***Intervals* - Episode 9**

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Introduction

CHRISTOPHER BRICK: Hello everyone and welcome back to *Intervals*, a public humanities podcasting initiative of the Organization of American Historians. I'm Christopher Brick, here on behalf of the OAH Committee on Marketing and Communications, and here as well to welcome our ninth guest of this lecture series on the history of public health and epidemic disease. Dr. Jacob Steere-Williams is with us today from the Department of History at the College of Charleston where he is currently an associate professor.

Of all the experiences that the committee, myself, and our producer, IK David, had in drawing together season 1, the production story of Jacob's episode turned out to be the most meta in the self-

referential sense, as something that refers or reflects back upon itself.

To ensure hi-quality audio for these recordings, we circulated amongst all the participants a few standardized microphone setups with the instruction to sanitize the mic with a disinfecting agent prior to return shipment to us or circulation to the next participant in the production schedule. By that point it was already quite clear that SARS-CoV-2 – the virus that causes COVID-19 – could not survive or replicate on surfaces, thus making "fomite" or surface-based transmission a non-concern. (Incidentally, this is also why just about every CVS or Walgreen's or Duane Reade you walk into these days has a clearance bin full of deeply-discounted hand sanitizer, often in bottles much larger than the size most of us were accustomed to seeing it retail at in the pre-pandemic before times—an overhang of that initial wave of public health guidance in spring of 2020 that emphasized antisepsis as a key intervention against community spread).

Little did we realize that Jacob's talk is an exploration of the way that the concept of surface distinction --- still relatively novel in the early 20th century --- contributed an important new vocabulary to American political culture, gaining currency as a potent way to pathologize immigrants, the poor, and people of color as themselves a dangerous form of contagion that bio-medicine could help to eradicate. We see this quite clearly in the growth of the eugenics movement during the Progressive era and into the 1920s and 1930s, and so too in the chemical disinfectant boom of the early 20th century.

As Jacob relates to us in his talk, American and European public health officials made liberal use of the new antiseptic agents that contemporary chemistry had afforded them, dipping and spraying indigenous peoples in vats and mists of skin-burning carbolic acid. At port cities across the Atlantic carbolic acid was used to disinfect ships and cargo, the dangerous labor often falling to the poor and disenfranchised. At the same time, safer versions these chemical products were marketed to middle class women as a part of the everyday fight against disease that had to be waged in the home.

All of this context gave me a new way to look at and understand the simple message we'd included in that parcel, to disinfect the microphone before passing it along or sending it back. Even something as seemingly mundane and innocuous as that does indeed have a past that can help to inform and enrich our understanding of the present, and with that I give you Jacob Steere-Williams on "The Obsession to Disinfect, and Why It Unequally Impacts Our Communities."

Lecture

JACOB STEERE-WILLIAMS: Greetings everyone, this is Jacob Steere-Williams. I'm an associate professor at the College of Charleston and a historian of public health, and I'm really thrilled to be participating in the OAH *Intervals* lecture, today focusing on the period of 1901 to 1913, originating America's 20th century.

Early in the COVID-19 pandemic, I noticed something interesting in my hometown of Charleston, South Carolina. Advertising signs started to pop up along

popular roadside intersections, calling for COVID-19 disinfection. One local company, the Bud Group, who calls themselves 'a God-honoring company of excellence', offers a thorough disinfection service, where they spray electrostatic disinfection throughout homes and businesses. They expressly talk about the fear and uncertainty in their advertising surrounding COVID-19, and that their services can give you, quote unquote "peace of mind". These signs still litter the Charleston roads, though I'm unsure the extent to which people have actually used the services of companies like this.

For the first few months of the COVID-19 pandemic, Americans were obsessed with cleaning surfaces. We're familiar with the controversies over mask-wearing, something I might add, that didn't happen in most East-Asian countries, but seldom discussed or explored during our own pandemic has been the ideas and practices surrounding disinfection, and their historical reflections.

Early in 2020, I saw people wearing gloves out at stores. Sometimes, these were rubber gloves, but I recall seeing more than once, someone donning gardening or even hunting gloves. Once while pumping gas in March, even after I had sanitized the pump handle using a Clorox wipe, a stranger approached me, imploring me not to directly *touch* the handle. "I'm hearing lots of rumors about how this plague spreads," he warned me, "better to be safe than sorry."

For months it was difficult to get a hold of household disinfectants; the ubiquitous and convenient Lysol and Clorox wipes flew off of shelfs, and so too did anything that marketed itself against germs.

In April of 2020, American President Donald Trump, in a COVID-19 briefing, suggesting that Americans might ingest common household disinfectants -- Lysol and Bleach -- a comment he later walked back as a 'joke'. His dangerous suggestion came after a government scientist described the latest research on how long the novel Coronavirus remains on common surfaces, and what chemical means can destroy it. The President and his team was correct that disinfectants, in proper proportions, and with enough time and contact, do destroy most disease-causing microorganisms -- but he was wrong to suggest that people should *ingest* these dangerous products. Reckitt Benckiser, the British company that makes Lysol, issued a quick rebuke of the President's gaff, making clear that "as a global leader in health and hygiene products, we must be clear that under no circumstances should our disinfectant products be administered into the human body -- through ingestion, injection, or any other route."

As a historian of late-19th and early 20th century public health and epidemic disease, the controversy over the President's remarks over disinfection struck a familiar chord to me. Beginning in the late-19th century, disinfection and disinfectants exploded into popular use in the fight against infectious disease. Armed with a new knowledge derived from laboratory discoveries that specific microorganisms cause certain infectious diseases, finding that we otherwise now call the germ theory, public health authorities around the world began to ask a very simple, but it turns out complicated question: how can we destroy these invisible enemies?

They turned to chemical disinfectants. The popular view, accompanied by a set of popular practices, was the complete disinfection of suspected things, people, and places. I'd like to call this a carbolic craze, which reached its height in the period from 1900 to World War I, the time period I focus on in this lecture. The phrase "carbolic craze" is named after a commonly used disinfectant of the time: carbolic acid, which was derived from industrial coal-tar production. There were three distinct arenas in American life where we can see the carbolic craze, which I will explore in my lecture: one, the use of dangerous chemical disinfectants by public health authorities in urban cities, at ports, and along the borders; two, the marketing of "safer, domestic" disinfectant products, particularly to middle class women; and three, the way in which disinfection became central to American imperial efforts overseas in this period.

Carbolic acid, as I mentioned, was the by-product of a burgeoning industrial and chemical industry in the early 20th century. It was first used to deodorize sewers and toilets in mid-19th century Europe; the belief at that time was that dangerous smells, miasmas from rotting human and animal materials, could be breathed-in and cause disease. "Destroy the smells", main-stream 19th century medical thought went, "and prevent disease". By the 1870s, Scottish surgeon Joseph Lister had established a controversial but fascinating practice of using carbolic acid in surgical practice, to prevent operative and post-operative infection.

In the 1880s, a number of public health authorities in Europe, in North America, and throughout

colonial locations, began to use carbolic acid with striking vivacity. With the discovery of many of the causative microorganisms, first bacteria, of infectious diseases, in the period from 1880 to 1900, carbolic acid and similar disinfectants were the central technology of choice in stopping the spread of disease. But, carbolic acid and similarly used chemical disinfectants are highly dangerous, caustic to the skin, and fatal if ingested. So how were they used? Who were they used on? And why were they used?

I want to start with the question of how American public health authorities justified the use of dangerous chemical disinfectants, the dangers of which were known at the time. Often disinfectants of this sort were supported as an expedient response to an epidemic of infectious disease; "drastic times, after all, call for drastic measures," officials said at the time. In the late 1890s, bubonic plague, for example, exploded around the world, in what historians call the third plague pandemic, striking India and China the hardest with nearly 12 million deaths, but the pandemic also spread to the U.S., notably in San Francisco. American health officials there issued quarantine orders to remove Chinese Americans, and sent teams of disinfectant officers into Chinatown, using horse-drawn wagons carrying giant pumps of disinfectant that was sprayed into houses, onto houses, and amongst their contents. It was clearly one of the most invasive public health practices in American history, mirroring what British public health authorities were doing at the time in India, in China, and in Africa.

But disinfection, I want to make clear, was more than just of political expediency during an

epidemic. In the first two decades of the 20th century, it was an everyday reality. There were earlier precedents, such as the widespread use of sulfur fumigation machines at port cities. The popular Clayton machine, for example, first used in the mid-19th century to fumigate ships during the yellow fever outbreaks, particularly in cities such as New Orleans, was familiar to American health officers, as historians Christos Lynteris and Lukas Engelmann explore in their new book called *Sulphuric Utopias*. But chemical disinfectants, using carbolic acid, and dangerous chemicals, was quiet another story, and one that's largely been untold.

Take, for example, one of the earliest and most important books on the subject: *Disinfection and Disinfectants*, by Milton Rosenau, published in 1902. Rosenau was the director of the hygienic laboratory. He worked with the U.S. public health service, and the marine hospital service, and was connected with the elite of American public health at the time. He even worked closely, in his acknowledgment of this 1902 book, with U.S. Surgeon-General, Walter Wyman. Here's what Rosenau had to say in 1902: "With the advent and advance of the science of bacteriology the practice of disinfection is directed against the destruction of bacteria wherever they were found -- in the air, the soil, the water, on clothing and fabrics, or about patients and his discharges." He went on also to mention animal vectors that spread disease: mosquitos for yellow fever and malaria, flies for typhoid fever, rats for bubonic plague. "It is the duty of the disinfector," Rosenau went on, "to destroy infection wherever it is found."

Just think about the ubiquity of his language there. Disinfection, in other words, was a technical arm of what historian Ruth Rogaski called "hygienic modernity". And pay close attention to Rosenau in his 1902 book, where he made an important distinction. "When proper precautionary measures have been taken" he noted, "there is little need of subsequently disinfecting, but when due to carelessness" --and listen to his language here--"when due to carelessness or lack of precaution, the result of ignorance, a general disinfection becomes necessary." And what's interesting here, I think, is the opaqueness of his language, the agency of who deems one negligent or ignorant at this time. And we should pause and ask the question of how actually disinfection worked in practice on the ground as an everyday reality in America at this time. And the answer, and this perhaps should not surprise us, was that overwhelmingly, American public health officers directed their sanitary gaze in the first two decades of the 20th century to immigrants, to the working classes, to women, and to people of color.

City governments around the country were armed with big, expensive, steam disinfectants for clothing, and horse-drawn, human operated pumps for chemical disinfectants onto spaces: homes, movie theaters, cable cars, and barracks. Examining the wealth of printed and archival documents onto practice of disinfection in the first decades of the 20th century, it's clear to me that the practices of disinfection were anything but standardized. There were dozens of steam disinfectants on the market, and the length of time articles of clothing, for example, should be disinfected wasn't standardized either. Chemical disinfection, in particular, was erratic: what chemicals should be used? In what

strength? How should it be applied? It was clear to early 20th century public health authorities, from evidence gleaned from laboratory studies, that certain chemicals had the property to destroy disease-causing organisms. But translating that laboratory knowledge into everyday practice was not straight-forward.

Spraying chemical disinfectants was a dangerous and often cumbersome process. Mixing harmful chemicals to proper strength, loading them into iron chambers, and manually pumping them onto surfaces of rooms was risky and haphazard for those working-class men--and the work was surely gendered at that time, who undertook it. In order to be effective, contemporaries noted that all surfaces had to be wet: ceilings, walls, floors, and objects. So imagine the reality of actually doing this kind of disinfection work by public authorities: What might be destroyed? What impact on the health of the community and on the people doing this work?

The reality is that across the country, in urban cities and especially at ports, and across the northern and southern borders, disinfection was an everyday reality. The annual report of the Surgeon-General at the U.S. Public Health Service in 1899 made clear to local authorities around the country that disinfection was to be chief among the central arms of American public health. And across the country the legal powers entrusted upon public health authorities were quite sweeping, and they were historically unprecedented in some ways. Take, for example, a Portland law in 1910, which stated: “the Health Department is hereby authorized and empowered to disinfect or destroy property of whatsoever nature as may be deemed necessary to prevent the spread of communicable diseases, and it

is hereby made the duty of the Health Department to disinfect or destroy such property as may be deemed necessary to prevent the spread of such disease."

But what's interesting to me is that the health risks of using chemical disinfectants were well-known at the time. The Surgeon-General in 1899 advised port and border authorities that when disinfecting with the commonly-used duo of carbolic acid and bichloride of mercury, also known at the time as "corrosive supplement", that the people actually doing the work of disinfection should wear rubber boots and coats, gloves, broad brimmed hats, and, he noted, "it is well to protect the eyes by glasses from the flying spray." Local authorities were advised, upon finding someone either confirmed with small-pox furthermore, or someone that had even come into contact with a confirmed small-pox case, to remove them to an isolation hospital, where they should be disinfected with formaldehyde along with their clothing and isolated for fourteen days.

Contemporary chemists were clear that these chemicals used posed a number of health risks, from the inhalation and damage to the lungs, to tissue-destroying contact with the skin.

In 1913, in many states such as New York, bichloride of mercury could not be sold in retail stores, except individually wrapped in tablet form and labeled 'poison' in red letters. And in practice--and here's where the rubber hits the road--those targeted for disinfection, immigrants and people of color, were not duly as protected as those doing the disinfection work. It wasn't until injuries and deaths from chemicals such as carbolic acid and bichloride of mercury increased by the

1920s, that it was viewed as a poison and treated with care.

The practice of disinfection, like to continue, was ubiquitous. Everyday objects like mail were regularly disinfected, particularly during outbreaks of infectious disease. So, too, was something as common as paper money. And just as important as dangerous things were dangerous spaces--represented in new ways of living, and working and entertainment, particularly in newly industrialized cities. And we can think of spaces like amusement parks, arcades, nickelodeons, penny arcades, and later, movie theaters, restaurants, hotels; they all served as feared spots where infectious diseases could be transferred. New transportation networks, that someone harboring an infectious disease could travel by train from Chicago to New York in only two days by 1900. And that year, remember, the Wright brothers famously began looking for locations for their flying experiments, picking Kiddie Hawk, North Carolina. And what I mean to say here is that connectivity, in other words, was central to American thinking in the early-20th century. The fear of connecting via germs was in part rational then, but in practice, what we can say, is that it was racialized.

Take another highly illustrative example. In 1910, the makers of Sapolio Soap established one of the earliest germ marketing campaigns in American history. They targeted urban street cars as places to advertise their sanitary hygienic messaging. It shouldn’t come as a surprise the street car came to represent in the early-20th century a technology of close proximity, of collapsing space and time, but also one with new inherent fears: physical closeness to strangers. Sapolio did a six-year

campaign, creating advertising scenes on the inside of street cars, showing imaginary spotless towns who had 'hygienic white heroes', epitomized by policemen.

And those were contrasted with dingy towns, filled with 'filthy immigrants'. The effect was pretty significant, and within a short time American cities, in reality, voted to become representative spotless towns. And there's evidence that across America in public schools kids even practiced spotless town plays; this had become a public health media campaign ingrained in the American cultural imagination. And it was more than clever marketing, moreover, as there were real public health practices at play here that we need to unpack. Fears of street cars, elevators, and the telephone were common--these new technologies of connection, but they also became seen as technologies of spreading germs.

In particular, the fear was strangers, and this often was evinced in the working classes and on immigrants, and let me provide something of a humorous example as another jumping off point about how disinfection practices were at the center of American life in the early-20th century--particularly at the center of debates over immigration, labor, eugenics, and racial theory.

A 1906 article in the *Journal of Outdoor Life*, a noted anti-tuberculosis periodical, ran the following story: a Seattle matron who, instructing a new housemaid in the duty of cleansing the telephone, was interrupted by the maid, who assured her that she fully realized the necessity of such a precaution. When asked how the maid knew about this, she replied: "Once, my sister lived in a family where they didn't know they ought to clean

the telephone, and one day, when one of the ladies went to use the telephone, she found a great big microbe right on it."

It's humorous of course to imagine someone in the early-20th century thinking they could see a great big microbe with their naked eye laying on the telephone, but this anecdote tells us a great deal more about popular fears of germs in this period, about class relations, and about the everyday discourse of disinfection. Disinfection was such an everyday practice of public health in this period that some leading public health authorities began to even question its broad scale effectiveness.

One leading public health officer, Charles Chapin, in an off-sighted speech to the American Medical Association in Boston in 1906, called for a new era, an end of what he called "the fetish of disinfection". And it's an interesting phrase, to use 'fetish', in 1906 to talk about disinfection, and I think it absolutely describes just how widespread this practice was. "It will make no demonstrable difference in the cities mortality," Chapin argued, "whether its streets are clean or not, whether its garbage is removed promptly or allowed to accumulate, or whether it has a plumbing law." The key, according to advocates of what historians call the 'new public health', argued Chapin and many others at the time, was in knowing exactly who was sick in a community, of targeted efforts of disease surveillance, public sanitation, hospital isolation, and targeted disinfection. The key was also individual responsibility, Chapin and others argued, through personal hygiene.

By 1904, Chapin's colleague, bacteriologist Charles Edward Armory Winslow, in an article titled "Man and the Microbe" in *Popular Science Monthly*, echoed

Chapin, by saying that it was “people, primarily, and not things, that mainly spread infectious disease.” Advances in epidemiology and bacteriology, in the period from 1880 to 1914, had shown that the vast majority of infectious diseases were spread either directly from person to person via respiratory droplets, or indirectly via food, water, or insects. Chapin enshrined these ideas in his popularly aimed 1917 book *How to Avoid Infection*.

It was an interesting take, and I want to pause here and ask some questions: to what extent was the shift in focus and rationale over disinfection an effective public health strategy? I think we can say that earlier public health authorities had wasted time, money, and labor in wholesale disinfection. But what did the new public health, a redirection and refocusing of disinfection practices, bring to barren reality? This is a critical question, as it is clear that Chapin and Winslow’s idea of targeted disinfection privileged some Americans over others. Protecting the public’s health came down to public health education and identifying who in the community was not keeping themselves clean, and who was sick. A salient reminder even today of how uneven those practices were at the time, was that of Mary Mallon, an Irish immigrant cook who asymptomatically infected dozens of New Yorkers with typhoid fever, and was imprisoned for decades at North Brother Island against her will, her gender, and her ethnicity, perhaps, marking her out more than her perceived health risk.

Remember that at this time in American history was one of massive demographic and environmental change. As urban communities became more diverse

due to immigration and urbanization, daily interactions with strangers became routine in urban settings. Coupled with xenophobic and nativist popular fears of quote unquote “dirty immigrants”, invisible microbial secretions, as Chapin liked to call them in his writings, fueled an industry in the early-20th century where disinfection became even more important in stopping the spread of disease. The public health powers to identify, to isolate, and to disinfect homes, goods, and people, was unequally applied to the working class and immigrants and people of color. Germ practices, in other words, cut across germ prophecies at the time, phrases such as “germs know no color line” and “germs are no respecter of persons”.

And so, there’s this disjunct between the rhetoric of what public health officials were saying, and the reality of what they were doing. And I’m going to pause here and ask another question: how did notions of contagion via dangerous unseen germs translate into the language of moral contagion, a popular fear of the early-20th century? I’m going to explore this by using some context. So between 1870 and 1914, more than 30 million immigrants came to the U.S., particularly from Southern and Eastern Europe, Asia, and Central America. The rate of immigration was at its height in the first decade of the 20th century, with 10 to 11 immigrants arriving per 1,000 residents per year.

By 1920, to put this into some perspective, almost 60% of big American cities, were made up of first or second generation of immigrants. This massive demographic change alarmed native-born Americans. It also corresponded with the rise of bacteriology and epidemiology, to the identification of the causal role of invisible germs in spreading

disease, and to the idea of how disease is spread in the community and could be traced by following individuals, what today we call case-tracing. Historians of medicine have also explored how this period saw, for the first time in American history, the rise in the cultural authority of medicine and public health.

A useful example to consider is the enormous power of the U.S. public health service in this period in the broader pattern of medical surveillance. The most explicit example, in the period from 1900 to World War I, were the immigration stations at Ellis Island on the east coast, and Angel Island on the west coast, which routinely turned away immigrants for fear of spreading both germs, and also moral decay. American public health officials at this time were often oblique about their concerns. Doctor Alfred Reed, for example, an Ellis Island officer, wrote that "the dregs and off-scourings of foreign lands, the undesirables of whom their own nations are only too eager to purge themselves, come in host to our shores."

This was the period both at home and abroad, when public health officers mirrored military and police officers, in uniform and in the want of authority, and we can think back to that example of that germ public health marketing campaign by Sapolio Soap. Historians used the phrase gunboat diplomacy to describe American foreign policy in the early-20th century, and I think we might rightly extend this concept to think about the militarized ways that both imperial and domestic American sanitary policy was both conceived in theory, and also put into practice.

Immigration, it's clear, was a highly politicized racialized and medicalized issue in the first

decade of the 20th century. The passage of the 1891 Immigration Act empowered health authorities at ports, and at the northern and southern borders to ban immigrants with criminal records, prostitutes, and those with contagious diseases. This legislation required steam-ship companies to inspect and to disinfect immigrants and ships before leaving European docks. As historians of this topic, Howard Markel and Alexander Stern have shown, because of prevailing racial and class stereotypes, Mexican and Chinese immigrants were more frequently targeted at the borders. Their blood and urine was suspect to the gaze of medical inspectors, and they were more frequently taken aside and disinfected with harsh and dangerous chemical agents.

Most students know something about the medical inspections at east coast port stations like Ellis Island, but much less is often known about the similar practices that were occurring along the 2,000 mile border between Mexico and the U.S. At the U.S.-Mexican border, American public health officials erected medical surveillance stations all along the border from California to Texas, and routinely disinfected immigrants. And here we can see a real push and pull between southern growers and industrial factory owners who wanted cheap labor, and the demands of the U.S. public health service and Anglo-Protestant middle classes to keep America quote unquote “keep America safe, native, and clean”. Interestingly, before 1900, migrant labor between the U.S. and Mexico was routine for many Mexicans, and unproblematic for many Americans.

After the Mexican revolution of 1910, however, U.S. immigration officials and the U.S. public health

service, began to severely crack down, reframing Mexican migrant workers as both diseased and dirty.

One glaring example worth mentioning was in 1915, when American officials got word of a typhus epidemic raging in Mexico. When health officials discovered several cases of typhus in El Paso, Texas in 1916, they began a full-on quarantine, which started in El Paso, and extended to all border stations. Health officials were charged with disinfecting and delousing all persons quote unquote “considered as likely to be vermin-infested”.

Strikingly, Mexican immigrants across the border were stripped naked, drenched with kerosene, closely examined for lice and nits, and even vaccinated for small-pox against their will. After their clothes and belongings were disinfected and fumigated, Mexican immigrants received a public health certificate, which verified in the language used at the time, that they had quote unquote “had been deloused, bathed, vaccinated, clothing and baggage disinfected”. Interestingly, although the threat of typhus soon ended, this heavy-handed, ethically questionable and highly dehumanizing set of public health practices continued on the U.S.-Mexican border until the 1930s.

U.S. immigration officials used other technology to control what they saw as dangerous threats to American stability as well. As historian Ann Pelger-Gordon has shown, at Angel Island in San Francisco, public health authorities required Chinese immigrants to provide photographic documentation of their legitimacy to enter the U.S., a policy not extended to Southern European immigrants at stations such as Ellis Island. Authorities, using bogus racial science of the day,

believed they could distinguish between "respectable" quote unquote "and criminal" Chinese immigrants, based solely on the photograph. As west coast officials increasingly sought to limit and even exclude Chinese immigrants, the latter often tried U.S. entry along the Mexican border. A new fear emerged among American health officials--that Chinese migrants secretively played themselves off as Mexican, making immigration photographs even more complex and politicized.

Historians have noted that in the period from 1891 to 1924, less than 3% of the total number of immigrants were rejected for medical reason, but that number does not reflect the total number of immigrants who were subjected to dehumanizing inspection and disinfection, and the kind of impact that had on them and their lives and their families. The broader and deeper cultural currents swirling around disinfection were metaphors of immigrants being both diseased and criminals. We can see this, I think quite directly, in the advertising of disinfectant products, to middle class white Americans.

The German-American Lautz Brothers' Soap company used racially charged scientific language to suggest that the dark color of African Americans' skin to be dirty and diseased; their disinfectant soap in their advertising could wash it away, theoretically. With the increase in lynching in the American south, the movement of African Americans to northern cities, coupled with massive European immigration into the 1920s, were all factors that contributed to middle class anxieties of the mobility of the poor, the mobility of germs, and the need for targeted disinfection. And hopefully you see here how this maps onto the language that

people like Chapin and Winslow were saying above from their ivory towers of American public health.

African Americans in particular, legal historians have found, were disproportionately found guilty of sanitary related crimes in this period. A 1909 article in *McClure's Magazine*, for example, titled "The Vampire of the South", argued that quote "Negro crimes of violence number dozens where his sanitary sins number tens of thousands, for one crime a mob will gather in an hour to lynch him, he may spread the hookworm and typhoid from end to end of a state without rebuke". As historian Joanne Brown has persuasively argued, the germ theory evolved in tandem with the racist post-reconstruction ideology of white supremacy, and was consistent in many fundamental ways with racist fears of miscegenation and sexual pollution.

We shouldn't be surprised that there were outspoken critics from within the ranks of African American advocates. Activists like W.E.B. Dubois convincingly argued that the health and inequalities of African Americans were largely due to structural conditions that stem from American racism, not from an inherent biological difference that white eugenicists liked to claim. Dubois's *The Health and Physique of the American Negro,* which spurred a conference to address race and health and equality in 1906, galvanized new approaches to pushing back against the confluence of race and medicine. And although white middle class Americans especially targeted African Americans as the index case of outbreaks and the spreaders of contagion, there were others that aimed their sanitary glances at as well.

We've discussed the targeted efforts aimed at Chinese Americans on the west coast, but Irish

Americans in cities like Boston and Philadelphia were also targets, and so too were Italian and Russian Americans in New York, who embodied to middle class white Americans the dangerous, the other, the alien, the unsanitary. The fear of germs in the early-20th century was inexplicably, I think, about fear of the invisible, but in reality and in practice, through looking at the labor of disinfection, it materialized itself with the fear of the very seen, of racial and ethnic difference. This period saw the explosion of new sanitary products, I think, help to reify and reflect these broader cultural ideologies: vacuum cleaners, incinerators, sanitary drinking fountains, sanitary underwear, ventilated shoes, disinfectants and soap. And in no small irony, it was immigrants who largely comprised the factory labor who made middle class consumer hygienic goods.

Making cheap industrial consumer goods in factories was a dangerous proposition in this period, one that I think we have to take really seriously, for the long term health of the working classes through chronic illness, and sometimes, the literally explosive nature of factory work, the most famous being the Triangle Shirt Waist Factory fire in Greenwich Village in New York City in 1911, which killed around a 150 garment workers. Entrepreneurs in this period played on middle class fears of the proximity to the dangerous working classes, marketing scores of new germ-free products. “What you bring into your home,” advertisers claimed, “can make it dangerous. From the garments from the factory to the food on your table.” Like advertising for consumer goods, the marketing extended to muckraking journalism as well, such as Upton Sinclair’s 1906 novel *The Jungle*, portraying

the untenable conditions in the meat-packing industry in Chicago.

Middle class anxieties about immigration and labor dovetailed around the fear of germs; things brought into middle-class homes, especially those things made by the working classes, were believed to be needed to be sanitized. Chief among domestic products aimed at anxiety-ridden middle classes, was the New York based Lehn and Fink Company, who produced Lysol as an all-purpose disinfectant. Popular middle-class magazines such as the ladies' home journal, readers learned that quote "diseases besiege every home, from every case of sickness, hordes of invisible diseased germs swarm forth to spread contagion, even to the cleanest appearing homes."

Middle class women were charged with transforming their homes from germ-haunted houses into germ-proof homes. And such is American military metaphors dominated the American landscape, so too did anti-germ products and advertising. Lysol was a "guardian of the home". Advertisers played off the invisibility of germs and their ubiquity in public and in the home. And that's interesting I think because it was inconsistent with the specific logic of the new public health leaders like Chapin and Winslow. When marketers did personify germs, they did so by combining xenophobia and military metaphors. One popular example was a common figure in this period called "Jimmy the Germ". He was an ethnic minority in anti-typhoid posters and, we can see other examples like "the black hand" of typhoid, and typhoid being spread by Asian serpents in public health handbills.

The period from 1900 to World War I in America certainly one of nativism, epitomized perhaps by

what Theodore Roosevelt called in a speech in Kansas in 1910 “the new nationalism” of a powerful federal government to regulate economic and social matters. Public health certainly fell into that agenda, at home and abroad, but in practice, protecting human welfare, one of Roosevelt’s central claims, was not always extended to all Americans. Often these divisions were along racial and ethnic lines, but they were perhaps also unsurprisingly gendered. In a 1912 article in *Munsey’s Magazine* titled “How to Make Yourself Germproof” Dr. William Lee Howard suggested that quote “there is scarcely a woman or girl who does not daily carry deadly germs to her lips and mouth. Dirty money, bills, or silver, hat pins, a strand of some dead Chinaman’s hair, theater tickets, newspapers, programs, combs--it looks to me as if women never outgrew the baby age; everything they take hold of goes into their mouths.”

We can also see the specific targeting of women as spreaders of disease through the explosion of hygienic products aimed at women in the early-20th century. Often advertisement for feminine hygiene or personal hygiene overlapped with eugenics and social hygiene discourses, to the extent that in the 1950s, Lysol recommended to women that their product could be used for quote “personal hygiene”, a common euphemism telling women that it was contraceptive and abortifacient. Lysol and Listerine in particular dominated the domestic side of disinfection, and were the favorites of physicians who recommended in popular commercials, noting quote “follow the lead of those who know, use Lysol for personal hygiene and for home disinfection.”

Popular manufacturers of disinfection soaps such as Johnson and Johnson, advertised that their antiseptic soap should be used by mothers, necessarily mingling with every type of humanity in the stores, theaters, and at social affairs, so that they wouldn't carry infection home to their children--and notice the kind of rhetoric of the advertising here.

The contemporary early-20th century personification of germs overlapped in real and sharp ways along racial and gendered lines. Stereotypical black washer women with the name "Soap Sally", Chinese laundrymen, a hang on coal, the Irish Typhoid Mary, Tuberculosis Brigette and Jimmy the Germ--they all embodied popular nativist sentiments amongst Anglo-Protestant middle class Americans. Jimmy the Germ who I mentioned a couple times, is a character worthy of closer examination. He frequented popular magazines such as the American Medical Association's health magazine *Hygeia*. Jimmy was a personified germ cartoon with a five-o-clock shadow beard; he was skinny and with a hooked-nose, he represented contemporary racialized caricatures of Jews, in particular, and of Southern European immigrants in general. In Jimmy's cartoons he reveled in tormenting white Anglo-Protestant children with sickness, who refused to properly wash and brush their teeth.

Cartoons like Jimmy the Germ particularly in hands of anti-immigration nativists and eugenicists, provided fuel for large-scale intervention by the hands of public health authorities. Using oversimplified notions of Mendelian theories of dominant and recessive traits and genes, eugenicist logic implied that immigrants were, more susceptible to disease, and criminality, and that

their admission to the U.S. threatened the health and the economic prosperity of the nation. Given that immigrant labor was fueling American factories, the inconsistency of the logic is easily seen today, but it was the popular logic of white middle class Americans, and many of those in power, leading famously to the epitome of nativism acts, the 1921 Immigration Act, and the 1924 National Origins Act. And finally, we can see the way that disinfection was central to American imperialism in this period.

During the Spanish-American War, and the building of the Panama Canal, it was undoubtedly true and recognized by health authorities at the time, that the threat of disease was undoubtedly the greatest danger to these endeavors. American expansion--in other words, American imperial ambitions overseas--very much depended on the type of germ practices that we've talked about here today. In other words, the carbolic craze was not just a domestic practice of hygienic modernity; America's imperial ambitions were also guided by the practices of transforming, through cleanliness and chemicals, indigenous peoples into respectable citizens. Examining American public health efforts in the Philippines, historian Warwick Anderson has shown that disinfection was key in the imperial American efforts in the nearly 50-year period of the American occupation in the Philippines, from 1898 to Philippine independence in 1946. A key period was the first several years of American occupation.

At the conclusion of the Spanish-American War in 1898, America was ceded the archipelago as part of the Treaty of Paris, but almost immediately Philippine nationalists declared independence from the newly-installed American occupants, leading to

several years of conflict known as the Philippine-American War, lasting from 1899 to 1902. Victor Heizer, controversial American public health officer and director of public health in the Philippines from 1905 to 1915, spearheaded the efforts of America's imperial public health, making clear that quote "the health of these peoples is the vital question of the islands." Hygienic reforms, Anderson shows, was key to the civilizing process in American eyes, even if in reality the process of what he calls "biomedical citizenship" was uneven and incomplete.

In the Philippines, American public health officers and practice tries to civilize Filipinos by using military infused practices, common to those we explored domestically. They focused on Filipino personal habits, particularly waste disposal. In his book *Colonial Pathologies*, Anderson uses one of the best phrases, that American public health officers believe Filipinos were "promiscuous defecators". Key to American efforts in the Philippines was the Rockefeller Foundation, an American organization that funded massive public health projects at home, such as an anti-hookworm campaign, and across the world. It is interesting to consider the ways in which the early foundations of international health, such as the World Health Organization, were shaped by the Western public health ideas and practices that were inherently based on racial ideology and ideas of Western superiority.

By way of a conclusion, let me provide one final thought to this lecture. The carbolic craze of the early-20th century faded only slowly, and as our current pandemic has shown, maybe not much at all. From the late-19th century we've become obsessed

with killing germs, particularly on surfaces, and as I've explored in this lecture, however, the application of killing germs, of disinfection, was uneven in its early history. The blame of spreading disease and the target of disinfection fell upon racial and ethnic minorities, and often women, and I challenge you think about the ways in which this legacy survives today in responding to our own pandemic of COVID-19. Thank you so much for listening, and for involving me in this amazing project.

Q+A

[segue from lecture]

CHRISTOPHER BRICK: Listening to that as I have several times at this point, the educator in me always envies Jacob a bit because I wish I could replicate that ease of delivery and that connectivity of communication and the power of his analysis. That was borne out in the Q+A as well. Kariann Yokota was with me for a very lively session. Enjoy.

[beginning of group conversation]

CHRISTOPHER BRICK: Jacob Steere-Williams, welcome to the podcast!

JACOB STEERE-WILLIAMS: Hey Chris, how are you?

CHRISTOPHER BRICK: I'm doing well today, and I also want to extend a special welcome to the illustrious chair of the OAH Marketing Communications committee and my copilot/coconspirator in this season 1 of the Interval Series on the History of Public Health Kariann Yokota! Welcome Kariann!

KARIANN YOKOTA: Thanks so much Chris, this is really great! I'm so happy to be here.

CHRISTOPHER BRICK: It's great to have you here, and I just want to share with the audience that Kariann had to… in order to be with us today, to replace a set of headphones, Kariann had to cross an international border, so she's the real hero of our afternoon here with you all.

Jacob, thank you for the talk. I thought it was so fantastic and, I think, almost more so than any of the other ones. Each of them has a little something special, right? There's a special little superlative something in each of these. I feel like yours had so many useful frameworks that it gave me to understand this moment, not just in the American story, but in history of science, history of medicine. You brought some of yourself into it, too.

Your talk goes into a lot about how public health authorities really had these vast, sweeping powers that would surprise a contemporary audience. I might want to start there and ask you about public health expertise in this moment and the carbolic craze you describe.

JACOB STEERE-WILLIAMS: One of the great things about recording this lecture and working with y'all for the OAH and this incredible series is being a historian of public health in this moment of dealing with our own public health crisis. That's been probably the most jarring reality for me. It's seeing our country and our world respond to our own crisis and being able to see the roadmap of where we're going while it's happening in real time based on historical precedent. It was no surprise to me

early in the pandemic – and this has continued, I think it's also wavered a little bit – of this real obsession with cleaning and disinfecting.

As I mentioned to start my lecture, the first three to six months of the COVID-19 pandemic, particularly in the US, there was this real materialization and activism of everyday people wanting to have some control over an uncontrollable pandemic. That control manifested itself in everyday reality of how people try to interact with their own environments: how they interact with their household, what they do when they leave their household. I share this anecdote about pumping gas at a gas station and disinfecting the pump handle myself but then being admonished by a stranger that it was a dangerous activity.

CHRISTOPHER BRICK: Someone COVID-shamed you.

JACOB STEERE-WILLIAMS: Yeah, exactly! What's so fascinating to me about that is how this fear over the transmission of micro-organisms is nothing new. In fact, it belies a 21st century epidemiology of COVID-19. We know that the biggest pathways for spreading COVID is through respiratory droplets. It's being close to other people and being close to people who are sick with this disease. That's the main pathways epidemiologically for spreading it. It's not, and it never has been in the scientific literature, through surface infection. What's interesting to me about that and what I've constantly, during this year, been really fascinated with is: what is the reason for that? What's the reason for us, in a moment of a crisis of an infectious disease, we turn to surfaces and we turn to chemicals. We turn to an everyday

technology, or what we might call an everyday technology, to stop our own persistent fears.

That legacy really began in the late 19th century. It began at the time of the discovery and laboratories of the essential causes, at the level of micro-organisms, for most infectious diseases. Then very quickly that handful of laboratory discoveries exploded into a new reality for everyday Americans. In this way, one way to think through our own moment is to turn towards about a hundred years ago and to see how Americans were grappling with another set of disease public health crises.

CHRISTOPHER BRICK: You talk about notions of contagion as being moral and racial and ethnic as much as it is microbial. You use that to bring in the way that disinfection and decontamination, the logic of antisepsis, was being applied to people who were crossing the border, to people in the Global South end up becoming objects of US colonization policy overseas. Did each of those things… did one precede the other? I don't want to get too rudimentary cause-and-effect-y but it seems to me that the carbolic craze you're describing is both a result of this antisepsis logic that is getting but also a technique of empire. So, there's both cause and effect happening in that one sphere. Do you get this sense about the order of things, the way this played out, and how they interacted or operated historically?

JACOB STEERE-WILLIAMS: Yeah, sure. One of the things that's so fascinating is we might take an early 20th century approach and see that the logic of disinfection stems out of the discoveries of the late 19th century laboratories. But, in fact, that

story doesn't really fit with the literature either because already by the first few decades of the 19th century, with fear of early industrialization in American cities and European cities and fear of the dangerous urban spaces and urban smells, disinfection and fumigation already was in both public health practice and in popular minds. What does change – and I think something does precipitously change - with the discovery from the laboratory of medical science, of the micro-pathological origin of disease, is it gets recharged in new ways.

It gets recharged at the exact same time period when American imperial interests overseas are starting to change and these big questions about nativism and immigration and industrialization are starting to change too. There is a little bit of order to the logic of how this discussion of disinfection changes in America, but it is important to realize that by 1900, what I call carbolic craze really explodes onto the American consciousness and cuts across all levels; border to border and north to south and domestically and across the world there already were precedents there.

CHRISTOPHER BRICK: The way in which notions of citizenship itself become medicalized in the talk you're describing, it reminds me very much of some countries [that] are creating vaccine passport systems to facilitate this gradual de-escalation of quarantine and reentry – reopen, if you will, in the American language.

JACOB STEERE-WILLIAMS: Charles Rosenberg, who's a historian of medicine and public health in American history, long ago described pandemics as

dramaturgical: as having a dramaturgical effect that they begin on a certain stage, they reach a climax, and then the end. One of the things I keep trying to think about in that framework is how, at once, that's such a clever way of thinking about epidemics and pandemics, but also how we don't experience – and we're all seeing this – we don't experience pandemics as individuals in the same way. They don't just spread like a mist across the world or across the country, to the extent to where, even in my class right now that I'm teaching, I've got students because of COVID that are all across the country. They're experiencing – I start class every day with an update on COVID because I'm teaching a class in the history of disease – and students are making this really plain that they're not even experiencing the pandemic right now, a year later, in the same way.

One of the things that relates to this I myself keep obsessing about is there's such a promise right now about the end of COVID in the US that I think that what belies the reality of the vaccine, - a vaccine solution or a technological solution - is it might lower rates in the US, but globally we're going to be grappling with this disease for decades. I think back to this moment in the early 20th century when, through public health and through some real changes in the public health landscape and in the landscape of sanitary technology, is that the major infectious diseases that Americans were grappling with… they started to decline, and the health landscape started to improve but it didn't improve around the world. We start to see by the early 20th century some big divides between the Global North and the Global South and I think that is squarely part of this long legacy of what I

describe in my lecture and what we're still dealing with today with COVID.

What I try to focus on in the lecture and in my research is the way in which the emergence of public health technocratic states that tends to privilege certain narratives. Our archive represents this privileging too, so it has tended to privilege the voices of those scientists and those public health officials who are overwhelmingly male and overwhelmingly white in the US. What it ignores is the reality that public health experts, by the early 20th century, those folks were largely white and largely male, and they were trying to grow disciplines and really create disciplines in fields like bacteriology and epidemiology. They were largely pretty successful at doing that by the early 20th century.

What that privileges and what it ignores is the fact that everyday practices of public health were ones that were practiced by working class people and people of color. I think what's important and interesting about that is this narrative on disinfection; it sort of turns us away from just the voices of those public health officials to the reality of who was actually doing this work. Who are the people… The everyday laborers in the archive are mostly invisible. They're mostly folks that don't have names, don't have voices. Their narratives weren't largely recorded, but they were the ones that handled big vats of carbolic acid and mixed it into pump sprayers and they went into neighborhoods that they were told to go into.

Often, they were the neighborhoods where they lived and where their friends and family lived, and they

did the destruction. They did what we would now call today 'front-line public health work.'

What's so interesting about COVID - and I feel like no one's talking about this… I mean, we know it, but we're not talking about it - is that recent studies that are coming out on COVID in the US have said that BIPOC populations are somewhere between three to five times more likely to get COVID and die of COVID. There's a lot of structural reasons of racial inequality that are driving those statistics in the US, but they're ones that aren't new either. At the turn of the 20th century, the period I talk about in this lecture, those same forces were happening, and it was because of the differential way in which certain populations, whether that was via race or class or gender, were targeted as being blamed for the spread of infectious disease. But it's also because of this labor question of, "Who was on the front lines of doing the work that was the most dangerous kind of work?"

CHRISTOPHER BRICK: Entering into the headspace or the lived experience of those workers is something that's hard because, you're saying, they're not present in the archives; they're absent from those spaces. How do we draw them into the narrative that you're telling and the stories you're trying to reconstruct?

JACOB STEERE-WILLIAMS: This is what my current book project is on. Partly, it's looking at really mundane archival files. If you look at late 19th and early 20th century American and European public health officials, one of the things that they were actually quite good at is data recording and data keeping. That was based on this ethos that they

believe that keeping statistics and records was part of this statist technological solution, too. It was drawing up monthly reports and annual reports and really banal (what we now would consider) everyday archival administrative files.

One of the things I'm finding is… I've been working on this book for several years, but one of the things I'm finding by looking at everyday administrative records is there are often lists of the number of workers employed. Then, every once in a while, what you find is workers who aren't doing… So, they're the laborers who weren't doing a "good enough job." And so, they get fired or they get admonished and something in those records just jump out at you in the archives. While sometimes they're nameless - often they're nameless - and their own first-hand accounts weren't recorded, you can cut across the administrative archival files to see what might have been that every day, lived experience.

CHRISTOPHER BRICK: Kariann, you've been teaching in this space for some time. I'm just curious to hear some of your reactions and your questions.

KARIANN YOKOTA: Thank you. I was going to thank Jacob for his lecture. I think it's going to be great for those of us who are teaching in US history, race, and immigration. I was going to ask if you could talk to us more about the racial and socio-economic implications of your research and this lecture in particular. What I wanted to ask was… I think, for people working in your field, you're really looking at the confluence of where so-called scientific facts – at least as they're understood at the time being studied – where that meets racist stereotypes, fears of the other, race,

gender, and socio-economic stereotypes because I think, time and again, people will ask, "Well, is it true?" Or if the rates of infection are higher in places that happen to be populated by people of color, then how do we make scientific facts… It's about separating the medical, scientific knowledge of how to stay safe and how to fight a contagion or pandemic with… separating that from already existing racial stereotypes and irrational – what we would call irrational – fears. I'd love to hear your thoughts on that.

JACOB STEERE-WILLIAMS: It's a big, complicated, complex set of questions and I think you're absolutely spot on, Kariann, in identifying it. In my own teaching, in teaching the history of public health and of disease, that's one of the central questions we grapple with all semester. In some ways, it's one of the central questions that's driven all of my research my entire career. There's part of this that really gets at the heart of modernism as a concept itself because at once, there's a way in which we want to place trust into the scientific process and the scientific expertise and yet, the more we study it and grapple with it, the more we realize how inherently political it is and how inherently gendered it is and how inherently racially-inflected it is as well.

This set of topics around disinfection and turn of the century public health is useful; it's not the only window, but it's one maybe useful window into this. You can compartmentalize yourself, if you look at the wrong sources, and you can see the positivism of medical science by the early 20th century. You can just read triumphant reports by laboratory scientists of a new discovery of a [*basillis?*] or of an "effective public health

measure." You might see that as the progressive trump of science and yet, when you really start digging into it, you see the advertisement of certain antibacterial products.

One of the ones I mention that still exists today is Lysol and the early history of Lysol. You can look at any of these commercial products and think about how they were advertising. What tropes did they use? Who were the objects of who was supposed to become clean? That cleanliness both had a "scientific" merit of what it meant to be germ-free, but it very much had a moral valence too of who needed to be cleaned. That's where we can start seeing – or move beyond, rather – the abstract notion of what is the change in science and scientific knowledge over time and then the reality of how it has been engendered in the past and how that has shaped our history as well.

KARIANN YOKOTA: If I may follow up, can you talk a little bit about how – the things you're talking about in the lecture – how it's implicated in the understandable suspicion of those who identify in communities of color or marginalized communities. Their suspicion and, like I said, it's understandable of official decrees regarding public health and I think it's something that both touches on what you're talking about in the lecture but also says a lot about what we're struggling with today.

JACOB STEERE-WILLIAMS: Absolutely, and I think we're seeing the statistics jump out at us today with COVID and who is more susceptible and what communities are more susceptible to getting and dying from COVID. That maps on pretty neatly - maybe not precisely but pretty neatly - onto the

past. If you take an aerial view of the late 19th, early 20th century in America and you start looking at where public health attention was focused, that's where I think, as historians, we have this obligation to think about, "Well, what did people say, but what did people actually do?" There's a level of rhetoric that we can look at in popular culture which is super important, and I think there's a lot of valuable lessons to looking at late 19th,early 20th century advertisements for things like Lysol and Supolio which were highly racialized. Then, looking at the everyday practices of what public health officials actually did. Where did they target their efforts?

There's a way in which we do this in our teaching and also in our research; we've compartmentalized the experience of something like a newly arrived person to Ellis Island or to Angel Island or to the Mexican-American border. We see those in isolation, but an aerial view, if you really zoom out, what it shows you is how pervasive something else more deeply rooted was happening. There's this new faith in medical science and public health to solve problems but… And it seemed - probably to any middle-class Americans at the time - it probably seemed more scientific than anything had ever looked. Yet, that was part of this process whereby newly arrived immigrants, women, and people of color were being unfairly targeted as the spreaders of disease. They were the ones that needed to be cleaned the most.

There's this really incredible inversion that happens by the early 20th century that's one of my frameworks in this lecture. One of the things that the germ theory does, that modern laboratory science does is it makes visible - it reveals to

people what is the true "cause" of disease. But, at the same time, there is this new fear to everyday people of the invisible. It's no longer that diseases are caused by bad smells or rotting heaps of garbage in towns; now it's that germs can lurk everywhere. They can lurk on surfaces of your door handle. They can lurk on cable cars and in movie theaters and nickelodeons (penny arcades). But more importantly, how that materializes itself is a fear of the invisible germ lurking in moral decay. It's lurking in people that look differently than you do. Historians have focused for so long on late 19th, early 20th century nativism. When we really look closely at public health practices at this time, it fits really squarely with some long-standing discourses of the way in which we've described this period in American history.

JACOB STEERE-WILLIAMS: I think it crystalized, for many middle-class white Americans, a new technology of control. One of the things that the germ theory does is it makes people feel pretty control-less and anxious. There's a new anxiety that lurks in everyday spaces. Scholars for a while now have talked about this period in global history being one of collapsing time and space.

There's some real changes in the way in which everyday people conceptualized of the spaces around them and their place in the world. I think that lead to a lot of anxiety, and so knowledge of germs and the promises of germ technologies for a lot of middle-class Americans presented an opportunity to take control. The way that that manifested itself was a couple ways. One was a domestic side and a whole series of domestic products that were largely targeted towards middle-class white women. The other side was very public of what public health

officials did in targeting certain populations at the borders and in urban spaces that were largely people of color.

CHRISTOPHER BRICK: So, where does this go after you leave us off? You know where this story goes because you're working on a book about it, right? Where does this go after? If those hierarchies ever get dismantled, how does that happen, and what should we be mindful of as we're living through this own moment where it's entirely – I mean, we've seen a lot of scapegoating, a lot of these hierarchies being reassembled. As this change over time has happened, has there been change over time and if so, how did those transformations occur?

JACOB STEERE-WILLIAMS: Partly, I think, on the domestic side of anti-disease, anti-infection… I think a lot of that just became domesticated: what we would call a set of domesticated technologies. That's why when COVID struck, many people didn't even think twice about stocking up on disinfectant wipes and disinfectant household products.

I think that was a natural extension from the way in which, in the early 20th century, this has just been something that everyday Americans do when they're afraid of a disease. What's interesting to think about is… did those products that we can look back and… you can jump onto Google images, for example, and you can put in "Sapolio Soap," one of the examples I mention in my lecture. Almost every single one of them… what jumps out at us today is just how gendered and racial those advertisements are. You don't see that today [*inaudible overlap*].

CHRISTOPHER BRICK: So, we're not that far, really, from Jimmy the Germ?

JACOB STEERE-WILLIAMS: Yeah, I think so. I think that domestic side has been really consistent, actually. We see it continue in the Suburbia movement of the mid-20th century and we see the need to clean. Even in appliances – this is something that Nancy Tomes in her book *The Gospel of Germs* talks about that's just so incredible – how middle-class Americans by the mid 20th century wanted all their appliances and their surfaces to be white in their houses. There was this white sepulcher to try to eliminate homes from dangerousness. That, in some ways, continues today, but it's just something that's become domesticated, as I said. Where we might look a little differently is to see where our public health approaches are today in dealing with COVID.

So, in some ways you're right. At the beginning when we opened, Chris, and saying that when we look back at this period in American history it seems really heavy-handed of what public health officials were doing and the sweeping powers they had to go into everyday American neighborhoods, particularly in urban cities, and to destroy peoples' things and to forcefully remove them from their houses and send them to isolation hospitals and to march into their homes. Right now, with COVID, we're seeing something really quite different in some ways, and we're seeing the issue of public health being one squarely about personal rights and individual liberties. If we mapped on this discussion to big political questions that have happened in this country in the past 150 years, I think we can see some swings in the political arena.

KARIANN YOKOTA: With that said, if I can just mention one thing that I wanted to talk about in this Q&A session, was the fact that politics today…

you see a rise in anti-Asian-American violence on the streets of America. For me, as somebody who teaches and studies race and ethnicity and ethnic studies, to me that violation of space and personal liberties… I see it as a continuity rather than a disruption or a change.

JACOB STEERE-WILLIAMS: Absolutely, I'm glad you bring that up. I talk about this in my lecture as well and I think it's a constant. It's been, as you say, a continuity in American – and I think Western history more broadly speaking – is when there's a new disease, when there's a new pandemic, it almost inexplicably gets blamed on an 'other.' More often than not in American history that's been blamed on Asian communities.

That, I think, tells us something really interesting about these long-standing legacies of race in medicine and of broader notions of race and racial science. When the novel Corona virus began, we saw an uptick – not new, but an uptick – of xenophobia in this country and Sinophobia in particular. As a historian it didn't surprise me, but the fact that it hasn't gone away a year into the pandemic probably means that it's something that most Americans aren't aware of or even grappling with, but certainly many are feeling it because, as you mentioned, the everyday violence that's happening.

KARIANN YOKOTA: And also, I think you see an increase in the idea of national borders somehow… How do national borders protect us - or not - from contagion that does not respect borders? I think that's really interesting and it's something I thought of as I was listening to your lecture: the interplay between the two that on the one hand,

germs and contagions and pandemics cross borders willy-nilly, but on the other we can use national policy and borders to try to protect our citizens versus them… the 'us versus them' is a continual theme in what you're studying and what we're experiencing now with every pandemic that we've seen in the past.

JACOB STEERE-WILLIAMS: Yeah, and I think the global mortality and morbidity statistics show that even today. They show this story of how… This is something I teach and my students are always… they're at-once amazed by at first, but then it seems very logical to them that if you look at the health landscape of the US in the last 200 years you see that in the 19th century, there's this major struggle with infectious diseases. By the early 20th century, most of those infectious diseases start to decline to the extent that in 1900 the leading causes of death in the US are tuberculosis and scarlet fever and diphtheria and typhoid, and then by 1950 the leading causes of death are heart disease and cancer and industrial accidents. Yet, in the Global South, the major infectious diseases which the West used to deal with are still the major killers.

One of the things that COVID is, I think, starting to teach many people that aren't invested in the global public health literature is infectious diseases haven't gone away and, in some ways, if you combine… if you draw this arc between the emergence of HIV/AIDS in the 80's and COVID-19 you see that we're living in this broad-scale historical time. We're living – we have been living, really, for a couple generations – we've been living in a new age of infectious disease and COVID-19 is just the latest manifestation of that.

We can talk about Ebola and SARS and a whole other host of infectious diseases.

What's interesting, you bring up to tie that back together, is almost all those were framed as dangerous 'others.' "They came from somewhere else." They're blamed on somewhere else. "We need to protect our borders in the US to stop them from coming in." When that kind of framing doesn't work Americans have tended culturally to just look inward on their own population and blame the parts of the population who look the most 'other,' right? That seems to map really neatly onto this period I talk about in my lecture of the late 19th, early 20th century. It's more continuity than it is anything else.

CHRISTOPHER BRICK: I have two more questions, just quickie little ones, before I conclude – at least for my portion of the interview. How did you get interested in this? It's a really spectacularly rich field. Did you come from a biomed background or were you always a history geek?

JACOB STEERE-WILLIAMS: I thought I would be a medical doctor when I was an undergraduate and I, at some point, thought that I would do MD/PhD work and maybe do a little bit of both. I never actually… I always admit this to students - and I do it with a little bit of a cringe - that I was never really that much interested in history growing up. But something remarkable happened in my life, in serendipitous ways that all things happen in our life that are meaningful, which is I went on a study abroad in my junior year when I was in college. It was in London and it was a comparative US-UK healthcare system [*class*], and at that point I thought still that I would do medical school as a

route and so I was the sole undergraduate with a bunch of first-year med students in London for six weeks.

Part of what we had to do in addition to studying bioethics and comparative healthcare systems and public health was to follow around a general practitioner once a week. And so, we would all have to meet at some hospital at some forsaken hour, which is 5 or 6 AM, and then we would just follow around a GP all day. Then one day – and this truly changed my life – one day, I went to meet this GP at – I'll never forget – Saint George's Hospital and I had to be there at 5:30 AM. So, I get out of bed and go, and I wait for an hour and the GP I was supposed to meet with never showed up. They called in sick that day. I thought it was a major score and I'm walking out of this hospital and the coordinator for this program says, "Wait. Instead of following the GP around, why don't you follow this surgeon around?"

So, I hang my head, of course, because my free day in London has now been ruined, but 15 minutes later I was scrubbing in for a surgery. The surgery was a C-section and I stood, as a junior in college on study abroad, next to a surgeon as he delivered this baby. What was so fascinating to me about this – and he asked me real questions all along the way like I was a fourth-year medical student – I was so taken aback that I couldn't really… In real time, it's one of those things where you look back and you're a fly on the wall feeling your own experience. In the debriefing after that happened, he assumed I was an American medical student, not just an undergrad.

From that time, I've really… I think it sparked this interest in medical authority that I've been grappling with ever since. What was it about me? Was it my race? Was it my gender? What was it about me that this British surgeon thought, "You're part of the club. You can go and be part of invading someone's body," that I was not qualified at all to do in any way. I've been grappling with this big question of the rise of modern science and medical authority ever since in various ways. How I got into this particular project about disinfection is

I was working and finishing a book that I just got published recently on the emergence of epidemiology and modern epidemiology. I was in the welcome archives and I found this photograph several years ago. I've never seen anything like it… I had never seen anything like it. It was a photograph from 1898 of a British public health official in Karachi – in then British India – standing over a vat of carbolic acid and a line of indigenous Indians were lined up naked and one was in the bath of carbolic acid. I just looked at that photograph and I said, "This is what I need to spend the next decade studying."

As I started - as all of our historical projects do - to unravel the threads, I found that these forms of disinfection were happening all across the world. They were two-prong. One prog was this heavy-handed Western faith in new forms of technology and new chemicals and new things to stop infectious diseases which were targeted at only certain populations. The patterns were repeatable, whether it was the British empire or the French empire or the American empire or the German empire. And yet, something else was happening at the same time. That similar logic was being told to middle-

class white people, too; that they could protect themselves in their homes. Disinfection is this valence that was both domestic and public and cutting across boundaries all around the world.

CHRISTOPHER BRICK: Right, it sort of explodes the distinction between separation of spheres and those boundaries in which so many of us tend to think and frame – set up – the way labor was gendered, for example. What's next for you? You just had that book… I wanna encourage everyone to stay tuned because I know we have more to look forward to from you moving forward.

JACOB STEERE-WILLIAMS: My epidemiology book just came out called *The Filth Disease*.

CHRISTOPHER BRICK: Congratulations!

JACOB STEERE-WILLIAMS: Thank you. It's very weird to publish a book in a pandemic and not have any fun trying to launch a book or be happy about a book because the everyday reality of being a parent. My partner works in the ER here in Charleston and deals with COVID cases every day, so we're just dealing with our own micro-experience of the pandemic. That's been my reality in the last year, but I'm working on this carbolic colonialism book of really trying to understand this moment around the world and looking at some key episodes of where that manifested itself. I'm hoping to finish that book in the next couple years and from there… I don't know, some random archival finding will probably turn me in a different direction. I think the same kind of questions that have been driving my research will continue.

CHRISTOPHER BRICK: Yeah, those questions of medical authority and subject-object and power. It’s wonderful stuff. Jacob Steere-Williams, you are one gifted historian and I want to thank you so much for joining us today. I’m sure Kariann wants to thank you as well.

KARIANN YOKOTA: Yeah, thank you so much, this has been a great Q&A session and I’m sure everyone is going to love listening to your lecture as well. Thank you for sharing your research and knowledge with us.

JACOB STEERE-WILLIAMS: Thank you both so much, this was an incredible experience. I can’t wait to hear the rest of the episodes myself.CHRISTOPHER BRICK: Alright everyone. Thank you again, Jacob Steere-Williams.