidity posed serious harm to the health of whites. In 1905, in *The Effects of Tropical Light on White Men*, Dr. Charles E. Woodruff, a U.S. Navy surgeon and physician in the Medical Corps, attributed the breakdown of health of the white man to the physical environment of the tropics. His theory postulated that intense "actinic" radiation, or photochemical effects of the ultraviolet band of the spectrum, undermined the health of blond-haired "Aryans," who lacked sufficient pigmentation to protect their "nerve protoplasm." Whites who were overexposed to this radiation inevitably contracted neurasthenia, a form of nervous exhaustion coined three decades prior by neurologist George M. Beard. **Iropical Light* also concluded that

the evolution of blondness, then, required a cold, dark, northern country – probably a cloudy, rainy, misty, forest country – the exact conditions needed for the evolution of the brain by natural selection. . . All authorities apparently agree that the early Aryans must have been isolated completely from other people in order to evolve this, and moreover it required a very high degree of mental ability to do it – indeed required more brains than any other people ever possessed.⁴¹

Actinic rays and tropical neurasthenia quickly entered the lexicon of tropical conditions, as did notions of racial immunity and racial susceptibility. The interplay between race and climate was central to Woodruff's analysis: the demands of cold climates had made the white race the

³⁸ Paul Spickard, "Theories about Race, Ethnicity and Immigration," History 164IA Lecture, University of California, Santa Barbara, 27 September 2005.

³⁹ Charles. E. Woodruff, *The Effects of Tropical Light on White Men* (New York: Rebman Company, 1905), 195. For a comprehensive summary of Woodruff's writings, see Kennedy, "Perils of the Midday Sun," 121-122.

⁴⁰ Kennedy, 122-123.

⁴¹ Woodruff, Tropical Light, 153-154 and 163-164.

fittest of the species. Upon his death, Woodruff was praised as "one of the most famous of military medical men," revealing that his scholarship was accepted by the general public, as well as the scientific community. Even into the mid-twentieth century, after bacteriology was well established, heat and humidity were considered unhealthy. In 1934 the *United States Naval Medical Bulletin* warned readers that "ships passing from the rigors of northern winters to the Tropics and back again in the space of a few days and without opportunity for acclimatization... may lead to certain pathological conditions."

Climatological theory was so mainstream that references to it appeared in contemporary literature. In Joseph Conrad's 1910 novel *Heart of Darkness*, the protagonist is required to visit a doctor before his voyage to tropical Africa. His physician ominously summarizes his physical health as being, "Good for *there*" (emphasis added). He mysteriously measures his patient's cranium, "in the interests of science," and he smiles "as if at some quiet joke" when asked about travelers who have returned from Africa. He questions the protagonist about the presence of madness in his family and concludes his examination with the advice: "avoid irritation more than exposure to the sun [. . .] In the tropics one must before everything keep calm." This passage reveals several significant points: primarily, the bizarre interaction between patient and physician suggests that colonial mortality was not something discussed openly. The physician's secretive smiles and puzzling questions reinforce Bewell's observation that "a general silence envelops European colonial disease" and death. Not everyone in Europe and America approved of the imperialistic ventures of their governments, and there was a desire by officials

45 Bewell, Romanticism, 10.

⁴² "Colonel Woodruff Dies; Noted Army Doctor," New York Times, 15 June 1915, 13.

⁴³ P.S. Rossiter, "Peace Time Activities of the Medical Department of the United States Navy," *United States Naval Medical Bulletin* 32, no. 3 (July 1934): 259.

⁴⁴ Joseph Conrad, Heart of Darkness (New York: Signet Classic, 1910), 75-76.

to downplay the negative health effects of tropical climates as much as possible. In addition, Conrad's statement concerning sun exposure supports the prevalence of climatological theories.

The measurement of the patient's head circumference alludes to the nineteenth-century theory of phrenology, another theory to which scientists returned during these years. In essence, the theory suggested that by examining the cranium, scientists could discover the nature of the human mind. Those who had studied Blumenbach knew that certain psychological and biological characteristics were specific to each race. In 1839 Samuel George Morton, a Philadelphia physician and professor of anatomy, published *Crania Americana*, which compared the skull size, shape, weight, and cephalic index of the five racial groups established by Blumenbach. Later racist theories of eugenics, polygenism, and Social Darwinism arose from the foundational science of Blumenbach, Morton, and others. Morally uncomfortable colonists often turned to such scientific racism as justification for imperial domination. In addition, the epidemiological crises that generally accompanied colonialism caused physicians to question biological and racial immunity and to wonder why ethnic groups responded so differently to disease.

Not all nineteenth and twentieth-century medical practitioners adhered to theories derived from climatology. In the late 1800s, the research of Louis Pasteur was gradually verifying the germ theory of disease that had been suggested by Girolamo Fracastoro, Friedrich Henle, and others. Pasteur's research indicated that microorganisms were able to infect the human body and cause disease. Physicians, including John Snow, one of the world's original epidemiologists, openly opposed the precedential miasma theory that diseases were caused by "bad air" full of decomposed matter. 46

⁴⁶ Stedman's Medical Dictionary, 23rd ed., s.v. "miasm, miasma."

On April 27, 1898, L. Westenra Sambon expressed his increasing confidence in the germ theory in an address to the Royal Geological Society in London, "long the pioneer in scientific tropical travel." His paper focused on the "problem" of tropical colonization and the acclimatization of Europeans in the tropics. Sambon explained to fellow medical scientists, including Patrick Manson, founder of the London School of Tropical Medicine, that "heat deterioration is a phantom that is vanishing rapidly in the light of modern science." Sambon "firmly believe[d] in the possibility of tropical colonization by the white races. Manson, whose discussion followed Sambon's presentation, agreed: "heat and moisture are not in themselves the direct cause of any important tropical disease. The direct causes of ninety-nine per cent. of these diseases are germs." The new germ theory of disease also invited a reexamination of notions of racial immunity. Sambon noted that

it is frequently stated that the dark races are more liable to elephantiasis than the white. This is undoubtedly true in some countries in which Europeans live a more hygienic life, and are more careful about the water they drink. But when whites assume the habits of the natives, they are quite as liable to acquire elephantiasis.⁵²

Although confidence in the disease causing potential of microorganisms grew throughout the latter half of the nineteenth century, climatic theories and notions of racial susceptibility did not disappear. To most members of the white scientific elite, Europeans could withstand only a temporary residence in a tropical country before suffering serious medical consequences.⁵³ In

⁴⁷ Patrick Manson et al., "Acclimatization of Europeans in Tropical Lands: Discussion," Geographical Journal 12, no. 6 (December 1898): 601.

⁴⁸ Louis Westenra Sambon, "Acclimatization of Europeans in Tropical Lands," *Geographical Journal* 12, no. 6 (December 1898): 589.

⁴⁹ Ibid., 591.

⁵⁰ Ibid., 599.

⁵¹ Manson, "Discussion," 600.

⁵² Sambon, "Acclimatization," 597.

⁵³ Earnest G. Ravenstein, "Lands of the Globe Still Available for European Settlement," Proceedings of the Royal Geographical Society and Monthly Record of Geography 13, no. 1 (January 1891): 30.

addition, the remark on the unhealthy "habits of the natives" exposed the inclination of Europeans to assume indigenous peoples knew nothing of sanitation and personal hygiene.

The statements of Sambon and Manson cannot be divorced from their time. Notions of racial inferiority and white physical, cultural, and intellectual dominance permeated every aspect of nineteenth and twentieth-century colonial life. Sambon's presentation was an attempt to convince the Society "that there is no reason why the Europeans should not conquer the tropical world." The primary objective of the presentation and subsequent discussion was to

solve the problem of how to live in such a country in reasonable health, [so] the gains, politically and commercially, would be so enormous that we might put aside for the moment the question of whether European races can wholly replace the existing people of the country. 54

The issue was not whether a European race might "take root" in tropical countries, but how "a limited number of Europeans may *rule* the tropics, because so inferior were all indigenous tropical races that there scarcely remains a single tropical country which is independent politically." Hence, tropical medicine developed alongside the imperial struggle to control the resources, people, and politics of tropical nations. This is a fundamental aspect of the spread of Western medicine in the nineteenth and twentieth centuries.

In addition to European medical scientists, naval officials in Guam were well aware of the supposed dangers of sunlight, and tropical service medical advice insisted upon abstinence from sun exposure.⁵⁷ Posts on Guam were generally held for a maximum of two years; "health trips" to cooler climates were recommended after spending a term in the tropics.⁵⁸ In spite of "modern medicine as applied by naval medical officers," it was believed that, for the white race,

⁵⁴ Manson, "Discussion," 602-603.

 ³⁵ Ibid.
 ³⁶ Warwick Anderson, "Disease, Race, and Empire," Bulletin of the History of Medicine 70, no. 1 (1996): 62.

warwick Anderson, Disease, Race, and Emprey, David Service (New York: D. Appleton and Company, 1922), 235.

⁵⁸ Coontz, From the Mississippi, 348.

no tropical country was suitable for long residence.⁵⁹ The 1920 report of the Surgeon General of the Navy noted that there seemed to be "something very irritating, nerve-racking and disagreeable to Americans about" the weather conditions.⁶⁰ In addition to an insalubrious climate, Guam's geographical isolation was considered detrimental to the health of white Americans. In a 1916 article in the *Guam News Letter*, an anonymous author satirically coined the pseudo-medical affliction "Guamitis," which afflicted patients with apathy, deterioration of intelligence, nostalgia, anxiety, and moodiness. Treatment consisted of the certainty "that after two years in Guam [the patient] will certainly be sent home," wherefore "ultimate recovery will be assured." Servicemen also worried that such a minor, remote station was detrimental to their career. Governor Schroeder noted "that any great length of time passed in such circumstances by a Naval Officer must be a period of professional stagnation." Not only was Guam considered to be an inherently unhealthy tropical island, but most servicemen determined it to be emotionally hazardous and degenerative to their advancement in the military.

Nineteenth and twentieth-century notions regarding climate, race, and tropical disease shaped the attitudes of American military personnel sent to Guam in the first years of the occupation. Faced with the unfamiliar task of governing, and armed with few resources, the Navy used its knowledge of tropical medicine and public health to construct an efficient healthcare system for its new dependents. An awareness of the growth of tropical medicine, the classification of the tropics and tropical people as unhealthy, and the pseudo-scientific theories prior to the twentieth century is necessary to understand why the Naval Government of Guam targeted many of its health policies at native schoolchildren.

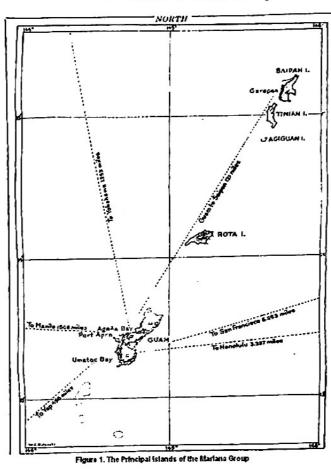
⁵⁹ E.R. Stitt, "Contributions of the Medical Corps, United States Navy, to American Medicine," *United States Naval Medical Bulletin* 24, no. 1 (1926): 8.

⁶⁰ Quoted in Robert Devore Leigh, Federal Health Administration in the United States, Harper's Public Health Series, ed. Allan J. McLaughlin (New York: Harper & Brothers, 1927), 264.

Part 2: Guam and the U.S. Naval Government

Before an analysis of U.S. health policy on Guam can be made, a brief background of

the history of the island is needed. Guam is the largest island in the northern Pacific between Hawaii and the Philippines and between Japan and New Guinea. It is the most southern of the Marianas island group and together, the Marianas, the Carolines, the Marshalls, and the Gilbert Islands are known as Micronesia. These neighboring island groups were successively colonized by various European powers including Germany, Spain, and Great Britain, and during the 1940s, the Japanese controlled much of the South Pacific. 63



According to American naval reports from the 1920s, the "ancient Chamorros were Malays" and "very much resemble[d] the Tagals" of the Philippines. ⁶⁴ The word "Chamorro" is derived from "Chamorri" or "Chamoli," the ancient name for "noble" or "chief. ⁶⁵ However, by the time of the naval occupation, "no pure-blooded Chamorro" remained due to the considerable intermixing of Spaniards, Filipinos, and Mexicans who were brought to Guam in order to subdue rebellious natives during the Spanish occupation. Many Chamorros had Anglo

65 Cox, 4.

⁶¹ Guam News Letter (Agana), 9 October 1916; quoted in Hattori, 41.

⁶² Schroeder, A Half Century of Naval Service, 268.

⁶³ Beers, American Naval Occupation, 5-8. ⁶⁴ Cox, The Island of Guam, 4; Seaton Schroeder, Agaña, 23 August 1902, from Navy Department Memo, in Guam: Brief Extracts, 12.

ancestry due to a large number of whalers who came to Guam decades before the U.S. possession.66

Circumnavigator Ferdinand Magellan, the first European to reach Guam, arrived on the island in 1521. Magellan hoped to land and "revictual his ships;" however, according to an Italian noble who chronicled the voyage, this "was not possible because the people of these islands entered into the ships and robbed us. [The Captain] was much irritated, and went on shore with forty armed men; burned forty or fifty houses . . . and killed seven men of the The author of this account described the inhabitants as "poor, but ingenious, and island."67 great thieves, and for the sake of that we called these three islands the Ladrone Islands [Thieves Islandsl."68 This nickname persisted into the twentieth century and, according to civil engineer Leonard M. Cox of the U.S. Navy, "the probability is that to the world at large they will always be known as the 'Robber Islands.'"69 Although it was the Spanish who laid claim to an inhabited island, Magellan was so inspired by the natives' "piratical propensities" that he named the chain the Ladrones. 70 Notwithstanding this initial struggle, the location of the island and its facilities made it a regular stopping place for Spanish travelers sailing to and from the Philippines. Guam lay directly in the crossroads of the early Spanish trade and whaling routes.71 In 1565, Andreas Miguel Lopez de Legaspi claimed the island in the name of the Crown of Spain; however, his troops stayed long enough only to refresh their food and water supply. It was not until 1668 that Spanish missionaries arrived in Guam with the intention of establishing a colony. In this year, the islands were officially named the Marianas, in honor of

66 Beers, 7.

⁶⁷ Cox, 24; Anthony Pigapheta, "Navigation, RT Descouverment de la Indie Superieure Faicte" (Navigation, and Discovery of the Northern Indies) in Pictorial Review and Historical Sketch of the Island of Guam, 1521-1928 (Agana, Guam: W.W. Rowley, n.d.), n.p.

Ibid.

⁶⁹ Cox, 24. Davis, "The Taking of Guam," 830.

Maria Anna of Austria, widow of Philip IV of Spain. 72 The years following the arrival of permanent Spanish colonizers were marked by "war[s] of extermination," as Spanish authorities conquered the indigenous Chamorros. These rebellions persisted until 1695.73 The twin effects of warfare and disease resulted in a depopulation rate between ninety and ninetyfive percent.⁷⁴ As mentioned above, epidemiological crisis on Guam began with the first bout of imperial activity, centuries before the United States became a colonial power.

According to U.S. naval reports, Spanish treatment of Chamorro natives was abhorrent. Natives were "abused and oppressed" as well as "disease-infested," and the Spanish provided few services.⁷⁵ While this description comes from the very Americans who had recently been at war with Spain, the majority of sources seemed to agree that Spanish Guam was in complete disarray. Throughout the nineteenth century, Guam served Spain as a "port of call" for fresh water and supplies for ships en route from New Spain to Manila.⁷⁶ In addition, Guam became Spain's "inescapable Siberia for political prisoners." Due to lack of funds, a crumbling empire, and the current war with the U.S., Spain had essentially given up on the island despite its strategic location. One American journalist described those living on Guam under Spanish rule as "dead to the world." In fact, by 1898, the island was so inconsequential to the Spanish government that no one on Guam was notified that war existed between Spain and the United States. Rather, the royal governor learned of the hostilities from the U.S. Navy as he was being made a prisoner of war.

⁷¹ Nelson, 1132..

[&]quot;Narrative of a Portuguese Companion of Odoardo Bardosa in the Ship Victoria, in the Year 1519," in Pictorial Review and Historical Sketch of the Island of Guam, 1521-1928 (Agana, Guam: W.W. Rowley, n.d.), n.p.

³ Ibid.

⁷⁴ Hattori, 15.

⁷⁵ U.S. Navy Report on Guam, 3.

⁷⁶ Nelson, 1132.

⁷⁷ U.S. Navy Report on Guam, 1-2.

^{78 &}quot;A Philanthropic Opportunity," Harper's Weekly, 3 March 1900, 192.

The territorial gains that resulted from the Spanish-American war represented America's emergence as a global, imperial power. In his inaugural address, President William Howard Taft voiced his belief that a strong Navy would provide America with "the best means of securing . . . the exercise of our influence in international matters." Since the midnineteenth century, the Navy had greatly improved its strength and organization and, throughout the war with Spain, had become increasingly focused on obtaining influence in Cuba and the Philippines. Theodore Roosevelt, while the Assistant Secretary of the Navy, considered Guam to be easy prey, and it became a minor prize in the larger "triumph" over the Philippines.

The original orders to capture Guam were received by Captain Henry Glass, U.S. Navy, on May 10, 1898. They stated:

on your way [to Manila, Philippine Islands], you are hereby directed to stop at the Spanish Island of Guam. You will use such force as may be necessary to capture the port of Guam, making prisoners of the governor and other officials and any armed force that may be there . . . These operations at the Island of Guam should be very brief, and should not occupy more than one or two days. 81

In response to this command, Captain Glass seized Guam on June 21, 1898. The capture of the island was far from difficult and has become a well-known story; the *U.S.S. Charleston* steamed into San Luis d'Apra Harbor and fired a shot toward Fort Santa Cruz. A boarding party sailed out to the ship with an apology from the Spanish Governor, Don Juan Marina, that they were unable to return the American salute due to lack of artillery. They even asked to borrow some gunpowder from Captain Glass in order to return the salute.⁸² The Spaniards were

⁷⁹ Inaugural message, 4 March 1909, William Howard Taft, Presidential Addresses and State Papers of William Howard Taft, from March 4, 1909 to March 4, 1916, 58, as quoted in William Reynolds Braisted, The United States Navy in the Pacific, 1909-1922 (Austin: University of Texas Press, 1971), 3.

Maga, Defending Paradise, 5.
 John D. Long, Washington D.C., LS to Captain Henry Glass, U.S.S. Charleston, 10 May 1898 quoted in Nelson, 1133.

⁸² Davis, 830.

astonished to learn that the shot fired was, in fact, not a salute. Glass then informed them of the current war and is reported to have stated: "I fired no salute. War exists between our two countries, and those were hostile shots."83 Governor Marina immediately surrendered and the Charleston sailed the next day for Manila, leaving an American civilian already on the island in charge.⁸⁴ Several months later, a special correspondent of Harper's Weekly dramatically related the story of the capture of Guam to American readers: when the native Chamorros learned of the overthrow of the Spanish authority, they "could hardly repress the evidences of their satisfaction, and as soon as they were sure that were to be set free from the Spanish yoke, they began ripping the Spanish buttons off their uniforms." 85 While the reliability of this statement is questionable, one truth it does reveal is the bloodless manner in which an entire population was seized by a new foreign power.

The capture of Guam was confirmed by the Treaty of Paris, December 10, 1898, which stated: "as the result of the victories of American arms, the future control, disposition and government of the Island of Guam are ceded to the United States."86 Preparations for the naval occupation of Guam were undertaken before the finalization of the treaty. According to naval intelligence, "the decision to retain the Philippines for the development of economic enterprise there and commercial relations with China made it desirable to have Guam for use as a coaling station, cable station, and naval base." Most long-distance steamers could travel about 2000 miles before needing to refuel. The distance between San Francisco and the newly controlled port at Manila is approximately 7000 miles. In a similar position as the seventeenth and eighteenth-century Spanish, the Americans recognized the strategic use of Guam as a refueling

Quoted in Nelson, 1133.
 Cox, 35.

⁸⁵ Davis, 830.

⁸⁶ Ouoted in Ibid., 18.

ation. In addition, the acquisition by the U.S. of the Hawaiian Islands, Guam, and Wake Atoll ave it a line of communication across the northern Pacific, which was of "immense strategic otentialities." A naval base located on Guam could provide additional defense of the chilippine Islands, keep watch over American economic policies in China, and check the increasingly aggressive expansion of Japan. According to Admiral Albert G. Winterhalter, the Navy needed a base at Guam if the United States intended to enforce its policies in eastern Asia. 88

The U.S. Navy was interested in Guam, first and foremost, as a military base. However, due to the "benevolent" imperialism promoted by President McKinley, the United States immediately "set about the business of governing her newly acquired possessions." As Hattori noted, "the story of western medicine on Guam begs to be considered in this context of colonialism and the peculiar power dynamics that accrue from a military government." President McKinley's orders that Guam temporarily fall under "the absolute domain of naval authority" resulted in an authoritarian system where a naval governor exercised complete executive, legislative, and judicial control. Two days following the signing of the Peace Treaty, the Bureau of Navigation within the Navy Department issued a memorandum to Secretary of the Navy John D. Long arguing that the Navy deserved, after its bloodless triumph over Guam, to run the island without civilian interference with colonial-style administration. Long acquiesced and soon wrote that "the mild sway of justice and right" should be substituted for arbitrary rule. In 1947, historian Rupert Emerson described the Navy's sole jurisdiction

⁸⁷ Beers, 10.

⁸⁸ Braisted, The United States Navy in the Pacific, 257-258.

⁸⁹ Cox, 37.

⁹⁰ Hattori, 10.

⁹¹ William McKinley, Annual Report of the Naval Governor of Guam, 1914; quoted in Hattori, 18.

⁹² Maga, 12.

⁹³ Carano, History of Guam, 184.

over "all aspects of the life of Guam" as "a matter of naval convenience." The political control of the island remained in the hands of the naval governor until the 1950 Organic Act for Guam shifted partial authority to a civilian government. During this fifty-year period, thirty-two different naval governors held office and naval government was based on personal authority. Despite publicly expressed concerns for the "disease-ridden" Chamorro of Guam, American interest in the island was primarily for strategic reasons.

Part 3: Colonial Medicine and the Organization of Health Services on Guam

... the seemingly paternal mission of the health department under the navy doctors, could contribute toward making our Island the healthiest spot in the world, if (and a very big if) the people of Guam would just cooperate with our doctors...

Dr. Ramon M. Sablan, The Guam Recorder, 192996

Use the hospital; If sick, see the doctor at once; Make all toilets fly proof; Keep toilets clean; Bury all waste; When sick go to the Hospital; Save the helpless children; The Hospital saves lives.

Banners from the 1924 Clean Up Week parade⁹⁷

According to the log of the *Charleston*, on the day American forces seized Guam, the ship's medical officer, naval surgeon Ammen Farenholt, made an "ambulance landing" on the island. One day later, as the *Charleston* left for Manila with its Spanish prisoners, all nonnative medical care left with it. The first U.S. medical officers did not arrive until August 1899, along with Captain Richard P. Leary, the first appointed naval governor. Surgeon Philip Leach and Assistant Surgeon Alfred G. Grunwell, both of the U.S. Navy, were in charge of the Naval Medical Department onshore and aboard ship. Following the war with Spain, the Medical Department dedicated itself to reorganization and modernization. In 1902, the Navy Medical School merged with the Naval Museum of Hygiene in Washington D.C. and updated their curriculum to include tropical medicine and naval hygiene. Due to the large number of

⁹⁷ Guam Recorder (September 1924), 26.

⁹⁴ Rupert Emerson, "American Policy Toward Pacific Dependencies," Pacific Affairs (September 1947) 20:3, 262.

Hattori, 18 and Carano, 185.
 Ramon M. Sablan, "A Plea for Better Health Conditions," Guam Recorder 2, no. 4 (February 1929): 30.

casualties caused by tropical diseases during the war with Spain, tropical medicine became a chief focus of attention. According to historians John T. Greenwood and F. Clifton Berry, Jr., the medical school provided newly commissioned Navy doctors with material "they would not have encountered in civilian medical schools."

The Medical Department of the Navy fell under the jurisdiction of the Bureau of Medicine and Surgery, one of the five bureaus of the Navy Department, established in 1842. One of the primary responsibilities of the bureau was to safeguard the health of naval personnel "by the employment of the best methods of hygiene and sanitation, both afloat and ashore." According to United States Navy Regulations,

the Bureau of Medicine and Surgery shall . . . advise with respect to all questions connected with hygiene and sanitation affecting the service and, to this end, shall have opportunity for necessary inspection. . . In the case of shore stations, of advising in regard to health conditions depending on location, the hygienic construction and care of public buildings. ¹⁰¹

Simply stated, the foremost concern of the Naval Medical Department was the condition of health of American servicemen, not the medical welfare of the Chamorros. 102

In the first several months of the occupation, Governor Leary wrote that the goal of protecting military personnel coincided with the humanitarian desire "for the improvement of the hygienic condition of the island." Protecting Americans, however, often meant racially isolating the Chamorros. For example, on February 3, 1900, General Order 14 established that any service member who "lives with the natives in Chamorro fashion," which was prohibited, would incur the risk of infection and therefore be quarantined. As a "sanitary precaution,"

102 Johnston, 40.

Johnston, 39.

John T. Greenwood and F. Clifton Berry, Jr., Medics at War: Military Medicine from Colonial Times to the 21st Century (Annapolis, Maryland: Naval Institute Press, 2005), 54, 60-61.

Stitt, 2.
 Rossiter, "Peace Time Activities," 258.

Americans were discouraged from associating with the undoubtedly infected natives. ¹⁰⁴ While this quarantine was "not to be regarded as a punishment," it set the precedent for treating the Chamorros as homogeneously diseased, all afflicted with the same illnesses and all good candidates for treatment. ¹⁰⁵ General Order 14 suggests that some servicemen were venturing out into the native communities and living amongst the Chamorros. According to Hattori, alarm over interracial couplings was strong, and by 1919, the practice was banned by General Order 326. ¹⁰⁶ The racist predisposition of the Navy helps to account for the vigorous enforcement of sanitary laws, for the Chamorros were described as primitive, indolent, and disease-ridden. The energetic American Navy believed that they alone could lead this "degenerate" population into the modern world.

However, the Navy's attitude was ambivalent to the point of being contradictory. General Order 11, issued one month prior to Order 14, stated that the natives of Guam "are law-abiding, respectful, human beings" and "are as much entitled to courtesy, respect, and protection of life and liberty in their homes and in their occupations as are the best citizens of New York, Washington, or any other home city." According to Governor Leary, General Order 11 was

intended to be a reminder that in assuming control of this island the government is pledged to fulfill its guaranty of absolute protection of all the rights and privileges of the residents of Guam, in their homes and in their lawful pursuits of life. 108

In addition to Order 11, many reports praise the Chamorros for their cleanliness and respectability. In 1899, American journalist C.L. Poor wrote: "their dress is neat and clean, and

Richard P. Leary, Hagåtña, Guam, to Secretary of the Navy, 26 August 1899; quoted in Hattori, 19.

Richard P. Leary, General Order 14, "General Orders Issued by the Naval Government of Guam," Guam Recorder 4, no. 3 (1974): 53. Citation from a reprinted publication.

¹⁰⁵ Leary, General Order 14, 53; Hattori, 20-21.

¹⁰⁶ Hattori, 22.

¹⁰⁷ Leary, General Order 11, "General Orders Issued by the Naval Government of Guam," 52. ¹⁰⁸ Ibid.

in their personal habits they are modest and tidy . . . They are cleanly, intelligent, and peaceable."109 He noted that there were "not over a dozen cases" of leprosy, even though "much stress has been laid" on its prevalence. 110 Although the island's health officers and political officials consistently emphasized the horrible health and sanitary conditions on Guam, many servicemen and hospital employees, who interacted with the Chamorros on a daily basis, praised the population for their willingness to work with American medical personnel. In his autobiography, Dr. Herbert Lamont Pugh, Senior Medical Officer for the island in the mid-1930s, recalled that

nowhere throughout my entire Naval career have I realized so golden a harvest of professional experience as that I reaped during my two an one half years of duty on Guam. Nowhere have I ever dealt with more appreciative, co-operative and generous people.

As American medical facilities on the island improved, the contrast between those who sought care and those who avoided it became more visible. The Navy's aspiration to improve medical statistics in order to justify its presence on the island caused the majority of annual reports to stress the problematic tendency of Chamorros to refuse medical services.

In 1929 Ramon Sablan began writing a monthly column in The Guam Recorder entitled, "A Plea for Better Health Conditions," which he used to educate Guam's people on the benefits of Western medicine. 111 At the age of twenty-eight, Sablan, a native Chamorro born on Guam in 1901, became a junior assistant health officer in the U.S. Navy's Department of Health. He then became the first Chamorro licensed physician in the years preceding the Japanese invasion. In his column, Sablan expressed concern that "the Chamorros today are generally reluctant to submit themselves to the care of the doctors at our modern local

¹⁰⁹ C.L. Poor, "The Natives of Guam," Harper's Weekly, 16 December 1899, 1277.

¹¹⁰ C.L. Poor, "Guam - Our Miniature Colony in Mid-Pacific," Harper's Weekly, 11 November 1899, 1135. Hattori, 4.

hospitals." Chamorro resentment toward colonial domination most often manifested itself as refusal to cooperate. The mid-twentieth-century physician and activist Franz Fanon regarded this type of refusal as consistent with the behavior of colonized peoples in general. Fanon called medicine "one of the most tragic features of the colonial situation." Natives in many tropical colonies suffered from debilitating, yet treatable, diseases. Despite the many benefits of Western medicine, to accept care from foreign doctors was to admit to the validity of the Western technique. As Fanon pointed out in his 1959 essay, "Medicine and Colonialism," acceptance subtly demonstrated confidence in the colonizer's medical science and acted as encouragement to perpetuate the political and economic colonial oppression. 114

In his memoirs, Governor Schroeder stated that native aversion to naval medicine was "overcome by kindly urging, supplemented by some Executive Orders." However, in her book *Colonial Dis-Ease*, Hattori explored the severity of American sanitation policies and enforcement methods on Guam. Reports of Chamorros hiding out in order to avoid health inspectors or to avoid the hospital and medical officers suggested that "coercion rather than cooperation typified the administration of health programs." In 1905, acting Governor Luke McNamee decreed that

the Department of Health and Charities, through its sanitary inspectors, shall inspect thoroughly the entire town at least once a week, reporting in writing the result of the inspection to the Governor, giving the names and residences of those delinquent in observing this order.¹¹⁷

¹¹² Sablan, 35.

Hattori, 173.

114 Originally, Fanon's essay appeared in Studies of a Dying Colonialism, first published in 1959 in France. It has since been translated and reprinted; Franz Fanon, "Medicine and Colonialism," in The Cultural Crisis of Modern Medicine, ed. John Ehrenreich (New York: Monthly Review Press, 1978), 229-238.

¹¹⁵ Schroeder, A Half Century of Naval Service, 244.

¹¹⁶ Hattori, 30.

¹¹⁷ Ibid.

Two years later, sanitary inspectors were "empowered to make arrests for violations of

any sanitary regulation wherein the offense is punishable by an executive fine." Restrictions were placed on traditional methods of washing clothes, on the length of grass and weeds on inhabited ground, and on the construction of latrines. 119



Figure 2. Women washing clothes in the Hagatña river.

Regulations concerning schoolchildren were even more intrusive. "Sanitary vigilance" characterized American health policies on Guam. 120 In one article, Sablan attributed the improvements in native health to "the gradual education of the population along hygienic conditions and athletics, [and] the ever vigilant patrolment in the matter of sanitary inspection." 121 In 1919, the Health Officer went so far as to report that, due to the aggressive sanitation campaigns, "as a whole, the general appearance of this island is cleaner than any other tropical place I have ever seen." 122 Surgeon R.L. Nattkemper reiterated this opinion in 1925 by stating that "the health of the people of Guam is directly dependent upon their strict observance of the sanitary regulations." 123 And one year later, Rear Admiral E.R. Stitt also praised the "prompt and strenuous efforts made by the medical officers early in Guam." 124 While the streets of Guam gradually became cleaner and the health of the population improved,

¹¹⁸ Luke McNamee, Executive General Order No. 132, "Guam: Reports on Health and Sanitation for the Years 1907 and 1908," *United States Naval Medical Bulletin* 3, no. 3 (1909): 327.

¹¹⁹ Hattori, 31.

^{120 &}quot;Sanitary Report, Island of Guam, Fiscal Year 1919;" quoted in Hattori, 33.

¹²¹ Sablan, 31.

[&]quot;Sanitary Report, 1919;" quoted in Hattori, 33.

¹²³ R.L. Nattkemper, "Medical Facilities of Guam," Guam Recorder 1, no. 11 (1925): 7.

native adults and children suffered from humiliating inspections, arrest and imprisonment, and the constant reminder of their hygienic inferiority. If these hygienic regulations benefited the Chamorros, the high number of sanitary violations as late as 1939 suggests that the health laws were resented and ignored by many. 125

Distrust of Western medicine and medical techniques was widespread. In 1929, Sablan observed that only a small percentage of the people voluntarily went to the hospitals. He stated: "if [a] patient dies, because he or she was taken to the hospital after the disease had advanced," then "a feeling of distrust sweeps throughout the length and breadth of the land against the doctors, and the countless other patients who have been treated free and cured are overlooked." 126 Many Chamorros believed in the disease-causing powers of religious deities, including the Christian God and "taotaomo'nas," or the spirits of the aboriginal Chamorros. According to Sablan, many Chamorros believed that if anyone incurred their wrath, the spirits would inflict punishment in the form of disease. 127 The taotaomo'nas were able to cause anything from arthritis to tuberculosis to cancer. Native healers diagnosed a patient's transgressions rather than their physical symptoms. The American-educated Sablan spoke vehemently against these beliefs, and referred to the practices of the native healers as ridiculous, superstitious, and primitive, mirroring what most Westerners thought of traditional native healing systems at the time. 128 Issues of mistrust and adherence to indigenous medical practices influenced the methods employed by the Naval Government. The diligence with which patrolmen enforced sanitary regulations was in part a response to native resistance. The

¹²⁴ Stitt, "Contributions of the Medical Corps," 2.

¹²⁵ Hattori, 35.

¹²⁶ Sablan, 36.
127 Ibid., 32.

¹²⁸ Ibid., 36.

Navy believed, perhaps rightly, that health statistics would not improve unless the Chamorros acquiesced to American medicine.

While the Naval Government was often able to use charitable work in its larger project of justifying its presence on Guam, the work itself, and the benefits provided to the people of

Guam, should not necessarily be discounted. The hospitals, clinics, pharmacies, and the early leper colony built on Guam provided Chamorros with free medical service. In general, these facilities were up-to-date and well run. In the United States in the early 1900s, proposed legislation for government-sponsored



Figure 3. Leper colony, 1909.

health insurance and universal health coverage were defeated by political coalitions who claimed that such proposals represented an attack on the sovereignty of the medical profession and an assault on the independence of business. Therefore, the average American citizen was responsible for his or her own healthcare. During the 1930s, New Deal legislation addressed the issue of health coverage; however, no domestic proposal matched the free medical services provided to the Chamorros.

In 1900, Governor Seaton Schroeder issued General Order 24, stating that island hospitals would receive native patients free of charge and the naval government would pay the salaries of hospital employees. Governor Schroeder invited "all those who are ill or suffering from disease . . . to thus avail themselves of the generosity displayed by the Navy Department of the United States." Up to this point, the naval government had established a leper colony and four small clinics in the villages. In 1901, Maria Schroeder, Governor Schroeder's wife,

¹²⁹ Beatrix Hoffman, The Wage of Sickness: The Politics of Health Insurance in Progressive America (Chapel Hill: University of North Carolina Press, 2001), 1.

began raising money for an island hospital. The project raised \$1750 from the local population and Navy personnel and was awarded \$3000 from the island government. Featuring two segregated wards, one for



Figure 4. Maria Schroder Hospital, later Ward 1 of the Naval Hospital complex

native men and the other for white men, the municipal hospital was named after Maria Schroeder and made a part of the federal government's Naval Hospital in 1910. 131

In 1905, Governor George Dyer wrote to the Secretary of the Navy that

one of the most important improvements necessary is an extension, in the form of a separate building, for a women's ward... This would serve to increase the confidence of the native women in the skill of the doctors, and incidentally be a considerable factor in the health of the people... The extension and equipment of this hospital offers an opportunity for benevolently inclined Americans to assist in a philanthropic work, the benefit of which to these simple and helpless people can not be adequately expressed. 132

The result of this proposal was the Susana Hospital for Women and Children. Susana Dyer, wife of the governor, organized the Hospital Women's Aid Society, which became the Susana Hospital Association after the completion of the first building in 1905. Originally, the hospital consisted of ten beds, an outpatient room, and a small dispensary, but grew, with the help of charitable donations from Americans at home, into a larger facility. In 1917, the Hospital Association raised enough money to build a gynecological ward. By 1938, the Susana

¹³⁰ Seaton Schroeder, Agaña, 14 August 1900, General Order 24, in Guam: Brief Extracts, 42.

¹³¹ Johnston, 40-41.

¹³² George Dyer, Annual Report of the Naval Government of Guam, 1905; quoted in Hattori, 137.

Maxine M. Becker, "Establishment of Navy Health Services on Guam, 1889-1919," Unpublished paper, 15 December 1993, History of Micronesia, Robert F. Kennedy Memorial Library, University of Guam, Guam, 12.

Hospital was an important adjunct to the Naval Hospital and served as the only civilian hospital on the island. It served the families of Navy personnel, but approximately three-fourths of the patients were Chamorro natives. ¹³⁴ In addition, a nursing school was established in 1907 to provide native nurses for the new facility. ¹³⁵ The Susana Hospital functioned as the primary civilian hospital until the Japanese Imperial Army occupied the island.

By 1939, officers boasted that "with a doctor for every thousand residents of the Island, medical care in Guam is ahead of that in most sections of the United States." The Susana

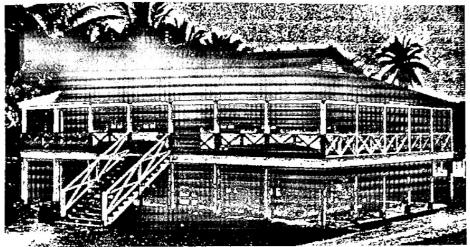


Figure 5. Susana Hospital, circa 1930s

Hospital featured excellent,
"up-to-date equipment," a
large and competent staff,
and provided free care to
patients unable to pay. In
terms of hospital care, the
Navy, with assistance from

the wives of naval personnel, provided the people of Guam with impressive services. ¹³⁷ In a 1915 letter to one of the hospital's primary benefactors, Susana Dyer expressed her belief that the "helpless women and children" of Guam "will come crowding about you with gratitude in their eyes from which the earth mists of sorrow, pain, and want have gone forever." ¹³⁸ The powerful rhetoric of protecting defenseless women and children validated the Navy's philanthropic mission. Through such facilities as the Maria Schroeder and Susana Hospitals, the Navy promoted its colonial achievements; due to the benefits of American imperialism, a

¹³⁴ Johnston, 41-42.

Hattori, 142.

Hattori, 142.

Dorothy Tardy Perry, "The Governor Calls on the Hospital," Guam Recorder 16, no. 9 (December 1939): 365, 391.

"medieval," disease-ridden population had been transformed into "a healthy, self-reliant citizenry in the modern world." 139

The 1907 Report on Health and Sanitation stated that more than 1200 individuals had been treated thus far by the Maria Schroeder and Susana Hospitals, and "by far the largest number of patients are young children treated for guba and intestinal parasites." Despite the Susana Hospital's emphasis on treating children, the mass hospitalizations for hookworm were conducted by the Navy Medical Department, and therefore administered at the Naval Hospital. Beginning in the early 1910s, the Navy hospitalized hundreds of so-called "hookworm children." According to Navy nurse Frederica Braun, "as fast as one set [of thirty or forty children] is ready to go out, another comes in." The campaign was funded by the annual Special Congressional Appropriation, "Treatment of Lepers and Special Patients," fund. In an article written for the *United States Naval Medical Bulletin*, Dr. C.P. Kindleberger described, in great detail, the treatment of a hospitalized hookworm child:

children admitted to the hospital for worm treatment are given a dose of calomel and santonin appropriate to their age and physical condition. Early the next morning the patients take Epsom salts, and later have a breakfast of coffee and crackers. . . . At 4 p.m. the same day, if hookworm ova are found [in a patient's stool specimen], thymol is given in capsules and the children are immediately put to bed. On thymol days they do not have any lunch or dinner . . . The principle of the treatment is thymol and starvation every other day and santonin and a full diet on the alternate days. To avoid the possibility of thymol poisoning, no visitors are allowed to see the children on the days when this medicine is administered. 142

¹³⁷ J.G. Ziegler, "Health Notes: The Use of the Naval Hospital," Guam Recorder 2 (1925): 8.

¹³⁸ Hattori, 149.

U.S. Navy Report on Guam, 3.

Guba is defined, by this report, as a pulmonary disease particularly prevalent in the Ladrone and Caroline Islands. McCullough, "Guam: Reports on Health and Sanitation," 324-325.

Frederica Braun, "Duty and Diversion in Guam," American Journal of Nursing 18, no. 8, 650; quoted in Hattori, 174.

¹⁴² C.P. Kindleberger, "Intestinal Parasites and Diseases Found in Guam," *United States Naval Medical Bulletin* 7, no. 1 (1913): 88-89.

Kindleberger's description reveals several significant aspects of this practice of hospitalization. First, it shows that children were hospitalized and given medicine before it was determined whether or not they were infected. According to Hattori, "children were indiscriminately treated with medicines that were neither easy to swallow nor kind to the stomach."143 It was not until the mid-1920s that only those children clinically diagnosed with hookworm infection were treated. 144 Second, the regimen Kindleberger describes, including starvation and the possibility of thymol poisoning, is alarming. Surely such hospital stays were traumatic for patients and their families. Children were treated with dangerous, if effective, medicines in an unfamiliar and possibly frightening environment; at least one child died of an allergic reaction to the medication. 145 Simply ingesting the medicine was extremely difficult. In an interview with Hattori, Guam resident Jose Torres reflected, "they'll cancel school for a week because they know we're all going to get sick from the medicine. And once a year, everybody assumed that everybody's infected. . . it was terrible. It was toxic. If you drink enough of it, you'll die. . . you would go home sick, vomiting."146 Treatment was both uncomfortable and risky. And finally, the restriction on parental visitation increased the anxieties of both children and parents. Governor Coontz admitted that the Navy's tactics made parents "fearful and [they] besieged the doctors and nurses with complaints." In 1918, researchers with the International Health Board of the Rockefeller Foundation stated their belief that the treatments for hookworm should not be made compulsory. However, in 1929 Sablan argued on behalf of the Medical Department that "there is no other alternative to adopt but mass treatment, [since] only a very small percentage of the people voluntarily go to the

143 Hattori, 175.

¹⁴⁴ Ibid., 177.

Jose M. Torres, interview by Anne Perez Hattori, 19 March 1999; quoted in Hattori, 176.

hospitals for the free worm treatment." Although the treatment was difficult and often dangerous, hookworm statistics did improve as a result of the Navy's campaign.

By the 1920s, although hookworm hospitalizations still occurred in large numbers, the

government regularly administered treatment at the schools. Governor H.B. Price reported in 1924 that nearly 3,000 treatments were given at schools, compared to 1,260 treatments in the hospital. Schools



Figure 6. Schoolchildren lined up for hookworm exam

became unique clinics where young patients could be inspected, educated, and transformed into hygienic examples for the rest of the population to imitate.

This practice was not particular to schools on Guam. Between 1880 and 1940, laws instituting school health programs were passed in all forty-eight states. According to Suellen Hoy, in the 1910s and 1920s "the critical arenas of public health and cleanliness activity [in America] centered in *education*." Schools, both in rural and urban communities, especially

¹⁴⁷ Coontz, From the Mississippi, 337.

In May 1918, Dr. John B. Grant of the International Health Board of the Rockefeller Foundation conducted a survey of hookworm infestations in Guam. His results and recommendations originally appeared in the governor's annual report for 1918. They are reprinted in "Human Intestinal Parasites in Guam," *United States Naval Medical Bulletin* 20, no. 1 (1924): 140. Ramon M. Sablan, "A Plea for Better Health Conditions," *Guam Recorder* 50 (June 1929): 50; quoted in Hattori, 176.

Hattori, 177.

Annette Lynch, "Evaluating School Health Programs," Proceedings of the Academy of Political Science 32, no. 3 (1977), 80

Suellen Hoy, Chasing Dirt: The American Pursuit of Cleanliness (New York: Oxford University Press, 1995), 123. Emphasis in original.

those that featured large Eastern and Southern European immigrant populations, held daily hair, fingernail, and teeth inspections. One aspect of the frenzied consumerism of the 1920s was a marketing strategy that provided Americans with new ways to keep clean; advertisements for



Figure 7. Old Dutch Cleanser ad aimed at Yiddish-speaking immigrant families

soaps, mouthwashes, and deodorants appeared in newspapers and mass-circulation magazines of many languages. Cleanliness was an American cultural value, and settlement workers, teachers, physicians, and local state officials envisioned public schools as instruments for acculturating immigrant children and their parents to American ways of thinking and living.

The practice of teaching personal hygiene skills to schoolchildren did not originate in the early 1900s. In the late

1870s, boarding schools for Native Americans, an often-overlooked group of American colonial subjects, were established on reservations for this very purpose. The Superintendent of Indian Schools remarked in 1885: "these schools strip from the unwashed person of the Indian boy the unwashed blanket, and, after instructing him in what to him are the mysteries of personal cleanliness, clothe him with the clean garments of civilized men and teach him how to wear them." The experiences of Native Americans, European immigrants, and the Chamorros of Guam differed enormously, but each group was subjected to public health campaigns in American schools. Like the Chamorros, African-Americans in the South became the patients of a massive hookworm eradication campaign in the early twentieth century. Instruction in hygiene and sanitation, specifically to ward off hookworm infection, also occurred in most southern schools, as it did in Guam.

¹⁵² Ibid., 125-126.

By targeting schools and teaching children the "American" ways of cleanliness, health officials sought to influence the general public. Governor of Guam Benjamin McClandish reported that by 1936, "the Health Department, . . . working in cooperation with the Department of Education, [had] effectively safeguarded the health of the children and [had] disseminated to the adult population of the Island through this channel important information



Figure 8. 1899 cartoon. Uncle Sam sternly lectures unkempt black children labeled "Philippines," "Hawaii," "Porto Rico," and "Cuba," while neatly dressed white pupils representing various states study on their own. In the background, an American Indian holds a book upside down, and a black child washes the window. The Chamorros of Guam similarly fit into the category of the non-white American ward in need of education.

on sanitation and hygiene."154 Hattori argues that the Navy's focus on administering to the needs of children was motivated primarily by the desire to improve statistics and health imperial justify its position on the island.

This is partially true, but local governments pursued similar policies within the United States. The Navy's focus on sanitation and hygiene were more likely stimulated by the belief that the white race, especially Americans, were the cleanest and most civilized race, and therefore should be emulated. For the Chamorros to become Americans they would need to conform to American standards of cleanliness, just as Native Americans and European immigrants were made to do. Notions of racial and biological superiority, combined with a high rate of disease on Guam, led U.S. officials to assume that the Chamorros were generally unhealthy with no

As quoted in David Wallace Adams, Education for Extinction: American Indians and the Boarding School Experience, 1875-1928 (Lawrence, Kansas: University Press of Kansas, 1995), 30-31.

nowledge of personal hygiene. Although poverty accounted for most of the unhealthiness on items, as well as in African-American, European immigrant, and Native American ommunities, prejudiced suppositions about "tropical races" influenced health policies.

Navy officials believed that the safeguarding of American health on Guam depended on improvements in native health and sanitation: unhealthy natives meant unhealthy conditions for Americans. For example, in 1925 Navy Medical Corps officer Stitt told the American College of Physicians in Washington D.C.:

it immediately became our paramount duty to see that these people did not suffer as a result of the change in status but were given the benefit of all our knowledge and experience in government and in humanitarian work. Not the least of these duties were those of introducing modern ideas of medicine and teaching the people so to live that their own health would be conserved to the greatest possible degree and so they would no longer be a menace to those who would be forced to come into contact with them. 155

Deep-seated convictions regarding the inherent unhealthiness of the tropics and tropical races led to aggressive sanitary measures established to protect American servicemen. Sanitary education was necessary not only to acculturate the Chamorros, but to maintain a safe environment in which Americans could live. Medical Corps Lieutenant C.H. McMillan wrote in 1936, "the new [American] arrival in Guam, after reading of the diseases of the tropics and listening to tales told by those 'Old Timers' . . . frequently lives in terror of the health hazards which seem to surround him and his family." This commentary from *The Guam Recorder* does not mention the fact that malaria and yellow fever, two of the most deadly tropical diseases, did not exist on Guam. In 1922, Governor Schroeder admitted that during his term from 1900-1903, "there was less occasion to seek medical advice and remedies than during an

¹⁵⁴ Hattori, 178.

¹⁵⁵ Stitt, 6-7.

¹⁵⁶ Hattori, 42.

equal period at home." Yet the tropics were understood to be dangerous for whites and therefore, "many among the naval colony live in a constant state of fear of disease." To combat apprehensions about Guam being an acceptable site for a Navy base, it needed to be improved to "American standards." Because a large majority of the adult Chamorro population resisted U.S. attempts to monitor health and sanitation, schoolchildren bore the brunt of many of the Navy's health campaigns.

Not all school-directed policies were as intense as forced hospitalization, indiscriminate

hookworm treatment, and daily examinations. In 1924, Guam's Department of Education superintendent Thomas Collins issued a memorandum that asked teachers "to do their best in



Figure 9. Schoolchildren lined up for a fingernall and cleanliness inspection

to schools during Christmastime and shoe-making was a frequent classroom project. 160 According to Hattori, Navy administrators relentlessly pushed shoe-wearing through governors' speeches, articles in *The Guam Recorder* and the *Guam News Letter*, and classroom lesson plans. She argues that such policies illustrated the extent to which Navy officials "attempted to remedy each and every medical and sanitary concern," and thereby reinforce their dominance

leo Ibid.

¹⁵⁷ Schroeder, A Half Century of Naval Service, 238-239.

Hattori, 42.

Quoted in Ibid., 180-181. Emphasis in the original.

over the lives of Chamorros. ¹⁶¹ I believe, however, that shoe campaigns stemmed from the Navy's patriarchal, ethnocentric attitude towards the Chamorros. In a 1939 article from *The Guam Recorder*, serviceman A.C. Suarez reminded readers that "previous to America's occupation of Guam . . .filthy living [made] an unhealthy body susceptible to any kind of disease." ¹⁶² It was considered the "duty of every American on the Island" to teach the Chamorros how to become civilized, hence the insistence on wearing shoes. ¹⁶³ By adopting Western hygienic and cultural traditions, the native Chamorro would approach "the 'greater moral power' of the Anglo-Saxon, a race "enlightened with intelligence, and endowed with vast



Figure 10. Guam village school, circa 1913

intellectual superiority."¹⁶⁴ In addition, some Navy physicians argued that hookworm infections arose from the fact that a large percentage of the native population remained barefoot throughout the year. ¹⁶⁵ Shoes were inexpensive

weapons against infection, far cheaper and easier to implement than refurbished sewage systems or wells. For the Chamorros, shoe-wearing perhaps symbolized the domination of American occupiers; for most servicemen, providing shoes to Chamorro children was about civilizing ignorant natives.

In the 1920s, the Navy established another method for using schoolchildren to inspire the cooperation of the general community with American medical services and sanitation laws.

l61 Ibid., 182.

Suarez, "Less Death Rate in Guam," 253. Flynn. 202.

"Clean Up" contests, parades, and health competitions between villages, as well as public lectures by the Governor, became annual events. Figure 11 shows a group of children marching



Figure 11. Health awareness parade in Hagátňa

in a health awareness parade in Hagåtña holding signs that read, "Flies Carry Death," and "How to Prevent Dysentery." According to an article in *The Guam Recorder*, in the 1924 Clean

Up Week parade, the "teachers and pupils of the Agana Schools accompanied by the Naval Station Band, marched in parade through the principal business and residential sections of the city. . . . Each child carried either a broom, mop, fly-swatter or some implement for cleaning homes." Slogans that read "When sick go to the Hospital," and "The Hospital saves lives" were carried by children in the parades of nearby neighborhoods as well. Students from the Umatac Magellan School held signs that read "We want 100% wearing shoes" and "We want 'Help' for Susana Hospital." Such parades provided the Navy and the Medical Department with free advertising for their medical services. As the years of American rule continued, most Chamorros began to accept the insistence on Western medicine, and the general health of the population improved. Unlike the forceful hookworm hospitalizations, non-aggressive school activities, such as parades, subtly encouraged compliance with naval regulations. Although public parades and sanitation lessons exposed the Navy's patronizing attitude towards Guam's

Christine Bolt, Victorian Attitudes to Race (London: Routledge & Kegan Paul and University of Toronto Press, 1971), 20-21

McCullough, 323.

Guam Recorder (Agana), 26 September 1924; quoted in Hattori, 185.

"tropical race," it seems certain that without them, the health of the Chamorro population would have worsened.

Conclusion

By the outset of World War II, the Navy Department believed that, in less than fifty years, it had transformed a diseased, backward population into a healthy, modern, self-reliant citizenry. ¹⁶⁸ The American Navy had provided the Chamorros with modern hospitals, competent naval physicians who had training in tropical medicine, and an education system that incorporated hygienic instruction. To both the Chamorro and the Americans, however, these improvements represented more than just healthcare. Issues of race, authority, and cultural domination were inextricably linked to the health and sanitation policies established by the Navy.

Historian Daniel Headrick labeled medicine one of the Western imperial powers' "tools of empire." One must decide for herself whether or not the Chamorros were better off with America rule. Could they have built medical facilities or have prevented the spread of leprosy without the guidance of the Navy? If the Americans had liberated Guam from Spanish control without taking possession of the island, the Chamorros would have had political freedom, but would they have had penicillin? Which is more important? While it is difficult to speculate and easy to criticize the Navy for its harsh treatment of children, aggressive laws, and racist paternalism, it should be acknowledged that the Chamorros were offered a healthcare system that was far superior to anything offered to Southern blacks, urban immigrants, or working-class day laborers.

¹⁶⁷ Hattori, 186.

U.S. Navy Report on Guam, 3.

The phrase "tools of empire" is from Daniel Headrick, The Tentacles of Progress: Technology Transfer in the Age of Imperialism, 1850-1940 (New York: Oxford University Press, 1988); quoted in Hattori, 36.

This hardly excuses the Navy's mistreatment of Chamorros. Providing efficiency and technology is not enough. Policies such as the forced hospitalization of hookworm children must be critically scrutinized and should not be applauded despite improvements in health statistics. Notwithstanding the progress made in public health and sanitation, Chamorro children and adults were used as pawns to justify the United States' emerging role as an imperial, world power.

Not all Chamorros benefited from the healthcare system the Navy established. Children died or became sicker from dangerous hookworm treatments, patients were quarantined in leper colonies or tuberculosis wards, and others were treated harshly by white doctors who assumed their patients' knowledge of healthcare was primitive. Medical personnel gradually grew to acknowledge some aspects of native healing systems and began to train Chamorro doctors and nurses. In some ways, the relationship between the Navy and the Chamorros is unique; in other ways it parallels different colonial situations. After World War II and the liberation of Guam by the United States, this relationship changed and the U.S. became the leading world power. Guam remains a unique, unincorporated territory of the United States; its history remains our own.

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lustrations

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