

THE UNIVERSITY OF CHICAGO

“THE SANITARY SIEVE”:

PUBLIC HEALTH, INFECTIOUS DISEASES, AND THE URBANIZATION OF HONOLULU,

c. 1850–1914

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For my parents

Valerie and Brian Kindell

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INTRODUCTION

HONOLULU: PARADISE FOUND?

As our nation grows older, and our intercourse and relations with other peoples and countries become more extended and intimate, we may expect to suffer from visitations of the same diseases that flesh is heir to in other lands, notwithstanding our isolation and health giving climate. It therefore behooves us to guard against this calamity to the best of our ability . . . by the exercise of extreme watchfulness.

— Dr. J. H. Kimball, 1890¹

Between the first voyage of Captain Cook in 1768 and the advent of transpacific commercial aviation in 1936, colonization, trade, migration, and urban growth accelerated the spread of infectious diseases around the Pacific World.² What European and American public health officials thought to be a largely uncontaminated region of the globe soon mutated into a vast theater of public health catastrophes, from the rapid depopulation of Indigenous peoples and fatal outbreaks aboard migrant vessels to recurrent epidemics in budding seaports. In response to the demographic, political, and economic toll these biological crises induced, an informal nexus of public health and medical professionals within and beyond the Pacific began to coalesce by mid-century. Their chief objective? To contain the local, regional, and international transmission of disease by deciphering who was at risk of infection and who (or what) was liable to convey it.

¹ J. H. Kimball, *Biennial Report of the President of the Board of Health to the Legislative Assembly of 1890* (Honolulu: Hawaiian Gazette Co., 1890), 24.

² On defining the temporal and geographic parameters of the Pacific World, see: Katrina Gulliver, “Finding the Pacific World,” *Journal of World History* 22, no. 1 (2011): 83-100; Matt Matsuda, “AHR Forum: The Pacific,” *American Historical Review* 111 (2006), 758-780; David Iglar, *The Great Ocean: Pacific Worlds from Captain Cook to the Gold Rush* (New York: Oxford University Press, 2013).

This dissertation focuses on the Hawaiian seaport of Honolulu—the mid-Pacific linchpin of this network—to examine the transpacific circulation of contagion, public health intelligence, and medical knowledge between the mid-nineteenth and early-twentieth centuries. It investigates the ways in which *haole* (initially “foreign”; later “white” or “Euro-American”) public health and medical professionals transformed Honolulu from a placid harbor into a disease-screening checkpoint for Hawai‘i, the Pacific Basin, and America’s overseas empire. After 1860, steamship transportation fully integrated the Hawaiian archipelago into a thriving Pacific World. As a result, Honolulu became a potential catalyst for the interisland and international spread of infectious diseases, including syphilis, smallpox, cholera, and bubonic plague. Microbial hitchhikers from abroad often appeared in Honolulu before resurfacing elsewhere in Hawai‘i or other Pacific seaports. While disproportionately plaguing the city’s *Kānaka Maoli* (“Native Hawaiian”) and *Pākē* (“Chinese”) migrant populations, these epidemic connections also threatened the security of interisland mobility, transpacific trade, and America’s growing imperial influence.

Undergirding its role as a lucrative waystation, an agricultural entrepôt, a naval rendezvous, and a nascent tourist destination, I argue that Honolulu assumed a unique and often self-proclaimed responsibility as a “sanitary sieve”—an urban clearinghouse that could filter out infectious diseases traversing the Hawaiian Islands and the Pacific World.³ A phalanx

³ Leland E. Cofer, the Passed Assistant Surgeon General of the U.S. Public Health and Marine Hospital Service, coined the term “sanitary sieve” in a series of Hawaiian newspaper articles in 1907. *Evening Bulletin*, 4/6/1907, 4/13/1907, 4/20/1907, 4/27/1907, 5/7/1907. On Honolulu’s role as a waystation for transpacific vessels, see: Edward Beechert, *Honolulu: Crossroads of the Pacific* (Columbia: University of South Carolina Press, 1991). On industrial agriculture and its effects on Honolulu, see: C. Allan Jones and Robert V. Osgood, *From King Cane to the Last Sugar Mill: Agricultural Technology and the Making of Hawai‘i’s Premier Crop* (Honolulu: University of Hawai‘i Press, 2015); Carol MacLennan, *Sovereign Sugar:*

of European and American health officials in Honolulu engineered this municipal transformation by procuring medical knowledge and soliciting guidance from their overseas counterparts when confronting contagion in their own backyard. As a matter of course, they systematically adopted and adapted foreign information as they developed, implemented, and later justified an overwhelming range of disease-specific health programs. In an effort to prevent or extinguish syphilis, smallpox, cholera, and bubonic plague, civil servants in Honolulu policed the sexuality, mobility, and physical bodies of nonwhite urbanites; pitted municipal quarantine laws against universal vaccination campaigns; designed sanitary regulations to reconfigure the seaport's built environment; and even attempted to purge Honolulu of potentially disease-breeding wildlife. Such efforts did not go unchallenged however, as urbanites and islanders alike sought recourse through quotidian forms of resistance and Hawai'i's evolving court system. Ultimately, legal battles and public disputes over urban epidemics, racial difference, and medical authority in this mid-Pacific "paradise" tempered American ascendancy beyond the western seaboard of the United States.

CONTAGION WITHIN AND BEYOND HAWAI'I

"The Sanitary Sieve" intervenes in three overlapping bodies of scholarship—that of Pacific World history, the history of disease and empire in Hawai'i, and the history of municipal public health systems across the Western world. By engaging in these

Industry and Environment in Hawai'i (Honolulu: University of Hawai'i Press, 2014). On American militarism and the rise of tourism in Honolulu, see: Vernadette Gonzalez, *Securing Paradise: Tourism and Militarism in Hawai'i and the Philippines* (Durham: Duke University Press, 2013); Christine Skwiot, *The Purposes of Paradise: U.S. Tourism and Empire in Cuba and Hawai'i* (Philadelphia: University of Pennsylvania Press, 2010).

historiographic conversations, this project seeks to answer the following two questions: (1) How did nineteenth- and early-twentieth-century breakthroughs in etiology, epidemiology, bacteriology, and ecology inform the institution of public health in Honolulu? (2) To what extent did the institution of public health in Honolulu facilitate or impinge on the local, interisland, and transpacific mobility of peoples, goods, ideas, and diseases?

Pacific World historiography is vast and varied, much like the ocean itself.⁴ Since the 1930s historians have employed imperial, comparative, and transnational frameworks to examine and re-examine themes which underscore the progressive interconnectivity of the Pacific throughout the long-nineteenth-century—namely, exploration and indigeneity; settler colonialism and the law; race, gender, and sexuality; science, technology, and the environment; labor and migration; and commercial trade and travel.⁵ This body of scholarship establishes a

⁴ The Pacific Ocean spans 62.5 million square miles, contains nearly 25,000 islands, and is encircled by hundreds of thousands of miles of coastline. On the state of Pacific World historiography, see: David Armitage and Alison Bashford, eds., *Pacific Histories: Ocean, Land, People* (Basingstoke: Palgrave MacMillan, 2014); Gulliver, “Finding the Pacific World”; Matt Matsuda, “AHR Forum: The Pacific,” *American Historical Review* 111 (2006), 758-780, and *Pacific Worlds: A History of Seas, Peoples, and Cultures* (Cambridge: Cambridge University Press, 2012); Greg Denning, “History ‘in’ the Pacific,” in David Hanlon and Geoffrey M. White, eds., *Voyaging through the Contemporary Pacific* (Lanham: Rowman and Littlefield, 2000), 135-140.

⁵ On exploration and indigeneity, see: Nicholas Thomas, *Islanders: The Pacific in the Age of Empire* (New Haven: Yale University Press, 2010). On settler colonialism and the law, see: Stuart Banner, *Possessing the Pacific: Land, Settlers, and Indigenous People from Australia to Alaska* (Cambridge: Harvard University Press, 2007); Lisa Ford, *Settler Sovereignty: Jurisdiction and Indigenous People in America and Australia 1788-1836* (Cambridge: Harvard University Press, 2010). On the circulation of race and gender ideologies, see: Marilyn Lake and Henry Reynolds, *Drawing the Global Colour Line: White Men’s Countries and the International Challenge of Racial Equality* (Cambridge: Cambridge University Press, 2008); Patricia O’Brien, *The Pacific Muse: Exotic Femininity and the Colonial Pacific* (Seattle: University of Washington Press, 2006). On science, technology, and the environment, see: Ryan Tucker Jones, *Empire of Extinction: Russians and the North Pacific’s Strange Beasts of the Sea, 1741-1867* (New York: Oxford University Press, 2014); Sujit Sivasundaram, *Nature and the Godly Empire: Science and Evangelical Mission in the Pacific, 1795-1850*

united front against the antiquated and Eurocentric abstraction that the Pacific was devoid of land, people, and history, and thus nothing more than “Earth’s empty quarter.”⁶ While historians of disease transmission in the Pacific—namely, Alan Moorehead, John Miles, and David Iglar—have greatly contributed to this historiography, they have disproportionately focused on the pre-1850 period.⁷ As a result, subfields like ecological imperialism, “virgin soil” epidemics, and Indigenous depopulation—all of which are indicative of “first contact” narratives—figure prominently in Pacific World literature.⁸

(Cambridge: Cambridge University Press, 2005). On labor and migration, see: Kornel Chang, *Pacific Connections: The Making of the U.S.-Canadian Borderlands* (Berkeley: University of California Press, 2012); Gregory Rosenthal, *Beyond Hawai‘i: Native Labor in the Pacific World* (Oakland: University of California Press, 2018). On commercial trade and travel, see: Eric Jones, ed., *Coming Full Circle: An Economic History of the Pacific Rim* (Boulder: Westview Press, 1993); Frances Steel, *Oceania Under Steam: Sea Transport and the Cultures of Colonialism, c. 1870-1914* (Manchester: Manchester University Press, 2011).

⁶ R. Gerard Ward, “Earth’s Empty Quarter? The Pacific Islands in a Pacific Century,” *The Geographical Journal* 155, no. 2 (1989): 235-246.

⁷ On Pacific disease transmission before 1850, see: Robert Boyd, *The Coming of the Spirit of Pestilence: Introduced Infectious Diseases and Population Decline among Northwest Coast Indians, 1774-1874* (Seattle: University of Washington Press, 1999); Judy Campbell, *Invisible Invaders: Smallpox and Other Diseases in Aboriginal Australia, 1780-1880* (Carlton South: Melbourne University Press, 2002); A. D. Cliff, P. Haggett, and M. R. Smallman-Raynor, *Island Epidemics* (New York: Oxford University Press, 2000), esp. chap. 4-5, 7; Noble David Cook and W. George Lovell, eds., *Secret Judgements of God: Old World Disease in Colonial Spanish America* (Norman: University of Oklahoma Press, 1991), esp. chap. 3, 5-7; Alfred Crosby, *Ecological Imperialism: The Biological Expansion of Europe, 900-1900*, 2nd ed. (Cambridge: Cambridge University Press, 2004), esp. chap. 5 and 10; John Miles, *Infectious Diseases: Colonizing the Pacific?* (Dunedin: University of Otago Press, 1997); David Iglar, “Diseased Goods: Global Exchanges in the Eastern Pacific Basin, 1770-1850,” *The American Historical Review* 109, no. 3 (2004), 693-719; Robert H. Jackson, “Epidemic Disease and Population Decline in the Baja California Missions, 1697-1834,” *Southern California Quarterly* 63 (1981), 308-346; Alan Moorehead, *The Fatal Impact: An Account of the Invasion of the South Pacific, 1767-1840* (New York: Harper & Row, 1966); David Stannard, “Disease and Infertility: A New Look at the Demographic Collapse of Native Populations in the Wake of Western Contact,” *Journal of American Studies* 24, no. 3 (1990), 325-350.

⁸ On the original concept of “virgin soil epidemics” and its application within Pacific history, see, respectively: Alfred Crosby, “Virgin Soil Epidemics as a Factor in the Aboriginal Depopulation in America,” *William and Mary Quarterly* 33, no. 2 (1976), 289-299; David

Demanding further investigation, I argue, is the Pacific history of infectious diseases after 1850. A confluence of watershed moments in the mid-nineteenth century sent shockwaves across the globe and, in the words of David Iglar, “initiated a new phase of consolidations and connections in the Pacific.”⁹ For instance, the Mexican-American War (1846-48) facilitated the geographic expansion of the United States, drawing the country closer to Pacific trading stations along the western seaboard of North America.¹⁰ Gold rushes in northern California (c. 1848-55) and southeastern Australia (c. 1851-60) also attracted thousands of people from remote regions of the world, which occasioned the first Pacific steamship lines and strengthened the commercial salience of Pacific Rim seaports like San Francisco, Sydney, and Hong Kong.¹¹ Meanwhile, American gunboat diplomacy in Tokugawa Japan (1853-54) ended

Jones, “Virgin Soils Revisited,” *William and Mary Quarterly* 60, no. 4 (2003), 703-742. Before the advent of steamship transportation and government-sponsored trading routes, microbes rarely induced sudden and widespread “pandemics because of the Pacific’s geographically isolated islands and disparate landmasses.” According to Iglar, diseases like dysentery, typhoid, tuberculosis, syphilis, measles, and smallpox afflicted discrete populations “over decades of commercial growth, gradually culminating in demographic catastrophe for native peoples.” Iglar, “Diseased Goods,” 693-694.

⁹ Iglar, *The Great Ocean*, esp. chap. 2; 10, 185.

¹⁰ Paul Frymer, *Building an American Empire: The Era of Territorial and Political Expansion* (New Jersey: Princeton University Press, 2017), esp. chap. 5; Amy Greenber, *Manifest Manhood and the Antebellum American Empire* (Cambridge: Cambridge University Press, 2005), esp. chap. 7; David Pletcher, *The Diplomacy of Involvement: American Economic Expansion Across the Pacific, 1784-1900* (Columbia: University of Missouri Press, 2001), esp. pt. 1.

¹¹ On the global effects of gold rushes in the nineteenth century, see: Benjamin Mountford and Stephen Tuffnell, eds., *A Global History of Gold Rushes* (Oakland: University of California Press, 2018). On the California gold rush and urbanization, see: Gunther Barth, *Instant Cities: Urbanization and the Rise of San Francisco and Denver* (New York: Oxford University Press, 1975); James Delgado, *The Maritime Archaeology of San Francisco’s Waterfront* (Berkeley: University of California Press, 2009); Amy Lippert, *Consuming Identities: Visual Culture in Nineteenth-Century San Francisco* (New York: Oxford University Press, 2018), 7-15. On the Australian gold rushes and urbanization, see: Ian McCalman, Alexander Cook, and Andrew Reeves, eds., *Gold: Forgotten Histories and Lost Objects of Australia* (Cambridge: Cambridge University Press, 2001); Jay Monaghan, *Australians and the Gold Rush: California and Down*

the country's enduring and self-imposed isolation by opening its principal seaports to transpacific trade.¹² The following decade, the South's economic paralysis during the American Civil War (1861-1865) not only stimulated agricultural development in tropical climates like Queensland, Fiji, Sāmoa, and Hawai'i, but also enticed enterprising and often illicit labor traders into the South Pacific.¹³ Considered together, these mid-century developments helped to forge a fully integrated and energetic Pacific World—one in which steamships, industrial seaports, migrant labor networks, and infectious diseases could thrive. Quite literally at the heart of these pan-Pacific developments was the emergent Kingdom of Hawai'i.

The mid-nineteenth century also witnessed a veritable sea change in Hawai'i's relationship with the Pacific World as the country's domestic policies and foreign relations rapidly evolved. The Kingdom's first constitution, passed in 1840, instituted a bicameral legislature and western-style judiciary; in 1852, a new constitution crafted under heavy

Under, 1849-1854 (Berkeley: University of California Press, 1966); William P. Morrell, *The Gold Rushes* (London: A. and C. Black, 1940). On the earliest transpacific steamship lines, see: Aims McGuinness, *Path of Empire: Panama and the California Gold Rush* (Ithaca: Cornell University Press, 2008). On the growth of other Pacific seaports as a result of mid-century gold rushes, see: Elizabeth Sinn, *Pacific Crossing: California Gold, Chinese Migration, and the Making of Hong Kong* (Hong Kong: Hong Kong University Press, 2013).

¹² Marius B. Jansen, *The Making of Modern Japan* (Cambridge: Harvard University Press, 2002), esp. chap. 9-10; Pletcher, *The Diplomacy of Involvement*, esp. chap. 7.

¹³ On the post-Civil War sugar industry in the American South, see: Walter Prichard, "The Effects of the Civil War on the Louisiana Sugar Industry," *Journal of Southern History* 5 (1939): 315-332. On the subsequent growth of Pacific agricultural industries, see: Stanley Engerman, "Contract Labor, Sugar, and Technology in the Nineteenth Century," *The Journal of Economic History* 43, no. 3 (1983): 635-659; Sumner La Croix, *Hawai'i: Eight Hundred Years of Political and Economic Change* (Chicago: University of Chicago Press, 2019), esp. chap. 5-6; Justin Vance and Anita Manning, "The Effects of the American Civil War on Hawai'i and the Pacific World," *World History Connected* 9, no. 3 (2012): 1-19. On American participation in the coercive and unfree trade in Polynesian laborers—also known as "blackbirding"—see: Gerald Horne, *The White Pacific: U.S. Imperialism and Black Slavery in the South Seas after the Civil War* (Honolulu: University of Hawai'i Press, 2007).

American influence fixed executive and legislative powers while establishing a supreme court staffed almost exclusively by European and American judges.¹⁴ By extension, the Great *Māhele* of 1848 redistributed crown lands among distinct strata of *Kānaka Maoli* while the Alien Land Ownership Act of 1850 entitled foreigners to freeholds. A *haole* feeding frenzy for industrial farmland thus ensued, and by the early-1850s a vociferous planter class was sounding the clarion call for new forms of interisland transit and additional sources of agricultural labor. Acceding to capitalist demands, the government granted a charter to the Hawaiian Steam Navigation Company in 1853 and established a Bureau of Immigration in 1864 to oversee the importation of thousands of contract laborers from China, Japan, Portugal, Norway and elsewhere for the next half-century.¹⁵ Meanwhile, the monarchy entered into various bilateral agreements with foreign powers, including Great Britain in 1846, France in 1858, Spain in 1863, Russia in 1869, Japan in 1871, and New South Wales in 1874. While establishing formal diplomatic and commercial channels, these accords also exposed the once-remote archipelago to an increasing number of foreign vessels crossing the Pacific. Of paramount importance, however, was the 1875 Reciprocity Treaty with the United States. By granting Hawai‘i preferential access to American markets for sugar, rice, and other agricultural products, the treaty stimulated foreign investment, intensified the need for agricultural labor,

¹⁴ Sally Engle Merry, *Colonizing Hawai‘i: The Cultural Power of Law* (Princeton: Princeton University Press, 2000), 78-79, 102-103.

¹⁵ Banner, *Possessing the Pacific*, esp. chap. 4; Jon J. Chinen, *The Great Māhele: Hawaii’s Land Division of 1848* (Honolulu: University of Hawaii Press, 1958); Gavan Daws, “Government and Land in Honolulu to 1850,” in Richard A. Greer, ed., *Hawaiian Historical Review: Selected Readings* (Honolulu: Hawaiian Historical Society, 1969), 246–257; Ralph Kuykendall, *The Hawaiian Kingdom, Volume 2: Twenty Critical Years, 1854-1874* (Honolulu: University of Hawai‘i Press, 1953), esp. chap. 1 and 6; La Croix, *Hawai‘i*, esp. chap. 5; Ronald Takaki, *Pau Hana: Plantation Life and Labor in Hawai‘i, 1835-1920* (Honolulu: University of Hawai‘i Press, 1983), esp. chap. 1-2.

and ossified transpacific trade routes with seaports in California and East Asia.¹⁶ These domestic and foreign affairs reaffirmed the Kingdom's political sovereignty, bolstered its economic stability, and forged new commercial relations that entangled Hawai'i in a Pacific web of capital, people, and knowledge increasingly tethered to global markets.

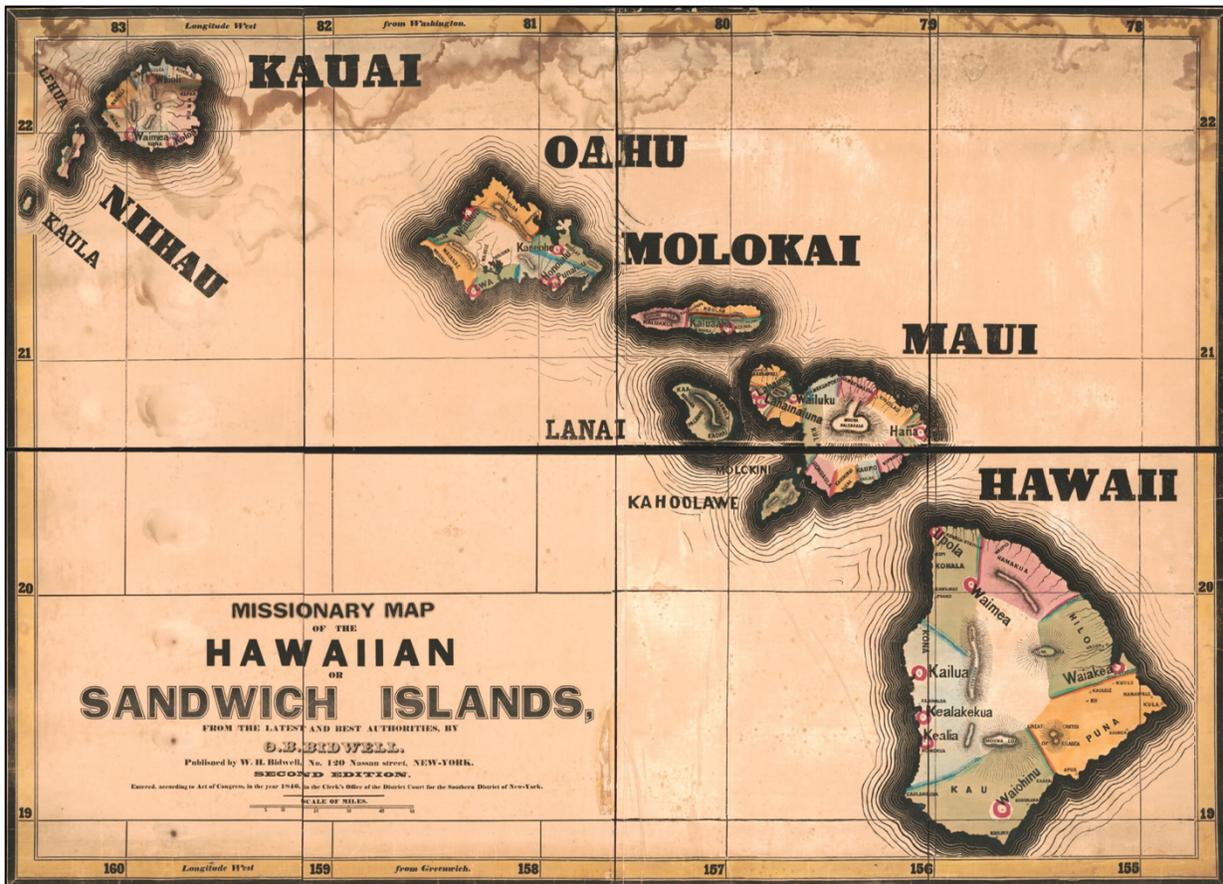


Figure 1: O.B. Bidwell, *Missionary Map of the Hawaiian or Sandwich Islands*, 1846, Library of Congress

It is perhaps unsurprising that these mid-century transformations also accelerated the interisland circulation of infectious diseases. Yet Hawaiian historiography, much like that of

¹⁶ Kuykendall, *Hawaiian Kingdom*, Vol. 2, esp. chap. 2 and 7; La Croix, *Hawai'i*, esp. chap. 5-6.

the Pacific World, has tended to focus on the history of contagion within the seven decades bookended by Captain Cook’s arrival in 1778 and the Great *Māhele* or California gold rush of 1848—and for good reason, too. As historian Seth Archer has poignantly argued, it was within this era that “health [became] the national crisis of Hawai‘i.” Explorers, traders, and whalers traversing the Pacific unknowingly—and, in some cases, knowingly—disseminated venereal, enteric, and respiratory diseases across the archipelago, for which *Kānaka Maoli* had no or few immunities. The combined effects of tuberculosis, syphilis, dysentery, measles, and other *ma‘i malihini* (“introduced diseases”) shortened life spans, reduced the fertility rates of men and women, increased the mortality rates of all age groups, and contributed to the chronic poor health of those who survived. That nearly 75 percent of the country’s population had perished by the mid-nineteenth century left a haunting “imprint on island culture and on the Hawaiian national consciousness.”¹⁷

PACIFIC CROSSROADS: COMMERCE, URBANIZATION, AND PUBLIC HEALTH IN HONOLULU

Building on and diverging from the work of Iglar, Archer, and others, “The Sanitary Sieve” charts the urban history of disease transmission to, within, and beyond the Hawaiian Islands between the mid-nineteenth and early-twentieth centuries. In so doing, it examines the

¹⁷ Seth Archer, *Sharks Upon the Land: Colonialism, Indigenous Health, and Culture in Hawai‘i, 1778-1855* (Cambridge: Cambridge University Press, 2018), 2, 59-60. For other Hawaiian histories of disease before 1850, see: Seth Archer, “Remedial Agents: Missionary Physicians and the Depopulation of Hawai‘i,” *Pacific Historical Review* 79, no. 4 (2010): 513-544; Oswald Bushnell, *The Gifts of Civilization: Germs and Genocide in Hawai‘i* (Honolulu, University of Hawai‘i Press, 1993); Robert Schmitt, “The Okuu—Hawai‘i’s Greatest Epidemic,” *Hawai‘i Medical Journal* 29, no. 5 (1970): 359-364; David Stannard, *Before the Horror: the Population of Hawai‘i on the Eve of Western Contact* (Honolulu: University of Hawai‘i Press, 1989).

institution of public health in Honolulu at a time when Hawai‘i’s commercial development and economic security increasingly hinged on industrial agriculture, migrant labor, and maritime trade.¹⁸ As the demographic, political, and financial fulcrum of the nation, Honolulu was the primary conduit through which the Hawaiian Kingdom and the Pacific World interacted (Figure 2).¹⁹ For instance, harvests from sugar and rice plantations passed through Honolulu on their way to foreign markets bordering the Pacific. Inversely, migrant laborers arrived in Honolulu before making their way to Hawai‘i’s outer islands. Moreover, Honolulu facilitated the transit of vessels plying between seaports like Yokohama, Hong Kong, and Sydney to the west and Vancouver, San Francisco, and Valparaiso to the east. By pivoting on a single seaport, these maritime pathways transformed Honolulu into a polestar for Hawaiian and Pacific World trade; at the same time, they inadvertently rendered Honolulu a catalyst for the local, regional, and transpacific circulation of infectious diseases. So long as export, import, and transport

¹⁸ In recent years, a growing number of historians have begun to examine disease, health, and medicine in Hawai‘i during the post-1850 period; however, they have prioritized the familiar history of leprosy—a non-virulent disease that resulted in physical disfigurement, criminalization, and social displacement, yet rarely proved fatal and never inhibited interisland or transpacific trade. For examples, see: Rod Edmond, *Leprosy and Empire: A Medical and Cultural History* (Cambridge: Cambridge University Press, 2006), esp. chap. 4; Kerri Inglis, *Ma‘i Lepera: Disease and Displacement in Nineteenth-Century Hawai‘i* (Honolulu: University of Hawai‘i Press, 2013); Vicki Luker and Jane Buckingham, “Histories of Leprosy: Subjectivities, Community and Pacific Worlds,” *Journal of Pacific History* 52, no. 3 (2017): 265-286; Pennie Moblo, “Leprosy, Politics, and the Rise of Hawai‘i’s Reform Party,” *Journal of Pacific History* 34, no. 1 (1999): 75-89; Michelle Moran, *Colonizing Leprosy: Imperialism and the Politics of Public Health in the United States* (Chapel Hill: University of North Carolina Press, 2007).

¹⁹ In 1821, Honolulu became the official seat of government. Historical demographers have demonstrated that, by at least the 1830s, Honolulu had outpaced its closest competitors—Hilo on the Big Island and Lahaina on Maui—in terms of population density and geographic size. Ralph S. Kuykendall, *The Hawaiian Kingdom, Volume 1: Foundation and Transformation, 1778-1854* (Honolulu: University of Hawai‘i Press, 1938), 73-74; Robert C. Schmitt, *Historical Statistics of Hawai‘i* (Honolulu: The University Press of Hawai‘i, 1977), 12.

This predicament—in which the demands of maritime transportation exposed Honolulu to the physical and financial perils of biological exchange—framed the worldview of *haole* public health and medical professionals for more than a century. As a matter of fact, the country’s earliest quarantine laws enshrined by the Hawaiian Constitution of 1840 established a national Board of Health (BOH) based in Honolulu—the *first of its kind anywhere in the world*—in response to rumors that smallpox was lurking along the “western coast of America,” a region “frequently visited by ships on their way to the Sandwich Islands.”²⁰ As interisland and transpacific mobility proliferated during the ensuing decades, so too did the urban threat of *ma‘i malihini*. In a relentless effort to control this precarious relationship, the Hawaiian Kingdom sought to enhance the powers vested in the BOH. As a result, the domain of public health in Hawai‘i became increasingly centralized, institutionalized, and professionalized throughout the later-nineteenth century. For instance, the BOH was reconfigured in 1852 “for the good of the inhabitants of Honolulu”; it had seven members (two of whom were physicians) and convened once a month at most. Thirty years later, daily BOH meetings consisted of executive members, legislative representatives, health agents, port physicians, and anywhere between five and fifteen private practitioners.²¹

²⁰ Contrary to academic arguments and popular belief, Hawai‘i’s Board of Health of 1840 predated both the United Kingdom’s General Board of Health (est. 1848) and New York City’s Metropolitan Board of Health (est. 1866). “Chapter VI: Quarantine Laws,” in *Translation of the Constitution and Laws of the Hawaiian Kingdom, Established in the Reign of Kamehameha III* (Lahainaluna: n.p., 1842), 59-60.

²¹ “A Law Establishing a Board of Health,” 12/16/1850, in Hawaiian Kingdom, *Laws of His Majesty Kamehameha III, King of the Hawaiian Islands, Passed by the Nobles and Representatives at their Session 1851* (Honolulu: Hawaiian Government, 1851), 12-15; Minutes of the Board of Health (BOH Minutes), *Hawai‘i State Archives (HSA)*, Series 259, Vol. 1, 1/1/1858-8/30/1867 – Vol. 2, 7/1/1868-6/25/1881.

And herein lies a central paradox of public health and medicine in Hawai‘i. The genesis and evolution of public health as a formal, government-run system was predicated on the medical expertise of trained physicians—a dependency that endured even in the complete absence of local medical universities and research institutions. In fact, an accredited medical school would not materialize until 1965, six years after the Territory of Hawai‘i became the Aloha State.²² Thus, throughout Hawai‘i’s pre-statehood history, foreign physicians residing in this mid-Pacific paradise were essential to the local formation, legitimization, and success of public health and medical programs. The need for skilled and certified medical experts was not lost on figureheads and high-ranking civil servants. Beginning in 1859, the Hawaiian Legislature required anyone who wanted to practice medicine to provide the BOH with “satisfactory evidence” of one’s “professional qualifications and good moral character” and secure a license from the Minister of the Interior.²³ Put another way, the institution of public health in the Hawaiian Kingdom, Republic, and Territory would not have existed were it not for physicians who had completed their Western medical education and training abroad.²⁴ Moreover, the absence of universities and institutions meant that health and medical programs in Hawai‘i were invariably derived from scientific discoveries, medical innovations, and sanitary technologies that emerged elsewhere within and beyond the Pacific World. The medical regulation of prostitutes to contain the spread of syphilis; vaccination and re-

²² In 1965, six years after Hawai‘i acquired statehood, the John A. Burn School of Medicine—the first of its kind on the islands—was established in Honolulu.

²³ Hawaiian Kingdom, “Section 279,” *Civil Code of the Hawaiian Islands* (Honolulu: Printed for the Government, 1859), 63.

²⁴ Subsequent chapters will demonstrate that the vast majority of licensed physicians completed their medical educations in one of five countries: the United States, the United Kingdom, France, Germany, or Australia.

vaccination programs to safeguard against smallpox; sewage removal technologies to stave off cholera; pest control campaigns to root out bubonic plague—these, among other public health policies of the late-nineteenth and early-twentieth centuries, appeared on Hawaiian soil but originated well beyond Hawaiian shores. To protect the Hawaiian Islands from the Pacific circulation of infectious diseases, *haole* public health and medical professionals were forced to adopt and adapt foreign methods to suit Honolulu’s needs.

In a similar vein, scholarship on colonial public health in America’s overseas territories has often focused on the interplay between military interventions, infectious diseases, and medical violence. Whether intentional or not, the forced imposition of a colonial infrastructure has been framed as a prerequisite for the future health and wellbeing of colonial subjects. For instance, according to Michael Willrich, “sanitary achievements” in the Philippines, Cuba, Puerto Rico, and the Panama Canal Zone exemplified America’s ostensible “desire to spread the blessings of liberty and modernity to dark corners of the globe.” Yet even this dubious motivation was a mere byproduct of the Army’s “original war plan” to safeguard U.S. troops and American commercial interests from infectious diseases. Indigenous peoples who found themselves entangled in American military interventions frequently underwent various forms of “sanitary uplift,” but only in tandem with, or as a result of, medical violence.²⁵

²⁵ Michael Willrich, *Pox: An American History* (New York: Penguin Press, 2011), 122-123. On the history of public health and medicine as colonial tools to advance American imperial interests, see: Warwick Anderson, *Colonial Pathologies: American Tropical Medicine, Race, and Hygiene in the Philippines* (Durham: Duke University Press, 2006); Laura Briggs, *Reproducing Empire: Race, Sex, Science, and U.S. Imperialism in Puerto Rico* (Berkeley: University of California Press, 2002); Mariola Espinosa, *Epidemic Invasions. Yellow Fever and the Limits of Cuban Independence, 1878-1930* (Chicago: University of Chicago Press, 2009); Daniel Immerwahr, *How to Hide an Empire: A History of the Greater United States* (New York: Farrar, Straus and Giroux, 2019).

The history of Honolulu and the Hawaiian Islands offers scholars an alternative narrative. Throughout most of the nineteenth century, the Kingdom of Hawaii maintained political and economic independence. Therefore, between the arrival of Christian missionaries in the 1820s and the overthrow of Queen Lili‘uokalani in 1893, local health and medical professionals of European or American extraction worked under the auspices of the Hawaiian Monarchy. As the country’s commercial importance grew stronger within an increasingly globalized world, so too did its need for constant vigilance and protection from the foreign introduction of infectious diseases. And so, by the time annexation occurred in 1898, Western systems of public health and medicine were already mainstays of urban life in Honolulu. On-the-spot quarantine measures, elaborate vaccination programs, or surprise visits from sanitary inspectors were regular occurrences for *Kānaka Maoli* and Chinese migrant populations. When cholera, bubonic plague, or yellow fever surfaced in the early-twentieth century, territorial health officials resorted to various forms of medical coercion—including, but not limited to, forced detainment, isolation, or communal bathing. Yet on the whole, these practices were no different in form and function to those typically used throughout mainland American cities. In terms of public health and medicine, Honolulu resembled San Francisco, Los Angeles, or New York rather than Manila, Havana, or San Juan.²⁶ Within the context of American imperialism, what set Hawai‘i apart from other tropical territories was the relative *absence* of medical violence at the hands of U.S. Army physicians.

²⁶ On race and public health in urban American settings, see: Susan Craddock, *City of Plagues: Disease, Poverty, and Deviance in San Francisco* (Minneapolis and London: University of Minnesota Press, 2000); Natalia Molina, *Fit to be Citizens? Public Health and Race in Los Angeles, 1879-1939* (Berkeley: University of California Press, 2006); Nayan Shah, *Contagious Divides: Epidemics and Race in San Francisco’s Chinatown* (Berkeley: University of California Press: 2001).

METHODOLOGY AND SOURCES

Given its geographic location, evolving demographic circumstances, and extensive commercial connections, Honolulu serves as a prime vantage point from which to examine the local, interisland, and transpacific histories of disease, public health, and medical knowledge.²⁷ As such, this project adopts a transurban methodology within a Pacific World framework. “Transurbanism” is an adaptation of “translocality”—an organizing tool that illuminates the “movements of people, goods, ideas, and symbols” that bridge “spaces of very different scale and type.”²⁸ However, as historian Claus Jørgensen has accurately noted, the intentional vagueness of a term like “locality” can denote “a multitude of possible boundaries which might be transgressed.” Alternatively, a concept like “transurbanism” more accurately describes linkages and movements between particular municipal environments with established and identifiable geographic and political parameters.²⁹ By employing a transurban approach, “The

²⁷ As Carola Hein has argued, port cities have linked “urban systems beyond continents and countries, forming an almost autonomous network semi-detached from national societies.” Carola Hein, “Port Cities,” in Peter Clark, ed., *The Oxford Handbook of Cities in World History* (Oxford: Oxford University Press, 2013), 824.

²⁸ Ulrike Freitag and Achim von Oppen, “Introduction: ‘Translocality’: An Approach to Connection and Transfer in Area Studies,” in Ulrike Freitag and Achim von Oppen, eds., *Translocality: The Study of Globalising Processes from a Southern Perspective*, (Boston: Brill, 2010), 5-6. Also see: Clemens Greiner and Patrick Sakdapolrak, “Translocality: Concepts, Applications and Emerging Research Perspectives,” *Geography Compass* 7, no. 5 (2013): 373-384; Alan Lester, “Place and Space in British Imperial History Writing,” in Robert Aldrich and Kirsten McKenzie, eds., *The Routledge History of Western Empires* (Abingdon: Routledge, 2014), 300–314.

²⁹ Claus Jørgensen, “Nineteenth-Century Transnational Urban History,” *Urban History* 33, no. 3 (2017), 549 and “Transurban interconnectivities: an essay on the interpretation of the revolutions of 1848,” *European Review of History* 19 (2012): 201-227. On transurban history as an emergent subfield, see: Shane Ewen, *What is Urban History?* (Cambridge: Polity Press, 2016), esp. chap. 6; Nicolas Kenny and Rebecca Madgin, eds., *Cities beyond Borders: Comparative and Transnational Approaches to Urban History* (Burlington: Ashgate Publishing Limited, 2015); Janice Reiff and Philip Ethington, ‘Introduction’, *Urban History*,

Sanitary Sieve” illuminates how foreign applications of medicine and sanitary science shaped the practice of public health in Honolulu and, by extension, how the practice of public health in Honolulu influenced urban, Hawaiian, and Pacific mobility.³⁰

Understanding the transurban public health history of Honolulu within a Pacific World framework demands a critical analysis of various primary sources published within and beyond the Hawaiian Islands. Not least are English-language newspapers printed in Honolulu. Long before the first Pacific telegraph cable was laid between Hawai‘i and the American mainland in 1902, “delightfully gossipy newspapers” like the *Polynesian*, the *Pacific Commercial Advertiser*, and the *Hawaiian Gazette* were customarily the first ports of call for international news.³¹ Foreign magazines, journals, and newspapers bearing public health and medical intelligence reached Honolulu via transpacific vessels; upon their arrival, Hawaiian newspaper editors frequently discussed, reworded, or reprinted such information within their own

36 (2009), 195–201; Michael Smith, *Transnational Urbanism: Locating Globalization* (Malden: Blackwell Publishers, 2001).

³⁰ On transurban perspectives within other ocean world contexts, see: Sugata Bose, *A Hundred Horizons: The Indian Ocean in the Age of Global Empire* (Cambridge: Harvard University Press, 2006); Kenneth McPherson, “Port cities as nodal points of change: the Indian Ocean, 1890s–1920s,” in Leila T. Fawaz and C. A. Bayly, eds., *Modernity and Culture: From the Mediterranean to the Indian Ocean* (New York: Columbia University Press, 2002), 75–95; Thomas Metcalf, *Imperial Connections: India in the Indian Ocean Arena, 1860–1920* (Berkeley: University of California Press, 2007); Daniel T. Rodgers, *Atlantic Crossings: Social Politics in a Progressive Age* (Cambridge: Belknap Press of Harvard University Press, 1998).

³¹ Helen Gay Pratt, *Hawaii: Off-Shore Territory* (New York: The Scribner Press, 1944), 1. For the technology and international politics of cable communication networks in the early-twentieth-century Pacific, see: Jeffrey K. Lyons, “The Pacific Cable, Hawai‘i, and Global Communication,” *Hawaiian Journal of History* 39 (2005): 35–52; Simone Müller, *Wiring the World: The Social and Cultural Creation of Global Telegraph Networks* (New York: University of Columbia Press, 2016), particularly Chapter Six; Roland Wenzlhuemer, *Connecting the Nineteenth-Century World: The Telegraph and Globalization* (Cambridge: Cambridge University Press, 2013), particularly Chapter Five.

publications.³² As a matter of course, literate Honoluluans were introduced to—and constantly reminded of—an ominous world looming just beyond the Hawaiian coastline. More importantly, foreign news alerted public health officials to an array of overseas circumstances that could have direct or indirect effects on Hawai‘i’s physical and financial wellbeing, including: the presence of infectious diseases in seaports that shared commercial trade routes with Honolulu; medical stereotypes that pathologized the nonwhite racial “Other” as inherently diseased and highly contagious; sanitary legislation and public health regulations that sought to stave off or stamp out infectious diseases; and scientific breakthroughs and technological innovations that made prevention and response programs viable. Moreover, local reporting based on foreign intelligence shaped and reshaped the development of public health initiatives in Honolulu. Evidence of this emerges from an examination of the minutes of the BOH, correspondence among public health and medical professionals, published government health reports, and public health regulations and legislation. Considered together, such documents shed light on the ways in which health officials and legislators discussed, disputed, and acted upon information gleaned from abroad.

³² On the history of transpacific steamships and the circulation of newspapers, see: John Haskell Kemble, “The Big Four at Sea: This History of the Occidental and Oriental Steamship Company,” *Huntington Library Quarterly* 3, no. 3 (1940): 339-357; E. Mowbray Tate, *Transpacific Steam: The Story of Steam Navigation from the Pacific Coast of North America to the Far East and the Antipodes, 1867-1941* (New York: Cornwall Books, 1986); Frances Steel, “Re-Routing Empire? Steam-Age Circulations and the Making of an Anglo-Pacific, c. 1850-90,” *Australian Historical Studies* 46, no. 3 (2015): 356-373.

CHAPTER OUTLINE

This dissertation is comprised of four roughly chronological chapters, each of which is dedicated to a case study of a single disease. Chapter One, “‘Brothel of the Pacific’: Syphilis, Depopulation, and the Urban Regulation of *Laikini Wahine* in Honolulu, c. 1855-1875,” underscores the urban-rural character of syphilis by analyzing one of the Hawaiian Kingdom’s earliest public health laws: the 1860 Act to Mitigate the Evils and Diseases Arising from Prostitution. By the mid-nineteenth century, Hawai‘i’s Indigenous population had declined by 75 per cent when compared to its estimated pre-contact level. Legislators and physicians attributed this crisis to the seasonal migration of *wahine ho‘okamakama* (“women prostitutes”). By emulating European policies and American medical treatises, the Act to Mitigate empowered police and medical professionals to regulate the physical bodies and geographic mobility of Indigenous women sojourning in Honolulu. Reclassified as *laikini wahine* (“licensed women”), such women were compelled to enlist on a government registry, undergo compulsory medical inspections by a government physician, and submit to inpatient treatment if infected. In designing and implementing the Act to Mitigate, the government reframed Honolulu as a syphilitic breeding ground that catalyzed Indigenous depopulation by sheltering transient carriers of this highly gendered disease. Ultimately, the law established a conceptual framework that would become a fundamental building block in the design and implementation of future Hawaiian public health programs.

Chapter Two, “‘Humanity, as well as self-interest’: Smallpox, Transpacific Mobility, and Honolulu’s Vaccination-Quarantine Debate, c. 1854-1872,” sheds light on the epidemic effects of Hawai‘i’s rapid integration into a Pacific World economy. The proliferation of

steamship traffic, industrial agriculture, and labor migration in the long 1870s transformed this once-backwater seaport into a conduit for the foreign introduction of virulent diseases like smallpox. Public health officials clashed over the most effective method for safeguarding Honolulu from such a disease, often pitting maritime quarantine laws against national vaccination programs. While a strict quarantine could prevent the disease's introduction, it could also impede commercial trade. Alternatively, universal vaccinations could potentially render quarantine measures obsolete by immunizing an entire population against smallpox. Yet in reality, vaccinations were often inadequate due to the transitory nature of Honolulu's population, the volatility of early inoculation techniques, and local distrust of Western medical professionals.

Chapter Three, "'Foul Filth' and Fear: Cholera, Sanitary Reform, and Honolulu's (Re)Built Environment, c. 1870-1895," explores Honolulu's enduring fear over the potential introduction of cholera, which compelled members of the BOH to implement a series of sanitary rules, regulations, and programs tailored to the country's principal seaport. Their objective? Reform Honolulu's built environment by eliminating sources of filth believed to be potential catalysts of cholera. In so doing, they espoused an informal policy of "sanitary paternalism" whereby the government systematically transferred the burden of sanitary reform from Honoluluans to health and medical professionals while claiming that such a transition was in the public's best interest. By stereotyping various communities as either inept, deceptive, or uneducated, the BOH was able to assume control over the removal of garbage and human excrement and the reconstruction and layout of residential and commercial buildings. However, by the mid-1890s, the BOH's efforts had resulted in an ostensibly clean and well-regulated seaport, an urban population divested of its civic-sanitary responsibilities,

and, paradoxically, a two-month cholera epidemic that infected 88 individuals, claimed 64 lives, and brought maritime trade to a grinding halt.

Chapter Four, “‘Eratication’: Bubonic Plague, Urban Wildlife, and Honolulu’s Great Rat Massacre, c. 1899-1914,” examines how U.S.-appointed health officials in Honolulu and Washington, D.C. reconceptualized public health and medical programs as a paradigm shift in epidemiology transpired. Like other Pacific seaports, Honolulu encountered the world’s third bubonic plague pandemic at the turn of the century. Despite the use of standard health protocols, the plague found a foothold in Honolulu, forcing the territorial government to suspend maritime trade for months. At first, health officials scapegoated Honolulu’s Chinese and Japanese populations by sequestering migrant enclaves, destroying private property, and isolating infected individuals in pesthouses. By 1901, however, an international community of experts in bacteriology, epidemiology, and ecology was establishing a link between the plague and urban wildlife: While rats were branded as plague reservoirs, biting rat fleas were classified as plague vectors. Indeed, health officials in Honolulu embraced this scientific breakthrough and gradually shifted their focus to the urban ecology of rodents rather than migrant bodies and buildings. Over the next decade, public health officials laid poison and rattraps across Honolulu; rat-proofed the shoreline through harbor redevelopment programs; hired a shotgun brigade to execute rats; and established laboratories for the bacteriological examination of their carcasses.

The conclusion considers the legacy of Hawaiian public health programs by focusing on the completion of the Panama Canal—an event that ruptured a seemingly self-contained Pacific World, amplified the scale of global trade, and directly tethered Honolulu to mid-Atlantic seaports where mosquito-borne diseases like yellow fever were endemic.

CHAPTER ONE

“BROTHEL OF THE PACIFIC”: SYPHILIS, DEPOPULATION, AND THE URBAN REGULATION OF *LAIKINI WAHINE* IN HONOLULU, 1855-1875¹

Shall we begin with Honolulu or the country, the center or the circumference?
Have the saints and the law-makers ever heard of the hundreds upon hundreds
of young women who annually come up to Honolulu ‘from the uttermost parts
of the (Hawaiian) earth’ to—see the world—to flicker and flare in the dance of
death—to finish their education and then go home to—die, or to spread disease
through the remotest valleys of the land?

— *Polynesian*, August 4, 1860

In his 1855 annual report to the Hawaiian Legislature, William Lee, the Chief Justice of the Supreme Court of the Hawaiian Kingdom, railed against the “great and increasing evils” facilitating a “speedy destruction to the Hawaiian race.” As ruinous as intemperance and the mass emigration of Hawaiian men, he proclaimed, was the “licentiousness” of Indigenous women. Echoing the sentiments of moral reformists and medical professionals across the western world, Lee argued that promiscuity hastened the spread of syphilis—which, if left untreated, could result in disfigurement, insanity, sterility, death, and infant mortality.² Women from rural regions of the island nation were “flocking in crowds” to Honolulu to “gratify the lust” of foreign sailors, local laborers, and the like, he exclaimed. After sojourning in Honolulu and contracting syphilis, many women returned to their Native villages where they unwittingly “spread disease and death” to their husbands, potential suitors, and future offspring.³ To Lee

¹ I would like to thank the editors at the *Journal of Pacific History* for the opportunity to publish an abridged version of this chapter: “‘Brothel of the Pacific’: Syphilis and the Urban Regulation of *Laikini Wahine* in Honolulu, 1855-1875,” *Journal of Pacific History* (2019).

² William Lee, *Annual Report of the Chief Justice of the Supreme Court to the Hawaiian Legislature* (Honolulu: Judiciary Department of Hawai‘i, 1855), 1-2.

³ *Ibid.*, 1-2.

and his like-minded peers, the palpable, nationwide effects of syphilis were proof that what happened in Honolulu did not necessarily stay in Honolulu.

The perceived correlation between syphilis and the sexuality of Indigenous women was as old as western contact with this mid-Pacific “paradise.”⁴ Even Captain James Cook, who in 1778 became the first European to commence formal relations with Hawai‘i, lamented that his syphilitic crewmen had spawned an “irreparable mischief” by disobeying orders and consorting with local women.⁵ While a host of factors contributed to Indigenous depopulation throughout the first half of the nineteenth century, merchants, missionaries, and islanders recognized that the interisland diffusion of syphilis accelerated the decline of Native Hawaiians.⁶ In 1837, for instance, New England missionary physician Alonzo Chapin recounted that vessels traversing the archipelago for more than a half-century had enhanced the reach of syphilis until “all portions of the group [had] become infected.” For Chapin and his contemporaries, words may have failed “to express the wretchedness and woe” that had

⁴ Archer, “Remedial Agents,” 513-544; Gavan Daws, *Shoal of Time: A History of the Hawaiian Islands* (Honolulu: University of Hawai‘i Press, 1968), 6-7, 9, 163-169; Iglar, “Diseased Goods,” 693-719; Iglar, *The Great Ocean*, 43-72; Caroline Ralston, “Changes in the Lives of Ordinary Women in Early Post-Contact Hawai‘i,” in Margaret Jolly and Martha Macintyre, *Family and Gender in the Pacific: Domestic Contradictions and the Colonial Impact* (Cambridge, New York: Cambridge University Press, 1989), 45-64.

⁵ James Cook, *The Voyages of Captain James Cook: Illustrated with Maps and Numerous Engravings on Wood: With an Appendix Giving an Account of the Present Condition of the South Sea Islands, &c* (London: W. Smith, 1842), 403.

⁶ Firearms, warfare, liquor, and other infectious diseases also contributed to depopulation. While relative percentages of the varied causes of Native Hawaiian mortality remain unidentified, it is important to note that syphilis was one of the more detrimental remnants of early contact with the West, for its sequelae hindered attempts at repopulation. Archer, *Sharks Upon the Land*, 19–21, 54–5, 91–2; Iglar, *Great Ocean*, 43–98; Inglis, *Ma‘i Lepera*, 21, 29–33.

ensued, but numbers certainly did not.⁷ By the late 1830s, Hawai‘i’s Indigenous population had declined by about 47 percent when compared to its estimated pre-contact level; by 1860, five years after Lee submitted his annual report, it had plummeted by more than 75 percent.⁸

Although demographic concerns over sex and syphilis had headlined Hawaiian popular and political discourse for more than a half-century, Lee did more than simply reiterate old news. To stifle Hawai‘i’s syphilis epidemic, Lee sought to discourage the growth of prostitution in Honolulu, calling for punitive legislation that would deter unmarried women from abandoning their families while vesting in government officials the authority to return any wife who deserted her husband. Unsurprisingly, male clients were exempt from legal punishment. According to Lee, grounds for monitoring the movement of women to, from, and within Honolulu was “to be found in the necessity for self-preservation.”⁹ By emphasizing Honolulu’s role in fostering prostitution and facilitating the spread of syphilis, Lee’s report foreshadowed an emergent trope in Hawai‘i’s budding public health and medical community. Having passed away in 1857 from tuberculosis, Lee never witnessed the urban application of his proposal.¹⁰ Following in his footsteps, however, were legislators, physicians, and public health officials who portrayed Honolulu as a syphilitic breeding ground that catalyzed Indigenous depopulation by sheltering transient carriers of this highly gendered disease.

⁷ Alonzo Chapin, "Remarks on the Sandwich Islands, Their Situation, Climate, Diseases, and Their Suitableness as a Resort for Individuals Affected with or Predisposed to Pulmonary Diseases," *American Journal of the Medical Sciences* 20, no. 39 (1837), 51.

⁸ Schmitt, *Historical Statistics*, 43, and *Demographic Statistics of Hawaii: 1778-1965* (Honolulu: University of Hawaii Press, 1968); Stannard, "Disease and Infertility," 334-335; Archer, "Remedial Agents," 516.

⁹ Lee, *Annual Report*, 2-3.

¹⁰ Barbara E. Dunn, "William Little Lee and Catherine Lee, Letters from Hawai‘i, 1848-1855," *Hawaiian Journal of History* 38, (2004): 60-61.

The salience of this urban characterization is evident in public health legislation passed in mid-century Honolulu—namely the 1860 Act to Mitigate the Evils and Diseases Arising from Prostitution (ATM). As a secular backlash to failed missionary policies that placed a national interdiction on sex work, the ATM assumed a regulatory approach by establishing an urban government program for policing prostitution through the use of public health and medical interventions. Prostitutes in Honolulu were compelled to enlist on a government registry, undergo compulsory medical inspections by a government physician, and submit to inpatient treatment if infected. Moreover, registered women were legally prohibited from leaving Honolulu without the consent of their physician. Pro-regulation legislators, physicians, and government-backed newspaper editors believed overcoming Hawai‘i’s depopulation crisis hinged on the ability to police the physical bodies and geographic mobility of women within a conspicuous urban environment. However, anti-regulationists—including a number of Native Hawaiian politicians and opposition newspaper editors—condemned the law as an affront to public morality and Protestant principles, arguing that it legalized what was once an illicit commercial transaction. Such claims were not unfounded. With the bill’s passage, Indigenous women formerly known as *wahine ho‘okamakama* (“women prostitutes”) were now classified by government officials and the Hawaiian press as *laikini wahine* (“licensed women”).¹¹

¹¹ The English translation of *ho‘okamakama* is complex. Some nineteenth-century Hawaiian-to-English dictionaries define the term as adulterer, concubine, or strumpet, while others link the term to a particular action—i.e. “to prostitute for pay”. Like many legislators and medical professionals of the 1840s and 1850s, this paper adheres to the latter definition. John Smith Emerson, *He Hoakakaolelo No Na Huaolelo Beritania, I Mea Kokua I Na Kanaka Hawaii E Ao Ana Ia Olelo* (Lahainaluna: Mea pai palapala o ke Kulanui, 1845); Lorrin Andrews, *A Vocabulary of Words in the Hawaiian Language* (Lahainaluna: Press of the High School, 1836).

To be sure, the medical regulation of prostitution was neither unique nor confined to Honolulu, the Hawaiian Islands, or the Pacific Basin. Western-trained medical professionals the world over often framed regulation as a modern, systematic, and timely response to an array of mid-19th-century developments, including urbanization, destitution, failed anti-prostitution laws, and the increased prevalence of venereal diseases. While the precise details of such programs varied from place to place, key assumptions remained the same: regulation allowed prostitutes to continue their trade, provided them with recourse to medical treatment, and shielded potential clients and the general public from contracting and transmitting syphilis. In this regard, the ATM was no different. Through the global circulation of public health and medical knowledge, newspaper editors, legislators, and health officials in Hawai'i were mindful of foreign regulation strategies. Consequently, the underlying principles and administration of the ATM mirrored many regulatory programs in operation elsewhere around the world.¹²

¹² Scholarship on the mid-nineteenth-century history of prostitution, syphilis, moral reform, and regulation is extensive. On the United States, see, for example: Paul Boyer, *Urban Masses and Moral Order in America, 1820-1920* (Cambridge: Harvard University Press, 1978); John Burnham, *Paths into American Culture: Psychology, Medicine, and Morals* (Philadelphia: Temple University Press, 1988), esp. chap. 9; Timothy Gilfoyle, *City of Eros: New York City, Prostitution, and the Commercialization of Sex, 1790-1920* (New York: Norton, 1992); Estelle Freedman, "Sexuality in Nineteenth-Century America: Behavior, Ideology, and Politics," *Reviews in American History* 10, no. 4 (1982), 196-215; John Parascandola, *Sex, Sin, and Science: A History of Syphilis in America* (Westport: Praeger Publishers, 2008); Christine Stansell, *City of Women: Sex and Class in New York, 1789-1860* (Urbana: University of Illinois Press, 1987), esp. chap. 9. James Wunsch, "Prostitution and Public Policy: From Regulation to Suppression," Ph.D. diss., The University of Chicago, 1976. On Great Britain and the British Empire, see: Catherine Lee, *Policing Prostitution, 1856-1886: Deviance, Surveillance and Morality* (London: Pickering & Chatto, 2013); Philippa Levine, *Prostitution, Race and Politics: Policing Venereal Disease in the British Empire* (London: Routledge, 2003), esp. chap. 2 and 3. On France and the French Empire, see: Alain Corbin, *Women for Hire: Prostitution and Sexuality in France after 1850* (Cambridge: Harvard University Press, 1990); William A. Peniston, *Pederasts and Others: Urban Culture and Sexual Identity in Nineteenth-*

Historians of Hawai‘i are certainly no strangers to sex, syphilis, and depopulation. Yet they have often situated such topics within familiar narratives: either the settlement and ascendancy of Euro-American missionaries before 1850 or the American annexation and occupation of Hawai‘i after 1897. Themes like proselytization, missionary medicine, moral reform, and efforts to shield American troops from sexually transmitted diseases have eclipsed a critical analysis of the urban-rural character of Hawai‘i’s syphilis epidemic.¹³ Given the unfortunate paucity of Indigenous sources that discuss prostitution and syphilis—particularly those of Indigenous women—the following pages are largely limited to the perspectives of

Century Paris (New York: Harrington Park Press, 2004). On East Asia, see: Susan Burns, "Bodies and Borders: Syphilis, Prostitution, and the Nation in Nineteenth Century Japan," *U.S.-Japan Women's Journal* 15 (December 1998): 3-30; Christian Henriot, *Prostitution and Sexuality in Shanghai: a Social History, 1849-1949* (Cambridge, New York: Cambridge University Press, 2001).

¹³ On sex, syphilis, and depopulation in early post-contact Hawai‘i, see: Archer, "Remedial Agents"; Archer, *Sharks upon the Land*; Gavan Daws, "Honolulu in the 19th Century: Notes on the Emergence of Urban Society in Hawai‘i," *The Journal of Pacific History* Vol. 2 (1967): 77-96; Daws, *Shoal of Time*, 92, 165-168; Gavan Daws. *Honolulu: the first century*, Mutual Pub., 2006; Merry, *Colonizing Hawai‘i*, esp. chap. 8; Iglar, "Diseased Goods"; Iglar, *The Great Ocean*, esp. chap. 2; Jocelyn Linnekin, *Sacred Queens and Women of Consequence: Rank, Gender, and Colonialism in the Hawaiian Islands* (Ann Arbor: University of Michigan Press, 1990); Ralston, "Changes in the Lives of Ordinary Women." On prostitution and syphilis in twentieth-century Hawai‘i, see: Beth Bailey and David Farber, *The First Strange Place: Race and Sex in World War II Hawai‘i* (Baltimore: Johns Hopkins University Press, 1992); Richard Greer, "Collarbone and the Social Evil," *Hawaiian Journal of History* 7 (1976): 3-17, and "Dousing Honolulu’s Red Lights," *Hawaiian Journal of History* 34 (2000): 185-202; Joan Hori, "Japanese Prostitution in Hawai‘i During the Immigration Period," *Hawaiian Journal of History* 15 (1981): 113-124; Brian McAllister Linn, *Guardians of Empire: The U.S. Army and the Pacific, 1902-1940* (Chapel Hill: University of North Carolina Press, 1997), esp. chap. 5. On syphilis and the regulation of prostitution in other American colonial contexts see: Laura Briggs, *Reproducing Empire: Race, Sex, Science, and U.S. Imperialism in Puerto Rico* (Berkeley: University of California Press, 2002), esp. chap. 1 and 2; Anne Perez Hattori, *Colonial Dis-ease: US Navy Health Policies and the Chamorros of Guam, 1898-1941* (Honolulu: University of Hawai‘i Press, 2004); Marilyn Hegarty, *Victory Girls, Khaki-Wackies, and Patriotutes: The Regulation of Female Sexuality During World War II* (New York: New York University Press, 2010), 85-109.

government officials, newspaper editors, and medical professionals of British or American extraction. While I have incorporated Native Hawaiian voices whenever possible, the following narrative draws heavily from legislative debates, public health and medical reports, and English-language newspapers. As a result, I demonstrate how Hawai‘i’s geographic, demographic, and commercial particularities profoundly shaped the urban health policies that legislators and physicians devised when grappling with prostitution, syphilis, and depopulation in the mid-nineteenth century. While deeply controversial in its time, the ATM’s urban-rural focus would remain an integral component of subsequent public health programs that targeted a range of other infectious diseases—from leprosy and smallpox to cholera, bubonic plague, and yellow fever.

“A GENERAL PROHIBITION OF LEWDNESS IN THE SANDWICH ISLANDS”

Long before the ATM was passed and regulation was implemented, prostitution was a well-established and conspicuous part of daily life in Honolulu. Prostitutes could be found wandering along city street and socializing with potential clientele in grog shops, dance halls, and hotels as early as the 1820s. The convergence of several factors contributed to the advent and subsequent growth of urban prostitution, including the rise of Hawai‘i’s whaling and agricultural industries, the establishment of an interisland trade network, and the physical, social, and legal transformations affecting the Kingdom. Taken together, these developments afforded novel economic opportunities for rural Indigenous women—one of which was urban prostitution.¹⁴ The resulting epidemiological threat this urban-rural connection posed to

¹⁴ Daws, *Honolulu: The First Century*, 125.

Hawai‘i’s Indigenous population would undergird a prolonged campaign to regulate how, when, and where prostitutes plied their trade.

Honolulu’s early economic development hinged on foreign commercial interests in the northern Pacific’s abundant whale fisheries. Given its length and depth, Honolulu’s harbor—as opposed to those of other prominent towns like Lahaina and Hilo—could accommodate the deep draft vessels used by Anglo-American whalers, who first sailed into Hawaiian waters in 1819. Honolulu’s participation in the Pacific whaling trade surged over the following decades as crews frequented its harbor in the fall and spring off-seasons and as the duration of whaling voyages increased to three or four years. During the 1830s, Honolulu welcomed an annual average of 86 whaling vessels. This number rose to 125 in the 1840s, and peaked at 181 in the 1850s. As a result, Honolulu became a key seaport for provisioning and repairing ships, recruiting Indigenous crewmembers, and packaging whale products before shipping them to coastal cities in New England.¹⁵ Rather than confined solely to Honolulu, the socioeconomic effects of whaling reverberated throughout the archipelago.

As this once-backwater village became inextricably linked to international commerce, rapid growth in interisland trade soon followed. To meet the commercial demands of foreign merchants and sailors, many regions of the Hawaiian backcountry began to transition from subsistence farming to small-scale agriculture in the late 1820s and 1830s. Potatoes, molasses, and cattle, for instance, were cultivated on Maui, Kauai, and Hawai‘i, and later shipped to Honolulu for the seasonal arrival of whaling vessels.¹⁶ As Hawai‘i buckled under the pressure

¹⁵ Daws, “Honolulu in the 19th Century,” 77; Kuykendall, *Hawaiian Kingdom, Vol. 1*, 92-98, 305-313; Merry, *Colonizing Hawai‘i*, 42.

¹⁶ Kuykendall, *Hawaiian Kingdom, Vol. 1*, 308, 313.

of a more volatile whaling market in the late 1840s, the government sought to reinforce the nation's economy by turning to industrial agriculture. In so doing, the monarchy relinquished its exclusive right to Hawaiian land. While the Great *Māhele* of 1848 equally redistributed crown lands among the *Mo'i* (king), the *ali'i* (chiefs), and the *maka'ainana* (laypersons), the Alien Land Ownership Act of 1850 entitled foreigners to freeholds. By the end of the 1850s, former whale merchants and wealthy foreigners were investing in real estate that once belonged to Native Hawaiians. Sugar, coffee, and rice plantations rapidly appeared on O'ahu



Figure 3: *Plan of the City of Honolulu, Oahu, Sandwich Islands, c. 1858-9, Library of Congress*

and the outer islands, the harvests of which passed through Honolulu before being sold abroad.¹⁷ Such developments cemented the need for a more formal interisland trade network, evinced by the 1853 charter of the Hawaiian Steam Navigation Company and the 1860 debut of the *Kilauea*, one of the archipelago's most celebrated and enduring steamships.¹⁸

Indeed, the combined effects of whaling, agriculture, and interisland trade transformed Honolulu's built environment. Modifications to the harbor would ebb and flow throughout the century in response to the country's evolving commercial needs and fluctuating finances, but Honolulu itself developed in a largely unimpeded and haphazard manner.¹⁹ Between 1820 and 1860, Honolulu's population swelled from 3,000 Hawaiian villagers to a more diverse collective of 11,000 permanent residents. By the end of this period, Honolulu accounted for approximately 20 per cent of the archipelago's total population, thus making Hawai'i one of the most urbanized countries in the world. As foreign merchants, laborers, and entrepreneurs settled in the city, wood and stone buildings influenced by Euro-American architecture were erected among the more traditional thatch, coral stone, and adobe structures of years past. With the redistribution of land at mid-century, Americans adhering to well-established property practices in the U.S. began to transform the geographic layout of Honolulu as homes and businesses spread across the harbor's adjacent lowlands.²⁰

¹⁷ Interior Department, *Report of the Minister of the Interior to the Legislature of 1858*, 5; Beechert, *Crossroads of the Pacific*, 72; Kuykendall, *Hawaiian Kingdom, Vol. 1*, 294-298, 319-327; Sumner La Croix and James Roumasset, "The Evolution of Private Property in Nineteenth-Century Hawai'i," *The Journal of Economic History* 50, no. 4 (1990), 850-851.

¹⁸ Beechert, *Crossroads of the Pacific*, 75-77; Kuykendall, *Hawaiian Kingdom, Vol. 2*, 4, 15.

¹⁹ Beechert, *Crossroads of the Pacific*, 58-63.

²⁰ Daws, "Honolulu in the 19th Century," 80-81, and *Shoal of Time*, 168.

Of notable importance was the growth of Honolulu's porous vice district, located just west of the seaport's industrial neighborhood. By at least the late 1830s, this region had become an animated contact zone where foreign and homegrown cultures clashed. Market stalls, bakeries, and boarding houses served the conventional needs of a working-class community while taverns and hotels pandered to the more unsavory desires of sailors and laborers. The presence of a police force and seamen's bethel notwithstanding, liquor-laden crimes like thievery and murder had, according to the *Sandwich Island News*, transformed this male-dominated harbor-front into a seasonal "scene of blood and riot."²¹ As officials sought to quell urban unrest, the physical markers of a more iron-fisted government emerged. In the early 1840s, the Legislature allocated funds for the construction of a prison, reformatory, and insane asylum along the outskirts of Honolulu's vice district. Accompanying this punitive infrastructure was a revised criminal code that imposed harsh fines and prison sentences for peccadillos like public intoxication, gambling, and horse racing.²²

Despite official calls for law and order, Honolulu's economic, physical, and social transformations inadvertently nurtured an urban enclave that catered to a transient population of unruly men who were willing to pay a pretty penny for sex. Throughout the more plentiful years of the whaling era, conservative estimates place no less than 12,000 seamen in town semi-annually. Each sailor spent around \$10 during his one-month stay, and of the \$120,000

²¹ Daws, "Honolulu in the 19th Century," 81; Kuykendall, *Hawaiian Kingdom, Vol. 1*, 95; *Sandwich Island News*, 9/9/1846.

²² "Chapter XXIX: A Law Respecting Gambling," 82-83, "Chapter XXXIV: Law Respecting Lewdness," 87-91, "Chapter XXXV: A Law Respecting the Racing of Horses Secretly," 91-92, "Chapter XXXIX: A Law Respecting Drunkenness Established in the Year of Our Lord 1835," 95-96, in *Hawaiian Kingdom, Translation of the Constitution and Laws of the Hawaiian Kingdom, Established in the Reign of Kamehameha III* (Lahainaluna: n.p., 1842).

left in port every season, a staggering 70 to 80 per cent (or roughly \$85,000 to \$100,000) went directly to prostitutes, who earned an average of \$1.50 per transaction. In fact, the trade flourished to such an extent that the estimated earnings of Hawaiian prostitutes equaled nearly all recorded government revenue for fiscal year 1846–7. Yet prostitutes were not the only Hawaiian residents to collect money from the sale of sex. Prostitution helped to fill the coffers of public entertainment spaces like saloons, dance halls, and informal brothels; it also lined the pockets of local retailers who peddled goods to sex workers. Even the government capitalized on this illicit industry by levying poll taxes, court fines, and interisland passage fares on women who ventured into Honolulu. In short, a distinct cross section of the Hawaiian Kingdom was either directly or indirectly profiting from prostitution by the late 1850s.²³

Most scholars agree that Hawaiian women typically entered the trade for one of two reasons. While prostitution could generate the financial means needed to purchase highly sought-after Western goods, it could also compensate for the exigencies that a capitalist market foisted on Hawaiian families dispossessed of their land, underpaid for their labor, or burdened by the kingdom's exacting criminal code and tax policies.²⁴ The following account "of not unfrequent [*sic*] occurrence in Hawaiian life" sheds light on the economic, legal, and cultural circumstances that made urban prostitution a viable source of income for rural women. An unnamed Indigenous man was reportedly imprisoned in the late 1850s for failure to pay a public intoxication fine of six dollars. After learning of his situation, the prisoner's wife and

²³ Daws, "Honolulu in the 19th Century," 89–90, and *Shoal of Time*, 167; Richard Greer, "Collarbone," 3–4; Linnekin, *Sacred Queens*, 185–7, 198.

²⁴ Patricia Grimshaw, "New England Missionary Wives, Hawaiian Women and 'The Cult of True Womanhood,'" and Ralston, "Changes in the Lives of Ordinary Women," in Jolly, *Family and Gender in the Pacific*, 19–44, 45–64; Linnekin, *Sacred Queens*, 185–7, 198.

sister amassed two dollars from relatives to pay for their passage from the island of Hawai‘i to Honolulu. Upon their arrival, both women quickly set out “to earn (on the street) the balance” of his penalty. His sister secured his release, but his wife was arrested for prostitution, issued a fine of fifteen dollars, and imprisoned “for want of means.” The recently released laborer signed a one-year contract with a guano island mining vessel and used an advance of his wages to free his wife from prison. Left penniless upon his departure, both women had no choice but to continue “to support themselves on the pave.” While demonstrating how a capitalist market and repressive criminal code could drive “the poor and the foolish into prostitution in self-defence [*sic*],” this tragic anecdote also showcases the extent to which rural Hawaiian women could secure access to interisland travel and economic opportunities in Honolulu.²⁵

For all its commercial salience, prostitution still emerged as an inexorable bone of contention for American missionaries and the Hawaiian monarchy. Sex and sexuality first came under fire in the 1820s as Christian principles invaded the daily lives of Native Hawaiians. Missionary policies promoted by Hiram Bingham and his fellow proselytizers sought a “general prohibition of lewdness in the Sandwich Islands.” Bingham himself pressed local chiefs on O‘ahu to ban extramarital sex, including prostitution and the unique dilemma of Indigenous women consorting with foreign sailors on vessels anchored along the coastline.²⁶ While lawmakers recognized the gravity of Hawai‘i’s growing syphilis epidemic, the legislation they drafted in the 1830s and 1840s was informed, at least in part, by a pervasive

²⁵ *Polynesian* 8/18/1860. A more detailed description of the political nature of the *Polynesian* and its editor is discussed in the following section.

²⁶ General laws against lewdness and adultery were passed in 1827, 1829, and 1832. Bingham to Evarts, Oahu, 9/14/1829, in “Letters to the American Board, XXXI, No. 25,” quoted in Harold Whitman Bradley, *The American Frontier in Hawai‘i: The Pioneers, 1789-1843* (Stanford: Stanford University Press, 1942), 174, 190-191.

Christian code of ethics. For instance, general statutes like the 1840 Law Respecting Lewdness reinforced efforts to prohibit sexual offenses deemed antithetical to Christianity, including adultery, fornication, incest, and prostitution.²⁷ Similarly, more incisive regulations took aim at Hawaiian cultural institutions that encouraged allegedly lecherous behavior. Surfing—a national pastime enjoyed in the nude by both sexes—alongside more suggestive forms of *hula* were gradually censored throughout the first half of the nineteenth century.²⁸ As population growth and urbanization overtook Honolulu, officials also began to target dance halls and houses of entertainment, which facilitated promiscuous intermingling between men and women.²⁹

Not until the mid-1850s did the government begin to experiment with legislation that explicitly addressed depopulation, syphilis, and the unique urban-rural character of Hawaiian prostitution. Of particular importance was the 1855 Act for the Suppression of Prostitution (ASP), drafted by Robert Wyllie, a Scottish physician-turned-businessman and the Hawaiian Minister of Foreign Affairs.³⁰ Reiterating the concerns of William Lee’s annual report, Wyllie argued that an untold number of “young females” from the “remote districts of the kingdom” were in the “habit of frequenting” Hilo, Lahaina, and Honolulu. This “evil practice,” he insisted, was “calculated to spread” syphilis across the archipelago. Reifying Lee’s recent call

²⁷ Hawaiian Kingdom, *Translation of the Constitution and Laws of the Hawaiian Kingdom, Established in the Reign of Kamehameha III* (Lahainaluna, 1842), 144-151.

²⁸ Daws, *Shoal of Time*, 64-69, 90-93; Merry, *Colonizing Hawai‘i*, 237; Noenoe Silva, “*Kanawai E Ho‘opau I Na Hula Kuolo Hawai‘i*: The Political Economy of Banning the Hula,” *The Hawaiian Journal of History* 34 (2000): 29-48.

²⁹ Chapter XLIII, “Keeping a Disorderly House,” in Hawaiian Kingdom, *Penal Code of the Hawaiian Islands* (Honolulu: Henry W. Whitney, 1850), 102.

³⁰ Wyllie submitted four other versions this bill to the Hawaiian Legislature throughout the early 1850s, each of which was defeated on the floor. Greer, “Collarbone,” 4.

for punitive measures, the ASP ordered the arrest of any Indigenous woman “complained of . . . as being a prostitute” and, upon her arraignment, compelled her to return “to the district from whence she came.” Noncompliance could result in imprisonment or hard labor for thirty to sixty days.³¹ At its core, the law sought to stifle the spread of syphilis by keeping suspected and not-yet-infected prostitutes out of Hawai‘i’s most prominent seaports.

However, the ASP proved untenable and ineffective soon after its passage. Rural “police officers, school inspectors and school teachers” were required to inform urban authorities in Hilo, Lahaina, and Honolulu of any Indigenous woman who had allegedly “left her native district [and] resorted to [a] seaport for the purpose of prostitution.”³² This provision was inherently flawed for two reasons. First, it appeared to be nothing less than a nineteenth-century form of racial profiling, whereby all Indigenous women traveling from rural regions to urban hubs were labeled as potential prostitutes. Indeed, without hard evidence, it was nearly impossible to prove that these women traveled to a particular seaport with the *intention* of entering into sex work. Second, given the distance and time between remote villages and commercial seaports, it is not unreasonable to assume that municipal authorities often received notice of supposed prostitutes after they had arrived, set up shop, and, in at least a few instances, contracted syphilis.

In addition to its alleged impracticality, the ASP was also deemed unconstitutional. In 1860, Wyllie recalled that the law had been repealed on the grounds that “Hawaiian and foreign females” possessed an “*equality of Constitutional right*” that ensured their “common liberty to

³¹ "Act for the Suppression of Prostitution," May 14, 1855, *Laws of His Majesty Kamehameha IV., King of the Hawaiian Islands* (Honolulu: Hawaiian Government, 1855), 12-13.

³² *Ibid.*

go to the seaports whenever they pleased.”³³ The law discriminated between foreign and Indigenous women by depriving the latter of their right to move freely throughout their own country. Wyllie railed against his colleagues for overturning legislation on such “wire-drawn technicalities,” contending that if the Constitution restricted the kingdom from

taking measures to prevent a degrading vice, forbidden by the laws of God and man, and threatening the utter destruction of the whole Hawaiian race . . . then let us burn the Constitution, and twenty more Constitutions, for all Constitutions are made for the good of the people, and if they work for their destruction, the sooner they are got rid of or amended, the better.³⁴

While the failure of the ASP was a demoralizing setback, Wyllie’s dedication to controlling sex work, subduing the spread of syphilis, and overcoming depopulation would persist throughout the following decade. As a result, Wyllie would all but determine the future scope and trajectory of prostitution regulations in Hawai‘i.

“A SANITARY REGULATION AND SOCIAL PROTECTION”

Depopulation persisted throughout the late 1850s as the ASP collapsed.³⁵ Public and political appeals for more effective legislation reached a fever pitch by the early months of 1860. Leading the charge was Charles Hopkins of the *Polynesian*, an English-language newspaper that functioned as the official mouthpiece of the Hawaiian Government from 1844 to 1861. Hopkins, an Englishman living in Hawai‘i, served as the publication’s editor during the late 1850s and early 1860s. Much like his predecessors, Hopkins not only printed commercial news, police reports, and recently enacted laws, but also used the *Polynesian* as a

³³ *Polynesian*, 6/15/1860.

³⁴ *Ibid.*

³⁵ Between 1853 and 1860, the population of Hawai‘i dropped from approximately 73,138 to 69,800. Schmitt, *Historical Statistics*, 11.

vehicle to advance the government's official position on a number of subjects of local, national, and international concern – including prostitution, the spread of syphilis, and depopulation.³⁶

In a series of editorials, Hopkins declared that the ASP's inefficiency and the government's subsequent "*laissez faire* policy" on the interisland mobility of women had resulted in "a greater amount of the evil" affecting Honolulu than any other Hawaiian seaport.³⁷ To support such a claim, Hopkins called attention to the records of the Queen's Hospital, the first—and, for much of the mid-nineteenth century, the only—Hawaiian hospital intended "for the relief and comfort of the indigent sick."³⁸ Built in Honolulu during the summer of 1859, this municipal development yielded some of the earliest insights into the regional prevalence of syphilis. In its first four months of operation, the hospital treated 765 patients, the majority of whom were Native Hawaiians from O'ahu. Of these, 422 were treated for syphilis. That 55 percent of hospital patrons were suffering from a debilitating venereal disease confirmed—at least for Hopkins—that the urban-rural migration of Indigenous women had prevailed in spite of the kingdom's anti-prostitution laws. Such statistics also indicated that syphilis could soon overburden the Queen's Hospital by channeling government funding and medical resources into the treatment of a single disease. While appreciating the hospital's humanitarian efforts to "counteract" prostitution by "repair[ing] its ravages," the newspaper wondered whether

³⁶ Helen Geracimos Chapin, *Shaping History: The Role of Newspapers in Hawai'i* (Honolulu: University of Hawai'i Press, 1996), 69–70; Library of Congress, "About *Polynesian*," <https://chroniclingamerica.loc.gov/lccn/sn82015408/> (accessed 4/1/2019).

³⁷ *Polynesian*, 1/28/1860; Archer, "Remedial Agents," 534.

³⁸ Kamehameha IV, Untitled Speech, 7/17/1860, Hawai'i State Archives (HSA), Interior Department, Subject Index, "Queen's Hospital – 1859–1869"; Richard Greer, "Founding of the Queen's Hospital," *Hawaiian Journal of History* 3 (1969): 110–45.

government physicians should instead “*interfere* with the courtesan” so that the manifold “benefits of the Hospital may abound?”³⁹

With these facts and figures at his disposal, Hopkins seized the opportunity to broach a novel subject vis-à-vis prostitution—that of regulation. If public servants in Hawai‘i had both “the right and the duty” to mitigate an enduring vice like drunkenness by licensing—and thereby regulating—the sale of alcohol, then why not use a similar strategy to mitigate the spread of syphilis by licensing—and thereby regulating—the sale of sex? Hopkins believed the government had an obligation “to regulate evils where [it could not] eradicate them.”⁴⁰ With the fate of the Hawaiian race at stake and proof that suppressive legislation was untenable, an innovative approach was needed now more than ever. Mindful that prostitution and syphilis were neither unique nor confined to Hawai‘i, Hopkins cast a global gaze in search of effective regulation policies.

As a result, the pioneering research of New York City’s Dr. William Wallace Sanger found its way into the columns of the *Polynesian*. After attaining his medical degree in 1846, Sanger began his professional career as a medical assistant at Bellevue Hospital, the first public hospital in the United States. In 1853, he was appointed Resident Physician of the city’s Penitentiary Hospital, where he oversaw the medical treatment of criminals, vagrants, and prostitutes. Like many metropolitan areas of the mid-nineteenth century, migration, urbanization, and destitution in New York had contributed to a growth in prostitution and a concomitant rise in syphilis.⁴¹ Accordingly, Sanger conducted a comprehensive “investigation

³⁹ *Polynesian*, 1/28/1860

⁴⁰ *Ibid.*

⁴¹ Burnham, *Paths into American Culture*, 139; Wunsch, “Prostitution and Public Policy,” 7-9.

in to the causes and extent of Prostitution” across time and space. His resulting 1858 monograph, *A History of Prostitution: Its Extent, Causes and Effects Throughout the World*, amounted to 676 pages, many of which Sanger devoted to an evaluation of public health programs that licensed, examined, and treated prostitutes. “If history proves that prostitution can not be suppressed,” Sanger concluded,

it also demonstrates that it can be regulated, and directed into channels where its most injurious results can be encountered, and its dangerous tendencies either entirely arrested or materially weakened. This is the policy to which civilized communities are tending, and to aid the movement it is needful that the subject be examined, even at the risk of the world’s contumely.

For Sanger, “the Parisian plan”—one of the oldest and most successful regulation systems in Europe—provided “a very good basis” from which to devise similar programs in other municipal contexts.⁴² On account of its encyclopaedic, accessible, and often entertaining nature, *A History of Prostitution* received widespread acclaim. This was particularly true in places like St. Louis, San Francisco, and London, where syphilis and other venereal diseases were rampant and prostitution remained either illicit or unregulated.⁴³ In this regard, mid-century Honolulu at the beginning of 1860 was by no means exceptional.

At the height of Hawai‘i’s public debate over prostitution and syphilis, Hopkins published a brief synopsis of Sanger’s career and an abridged version of the above-quoted passage in the *Polynesian*. His accompanying editorials extrapolated from Sanger’s work and urged legislators, law enforcement officials, and medical professionals to champion a

⁴² William W. Sanger, *The History of Prostitution: Its Extent, Causes, and Effects Throughout the World* (New York: Harper and Brothers, 1858), v, 20, 645.

⁴³ Burnham, *Paths into American Culture*, 139-140, 149. According to historian James Wunsch, “Sanger wrote not only to inform, but to entertain his readers and to indulge a taste for digressions on the sins of Popes, kings, and queens.” Wunsch, “Prostitution and Public Policy,” 14.

regulation program like those “practised in Paris, Hamburg [sic], Berlin, and other continental cities and seaports.” In Honolulu, Hopkins argued, such a policy would evolve into a “sanitary regulation and a social protection” by arresting the spread of syphilis while educating prostitutes on the dangers of their labor. He also questioned whether a non-interventionist strategy would succeed in Hawai‘i: “In old and developed countries”—like England and the United States—“many a social check [and] many a moral curb” took the place of formal laws regulating prostitution. Indeed, Christian missionaries from both countries had been urging the Hawaiian Kingdom to “follow in their enlightened steps” for decades. Yet despite the tenacity of anti-regulationists, the editor quipped, a moral code vilifying prostitution did “not even exist by name . . . among the majority of the lower classes” of Indigenous Hawaiians. Only after passing laws that protected the public from syphilis could Hawai‘i begin to improve the faulty “social fences,” the lenient “paternal restraints,” and the permissive “communal surveillance” practices that had enabled prostitution for the past half-century. In other words, Hopkins believed legislation and medical regulation as endorsed by Sanger were prerequisites for lasting social reform.⁴⁴

A handful of Hawai‘i’s most prominent politicians shared Hopkins’ pro-regulation stance. In mid-August, Robert Wyllie re-entered Hawai‘i’s prostitution debate with yet another piece of legislation. The Act to Mitigate the Evils and Diseases Arising from Prostitution (ATM) established a medical regulation program to register, license, examine, and treat prostitutes working in Honolulu.⁴⁵ Wyllie believed his proposal would equip the government with the legal authority and medical expertise needed to successfully overcome the effects of

⁴⁴ *Polynesian*, 1/28/1860 and 2/11/1860.

⁴⁵ Daws, *Honolulu: The First Century*, 248; 412, f.n. 69.

unregulated prostitution. Similar to Hopkins' approach eight months earlier, Wyllie justified his claim by comparing the "statistics of prostitution in refined and highly civilised" countries where regulation "had long prevailed"—including France, Belgium, and Holland—to those of "the opposite system pursued" across the British Isles and the United States. In Continental Europe, he concluded, licensing, exams, and treatment made the control of syphilis a viable goal. Wyllie framed the medical regulation of Honolulu's "unfortunate women of pleasure" as the panacea Hawai'i had been looking for. If implemented correctly, the system would check the geographic reach and demographic effects of syphilis while also encouraging sex workers to amend their vice-ridden and life-threatening behavior. By classifying prostitutes as a discrete community in need of supervision, Wyllie framed the ATM as an innovative way to root out syphilis, curb depopulation, and legislate morality into Indigenous women. It is unclear whether Wyllie arrived at these conclusions by thumbing through the pages of the *Polynesian*, poring over William Sanger's *History of Prostitution*, or both. Nevertheless, such findings convinced Wyllie of the "vast superiority" of medical regulations as opposed to illicit or unbridled prostitution.⁴⁶

Wyllie was far from the only public servant in favor of regulation. One of his most influential allies was Charles Reed Bishop—a native New Yorker who immigrated to Hawai'i in 1846, married into the royal family soon after, amassed much of his wealth through agricultural investments, and became a member of the House of Nobles in 1853.⁴⁷ Bishop elaborated on many of Wyllie's arguments, emerging as one of the bill's most outspoken

⁴⁶ *Polynesian*, 8/25/1860.

⁴⁷ Jon Kamakawiwo'ole Osorio, *Dismembering Lāhui: A History of the Hawaiian Nation to 1887* (Honolulu: University of Hawaii Press, 2002), 81-82; Daws, *Honolulu: The First Century*, 151.

advocates. Legislators and law enforcement officials had relied on an archaic “system of pains and penalties” for decades, Bishop lamented, “and still licentiousness and disease” continued to wreak havoc “from one end of the islands to the other.” By emulating policies adopted in “most of the European States,” the ATM would place Hawaiian prostitutes “under the surveillance and care of the police and physicians,” thus enabling the government to control the debilitating effects of a vice that could “not be crushed out.” Countering the objections of anti-regulationists, Bishop insisted that regulation amounted to more than a narrow medical policy devoid of any social or cultural benefits. Subjected to licensing and compulsory exams, “the vile” would be forced “to see and feel the difference between themselves and the virtuous, so that the former [might] be ashamed and the latter be warned” about the perils of prostitution.⁴⁸ By classifying prostitutes as a discrete community in need of medical and legal supervision, the ATM was framed by a number of its proponents as an innovative way to root out syphilis, curb depopulation, and, in the process, legislate morality into Indigenous women.

However, the unconventional nature of the ATM also attracted its fair share of political opponents. According to a number of elected representatives—including George ‘Ūkēkē and D.B. Mahoe, two Native Hawaiian politicians—regulation rather than prohibition would exacerbate many of the social ills stemming from prostitution. At the very least, they suspected, the law would lure an increasing number of women into a life of prostitution by providing them medical “relief from [its] consequences.” Anti-regulationists thus recast the ATM as an incentive for fallen women rather than a preventive measure against the demographic effects

⁴⁸ Other champions of the ATM included David L. Gregg, the Finance Minister of Hawai‘i, and Mataio Kekūanā‘o‘a, the Royal Governor of O‘ahu and the father of King Kamehameha IV. *Polynesian*, 8/25/1860.

of syphilis. They also feared the possibility of a chain reaction. The ATM would professionalize sex work “by giving it the sanction of the state,” thereby paving the way for future bills or amendments “directly authorizing licenses to prostitutes for money.” While the government could profit from poll taxes, transportation fees, and criminal fines levied against prostitutes, charging such women for permits was an intolerable (albeit hypocritical) prospect. That regulation “contravene[d] the law of God” was perhaps the most alarming logic that anti-regulationists resorted to. The government “should allow [syphilis] to take its own course” since God had “ordained it the direct punishment” of prostitution, they concluded.⁴⁹ By focusing on the sexual sins of prostitutes, legislative naysayers failed to recognize that medical exams and treatment could hypothetically stop syphilis from infecting innocent victims, including husbands, lovers, client’s wives, and potential offspring.

Others debated the merits of the ATM on more secular grounds. The geographic scope of the bill was of particular concern to representatives from the outer islands. The ATM might stifle sex work in Honolulu, but what would dissuade women from relocating to Hilo or Lahaina? Nothing, suggested David Nahinu, an Indigenous elected official from the island of Hawai‘i who agreed to support the ATM only if “its provisions were extended” to seaports beyond Honolulu. For some, privileging a single seaport when tackling a geographically fragmented crisis was shortsighted, fiscally irresponsible, and counterproductive. But for representatives like James Dowsett of Honolulu, localizing efforts was the most pragmatic course of action. While agreeing to support any amendment that would “promote the health and life” of Native Hawaiians, he deemed it “more practicable to institute this system at

⁴⁹ Ibid.

Honolulu only to begin with.”⁵⁰ As legislative debates drew to a close, Dowsett confronted anti-regulationists head-on. Any lawmaker who denounced the ATM, he proclaimed, “must deny the existence of prostitution in this kingdom” and altogether “ignore the name *Brothel of the Pacific*”—an unwanted sobriquet first ascribed to Honolulu at the height of the Pacific whaling trade, later popularized in 1854 by American travel writer George Washington Bates, and subsequently circulated around the globe through international newspapers.⁵¹ Depopulation certainly motivated the urban regulation of sex for sale; also at stake, however, was Honolulu’s global reputation as an emerging keystone for transpacific mobility. The “Brothel of the Pacific” was by no means a money-making slogan for a seaport—and, by extension, an entire country—whose economic prosperity increasingly relied on international trade and migration.

Discordant opinions over licensing and medical regulations were reflected in the voting record. The ATM passed the House of Nobles 14 to 13 and the House of Representatives 16 to 10. After more than a half-century of catastrophic depopulation, decades of failed anti-prostitution laws, and months of debate over the merits of regulation, King Kamehameha IV officially signed the bill into law on August 24, 1860.⁵²

Countering depopulation was the ATM’s stated purpose. The preamble did not mince words: “The evils and diseases arising from prostitution are wide spread and apparent, carrying

⁵⁰ Ibid.

⁵¹ Ibid.; Frederik Schodt, *Native American in the Land of the Shogun: Ranald MacDonald and the Opening of Japan* (Berkeley: Stone Bridge Press, 2003), 162; George Washington Bates, *Sandwich Island Notes by a Häolé* (New York: Harper & Brothers, 1854), 78; *The New York Herald*, 3/16/1852; *Chester Chronicle and Cheshire and North Wales General Advertiser*, 12/23/1854; *South Australian Register*, 4/7/1855; *Polynesian*, 1/10/1857.

⁵² Ibid.; Greer, “Collarbone,” 4.

death to thousands of the Hawaiian race, and preventing the increase of the population.” While it was “impossible to suppress and crush out prostitution,” syphilis and depopulation could “be combated, circumscribed and diminished” through a rigorous medical regulation campaign. The law compelled “every common prostitute in and around the city of Honolulu” to register her “name, place of residence, place of birth and age” with the Sheriff of O‘ahu. Registered women received *palapala hoakaka* (“certificates”) and were subject to any “regulations and restrictions . . . prescribed by” a government physician. In effect, the law created a professional and closely-monitored class of *laikini wahine* (“licensed women”). Now under the dual authority of law enforcement and medical officials, such women were forced to endure biweekly physicals. “If found diseased,” they underwent inpatient treatment at the Queen’s Hospital and were forbidden from leaving Honolulu. A woman’s refusal to obtain a license, attend physician appointments, or comply with medical treatment resulted in imprisonment for thirty to sixty days depending on the severity and number of offenses committed. Notably, *laikini wahine* were not bound to a lifetime of sexual servitude; one could have her name removed from the registry if she obtained a clean bill of health from a government physician and promised to “forsake prostitution” thereafter.⁵³

At first glance, the ATM was nothing more than an enhanced version of Wyllie’s former handiwork, the ASP. Both laws posited that women who were engaged in urban prostitution facilitated the spread of syphilis and accelerated depopulation. As such, both took aim at a

⁵³ “An Act to Mitigate the Evils and Diseases Arising from Prostitution,” in *Laws of His Majesty Kamehamhea IV., King of the Hawaiian Islands, Passed by the Nobles and Representatives, at Their Session, 1860* (Honolulu: n.p., 1860), 33-34. For direct references to *laikini wahine* and *palapala hoakaka*, see: *Hawaiian Gazette (HG)*, 7/20/1870 and 4/30/1873; *Pacific Commercial Advertiser (PCA)*, 3/9/1872.

prostitute's freedom of movement, assigned enforcement responsibilities to a specified group of government officials, and established identical prison terms contingent on the number and severity of offences committed. In addition, neither law punished men who hired prostitutes; women remained the sole targets of both the ASP and the ATM. However, a more incisive analysis demonstrates that such similarities were largely superficial. By banning any and all forms of sex work, the ASP was a muted continuation of missionary conventions. In contrast, the ATM represented a daring attempt to secularize government policy through the use of modern medicine and public health programs of foreign origin. Moreover, while the former called on police officials to track down alleged prostitutes, the latter adopted a registration system whereby women were purportedly urged to *self-identify* as prostitutes.

The most significant differences were the unique geographic scope of each law and the disparate limitations they placed on the mobility of Indigenous women. While the ASP targeted multiple ports throughout Hawai'i, the ATM consolidated government oversight and financial resources in Honolulu. The ASP also prohibited all suspected prostitutes from *entering* Hawai'i's major seaports, whereas the ATM banned licensed women from *leaving* Honolulu without medical clearance from a physician. Confining sex workers to Honolulu—the largest and most commercially active seaport in the kingdom—was arguably more practicable than monitoring the influx of women in three discontinuous cities. In addition, the repeated examination and treatment of prostitutes required the use of an established hospital—a medical amenity found only in Honolulu at the time. The Queen's Hospital, the creation of a central registry, and the collection of personal health records furnished physicians with the space and information they needed to determine which women were liable to transmit syphilis beyond municipal borders. In effect, the ATM established a partial *cordon sanitaire* around urban

prostitution by confining the sick to Honolulu while permitting the healthy to leave at will. A woman's freedom to enjoy unrestricted mobility throughout Hawai'i was now contingent, at least in part, on her health status rather than solely on her race, ethnicity, or class.

“PREVENTING ALL DISEASED FROM LEAVING HONOLULU”

Neither the ATM nor the decision to accommodate prostitutes at the Queen's Hospital found universal public approval. The most direct opposition to the new law came from the “Lady Petitioners of Honolulu,” a coterie of 34 Euro-American churchgoers who implored the Board of Trustees of the Queen's Hospital to exclude “patients of bad character.” Distorting the arguments of pro-regulationists, these women spuriously claimed that the “*main* intention” of the ATM was to “place upon vice infamy's mark.” Like Wyllie and Bishop, they believed registration, licensing, and medical exams could potentially induce a personal sense of “shame and disgrace” within *laikini wahine*, prompting them to abandon prostitution once and for all. However, the petitioners also contended that executing the reformatory intent of the law was the government's exclusive responsibility. After all, the Queen's Hospital was a “benevolent institution” that provided “the best medical attention” to ailing and destitute Hawaiians—not a government-funded, come-and-go-as-you-please shelter for the licentious and dissolute.⁵⁴

The petitioners' main concern? The reputation of the Queen's Hospital. Those who “voluntarily and openly chosen *the path of vice*,” they argued, should not “[be] placed side by side with the respectable part of the community” (Figure 4). Accommodating such women allegedly tarnished the hospital's good name while fostering the growth of prostitution in

⁵⁴ The petition and the Board of Trustees' response were published in the *Polynesian*, 12/29/1860.

Honolulu. Providing prostitutes with “comfortable quarters in so respectable an institution” would recast the hospital as a safe haven for fallen women. Such circumstances, they claimed, would not only encourage “these Magdalens” to remain as such, but would also inspire innocent women from the rural regions of Hawai‘i to enter Honolulu’s flourishing—and allegedly hospitable—sex industry.⁵⁵

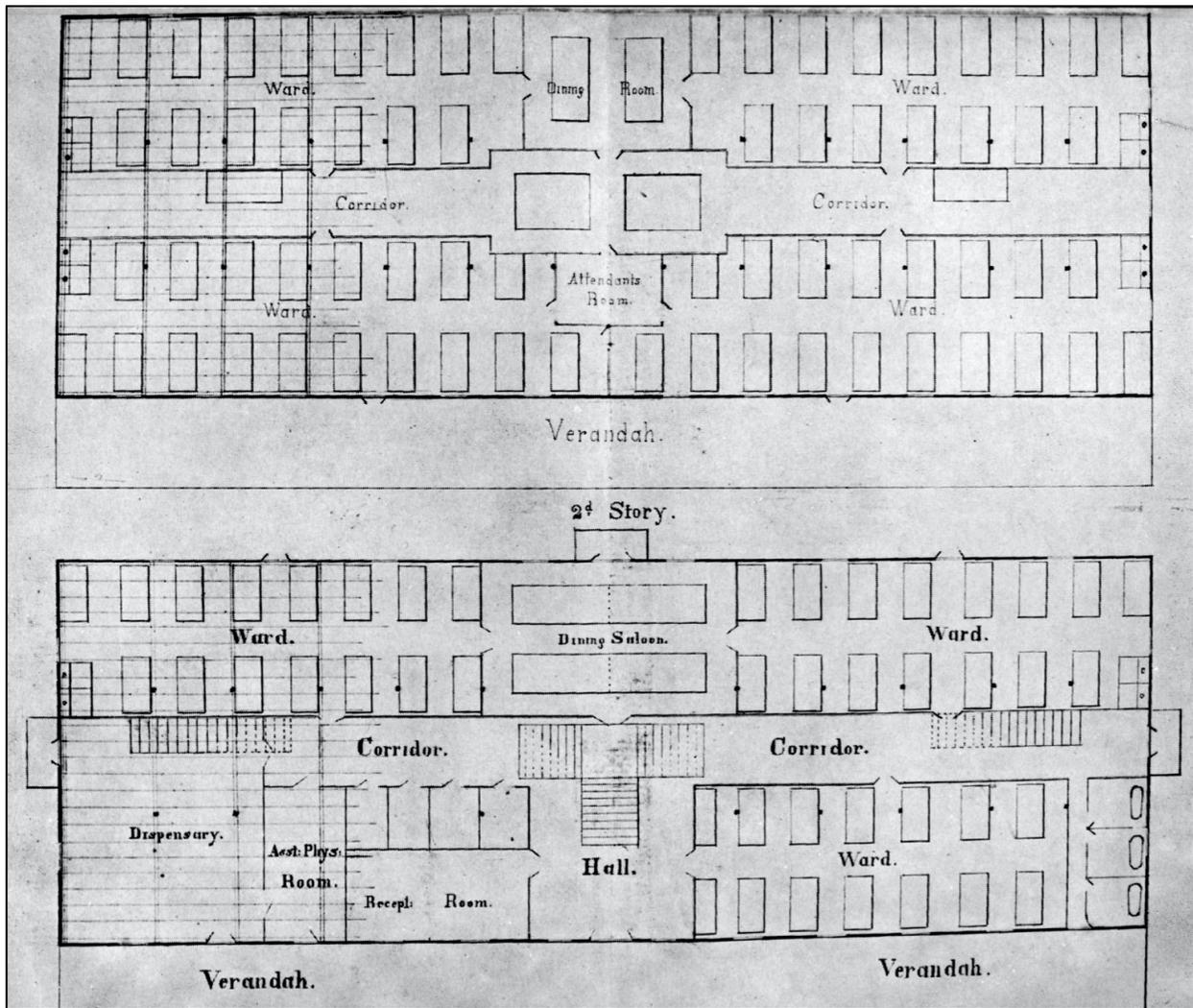


Figure 4: Plans for the Queen’s Hospital, c. 1859, T. C. Heuck, Hawai‘i State Archives

⁵⁵ Ibid. [Emphasis added].

The petitioners' proposed solution? Have the government establish a medical clinic "wholly and entirely distinct" from both the Queen's Hospital and "the respectable quarters of the city." In so doing, government physicians would have the space, resources, and privacy to examine, quarantine, and treat prostitutes in complete isolation. If organized and administered with decorum, the clinic could double as both a sanitarium and reformatory by providing "physical remedies" to those suffering from syphilis while also inculcating virtuous "moral influences" among patients on the verge of renouncing prostitution. And not to worry if government funding proved inadequate, the petitioners reasoned; surely there were more latitudinarian donors "who would render pecuniary assistance to . . . save some of the souls, as well as the bodies, of their fellow creatures." These "true-hearted" ladies made it abundantly clear that benevolence would all but vanish in the face of sexual depravity.⁵⁶

The Board of Trustees rebuffed nearly every claim and request outlined in the petition. Long before the Lady Petitioners of Honolulu drafted their letter, the Trustees had entered a formal agreement with the Minister of the Interior, one that obliged the Queen's Hospital "to aid the Government in its laudable effort" to contain syphilis. The Trustees were unable to concede to the petitioners' demands "without violating an absolute undertaking" to care for *laikini wahine*. Yet they pressed on, chiding the petitioners for their parochial views on prostitution and their distortion of the ATM. Rather than a mechanism for social reform, the law "was intended principally to arrest the spread" of syphilis. They thus refused to withhold medical treatment from "any particular class of patients" as long as regulation remained "the law of the land." Indeed, if the Queen's Hospital was founded "for the benefit of the nation,"

⁵⁶ Ibid.

then even the ungodly—and potentially contagious—prostitute was “entitled to sympathy and the care of a nurse.”⁵⁷

On the subject of segregation, however, the Trustees and petitioners saw eye to eye. Both groups deemed prostitutes a distinct and dangerous element of Hawai‘i’s Indigenous population. In fact, a number of women suffering from syphilis were already undergoing compulsory treatment in a “secluded ward and apartments in a house separate from the main edifice” of the Queen’s Hospital. Subject to the authority of a resident physician, they were forbidden from any “communication with other patients or persons,” except those who visited them as “messengers of mercy.” From a public health perspective, this tactic ensured the success of inpatient treatment by preventing any promiscuous intermingling between *laikini wahine* and male patients. While it was generally assumed that infected women could convey the disease to others, the Trustees also feared that infected men could potentially re-infect prostitutes who were completing treatment. From a public relations perspective, however, segregation and isolation would further “stigmatize [prostitutes] as a class,” encourage “all who are not of them” to embrace “self-respect,” and thus “distinguish the virtuous and vicious.” Meeting the petitioners halfway, the Trustees pledged that any prostitute in need of extensive treatment would be classified as a detainee of the “Magdalen Ward” rather than a patron of the Queen’s Hospital. Moreover, registered women enduring biweekly medical inspections as stipulated by the ATM would be denied entry to the hospital; instead, they would

⁵⁷ Ibid. For the formal agreement made between the Queen’s Hospital and the Minister of the Interior, see: J.W. Austin to David L. Gregg, 10/8/1860, *HSA*, Department of the Interior, Subject Index, Folder: “Hospital–Queen’s: 1859–1869.”

be required to undergo checkups at a municipal dispensary managed by a government physician.⁵⁸

Only after implementing the ATM could government officials and the public evaluate the short-term results of regulation. The most comprehensive and reliable data on registration, licensing, and medical examinations appeared in quarterly reports produced by Captain John H. Brown, the Sheriff of O‘ahu, and Robert McKibbin, Jr., the government physician in charge of medical examinations and treatment.⁵⁹ Taken together, their records provide a wealth of information on the internal operations of the ATM as well as the number, age, marital status, regional origin, and medical condition of registered prostitutes.

Between August and December of 1860, Sheriff Brown registered 257 women in Honolulu. 73 per cent of *laikini wahine* were between the ages of 16 and 29. Of those remaining, 23 per cent were under the age of 16 and four per cent were over the age of 30. More startling than their ages, however, were their marital statuses: Only 108 women were listed as unmarried, widowed, or divorced; of the 149 who were legally married, only 20 lived with their husbands at the time of registration. Most importantly for Brown, only 18 per cent of women claimed O‘ahu as their permanent place of residence. The remainder hailed from the outer islands – particularly Hawai‘i and Maui, which together accounted for nearly 75 per cent of those registered.⁶⁰ Brown’s report confirmed pro-regulationist assumptions that the majority

⁵⁸ Ibid.

⁵⁹ Hopkins published each report in the *Polynesian* to highlight the ostensible success of medical regulations and discredit anti-regulationists: *Polynesian*, 1/5/1861, 7/6/1861, and 10/19/1861.

⁶⁰ John H. Brown to Prince L. Kamehameha, “Sheriff’s Report,” December 31, 1860, Hawai‘i State Archives, Series 334: “Incoming Letters of the Board of Health, 1850-1904,” Box 2, Folder: “1861.”

of prostitutes were either unmarried teenagers or young married women who left their rural communities to pursue economic opportunities afforded by Honolulu's lucrative shipping seasons.

According to Brown, the early effects of regulation were immediate, self-evident, and promising. By surveilling urban prostitution, the ATM had gradually restored a sense of "order and decorum" to Honolulu's "principal streets during the late shipping season." Ever since the seaport began recruiting commercial vessels in the 1820s, he contended, such a civilized and disciplined environment had ceased to exist "in the same places [during] the same months of the year."⁶¹ For Brown, the visible absence of prostitution was proof of the sweeping benefits of regulation. However, this assertion clearly failed to explain how the ATM actually improved social disorder in Honolulu. "Not a single provision" of the law "prevent[ed] registered women from frequenting the streets," contested Henry Whitney, the outspoken owner and editor of the *Pacific Commercial Advertiser (PCA)*, a local newspaper known for its critical opposition to the Hawaiian government. If municipal officials had indeed banned prostitutes from loitering, Whitney continued, it was certainly "no thanks to this law" since the police "always had the power to clear the streets of that class."⁶²

In the absence of further evidence regarding public demeanor in Honolulu's vice district, a number of speculative possibilities can be teased out. The passage of the ATM may have galvanized Honolulu's police force, which could have driven unregistered prostitutes underground. Alternatively, with the knowledge gleaned from venereal exams, some infected

⁶¹ Ibid.

⁶² *PCA*, February 21, 1861; Geracimos Chapin, *Shaping History*, 53–8; Library of Congress, "About *The Pacific Commercial Advertiser*," <https://chroniclingamerica.loc.gov/lccn/sn82015418/> (accessed 4/1/2019).

women may have chosen to refrain from sex until their health had improved through medical treatment. Most likely, however, was the fact that Brown submitted his quarterly report at the end of Honolulu's fall shipping season, suggesting that a number of *laikini wahine* were adhering to traditional migration patterns and returning to their rural communities. Regardless of the root causes underlying the visible decline in urban prostitution, it remains clear that Brown attributed civic order and moral reform in Honolulu to the ATM's first four months of operation.

The accompanying physician's report echoed much of the confidence found in Brown's proceedings. Between October and January, Dr. McKibbin saw 239 *laikini wahine*, of whom 111 required medical treatment. Even though every patient underwent physical exams once a fortnight, he summoned the sick back to the dispensary every few days depending on the severity of their symptoms. Long-time victims of syphilis were McKibbin's most "severe and tedious cases," but those who had recently contracted syphilis and obeyed his instructions "all readily and rapidly" recovered. Treating advanced cases proved challenging; experienced prostitutes knew that their disease status did not necessarily affect their physical ability to work. For instance, McKibbin had trouble enforcing treatment plans that prohibited sex, and on at least four separate occasions he was forced to report *laikini wahine* to Brown for violating doctor's orders. McKibbin was quickly learning that for women whose livelihoods depended on prostitution, abstinence could prove costlier than a prolonged syphilis infection. This was illustrated by his 57 cases under outpatient care, his 26 "irregular attenders," his five re-

infected patients, and three additional detainees receiving inpatient treatment at the Queen's Hospital.⁶³

Notwithstanding the “entire novelty of the system,” McKibbin deemed the ATM's preliminary results “very satisfactory.” Over the course of 42 nonconsecutive days, McKibbin attended the dispensary from “10:30am till 2:30pm,” conducted a staggering 1,350 examinations, identified 642 instances of syphilis, and wrote 724 prescriptions. The extent of his work revealed that the majority of registered women were in fact abiding by the medical provisions of the law. Moreover, in only three months, McKibbin had detected “an increased regularity and confidence on the part of the attenders” and believed many *laikini wahine* understood that medical regulations were “for their own interest” and for the preservation of Hawai'i's Indigenous population.⁶⁴ Given the conspicuous absence of women's voices in the historical record, it remains unclear whether registered prostitutes agreed with the doctor's cheery description of biweekly appointments, mercurial treatment, or the constant threat of imprisonment.

From a medical perspective, however, McKibbin was confident that regulation had “an immediate good effect” on the distribution and prevalence of syphilis within and beyond Honolulu. By subjecting *laikini wahine* to a rigid schedule of examinations—which in turn required them to appear before McKibbin at a designated time and location—the ATM was ostensibly “preventing all diseased [prostitutes] from leaving Honolulu until restored to

⁶³ Dr. Robert McKibbin, Jr. to John H. Brown, “Inspecting Physician's Report,” 1/1/1861, Hawai'i State Archives, Series 334: “Incoming Letters of the Board of Health, 1850-1904,” Box 2, Folder: “1861.”

⁶⁴ Ibid.

health.”⁶⁵ The medico-legal strictures embodied by the ATM had empowered government officials like Brown and McKibbin to determine which women could cross municipal boundaries secure access to interisland transportation, and continue to go about their lives throughout Hawai‘i. In short, the ATM was gradually transforming Honolulu into a semipermeable membrane.

Notably, the alleged benefits of regulation were not solely constrained to prostitutes in Honolulu or Indigenous communities across the archipelago. Corroborating the government’s favorable assessment of the ATM was Dr. F.L. Leonard, the head surgeon of the *SS Alert*, a British vessel that had been moored in Honolulu since early December 1860. In a letter dated January 26, 1861, Leonard informed McKibbin that, even though the *Alert*’s crew “had an almost unlimited amount of leave” from the vessel and presumably unrestricted access to *laikini wahine*, “not one solitary instance of venereal disease” among his men could be identified. That syphilis was seemingly absent among the *Alert*’s crew after 50 days in Honolulu, Leonard declared, spoke “volumes for the system adopted by the authorities . . . and for the care and zeal with which [it was] carried out.”⁶⁶ Unsurprisingly, McKibbin urged the *Polynesian* to reprint, and thus make public, an extract of Leonard’s letter. After all, Leonard’s glowing review of the medical regulation of prostitutes flew in the face of anti-regulationists and recent Hawaiian history.⁶⁷

⁶⁵ Ibid.

⁶⁶ “Dr. F. L. Leonard to Dr. Robert McKibbin, Jr.,” 1/26/1861, printed in the *Polynesian*, 2/2/1861.

⁶⁷ For instance, during the legislative debates over ATM, a representative from Honolulu, James Dowsett, reminded his fellow legislators “that the last vessel” to visit Honolulu had “sailed [away] with 57 cases of venereal on her sick list.” Ibid.

By all official accounts, then, the ATM seemed an invaluable piece of public health legislation during its first four months of operation. Regulation had “done all and more than was expected,” trumpeted Hopkins. The law not only “cleansed the streets and public places of those clouds of small, young girls,” but also enabled a vessel of war “to go to sea without a man on her sick list.” The shame associated with registration, medical treatment, and possible imprisonment allegedly forced *laikini wahine* to acknowledge that they “could no longer be in the Church and on the town at the same time.” Hopkins concluded that the ATM’s immediate results represented a significant step toward drawing the “social demarcation lines between vice and virtue, which formerly were unknown.” In so doing, the law and its proponents—including Wyllie, McKibbin, Brown, and Hopkins—had seemingly controverted the claims of anti-regulationists.⁶⁸

For more than a decade, McKibbin retained authority over the registration and medical inspection of *laikini wahine*.⁶⁹ Within this period, two of McKibbin’s reports stand out as particularly insightful. At the end of 1861, after comparing the details from his fifth report to those of his first, McKibbin detected a notable increase in the attendance of registered women and, more importantly, a dramatic reduction in the percentage of symptomatic syphilis cases. Such results, he declared,

ought to convince the [ATM’s] most bitter opponents that the experiment has been successful, . . . that through its instrumentality much suffering and distress

⁶⁸ Ibid.

⁶⁹ The archival record reveals that, between 1860 and 1864, Brown and McKibbin intermittently submitted reports, all of which presented the same general content as their initial reports of 12/31/1860. For examples, see: HSA, Series 334: “Incoming Letters of the Board of Health, 1850–1904,” Box 2, Folders: “1861,” “1862,” and “1863–64.”

has been averted, . . . and that it has been a great check to the hitherto chief cause of the rapid decrease in the population of these Islands.⁷⁰

While self-assured that his medical policework had arrested the spread of syphilis, McKibbin offered no evidence to suggest that depopulation had subsided as a result. Nevertheless, his confidence persisted: In his report of June 1864, McKibbin concluded—again, without proof—that the “beneficial effects” of regulation were not only visible “in Honolulu, but generally throughout the Islands.”⁷¹ If one were to take his assertions at face value, the alleged success of regulating the bodies and geographic mobility of prostitutes affirmed the power of urban public health programs.

“A CONDITION OF AFFAIRS UNDER THE LAW WHICH WOULD SHOCK ANY CHRISTIAN COMMUNITY”

Dr. McKibbin’s rosy portrayal of the ATM failed to address contemporary population figures or illuminate how Native Hawaiians—particularly *laikini wahine*—reacted to the administration of the law. For instance, between 1860 and 1866, Hawai‘i’s Indigenous population dropped from 69,800 to 62,959, a reduction rate twice as high as that of the six-year period preceding 1860.⁷² McKibbin may have minimized the prevalence of syphilis among registered prostitutes, but demographic estimates reveal that the law did little to rein in

⁷⁰ Between October and December 1860, McKibbin conducted 329 examinations and recorded a syphilis rate of 46 per cent. During the same three-month interval of 1861, he conducted 1392 examinations, yet recorded a syphilis rate of only 13 per cent. “Inspecting Physician’s Report,” 12/31/1861, HSA, Series 335: “Incoming Letters of the Board of Health, 1850–1904,” Box 2, Folders: “1861” and “1862.”

⁷¹ McKibbin, “Inspecting Physician’s Report,” 6/25/1864, HSA, Series 334: “Incoming Letters of the Board of Health, 1850–1904,” Box 2, Folder: “1863-64.” [Emphasis original].

⁷² Schmitt, *Historical Statistics*, 11.

depopulation.⁷³ This incongruity indicates that McKibbin’s medical decisions were flawed or that syphilis continued to circulate among Native Hawaiians by way of childbirth and unpaid sex—two forms of transmission that government officials were unable to control.

These details were by no means lost on dedicated anti-regulationists of the early 1870s.⁷⁴ Whitney of the *PCA* lambasted the ATM, alleging that sin, syphilis, and depopulation were “more rife in Honolulu” and across the Hawaiian Islands than ever before. The law had not fulfilled the objectives “set forth in [its] preamble”; it “neither combatted, circumscribed nor diminished [the] evils and diseases arising from prostitution,” he concluded.⁷⁵ Rather than a one-time reproof, Whitney’s rhetoric reflected a significant portion of public sentiment in Honolulu. In May 1872, 250 Honoluluans—the majority of whom were Native Hawaiian—petitioned the legislature to repeal the ATM on the grounds that it was nothing more than “a system of licensing the evil practice” of prostitution.⁷⁶ In response, a handful of legislators

⁷³ Little evidence suggests that diseases other than syphilis materially contributed to depopulation during the 1860s. According to Inglis, the only documented disease of increasing concern to the Hawaiian Government was leprosy, a non-virulent infection that was rarely an immediate cause of death. Inglis, *Ma‘i Lepera*, 32–3.

⁷⁴ References to the ATM all but disappear from newspapers, medical correspondence, and BOH minutes of the late 1860s. The ledger of the O‘ahu Prison reveals that the law was still enforced; however, this document simply lists a prostitute’s name, sentence, and general crime – usually entered as “viol. pros. Act” (shorthand for “Violation of Prostitution Act”). “Records of Prisoners Received from Courts on O‘ahu, January 1, 1864 – October 10, 1872,” Vol. 1A, HSA, Series 298: “Records of Prisoners Received and Discharged.”

⁷⁵ *PCA*, 3/9/1872.

⁷⁶ The petition also listed the signatures of prominent public leaders, including, among others, Henry Whitney of the *PCA*, and Hiram Bingham II, the son of Hawai‘i’s first American missionary. “From District of Honolulu – Repeal of Law to Mitigate,” HSA, Legislature, File: “222–42–5 – 1872 Petitions,” 5/27/1872.

were entrusted with investigating the prevalence of syphilis and the nature of licensing and medical exams.⁷⁷

The “Sanitary Commission,” as it came to be known, spent “two long, laborious sessions” gathering evidence from medical professionals and 25 *laikini wahine*. According to public health officials, syphilis was widespread among prostitutes detained or recently released from the O‘ahu Prison. “A large number of women [leaving] . . . Honolulu were diseased,” claimed the doctors—not necessarily because McKibbin’s efforts had failed, but because prostitutes “were not sufficiently under [the government’s] control.”⁷⁸ Taken together, these statements raise two possibilities: either the geographic restraint of *laikini wahine* was ineffective or a significant number of unregistered prostitutes were carefully skirting the ATM, thereby evading medical exams, treatment, and any constraints placed on their mobility.

The information gleaned from physicians paled in comparison to the testimony of *laikini wahine*, which allegedly exposed “a condition of affairs under the law which would shock any Christian community.” Conforming to a sense of Victorian prudishness, the Sanitary Commission not only selected a mere seven of the original 25 statements, but also filtered, abridged, and anonymised each resulting account before submitting its final report. I have chosen to quote the three most representative statements in full to avoid further undermining their integrity:

⁷⁷ “Sanitary Commission on Bill to Repeal Law to Mitigate etc.,” HSA, Legislature, File: ‘222-43–4 – 1872 Reports,” 6/10/1872. The committee consisted of Joseph Carter, a former journalist for the *PCA*; Paul Kanoa, the Governor of Kaua‘i and an early advocate of Hiram Bingham; and three lesser-known Indigenous politicians – D. Kaukaha, W. Hanaike, and J. W. Kupakee.

⁷⁸ *Ibid.* The Sanitary Commission interviewed Drs. Edward Hoffman, H. Stangenwald, and J. McGrew of the O‘ahu Prison and Dr. Ferdinand Hutchison, the President of the Board of Health.

H.K. said: Was arrested, taken to the Station House and reprimanded for being on the street in the evening. Was again arrested one morning, while on my way to place of employment, and compelled to take a license under threat of imprisonment. I desired more than once to surrender my license and try to live decently, but was not permitted to.

L. said: The police arrested me in my house, without a warrant, in the daytime, and said I must go to the Station House and take a license. The police have known of my course of life but have never arrested me for my sin; but I have been sent to prison by the Doctor three times, once for 60 days and twice for 30 days.

K. said: While on an errand for my father a policeman arrested me and took me to the Station House, where I was told to take a license or be imprisoned. I was not then leading a vicious life. At one time I wanted to leave this island to visit my relatives on Kauai and was refused permission.⁷⁹

While unverifiable and admittedly vague, such evidence provides the best window through which to consider the lived experiences of Indigenous women involved in Hawai‘i’s urban sex industry. As indicated by “H. K.,” some women engaged in prostitution intermittently, most likely entering the trade during the fall or spring shipping seasons or when alternative forms of employment were in short supply. Others may have followed in the footsteps of “L,” whose statement suggests that she was able to earn a regular income through sex work. However, “K’s” story raises a third—and much more insidious—possibility: By virtue of their sex, indigeneity, and place of birth, some women may have been erroneously profiled as prostitutes. All three accounts further demonstrate that Brown and McKibbin frequently resorted to physical coercion, the threat of imprisonment, and the refusal to rescind licenses in an effort to ensure that suspected and confirmed prostitutes remained within the government’s purview.

⁷⁹ Ibid.

“After mature deliberation,” the commission deemed the medical regulation of prostitution to be deceptive, draconian, and counterproductive. For legislators, the testimony provided by physicians demonstrated that the ATM had “utterly failed” to check the interisland diffusion of syphilis and arrest the continued decline of Native Hawaiians. Moreover, the “burden of evidence from all the women present” revealed a disturbing set of circumstances: The “practical working of the law [had] demoralized not only the women but those to whose control and supervision they were committed.” The commission thus urged the legislature to repeal the ATM.⁸⁰

While never officially repealed in the nineteenth century, the law became a dead letter by the mid-1870s due to continued public, political, and religious opposition, reports of coercion, and underfunding.⁸¹ Nevertheless, Hawai‘i’s national demographic catastrophe and the Act to Mitigate’s short-lived history demonstrate that legislators and physicians mobilized modern public health strategies that focused on the urban-rural nature of syphilis. In so doing, they characterized Honolulu as a porous seaport that generated, incubated, and conveyed contagion by facilitating the geographic mobility of Indigenous women engaged in prostitution.

⁸⁰ Ibid.

⁸¹ Walter Murray Gibson, *Sanitary Instructions for Hawaiians, in the English and Hawaiian Languages* (Honolulu: J. H. Black, 1880), 212–13.

CHAPTER TWO

“HUMANITY, AS WELL AS SELF-INTEREST”: SMALLPOX, TRANSPACIFIC MOBILITY, AND HONOLULU’S VACCINATION-QUARANTINE DEBATE, 1854-1872

Mr. Editor:—It is melancholy indeed to have to be forever groaning over the inconsistency of the Board of Health when . . . purely business considerations . . . have been considered as paramount to the estimate put upon individual human life. . . . At present the probabilities are largely in favor of the yellow flag being hoisted in all parts of the country and the seeds of a frightful plague being sown broadcast over the land; but a few individuals have been satisfied, and in this a sufficient warrant has been found for subjecting to danger the lives of a whole population.

— Letter to the Editor, *Pacific Commercial Advertiser*, August 26, 1871¹

On February 10, 1853, the *Charles Mallory* arrived in Honolulu from San Francisco, a well-connected seaport in the throes of an erupting smallpox epidemic. As rumors of disease aboard drifted ashore, Seth Porter Ford, a Yale-trained physician living in Honolulu, inspected the American clipper ship, where he found a single crewmember exhibiting the characteristic symptoms of smallpox—fever, vomiting, abdominal pain, and a head-to-toe rash of suppurating blisters. To contain the disease, health agents quarantined both victim and vessel and fumigated mail bags, clothing, and luggage. Upon learning that everyone but the victim had been vaccinated prior to leaving San Francisco, Ford and his colleagues “thought it safe” to isolate the six remaining passengers “somewhere in the vicinity of Diamond Point for fourteen days.”²

Haoles, who welcomed Honolulu’s flourishing commercial relations with San Francisco, called for more resolute public health measures. According to James Jackson

¹ *PCA*, 8/26/1871.

² *The Friend*, 3/1/1853; *Polynesian*, 2/12/1853.

Jarves—a Bostonian, American loyalist, and founder and editor of the *Polynesian*—the consequences of an epidemic were twofold: Smallpox would “depopulate the islands of their aboriginal inhabitants” and “drive away whale ships,” thus prompting “a stagnation of business” and labor that would “retard the prosperity” of the Hawaiian Kingdom for years to come. Heeding Jarves’s call to action, the government commenced public vaccinations, committed to enhancing maritime quarantine policies, and established a permanent pesthouse as a precautionary measure.³

By mid-May, however, smallpox had somehow found a foothold in Honolulu. After the death of two Indigenous women, the Hawaiian Legislature appointed a Royal Commission of Public Health to prevent the disease’s local and interisland diffusion.⁴ Auxiliary health agents were deputed across the Kingdom; unvaccinated islanders were barred from leaving O‘ahu; inflexible quarantine rules were issued to port physicians; and makeshift hospitals were thrown together for soothing the sick and vaccinating the vulnerable.⁵ Nevertheless, smallpox persisted. By July 15, 1,676 men, women, and children—the vast majority of whom were *Kānaka Maoli*—had contracted smallpox, of which 573 had perished. Even more distressing were the 527 new cases and 118 deaths that had occurred within the preceding week alone.⁶ So great was the human toll that officials had trouble mobilizing enough “able-bodied men . . .

³ Kuykendall, *Hawaiian Kingdom*, Vol. 2, 16-18; *Polynesian*, 2/12/1853 and 2/29/1853.

⁴ The Commission included Thomas C. B. Rooke, an English physician and member of the Hawaiian Legislature who married into the royal family; Gerrit P. Judd, an American missionary physician and the Hawaiian Kingdom’s Minister of Finance; and William Cooper Parke, the Marshall of Hawaiian Kingdom. Richard Greer, “Oahu’s Ordeal: The Smallpox Epidemic of 1853, Part I,” *Hawaiian Historical Review* 1, no. 12 (1965), 226.

⁵ *Polynesian*, 5/14/1853 and 5/21/1853.

⁶ Thomas Rooke, “Office of the Commissioners of Public Health Weekly Report,” July 15, 1853, published in the *Polynesian*, July 16, 1853.

. already completely exposed” to the disease “to render assistance in burying the dead.”⁷ Nothing, it seemed, could check the spread of smallpox; Honolulu had become a charnal house.⁸

In response to the devastation and the Commission’s alleged incompetence, *haole* politicians, businessmen, and physicians convened a public gathering in Honolulu to “devise more stringent measures for the protection of our city and the islands.”⁹ Seven resolutions emerged from the meeting, five of which urged the Commission to divide Honolulu into districts for daily inspections, recruit translators to accompany physicians, incinerate straw houses that sheltered the sick, procure carts and carriages to remove the dead or dying, and slaughter feral dogs deemed contagious. The remaining resolutions called for a Central Vaccine Establishment in the heart of Honolulu and the construction of hospitals at least two miles from the city center.¹⁰ Blatantly absent from their report were resolutions concerning the rural districts of Oahu, maritime quarantine procedures, and the cessation of interisland and transpacific trade. What was included and excluded from the proposal laid bare the foreign community’s ulterior motives: Eradicating smallpox was of paramount importance so long as the measures employed prioritized Honolulu and protected the steady flow of interisland and

⁷ Thomas Rooke, “No. 5—Notice,” 7/18/1853, in the *Polynesian*, 7/23/1853.

⁸ Archer, *Sharks upon the Land*, 226.

⁹ In attendance were Charles R. Bishop and Samuel N. Castle, both early investors in sugar plantations and local merchants who maintained trade relations with gold rush merchants in California; William L. Lee, a Harvard-trained lawyer recently appointed as the Chief Justice of the Supreme Court; and William Hillebrand, a German physician who would later become the director of the Queen’s Hospital and Honolulu’s principal vaccinating officer. C.F. Hussey, “Report of the Foreign Residents of Honolulu to the Office of the Royal Commissioners of Public Health,” 7/18/1853, in the *Polynesian*, 7/23/1853.

¹⁰ C.F. Hussey, “Report of the Foreign Residents of Honolulu to the Office of the Royal Commissioners of Public Health,” 7/18/1853, in the *Polynesian*, 7/23/1853. Greer, “Queen’s Hospital,” 139, fn. 76.

transpacific trade. According to Jarves of the *Polynesian*, “this was an important and praiseworthy effort,” one inspired by “humanity, as well as self-interest.”¹¹

The Commission implemented every proposed resolution and, to everyone’s relief, smallpox began to subside in Honolulu. Circumstances were far less encouraging elsewhere in the Kingdom, however. By the end of September, only 14 convalescent cases remained in Honolulu while 64 deaths and 246 new cases were tormenting rural villages across O‘ahu. Moreover, reports from Maui, Kauai, and Hawai‘i indicated that smallpox had a penchant for island-hopping; in total, 887 outer-island residents would contract the disease, resulting in 448 deaths. Despite the enduring crisis in the countryside, the Commission continued to funnel its time, energy, and funding into Honolulu. By October, the Commission had spent nearly \$18,000 on hospitals, medicine, clothing, and food. Notably, an additional \$10,000 was requested “to purify the town” in preparation for the seasonal arrival of whaling vessels, “on which so much of the prosperity of the islands generally depend[ed].” By the time whalers had moored their boats and swarmed the seaport’s grog shops and dance halls, *ka wa hepela* (“the smallpox time”) had come to an end in Honolulu.¹²

Yet the disease ebbed and flowed almost everywhere else for the next 4 months, officially dissipating at the end of January 1854. But by then, somewhere between 6,400 and 11,000 *Kānaka Maoli* had died from the disease, making this one of the deadliest epidemics to

¹¹ *Polynesian*, 7/23/1853.

¹² See, for instance: Thomas Rooke, “Office of the Commissioners of Public Health Weekly Report,” 7/22/1853, 7/28/1853, 8/12/1853, 8/26/1853, 9/12/1853, 9/16/1853, published in the *Polynesian*, 7/23/1853, 7/23/1853, 8/13/1853, 8/27/1853, 9/17/1853. On the interisland spread of smallpox and its effects on Maui, Kauai, and the Big Island, see: *Polynesian*, 8/6/1853 and 9/10/1853; Archer, *Sharks upon the Land*, 60, 226-229; Richard Greer, “In the Shadow of Death,” *Hawaiian Historical Review* 2, no. 4 (1966): 311-325; English, *Ma‘i Lepera*, 31.

ever occur on Hawaiian soil.¹³ The mishaps, chaos, and resulting devastation stemming from a single case of smallpox aboard the *Charles Mallory* illuminate a number of interlocking developments of the mid-nineteenth century—namely, the solidifying connections between Pacific seaports; the economic dominance of Honolulu in relation to other Hawaiian ports; the political and commercial pressures increasingly placed on public health officials; the concessions made when implementing vaccination or quarantine laws; and the limitations of public health programs. These issues, among others, would come into even sharper focus as the century progressed.

In the context of health, depopulation, and infectious diseases in Hawai‘i, the smallpox epidemic of 1853 dominates scholarly discussion.¹⁴ Far less explored, however, is the relationship between smallpox and the institution of public health in Honolulu throughout the

¹³ Both historical and modern estimates of the death toll vary. For instance, the Royal Commission reported a total of 6,405 cases and 2,485 deaths. Yet historian Ralph Kuykendall calls attention to a Hawaiian-language document claiming to be a complete report of the epidemic on O‘ahu: the totals listed are 11,081 cases and 5,947 deaths. For instance, see: Thomas Rooke and William Cooper Park, “The Report of the Royal Health Commission,” 1/27/1854, in William C. Parke, *Personal Reminiscences of William Cooper Parke, Marshall of the Hawaiian Islands, from 1850-1884, Written and Arranged by his son, William C. Parke* (Cambridge: Harvard University Press, 1891), 60, 62-64; Kuykendall, *Hawaiian Kingdom, Vol. 1*, 411. The only single-disease epidemic to kill more *Kānaka Maoli* than the 1853 smallpox epidemic was the ‘ōku‘u of 1804. Classified as an enteric disease by modern historians (most likely typhoid fever or dysentery), the ‘ōku‘u carried away up to 15,000. Other epidemics claimed more lives than smallpox, but they consisted of multiple diseases at the same time; for instance, an epidemic of measles, influenza, and whooping cough in 1848 resulted in nearly 10,000 deaths. Archer, *Sharks upon the Land*, 60; Schmitt, “The Okuu,” 359-364.

¹⁴ Archer, *Sharks upon the Land*, 60, 226-229; Daws, *Honolulu: The First Century*, 197-208, and *Shoal of Time*, 139-145; Greer, “Oahu’s Ordeal, Part I,” “Oahu’s Ordeal: The Smallpox Epidemic of 1853, Part II,” *Hawaiian Historical Review* 2, no. 1 (1965): 248-265, and “In the Shadow of Death”; Inglis, *Ma‘i Lepera*, 31-33, 48, 60; Scott G. Kenny, “Mormons and the Smallpox Epidemic of 1853,” *Hawaiian Journal of History* 31 (1997): 1-26; Kuykendall, *Hawaiian Kingdom, Vol. 1*, 411-413.

1860s and 1870s—a transformative era for the Hawaiian Kingdom characterized by the advent and proliferation of transpacific steamships and the expansion of industrial agriculture. Considered together, these interrelated developments *over-exposed* Hawai‘i to infectious diseases swirling around the Pacific World. As a result, a multitude of historical actors—from public health officials, newspaper editors, and businessmen to *Kānaka Maoli* and foreign globetrotters—clashed over the most effective method for safeguarding Honolulu from smallpox. Such controversies pivoted on the perceived and actual efficacy of maritime quarantine laws and universal vaccination programs. While a strict quarantine could prevent the disease’s introduction, it could also impede commercial trade. Alternatively, universal vaccinations could theoretically render quarantine measures obsolete by immunizing an entire population against smallpox. Yet in reality, vaccinations were often inadequate due to the volatility of early inoculation techniques, local distrust of Western medical professionals, and the transitory nature of Honolulu’s population.

“A SLUMBER OF FALSE SECURITY”: THE COMPULSORY VACCINATION ACT OF 1854

The devastation of Hawai‘i’s first smallpox epidemic alongside Honolulu’s growing commercial importance amid the Pacific underscored the “necessity of compelling a general and effective vaccination” strategy for the entire archipelago. In August 1854, five months after smallpox subsided, the Hawaiian Legislature passed the Act to Make Compulsory the Practice of Vaccination Throughout the Hawaiian Islands (hereafter the Compulsory Vaccination Act). The law conferred authority on the Minister of the Interior to appoint four “suitable persons as Vaccinating Officers”: one for Hawai‘i; one for Maui, Molokai, and Lanai; one for Kauai and Ni‘ihau; and one for Oahu. These officers, none of whom were licensed

physicians, were tasked with establishing, managing, and rotating among multiple vaccination dispensaries within their respective districts, maintaining records for each of their patients, and issuing vaccination certificates to those who underwent the procedure. The law also ordered parents or guardians to have children in their care vaccinated no less than six months after birth; eight days after their first operation, a child was to return to their vaccination officer, who would “ascertain by inspection, the result of such [an] operation.”¹⁵

The true efficacy of the Compulsory Vaccination Act, the first of its kind in Hawai‘i, would be tested in the coming months and years. For instance, neither the law nor supplemental documentation from the BOH provided specific directions for conducting vaccinations—a particularly troublesome oversight given the lack of medical expertise among vaccinators.¹⁶ Yet filling the void was Jarves of the *Polynesian*, who reprinted a vaccination pamphlet originally “issued by the ‘National Vaccine Establishment’ of Great Britain” and urged Hawaiian vaccinators to heed its advice. Long and laborious, the pamphlet offered a detailed description of regular and irregular vaccine pustules; the precise timing and method for taking, preserving, and using vaccine lymph; and treatment measures to be implemented in case of infection.¹⁷ At first glance, Hall’s article was both promising and instructive. Yet he excluded a crucial caveat: the original pamphlet was published in 1810—nearly 45 years before it resurfaced in Hawai‘i and less than a decade after Edward Jenner’s research was widely

¹⁵ “An Act to Make Compulsory the Practice of Vaccination Throughout the Hawaiian Islands,” 8/10/1854, *Laws of His Majesty Kamehameha III, King of the Hawaiian Islands, Passed by the Nobles and Representatives at their Session, 1854*, 28-29.

¹⁶ According to BOH minutes, vaccinators were not required to hold a medical degree, but how the Minister of the Interior assessed their qualifications for the role remains unclear. BOH Minutes, 5/12/1863, *HSA*, Series 259, Vol. 1, 1/1/1858-8/30/1867, 32.

¹⁷ *Polynesian*, 9/16/1854; “National Vaccine Establishment,” *The Medical and Physical Journal* 24, no. 142 (1810): 479-484.

accepted within scientific circles in European.¹⁸ Indeed, that the official organ of the Kingdom had published an outdated set of instructions on an emergent technique in public health in an effort to educate uneducated vaccinators spoke volumes for the state of the Hawaiian medical profession at mid-century.

Initial reports from the program established under the Compulsory Vaccination Act were gloomy at best. In his 1855 annual report to the Hawaiian Legislature, John Kalaipaihala Young II—the *Kuhina Nui* (“Prime Minister” or “Regent”), Minister of the Interior, and official in charge of appointing vaccinators—declared that vaccinating officers had “labored under great disadvantage” owing to the defective virus they had received “at the commencement of their operations” and their inability to induce “parents to bring their children to be vaccinated.”¹⁹ Nearly four months later a royal ordinance was issued, mandating that parents who refused to have their child vaccinated or examined would be liable to a \$5 penalty, while “any person *abstracting vaccine virus* from any child or adult” without the vaccinating officer’s permission would be fined no less than \$10.²⁰ Newspapers, medical correspondence, and public health reports from the ensuing decade reveal little as to the practical workings of the Compulsory Vaccination Act. Vaccinator salaries listed on Public Treasury reports reveal that the campaign was active during this period. Still unclear, however, is how (or even *if*) officials revised their strategy to overcome the complications they faced.²¹

¹⁸ Gareth Williams, *Angel of Death: The Story of Smallpox* (Basingstoke: Palgrave Macmillan, 2010), esp. chap. 9-10.

¹⁹ John Kalaipaihala Young II, *Report of the Minister of the Interior to the Legislature*, in *Polynesian*, 4/7/1855.

²⁰ “By Authority,” 7/27/1855, in *Polynesian*, 9/1/1855.

²¹ Depending on the year and the district, vaccinators were paid an annual salary of \$200 and \$600. See, for instance: *Polynesian*, 2/19/1859 and 9/1/1860; *PCA*, 9/4/1862.

In place of government reports and laws, however, were ongoing public discussions over Honolulu's commercial susceptibility to smallpox and the preventive measures implemented elsewhere around the Pacific. In 1857 Henry M. Whitney—the *PCA*'s anti-establishment editor and Honolulu's first journalist to collect foreign newspapers from transpacific vessels—called attention to the arrival of a “solitary case [of smallpox] existing on board the *Fanny Major* from San Francisco.” Quarantine measures might prevent an urban outbreak at present, he warned, but foolproof and enduring protection could only be attained if the government reanimated its stagnating vaccination campaign. Elaborating, Whitney claimed:

The public impression is general that *all* the natives have been vaccinated. This is not the case. Proper investigation will show that fully *one-sixth* of the native population in and about Honolulu are exposed to the disease. Many now here were on [the island of] Hawaii or away on vessels in 1853, and have never been vaccinated, and there exists in them an indifference, and in some cases a fear, which deters them from applying for the preventive.²²

Thankfully, smallpox never erupted as a result of the *Fanny Major*. Even so, Whitney's remarks foreshadowed an emergent problem facing Honolulu's public health community: Compared to universal vaccination, quarantine measures were easier to implement; compared to quarantine measures, universal vaccination (if *truly* universal and done correctly) was far more effective.

To be sure, vaccination was not a partisan issue among *haole* newspaper editors. In 1862, Abraham Fornander—a Swedish immigrant, member of the Privy Council, and the newest editor of the *Polynesian*—reported that urban health officials in California had recently

²² Library of Congress, “About *The Pacific Commercial Advertiser*,” <https://chroniclingamerica.loc.gov/lccn/sn82015418/> (accessed: 9/5/2019); *PCA*, 6/11/1857.

concluded an extensive vaccination and *re-vaccination* campaign within and around San Francisco. As a result, lingering clusters of smallpox “mostly confined” to the city’s “poor and illy-housed [*sic*] population” had all but “disappeared, and not much further anxiety [was] felt of it.”²³ It is important to note that re-vaccinations were likely a foreign concept to *haoles* and *Kānaka Maoli*. Yet according to the San Francisco-based *Pacific Medical and Surgical Journal*—of which select articles on the topic were reprinted in the *PCA*—re-vaccinations were needed every seven years to ensure a “fair average protection from small-pox” or to render the disease “so mild as to be almost harmless.” Whether a direct result of the medical journal or not, the idea of re-vaccinating thousands of urbanites and islanders would gain traction in Hawai‘i soon after.²⁴

Like Whitney, Fornander urged Hawaiian health officials to emulate their Californian counterparts. Galvanize “the country people to the necessity of having their children well and early vaccinated,” he wrote, and “re-vaccinate the whole people if required.” In 1862 the risks could not be greater: Smallpox was inching westward across the U.S. and already “raging fearfully among the Indians” in coastal British Columbia.²⁵ Given the northeastern Pacific’s recent integration, these stories of disease transmission did not bode well for the Hawaiian Kingdom, where “a slumber of false security” had been “creeping over” its inhabitants since the epidemic of 1853. Put another way, the stage had been set for Honolulu to suffer through yet “another eruption sweeping off a number of lives.”²⁶

²³ *Polynesian*, 4/26/1862.

²⁴ The idea of “re-vaccination” as a standard and necessary public health measure does not appear in Hawai‘i’s historical record until after 1862. David Wooster and James Blake, eds., “Small Pox,” *Pacific Medical and Surgical Journal* 4 (1861), 87-88; *PCA*, 5/8/1862.

²⁵ *Polynesian*, 7/19/1862; Boyd, *The Coming of the Spirit of Pestilence*, esp. chap. 7.

²⁶ *Polynesian*, 4/26/1862 and 5/10/1862

In the late spring months of 1868, smallpox besieged San Francisco yet again. In the early days of the outbreak, “a flutter of alarm in the public mind” prompted hundreds of urbanites to avail “themselves of the services of the public vaccinator.”²⁷ Yet pestilence continued to spread, and by June the municipal smallpox hospital proved “too small to meet the contingency of [the] epidemic.”²⁸ In years past, claimed one health officer, smallpox “was much more dreaded for the deformity likely to result, than from fear of a fatal termination. But not so with the disease as it appeared” in 1868.²⁹ This was more than mere hyperbole; by July 1869, smallpox would infect a total of 1,990 San Franciscans and claim 760 lives, making it the deadliest urban epidemic in nineteenth-century California.³⁰ In the process, the disease remained neither unique nor confined to the Golden State’s fastest growing city. According to the Board of Supervisors’ annual report, smallpox “invaded many towns” throughout the region, “in all cases marked by the same malignant type that characterized the epidemic” in San Francisco.³¹ If smallpox could decimate town after town as it hitchhiked along lengthy

²⁷ “Notes of the Month,” *California Medical Gazette* Vol. 1 (July 1868), p. 17.

²⁸ “Report on the Small-Pox Hospital of San Francisco,” 6/17/1868, in the *California Medical Gazette* Vol. 1 (1868), 38.

²⁹ San Francisco Board of Supervisors (SFBS), “San Francisco Municipal Reports, Fiscal Year 1868-9, Ending June 30, 1869,” 197.

³⁰ *Ibid.*, 206; Guenter Risse, *Driven by Fear: Epidemics and Isolation in San Francisco’s House of Pestilence* (Urbana-Champaign: University of Illinois Press, 2015), 43-47. While smallpox has a typical mortality rate of 30%, the mortality rate of San Francisco’s 1868 epidemic peaked at 38%. <https://www.who.int/biologicals/vaccines/smallpox/en/>, accessed January 23, 2019.

³¹ For instance, in the “flourishing little town of San Juan [Bautista]”—located one hundred miles southeast of San Francisco—“nearly one-fourth of the entire population” died. SFBS, “San Francisco Municipal Reports, Fiscal Year 1868-9,” 202.

overland trails, could it once again embark on transpacific voyages? Those living in Hawai‘i certainly thought so.

News that smallpox was ravaging San Francisco and stalking the California countryside incited public, political, and commercial anxieties in Honolulu—and for good reason, too. The previous year, the *S.S. Idaho* began plying between San Francisco and Honolulu after the U.S. postmaster-general secured a monthly mail service with the California, Oregon, and Mexico Steamship Company (to be renamed the North Pacific Transportation Company in mid-1869). On September 17, 1867, the *Idaho* completed her first westward voyage between the two seaports in 11 days and 20 hours. Direct communication between San Francisco and Honolulu was now faster, more frequent, more reliable, and more permanent than ever before.³² Yet according to municipal health officials in Honolulu, this particular maritime connection would “doubtless increase the number of visitors landing” in Honolulu, and thus heightened vigilance among health agents and port physicians was needed “to prevent the introduction of infectious diseases.”³³ What was initially deemed a harbinger of Hawaii’s future prosperity was quickly devolving into a potential public health and commercial liability. After all, in the summer of 1868 San Francisco’s blossoming smallpox epidemic was less than a 12-day voyage from Honolulu.

As with most public affairs in Hawaii, early disputes over the transurban nature of San Francisco’s smallpox epidemic were waged in the columns of local newspapers. In August 1868, the editor of the *PCA* adopted a cautionary tone: “The prevalence of the small-pox in

³² *PCA*, 9/21/1867; Kuykendall, *Hawaiian Kingdom*, Vol. 2, 170

³³ Ferdinand. W. Hutchison, *Report of the Board of Health to the Legislature of 1868* (Honolulu: n.p., 1868), 10.

San Francisco should admonish our authorities to be prepared for it, whenever it makes its appearance here, as it certainly must.” Recognizing that 15 years had passed since the scourge of 1853, the editor estimated that nearly “*half the population now living*” was at risk of contracting the disease. Accordingly, “every effort” on part of municipal health officials “should be made to encourage the vaccination of all who are exposed to the contagion.”³⁴ In contrast, James Black, the editor of the *Hawaiian Gazette*, sought to dampen public anxiety the following month by claiming that “no occasion” had yet “arisen to detain ships by reason of sickness on board.” Black further asserted that the BOH had already employed all precautions necessary: there was “vaccine lymph on hand,” a longtime public vaccinator was attending to Oahu’s rural communities; and harbor officials had received instructions urging “them to be diligent in reporting any sickness.”³⁵ Indeed, all seemed well in paradise.

Yet the situation in San Francisco quickly deteriorated as autumn progressed. According to the *Hawaiian Gazette*’s correspondent in California, the number of smallpox cases within municipal borders had increased “from 198 in September to 295 in November.”³⁶ Such news compelled the BOH to convene an emergency meeting to find ways of implementing additional “energetic preventive measures against” the introduction of smallpox. Since vaccinations were “considerably diminished, if not entirely nullified, in the course of time,” the BOH appointed Dr. William Hillebrand—a German expatriate, the head physician

³⁴ *PCA*, 8/15/1868.

³⁵ *Hawaiian Gazette*, 9/9/1868. [Hereafter *HG*].

³⁶ *Ibid.*, 1/13/1869. These statistics are slightly different than those reported by the San Francisco Board of Supervisors, who claimed that a total of 199 had been taken ill by September and 299 by November. SFBS, “San Francisco Municipal Reports, Fiscal Year 1868-9, Ending June 30, 1869,” 206.

of the Queen’s Hospital, and the one-time director of the Central Vaccine Establishment in 1853—to “insure the vaccination or re-vaccination of the people of Honolulu.”³⁷



Figure 5: Dr. William Hillebrand, c. 1865, Hawai‘i State Archives

Urban Vaccinations

As the primary commercial conduit connecting the outer islands of Hawai‘i to the broader Pacific World, it stood to reason that health officials would focus their efforts on Honolulu. In theory, a fully-immunized urban population would act as a buffer against the

³⁷ BOH Minutes, 10/14/1868, *HSA*, Series 259, Vol. 2, 7/1/1868–6/25/1881, 15; Greer, “Queen’s Hospital,” 137-139, fn. 76.

foreign introduction and interisland dissemination of smallpox. After recruiting seven of Honolulu’s leading physicians—”all of whom expressed the warmest sympathy with the work in contemplation, and their readiness to concur in carrying it out”—Hillebrand launched a sweeping and systematic urban immunization campaign. By converting their own private practices into vaccine dispensaries, Hillebrand and his colleagues partitioned Honolulu and its residents into eight separate districts. Health agents disseminated leaflets and posters throughout the seaport and its environs to galvanize support for Hillebrand’s ambitious program and notify local residents of each physician’s location and vaccination schedule, which ranged between two and three days per week.³⁸

According to a BOH pamphlet circulated among Hillebrand and his phalanx of urban vaccinators, patients were immunized in two distinct yet interrelated ways. The first method, known in nineteenth-century medical circles as “variolation,” required desquamated scabs (or, “vaccine crusts”) from individuals who had previously contracted smallpox. Since no reported cases of the disease had surfaced in Honolulu since 1854, the BOH was forced to import scabs from abroad—in this case, from San Francisco or other Pacific seaports besieged by sustained or recurrent outbreaks of the disease.³⁹ Upon their arrival in Honolulu, a vaccinator would pulverize a single crust using a “brightly polished knife and a few drops of water on a perfectly clean piece of glass or porcelain.” Through “continual rubbing,” the granulated mixture was

³⁸ The physicians who took on the responsibility of vaccinating Honolulu’s population included Drs. Hoffman, McGrew, Buffum, McKibbin, Jr., Kennedy, Judd, Langhern, and Hillebrand. *HG*, 10/28/1868; William Hillebrand, “Dr. Hillebrand’s Report On the General Vaccination of the Native Population of Honolulu,” 1/8/1869, in the *HG*, 1/13/1869.

³⁹ Evidence that vaccine virus was imported from abroad can be found in BOH minutes, public health correspondence, and newspapers. For examples, see: *PCA*, 2/5/1872 and 12/11/1880; *HSA*, “Series: “Incoming Letters of the Board of Health, 1850-1904,” Box: 9, Folders: “January 13-31, 1881” and “March 1-8, 1881.”

reduced to a “homogenous viscid pulp.” The vaccinator would then make a series of surface-level incisions on a patient’s arms using a pulp-laden lancet. Variolation was deemed successful if a pustule engorged “with its fluid contents (the lymph)” had formed in place of each incision around eight days after the initial operation. The procedure was repeated on three or four individuals during a single session “to insure . . . [that] a full supply of lymph” would be available at all times.⁴⁰

At this juncture, vaccinators could begin the second method of immunization, formally known as “vaccination.” Variolated patients who had produced “well developed vesicles” were required to return to their vaccinator eight days after the procedure to have their arms harvested for lymph.⁴¹ To enforce this particular rule and document the overall progress of Hillebrand’s campaign, police officers and “native clerks” were also “adjoined to each vaccinator.”⁴² Upon a variolated patient’s return, vaccinators would puncture each pustule with a lancet, “[take] up a portion of the lymph on its point,” and insert the blade “an eighth of an inch beneath the skin” of an unvaccinated individual, allowing it to “remain there for a few seconds” before reinserting it elsewhere on their arm. Eight days later, vaccinators would repeat the procedure, this time using fresh lymph from recently-vaccinated individuals rather than imported scabs or variolated patients.⁴³ Public health officials hoped that serial arm-to-arm vaccinations would result in a population of self-generating and self-sustaining lymph donors, thus negating the need to import vaccine crusts from abroad.

⁴⁰ BOH Minutes, “Vaccination,” *HSA*, Series 259, Vol. 2, 7/1/1868-6/25/1881

⁴¹ *Ibid.*

⁴² Hillebrand, “Report,” 1/8/1869, in the *HG*, 1/13/1869.

⁴³ BOH Minutes, “Vaccination,” *HAS*, Series 259, Vol. 2, 7/1/1868-6/25/1881.

To be sure, the use of fresh lymph was not foolproof. Operations could fail due to a range of procedural errors, from the use of inert pustules to the shaky hand of an inexperienced vaccinator. The potency of viable lymph was also short-lived (often lasting less than 24 hours), particularly in a semi-tropical country that lacked technological advancements like vapor-compressed refrigeration.⁴⁴ Accordingly, Hillebrand and his colleagues considered it inexpedient and wasteful to extract lymph from more than four vaccinees at a time. When too many patients presented “themselves on the same occasion, they [were] requested to come again on the next, second or third day” so as to “keep up a fresh and successive supply of lymph, and not to exhaust at once the material.”⁴⁵ In short, supply and demand in the form of vaccinated and unvaccinated men, women, and children often dictated the utility of fresh lymph and the ability to sustain an uninterrupted vaccination program.

Hillebrand’s city-wide campaign was indeed ambitious given the technical and temporal difficulties inherent to mid-century variolation and vaccination procedures. It is thus unsurprising that urban vaccinators encountered a range of complications. “Confin[ing] the natives of each district to their appointed vaccinator,” for instance, was next to “impossible.” Rather than an even distribution throughout Honolulu, unvaccinated men, women, and children would “crowd to the offices of those physicians more centrally or conveniently located” to their own neighborhoods. As a result, physicians like Dr. Langhern could only vaccinate 1,209 patients, which was less than half the number operated on by Dr. Buffum. According to

⁴⁴ On the invention of refrigeration in the United States, see: Oscar Edward Anderson, Jr., *Refrigeration in America: A History of a New Technology and Its Impact* (Princeton: Princeton University Press, 1953); J.F. Nickerson, “The Development of Refrigeration in the United States,” *Ice and Refrigeration* 49, no. 4 (1915): 170-177.

⁴⁵ BOH Minutes, “Vaccination,” *HSA*, Series 259, Vol. 2, 7/1/1868-6/25/1881; Hillebrand, “Report,” 1/8/1869, in the *HG*, 1/13/1869.

Hillebrand, however, idle vaccinators or congested dispensaries paled in comparison to the “really weak point” in the campaign—that is, Honolulu’s Chinese population, which totaled somewhere between 370 and 632 individuals in 1868.⁴⁶ Few knuckled under the lancet, he grumbled, for it was “well known with what prejudice they regard[ed] the operation in question.” Many Chinese migrants had survived smallpox or endured traditional inoculation before venturing across the Pacific, but according to Hillebrand’s estimation, a “considerable majority” of those living in Honolulu were still at risk of contracting the disease. How Honolulu’s Chinese population could be “compelled or persuaded to submit to this protective measure,” he predicted, was a future burden the BOH would have to bear.⁴⁷

Obstacles aside, Hillebrand and his phalanx of urban vaccinators soldiered on. The campaign’s records reveal that physicians attended to 7,587 Honoluluans—or about half of the city’s total population—between October 19 to December 2. Of these, 2,124 were first-time vaccinees; the remaining 5,463 patients were re-vaccinees who had undergone their first operation in 1853 or 1854. Nevertheless, Hillebrand estimated that no more than 2,400 of these recent re-vaccinations had taken. According to contemporary medical knowledge in Hawai‘i, re-vaccinations were more likely to succeed if the virus used during the initial procedure had since lost its potency or completely dissipated from the body.⁴⁸ From this, Hillebrand inferred that the vaccine matter used during the 1853 smallpox epidemic had gradually diminished in “protective power” over the subsequent 15 years. In other words, by 1868, more than 3,000

⁴⁶ Census data for 1868 does not exist; however, data for the years 1866 and 1872 reveal that 370 and 632 Chinese lived in Honolulu, respectively. Clarence E. Glick, *Sojourners and settlers: Chinese migrants in Hawaii*. University Press of Hawaii, 1980, 128.

⁴⁷ Hillebrand, “Report,” 1/8/1869, in the *HG*, 1/13/1869.

⁴⁸ Wooster and Blake, “Small Pox,” 87-88.

urbanites had unwittingly lost their immunity to smallpox. Honolulu was a sitting duck ripe for reinfection—”a lesson,” Hillebrand concluded, “which ought not to be lost by our authorities in future contingencies of like nature.” To protect islanders within and beyond Honolulu from the foreign introduction of smallpox, later generations of public health officials would need to remain vigilant when determining the best course of action for vaccination and re-vaccination campaigns. Given the sheer number of operations conducted, Hillebrand’s considered his efforts successful.⁴⁹

Rural Vaccinations

Throughout the rural regions of the archipelago, however, vaccinations were much more unpredictable. For traveling physicians tasked with immunizing islanders, a host of problems arose—some real and others exacerbated by prejudice and a particular strain of nineteenth-century scientific racism. Complications ranged from the archipelago's fragmented geography and tropical climate, the difficulty of implementing vaccination laws, and the degeneration of vaccine crusts to the alleged negligence of Native Hawaiian parents and the inferior quality of lymph taken from indigenous bodies.

The representative experience of Dr. David J. Lee reveals why rural vaccination programs began in fits and starts, why they plateaued after a brief period of success, and how public health officials coped with the pressures associated with a geographically dislocated population. In 1868, the BOH hired Lee, a seasoned physician and graduate of the Physical

⁴⁹ *HG*, 10/28/1868; According to Hillebrand, the results he “obtained tallie[d] in a remarkable manner with that obtained by [Dr. Henri Gintrac] as given in the *Gazette des Hôspitaux [sic]*, July 11, 1857. In a population of 2600 vaccinated by him the re-vaccinations were successful in 42½ per cent.” Hillebrand, “Report,” 1/8/1869, in the *HG*, 1/13/1869.

and Medical College of Ohio, to traverse the Hawaiian Islands in search of suspected lepers.⁵⁰ By the end of the year, news of smallpox in San Francisco had prompted the BOH to depute Lee to the island of Maui, where he would spend his time traveling from one rural village to another to vaccinate indigenous men, women, and children. In mid-October, Lee set out for Maui with viable vaccine crusts collected from patients recently immunized in Honolulu. After arriving in Hana on the windward side of Maui, Lee vaccinated 27 children and 3 adults. His efforts resulted in ten young vaccinees with lymph-filled vesicles that could be used in future arm-to-arm inoculations. Yet Lee's subsequent two-week absence on the islands of Hawai'i and Lanai hindered the use of fresh lymph; before returning to Maui, all of his patients' pustules had dried up, scabbed over, and sloughed off. Lee thus ordered a second shipment of "carefully selected, pure & fresh" crusts from the BOH, but "irregular communication" between Lahaina and Honolulu had "occasioned the loss of much precious time in this very important sanative [*sic*] measure." Indeed, even after the shipment of scabs had arrived, not a single vaccination was successful. For Lee, this unfavorable result demonstrated that, "though carefully selected and properly applied," the efficacy of "vaccine virus [was] still very uncertain in this [tropical] climate."⁵¹

In mid-December, two months after rural vaccinations had commenced, Lee received yet another shipment of vaccine crusts, with which he successfully immunized 31 men, women,

⁵⁰ On Lee's pre-Hawaiian education and career, see: *HG*, 7/7/1869. On the BOH's decision to hire Lee as a traveling physician, see: *HG*, 7/29/1868.

⁵¹ Due to "outrages on life and property, by religious fanatics" on the island of Hawai'i, Kamehameha V mobilized a battalion of troops. Despite his assigned vaccination duties, Dr. Lee "was attached for medical assistance." Prolonging his leave of absence was the BOH's decision to depute him to the island of Lanai in search of roving victims of leprosy. *HG*, 11/4/1868; Lee to BOH, 12/6/1868, *HSA*, Series: "Incoming Letters of the Board of Health, 1850-1904," Box: 3, File: "October- December, 1868."

and children. Such an outcome ensured “a fair start for a general vaccination” across Maui, he proclaimed. With a rapidly expanding pool of viable lymph now at his disposal, Lee was able to conduct 790 vaccinations in and around Lahaina within a single month—a true testament to the potential of arm-to-arm vaccinations. Alas, such progress was short-lived, and by mid-January 1869 the rate of vaccinations on Maui had petered out. The greatest obstacle to universal immunization, Lee declared, was the “culpable carelessness” of parents who failed to bring their recently vaccinated children to follow-up exams at “appointed times & places.” Unable to verify and document the success of each operation, Maui was left with an untold number of islanders susceptible to smallpox. As a matter of course, Lee suggested making a “wholesome example . . . of several delinquents,” which he believed “would have a most salutary effect & perhaps in the end save many lives.”⁵² For the late 1860s, the criminalization of a particular segment of Hawaiian society—in this case, the indigenous parents of susceptible children—was by no means unique, especially when considered alongside the government’s approach to syphilis and leprosy.⁵³

Also problematic, according to Lee, was the alleged “*indifference*” of various authority figures in the community charged with enforcing the Compulsory Vaccination Act of 1854. For instance, rural police officers “put forth *futile* efforts (such as bell ringing, etc.)” to remind those within earshot to seek out Lee’s vaccination services. Moreover, these men seemed “loath [*sic*] to apply legal remedies” to transgressors. Taking matters into his own hands, Lee enlisted a constable to accompany him on future vaccination tours. He was a “rather . . . intelligent

⁵² Ibid., 12/6/1868; 12/14/1868; 1/16/1869.

⁵³ Inglis, *Ma ‘i Lepera*, 60.

native,” Lee contended, who was able to assuage the fears of skeptical islanders and maintain comprehensive records of those immunized.⁵⁴

Most troubling, however, was a shared conviction among traveling physicians that indigenous bodies were unable to produce viable lymph, and thus unfit as a communal reservoir for arm-to-arm vaccinations. In a series of letters sent to the BOH, Lee dubiously claimed that a “pure native” rarely exhibited an “*undoubted legitimate small pox postule [sic]* in *any stage*” of their body's immune response. But why? According to Lee, the “Blood of these people[,] particularly the unmixed natives, [was] so corrupt [and] so filled with disease,” that once pure vaccine pulp or lymph was “infused into their systems, it assimilate[d] [*sic*] with . . . the latent scrofulous & syphilitic [*sic*] . . . humors of their blood.” This in turn blighted the potency of any lymph or resulting scabs and increased the possibility of transmitting blood-borne diseases like syphilis and leprosy from “native to native.” It thus became standard practice for Lee to use lymph or scabs from patients he deemed “the most healthy persons”—or, those who were “almost wholly half white + Chinese or in some cases half negro.” Using this particular classification of lymph was “satisfactory,” he avowed, “much beyond the use of the best scabs or lymph from a pure native.”⁵⁵ For Lee and his rural colleagues, it was the complete *exclusion* of the allegedly dirty and diseased Hawaiian body—rather than the partial inclusion of the non-Hawaiian body—that ensured the success of arm-to-arm vaccinations.

⁵⁴ Lee to BOH, 1/25/1869.

⁵⁵ *Ibid.*, 1/15/1869 and 2/11/1869.

The Arrival of the SS Idaho

The intended benefits of the BOH's urban and rural vaccination campaigns were put to the test in late December when the *S.S. Idaho* arrived in Honolulu from San Francisco with a confirmed case of smallpox on board. On the morning of December 21, Dr. Robert McKibbin, Jr.—a busy man serving as the physician under the Act to Mitigate *and* Honolulu's acting port physician—inspected those aboard the recently-docked vessel. According to statements taken from the crew and passengers, the “sickman, a Spaniard employed by the steward as [a] pantryman,” had departed San Francisco “in good health.” Three days into the *Idaho*'s voyage, the victim exhibited the “premonitory symptoms of smallpox”—fever, headache, back pain, and vomiting—which were most likely mistaken as signs of the common cold. On December 18, three days from Honolulu, the characteristic pustules surfaced, forcing the captain to place the patient and his medical attendants in the forecabin, where they were “secluded and isolated from the others.” Notably, in the interim when the virus was still communicable, the pantryman prepared communal meals and wandered freely throughout the vessel, thus coming into contact not only with members of the crew, but also steerage and cabin passengers.⁵⁶

Upon receipt of McKibbin's report, the BOH permitted the *Idaho* to dock and offload her mail after “having hoisted the yellow flag”—the age-old symbol for the presence of smallpox. Mailbags were then transferred from the steamship to the “Post Office to be fumigated with chlorine” before having their contents released for distribution. Notably, regulations pertaining to crewmembers and passengers were left to the ambiguous “discretion” of Dr. Ferdinand Hutchison, the president of the BOH and the Minister of the Interior.

⁵⁶ BOH Minutes, 12/21/1868, *HSA*, Series 259, Vol. 2, 7/1/1868–6/25/1881, 18.

Hutchison isolated the pantryman and prohibited the crew and steerage passengers from disembarking the vessel. At the same time, however, he liberated the ship's captain, purser, and cabin passengers after having them "dress in a fresh suit of clothes," surrender all personal belonging to the BOH, and agree to "report themselves to the Port Physician, for the next 2 weeks, in case of sickness."⁵⁷ While evidence to account for Hutchison's inequitable treatment of those aboard the *Idaho* is lacking, it is not unreasonable to assume that his own class biases likely informed his decision.⁵⁸ To make matters worse, reports surfaced that the crew had crept ashore "the evening of the 24th inst., and [were] afterwards arrested and confined in the station house."⁵⁹ Unsurprisingly, the apparent fallibility of quarantine alongside Hutchison's own inconsistency triggered public outrage.

Even though no reported cases of smallpox materialized beyond the *Idaho*, Honoluluans still took issue with Hutchison's foolhardy approach. Days later, a public meeting was convened and a committee of foreign and native businessmen was appointed to petition King Kamehameha V. The committee implored the King to dissolve the BOH on the grounds that Hutchison's blunder was not only "calculated seriously to endanger the health of Your Majesty's subjects," but also

⁵⁷ Ibid., 19-20.

⁵⁸ The most compelling evidence to support this claim can be found in a letter Hutchison wrote to James H. Wodehouse, Esq., Queen Victoria's Commissioner and Consul-General in Hawai'i, in which he stated the following: "Dr. McKibben [*sic*] and myself, after consultation, thought it imprudent to permit the steerage passengers to mix amongst our people, as there might be a probability that the miasma of the disease had been communicated to some of them, but that the cabin passengers might be allowed to go ashore upon putting on clothes not previously worn on board." Ferdinand. W. Hutchison to James H. Wodehouse, 12/31/1868, in the *HG*, 1/6/1869.

⁵⁹ Letter from J. O. Carter, R. G. Davis, C. J. Lyons, J. W. Keawehunahala, and A. M. Kahalewai to King Kamehameha V, 12/28/1868, in the *HG*, 1/6/1869.

to injure the reputation of this port in the commercial marts of other countries with which this country has business relations. In view of the deplorable mortality produced . . . in the memorable year of 1853, the meeting were of the unanimous opinion that the . . . Board of Health . . . [acted] contrary to their duties under the laws, and utterly in conflict with their high duty as conservators and guardians of the health and safety of Your Majesty's liege and loyal subjects.⁶⁰

Those with a vested interest in Hawai'i's economic wellbeing and insight into the looming fury of smallpox understood that a single medical misstep could endanger thousands of lives and, in the process, undermine Honolulu's burgeoning commercial salience in the Pacific World.

In his capacity as Minister of the Interior, Hutchison took a defensive line, repudiating the committee's allegations on behalf of the King: "Upon careful perusal of the petition, [the King] does not observe that you have set forth any reason . . . for requesting the resignation of any . . . gentlemen" belonging to the BOH. While he was "gratified to know" that members of the public were mindful of the government's "active measures to prevent the introduction and spread of" smallpox, he hoped they would support the BOH "by carefully attending to the duty of vaccination, each for himself, his family, friends and neighbors."⁶¹ Hutchison's response was more than a dismissive negation of the committee's petition; it was also a bold confession that he, the King, and other high-level officials believed the protective powers of vaccination were superior to those of quarantine.

However, Hutchison also understood the need for immediacy if smallpox threatened Hawai'i in the foreseeable future. Universal vaccination programs were labor-intensive, time-

⁶⁰ Ibid.

⁶¹ Ferdinand Hutchison, on behalf of King Kamehameha V, to J. O. Carter, R. G. Davis, C. J. Lyons, J. W. Keawehunahala, and A. M. Kahalewai, 1/4/1869, in the *HG*, 1/6/1869.

consuming, and geographically dispersed. In contrast, quarantine measures could be mobilized on the spot and in response to an imminent threat. Acknowledging that the *Idaho* affair was an omen of things to come, the BOH adopted a revised set of “Quarantine Regulations and Rules” on January 8, 1869. Upon the arrival of any vessel from a smallpox-infected seaport, the crew and passengers would be prohibited from disembarking “unless fifteen days [had] elapsed from the time of” the ship’s departure.⁶² Notably, this timeframe was one day longer than the medically-accepted incubation period for smallpox.⁶³ For instance, if a vessel traveled from San Francisco to Honolulu in 12 days, it would be quarantined for an additional 72 hours to ensure no new cases had developed in the interim. Alternatively, if the disease made its appearance *during* the vessel’s voyage, the ship and its human cargo would be quarantined for 15 days—14 days to allow for incubation and an additional day for good measure. In either case, health officials would sequester articles of clothing, personal baggage, mail, commercial goods, and other fomites until they were disinfected “in such [a] manner as may be ordered by the Board.”⁶⁴ To effectively prevent the foreign introduction of smallpox, quarantine laws had to impose a biologically-determined timeframe on the mobility of people and goods. Put another way, when quarantine measures were followed *to the letter*, the incubation period of smallpox dictated the total duration of transpacific trade.

⁶² BOH Minutes, “Quarantine Regulations and Rules adopted and published by the Hawaiian Board of Health at their meeting of January 8, 1869,” *HSA*, Series 259, Vol. 2, 7/1/1868-6/25/1881.

⁶³ According to the Center for Disease Control, the incubation period for the variola virus averages between 10 and 14 days, but can range from 7 to 19.

<https://www.cdc.gov/smallpox/clinicians/clinical-disease.html>, accessed February 5, 2019.

⁶⁴ BOH Minutes, “Quarantine Regulations,” 1/8/1869.

Not all health officials agreed with this resurgent interest in quarantine. In his final report of January 8, 1869, Hillebrand challenged government officials and members of the public who advocated for a “*rigid and strict* quarantine.” Such a system, he argued, would have “paralyzing effects” on transpacific trade. Bustling cities in East Asia, Oceania, and the Americas maintained vibrant “commercial relations with the whole world,” boasted “an almost unlimited variety of industries and branches of trade,” and would thus be “little affected by a temporary interdiction or embarrassment of their commerce with a *single* country.” But how would Hawai‘i fare under similar circumstances if “seven-tenths” of the kingdom’s economy was “altogether dependent upon a market” in Pacific seaports where “the small pox never dies out”? According to Hillebrand, the potential consequences were undeniable: An overreliance on quarantine would undermine Hawaii’s commercial prosperity while tarnishing Honolulu’s international reputation as both a budding agricultural entrepôt and a reliable waystation for seafaring vessels.⁶⁵

Perhaps even more distressing for Hillebrand was the possibility of quarantine’s short-term success. Municipal officials and port physicians might “ward off the enemy for six or seven months, and then suddenly wake up one morning to find him in [their] very midst.” Such an event was not inconceivable, he cautioned, for smallpox could “travel in invisible and impalpable forms” and had “a wonderful tenacity of life.” History offered the perfect warning: Nearly 16 years had elapsed since the epidemic of 1853, and not a soul could confirm exactly how the disease had arrived in Honolulu.⁶⁶ The *Idaho* affair represented yet another—albeit

⁶⁵ Hillebrand, “Report,” 1/8/1869, in the *HG*, 1/13/1869.

⁶⁶ Controversy surrounding the introduction of smallpox in 1853 emerged after the fact. Hillebrand and others called attention to an important anomaly: the *Charles Mallory* arrived in Honolulu on February 10, 1853, but the first smallpox cases were not reported until May

more recent and more fortunate—example of the various structural flaws intrinsic to maritime quarantine. Like other “thinking men” fighting against smallpox, Hillebrand believed the best course of action could be summarized by a simple maxim: “Keep your house in order.” While easily evading “the best quarantine laws,” he concluded, smallpox devolved into “a harmless foe before a vaccinated community.”⁶⁷

And so, in spite of the challenges facing his own vaccination campaign, Hillebrand framed the immunization of Honolulu as the panacea Hawai‘i had been yearning for. As soon as the seaport’s Chinese community was vaccinated, he boasted, “the town of Honolulu will be thoroughly protected, and I have no hesitation in saying that a small pox epidemic here will be an impossibility. I never knew of a town . . . so well prepared as ours is at present.” To be sure, “isolated cases” would reach Honolulu so long as smallpox could be “imported from Japan, the Pacific States of the Union, and British Columbia.” Through compulsory vaccinations, however, Honolulu would have an almost-natural ability to “circumscribe and confine the disease to the first cases arising.” In short, a fully-immunized urban population was Hawai‘i’s first line of defense against the introduction and diffusion of smallpox. Even if the disease transcended municipal borders, he speculated, rural vaccinations were “progressing as fast as circumstances [would] permit.” Given the gradual headway made by Lee and other

13, 1853. Concealed cases of smallpox perhaps existed during this three-month period; however, as Jarves of the *Polynesian* reported at the time: “How the disease was introduced, is not known. It is conjectured, either through the Charles Mallory, or in a large lot of old clothing brought down from San Francisco by the *Zoe* some weeks ago, and sold here at auction.” *Polynesian*, 5/14/1853.

⁶⁷ Hillebrand, “Report,” 1/8/1869, in the *HG*, 1/13/1869.

traveling physicians, Hillebrand deemed it “safe to assert” that the island of O‘ahu would be fully protected within a month—and by mid-March, so too would “the whole archipelago.”⁶⁸

“THE EXILES OF KOHOLA LOA”: QUARANTINE AND THE *SS NEBRASKA* INCIDENT OF 1872

Similar to the *Charles Mallory* and the *Fanny Major* controversies, the *SS Idaho* incident threw Honolulu’s increasingly precarious position amid the Pacific into sharp relief. *Haole* health officials recognized that, under ideal circumstances, vaccination was the most effective method for safeguarding against smallpox. However, as various elements of Hillebrand’s report and Lee’s correspondence reveal, ensuring the universality of vaccinations while verifying that each operation proved successful was easier said than done. The BOH’s campaign was “adequate to the wants of the time,” recalled James Black of the *Hawaiian Gazette*. But the cyclical arrival of the *Idaho* and the “constantly increasing intercourse” between Honolulu and other seaports “adjoining the Pacific Ocean” underscored the need for “a permanent quarantine establishment.”⁶⁹ Accordingly, the BOH began searching for possible locations within and around Honolulu that could serve as a safe, secluded, and permanent quarantine station for infected and exposed passengers. A fixed holding station would serve two purposes. First, it would shield vulnerable Honoluluans from contagion by providing a space in which smallpox, measles, and other virulent diseases could run their course in absolute isolation. Second, it would accommodate the commercial needs of maritime transportation

⁶⁸ Ibid. Between 1866 and 1868, the BOH spent \$299 on vaccine matter, but between 1868 and 1870—the period in which smallpox hit San Francisco—the BOH spent \$2,037.50 on vaccine matter. Hutchison, *Report of . . . 1868*, 12; Ferdinand W. Hutchison, *Report of the Board of Health to the Legislature of 1870* (Honolulu: n.p., 1870), 21.

⁶⁹ *HG*, 5/18/1870 and 5/21/1870.

companies by eliminating the common practice of repurposing inbound and infected vessels as floating quarantine facilities.

Soon after the *Idaho*'s departure, the BOH managed to secure “a portion of the reef known as Kaholaloa”—a 700-acre sandbank elevated two feet above sea level and “situated . . . directly opposite the city.” While some critics considered this mid-harbor location too close for comfort, it was generally understood that the seaport possessed “no other or more proper place . . . capable of isolation.” Adhering to the miasma theory of disease, health officials further noted that such a location was particularly salubrious for it possessed “the advantage of all the airs of heaven, from whichever quarter they may blow.” Taken together, the BOH was confident that it could convert Kaholaloa into a fully-functioning quarantine station if given ample time and the appropriate resources.⁷⁰

The “Quarantine Grounds,” as they came to be known around town, were completed in mid-April 1869 and cost \$7,406.40. The compound was not only equipped with “cook-houses, offices,” and a cottage for attending physicians, but also consisted of three “well ventilated” buildings: a twelve-bed holding cell for “those suspected of having disease”; an eight-bed pesthouse for “confirmed cases”; and a “long, large, roomy,” and segregated boardinghouse for healthy men and women “unfortunate enough to arrive . . . in an infected vessel.” In all, the mid-harbor islet was “capable of accommodating ninety-five persons” of various health statuses (Figures 6 and 7). After securing a private tour of the grounds, James Black reported

⁷⁰ The reef was leased from William Sumner—a wealthy Englishman who owned upwards of 7,000 acres of land distributed throughout Honolulu and its environs—for “twenty dollars per month for ten years,” after which the government would be able to “purchase of the whole property.” J. Dowsett to F. W. Hutchison, 1/23/1869, Series 334: “Incoming Letters of the BOH, 1850-1904,” Box: 3, Folder: “No Date; January-February, 1869”; *HG*, 2/10/1869; Daws, *Honolulu: The First Century*, 119.

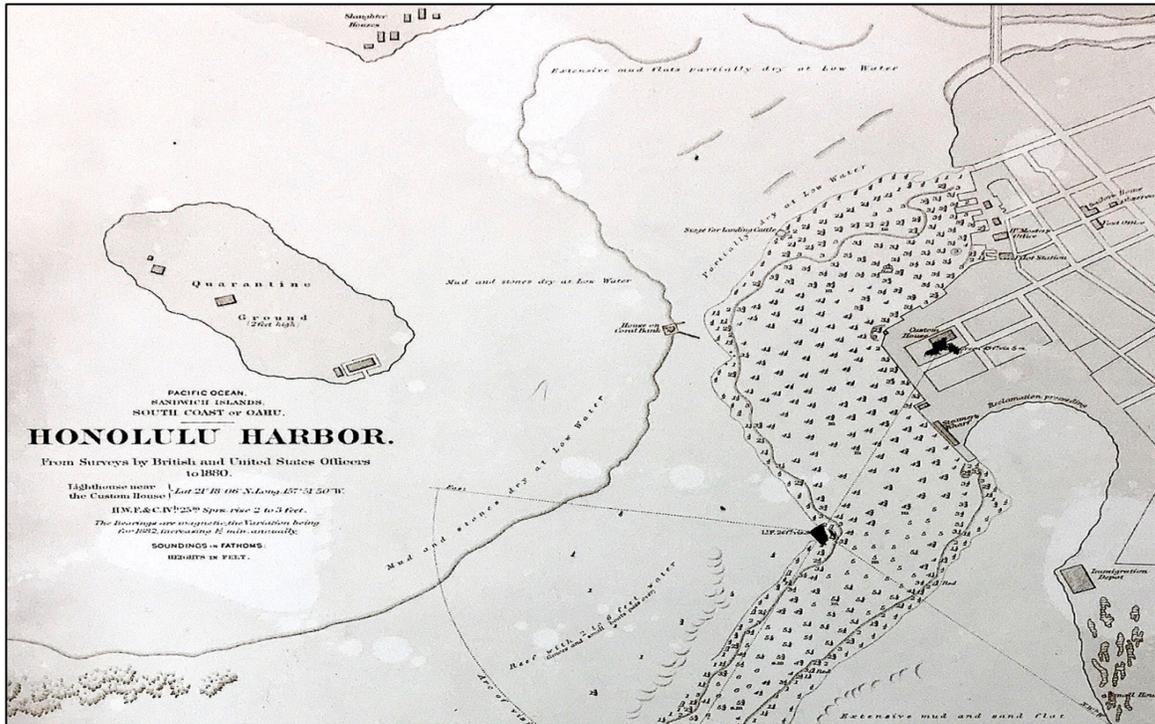


Figure 6: *Honolulu Harbor: From Surveys by British and United States Officers, c. 1880,* Hawai'i State Archives



Figure 7: *View of the Quarantine Grounds from Honolulu Harbor, c. 1888,* Hawai'i State Archives

that such accommodations were “all that could be asked for” in terms of the “comfort and convenience of those whom” the BOH regarded as potential threats to Honolulu.⁷¹

The Kingdom’s newest public health facility would face its first challenge in 1872 when the *SS Nebraska* arrived in Honolulu from San Francisco with a case of an unidentifiable disease below deck. Upon boarding the vessel, Honolulu’s port physician confirmed that a passenger by the name of Fletcher was indeed ill, but failed to assign an exact diagnosis. Fearing for the man’s wellbeing yet unconvinced that smallpox was the culprit, the physician had the patient taken to the Queen’s Hospital. Unable to secure a solitary room, Fletcher was again moved, this time to the Marine Hospital—a local institution for sick and disabled seamen. In the process of transporting the patient, the physician had recruited the services of a Native Hawaiian man by the name of Naiole, who initially “helped Fletcher to dress when starting for the Hospital” and later “assisted him in and out of the carriage” multiple times along the journey. Fletcher passed away within two days of his admittance to the Marine Hospital.⁷²

But the damage had already been done. By May 22, Naiole had fallen ill “with a dry hot skin . . . thickly coated tongue . . . [and] slight cough,” and was provided with a bed upon seeking treatment at the Queen’s Hospital. Naiole’s health ebbed and flowed over the next two days, culminating in “a vesicular eruption . . . on his feet and legs,” at which point he was

⁷¹ *HG*, 4/21/1869; 5/18/1870; 5/21/1870.

⁷² *PCA*, 6/15/1872; “An Act to Aid in the Establishment of Hospitals for the Benefit of Sick and Disabled Hawaiian Seamen,” 5/13/1859, Hawaiian Kingdom, *The Civil Code of the Hawaiian Islands, Passed in the Year of Our Lord, 1859* (Honolulu: n.p. 1859); *HSA*, Series 334: “Incoming Letters of the BOH, 1850-1904,” Box: 4, Folders: “Board of Health vs. Captain Harding of *SS Nebraska*,” “Relating to Smallpox in Queen’s Hospital, 1872” and “Reports of D. Dayton.”

sequestered in his own room. An additional three days elapsed before his attending physician, Dr. Robert McKibbin, Jr., sought counsel from his professional colleagues. On May 27, a meeting among physicians and health officials took place at Naiole's bedside to take stock of his illness. According to one local doctor and druggist, it was clear that Naiole had a "cutaneous disease," but the symptoms of "secondary syphilis . . . on the lower extremities . . . made it in [his] mind very doubtful of the man having varioloid or variola." Others concurred with this interpretation, however, now that "a Quarantine Hospital in Honolulu" had been established, he thought it best to "have the man removed at once" to protect the residents of the Queen's Hospital and the community at large from what might prove to be a true case of smallpox.⁷³ Considered together, the handling of Fletcher and Naiole was characterized by one clinical error after another.

And the most destructive medical misstep? During the first two days at the Queen's Hospital, Naiole walked through its corridors, used its communal facilities, and openly conversed with his fellow convalescents. Perhaps unsurprisingly, thirteen reported cases of smallpox surfaced in Honolulu by mid-June. According to the President of the BOH, seven of these "were *directly traceable to the first case* which appeared in the Queen's Hospital." On June 13, Hutchison requested a detailed list of patients discharged between Naiole's intake and the present date so that "the several individuals may be traced as far as possible, and the parts of the Islands to which they may have proceeded be placed under special inspection." The resulting list of 31 patients was by no means reassuring: While some were located and later

⁷³ Robert McKibbin, Jr., Edward Hoffman, and George Trousseau to the Trustees of the Queen's Hospital, *HSA*, Series 334: "Incoming Letters of the BOH, 1850-1904," Box: 4, Folder: "Relating to Smallpox in Queen's Hospital, 1872."

detained in quarantine, the majority had allegedly “run away” to Honolulu or the rural regions of O‘ahu, Kauai, Maui, and the Big Island.⁷⁴ Indeed, the BOH was now confronted with the possibility of an urban *and* interisland epidemic.

Meanwhile, sporadic cases continued to appear within and beyond Honolulu while local newspapers published reports that smallpox had made its way Maui. In what seems to have been an act of desperation, the BOH sought the services of Dr. Georges Trousseau—a French physician who arrived in Honolulu from New Zealand only days before Naiole was admitted to the Queen’s Hospital. Although this was Trousseau’s first time in Hawai‘i, his name quickly circulated among Honolulu’s public health and medical community, for his father was the distinguished physician and internist, Dr. Armand Trousseau of Paris. And so, at the end of May, Trousseau obtained the posts of Honolulu’s port physician and attending physician for the Quarantine Grounds. As port physician, Trousseau convinced the BOH to enact an interisland travel ban on passengers, mail, and non-commercial articles, arguing that the “Kingdom was very fortunately situated” since it was “composed of separate islands.” In other words, “it was a comparatively easy matter to confine the disease” to the island on which smallpox “first made its appearance by a prohibition of *passenger communication*.” To ensure the steady flow of commerce, however, interisland steamers and coasting vessels carrying sugar, rice, coffee, and other commodities were exempt from the ban, as were all transpacific ships.⁷⁵

⁷⁴ BOH Minutes, 6/13/1872, *HSA*, Series 259, Vol. 2, 7/1/1868-6/25/1881, 52; *HSA*, Series 334: “Incoming Letters of the BOH, 1850-1904,” Box: 4, Folder: “Relating to Smallpox in Queen’s Hospital, 1872.”

⁷⁵ BOH Minutes, 5/25/1872, 7/11/1872, *HSA*, Series 259, Vol. 2, 7/1/1868-6/25/1881, 48, 54; Jean Greenwell, “Doctor Georges Philippe Trousseau, Royal Physician,” *Hawaiian Journal of History* 25 (1991): 121-145.

In his capacity as attending physician of the Quarantine Grounds, Trousseau secured the services of D. Dayton, Deputy Marshal of O‘ahu, who canvassed Honolulu and its environs in search of those who were either in contact with Naiole at the Queen’s Hospital or were exposed to smallpox thereafter. As the pesthouse, holding cell, and boardinghouse gradually filled over the ensuing months, Trousseau often commented on the built and natural advantages of the Quarantine Grounds. The “buildings are most favorably situated,” he wrote to Hutchison in late summer.

The reef is constantly swept out by the trade winds, and flies and mosquitoes hardly make their appearance here. The number of detached buildings has allowed me to divide the patients into two or more classes, according to circumstances. The large quarantine building [the boardinghouse] has proved a valuable institution, as it has enabled me to isolate whole families.

On September 6, Trousseau discharged the final three “exiles of Kohololoa.” Between the arrival of the *SS Nebraska* and the end of Honolulu’s smallpox outbreak, the Quarantine Grounds had detained and treated 37 confirmed cases of smallpox, of which 11 ultimately passed away. That 26 individuals recovered was, according to Trousseau, “due to the healthy situation of the Quarantine Hospital” and Honolulu’s favorable climate. At the same time, the facility accommodated more than fifty unvaccinated *Kānaka Maoli*, all of whom had been *potentially* exposed to smallpox yet never developed symptoms of the disease. This favorable outcome, Trousseau claimed, was due to his policy “of removing at once all those known to have communicated with the sick”—a principle clearly ignored by McKibbin and others who had attended to Fletcher and Naiole. “I think now that with proper attention to vaccination,

and also to port regulations,” wrote Trousseau in his concluding report to the BOH, “the return of the epidemic might be indefinitely postponed.”⁷⁶

As the smallpox scare resulting from the *SS Idaho* revealed, vaccination programs could compensate for the shortcomings and human errors involved in quarantine. Conversely, as the outbreak resulting from the *SS Nebraska* demonstrated, quarantine could often offset the inherent fallibility of “universal” vaccination programs. Put another way, each public health measure served as a backup in case the other faltered—a symbiotic relationship that port physicians, quarantine officials, and medical professionals would come to embrace as Honolulu was further integrated in a thriving Pacific World economy.

⁷⁶ The total “expenses for arresting the epidemic” amounted to \$5,715.32—“a comparatively small sum,” Trousseau contended, “if you take into consideration the ultimate result.” *PCA* 6/8/1872; *HSA*, Series 334: “Incoming Letters of the BOH, 1850-1904,” Box: 4, Folders: “Reports of D. Dayton” and “Smallpox Reports by Dr. G. Trousseau.” Ferdinand Hutchison, *Report of the Board of Health to the Legislative Assembly of 1874* (Honolulu: n.p., 1874), 1-3.

CHAPTER THREE

“FOUL FILTH” AND FEAR: CHOLERA, SANITARY REFORM, AND HONOLULU’S (RE)BUILT ENVIRONMENT, 1870-1895

It is feared, however, that, as a man thoroughly finishes his sin before he begins to repent, so we, as a people, may bask in the sunshine of health and prosperity, taking no thought for the morrow till the morrow comes laden with some fatal epidemic, the sin of which shall be laid at the door of our parsimony, negligence or apathy.¹

— Dr. J. H. Kimball, 1890

Smallpox was far from the only racialized contagion of foreign origin to agitate Honolulu during the second half of the nineteenth century. In the wake of the *SS Idaho* scare of 1868-69, debates over smallpox bled into debates over the prevention of other virulent diseases. The “terrible Asiatic cholera, that mysterious scourge of the nations,” was on its “slow but sure march westward” across Europe and the United States, wrote James Black, editor of the *Pacific Commercial Advertiser (PCA)*. Alluding to the recent geographic spread of smallpox, the newspaper predicted that cholera would “doubtless find its way to California, our nearest neighbor, as it [had] before” during the gold rush years. For public health officials, merchants, and urbanites in Honolulu, the implication would have been crystal clear: If transpacific commerce, migration, and urbanization facilitated the introduction and dissemination of smallpox, then these same circumstances would likely facilitate the introduction and dissemination of cholera.²

¹ J. H. Kimball, *Biennial Report of the President of the Board of Health to the Legislative Assembly of 1890* (Honolulu: Hawaiian Gazette Co., 1890), 26.

² *PCA*, 8/26/1871. For scholarship on cholera outbreaks in California and along America’s overland trails during the late 1840s and 1850s, see: David Courtwright, “Disease, Death, and Disorder on the American Frontier,” *Journal of the History of Medicine* 46 (1991): 457-492,

Yet smallpox and cholera were fundamentally different diseases and thus required distinct methods of prevention. Whereas public health officials within and beyond Hawai‘i were confident that well-regulated immunization programs and quarantine laws could deter smallpox (or, at the very least, mitigate its transmissibility), they regarded these same measures to be less effective in the fight against cholera.³ Unlike smallpox, cholera was inextricably linked to “filth”—a metonymous catchall that, according to historian Christopher Hamlin, not only connoted notions of contamination, poverty, and moral bankruptcy, but also “packaged description and evaluation; accusation and conviction; and corrective action into one term.”⁴ Cholera erupted among the poor, unwashed, and bedraggled masses, so the logic went, precisely because the masses were poor, unwashed, and bedraggled. Consequently, cholera

Mitchel Roth, “Cholera, Community, and Public Health in Gold Rush Sacramento and San Francisco,” *Pacific Historical Review* 66, no. 4 (1997): 527-51; Wilson Smillie, “The Period of Great Epidemics in the United States (1800-1875),” in Franklin Top, ed., *The History of American Epidemiology* (St. Louis: The C. V. Mosby Company, 1952), 56-57; John D. Unruh, Jr., *The Plains Across: The Overland Emigrants and the Trans-Mississippi West, 1840-60* (Urbana: University of Illinois Press, 1979), 100, 123-124, 139, 408-410.

³ Cholera inoculations developed by European bacteriologists in the 1880s and 1890s exhibited varying rates of success, were met with broad skepticism, and were not mass produced for global distribution until the mid-twentieth century. As such, health officials in turn-of-the-century Honolulu eschewed any serious effort to import cholera vaccines. *HG*, 1/13/1869, 10/18/1895; *PCA*, 9/1/1888; BOH Minutes, HSA, Series 259, particularly Vols. 5, 6, and 17. For scholarship on the gradual abandonment of cholera-specific quarantine measures in the mid-nineteenth century, see: Harrison, *Contagion*, 139-142; Rosenberg, *Cholera Years*, 185-186. For scholarship on the history of cholera inoculations in the late-nineteenth century, see: Waldemar Mordecai Wolff Haffkine, *A Lecture on Vaccination against Cholera: Delivered in the Examination Hall of the Conjoint Board of the Royal Colleges of Physicians of London and Surgeons of England, December 18th, 1895* (London: British Medical Association, 1895); Christopher Hamlin, *Cholera: The Biography* (Oxford: Oxford University Press, 2009), 240-242; Owen Whooley, *Knowledge in the Time of Cholera: The Struggle Over American Medicine in the Nineteenth Century* (Chicago: The University of Chicago Press, 2013), 7, 24, 239; Michael Zeheter, *Epidemics, Empire, and Environments: Cholera in Madras and Quebec City, 1818-1914* (Pittsburgh: University of Pittsburgh Press, 2015), particularly Chapter Six.

⁴ Hamlin, *Cholera*, 78-81.

victims were often deemed responsible for their own suffering on account of their dubious habits and soiled yet self-selected environments. From the perspective of medical professionals, the best safeguard against such a disease was extensive and continuous sanitary reform of a cultural and physical nature.⁵ Instead of regulating bodies and borders, as was standard practice for smallpox, health officials attempting to prevent cholera began to sanitize beliefs, behaviors, and buildings.

In Europe, the Americas, and elsewhere, the association between cholera and filth found refuge in medical, political, and religious spheres long before many of the disease's watershed moments, including Robert Koch's 1884 isolation of the *Vibrio cholerae* bacillus and John Snow's 1854 investigation into London's Broad Street cholera epidemic.⁶ Notably, cholera did not appear in Hawai'i until the early-twentieth century; however, as the disease—or simply the *threat* of it—crept across the globe in the mid-nineteenth century, the cholera-filth equation filtered into Honolulu by way of international news.⁷ And so, by 1871, Black of the *PCA* could

⁵ For scholarship on the general stigmatization of cholera victims, see: William A. Cohen, "Locating Filth," in William A. Cohen and Ryan Johnson, ed., *Filth: Dirt, Disgust, and Modern Life* (Minneapolis: University of Minnesota Press, 2005), vii-xxxvii; Pamela K. Gilbert, *Cholera and Nation: Doctoring the Social Body in Victorian England* (Albany: State University of New York Press, 2008); Suellen M. Hoy, *Chasing Dirt: The American Pursuit of Cleanliness* (New York: Oxford University Press, 1995), 60-70.

⁶ Hamlin, *Cholera*, 78-81. For more on John Snow's and Robert Koch's contributions to the study of cholera, see: Steve M. Blevins and Michael S. Bronze, "Robert Koch and the "Golden Age" of Bacteriology," *International Journal of Infectious Diseases* 14, no. 9 (2010): 744-751; Hamlin, *Cholera*, particularly Chapters Four and Five; Sandra Hempel, *The Strange Case of the Broad Street Pump: John Snow and the Mystery of Cholera* (Berkeley: University of California Press, 2007); Peter Vinten-Johansen, *Cholera, Chloroform, and the Science of Medicine: A Life of John Snow* (Oxford: Oxford University Press, 2003).

⁷ For early Hawaiian references to cholera and filth, see: *Polynesian*, 5/26/1849 and 2/9/1850; *PCA*, 8/31/1866.

confidently publish the following assertion based on the collective experiences of other countries:

It is settled beyond controversy, that filth . . . is provocative of [cholera], and has a mighty influence in determining its progress. Attention to cleanliness will extirpate the latent seeds of disease [and] destroy the peculiar substances upon which it feeds. There should therefore be a strict observance of sanitary laws in all places, especially in this city, that shall be effective in preventing the spread of [cholera], should it be . . . brought hither by ship in these days of speedy and universal travel. . . . We assert as a fact that is patent to any observer, that the sanitary condition of this city is such as in itself might easily breed a pestilence.⁸

At any given moment a vessel could bring cholera to the Hawaiian Islands from the United States, Russia, Japan, or any other Pacific Rim country where the disease festered in the mid- to late-nineteenth century. Ultimately, however, it was Honolulu's putrid garbage heaps, overflowing cesspools, and befouled dwellings alongside its seemingly unclean and uncaring citizenry—in short, the seaport's collective *filth*—that would allow cholera to thrive upon its anticipated arrival.

The communal fear this conviction induced saturated public health discourse in Hawai'i for decades to come, compelling members of the BOH to implement a series of sanitary rules, regulations, and programs tailored to the country's principal seaport.⁹ Their objective? Reform Honolulu's built environment by eliminating sources of filth believed to be potential catalysts

⁸ PCA, 8/26/1871.

⁹ To date, no sustained historical account of Honolulu 1895 cholera epidemic exists, and only a handful of scholars have alluded to it. For instance, see: Glick, *Sojourners and Settlers*, 232-234; Carol MacLennan, *Sovereign Sugar: Industry and Environment in Hawai'i* (Honolulu: University of Hawai'i Press, 2014), 179; James Mohr, *Plague and Fire: Battling Black Death and the 1900 Burning of Honolulu's Chinatown* (New York: Oxford University Press, 2005), 31-34; Only two historians have broached the topic of sanitary reform in nineteenth-century Honolulu. Richard Greer, "Sweet and Clean': The Chinatown Fire of 1886," *Hawaiian Journal of History* 10 (1976): 33-51; Robert Schmitt, "Pipes, Pools, and Privies: Some Notes on Early Island Plumbing," *Hawaiian Journal of History* 16 (1982): 149-170.

of cholera. In so doing, they espoused an informal policy of “sanitary paternalism” whereby the government systematically transferred the burden of sanitary reform from Honoluluans to health and medical professionals while claiming that such a transition was in the public’s best interest. By stereotyping various communities as either inept, deceptive, or uneducated, the BOH was able to assume control over the removal of garbage and human excrement as well as the reconstruction and layout of residential and commercial buildings in the aftermath of municipal disasters. By the early-1890s, the BOH’s efforts had resulted in a relatively clean, organized, and well-regulated seaport and, at the same time, an urban population largely divested of its civic-sanitary responsibilities. Ultimately, however, public health reforms like these were not enough to stave off the introduction of cholera, which would assume epidemic proportions in 1895.

MUNICIPAL DUMPING AND THE BURDEN OF SANITARY REFORM

In the 1860s and early 1870s, sanitary concerns associated with a swelling seaport resulted in municipal regulations dictating where, when, and how Honoluluans could dispose of human excrement and garbage. Health officials believed the success of municipal sanitation relied, at least in part, on the public’s unwavering participation in such regulations. For instance, in 1865, the BOH ordered residents to disinfect all privies “found in a state prejudicial to the public health” and sink all cesspools to a depth of at least nine feet. Such dimensions, officials argued, would let residents go about their private bodily business for years to come without agonizing over the hazards of overflowing cesspits. Moreover, those living in or passing through Honolulu were banned “from depositing any rubbish or filth upon any street, lane, wharf, or vacant lot.” In lieu of indiscriminate dumping, the government established two

makeshift landfills—one west of the Nuuanu River and another southeast of the seaport. Publicized via newspapers and posters in Hawaiian, English, and Chinese, these BOH regulations directed an increasingly diverse population to purify their surroundings by disposing of organic and inorganic waste both *beneath* and *beyond* Honolulu.¹⁰

By 1871, however, sustained transpacific trade had occasioned yet another wave of demographic growth in Honolulu. The influx of nearly 1,500 residents in only six years illuminated the unsustainable nature of the BOH's 'out of sight, out of mind' mentality. The seaport's dual landfills had reached capacity, municipal garbage was "plenty in yards and streets," and open and unemptied "cess-pools [were] in a ferment." According to the editor of the *PCA*, such conditions were particularly alarming in an equatorial archipelago like Hawai'i where the combination of direct sunlight, humidity, and limited space served as "a putrifyer [*sic*]" of filth—the product of which was a gaseous mixture of "the most pernicious elements of disease." Averting an epidemic disaster, he continued, required an enhanced set of regulations and "*an agent specially appointed*" to ensure their continued enforcement. Consequently, the newspaper reprinted the rules and regulations of 1865 "for the public benefit" and as "a hint to the Board of Health."¹¹

The following month, Ferdinand Hutchison, the President of the BOH from 1865 to 1873, acknowledged the *PCA*'s efforts to excite local concern and elicit an official response from the government. After publicly recognizing "the need of making special efforts to clean up the town," Hutchison reissued the BOH's sanitary regulations of the previous decade, but with two notable revisions. First, rather than nine feet, property owners were required to sink

¹⁰ *PCA* 6/24/1865; BOH Minutes, 6/13/1865, HSA, Series 259, Vol. 1, 1/1/1858-8/30/1867.

¹¹ *PCA* 8/26/1871. [Emphasis original].

all future cesspits to a depth of at least twelve feet. Health officials believed this adaptation would equip Honoluluans with the volume needed to successfully manage the seaport's rising tide of human sewage. Second, after abandoning Honolulu's insufficient dumping grounds, the BOH instructed residents to cast garbage into the shoal waters covering the seaport's esplanade—a sunken, level, and undeveloped tideland separating the city from the Pacific Ocean. In time, government officials hoped to transform the resulting landfill into a functional tract of land, which it could then divide and sell to steamship companies or coal merchants seeking additional wharfage.¹² Despite any hidden financial motivations, it remains clear that both BOH regulations rendered public participation an essential component of effective sanitary reform.

Nevertheless, old problems persisted while new ones arose over the next three years. According to the editor of the *PCA*, forcing householders to “dig twelve feet into the bowels of the earth [was] ‘running it into the ground’ with a vengeance,” especially when one considered “how close the coral rock [was] to the surface.” Since run-of-the-mill residents lacked the requisite means, machinery, or skillset to break through Honolulu's bedrock, they had little choice but to construct additional, rather than deeper, cesspools.¹³ In addition, many showed a blithe disregard for the BOH's garbage ordinance, allowing filth to again accumulate in and about their premises. Even residential efforts to offload food waste, broken furniture, and dead animals into the new and improved landfill were offset by less-obliging urbanites

¹² *PCA* 9/16/1871, 10/7/1871, and 10/14/1871; BOH Minutes, 9/8/1871, *HSA*, Series 259, Vol. 2, 7/1/1868-6/25/1881.

¹³ *PCA* 10/7/1871.

who “generally . . . cast [refuse] on the shore” *near* or *around* the esplanade.¹⁴ Rather than concentrated within a designated enclosure at the water’s edge, refuse was now more mobile and scattered than ever before. In short, communal engagement was anything but the sanitary panacea health officials had hoped for.

And so, beginning in the mid-1870s, the BOH embraced a new strategy—one that relieved residents of their civic obligation to participate in the sanitary upkeep of Honolulu. Captain John H. Brown, the former Sheriff of O‘ahu who oversaw the Act to Mitigate in the 1860s, played a pivotal role in redirecting BOH policy. In October 1874, Brown was appointed “Agent of the Board of Health for the City of Honolulu,” a position he held until his death in 1892.¹⁵ As such, he emerged as one of the BOH’s chief strategists whenever sanitary hazards threatened Honolulu’s welfare. Brown’s perspective on public involvement in sanitary reform programs is best exemplified by the following passage, which appeared in his 1884 annual report to the Hawaiian Legislature:

In the discharge of my duties as Agent of the Board of Health, I am perfectly aware of having incurred the displeasure of persons who have been politely required to conform to general and necessary Sanitary Regulations; but the satisfaction of having done my duty is full compensation for the loss of the good opinion of such people. I do care for their health, but not for their opinion.¹⁶

During Brown’s tenure, the disposal of garbage and removal of sewage from Honolulu would remain two of his greatest challenges. To fully understand how he and his colleagues overcame such obstacles, the following pages examine each issue separately.

¹⁴ *HG 3/13/1872*; William N. Armstrong, *Report of the President of the Board of Health to the Legislative Assembly of 1882* (Honolulu: Hawaiian Gazette Co., 1882), 2-3.

¹⁵ *PCA 10/17/1874* and *10/24/1892*.

¹⁶ John H. Brown, “Appendix O: Report of Capt. John H. Brown, Agent of the Board of Health,” in Walter M. Gibson, *Report of the President of the Board of Health to the Legislative Assembly of 1884* (Honolulu: Hawaiian Gazette Co.,) *ci*.

Garbage Removal, the Esplanade, and Land Redevelopment

The earliest iteration of Brown's garbage disposal campaign was not only free of charge, but also demanded minimal engagement from the public. In 1875, Brown issued a series of health notices in the *Hawaiian Gazette*, calling on "all persons, whether natives or foreigners," to sweep all rubbish into piles "in front of their respective premises."¹⁷ On Saturdays, workmen under Brown's authority would gather "damp rotting rubbish from the streets" of Honolulu using a "cart, of goodly size, drawn by a healthy-looking horse." The weekly haul would be "dumped at the water's edge" on Sunday mornings, "levelled off by a gang of prisoners," and covered with sediment dredged from the harbor floor or topsoil excavated from the city's mountainside districts. Overlaying each new installment of garbage with "only the best of absorbents," health officials claimed, would prevent the harmful "escape of miasma[s]" associated with the infectious characteristics of "filth" diseases like typhoid, diphtheria, and most notably cholera.¹⁸

Honoluluans may have experienced a brief reprieve from the local accretion of garbage, but complications arose yet again. To almost no one's surprise, a handful of dustmen, a lone horse cart, and a once-a-week pickup schedule failed to "clean the streets as fast as rubbish [was] deposited." Since residents were now piling refuse in front of their premises, many of the seaport's main thoroughfares were overwhelmed with garbage heaps during the better part of each week.¹⁹ Further, unloading successive cartfuls of trash at the water's edge worked well

¹⁷ *HG* 5/5/1875, 6/2/1875, and 8/11/1875.

¹⁸ *PCA* 7/27/1878 and 12/20/1879

¹⁹ John H. Brown, "Report of the Agent of the Board of Health for February, 1880," in *HG* 3/3/1880.

in theory, but proved hazardous in practice: Over time, the ebb and flow of the tide dislodged layers of garbage previously covered by Brown's prison gang. By the late 1870s, islets of putrescent trash were "sending up a stench of unhealthy gases" as they floated aimlessly around the harbor.²⁰ For the second time in five years the BOH had exacerbated Honolulu's urban refuse problem. By assuming responsibility over garbage removal without adequate resources at the ready, Brown inadvertently transformed a relatively confined, semi-private nuisance into a geographically-expansive, public ordeal.

Rather than backtrack on his garbage ordinance or modify his commanding approach to sanitary reform, Brown doubled down. In the early 1880s, he called on the BOH for additional resources, including extra wagons, horses, and a more substantial labor force. Brown also divided Honolulu into multiple districts, dedicating different days of the week to removing trash from different sections of the city. Taken together, he hoped his enhanced efforts would "keep the streets comparatively clear of rubbish."²¹ Meanwhile, to curb the spread of garbage throughout Honolulu's harbor, Brown urged the BOH to secure government funding for the construction of a sea wall that would run "eastward from the extension of Alakea street along the makai line of Halekauwila street below low water mark." As Map 3.1 demonstrates, these somewhat vague specifications would have placed the breakwater along the southwestern border of the esplanade, thus sealing off the landfill from tidal waters.²²

Brown's determination soon paid off. The organized removal of garbage, he boasted, had become "a matter of so much consequence" that residents eagerly anticipated "the coming

²⁰ Armstrong, *Report of the President* [. . .] of 1882, 2-3; *HG* 12/17/1879.

²¹ Brown, "Report [. . .] for February, 1880," in *HG* 3/3/1880.

²² Brown, "Report of J. H. Brown, Agent," in Armstrong, *Report of the President* [. . .] of 1882, 85.

of the cart” and took pleasure in “deposit[ing] in the street what rubbish may have accumulated” during the week.²³ While this was almost certainly an overstatement, municipal health reports from the mid-1880s reveal that up to 150 dustmen were removing and relocating between 800 and 1200 cubic feet of garbage per day. According to Brown, one could simply glance across “the flats *makai* of Queen Street” to fully appreciate the extent of his disposal program and the geographic impact the seawall had on Honolulu’s built environment.²⁴ As seen in Map 3.2, the BOH’s breakwater prevented the effects of tidal flow and delimited the southern boundary of the landfill, which together mitigated a “long existing, most disgraceful and intolerable source of discomfort and disease” while also generating “valuable and desirable land hitherto worthless at a comparatively small outlay.”²⁵ By the late 1880s—or, nearly two decades after the esplanade had been transformed into a dumping ground—the Ministry of the Interior gradually auctioned off individual lots to commercial heavyweights in Hawai‘i’s agricultural, manufacturing, and shipping industries (Figure 8).²⁶

In his final report of 1888 Brown celebrated the BOH’s sanitary accomplishment while touting his own philosophical contribution to the program:

The garbage-service was perhaps never so satisfactorily and economically performed as at the present time, being entirely under the control of the Health

²³ Brown, “Report [. . .] for February, 1880,” in *HG* 3/3/1880.

²⁴ *PCA* 11/2/1885; Brown, “Appendix O,” in Gibson, *Report of the President [. . .] of 1884*, pp. cii-ciii.

²⁵ Brown, “Report of J. H. Brown, Agent,” in W. N. Armstrong, *Report of the President [. . .] of 1882*, pp. 85-86

²⁶ For instance, James A. Hopper, a sugar agent and future politician, purchased a 5,000 square-foot lot on the esplanade for \$3,700 in 1889. Likewise, John S. Spencer, a prominent engineer and agent for many of O‘ahu’s sugar plantations, purchased property on the esplanade in 1890, upon which he built Honolulu’s Union Iron Works Co. *PCA* 7/3/1889, 7/5/1889, and 4/22/1890.

Demographic and commercial growth continued well into the twentieth century, which contributed to Honolulu's garbage output and threw into stark relief the need for more urban space.²⁸ With the esplanade out of service, the government began to encroach on other coastal zones in search of new dumping grounds. In the early 1890s health agents were unloading rubbish between Richards Street and Kaka'ako, a low-lying district previously used for salt production, wetland agriculture, and Native Hawaiian burials. Within a decade the landfill was relocated yet again—this time to the lands *makai* of Iwilei, an expansive vice district to the west of the Nuuanu Stream.²⁹ However, as municipal refuse consumed Honolulu's littoral landscape, the government was forced to diversify its method of disposal. In 1905, the BOH established a garbage crematory at Iwilei for the incineration of paper, food, and other forms of combustible waste while “dead animals, bulky iron, etc., [were] towed about three miles to sea and dumped.”³⁰ Nevertheless, by the early twentieth century, the government had reclaimed nearly two miles of shoreline using a mixture of sand, sediment, soil, and trash—all of which was made possible, at least in part, by a public health program that largely relieved residents of their civic obligation to participate in sanitary reform.

Sewage, Cesspools, and the Odorless Excavator

Brown's strategy for removing human excrement from Honolulu was comparable to his strategy for removing and relocating municipal garbage. Less than a month after his

²⁸ Beechert, *Honolulu: Crossroads of the Pacific*, p. 99-100.

²⁹ David Dayton, *Biennial Report of the President of the Board of Health to the Legislature of the Hawaiian Kingdom, Session of 1892* (Honolulu: Hawaiian Gazette Co., 1892), 22; *HG* 3/20/1888; *PCA*, 12/13/1899. Beechert, *Honolulu: Crossroads of the Pacific*, 99-100

³⁰ *PCA* 8/22/1904, 2/25/1905.

appointment in 1874, the BOH published revised regulations that placed the responsibility of municipal sewage in the hands of public health officials. “Privies, cesspools, drains, sewers, ponds” or other chambers “containing stagnant water, manure, or filth” were to be emptied and “cleansed by the Board, or its Agents, at the [owner’s] expense”—no doubt a tall order for penniless Hawaiians or newly-arrived Chinese laborers.³¹ While highlighting his early influence over municipal regulations, this about-face in BOH policy also suggests that Brown deemed Honoluluans either unable or unwilling to bear the burden of sanitary reform.

As in other cesspool-saturated cities of the mid-nineteenth century, health officials in Honolulu most likely removed human waste using buckets, pulleys, and handcarts.³² Despite Brown’s dirty work, newspapers indicate that his efforts were wholly inadequate. According to the *Hawaiian Gazette*, the demographic growth and physical development of Honolulu in the 1870s—both of which were direct corollaries of the 1875 Reciprocity Treaty—had fostered the “indefinite multiplication of cesspools.”³³ By the end of the decade, almost every plot of land in Honolulu concealed “a reeking cess-pool, where human ordures [had] been accumulating for years, without any outlet, while the pestilential matter ooze[d] underground creating fetid exhalations that pollute[d] the air.”³⁴ In other words, there was now more excrement in, on, around, and underneath Honolulu than Brown’s workforce could manage.

³¹ *HG*, 11/14/1874. [Emphasis added].

³² Jamie Benedickson, *The Culture of Flushing: A Social and Legal History of Sewage* (Vancouver: University of British Columbia Press, 2007); Dean Ferguson, “Nightsoil and the ‘Great Divergence’: Human Waste, the Urban Economy, and Economic Productivity, 1500-1900,” *Journal of Global History* 9, no. 3 (2014), 379-402; Susan B. Hanley, “Urban Sanitation in preindustrial Japan,” *Journal of Interdisciplinary History* 18, no. 1 (1987), 1-26; Donald Reid, *Paris Sewers and Sewermen: Realities and Representations* (Cambridge: Harvard University Press, 1991).

³³ *HG*, 7/19/1876.

³⁴ *PCA*, 3/10/1877.

The compounding hazards of human waste sparked debate among concerned townsfolk, many of whom proposed solutions ranging from the mundane and predictable to the seemingly bizarre. According to one advertisement, the cheapest way to disinfect pools of pestilential sludge involved admixing readily available chemicals like ferrous sulfate or potassium permanganate. For overflowing privies or bursting culverts, equal parts “powdered charcoal and fresh lime” served as “an excellent absorbent.”³⁵ Alternatively, Thomas G. Thrum, a local bookseller and famed publisher of the *Hawaiian Almanac and Annual*, urged residents to neutralize “offending and unhealthy gases” emanating from cesspools by burning barrels of coal tar—a technique practiced in New Orleans, Memphis, and other cities in the American South during the U.S. cholera epidemic of 1873.³⁶ Yet it was the editor of the *PCA* who emerged as one of the more resourceful advocates of waste reform: Abandon all privy vaults and cesspools “within certain limits of the city,” he insisted, and make “the construction of earth closets . . . compulsory on householders.” As waterless precursors to the modern toilet, earth closets stored “accumulated deposits” in wooden pails or shallow pits that residents could later use as manure.³⁷ Accessibility, viability, and utility aside, these community-oriented, do-it-yourself strategies sought to democratize public health reform and were thus incompatible with the BOH’s expanding jurisdiction over municipal sanitation.

To be sure, government officials also recognized the need to mitigate the impending risks of privy vaults and cesspools. “Sewerage has taken much of my thought. There is no

³⁵ *PCA*, 11/4/1876 and 12/17/1879.

³⁶ *PCA*, 12/20/1879; *HG*, 12/17/1879; Rosenberg, *Cholera Years*, 37-38; House Committee on Commerce, United States Congress, *The Cholera Epidemic of 1873 in the United States* (Washington: Government Printing Office, 1875).

³⁷ *PCA*, 10/25/1879.

question that something must be done,” declared Samuel G. Wilder, a planter, shipping magnate, and politician who served as the President of the BOH from 1878 to 1880.³⁸ Accordingly, Wilder directed Captain Brown and Robert Stirling, the Superintendent of Public Works, to inquire into the physical and financial feasibility of constructing public sewers or converting privy vaults into dry earth closets.³⁹ Taking geography, geology, and engineering costs into consideration, Stirling made three key recommendations: (1) immediately dispense with vaults and cesspools; (2) construct earth closets for an estimated \$112,000 as opposed to municipal sewers for an estimated \$185,000; (3) empower health officials to “conduct the removal of excreta . . . by stringent supervision.”⁴⁰ Brown also advocated for a “well systemized plan of earth closets,” but on the basis that sewers were “exceedingly deleterious . . . unless constructed of the very best material and on the most scientific [of] principles.”⁴¹ Common to both reports was a fundamental tenet that the state, rather than the public, should manage any and all changes to municipal sanitation.

Yet in the end neither sewers nor earth closets were pursued. A businessman through and through, Wilder championed financial restraint and efficiency in all aspects of his professional life, particularly government administration and public works. After leaving his presidential post in August 1880, Wilder remained an active—and fiscally conservative—

³⁸ Samuel G. Wilder, *Report of the President of the Board of Health to the Legislative Assembly of 1880* (Honolulu: n.p., 1880), 42.

³⁹ BOH Minutes, 10/22/1879, *HSA*, Series 259, Vol. 2, 7/1/1868-6/25/1881.

⁴⁰ Stirling also estimated that sewers and dry earth closets would have annual maintenance costs of \$5,730 and \$8,175, respectively. Robert Stirling, “Report from Superintended of Public Works,” in Wilder, *Report of the President* [. . .] *of 1880*, 42, 45, 48-49.

⁴¹ John H. Brown, “Report of the Agent of the Board of Health, for Honolulu,” in Wilder, *Report of the President* [. . .] *of 1880*, 52.

member of the BOH for the next 11 months.⁴² So when a more accessible and significantly less-expensive method for handling municipal sewage came to light, Wilder seized the opportunity.

In September 1880, the *PCA* published an exposé on the Odorless Excavating Apparatus Company (OEAC)—a Baltimore-based firm that manufactured a portable machine “by which cesspools and other receptacles of filth [were] emptied rapidly, and without offence to the nostrils of anyone.”⁴³ Distributed at least as far as Hawai‘i, the OEAC’s 35-page promotional pamphlet detailed the excavator’s “great cardinal features,” which included: a patented pump and extended suction hose that syphoned raw sewage and the “innumerable odds and ends that [found] their way into sinks and cesspools”; a 640-gallon airtight receiving tank that reached capacity in less than 20 minutes; and a charcoal furnace that deodorized “noxious gases displaced from the tank” during operation. To facilitate both long-distance transportation and maneuverability in restricted spaces, a “pump-gang” of two or three servicemen bolted the tank to a horse-drawn carriage and secured the pump, hose, and furnace to a small spring handcart (Figure 1). Taken together, the excavator’s constituent parts prevented many of the hazards “the old cart and bucket plan” created—namely, the effusion of foul odors and “the spilling and slopping of the contents of the buckets in passing them from the vault to the street.”⁴⁴

⁴² Upon his eventual departure from government administration, Wilder dedicated his time to his sugar plantations, the construction of railroads on the island of Hawai‘i, and the expansion of his business, the Wilder Steamship Company. Kuykendall, *Hawaiian Kingdom, Vol. 3*, 204-214; J. C. Condé, *Narrow Gauge in a Kingdom: The Hawaiian Railroad Company, 1878-1897* (Felton: Glenwood Publishers, 1971).

⁴³ *PCA* 9/11/1880.

⁴⁴ The Odorless Excavating Apparatus Co. (OEAC), “The Odorless Excavating Apparatus for Emptying Vaults, Sinks, Cesspools, Sewers, Cellars, Wells and Excavations in the Daytime

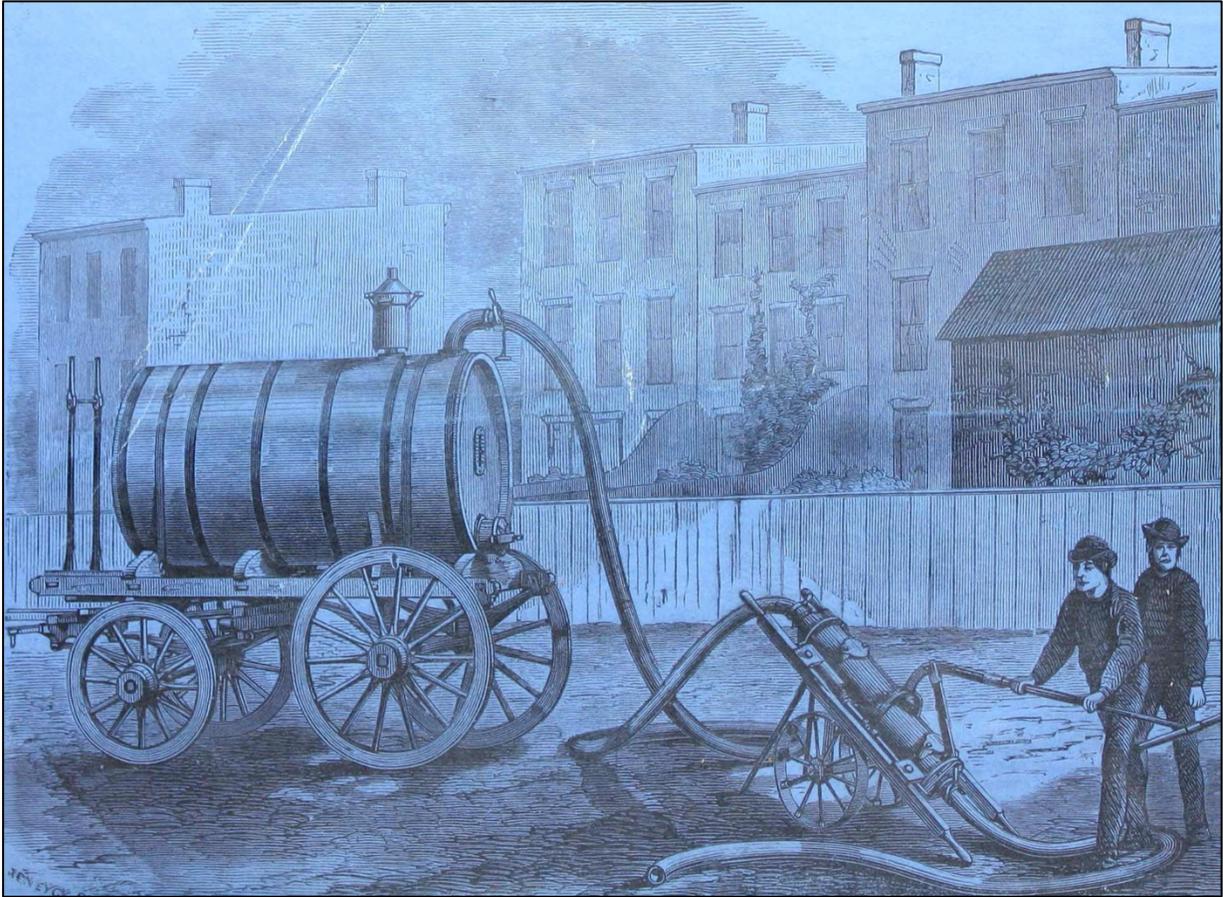


Figure 9: *Odorless Excavating Apparatus*, c. 1875, Odorless Excavating Apparatus Company

Also included in the OEAC pamphlet were newspaper articles and health reports from Boston, Chicago, New Orleans, and other cities where the excavator had become the principal method for emptying cesspits. According to the President of Washington, D.C.'s BOH, between 700 and 1,000 vaults had been evacuated weekly since procuring the device in 1873. The following year, four of Boston's night-soil contractors willingly submitted to government supervision after replacing their pails and pushcarts with excavators. In fact, so popular was

without Offense" (Baltimore: John Murphy & Co., 1875), 4, 6-8, 14, 16, 20; Matthew A. Crenson, *Baltimore: A Political History* (Baltimore: Johns Hopkins University Press, 2017), 292-293, 325-326.

this pioneering technology that municipal health boards in New England and the Mid-Atlantic began touring neighboring states to assess the machine's efficacy before purchasing one of their own. In the words of one Baltimore health official, the odorless excavator represented "the inauguration of a new era" in sanitation and was thus "destined to prove one of the greatest blessings of the age."⁴⁵

On account of the OEAC's "remarkably complete" pamphlet and "most meritorious" invention, the editor of the *PCA* urged the government to introduce this modern marvel to the streets of Honolulu.⁴⁶ Heeding yet another newspaper appeal, Wilder traveled to San Francisco and Oakland in October 1880 to witness the machine in action, and by late December, he had "fully enquired regarding the workings of Odorless Excavators and was well satisfied" with their capabilities. Upon his departure, Wilder ordered a single apparatus from an OEAC agent for the modest sum of \$1,400—a far cry indeed from the exorbitant cost of constructing and maintaining municipal sewers or dry earth closets.⁴⁷ On February 5, nine wooden crates packed with the constituent parts of an excavator reached Honolulu aboard the American barquentine *Ella*.⁴⁸

However, residents, merchants, and public health officials were in the throes of a rapidly expanding smallpox outbreak. When the disease assumed epidemic proportions on

⁴⁵ OEAC, "The Odorless Excavating Apparatus," 20-35; Eliot C. Clarke, "City Scavengering at Boston: Read at the Seventh Annual Meeting of the American Public Health Association, Nashville, Tenn., November 18, 1879," printed in American Public Health Association, *Public Health Reports and Papers, Volume 5* (Boston: Houghton, Mifflin and Company, 1880), 30-31.

⁴⁶ *PCA*, 9/11/1880.

⁴⁷ *Saturday Press*, 10/30/1880 and 1/1/1881; H. W. Severance to Henry P. Carter, 1/3/1880, *HSA*, Series 334, Box 3, File: "Incoming Letters: January 1-12, 1881"; BOH Minutes, 1/3/1880, *HSA*, Series 259, Vol. 2, 7/1/1868-6/25/1881.

⁴⁸ *PCA*, 2/12/1881.

February 4, the day *before* the Ella's arrival, the BOH suspended all public health operations that did not directly intervene in smallpox's perceived epidemiology. Since human sewage was not considered a principal medium through which smallpox spread, both the excavator and Honolulu's cesspools sat idle for the next four months. Only after the epidemic showed signs of subsiding did health officials return to less urgent (yet no less important) matters related to sanitation.⁴⁹

On June 1 of the same year, the BOH fastened a furnace, hose, pump, and 640-gallon tank atop a flatbed carriage, harnessed two horses to the vehicle, and handed the reins over to Captain Brown. While health records do not indicate which properties were scheduled for immediate drainage, one can infer that Brown started with Chinatown—a district increasingly honeycombed with cesspits as Honolulu's Chinese population grew during the late 1870s and early 1880s.⁵⁰ Either way, reports from *PCA* correspondents who shadowed the excavator on its first day of service reveal that the absence of “a proper receptacle for the nightsoil of the city was immediately felt.”⁵¹ After months of research, planning, and anticipation, Honolulu now had the technology to rapidly remove excrement, yet no designated site to dispose of it. Across well-connected regions of urban America, human waste was often transferred from receiving tanks to massive vats placed on railroad cars, boats, or barges, emptied into sunken pits located well beyond municipal borders, and later used as agricultural manure. As a result,

⁴⁹ During the first five months of 1881, board members discussed (and subsequently acted on) nothing but travel restrictions, quarantine regulations, vaccination programs, and other issues related to smallpox. BOH Minutes, 1/3/1881 to 6/25/1881, *HSA*, Series 259, Vol. 2, 7/1/1868-6/25/1881 and Vol. 3, 6/25/1881-12/31/1888; *PCA* 6/22/1881.

⁵⁰ Between 1878 and 1884, nearly 4,000 Chinese migrants settled in Honolulu. Glick, *Sojourners and Settlers*, 128.

⁵¹ *PCA*, 6/4/1881.

vast amounts of human waste could be “removed quietly, conveniently, and without offense” to the Victorian sensibilities of city dwellers.⁵² This was not the case in Honolulu.

After the receiving tank’s first fill of the day, Brown ordered his workmen to dig “a series of holes . . . on unoccupied land” just beyond the “residences of well-known citizens on Beretania street.” Located less than a mile from central Honolulu, this “improvised ‘Manure Depot’” was neither secluded, discreet, nor inoffensive to the senses.⁵³ “The stench arising from the filth” as it was poured into the ground “poison[ed] the atmosphere of our homes,” protested C. C. Coleman, a local machinist who petitioned the BOH on behalf of his neighbors. Since the surrounding community felt “justly indignant” at Brown’s decision to dump the seaport’s “foul filth on [their] door steps,” Coleman implored health officials to suspend any official activity that might “prove a breeder of disease.”⁵⁴ Immediate acquiescing, the BOH “ordered the nuisance to be carried off to the neighborhood of someone else’s nostrils.”⁵⁵ Indeed, assuming responsibility for the removal and relocation of municipal sewage did not automatically shield health officials from the fallout of residential grievances.

This was far from the only complication the BOH encountered. As Brown extracted sewage from one begrimed property after another, he became acutely aware of the environmental damage wrought by old and overused vaults and cesspools. Reporting on Brown’s progress, the editor of the *Hawaiian Gazette* claimed that the earth was so “saturated

⁵² OEAC, “The Odorless Excavating Apparatus,” 18-19.

⁵³ *PCA*, 6/4/1881.

⁵⁴ C. C. Coleman to Henry A. Carter, “Protests against the dumping of contents from Privies and Cesspools in Pits above Beretania St. back of residences,” 6/1/1881, *HSA*, Series 334, Box 10, Folder: “Incoming Letters, June 1-8, 1881.”

⁵⁵ *PCA*, 6/4/1881. The location and extent of the government’s alternate dumping grounds are not disclosed by any surviving archival records.

and infected with filth” from seeping cesspits, that the soil had decayed into “a mass breeding [of] disease and death.”⁵⁶ Rather than confined to an individual district, subsurface leakage had become a citywide issue as immigration added to the density of Honolulu’s peripheral neighborhoods. In response, the BOH ruled in September 1881 that all cesspits “must be made water-tight” upon excavation by a health agent if located within the region bounded by the harbor, the Nuuanu Stream, and Victoria and South Streets—which together marked the residential and commercial edges of Honolulu.⁵⁷

Even with the geographic proliferation of vaults and cesspools, not all neighborhoods were polluted (or cleaned) equally. Chinatown’s more disorganized city blocks were composed of a hodgepodge of contiguous properties that often enclosed smaller lots harboring sanitary nuisances. Word of mouth or a sharp sense of smell might expose the location of a secluded cesspool, but excavating one became a logistical nightmare in the absence of public alleyways between private premises. In other words, residents living next to a putrid cesspool could deny health officials the use of their property as an access point or thoroughfare. Brown must have encountered public refusal often, for the BOH urged lawmakers in 1882 to pass legislation empowering Honolulu’s “Health agent to transport the excavator over private lands where there [was] no public or convenient access to places” in need of drainage.⁵⁸

⁵⁶ *HG*, 6/22/1881.

⁵⁷ BOH Minutes, 9/23/1881, Series 259, Vol. 3, 6/25/1881-12/31/1888. According to the *Hawaiian Gazette*, a privy vault or cesspool could be made water-tight using tongue-and-groove redwood slats (most likely imported from California) and a single coat of tar. *HG* 6/22/1881.

⁵⁸ Armstrong, *Report of the President* [. . .] of 1882, 2; Brown, “Report of J. H. Brown, Agent,” published in Armstrong, *Report of the President* [. . .] of 1882, 85-86.

Obstacles and setbacks aside, archival records indicate that the excavator remained a key piece of equipment in the BOH's sanitary arsenal until the early-twentieth century. In his annual report of 1884, Brown extolled the machine's many benefits in relation to Honolulu's most notorious city blocks:

The Odorless Excavator continues to do good work, and I do not know what would be done without it. It is indispensable, where so many Chinese dwell together; both for vaults and cesspools, the latter of which seems to be a part of a Chinaman's religion, for all have one large or small, usually underneath some part of the house, whether for the purpose of concealment or convenience, I know not; but probably the former.⁵⁹

Both within and beyond Chinatown, ingenuity, portability, and maneuverability were the excavator's greatest assets. Yet these qualities alone would not have solved Honolulu's cesspool problem. Without the BOH's command over municipal sewage alongside Brown's tenacity and enhanced jurisdiction, the apparatus would have achieved limited success and the heart of Honolulu may very well have morphed into "one vast privy vault."⁶⁰ In short, the excavator's true efficacy hinged on the expansive authority vested in public health officials.

But what of the city's sewage? Health reports, government correspondence, and newspapers from the 1880s and early 1890s offer few details, but public works expenditures from the turn of the century indicate that substantial repairs were made to three "Sewage Scows" (unpowered, flat-bottomed boats used for various harbor services) and a "Sewage Wharf," all of which were managed by health agents. These fragmentary line items suggest that at some point during the Hawaiian Monarchy's final decade, the BOH abandoned all

⁵⁹ Brown, "Appendix O," in Gibson, *Report of the President* [. . .] of 1884, cii.

⁶⁰ Brown, "Report of J. H. Brown, Agent," published in Armstrong, *Report of the President* [. . .] of 1882, 86.

efforts to upcycle human waste into agriculture-grade manure and instead dumped Honolulu's sewage into the Pacific Ocean.⁶¹

“PURIFIED AND REVIVIFIED”: THE CHINATOWN FIRE OF 1886

At four o'clock in the afternoon on Sunday, April 18, 1886, a kitchen fire erupted in a Chinese cookhouse on the northeast corner of Hotel St. and Smith St. As plumes of smoke billowed from the building, Chinese residents dashed south along Meek St. toward the police station, crying for help. Watching the chaos unfold, Officer Sam McKeague rang the station bell and an alarm from each of Honolulu's engine houses soon followed. While volunteer firefighters tried to douse the flames with buckets of water, urbanites swarmed the streets with any possessions they could cram into pushcarts and wheelbarrows. Still, the congested and combustible “nature of surrounding buildings invited the flames.” Within minutes, reported *The Daily Bulletin*, the blaze “was leaping from roof to roof, gliding along verandahs, entwining itself about pillars and posts, festooning doors and windows, and darting its fangs into every corner and cranny.”⁶²

The inferno leveled everything in its path as it radiated outward. The Anchor, The Cosmopolitan, and The Empire—all established watering holes lining Hotel St. and King St.—burst into flames, followed by an assortment of American-owned tenements, hotels, and general stores to the north. By nine o'clock, the seamen's bethel, iron works, police station, and other municipal landmarks were nothing but smoldering embers. In an effort to starve the

⁶¹ James A. King, *Report of the Minister of the Interior to the President of the Republic of Hawai'i for the Year Ending December 31, 1895* (Honolulu: Hawaiian Gazette Company, 1895), 40.

⁶² *The Daily Bulletin*, 4/30/1886.

fire of flammables, British naval captains anchored in Honolulu ordered sailors to fell trees, demolish sheds and water closet, and strip doors, window frames, and floorboards from a handful of brick buildings. Marching west, the conflagration razed what was widely considered to be one of Honolulu's "worst areas, from a sanitary point of view." Three city blocks of "closely packed" Chinese lodging houses, "pig-sties, privies, fowl yards, cesspools and accumulations of all sorts of refuse" were quickly reduced to a "black waste of smoking debris." As the fire's glow filled the night sky, hundreds of Chinese and Hawaiian residents propelled doors, tables, and other makeshift rafts piled high with personal effects across the Nuuanu Stream. Forty minutes before midnight, the fire subsided, leaving in its wake 37 acres of ash, \$1,355,000 in damages, and 5,000 to 8,000 people homeless.⁶³

Honoluluans wasted little time picking up the pieces. By dawn the next morning, fire victims were sifting through the cinders while a number of Chinese vendors, eager to reopen, were assembling temporary sheds on empty plots. As workmen tore down the skeletons of ruined brick buildings, James Williams, an English-born photographer whose gallery survived the flames, captured scenes of the tragedy from various vantage points throughout the city (Figure 10 and 11).⁶⁴ Recognizing the severity of the situation, King Kalakaua convened a committee to strategize for long-term relief. Emphasizing the fire's physical destruction and resulting homelessness, Walter Gibson, the committee chairman, framed the fire as a "disaster" under the terms of the Constitution, thereby convincing the Privy Council to establish a \$10,000 relief fund. With \$3,000 earmarked for "erecting model frame dwellings for the [350]

⁶³ *The Daily Bulletin*, April 30, 1886; Richard Greer, "'Sweet and Clean': The Chinatown Fire of 1886," *Hawaiian Journal of History* 10 (1976), 33-40.

⁶⁴ *The Daily Bulletin* 4/20/1886 and 4/30/1886; *PCA* 4/21/1886; Greer, "Sweet and Clean," 41.



Figure 10: *Chinatown Burnt*, April 19, 1886, Hawai‘i State Archives



Figure 11: *Aftermath of Chinatown Fire*, April 19, 1886, Hawai‘i State Archives

natives burned out,” the remainder was used to transform the harbor’s Immigration Depot into an evacuation shelter, which provided food, clothes, lumber, and other essentials to nearly 2,000 Chinese over a six-week period.⁶⁵

In the days following the catastrophe, city dwellers searched for a scapegoat. Native Hawaiians were irate, particularly those on the western edges of Chinatown where damage to property was greatest. Directly after the fire, a sizable crowd of Hawaiians was reportedly “itching for an attack on the . . . Celestial, speaking of the conflagration as his doing and the culmination of his wickedness.” Even though bystanders dispelled rising tensions at the time, “a native on horseback” was seen the next day “dragging a pedestrian Chinaman by the queue” along the old Palama Road.⁶⁶ Meanwhile, the local press did little to assuage public ridicule of Honolulu’s Chinese community. It was no surprise that municipal firemen had been “powerless to cope” with the fire, claimed the editor of the *PCA*. The scale of destruction seemed inevitable once the flames took hold of “the closely built Chinese quarter.” Yet not all was lost, he confessed. From the ashes emerged a blank slate from which to rebuild Chinatown. Surveying the land, widening the streets, and dividing the district into well-organized blocks, for instance, was inconceivable before April 18; after the fire, however, they were all deemed essential measures to ensure the neighborhood’s wholesome revival.⁶⁷ Failure to take such steps, added the editor of *The Daily Bulletin*, would only encourage the “speedy re-erection of a conglomeration of shanties of a more heterogenous class than those wiped off the page of Hawaiian architecture.”⁶⁸

⁶⁵ *The Daily Bulletin*, 4/30/1886; Greer, “Sweet and Clean,” 43-45.

⁶⁶ *The Daily Bulletin* 4/20/1886.

⁶⁷ *PCA*, 4/21/1886.

⁶⁸ *The Daily Bulletin*, 4/30/1886.

Government authorities agreed. Before the smoke had cleared, William Alexander, Hawai'i's surveyor-general, was canvassing the ruins and drafting blueprints of Chinatown's new and improved layout.⁶⁹ Similarly, Charles Gulick, the Minister of the Interior, plastered multilingual broadsheets on singed telephone poles, decreeing that the future repair or replacement of any building in Chinatown "must be of brick, stone, iron, or other approved fire-proof material."⁷⁰ Fire victims also received a government circular stating that a statute establishing "necessary sanitary requirements" for all new buildings was working its way through the Legislature. To avoid forced demolitions at the hands of municipal officials, prospective homebuilders were instructed "to desist from erecting any [permanent] structure on the above mentioned district."⁷¹ These notifications marked the beginning of a governmentwide effort to guide the resurrection of Chinatown and, in the process, inaugurate what the editor of *The Daily Bulletin* labeled "a new era in the sanitary and architectural history of Honolulu."⁷²

Leading the charge were public health officials who believed that regulating Chinatown's revival would not only benefit its inhabitants, but would also enhance the seaport's commercial prestige on an international scale. The fire swept away this "disease-breeding portion" of the city, Gibson proclaimed in his biennial report to the Legislature, thereby offering the government an opportunity to "turn the disaster into a blessing." He called for sanitary legislation that would enhance the authority of the BOH by compelling property owners in Chinatown to comply with current and future public health directives. As Chinatown

⁶⁹ *The Daily Bulletin*, 4/30/1886; Greer, "Sweet and Clean," 42.

⁷⁰ Charles Gulick, "Notice," 4/20/1886, published in *PCA*, 4/21/1886.

⁷¹ Charles Gulick, "Circular: Department of Interior," 4/20/1886, published in *PCA*, 4/21/1886.

⁷² *The Daily Bulletin*, 4/30/1886.

developed under the surveillance of health officials, he predicted, “improvements would accumulate, by force of example,” elsewhere in Honolulu. Systematically purging the cityscape of “damp yards, foul with garbage,” and “over-crowded, illy-ventilated [*sic*] tenements” would transform Honolulu into “a clean and healthy city ready to meet the requirements of her coming position . . . as a great ocean commercial entrepot, maritime rendezvous and sanitarium for the wealthy and educated of foreign nations.”⁷³ A tall but necessary order, indeed. At stake were lives, livelihoods, and, perhaps most importantly for Gibson, Honolulu’s reputation as a reliable seaport for transpacific trade and mobility.

Chinatown and its scorched surroundings would lay mostly barren for the next month as government officials drafted a series of bills to codify and ultimately steer the rebuilding process. Between the end of May and mid-October, the Legislature ratified a total of six statutes, all of which were authored and proposed by Gulick and later approved by King Kalakaua.⁷⁴ While each sought to tackle a different aspect of Honolulu’s built environment, four stand out as particularly transformative.

Ratified on May 29, the first law demarcated fire limits and required all future structures within such limits to be made of fireproof materials. However, unlike prior statutes regulating the general infrastructure and placement of buildings, this law went to the extreme. For instance, it mandated the height of external walls and the thickness of internal walls; regulated the position of awnings, balconies, and business signs; and even banned the addition of “ornamental projections of wood” like cornices and belt courses. Upon conviction, violators were charged with a misdemeanor and fined up to \$500; “the continuance . . . of such violation

⁷³ Walter M. Gibson, *Report of the President* [. . .] of 1886, 16-17.

⁷⁴ Greer, “Sweet and Clean,” 48.

after conviction [was] deemed a new offense for each” additional day, and was thus “punished accordingly.”⁷⁵ In effect, the law not only formalized, but also greatly enhanced, the preliminary restrictions set forth in Gulick’s ad hoc broadsheets. To magnify the government’s panoptical gaze, the Legislature ratified two supplemental bills soon after—one empowering the police justice of Honolulu to adjudicate cases resulting from violations of the aforementioned law, and another authorizing police inquests into fires arising under suspicious circumstances.⁷⁶ By prohibiting the structural conditions that facilitated the fire of April 18th, this particular cluster of statutes sought to ensure Chinatown’s sturdiness and prevent future conflagrations of a similar nature.

On August 28, Gulick’s second noteworthy law was enacted. It prohibited the erection of new buildings in Hawai‘i without a permit from the Superintendent of Public Works. In Honolulu, the law only applied to structures costing more than \$1,000—for instance, grocery stores, hotels, saloons, or other mid-sized buildings typically used for business. Beyond municipal borders, it regulated the construction of “churches, school-houses, . . . or other places of assembly.” By targeting the physical conditions of Honolulu and communities scattered throughout the Hawaiian Kingdom, the language of the law seemed to fulfill Gibson’s call for improving the sanitary conditions of the built environment beyond the confines of

⁷⁵ “An Act to Regulate the Erection and Repairing of Buildings in the City of Honolulu within Certain Fire Limits,” 5/29/1886, *Laws of His Majesty Kalakaua I, King of the Hawaiian Islands, Passed by the Legislative Assembly at Its Session, 1886* (Honolulu: P. C. Advertiser Steam Print, 1886), pp. 3-7.

⁷⁶ “An Act to Confer Jurisdiction Upon the Police Justice and the District Justice of the District of Kona, Island of Oahu in Cases of Violation of the Provisions of an Act Entitled ‘An Act to Regulate the Erection and Repairing of the Buildings in the City of Honolulu within Certain Fire Limits,’” 5/29/1886, and “An Act Providing for Inquests of Fires,” 8/14/1886, *Laws of His Majesty Kalakaua I*, 10-11, 17-18; Greer, “Sweet and Clean,” 48.

Chinatown. With an applicant’s “plans and specifications” in hand, the Superintendent would determine whether the proposed materials were of “sufficient strength and size, and properly placed and fastened, to make the building strong and safe for the uses and purposes for which it [was] intended.” Rotting floorboards, tarp roofs, and walls made of scrap metal were no longer tolerated. Violators were fined up to \$100 and, at the discretion of the Minister of the Interior, the forced reconfiguration or demolition of their property. Failure to comply resulted in an additional \$25 penalty for each week “after the expiration of one week from the date of receiving such order.”⁷⁷

In mid-October, the Legislature passed two additional laws regulating the geographic layout and physical conditions of streets in Honolulu. The first expanded on the surveyor-general’s initial diagram of the burned-over district by instituting a bureaucratic process for establishing the gradients and widths of Honolulu’s streets and sidewalks.⁷⁸ According to William Castle—a member of the House of Representatives and a vehement supporter of the bill—grading was “eminently important . . . for sanitary reasons.” Leveling the streets, constructing sidewalks, and digging watercourses would “allow surface water [to] run off readily,” thereby preventing the formation of odorous, swamp-like puddles that had befouled Honolulu’s streetscape for decades.⁷⁹ The second law sought to prevent the obstruction of thoroughfares in “the city of Honolulu, or in the towns of Lahaina, Hilo, Wailuku, or Kahului”

⁷⁷ The law also established an appeals process. If the Superintendent denied a request, the applicant could call for a Board of Arbitration consisting of three members—one selected by the applicant, one by the Minister of the Interior, and one by the first two appointees. “An Act to Regulate the Construction of Buildings in the City of Honolulu and Elsewhere within the Kingdom,” 8/28/1886, *Laws of His Majesty Kalakaua I*, 23-25.

⁷⁸ “An Act to Establish the Grade of Streets and Highways, and the Grades and Widths of Sidewalks in the City of Honolulu,” 10/15/1886, *Laws of His Majesty Kalakaua I*, 114-115.

⁷⁹ *HG*, 7/29/1886.

by prohibiting an array of seemingly inane behaviors. For instance, one could no longer leave their carriage unattended for more than 15 minutes, tether their horse or mule to a tree, or fly a kite while standing on city streets.⁸⁰ Of particular concern, however, was the construction of verandahs and balconies above sidewalks. These architectural flourishes “[should] be absolutely prohibited,” Gulick declared as legislators debated the bill, since there was always a “liability of passengers being drenched and the streets rendered unwholesome with slops dumped” from above.⁸¹ Taken together, these six statutes would ensure that public and private properties in Chinatown, Honolulu, and other districts across the Kingdom were built, rebuilt, and used in accordance with standards that sanitary-minded ministers and legislators had established.

The immediate effects of Gulick’s urban reform laws looked promising. Two weeks after the passage of his first bill, “the greater portion of the burnt district [was] arising anew in the most substantial form of the builders’ craft.” An estimated \$150,000 worth of construction was underway throughout Chinatown and its immediate surroundings, reported the editor of the *PCA*. Of particular significance were local contractors E. B. Thomas, George Lucas, and Robert Lishman, who presided over a number of fireproof building projects. These included a two-story shop with “plate glass windows and a pressed brick front” for Mrs. Lack, a sewing machine and firearms vendor; a saloon “60x50 feet in size . . . with a stucco-front” for Mr. Freeth and Mr. Peacock, joint owners of The Cosmopolitan; and a “cast iron and

⁸⁰ “An Act to Prevent the Obstruction of the Streets of Honolulu, Lahaina, Wailuku, Kahului, and Hilo,” 10/15/1886, *Laws of His Majesty Kalakaua I*, 116-122.

⁸¹ Representative Castle, on the other hand, argued that “Chinatown would be inexpressibly gloomy if verandahs were forbidden and nothing but ugly dead walls met the gaze.” *The Daily Bulletin*, 6/30/1886.

pressed brick” office building with a slate roof for Mr. Ah Swan, an agent for Chinese-owned rice and sugar plantations. Taken together, reported one correspondent for the *PCA*, Chinatown—and by extension, Honolulu—was “springing from the ashes purified and revived” as urbanites embraced “that substantial advancement which always marks the dawn of real commercial importance.”⁸² Indeed, the makings of a sound and sanitary seaport were well underway.

On Monday, April 18, 1887, exactly one year after the fire, Honoluluans gazed upon “festive gatherings” of Native Hawaiians commemorating the event and “rejoicing that the city” had recovered “with so little derangement of its trade and commerce.” Traces of the conflagration still remained, reported *The Daily Bulletin*, but contractors had covered much of the region with buildings “greatly superior to those devoured by the flames.” In fact, many of these were now “among the finest business edifices in the city.” Due to the “aid of the Government and the openhanded [liberality] of the community,” Honolulu could now take pride in “a clean, healthy, and sightly Chinatown, where filth, squalor, and disease-nurseries” had once existed.⁸³

Months later, however, it had become clear that Gulick’s rebuilding campaign was no longer the enduring panacea government officials had hoped for. Since his first building law only applied to post-fire construction projects, surviving sectors of Chinatown had fallen “far short of [the] sanitary requirements” imposed on redeveloping city blocks. According to the *PCA*’s editor, these remaining rookeries housed “the poorer ones of the [Chinese] race,” many

⁸² *PCA* 7/13/1886; J. C. Lane, *Hawaiian Directory and Hand Book of the Kingdom of Hawaii* (San Francisco: McKenney Directory Co., 1888), 176, 282, 290. *HG* 9/21/1886.

⁸³ *The Daily Bulletin* 4/18/1887.

of whom lacked the financial means or legal wherewithal to bring their dwellings up to code. To make matters worse, stand-alone tenements for many of the displaced had appeared on the outskirts of Honolulu—far beyond the fire limits, and thus outside the purview of Gulick’s first law. In fact, they were “in such close proximity” to one another, reported the *PCA*, that it was only a matter of time before “masses of humanity . . . huddled together there as they formerly were in Chinatown.” Given the arrangement and physical condition of these structures, one of two scenarios is plausible: They either materialized before the passage of Gulick’s second major reform bill, thus negating the Superintendent’s authority, or they cost less than \$1,000 to construct. Ultimately, these pseudo-loopholes revealed the structural flaws of Gulick’s legal campaign. Accordingly, the *PCA*’s editor called for additional regulations that were similar to those “imposed within the fire limits,” but were instead applicable to “all vacant town and suburban ground.”⁸⁴ If Chinese urbanites were mobile and resilient, the editor reasoned, then so too were their living conditions and sanitary habits. As such, no plot should be left unregulated.

Another incisive explanation as to why the rebuilding strategy backfired can be found in the 1888 report of C.B. Reynolds, a seasoned BOH agent. Efforts to prevent Chinatown from devolving “into the same unsanitary state of filth as before the fire,” he recalled, had revived BOH interest in former regulations authorizing health agents “to order and act as well as to advise and threaten.” Accordingly, Reynolds surveyed the district as soon as rebuilding commenced, urging contractors and property owners to implement a gamut of sanitary reforms.

⁸⁴ Evidence suggests that property owners subdivided their lots and opted for smaller, stand-alone construction projects rather than large tenement houses. Doing so allowed them to fall short of the \$1,000 benchmark. *PCA* 1/19/1888.

These included establishing “open yard-space” between structures, filling in cesspools that would otherwise fester under new floorboards, and installing internal drains that would “convey all slops [away] from main premises.” At first, many of Chinatown’s homebuilders complied with his instructions; others, however, “took legal advice on the subject” and discovered that Reynolds was powerless to compel “them to *prevent* a nuisance.” Instead, he “had to wait till the nuisance existed before [he] could” issue an injunction. From this point forward, Reynolds claimed, many of Chinatown’s property owners “acted according to their own ideas of sanitation.”⁸⁵ The outcome?

Cesspools exist, as before, under dwelling houses; privy vaults have . . . been sunk to a depth of from twenty to forty feet, intended probably to last the same number of years without cleaning; in many cases where open yard space was at first left the same [it] is now entirely built over with dwelling houses, [concealing] vaults and cesspools, and making cleaning of the same an impossibility. . . . [Had Chinatown] been rebuilt under the supervision of a sanitary inspector or a commission of the Board of Health, with power to order such improvements as might be deemed requisite, Honolulu might now boast of having the best regulated and most healthy Chinese quarters in the world, and the old unburnt portion of the town could be made to follow in the footsteps of the new.

In an effort to, once again, “greatly improve the sanitary condition of the city,” Reynold’s proposed a series of ordinances specifically targeting the petty offenses listed above. His proposal sought to reform and purify both private property and public space by (1) dictating the location of privy vaults and cesspools; (2) determining the geographic space between buildings; (3) forcing landlords to install internal plumbing (to discourage tenants from discarding slops from balconies or windows); and (4) compelling property owners to whitewash their premises with quicklime. Taken together, these ordinances had two common

⁸⁵ C. B. Reynolds, “Appendix B: Report of C. B. Reynolds, Agent of the Board of Health for the Island of Oahu,” 3/31/1888, in Emerson, *Report of the President* [. . .] of 1888, 53.

denominators: they all took aim at Chinatown and they all vested further authority in BOH agents.⁸⁶



Figure 12: *Sanitary Inspectors*, c. 1890, Hawai‘i State Archives

Reynolds’s call to action was enthusiastically received by his colleagues. For instance, as J. H. Kimball, the President of the BOH between 1888 and 1893, succinctly put it: “Eternal vigilance is not only the price of liberty, but it is pre-eminently the price to be paid for keeping a town in a good sanitary condition.” This was particularly true, he added, “for a town whose

⁸⁶ Ibid., 53-54; BOH Minutes, 3/8/1887, Series 259, Vol. 3, 6/25/1881-12/31/1888, 97.

population [was] largely made up of that class which is peculiar ‘for ways that are dark and for tricks that are vain.’” Fully embracing “the force of this fact,” the BOH organized a “systematic inspection of the city of Honolulu block by block” in March 1890, a practice that would become increasingly commonplace over the next two decades. In the days, weeks, and months that followed, a phalanx of sanitary inspectors and municipal health agents descended on Honolulu as they responded to nuisances, issued citations, and ensured that all building structures were in a sound and sanitary condition (Figure 12). Without adopting these drastic measures, Kimball concluded, “Honolulu, instead of being, as it now is, *one of the most healthsome of cities*, would offer a standing and urgent invitation for visits from cholera, yellow fever, typhus, and all of that class of disease”—in other words, diseases intimately associated with “filth.”⁸⁷ In the end, however, the BOH’s efforts would prove futile. Cholera would emerge on Hawaiian soil in 1895, infecting 88 individuals, claiming 64 lives, and bringing maritime trade to a grinding halt.⁸⁸

⁸⁷ J. H. Kimball, *Biennial Report of the President of the Board of Health to the Legislative Assembly of 1890* (Honolulu: Hawaiian Gazette Co., 1890), 20-26; J. H. Kimball, *Biennial Report of the President of the Board of Health to the Legislative Assembly of 1892* (Honolulu: Hawaiian Gazette Co., 1892), 21.

⁸⁸ C. B. Wood, “General Medical Report,” in William O. Smith, *Special Report of the Board of Health upon the Cholera Epidemic in Honolulu, Hawaiian Islands, in August and September, 1895* (Honolulu: Hawaiian Gazette Co., 1896), 59.

CHAPTER FOUR

“ERADICATION”:

BUBONIC PLAGUE, URBAN WILDLIFE, AND HONOLULU’S GREAT RAT MASSACRE, 1899-1914

But the most difficult of all to keep from getting into a place and the most difficult of all to get rid of, once it has gotten in, is the Plague. Primarily it is a disease of the rat, communicated from him to man through the agency of the flea and since men first went down to the sea in ships the rat’s love for the sea and voyage making tendencies have been known, and their fecundity is as well established as their fondness for travel.

— Dr. W. C. Hobdy, 1909¹

On June 17, 1899, the *Nippon Maru*—a Japanese steamship en route to San Francisco, California—dropped anchor at Honolulu. Within hours, Dr. D.A. Carmichael, a United States Public Health Service (PHS) representative stationed on Oahu, delivered the fateful news that a 26-year-old male Chinese passenger had died after twenty-two hours of mysterious convulsions aboard the vessel. Carmichael entered the vessel’s “Asiatic steerage,” performed an autopsy on the dead man’s body, and sent tissue samples to a municipal laboratory. After a “microscopical examination . . . of the bloody fluid from the [victim’s] pericardial sac,” Dr. Luis Alvarez, the city’s bacteriologist, confirmed Carmichael’s worst nightmare: “the presence in considerable numbers of a short bacillus, rounded at both ends,” and identical to the recently identified bacterium, *Yersinia pestis*. Like other turn-of-the-century Pacific seaports, Honolulu had now come face to face with the world’s third bubonic plague pandemic.²

¹ W. C. Hobdy, “The Outlook for Quarantinable Diseases in the Territory of Hawaii,” in E. A. Mott-Smith, *Report of the President of the Board of Health of the Territory of Hawaii for the Twelve Months Ended June 30, 1909* (Honolulu: Bulletin Publishing Co. Ltd., 1909), 214.

² D.A. Carmichael, “Hawaii: Plague on Steamship *Nippon Maru*,” 7/7/1899, *U.S. Public Health Reports (1896-1970)*, Vol. 14, No. 27 (1899): 1066-1067. In the early-twentieth century, the Marine Hospital Service was restructured and, in the process, renamed the U.S.

In a frenzied turn of events, the President of the Territorial Board of Health (BOH), Dr. C.B. Wood, and his colleagues impounded the *Nippon Maru* beyond Honolulu's harbor entrance, disinfected the vessel with sulfur dioxide, and subjected its human cargo to communal cleansing at the Quarantine Grounds. To expunge any lingering plague bacteria, the ship's "central furnace was filled with coal and a hot fire produced," into which medical officials "quickly slid the [dead man's] body, coffin and all."³ While such a response was in no way exceptional, it exemplifies the immediate panic created by a potential plague outbreak. For Wood and Carmichael, protecting Honolulu's residents from a seemingly infectious corpse and crew was of paramount importance.⁴ Physicians, residents, and journalists throughout Hawai'i commended such diligence, deeming these precautionary measures a success. "The yellow flag is hauled down [and] the fear of bubonic plague is at an end," announced Joseph

Public Health Service. For clarity, I refer to the Marine Hospital Service as the PHS. On the third plague pandemic and its effects on the Pacific Rim: Anderson, *Colonial Pathologies*; Marilyn Chase, *The Barbary Plague: The Black Death in Victorian San Francisco*, (New York: Random House, Inc. 2003); Marcos Cueto, *The Return of Epidemics: Health and Society in Peru During the Twentieth Century* (Burlington: Ashgate Publishing, Ltd, 2001); Peter Curson, *Times of Crisis: Epidemics in Sydney, 1788-1900* (Sydney: Sydney University Press, 1985); Myron Echenberg, *Plague Ports: The Global Urban Impact of Bubonic Plague, 1894-1901* (New York: New York University Press, 2007); Mark Hardt, *History of Infectious Disease Pandemics in Urban Societies* (London: Lexington Books, 2016), esp. chap. 6 and 7; Charles McClain, "Of Medicine, Race and American Law: the Bubonic Plague Outbreak of 1900," *Law and Social Inquiry*, Vol. 13 (1988): 447-513; Guenter Risse, *Plague, Fear, and Politics in San Francisco's Chinatown*, (Baltimore: Johns Hopkins University Press, 2012); Robert Peckham, *Empires of Panic: Epidemics and Colonial Anxieties* (Hong Kong: Hong Kong University Press, 2015), esp. chap. 5 and 6; Michael Vann, "Of Rats, Rice, and Race: The Great Hanoi Rat Massacre, an Episode in French Colonial History," *French Colonial History*, Vol. 4 (2003): 191-203; Pamela Wood, *Dirt: Filth and Decay in a New World Arcadia* (Auckland: Auckland University Press, 2005).

³ Carmichael, "Hawaii: Plague on Steamship *Nippon Maru*," 1067; *HG*, 6/20/1899.

⁴ James C. Mohr, *Plague and Fire: Battling Black Death and the 1900 Burning of Honolulu's Chinatown*, (Oxford: Oxford University Press, 2005), pp. 50-51.

B. Atherton, the editor of the pro-American and pro-annexation *Hawaiian Star*.⁵ To the BOH's future dismay, however, *pestis* jumped ship and somehow found a foothold in Honolulu's most densely-populated and ethnically-diverse enclaves: Chinatown.

After a six-month latency period, plague struck down its first local victim, You Chong, a twenty-two-year-old male Chinese bookkeeper. For the BOH, subsequent Chinese deaths validated preconceived medical theories that branded Chinatown and Chinese bodies as the generators, incubators, and conveyors of pestilence.⁶ Given the district's close proximity to Honolulu's commercial shoreline, the BOH suspended maritime trade indefinitely to halt the municipal, interisland, and international spread of plague. Unsurprisingly, quarantine measures clashed with the economic interests of American merchants and agriculturalists, whose financial welfare hinged on the interisland and transpacific trade in sugar.⁷ To expel plague from Honolulu, medical officials placed a *cordon sanitaire* around Chinatown. Adhering to standard public health protocol, the BOH isolated the enclave with armed guards; detained infected Chinese men and women on Quarantine Island; cremated those who perished; and incinerated any premise harboring a diseased individual. On January 20, shifting winds turned a routine attempt to systematically burn contaminated buildings into a 38-acre inferno that reduced Chinatown to ashes and left 7,000 people homeless (Figures 13).⁸ Notwithstanding Chinatown's destruction, plague persisted and quickly dispersed throughout Honolulu. By the

⁵ *Hawaiian Star*, "End of the Quarantine," 6/27/1899.

⁶ Craddock, *City of Plagues*; Shah, *Contagious Divides*; Joan Trauner, "The Chinese as Medical Scapegoats in San Francisco, 1870-1905," *California History* 57, no. 1 (1978): 70-87.

⁷ Mohr, *Plague and Fire*, pp. 55-69.

⁸ James C. Mohr, *Plague and Fire: Battling Black Death and the 1900 Burning of Honolulu's Chinatown* (2005).

end of March, *pestis* had infected seventy-one individuals, claimed a staggering sixty-one lives, crippled Honolulu's market economy, and all but emptied the Territorial Government's coffers.⁹

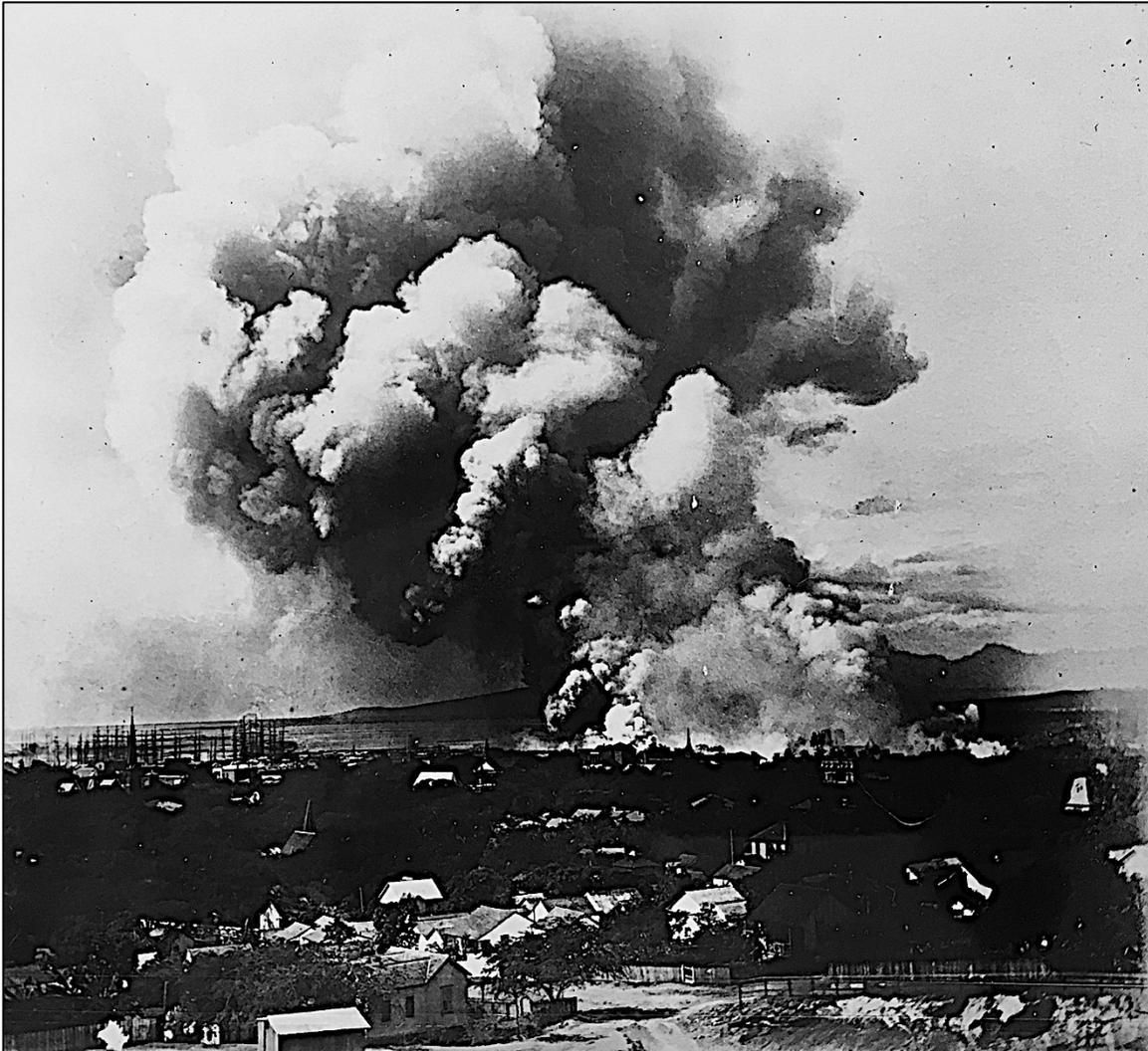


Figure 13: Chinatown Fire, January 20, 1900, Hawai'i State Archives

⁹ Ibid., 111-141; Echenberg, *Plague Ports*, 185-212. According to Echenberg, the Chinatown burning was the “worst civic disaster” to strike Honolulu before Japan’s attack on Pearl Harbor in 1941.

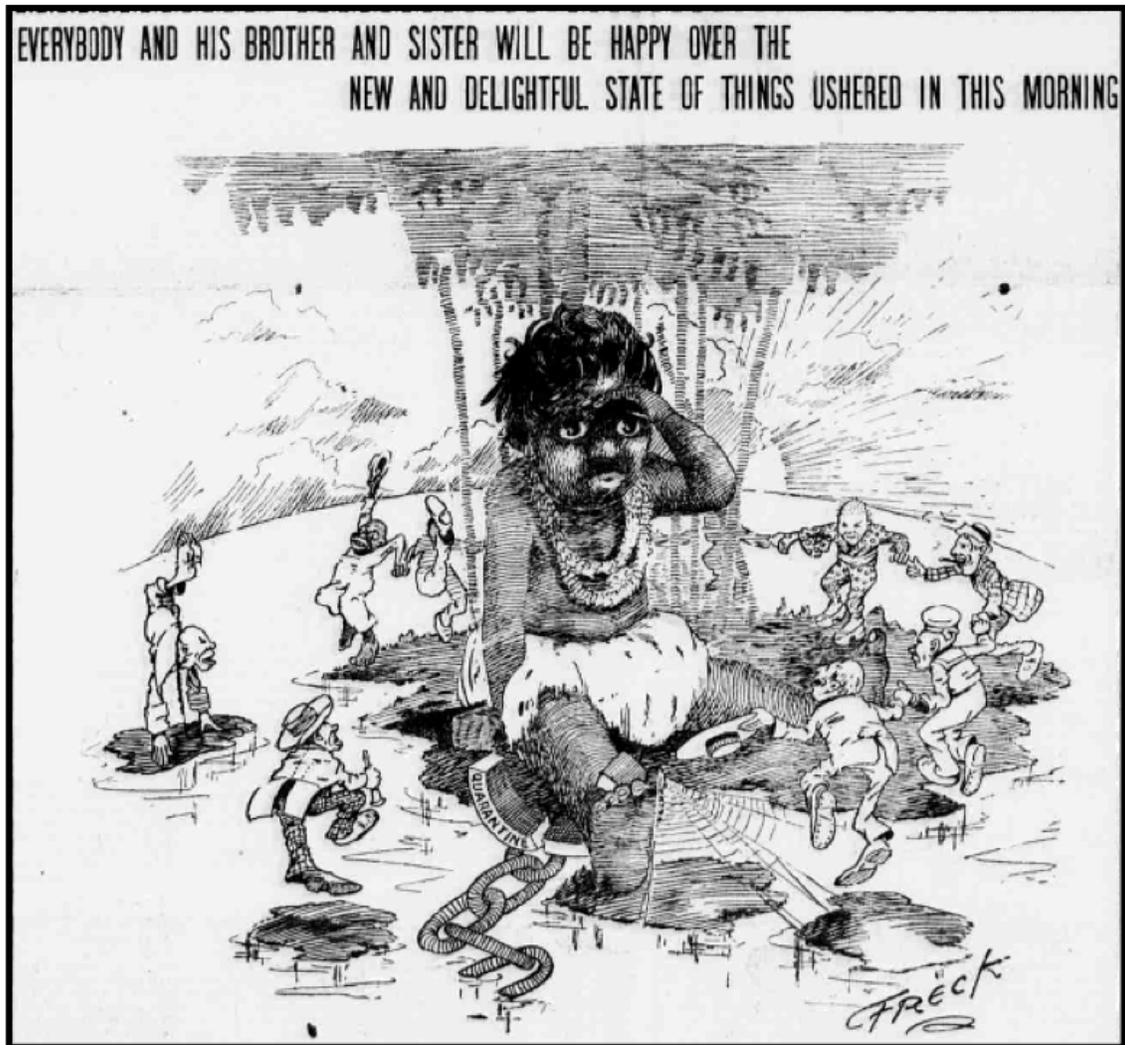


Figure 14: J.I.C. Freck, *Hawaiian Gazette*, 1900

On April 30, after a month unburdened by fresh plague cases, Wood formally rescinded municipal, interisland, and international quarantine regulations. Now “skippers can skip ashore . . . interisland passenger traffic will boom . . . [and] businessmen will be feeling particularly happy and smoking extra good cigars,” rejoiced Walter G. Smith, editor of the *Hawaiian Gazette*. For Smith, public health officials had certainly demonstrated their true grit and determination. After a “long struggle with a deadly and secret disease,” Carmichael, Wood,

and their colleagues had “put the city in the way of becoming free from places in which it can in future find a foothold.” By all (white) accounts, the destruction of Chinatown for the second time in fifteen years heralded a bright, plague-free future for Honolulu’s public health and commercial welfare. “Rubbing her eyes and stretching out her erstwhile shackled limbs, Hawai‘i awakes,” Smith concluded, “and after a yawn or two she will shake the dust of pestilence from her feet and hustle for all she is worth” (Figure 14).¹⁰ Yet such confidence would prove exceptionally futile as a paradigm shift in epidemiology came to pass.

As plague transcended geopolitical borders in the 1890s, public health and medical research on the disease’s etiology began to uncover the integral role of urban wildlife. By the following decade, an international community of bacteriologists, epidemiologists, and ecologists had convincingly demonstrated that “rats reeking with plague germs” haunted every home, farm, seaport, and country where pestilence festered. Moreover, in 1907 the British Indian Plague Commission verified that “some biting insect, such as the flea,” transmitted *pestis* “from rat to rat and from rat to man.”¹¹ Historically, regions besieged by plague recognized an abnormal upsurge in rodent mortality, but never drew a direct causal link between heaps of lifeless rats and heaps of lifeless humans. By the early twentieth century, however, experts in the fields of bacteriology, epidemiology, and ecology had successfully

¹⁰ *HG* 5/1/1900.

¹¹ *Hawaiian Star*, 5/23/1900; George Lamb, “The Etiology and Epidemiology of Plague. A Summary of the Work of the Plague Commission. Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla” in *Indian Plague Commission, 1904-1907* (Calcutta: Superintendent of Government Printing, 1908), 36.

classified black rats (*Rattus rattus*) as plague reservoirs and biting rat fleas (*Xenopsylla cheopis*) as plague vectors.¹²

Two historians—James Mohr and Myron Echenberg—have examined Hawai‘i’s, Honolulu’s, and the BOH’s battle against *pestis*. Yet both scholars focus on the outbreak itself and end their analyses with the revocation of maritime quarantine restrictions. As a result, they overlook the evolving social and economic role that public health played in Hawai‘i during the early decades of the twentieth century. Mohr has examined the cultural, racial, and legal implications of quarantine, site burnings, and detention camps for those displaced, arguing that health officials tasked with stamping out the disease adhered to a “*basic* bacteriological assumption about contagious epidemics—that the health of every resident impacted that of everyone else.” While applicable to the plague outbreak of 1900, this argument proves untenable as scientific breakthroughs unveiled the plague-carrying capacity of rats and fleas. Moreover, *pestis* resurfaced sporadically over the next five decades, but only claimed an annual average of nine lives. Similarly, in his comparative study of global seaports besieged by plague, Echenberg has asserted that “it cannot be said that the long-term consequences of the plague pandemic’s visitation to Hawai‘i were significant.” By measuring the “significance” of *pestis* in terms of mortality rates, Echenberg neglects the commercial and political ramifications generated by recurrent episodes of pestilence. On account of its apparent isolation, Echenberg has also argued that Honolulu was “hardly the place to find advanced medicine and science.”¹³

¹² Craddock, *City of Plagues*, 124-127, 150, 159; Myron Echenberg, “Pestis Redux: The Initial Years of the Third Bubonic Plague Pandemic, 1894-1901,” *Journal of World History* Vol. 13, No. 2 (2002), 434-437; Risse, *Plague, Fear, and Politics*, 254-255, 258-260.

¹³ Mohr, *Plague and Fire*, 41-53; Echenberg, *Plague Ports*, 212.

By limiting their studies to the 5-month period in which *pestis* raged, Mohr and Echenberg have not only rendered Honolulu a backwater of relative insignificance to the Pacific World, but have also portrayed the city's public health community as somewhat myopic, inexperienced, and detached from a thriving international community of medical professionals. Building on and diverging from Mohr and Echenberg, this chapter challenges such characterizations by considering the history of pest control. In so doing, it charts the development of Honolulu's rodent extermination campaign, between 1900 and 1905. In so doing, it demonstrate how municipal health professionals gradually implemented epidemiological discoveries and bacteriological innovations to shield Honolulu, Hawai'i, and the Pacific World from rats, plague bacilli, and the adverse economic effects of quarantine regulations.

“A FITTING TIME TO START IN ON A RAT-KILLING CAMPAIGN”

By quarantining victims, vessels, and neighborhoods—not to mention incinerating Chinatown—the BOH may have developed an effective template for halting the spread of plague. After a prolonged crusade against the resurgent contagion, health officials had triumphed “without official corruption or incompetence, without suppressing facts from the knowledge of the public, and without undue extravagance.”¹⁴ Moreover, while those personally affected by plague-suppressive measures—namely, Honolulu's Chinese residents—lambasted the BOH for its allegedly prejudiced, deceitful, and careless actions, public health and medical professionals across the Pacific commended Honolulu's BOH for its apparent zeal and

¹⁴ *HG*, 5/1/1900.

ingenuity. Municipal governments in California, New Zealand, and Australia went so far as to solicit advice from the BOH, claiming that Honolulu had “at last provided ‘civilized communities’ everywhere with a successful formula for beating *pestis*.”¹⁵ For the time being, bustling seaports afflicted by plague outbreaks would isolate peoples and places suspected of generating, incubating, and transmitting pestilence.

However, prominent bacteriologists had recently developed compelling etiological theories that implicated rats in the spread of plague. According to Robert Koch—a German physician and microbiologist known as the father of modern bacteriology—a “general scheme” of quarantine, disinfection, and fire had long been used in the fight against contagious diseases. Yet bubonic plague’s mode of transmission was distinct, and thus required an unconventional approach. In an international lecture that was later published in the local *Hawaiian Star*, Koch declared that *pestis* would forever infiltrate well-connected regions of the world if plague fighters focused only on human mobility and interpersonal communication. “You may keep up quarantine, you may disinfect goods, you may fumigate ships and houses, you may burn them up, even,” Koch declared, “but plague will creep in, and the reason is that the germs of plague are not transmitted by human beings, or by clothes, but by rats.” However, if one “could destroy all the rats . . . or absolutely prevent rats from coming ashore,” *human* plague would vanish.¹⁶ Such revelations hit headlines the world over, inspiring health officials in Honolulu as well as other plague-infested and plague-susceptible seaports—like San Francisco and Sydney—to revolutionize their plague-prevention strategy.¹⁷

¹⁵ Mohr, *Plague and Fire*, 199.

¹⁶ *Hawaiian Star*, 8/26/1901

¹⁷ *Ibid.*, 1/2/1901; *Sydney Morning Herald*, 3/9/1901; *Nelson Evening Mail* (New Zealand), 3/16/1901; Echenberg, *Plague Ports*, esp. chap. 1, 8 and 9.

Epidemiological hypotheses, the international popularity of rodent extermination programs, and the looming possibility that plague may once again besiege Honolulu prompted local public health officials to devise their own rat crusade. To protect commerce from quarantine regulations, the BOH sought to rat-proof Honolulu's shoreline and eliminate rodents from the city itself. However, expunging urban districts rife with rodents necessitated a degree of manpower and money that the BOH alone could never fulfill. From its inception, then, the BOH's extermination agenda unfolded as a "business proposition as well as a question" of economic welfare for "the whole community."¹⁸ In appealing to residents and capitalists for physical and financial support, respectively, Honolulu's war on rats would develop as a collective and cooperative project rather than a venture fought exclusively by medical officials.

Reaching Hawai'i throughout the summer and autumn months of 1901, maritime intelligence revealed that prominent seaports bordering the Pacific—specifically, Hong Kong, San Francisco, and Brisbane—were currently under siege from fresh outbreaks of plague.¹⁹ On October 29, politicians and public health officials assembled in Honolulu to discuss viable plague-preventative measures. "No plague is at present in Honolulu," assured Dr. J.B. Pratt, the Executive Officer of the BOH; yet "so long as there are cases" festering in these distant commercial hubs, "we are open to the danger of having it" wash upon Hawaiian shores. While it could very well induce widespread death, a second wave of plague would undoubtedly vitiate "the commercial and shipping interests of the community," and thus, everyone would suffer. For Pratt, the gravity of guarding Hawaii's market economy had surpassed that of protecting

¹⁸ *Honolulu Republican*, 11/12/1901.

¹⁹ *HG*, 7/26/1901; *Hawaiian Star*, 7/10/1901 and 10/23/1901.

the physical wellbeing of local residents. After collaborating with Dr. L.E. Cofer, the Chief Quarantine Officer of Hawaii, Pratt suggested that conventional ship inspections and medical examinations of Chinese and Japanese migrants not only continue, but also intensify.²⁰

However, plague-infected humans no longer posed the only threat to Hawaii's public health and economic prosperity. "There is always a chance," warned Pratt, "that rats, and infected ones at that, may manage to get ashore and so infect others."²¹ In stressing the relationship between rodents and plague, Pratt was at the vanguard of a remarkable transition in epidemiology. While the unification of racial science and disease pathology had convinced generations of scientists that plague was a "rice-eaters' disease," Pratt had transcended such a paradigm, concluding that plague was "spread *principally* through the agency of rats."²² For Honolulu's medical community, scientific revelations linking rodents and plague offered a bacteriological alternative to rooted medical convictions that conflated disease pathology with the cultural habits and allegedly inherent characteristics of the nonwhite racial "Other."²³ Rather than target migrants exclusively, Pratt reasoned, "it seem[ed] to [him] to be a fitting time to start in on a rat-killing campaign."²⁴

Even though Pratt appreciated the medical and financial risks associated with Hawai'i's precarious geographic location and the disease-carrying capacity of rats, he questioned whether Honoluluans fully comprehended the gravity of such pitfalls. "It is not my desire to

²⁰ Letter from J.B. Pratt to the Board of Health, 10/29/1901, published in "Hawaiian Islands: A Rat Crusade in Honolulu," *U.S. Public Health Reports (1896-1970)*, 16, No. 48 (1901), 2815.

²¹ Pratt to the BOH, 10/29/1901.

²² Craddock, *City of Plagues*, 130; Pratt to BOH, 10/29/1901.

²³ For further examples, see: Mohr, *Plague and Fire*; Risse, *Plague, Fear, and Politics*; Nayan Shah, *Contagious Divides*; Trauner, "The Chinese as Medical Scapegoats."

²⁴ Pratt to the BOH, 10/29/1901.

be considered an alarmist,” he avowed, but “this being a seaport city we are always open to the danger of contagious and infectious diseases.” The sooner “the people of this community take a calm view of plague and educate themselves” as to Honolulu’s manmade permeability, “just so much quicker will the commercial and shipping interests be conserved.”²⁵ In a region where agriculture and maritime trade reigned supreme, underscoring the financial crisis precipitated by an outbreak of plague underscored the urgency of a rat campaign. Moreover, without the popular support of a well-informed community, a full-scale assault on the city’s rodent population would founder, and thus jeopardize Hawaii’s commercial connections to the American mainland and the broader Pacific World.

Notwithstanding the significance of cooperation, Pratt also deemed communal *assistance* an integral component to any rat crusade. Indeed, this was a stark divergence from the BOH’s approach to public health and sanitary reform in the preceding decades. The danger of plague erupting and spreading throughout Honolulu, Oahu, and the Hawaiian Archipelago would subside, Pratt maintained, if rodents were eliminated through “the concerted efforts of the whole community.” While the BOH would confront rodents on the municipal front, it remained the homeowner’s, tenant’s, and landlord’s responsibility to protect private property from infestation. Considered together, Pratt foresaw an anti-rat movement in which territorial bureaucrats and local residents toiled alongside one another. Over time, health officials would use communal education programs, the media, and even door-to-door visitations in an effort to penetrate Honolulu’s public sphere. In other words, scientific knowledge and medical expertise would empower the BOH to supervise how urbanites contributed to the city’s war on

²⁵ Ibid.

rodents. In his concluding remarks, Pratt urged the Territorial Government to appoint “a committee of three [to] outline a plan of action,” and further requested that the “public as a whole” support and participate in any anti-rat measures developed thereafter.²⁶

Those attending the forum unanimously endorsed Pratt’s community-oriented proposal and agreed to establish a commission of rat-destroying health professionals. “All householders should take an active interest in the matter and endeavor to bring death to the rodents,” trumpeted Dr. H.C. Sloggett, a local physician and former member of the Hawaiian Medical Association. Sanford B. Dole, the Territorial Governor of Hawaii, chimed in, proclaiming that all Hawaiians “should be called upon individually to join in the campaign for the extermination of the rats.” To accomplish this, he urged local media outlets to publish Pratt’s address in full, which, according to the historical records, proved successful: within two days, four newspapers had reprinted Pratt’s lecture and provided a detailed description of BOH proceedings.²⁷

Dole and the BOH elected Pratt, Cofer, and Dr. C.B. Cooper to spearhead Honolulu’s anti-rat commission.²⁸ Moving forward, the three appointees agreed to “map out the campaign against the rodents” and inform “all government physicians” of the BOH’s intended plan of attack. As the most populated, economically lucrative, and politically salient seaport, Honolulu would remain under the committee’s direct supervision.²⁹ Dole and his administration also encouraged the triumvirate “to add to their number from among citizens.” As a result, the three officials would attempt to marshal both skilled and unskilled laborers to help secure the

²⁶ Ibid.

²⁷ *Honolulu Republican*, 10/31/1901. See also: *The Independent*, 10/31/1901; *Hawaiian Star*, 10/31/1901; *HG*, 11/1/1901.

²⁸ *Honolulu Republican*, 10/31/1901.

²⁹ The BOH also ordered health authorities throughout the Hawaiian Archipelago to follow suit and “lend their assistance in the work.” *Honolulu Republican*, 10/31/1901.

manpower necessary for a sweeping and effective rodent extermination program. Within weeks, Pratt, Cofer, and Cooper formulated what they considered requisite steps to protect Honolulu from inbound rodents and extinguish those already lurking within the seaport's physical infrastructure.³⁰

Prophylactic measures would entail citywide sanitary initiatives, shoreline redevelopment programs, and interisland shipping precautions. First, trash collectors would remove and incinerate lingering garbage heaps, which fueled the scavenging tendencies and ravenous appetites of rodents already scattered throughout the city. Next, by rat-proofing all commercial docks, construction workers would prevent both inbound and existing rats from “[breeding] their kind in unmolested fecundity,” and thus safeguard Oahu's port of entry. Port physicians also augmented the fumigation of vessels: Rather than target Asiatic steerage cabins—a standard practice prior to 1901—health agents fumigated every section of a ship, recognizing that rodents could hide in its most inaccessible nooks and crannies. Finally, to impede the spread of rats and plague within and beyond Honolulu, fumigators would spray airtight wharves and all vessels with sulfur dioxide, a dual disinfecting and rat-poisoning agent. By adhering to the age-old maxim, “an ounce of prevention is worth a pound of cure,” the committee of three's rat brigade sought to *physically transform* the seaport into an enduring, rat-free, and thus, plague-free paradise amid the Pacific Ocean.³¹

Eradicative measures, on the other hand, amounted to dividing Honolulu into distinct zones in an effort to pinpoint where rats abounded. After verifying sites of infestation,

³⁰ Ibid.

³¹ *Honolulu Star*, 11/12/1901; Pratt to BOH, 10/29/1901; L.E. Cofer, “Hawaiian Islands: A Rat Crusade in Honolulu,” *Public Health Reports (1896-1970)*, Vol. 16, No. 48 (1901), 2815.

exterminators would strategically “distribute rat traps and poison, see that they [were] properly used, deodorize the traps, and collect all rats.” Bacteriologists would then separate slaughtered rodents according to geographic origin and examine their dismembered bodies to determine “whether or not a certain district [was] infected.” If laboratory analyses returned a plague-positive diagnosis, the corresponding neighborhood would undergo a second, more aggressive round of extermination.³² In so doing, Pratt, Cofer, and Cooper had devised a seemingly foolproof program to rid Honolulu of plague-producing pests, with the intended consequence of protecting the economic welfare of the Hawaiian Archipelago.

Despite such enthusiasm, it remained a mystery as to how the committee would fund this extravagant enterprise. “There isn’t a bean” in the BOH coffers “to start the war against the plague carrying rodents,” lamented Sloggett.³³ Efforts to confront, control, and suppress the 1900 plague outbreak had nearly bankrupted the BOH and placed the Territorial Government under severe financial strain, thereby frustrating any attempt to decimate Honolulu’s rodent population with municipal reserves.³⁴ Unsurprisingly, then, some journalists wondered whether the responsibility would “be endorsed by all tax-payers,” while others speculated that municipal entities—including the Chamber of Commerce and Merchant’s

³² Cofer, “Hawaiian Islands,” 11/29/1901.

³³ *The Independent*, 10/31/1901.

³⁴ Mohr demonstrates that BOH officials allotted over \$500,000 for a new sewer system and \$100,000 for housing and treating individuals displaced by the Chinatown fire. Moreover, some newspaper correspondents argued that quarantine measures alone cost the Territorial Government more than \$670,000, while others argued that the BOH’s total expenditure for plague amounted to the extraordinary sum of \$800,000. *Plague and Fire*, p. 173; *Honolulu Republican*, 1/27/1901; *The Hawaiian Star*, 11/29/1901.

Exchange—would “pay the expenses of the war.”³⁵ In truth, neither city nor taxpayer would foot the bill.

Uncertainty abated when the committee, the Department of Public Works (DPW) and representatives from Hawaii’s maritime, land transportation, and agricultural industries convened on November 11. Addressing his audience of local executives, Cooper (Figure 6) explained that the BOH “was not possessed of a cent in cash” and that the “Legislature [had] failed to provide any funds” for Honolulu’s rat campaign. Thus, “the whole responsibility” of funding a program to shield Honolulu from plague-infested rodents “fell upon the shipping and other business interests of the community.”³⁶ By explicitly placing the burden of protection on the shoulders of capital, Cooper hoped to acquire financial support from those who had the most to lose if Hawai‘i’s commercial ties to the Pacific World were severed by quarantine regulations.

If businessmen agreed to bankroll Honolulu’s rat campaign, Cooper continued, the BOH would agree to earmark the bulk of this commercial subsidy for plague prevention measures. Permanently upgrading the structural condition of Honolulu’s shoreline would amount to the hefty, one-time sum of \$20,000, affirmed Marston Campbell, the Assistant

³⁵ *The Independent*, 10/31/1901.

³⁶ *Honolulu Republican*, 11/12/1901. From a municipal standpoint, those present on November 11 included Pratt, Cofer, and Cooper of the BOH, as well as James H. Boyd and Marston Campbell of the Department of Public Works. Agents representing Honolulu’s commerce industry included C.L. Wight and Captain Thomas Clarke of the Wilder Steamship Company and George P. Dennison of the Oahu Railway and Land Company. Also attending the meeting were numerous spokesmen from Castle & Cook, C. Brewer & Company, Theo. H. Davies & Company, H. Hackfeld & Company, and W.G. Irwin & Company, which were all prominent sugar production, distribution, and marketing firms. Moon-Kie Jung, *Reworking Race: The Making of Hawaii’s Interracial Labor Movement* (New York: Columbia University Press, 2006), 11-27.

Superintendent of the DPW. Renovations would entail “[bulkheading] the ends and sides of the wharves and [covering] them with sheathing” to make them airtight and ready for fumigation. He also drew attention to H. Hackfeld & Company’s “steam scow ‘*Billy*,” which the BOH could use each month as a “floating fumigating apparatus” to expel nesting rodents. Considering the cost of sulfur and labor, Campbell assured that fumigation practices would amount to \$400 per month.³⁷

Bolstering the BOH’s supplication, Cofer underscored the economic security afforded by a harbor immune to rodents. If merchants and planters financed wharf improvements and monthly rounds of fumigation, he reasoned, maritime trade “would be hindered but very little, [for] vessels would practically have free pratique.” In other words, preventative tactics would guarantee that inbound and outbound ships received clean bills of health. The potential payoff certainly outweighed the overhead costs: In the event of a second plague outbreak, he estimated, fortified wharves could reduce the shrinkage of commerce “from 75 or 80 per cent to about 15 per cent.” Much like a semipermeable membrane, a rat-resistant harbor would ensure the transfer of commerce while precluding the passage of both contagious and susceptible rodents. According to Cofer, such an undertaking would “prove an *advertisement* for Hawai‘i,” since other countries would recognize “Honolulu as a port where there was no danger from infectious diseases.”³⁸ While preventative steps could defend residents from infection and deflect quarantine restrictions, they could also instill business confidence among international merchants who transported their commodities through Honolulu during transoceanic voyages. If *pestis* continued to menace established seaports, maritime traders

³⁷ Ibid.

³⁸ Ibid.

could select Honolulu's secure southern shoreline as their preferred port of call. In turn, Cofer suggested, the Hawaiian Archipelago might even experience an *increase* in commercial trade.

Notably, only one unnamed merchant disputed the efficacy of such precautionary measures, speculating that "Mr. Rat [would] cultivate a roaming disposition [once] his resorts on the wharves were . . . made airtight." Seemingly unfazed, members of the BOH avowed that a "wharf-rat was a wharf-rat and was not likely to roam around."³⁹ Despite this lone dissenter, the appeal of municipal health agents clearly resonated with Honolulu's business community. Within 72 hours, merchants and agriculturalists "evinced a disposition to uphold the hands" of the BOH and expressed "their willingness to cooperate" with the DPW. Recognizing that capital gains were at stake, "firms interested in the protection of [Hawaiian commerce]" unanimously agreed "there would be little difficulty" in amassing funds to rat-proof Honolulu's commercial shoreline. Pooling their assets to satisfy the requisite \$20,000, shipping agents also resolved to tax inbound vessels at 15 cents per ton to defray the recurring cost of fumigation and support urban eradication measures.⁴⁰

At the end of November, the rat committee celebrated the inception of a merchant-funded, community-oriented, public health program allegedly destined to purge Honolulu of plague-breeding rodents. "After much labor," Cooper announced to the BOH, "tangible arrangements have been made for the protection of commerce by the united action and guarantee of funds by those most directly interested in shipping." Financial matters aside, the BOH also resolved to "engage a few good men in the more thickly populated districts" of Honolulu not only to distribute rat poison and traps, but also to instruct locals in the proper

³⁹ Ibid.

⁴⁰ *HG*, 11/15/1901; *Hawaiian Star*, 12/3/1901.

and most effective use of such paraphernalia.⁴¹ In a statement dispatched to Dr. Wyman—the Surgeon General of the PHS stationed in Washington, D.C.—Cofer reported that the BOH had successfully established “a well-organized rat crusade, a measure of precaution [that] a large number of the citizens of Honolulu [had] favorably received and immediately acted upon.”⁴² In all likelihood, Cofer and his colleagues never expected rodents to become a largely uncontrollable menace.

“THE POKING OF RATS’ NOSES OUT OF NUMEROUS HOLES.”

Over the following weeks, Honolulu’s rat campaign emerged as a truly collaborative process. In a second letter sent to Dr. Wyman on December 14, Cofer announced that health officials, DPW agents, and local construction workers had retrofitted the city’s commercial wharves with bulkheads and sheathing. While the DPW and Quarantine Office had furnished spare equipment for H. Hackfeld & Company’s fumigation scow, merchants “paid for the proper installation of the machinery on the barge” and a deckhouse for safekeeping. With a modest crew of workmen, the Superintendent of the Quarantine Grounds, J.D. McVeigh, traveled from dock to dock on this “very effective floating sulphur plant,” pumping a vaporous mixture of sulfur dioxide and water into every hermetically-sealed compartment. In compliance with the BOH’s rat agenda, every international and inter-island vessel frequenting Honolulu also “had their holds subjected to sulphur fumigation.” After traversing the city’s shoreline and evaluating fumigation procedures, Cofer declared that “the new barge has been

⁴¹ *Hawaiian Star*, 11/29/1901.

⁴² L.E. Cofer to Dr. Wyman, “Hawaiian Islands: A Rat Crusade in Honolulu,” *Public Health Reports (1896-1970)*, 16, No. 48 (1901), 2814.

busy ever since its completion and it is a perfect success.”⁴³ Despite Cofer’s pride and assurance, such a bold assertion would soon prove rather inaccurate.

Owing to the airtight nature of Honolulu’s docks, inspectors found it nearly impossible to verify whether or not rat-proofing and fumigation had succeeded. Unsurprisingly, the press and public wanted proof in the form of dead rats; indeed, articles abounded, criticizing members of the BOH and DPW for their lack of foresight. “The air . . . is so stifling,” observers claimed, that workmen cannot “venture under [the wharves] and remain for more than a few moments.” The noxious effects of sulfur dioxide persisted for nearly a week, thus delaying post-fumigation assessments, the quantification of rodents, and the disposal of any carcasses. Even after the effluvia had dissipated, surveyors found only a handful of four-legged victims floating along the waterfront or beneath the wharves. Accordingly, reported the *Honolulu Star*, there was “no practical proof of the effects of fumigation.” Similar accusation did not bode well for local health authorities.⁴⁴

Regarding the genuine efficacy of the rat crusade, a fracture formed between city officials and the community-at-large. Faultfinders argued that sulfur dioxide had failed to destroy rodents, but admitted that the chemical could certainly “drive a rat from under a wharf.” As the gaseous toxin pervaded airtight chambers, they claimed, rats would slip through natural crevices perforating the harbor’s seawall and “escape from underneath the wharves by running out of the holes to the shore above.” Residents and journalists alike wondered what became of rodents lucky enough to flee from sites of fumigation. As one correspondent for

⁴³ L.E. Cofer, “Hawaiian Islands: Establishment of a sulphur disinfecting plant at Honolulu,” 12/14/1901, in *Public Health Reports (1896-1970)*, 17, No. 2 (1902), 79.

⁴⁴ *Hawaiian Star*, 12/13/1901 and 12/14/1901.

The Independent sarcastically asked: “Are the great members of the Board of Health” confident that rats will remain at the water’s edge “and take no chances at excursion trips into town?”⁴⁵ In light of such skepticism, the BOH began to lose face among local residents, who would soon participate in Honolulu’s rat campaign on their own terms.

Anecdotes arose from within Honolulu’s residential neighborhoods, revealing that rodents were steadily migrating “from the vicinity of the wharves to seek more congenial quarters.” For instance, one family on Vineyard Street—less than half a mile from Honolulu’s harbor—reported a marked increase in rats about their property. After putting “two and two together,” they concluded that in-house rodents “had invited some of the refugee rats to take shelter” in their “pretty little cottage.” Rather than rely on health officials, the “man of the house” took matters into his own hands. To purge his home of furry foes, he “stayed awake many nights, shooting rats in the attic.” Armed with a “Colt’s revolver,” the avenger would “lie outstretched upon the attic floor, behind a rag-bag, having arranged a candle at the other end of the attic to furnish a little light.” he Anticipating “the poking of rats’ noses out of numerous holes,” he would and then discharge “his weapon as soon as he could draw a bead on the troublesome beasts.”⁴⁶ Even to an early-twentieth-century spectator, such accounts most likely appeared unconventional if not completely bizarre. Despite the public losing faith in local health officials, the BOH could rest assured that urban residents had at least taken notice of Pratt’s initial warning: rats transmitted *pestis* and should thus be exterminated. As Honoluluans integrated themselves into the seaport’s pest-control program, dramatic measures

⁴⁵ Ibid.; *The Independent*, 12/16/1901.

⁴⁶ *Honolulu Republican*, 12/17/1901.

like camping on one's attic floor and shooting holes through one's roof emerged as necessary evils.

These grassroots actions, and the alleged failures of the fledgling anti-rat program, prompted the BOH to appeal to the U.S. Federal Government for physical and financial support. In response, Dr. Wyman encouraged locals to continue private anti-rat measures, even if they resembled those of Vineyard Street's passionate gunman rather than condemn personal schemes as absurd, unreliable, and dangerous. In a statement addressed to Cofer (who forwarded the message to BOH officials and municipal newspapers), Wyman acknowledged that many territories subjected to American hegemony

eagerly prefer to be under the immediate jurisdiction of the [PHS], just as Havana and Manila have been, instead of working through their own local boards. But, while we are always glad to cooperate, as I have already said, it is better for communities of American citizens to undertake such work for themselves. They are the ones to cope with the situation.⁴⁷

Unlike Hawai'i, Cuba and the Philippines emerged as zones of intense physical conflict during the Spanish-American War. This imperialistic relationship, coupled with the perceived inability of Indigenous communities to maintain acceptable—that is, “Western”—standards of communal hygiene, justified the PHS's heavy-handed involvement in Havana's and Manila's public health programs.⁴⁸ For Wyman, Hawai'i's political stability, well-established white citizenry, and influential assemblage of wealthy businessmen perhaps negated the need for muscular PHS oversight and generous financial aid. As a matter of course, the withholding of

⁴⁷ *HG*, 1/14/1902.

⁴⁸ For a more in-depth discussion of the USPHS's involvement in Cuba and the Philippines, see: Anderson, *Colonial Pathologies*; Espinosa, *Epidemic Invasions*; Willrich, *Pox*, esp. chap. 4.

federal assistance impelled Cofer and the BOH to eradicate wharf-rats with the increasingly insufficient funds afforded by local merchants.

Without question, Cofer attempted to capitalize on the PHS's fiscal demurrals in an effort to justify the less effective features of Honolulu's rat crusade. Even by the end of January, self-styled experts of pest-control still wanted "to see piles of dead rats" as a result of fumigation.⁴⁹ To be sure, Cofer acknowledged the public's disappointment regarding limited physical evidence, admitting that he, too, "would have liked to secure statistics of the actual number of rats killed." Yet in light of the BOH's "regular routine," gathering such data would have been "impossible without the engagement of extra help" from the PHS. As he recalled, such assistance clashed with "the economical principles of the crusade."⁵⁰ By attributing the flaws of Honolulu's pest-control program to the inadequate participation of the Federal Government, Cofer arguably sought to wash his—and the BOH's—hands of liability.

Despite financial complications, public health officials and members of the DPW continued prophylactic measures along Honolulu's shoreline.⁵¹ Since rat-proofing and fumigation had driven rodents into urban enclaves, the BOH now proceeded with the initial stages of Pratt's aforementioned eradication campaign. Even though the BOH had now incorporated Honolulu's built environment into its anti-rat program, its main priority remained

⁴⁹ Cofer challenged such expectations, reminding critics that the chief objective "is not so much to kill the rats in the wharves as to render them untenable for the rodents." It thus stood to reason, he implied, that a dearth of gassed rodents verified the true efficacy of preventative measures. In the same breath, however, Cofer also recalled that "previous experiments" aboard vessels proved that sulfur dioxide certainly destroyed rats, which "soon [shriveled] if they [were] not thrown overboard." Unsurprisingly, Cofer never explained why fumigation procedures could eradicate seafaring, but not wharf-bound, rodents. Cofer himself most likely lacked an authentic answer. *Hawaiian Star*, 1/21/1902.

⁵⁰ *Ibid.*

⁵¹ *Hawaiian Star*, 4/8/1902.

the preservation of Hawaii's commercial market. Accordingly, throughout the summer months of 1902, the BOH commissioned a troop of inspectors and rat-catchers (Figure 15). After laying hundreds of traps and dispersing poison, the BOH's extermination crew roamed the streets of Honolulu, collecting and disposing of the unfortunate few who succumbed to these pedestrian measures.⁵²

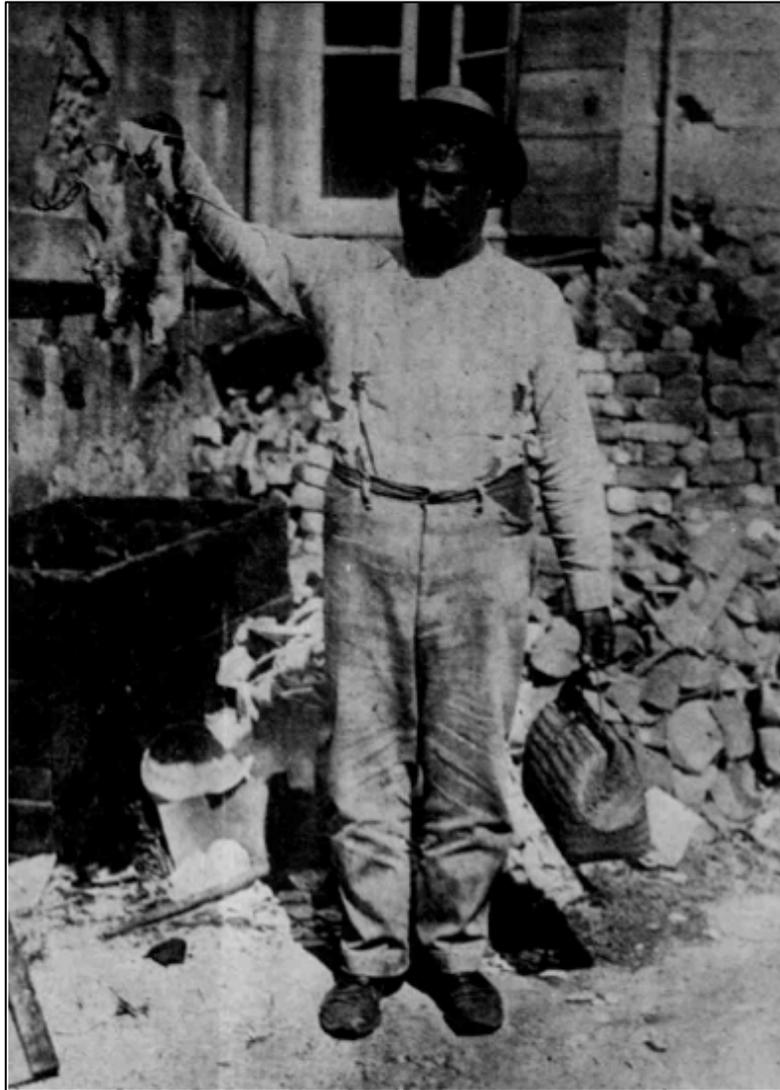


Figure 15: Solomon Paawela, the City Rat Catcher,
Hawaiian Gazette, 1908

⁵² Ibid.

In mid-September, C.H. Tracy, the Sanitary Officer at the helm of Honolulu's urban rat campaign, presented his first pest-control report. Similar to Cofer's hasty assertion that fumigation "was a perfect success," Tracy prematurely claimed that "whole neighborhoods [had] been cleared of rats." Inspectors had met "with more or less success," Tracy continued, on account of "poisoned rats *not dying anywhere near buildings and being consequently hard to find.*"⁵³ Once again, the BOH failed to provide tangible evidence that extermination measures effectively destroyed Honolulu's furtive rodent population. Indeed, a remarkable pattern in municipal pest control efforts had emerged. Local newspapers began to question the reliability of the BOH's anti-rat campaign, with carbon copy criticisms of those that surfaced at the beginning of 1901.

With a rat-proofed shoreline and a city under the eyes and hands of exterminators, locals again wondered where rats had taken cover. As the *Hawaiian Star* speculated, rodents had hightailed it "toward the mountains and away from" Honolulu, where men with traps and poison sought their demise. To defend the BOH's credibility, J.B. Pratt reappeared on the proverbial soapbox, confessing that the campaign had "resulted in killing and capturing [rats], but not as large numbers as was expected." Yet rodents were "very sagacious" with respect to rattraps and poison. "When their fellows fall victim" to such implements, Pratt reasoned, "rats seem to recognize the cause and the danger, and begin to fight shy of one and avoid the other." Since exterminators had confronted "them in so many localities . . . there [was] nowhere for them to go but towards the mountains." Allegedly, rodents had habituated themselves to the extermination crew's equipment and, as Pratt suggested, headed north from Honolulu. While

⁵³ *HG*, 9/12/1902.

unintended, Pratt viewed such a consequence as beneficial, alleging that O‘ahu’s mountainous backcountry offered little in the way of rat food. Rodents would either starve, he concluded, or “they [could] feed on each other.”⁵⁴

Predictably, members of the BOH also adhered to Pratt’s logic. Hoping to continue, diversify, and expand Honolulu’s urban extermination program, public health officials employed “a special force [of] agents” that would travel from door to door distributing “anti-rat propaganda . . . to urge on people the necessity of endeavoring to rid the community of rats.” Moreover, BOH liaisons issued rattraps and poison and, more importantly, educated residents on the most effective application of such paraphernalia.⁵⁵ After two years, Pratt’s initial “rat-killing crusade” had finally materialized. The BOH, DPW agents, and local construction workers had successfully rat-proofed the city’s shoreline; fumigators had continued to saturate wharves and vessels with sulfur dioxide; rat-catchers and exterminators had waged war on rodents throughout Honolulu’s urban enclaves; local residents had assumed their civic duties; and rats were nowhere to be found.⁵⁶

By 1903, human plague cases failed to reappear within and around the city, which, for local newspapers at least, was definitive proof that commercial funds had “served [their] purpose well.” However, for “a large majority of the merchants of Honolulu,” such auspicious news also indicated that financial support for the BOH’s campaign was no longer necessary. Local businessmen thus convened on April 14, 1903, and voted that the “tax should therefore

⁵⁴ *Hawaiian Star*, 9/17/1902.

⁵⁵ *Ibid.*

⁵⁶ This claim excludes bacteriological examinations, which remained a far-too-costly venture for the BOH at this time.

be discontinued.”⁵⁷ Curiously, over the next two years, the Hawaiian press published very few articles broaching local endeavors to exterminate rodents. Simultaneously, the BOH itself remained completely silent regarding its own efforts to purge Honolulu of rats. One could speculate that the BOH’s program proved so effective that plague-carrying pests were no longer a cause for public concern. On the other hand, one could assume that the withdrawal of commercial funding resulted in the campaign’s eventual demise.

In truth, the BOH continued with shoreline redevelopment and fumigation procedures, but failed to stave off pestilence. By the end of 1905, Dr. L.E. Pinkham, the recently-elected BOH president, confessed that, as of June 30, 1904, “there occurred seven deaths from plague in the district of Honolulu during the preceding twelve months.” Not surprisingly, the BOH withheld such information from merchants, residents, and newspapers for a year and a half to prevent the economic consequences that may have ensued if merchants at home and abroad discovered that Honolulu was once again infected with *pestis*.⁵⁸ Yet concealment failed, and the truth was eventually exposed as a result of “local rumors and gossip [that had] become so exaggerated” and widespread that Hawaiian “sugar ships [bound for] San Francisco” had been immediately quarantined upon their arrival. Evidently, the BOH’s anti-rat campaign suffered the same unfortunate end as the plague-producing critters it claimed to destroy.

“EVERY DEAD RAT MEANS A POSSIBLE DEAD PLAGUE RAT”

The urban resurgence of *pestis* did more than highlight the BOH’s fleeting dishonesty. It also exposed the fallibility of Honolulu’s harbor-focused rat campaign and, at the same time,

⁵⁷ *HG*, 4/14/1903.

⁵⁸ *Evening Bulletin*, 11/9/1905.

highlighted the increasing vulnerability felt by a mid-Pacific seaport that was entirely dependent on maritime trade. Taken together, these revelations would transform how health officials suppressed plague in the future.

The BOH's pest-control program languished for the next sixteen months as public health officials regrouped to devise a more effective—and aggressive—plan of attack. Between April and May of 1907, Leland Cofer—who had since secured a position as the Passed Assistant Surgeon of the PHS—published a five-issue exposé in the *Evening Bulletin* on behalf of the BOH, in which he expounded on the interplay among mercantile expansion, the prevalence of disease, and quarantine regulations. The completion of the Panama Canal, Cofer declared, was of paramount concern for Honolulu. By linking the Atlantic and Pacific Oceans, this feat of civil engineering would amplify global trade and initiate a “corresponding increase in disease interchange” between Honolulu and plague-stricken seaports in Western Europe and the Caribbean. Seaports once “removed from each other on account of [a] geographical barrier,” he explained, would “be directly connected.” As a matter of course, “transcontinental railway, interstate, or municipal quarantine” restrictions would no longer impede the diffusion of contagions and, as a result, Honolulu would “[be] exposed to diseases of every description from every land.”⁵⁹

While acknowledging the looming threat of recurrent epidemics, Cofer also predicted that Honolulu would assume a new responsibility for transoceanic trade. Given its “natural strategic location” amid the Pacific, the city would soon transform into a quarantine checkpoint for steamships. In other words, its “geographical location . . . its large and increasing sugar

⁵⁹ *Evening Bulletin*, 4/6/1907, 4/20/1907.

output, its growing foreign trade, its natural advantages as a naval base and military mobilization point, and finally its convenience as a general coaling station and port of call” made Honolulu a “commercial necessity” as well as a “quarantine necessity.” As a potential “‘clearing house’ . . . for disease in transit,” Honolulu would forever “render incomparable service” to seaports bordering the Pacific and, after the opening of the Panama Canal, “to other parts of the world as well.” According to Cofer, if municipal health officials could transform Honolulu into a “sanitary sieve,” they would “greatly modify, if not absolutely eliminate, the danger of” *pestis*. To shoulder these political, medical, and economic burdens, Cofer deemed it incumbent upon the BOH to rat-proof the *entire* city.⁶⁰

By 1907, however, the impending completion of the Panama Canal, its ensuing repercussions, and Honolulu’s tutelary responsibilities most likely prompted the Federal Government to provide the BOH with financial assistance.⁶¹ With cash in hand, municipal health officials could now unleash the comprehensive rat extermination program that Pratt originally envisioned. Taken together, these tactics sought to rid Honolulu of *every* rodent, with the intended consequence of protecting the economic prosperity of both Honolulu and the Pacific Ocean.

Between 1907 and 1914, exterminators set traps and scattered poison throughout Honolulu’s urban terrain. Honolulu’s heightened interest in its own urban wildlife revealed that rats procreated much like rabbits. (Indeed, depending on the species, a single female rat

⁶⁰ *Evening Bulletin*, 4/6/1907, 4/13/1907, 4/20/1907, 4/27/1907, 5/7/1907.

⁶¹ While the historical record fails to indicate *why* the Federal Government began funding Honolulu’s public health endeavors, Echenberg implies that, at some point between 1907 and 1908, the PHS commenced a federal funding program for Honolulu’s municipal government. Echenberg, *Plague Ports*, p.186.

can mate up to 500 times in a six-hour period and can produce up to 2,000 offspring annually.) Considering this newfound appreciation for rodent fertility, the Board of Health’s pest control campaign soon reached truly bizarre extremes. By 1908, rat-catchers were conducting door-to-door interviews to teach local residents how to effectively lay traps, distribute poison and bait, and protect their homes from rat infestations—an educational approach borrowed from health officials in Sydney. As one correspondent for the *Hawaiian Star* suggested: “Admit any employee” of the BOH into “your premises [and] accompany him around . . . for the purpose of seeing what is done, in order that you may be better informed and better able to look after your” own property.

Hawaiian building laws were also revised, forcing property owners to replace wooden sidewalks with concrete—a practice modeled on San Francisco’s attempt to “build rats out of existence.”⁶² Honolulu even established a municipal cattery for the “rearing of official felines as rat catchers”—a program reportedly adopted from the British Government in India. In fact, one of the only measures that was distinctly “Hawaiian” was the inception of a “shotgun brigade” similar to the previous citizen’s attic antics, this time comprised of a group of armed health officials who traversed Honolulu to either execute rats directly or drive them from algarroba trees, at which time “wharf rats”—who maintained a “deadly feud [with] their arboreal brethren”—quickly swarmed to “slaughter them.”⁶³ From wharves to basements to treetops, the BOH left no stone unturned in their search for plague-breeding pests.

⁶² Marston Campbell, 5/22/1909, *HSA*, Department of Public Works, Folder: “Notices of awning, balcony, sidewalk construction law violations — 5/1908.”

⁶³ *Hawaiian Star*, 3/24/1908; *HG*, 6/19/1908 and 9/25/1908.

After completing their urban rounds, rat-catchers transported *every single* rodent in ice chests to Honolulu’s bacteriological laboratory, which the BOH established a mere two months after Cofer’s report appeared in the *Evening Bulletin* (Figure 16). To begin, lab assistants submerged rats “into an emulsion of kerosene, soap and water to destroy” any lingering “fleas, lice and mites.” In turn, “autopsy boys” splayed individual rats abdomen-up by nailing their paws to a wooden board (Figure 17). After incision, they removed the spleen and lymph nodes, from which

smears are made, stained with carbithionin [sic], and examined under a 1-12 oil immersion lens. If a slide shows a suspicious rod the number of the slide is noted and from it the rat furnishing it is ascertained; the tag on this rat is examined to see from where it was obtained and all its data noted down. A guinea pig is then inoculated with a portion of the organ of the rat. The suspected rat’s body is then burned. Should the [guinea pig] die (as it will do if the suspicious rod is *Bacilli pestis*), a pure culture is obtained from its heart’s blood and carried through the usual cultural and biological tests.⁶⁴

Indeed, this diligent routine merely underscored the BOH’s true grit and determination. For public health officials, “every dead rat” denoted a “possible dead plague rat”; similarly, every bacteriological analysis “[meant] a bit of control of the disease.”⁶⁵

Between 1908 and 1914, rat-catchers and autopsy boys destroyed and examined more than 130,000 rodents, averaging 1,500 bacteriological analyses per month.⁶⁶ Almost comically, the BOH *never* discovered a plague-infested rat from Honolulu. Even after the Panama Canal opened and maritime trade increased exponentially, Honolulu remained free from *Yersinia*

⁶⁴ *Hawaiian Gazette*, 11/27/1908.

⁶⁵ *Hawaiian Star*, 1/8/1909.

⁶⁶ *U.S. Public Health Reports*, “Hawaii: Examination of Rats for Plague,” 9/1907-12/1909; “Prevalence of Disease in Insular Possessions: Hawaii,” 5/1913-10/1914.

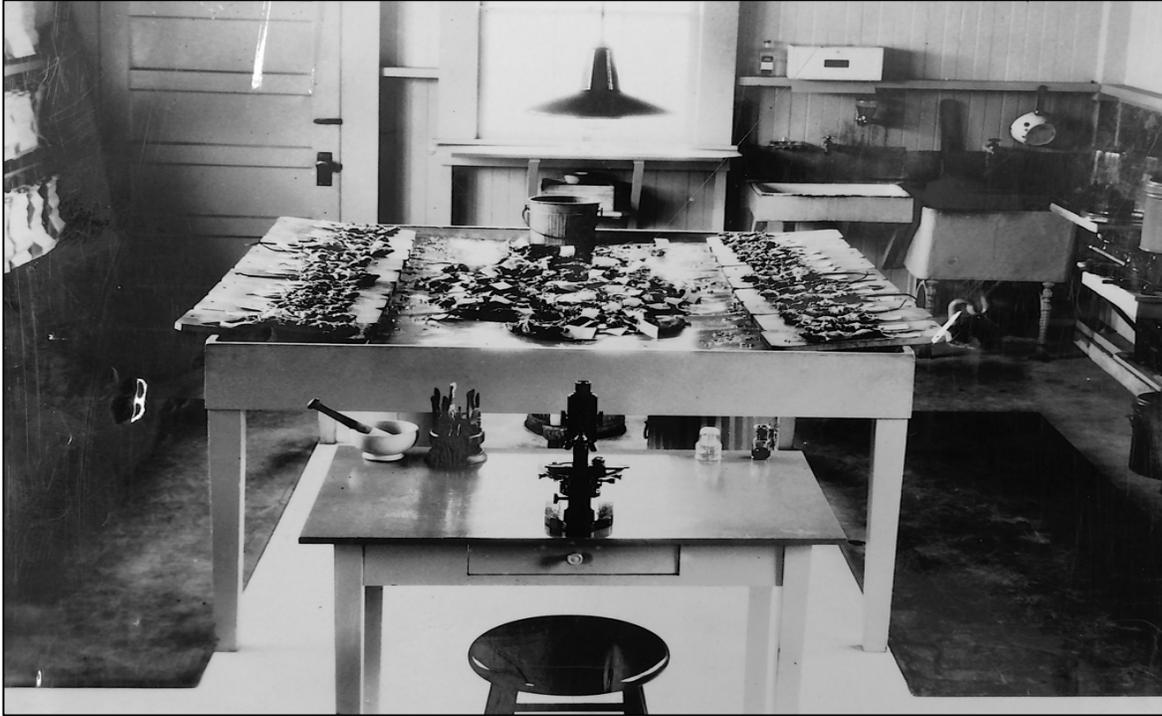


Figure 16: Honolulu's Municipal Laboratory, c. 1908, Hawai'i State Archives



Figure 17: Bacteriological Examination Techniques, c. 1915, Hawai'i State Archives

pestis.⁶⁷ The BOH's perseverance and keen eye toward etiological discoveries and bacteriological innovations enabled them to fulfill a new economic responsibility that focused on safeguarding Honolulu's market economy and transpacific commerce from rats, pestilence, and quarantine regulations. Since *pestis* had seemingly vanished, planters and merchants alike deemed the BOH's "eratication" campaign an absolute success. "The voluntary tax" gathered by Hawaii's commercial interests had "served its purpose well [and] the plague was kept out," declared the *Hawaiian Gazette*. Such a favorable outcome suggested that Honolulu would forever be a plague-free polestar for transpacific commerce.

⁶⁷ P. Quentin Tomich, et. al, "Evidence for the Extinction of Plague in Hawaii," *American Journal of Epidemiology* 119, No. 2 (1984): 261-173.

CONCLUSION

“OF LASTING BENEFIT TO THE TERRITORY”: YELLOW FEVER, TRANSOCEANIC COMMERCE, AND THE OPENING OF THE PANAMA CANAL, 1900-1914

The Hawaiian Islands are the most isolated spot on the globe, [but] frequent communication radiates from them to the continents of both hemispheres. All disease that can be transmitted by vessel communication across the tropics of the Pacific Ocean meets the most searching inspection and interception at the port of Honolulu, midway of the voyage, and at a time subsequent to the usual period of incubation of contagious disease. . . . Authorities stationed at Honolulu have a peculiar responsibility, and have the anomalous duty of guarding against disease from all points of the compass, and protecting in transit distant ports situated at opposite points.

— Lucius E. Pinkham, 1906¹

In 1903, the United States assumed control over the construction of the Panama Canal—a project of epic proportions and troubled origins. Twenty-five years earlier, the French Panama Canal Company began excavating a watercourse between the Atlantic and Pacific Oceans, but unreliable labor, environmental hardship, and financial mismanagement forced the agency into receivership in 1889. Other hopeful parties would make other hopeful attempts to complete the canal over the subsequent decade, but all to no avail. Although stalled, this monumental venture had piqued American interest for years as the U.S. extended its political and economic influence into the Caribbean and Central America at the turn of the century. In the wake of the Spanish-American War, however, it was all but expected that the canal would be built and operated under American control.² The completion of the “Big Ditch,” economists

¹ Lucius E. Pinkham, *Report of the President of the Board of Health of the Territory of Hawaii for the Twelve Months Ending June 30, 1906* (Honolulu: The Bulletin Publishing Co., LTD., 1906), 3-4.

² Mark Harrison, *Contagion: How Commerce Has Spread Disease* (New Haven: Yale University Press, 2012), 130. On the general history of the Panama Canal, see: Julie Greene,

predicted and politicians hoped, would dramatically amplify the scale of transoceanic trade by countervailing many of the geographic and temporal barriers that had once frustrated mobility between Atlantic and Pacific seaports—including Cape Horn, the Arctic Sea, and protracted overland journeys across the Western Hemisphere. Put another way, by increasing the viability and profitability of large-scale and long-distance commerce, this extraordinary feat of civil, hydraulic, and sanitary engineering would rupture what had been—for more than a half-century—a relatively cohesive and self-contained Pacific World.³

In Hawai‘i, the projected economic gains resulting from a direct trade route between Honolulu and the Panama Canal Zone were widely celebrated; exposure to unfamiliar contagions endemic to Central America, the Caribbean, and the broader Atlantic World was not. Of paramount concern was yellow fever—a mosquito-borne disease characterized by a host of violent symptoms like jaundice, internal hemorrhage, black vomit, kidney failure, seizures, coma, and death. For centuries, the disease wreaked havoc across the mid-Atlantic, from West Africa and the lower Mississippi River Valley to the northeastern seaboard of Brazil. More recently, “yellow jack” had contributed to France’s failure to complete the Panama Canal and greatly frustrated U.S. military interventions in Cuba and Puerto Rico. That mosquitoes served as yellow fever vectors was not widely understood among health and medical professionals until the initial years of the twentieth century, when U.S. Army

The Canal Builders: Making America’s Empire at the Panama Canal (New York: Penguin, 2009); John Major, *Prize Possession: The United States and the Panama Canal, 1903-1979* (Cambridge: Cambridge University Press, 1993); Matthew Parker, *Panama Fever: The Battle to Build the Canal* (London: Hutchinson, 2007).

³ On the economic effects of the Panama Canal, see: Calvin Crumbaker, “The Panama Canal and the West,” *The Journal of Business of the University of Chicago* 2, no. 2 (1929): 151-176; Noel Maurer and Carlos Yu, “What T.R. Took: The Economic Impact of the Panama Canal, 1903-1937,” *The Journal of Economic History* 68, no. 3 (2008): 686-721.

physician Walter Reed confirmed and later popularized the pioneering research of Cuban epidemiologist Carlos Finlay.⁴

Taking yellow fever's expansive history into consideration, "it [was] not too soon to prepare Honolulu for the opening of the Panama Canal," warned the Honolulu Chamber of Commerce in a 1904 letter to the U.S. Department of the Interior.

The tropical diseases rampant at the Isthmus are unknown in Hawaii, and our experience with oriental diseases is that they find a ready culture under our equable climatic conditions. We believe that extensive public works may have to be constructed before Honolulu can be considered disease proof. . . . [To] have Honolulu a clean port concerns the entire Pacific coast of the United States.⁵

Common among Hawaiian civil servants, businessmen, and urbanites, this particular viewpoint compelled the Territorial BOH to initiate a mosquito eradication campaign similar in form and function to Honolulu's rodent extermination project. Adhering to standard practice, civil servants gleaned sanitary intelligence from newspapers detailing public health responses to yellow fever outbreaks in New Orleans, Cuba, and Panama.⁶ As with vaccination, waste removal, and rebuilding programs from the prior century, however, initial efforts to destroy

⁴ William B. Bean, "Walter Reed and Yellow Fever," *Journal of the American Medical Association* 250, no. 5 (1983): 659-62; François Delaporte, *The History of Yellow Fever: An Essay on the Birth of Tropical Medicine* (Cambridge: MIT Press, 1991); Juan Àngel Del Regato, "Carlos Finlay and the Carrier of Death: The Cycle of Successful Scientific Discovery," *Jefferson Medical College Alumni Bulletin* (1971): 1-16. Mariola Espinosa, *Epidemic Invasions: Yellow Fever and the Limits of Cuban Independence: 1878-1930* (Chicago: The University of Chicago Press, 2009); John R. McNeill, *Mosquito Empires: Ecology and War in the Greater Caribbean, 1620-1914* (New York: Cambridge University Press, 2010), 33-36, 306-312.

⁵ Honolulu Chamber of Commerce to Ethan A Hitchcock, U.S. Secretary for the Department of the Interior, printed in *PCA*, 12/29/1904.

⁶ *HG*, 7/8/1904; *PCA*, 8/20/1904; Lucius E. Pinkham, *Report of the President of the Board of Health of the Territory of Hawaii for the Twelve Months Ending June 30, 1904* (Honolulu: The Bulletin Publishing Co., LTD., 1904), 20-21.

“the mosquito in his favorite haunts about town” were underfunded, contingent upon community engagement, and thus woefully deficient. To eliminate standing water, government circulars encouraged residents to empty ponds, fill in ditches, cover cisterns, and drain privies and cesspools. But by 1905, the BOH was lamenting that Honolulu’s anti-mosquito campaign had become, “as all public campaigns do, an old story to the public.” Much like a mosquito’s ideal breeding ground, prevention efforts would remain stagnant for the time being.⁷

Reports that the Panama Canal was nearing completion reinvigorated concerns that yellow fever would soon appear on Hawaiian soil.⁸ And so, on August 17, 1910, Dr. John Pratt, Honolulu’s General Health and Sanitary Officer, set sail for the Golden State, arriving in San Francisco six days later. Pratt’s journey across the northeastern Pacific marked the initial leg of an extensive three-month sanitary survey of urban environments across the United States, Panama, and Mexico. His purpose was two-fold: Not only would he “obtain by personal observation . . . the latest methods used in hygiene and sanitation,” but also he would “study the up-to-date manner in which yellow fever and mosquitoes [were] combatted.”⁹ Indeed,

⁷ Lucius E. Pinkham, *Report of the President of the Board of Health of the Territory of Hawaii for the Six Months Ending June 30, 1905* (Honolulu: The Bulletin Publishing Co., LTD., 1905), 13, and *Report of the President of the Board of Health of the Territory of Hawaii for the Six Months Ending December 31st, 1906* (Honolulu: The Bulletin Publishing Co., LTD., 1907), 24; J. S. B. Pratt, “Report of the General Health and Sanitary Officer,” 6/30/1910, in E. A. Mott-Smith, *Report of the President of the Board of Health of the Territory of Hawaii for the Twelve Months Ending June 30, 1910* (Honolulu: The Bulletin Publishing Co., LTD., 1910), 24-25; BOH Minutes, 8/9/1905, *HSA*, Series 259, Vol. 13, 1/11/1905-12/27/1905; L. E. Pinkham to D. L. Van Dine, 4/21/1905, and L. E. Pinkham to C. E. Copeland, 9/18/1905, *HSA*, Series 335: “Correspondence of the Board of Health,” 1905-1917, Box 10, File: “Hawai‘i Experiment Station, 1905-1908,” and Box 16, File: “Mosquito—1908-1913.”

⁸ *Hawaiian Star*, 3/16/1909; *PCA*, 8/27/1909; J. S. B. Pratt, “Report of the General Health and Sanitary Officer,” 6/30/1909, in E. A. Mott-Smith, *Report of the President of the Board of Health of the Territory of Hawaii for the Twelve Months Ending June 30, 1909* (Honolulu: The Bulletin Publishing Co., LTD., 1909), 20.

⁹ *PCA*, 8/13/1910; *Evening Bulletin*, 8/12/1910.

rapidly waning were the days when BOH members obtained public health intelligence and medical knowledge solely through foreign newspapers and international correspondence. Traveling east from California, Pratt met with officials in mainland municipalities—from Salt Lake City, Topeka, and Bowling Green to New York, Philadelphia, and Washington, D.C. Along the way, he familiarized himself with a dizzying array of urban health initiatives, including food and drug laws, anti-spitting ordinances, and school hygiene programs.¹⁰ Reflecting on the first two months of his journey, Pratt would later claim that Honolulu’s approach to standard public health problems was “strictly up to date” by comparison, and the BOH had “nothing to be ashamed of and [was] certainly not behind the times in anything.”¹¹

In mid-October, Pratt embarked on the southern half of his odyssey, which included trips to New Orleans, Colón, Panama City, Salina Cruz, and other gateway seaports where yellow fever lurked. At each juncture, Pratt recorded medical techniques for diagnosing and treating the disease while also documenting local mosquito eradication measures. In Colón, Pratt was introduced to the esteemed William C. Gorgas, a decorated U.S. army physician and the chief officer of the Panama Canal Zone Sanitation Commission. Before Pratt’s departure, Gorgas furnished him with nearly a decade of federal health reports and public addresses elucidating the interplay among yellow fever, mosquito lifecycles, and sanitary campaigns in the Gulf of Mexico, the Caribbean, and Central America. Yet most important was Pratt’s meticulous account of the “exact conditions existing” in seaports along the Pacific coasts of

¹⁰ J. S. B. Pratt, “Report of General Health Officer on Investigation of Sanitary Conditions in United States, Panama, and Mexico,” 1-24, 2/18/1911, *HSA*, Series 334: “Incoming Letters of the Board of Health, 1850–1904,” Box 33.

¹¹ *HG*, 12/2/1910

Mexico and the Panama Canal Zone.¹² The sanitary state of Panama City all but exceeded Pratt's expectations; he "saw very few mosquitoes [in] the hotels and railway cars," and only found disease-breeding species "when [he] hunted for them" on the outskirts of town. Thousands of miles to the northwest, however, were the Mexican seaports of Salina Cruz and Manzanillo. In both locales, Pratt found "an entire absence of sanitation," abysmal quarantine accommodations, and ineffective "fumigation and mosquito prevention work." His conclusion? Under no circumstances should health officials in Honolulu consider the coast of Mexico "a safe place from a health standpoint and vessels coming from there should be looked upon with suspicion."¹³

From the western seaboard of Mexico, Pratt ventured inland to Mexico City and then north to Texas before taking a well-deserved vacation in Oakland and San Francisco. After 104 days abroad, Pratt arrived in Honolulu on November 29, having traveled a total of 22,229.3 miles by train and steamship. It was Pratt's "sincere hope that the information contained" in his field notes, his anthology of official documents, and his summative report would "prove of lasting benefit to the Territory. Some of it . . . will not be practicable to adopt for a long time to come," he predicted, "but it will be here and ready" when needed most.¹⁴ Whether sensible or purely serendipitous, the timing of Pratt's survey could not have been better.

In late October 1911, a single case of yellow fever appeared in Honolulu after arriving aboard the *Hongkong Maru*, a Japanese liner that had recently plied between Panama City, Salina Cruz, and Manzanillo before embarking on her return journey across the Pacific. A

¹² Ibid; Pratt, "Report of General Health Officer," 50.

¹³ Pratt, "Report of General Health Officer," 49, 57.

¹⁴ Ibid., 57-66.

wave of panic flooded the city as news of the disease broke, sending territorial health officials into overdrive. The victim, a Hawaiian seaman contracted by various steamship companies, was found prostrate and unresponsive in a nine-acre shantytown originally built for the detention of plague victims during the epidemic of 1899-1900. Zealous measures were implemented in response, “having for their object the destruction of any mosquitoes that might have become infected from the patient,” reported George W. McCoy, a USPHS agent stationed in Hawai‘i and the future director of the National Institute of Health. After isolating the settlement’s predominantly non-white, working-class community at the Quarantine Station, health officials fumigated shacks, incinerated outhouses and washing facilities, and hacked away any foliage believed to be a safe haven for mosquitoes. By November 6, the BOH had placed a cordon sanitaire around the now-desolate encampment using barbed wire and a detachment of the Hawaiian National Guard. “Everything was done that could be done,” asserted Charles Charlock, O‘ahu’s Chief Sanitary Inspector, and “the danger of an epidemic was reduced to a minimum.”¹⁵

Yet others understood that mosquitoes would likely ignore quarantine regulations—just as rats had done during plague outbreaks of the previous decade. As dispossessed residents evacuated their homes, prominent businessmen, politicians, and federal health officials formed a coalition known as the Civic Sanitation Committee (CSC), which sought to protect the flow of commerce within and beyond the Hawaiian Islands by expanding and enhancing mosquito

¹⁵ Charles Charlock, “Report of the Chief Sanitary Inspector, Oahu,” and George W. McCoy “Appendix ‘B’: Mosquito Report by Dr. Geo. W. McCoy,” in J. S. B. Pratt, *Report of the President of the Board of Health of the Territory of Hawaii for the Twelve Months Ending June 30, 1912* (Honolulu: The Bulletin Publishing Co., LTD., 1912), 60-62, 187-195; H. G. Pratt, *Hawaii: Off-Shore Territory*, 176-177.

prevention practices throughout Honolulu.¹⁶ Immediately after the CSC's formation, committee members secured nearly \$150,000 in funding from the Territorial Government and the Shippers' Wharf Committee, a business association with deep pockets and a vested interest in preempting quarantine laws. Moreover, emergency BOH regulations alongside fast-tracked territorial laws gave the CSC carte blanche to exterminate mosquitoes and abolish mosquito-breeding habitats. With cash and "ample authority" at its disposal, the CSC divided Honolulu into 48 precincts, staffing each with a chief sanitary inspector, a handful of noncommissioned U.S. Army and Naval officers, and several prisoners. In total, the campaign enlisted nearly 650 men. On November 8, just two days after the CSC materialized, "precinct gangs" descended on Honolulu.¹⁷

For the next eight months, sanitary squads implemented various anti-mosquito measures depending on their assigned precincts' geographic location. Those responsible for inner-city districts had to contend with "small artificial collections of water . . . usually found near the habitations of man." Traveling from one property to the next, CSC agents filled in puddles, coated privy vaults and cesspools with kerosene, ripped rain gutters from rooftops, and confiscated buckets, tin cans, and other objects once deemed harmless. Yet further from Honolulu's city center was a sprawling patchwork of locally-owned farmsteads that relied on marshy, low-lying pools of water for the cultivation of rice and taro. Sanitary workers

¹⁶ W. F. Dillingham, "Report of the Chairman, Civic Sanitation Committee," in Pratt, *Report of the President [. . .] for the Twelve Months Ending June 30, 1912*, 195-202.

¹⁷ "An Act to Authorize the Appointment of the Sanitary Commission of Honolulu and to Appropriate Money for the Expenses of Such Commission," *Laws of the Territory of Hawaii, Passed by the Legislature at its Regular Session 1911* (Honolulu: Bulletin Publishing Co., Ltd., 1911), 26-27; Charlock, "Report of the Chief Sanitary Inspector," 60-62; McCoy, "Appendix 'B': Mosquito Report," 187-195; Dillingham, "Report of the Chairman," 199; H. G. Pratt, *Hawaii: Off-Shore Territory*, 176-177.

destroyed arable land by “ditching, draining, and brush cutting” unused acreage. Yet wherever farming flourished, ponds were “stocked with larvae destroying fish” imported from California. Notably, the CSC’s approach to preventing the dissemination of yellow fever was by no means innovative; “nearly all the methods used on the Canal Zone” had been “used as fast as [was] practicable” in Honolulu, Pratt later reported.¹⁸

One of the only citywide initiatives the CSC adopted was the wholesale destruction of banana trees. According to health officials, the plant’s funnel-shaped leaves collected water with each rainfall, thus affording “an especially good harboring and breeding place for mosquitoes.” As might be expected, the forced destruction of private property was vehemently opposed by those who had previously transformed their urban landholdings into micro-plantations. According to one objector, the CSC’s pseudo-sanitary policy was akin to “hanging a man and trying him after his death.” Yet health agents and sanitary inspectors disregarded any and all grievances, contending that their conduct was “in the best interest of the community.”¹⁹ Litigation ensued, making its way to the Hawaiian Supreme Court the following year. To everyone’s surprise, the Court sided with the defendant in *Hawaii v. Araujo*, finding that CSC inspectors under the auspices of the BOH had indeed exceeded their legal authority. Ultimately, the Territorial Government was ordered to pay \$40,000 in restitution among 108 claimants.²⁰ (For comparison, the overhead costs for the entire mosquito eradication program

¹⁸ McCoy, “Appendix ‘B’: Mosquito Report,” 189-192; Pratt, *Report of the President* [. . .] *for the Twelve Months Ending June 30, 1912*, 42; *PCA*, 9/16/1905; *HG*, 12/31/1907.

¹⁹ Elizabeth Low to J. S. B. Pratt, 11/15/1911, *HSA*, Series 335: “Correspondence of the BOH, 1905-1917,” Box 1, Folder: “Correspondence, Banana Cases, 1911-1913”; Dillingham, “Report of the Chairman,” 199.

²⁰ *Territory of Hawaii v. Albert A. Araujo*, 21 *Territory of Hawaii*, 56 (1912); W. F. Dillingham, “Banana Claims Filed with the Territorial Board of Health,” *HSA*, Series 335: “Correspondence of the BOH, 1905-1917,” Box 1, Folder: “Banana Claims Commission”; “An

barely exceeded \$100,000.) Despite these legal setbacks, CSC, BOH, and USPHS officials maintained that “the results of the campaign were satisfactory”—across Honolulu, mosquitoes had “entirely disappeared” or were “materially reduced in number.” In fact, so successful were their efforts that the mosquito eradication and yellow fever prevention measures became a mainstay of the “regular sanitary work of the city of Honolulu” for decades to come.²¹

Rather than a break from the past, Hawai‘i’s first (and only) fight against the spread of yellow fever was instead the culmination of decades of experience. The reliance on foreign health intelligence; the practical application of modern medical techniques developed abroad; a well-documented history of guarding against the introduction and dissemination of infectious diseases—these, among other developments from the past half-century, had generated an effective, confident, and largely unapologetic community of public health and medical professionals. Such conventions would become even more essential over the ensuing years as significant transformations within and beyond Hawai‘i signaled the dawn of a new era in global connectivity (Figure 18). For instance, a surge in sugar production on the Big Island prompted the city of Hilo to open its harbor to international trade in 1913, thus forcing the Territorial BOH to split its resources between two well-connected Pacific seaports. The following year, Lucius Pinkham, the Governor of Hawai‘i, initiated a program to reclaim the “unsanitary, unhygienic, and repellant” marshlands known as Waīkikī—a development that jumpstarted the

Act to Provide for the Ascertainment, Adjudication and Payment of Claims by Persons Whose Property Was Destroyed by Order of the Territorial Board of Health in the Years 1911 and 1912 to Prevent the Spread of Yellow Fever in the Territory of Hawaii,” 3/28/1913, *Laws of the Territory of Hawaii Passed by the Legislature at its Regular Session 1913* (Honolulu: Honolulu Star-Bulletin, Ltd., 1913), 41-44.

²¹ Dillingham, “Report of the Chairman,” 201; McCoy, “Appendix ‘B’: Mosquito Report,” 193-194.

rapid expansion of Honolulu’s already-budding tourist industry. That same decade, Uncle Sam completed dredging of the channel entrance to Pearl Harbor, which subsequently ushered in a never-ending chain of U.S. naval warships. Most consequential of all, however, was the opening of the Panama Canal on August 15, 1914.²²

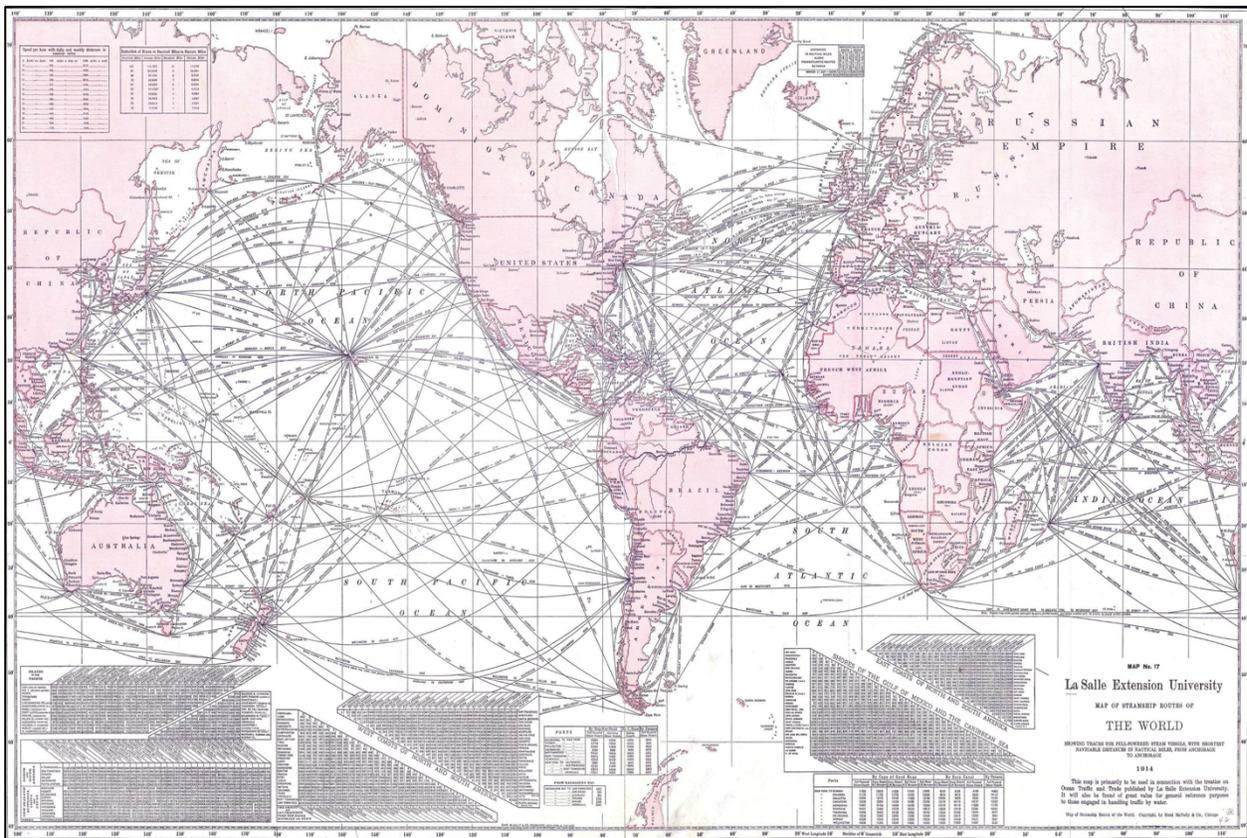


Figure 18: *Map of Steamship Routes of the World, 1914, Rand McNally & Co.&*

²² Beechert, *Honolulu: Crossroads of the Pacific*, 100-110; Tom Coffman, *Nation Within: The Story of American’s Annexation of the Nation of Hawai’i* (Durham: Duke University Press, 2016); Jones and Osgood, *From King Cane to the Last Sugar Mill*, 96, La Croix, *Hawai’i*, esp. chap. 7; MacLennan, *Sovereign Sugar*, esp. chap. 9; Joseph Morgan, *Hawaii: A Geography* (Boulder: Westview Press, 1983), 125, 228; H. G. Pratt, *Hawaii: Off-Shore Territory*, 175, 184-188; Skwiot, *The Purposes of Paradise*, 82-85.

The following month, businessmen, newspaper correspondents, civil servants, and local residents watched from O‘ahu’s southern coastline as harbor pilots steered the *SS Missouriian* to her berth at Honolulu. Sailing under the American-Hawaiian Steamship Company, the *Missourian* was the first vessel to enter Hawaiian waters after passing westward through the Panama Canal, “that harbinger of . . . big things to come.” For the editor of the *Hawaiian Gazette*, it was clear that few bystanders could comprehend the “significance of the changes [that would] be wrought in ocean travel” as a result of this momentous event. Yet fortunately for the Hawaiian Islands, there were also those ashore—namely Drs. John Pratt and George McCoy, among many others—who had the requisite “foreknowledge and [were] preparing for what the near future [held] in store.”²³ Innumerable methods to prevent the introduction and dissemination of infectious diseases had been in place on Hawaiian soil since the 1840s; by the early twentieth-century, health officials fully appreciated the value of eternal vigilance and an enduring policy of adopting and adapting public health intelligence and medical knowledge from abroad.

²³ *HG*, 9/18/1914; Jim Gibbs, *Shipwrecks in Paradise: An Informal Marine History of the Hawaiian Islands* (Seattle: Superior Publishing Co., 1977), 14-15; Robert C. Schmitt, “Some Transportation and Communication Firsts in Hawai‘i,” *Hawaiian Journal of History* 13 (1979): 99-123.

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