Hustling the Old Mexico Aside: Creating a Modern Mexico City Through Medicine, Public Health, and Technology in the Porfiriato, 1887-1913

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HUSTLING THE OLD MEXICO ASIDE: CREATING A MODERN MEXICO CITY
THROUGH MEDICINE, PUBLIC HEALTH, AND TECHNOLOGY IN THE PORFIRIATO,
1887-1913

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ABSTRACT

This dissertation examines how state officials in late nineteenth and early twentieth century Mexico attempted to cultivate a modern image of Mexico City while dealing with thousands of unidentified and unburied corpses found in places such as the street, hospital morgues, and cemeteries. The central question that I raise is: how did the government attempt to solve this issue in order to present, to citizens and foreigners alike, that the capital city could achieve ‘order and progress’? My research found that Porfirian state officials in Mexico employed medicine and technology in matters related to death as tools for developing a modern society. In particular, they utilized new forms of transportation such as the railroad, promoted the utility of dissection in medical schools, and adopted new funerary technologies, all of which, promised to improve public health in the capital. At the same time, the majority of the population—the urban poor—failed to adopt any of these technological changes, choosing instead to approach death in a way that made sense to their lives.
CHAPTER ONE
INTRODUCTION

Today, in Mexico, the majority of babies are born in hospitals. This, however, has not helped reduce the number of women who die during childbirth, as Mexico ranks a paltry 91\textsuperscript{st} out of 181 countries, with 51.6 deaths per 100,000 live births.\textsuperscript{1} This low ranking (behind such luminaries of women’s health as Qatar, Serbia, Turkmenistan, Iran, and China) has caused Mexican state officials to rethink their medical curriculum, resulting in their readopting the traditional practice of midwifery. Combining midwifery practices (such as massing bellies with long shawls) with modern medicine (such as gynecology, obstetrics, and nursing) is what officials believe will create a progressive medical curriculum that can reduce the number of maternal deaths in Mexico.\textsuperscript{2} Yet this attempt to shape medical practices—in order to protect the health of citizens—is actually a century-old approach that state officials believed they had perfected in the early twentieth century, and which will bring contemporary Mexican citizens closer to the past of their great-grandparents than they might have previously believed.

Late nineteenth century Mexico was a country rife with health problems. For example, in 1876, one out of nineteen people died prematurely in Mexico City, the country’s capital, a city of 250,000 inhabitants. Compared to other world capitals at the time, such as London (1 out of 52), Paris (1 out of 44), or Madrid (1 out of 34), Mexico’s capital city, state officials realized was one of the most unsanitary places in the western world.\textsuperscript{3} While the exact causes for the number of deaths varied by individual, it is not an exaggeration to state that each day hundreds of dead bodies, proof of such a staggering statistic, could be found scattered throughout the streets of Mexico City.

So in 1879, during the first term of President Porfirio Díaz (who would rule from 1884 to 1910), Diaz issued a decree making the Superior Sanitation Council (Mexico’s Board of Health) responsible for supervising and guiding all public health policies and programs. His goal was


\textsuperscript{2} Monica Ortiz Uribe, “Mexico aims to save babies and moms with modern midwifery,” January 4, 2013 www.npr.org/blogs/health/2013/01/06/168629259/mexico-aims-to-save-babies-and-moms-with-modern-midwifery

\textsuperscript{3} Claudia Agostoni, Monuments of Progress: Modernization and Public Health in Mexico City, 1876-1910 (Boulder: University Press of Colorado, 2003), 38.
simple: the state needed to improve the health of citizens. Díaz and his state officials attempted to transform the country into a modern nation, and the residents Mexico City and the Federal District into hygienic and responsible citizens. Improving individual health would become the hallmark of the plan President Díaz implemented, as one observer noted, to “drag their land from oblivion, its resources from bankruptcy, teach outlaws peace—in fact, make a nation and a prosperous country out of chaos.”

My work examines how state officials, during the late nineteenth and early twentieth century, attempted to cultivate a modern image for Mexico City by removing hundreds of unidentified and unburied corpses found in city streets. The central question that I raise is: how did the government attempt to solve this issue in order to present, to citizens and foreigners alike, that the capital city could achieve ‘order and progress’? Historical evidence reveals that Porfirián state officials employed medical science and technology in matters related to death as tools for developing a modern society. In particular, they utilized new forms of transportation for corpses, promoted the utility of dissection in medical schools, and adopted new funerary technologies, all of which they believed would alleviate the city’s corpse problem and improve public health in the capital. Yet the majority of the population—the urban poor—failed to adopt any of these changes, choosing instead to approach death in a way that made sense to their lives.

This dissertation goes beyond a narrow examination of the fact that hundreds of dead bodies remained scattered throughout the streets of Mexico City and the surrounding suburban towns on any given day during the Porfiriato (1876-1910). Instead, it focuses on how beginning in the late nineteenth century, the Mexican government joined dozens of other countries (The United States, England, France, Germany, Japan, and Sweden) in a quest to control the health of its citizens, an approach to governing that state officials around the world believed would deliver tangible results demonstrating that they had become modern. Mexican state officials joined elite and middle-class residents as well as medical professionals to construct their own political, cultural, and medical discourse during the Porfiriato (the name historians have given to President Porfirio Díaz’s long reign, lasting from 1876-1910) that concentrated on extending the power of the nation-state into all areas of citizens’ lives, especially their health.

4 Ethel Tweedie, Porfirio Díaz: Seven-Times President of Mexico (London: Hurst and Blackett Limited, 1906), 2.
Public Health and the Modern State: Reappraising the History of Modern Mexico

In his groundbreaking 1958 monograph, historian and public health professor George Rosen, suggested that one of the most important and overlooked functions of the modern state—which he believed had emerged in the sixteenth century—was its ability to protect and promote the health and welfare of its citizens.\(^5\) A way to measure the strength of the state, Rosen argued, was through the health of its citizens. If citizens were healthy, then so was the state; if they were not healthy, then the health of the state was at risk. The development of medical science and technology in the sixteenth century had allowed scientists and medical professionals to determine what had caused a particular disease or sickness and offer patients a solution to fixing their health problems. Rosen explained, however, that in order for state officials to administer health protocols successfully, they also had to be in control of the political, economic, and social landscapes of their societies. The growth of public health paralleled the rise of the centralized government—or, as Rosen put it, the emergence of the modern state began to appear slowly “out of the storm-sea of politics, like a whale coming to the surface,” as part of the attempt by state officials to improve the lives of citizens.\(^6\)

The emergence of public health was, for Rosen, a positive characteristic associated with the modern state. It was a heroic tale of state officials who had saved the backwards citizens from the perils of disease. But doubts about the altruistic measures that state officials had utilized to improve public health began to appear in the 1970s, when historians challenged the idea that the measures taken by the modern state had been truly benevolent. Historian Thomas McKeown argued that while modern medicine had helped to increase individual immunity to disease, individual and public health had actually improved throughout the eighteenth and nineteenth century because people had adopted better personal hygiene practices, better diets, and better standards of living.\(^7\) McKeown’s thesis regarding why public health had improved was very bold

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for the time. But by arguing that improvements in public health was a result of dietary changes and the adoption of hygienic practices, McKeown had assumed that all things had been equal across various social classes, including the money needed to have improved one’s diet, access new hygienic facilities, or understand hygienic practices. Despite these assumptions, McKeown’s work remains important because he was one of the first historians to cast doubt on the altruistic nature of the modern state.

While McKeown opened the door for researchers when it came to analyzing the efficacy of the state-sponsored medicine and public health reforms, the controversial French historian, sociologist, and philosopher Michel Foucault ripped the door of its hinges. Foucault argued that the modern state’s approach to governing citizens had relied on creating a distinct relationship between power and knowledge. According to Foucault, modern Western governments had developed new mechanisms of citizen surveillance over the course of the eighteenth and nineteenth century that revolved around the concept of discipline. By introducing new fields of study such as criminology, psychiatry, medicine, and sexuality—all of which, as Foucault explained, had been forged by words and things—government officials gained authority to see and to say what was wrong in society. 8 Thus, state officials created categories of sicknesses (including criminal, mentally insane, and homosexual), all associated with lower-class citizens, which gave medical professionals the opportunity to utilize their expertise in order to improve the health of these citizens and the health of the public.

Despite his innovative thesis pertaining to public health and the modern state, Foucault’s work was not without its critics. The biggest problem critics had with Foucault’s work was the fact that he neglected to discuss how citizens could negotiate or challenge government-imposed techniques of control. Foucault’s approach did, however, influence scholars to begin to challenge the passive nature of the relationship that had existed between the state and the docile bodies of citizens.


The most important work to tackle this enduring challenge emerged in the mid-1980s, when anthropologist James C. Scott published his manuscript on the everyday experiences of peasant farmers in Malaysia titled *Weapons of the Weak: Everyday Forms of Peasant Resistance*. While Scott’s monograph was not a study of public health, it did combine Foucault’s contempt for the modern state with an exploration of how poor citizens were able to resist state-driven reforms. The most subordinate classes in history, Scott argued, have not been interested in changing the larger structures of the state or the law, but rather exerted their autonomy in ordinary ways, such as “foot dragging, dissimulation, desertion, false compliance, pilfering, feigned ignorance, slander, arson, sabotage, and so on.” His call for scholars to reexamine how patron-client relationships operated marked a watershed moment for historians who focused on the interaction between governments and citizens.

Scott’s approach to analyzing state-citizen relationships was incorporated as an essential component of two masterful works in the early 1990s that focused on public health in the late nineteenth century. Historian Ann F. LaBerge argued that French state officials had based their desire to improve public health on the idea that environmental, social, and behavioral problems were to blame for the poor hygienic standards found throughout France, especially in the country’s capital city, Paris. This movement had also focused on solving these problems by hiring medical professionals using scientific techniques, which turned public health into a new scientific discipline. Despite the preference of state officials to reform public health through scientific techniques, not all citizens accepted them. Lower-class citizens, LeBarge explained, were indifferent to personal hygiene—an important tenet of these new hygienic policies—and chose, instead, to utilize traditional definitions of what being healthy mean to them. Yet the main weakness of LaBerge’s conclusion is the fact that state officials were far more concerned about major cities like Paris than in instituting hygienic reform in the rural areas of France.

A similar response to state-imposed change to public health standards also occurred in colonial India. In the early 1990s, historian David Arnold argued that British attempts in the nineteenth century to transplant Western biomedicine onto the existing medical system of

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India—a part of Britain’s larger imperial project, which included improving public health (since British subjects resided in the colony and the health of the colony had the potential to reflect poorly on the metropole)—received less than enthusiastic support from Indians. The only people who adopted Western medicine enthusiastically were British citizens living in India and Indian citizens who wanted to be identified culturally and socially as British. Those who did not want to Anglicize themselves continued using traditional Indian forms of medicine—Ayurvedic and Yunani—to improve their health.¹¹

The biggest weakness of Arnold’s work, his critics argued, was the fact that Arnold (like James Scott) saw resistance from Indian citizens in every one of their actions toward the British crown. This was proof, according to Arnold, of their desire to assert individual autonomy in the face of colonialism—a questionable assumption.¹² Nevertheless, Arnold’s work remains one of the most nuanced examinations of the nineteenth century public health movement. In particular, it has forced historians to reassess how they have examined the introduction of medical and scientific practices during colonialism.

One of the most intriguing books to focus on relationship between the state and medical science came almost a decade after Arnold published his book, when historian Warwick Anderson published his finding about late nineteenth century and early twentieth century Australia. In it, he examined how Australian state officials, medical professionals, and well-to-do citizens utilized race—and the concept of whiteness—to create medical, scientific, and cultural discourses to define which racial groups were the best citizens. The country’s aboriginal people became the subjects of medical researchers, just as state officials pursued biological, medical, and anthropological research and experimentation. Anderson argued that researchers believed the aboriginal population could be selectively absorbed into white society if state officials removed aboriginal children from their families and raised them in white households, where they would

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receive white education, customs, beliefs, and culture.¹³ His work represented an important contribution for historians, not just of Australia or England, but all those who seek to understand how state officials used scientific and medical principles to construct universal definitions of citizenship, masculinity, race, and class.

**Public Health in Latin America: Incorporating Insights from the History of Medicine and the History of Science**

The exploration of public health and the role of the modern state in Latin America is a recent, but dynamic addition, to the fields of Latin American social and cultural history. Earlier histories of public health in Latin America lauded the efforts of local and international physicians and medical institutions for having tried to save the health of the inferior Latin American population from its feeble constitutions.¹⁴ Yet by the mid-1990s, historian Marcos Cueto’s contributions represented a fundamental shift in how scholars explored the relationship between medical science, public health, and nation-state building in the nineteenth and twentieth century. His work explored how disease, public health initiatives, and medical research intersected with the attempts of government officials to illustrate how important health and hygiene were to defining the modern nation. Cueto also demonstrated that public health policies and programs started by the government had ulterior motives regarding the health of lower class citizens. Medical science, Cueto argued, allowed state officials and medical professionals to justify their characterizations of the lower-class, since medical science provided empirical proof about their innate inferiority. State officials used medical science to create a narrative that required the segregation of lower class citizens from middle-class and upper-class citizens through measures

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such as housing and employment opportunities.\textsuperscript{15} My work demonstrates the presence of this phenomenon in late nineteenth century Mexico City, led by President Porfirio Díaz’s policies that focused on controlling the everyday lives of citizens, especially the poor, who often challenged the public health goals that state officials believed were necessary for demonstrating that modernity had arrived in the capital.

Extending the work of Cueto, scholarship on the history of Latin American nation-state building through public health and medical science began to emerge in the late 1990s, and has continued to develop into a compelling area of research. In particular, this scholarship has unveiled unique and exciting ideas about how medical science was inextricably tied to nation-state building in the late nineteenth century. Historian Christopher Abel has summarized the public health campaigns and policies of the various Latin American governments in the late nineteenth century. He has outlined three major themes that he argues scholars should focus on: 1) the real reasons why late nineteenth century state officials were concerned with the health of the citizens and hygienic conditions in major cities; 2) how international groups, ranging from British philanthropists to the Rockefeller Foundation to the U.S. government, sought to introduce innovative (Western) medical techniques to combat diseases such as yellow-fever or malaria; and 3) how marginalized racial groups (indigenous and African citizens) dealt with the introduction of medical efforts to improve their diets, health, and hygiene.\textsuperscript{16}

One of the first works to address Abel’s account of the social, cultural, and political dimension of the production of scientific knowledge in Latin America focused on Brazil, and local uses of tropical medicine there. Historian Julyan Peard has explored how the northeastern Brazilian state of Bahia fostered the creation of a unique group of physicians who created a distinct style of medicine by adapting popular European medical theories of the nineteenth century to fit the realities of Brazilian society. What made these physicians, known as the Bahia Tropicalistas, so unique, he argues, was the fact that they received very little financial support


from the Brazilian government. Yet the training they would provide medical students was instrumental in altering the popular view that lower-class Brazilians (mostly from indigenous and Afro-Brazilian origins) were inherently unhealthy. Instead, the Tropicalistas argued that, with proper medical attention, lower-class Brazilians could become healthy and productive members of society. This approach was so powerful that even by the 1880s the traditional centers of medical education, such as Rio de Janeiro and São Paulo, had begun to accept the Tropicalista ideas. This acceptance, Peard has argued, was successful because it overlapped with the government’s evolving ideas regarding national identity. Despite the success of the interpretation, by the turn of the twentieth century, the Tropicalistas favorable view of the ability of indigenous and Afro-Brazilian population to improve their health clashed with new medical theories such as social Darwinism and eugenics, which found these groups incapable of achieving better health.17

Whether or not lower class citizens could become productive members of society was a question that reverberated throughout Latin America in the late nineteenth and early twentieth century. This issue became the central focus of an article by historian Ann Zulawski that explored how the Bolivian government chose to deal with improving public health despite having a considerable indigenous population. Bolivian physicians, state officials, and elite citizens all agreed that the country had to integrate the indigenous population into mainstream society in order to eliminate what this group called its “Indian problem.” Zulawski found that two prominent physicians—Jaime Mendoza and Nestor Morales—both believed that the only way to introduce the concept of public health and modern medicine to this backwards population was through the physician. Mendoza and Morales soon concluded, however, that medicine and public health alone were not strong enough to overcome the Indian problem. For Morales, improvement could be made through prophylaxis and therapeutics, and for Mendoza, the only way to improve the Indian was by eliminating traditional culture, especially indigenous medical herbalism. Zulawski concluded that unlike other Latin American countries that sought to incorporate the Indian at all costs, the Bolivian government—along with elite and middle-class citizens—decided to abandon any attempt to include the indigenous population. Soon these elite

groups began to define whiteness as the most important trait for becoming modern, thus eliminating the non-white citizens from every joining the modern world.¹⁸

Like Bolivian officials who believed that the indigenous population was incapable of modernization, Colombian and Ecuadorian officials sought to eradicate folk-healers whose medical knowledge and practices were a threat to Western physicians and each country’s potential for achieving modernity. By instituting rules and regulations regarding who could practice medicine (and the type of medicine they could practice) elite medical professionals and state officials attempted to prevent indigenous folk-healers, such as Miguel Perdomo Neira who gained notoriety in late nineteenth century Colombia and Ecuador for his miraculous healing powers and painless surgeries using “Indian” drugs at no cost to the patient, from practicing medicine. Yet, as historian David Sowell has shown, hundreds of thousands of Pedromo Neira’s patients believed that he and other folk-healers deserved to practice their mix of herbalism, humoralism, and spiritualism. He found that Perdomo Neira gained such a following by traveling from town to town, sharing his medical knowledge for free and—unlike western physicians—curing patients along the way. According to Sowell, Perdomo Neira also drew the ire of professional physicians when he published a book that outlined his ideas about health and how the individual could overcome certain sicknesses. This angered both the professional medical community and state officials because they believed physicians should not share their specialized knowledge unless patients were paying them. Additionally, state officials believed they had granted physicians a unique position in society—by instituting licensing procedures and establishing medical schools, all of which professionalized the occupation—a process that relied on elevating the physician to such heights that they became the only occupation that should try to solve citizens health problems.¹⁹


Nevertheless, not all nineteenth century governments in Latin America chose the medical professional over the indigenous folk-healer. Historian Steven Palmer has demonstrated that Costa Rica, despite having all of the elements of modern medical system (such as licensed physicians, professional medical journals, medical societies, and influence within politics), did not follow the same guidelines for improving public health as other Latin American countries had chosen. The government of Costa Rica, instead, did little to suppress indigenous medicine and popular healers over the nineteenth century. Palmer has argued that the absence of a medical school—not established until the 1960s—allowed state officials to build a kaleidoscopic medical system with immigrant physicians (from other Latin American countries with dubious medical credentials), Costa Rican physicians trained outside the country (in the U.S, Europe, and Mexico), and indigenous folk healers. While state officials did believe that western-trained physicians were the best—and granted them a position at the top of the social hierarchy—it did not mean that their approach to medicine monopolized the Costa Rican healthcare system. By the late 1880s, the modern state, Palmer demonstrated, began to utilize western physicians in urban areas, the most important areas for the government because of the large concentration of white citizens, who needed access to medical care like vaccinations and hygienic instruction. For the rural areas of the country, which were far less important to the state (largely because of the racial composition of these areas: heavily indigenous and Afro-Caribbean), the government allowed indigenous medicine practitioners to operate.

Emphasizing the importance of medical professionals in urban areas remained part of attempts by various Latin American governments in the early twentieth century to modernize their countries through public health reform. Historian Kristin Ruggiero has explored how state officials and medical professionals linked notions of public health with national identity in Argentina. From dozens of court cases, Ruggiero found that, in order to build a healthy nation, state officials prevented people they categorized as unhealthy—individuals of color, dubious sexuality, and with medical conditions such as epilepsy—from reproducing and contributing to weak constitutions of future generations of the Argentine race. For these officials, eliminating these individuals from the gene pool was the only way that Argentina could advance as a

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nation. The biological-engineering-technocratic approach to human populations which had long been familiar in Europe began to emerge in the opening decades of the twentieth century in Latin America. Progress, as envisioned by state officials, was tied to healthy and fit populations, which were seen as essential to material wealth, and continued high rates of illness were impediments that had to be removed at all costs. The one weakness of Ruggiero’s fascinating book stems from the type of documents (court cases) that she used to construct how Argentinian officials constructed modern citizenship. She fails to explore how these unhealthy citizens may have challenged (or accepted) the state’s control over their bodies.

An examination of how the urban population of Buenos Aires responded to the reform efforts implemented by state officials was the subject of historian Diego Armus’ *La ciudad impura: salud, tuberculosis, y cultura en Buenos Aires, 1870-1950*. Armus has carefully argued that, at a time when medical professionals and politicians blamed the poor for the perils of public health in the city, recorded statistics about disease revealed no such correlation. The disease that state officials believed was most dangerous—and which belonged exclusively to the poor—was tuberculosis. Using this disease as a lens for exploring how it affected other residents of Buenos Aires, Armus concluded that the disease did not choose poor over rich, but instead was indiscriminate when choosing its victims. He also has explored how poor citizens challenged the official public health campaigns to limit the spread of tuberculosis by ignoring the campaigns and continuing to deal with illnesses in ways that made sense to them.

Each of the works discussed have provided valuable insight into how Latin American governments utilized public health and control over the bodies of citizens in order to modernize their countries in the late nineteenth and early twentieth century. Yet these historians have failed

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to address how state officials used improvements in medical science and new forms of technology to deal with the numerous bodies of the deceased afflicted with disease and other health problems. My work is one of the first studies to examine how medical science, technology, and nation-state building in Latin America were inextricably tied to one another, and were central to understanding how state officials, medical professionals, and city residents (elite, middle, and lower class) both accepted and challenged the process of modernization in the urban environment.

**Mexico City during the Porfiriato: Illuminating the Challenges of Modernity**

Mexico’s intense program of modernization took place during the thirty-four reign of Porfirio Díaz (1876-1910). According to historian Alan Knight, “the Porfiran regime gave Mexico a generation of unprecedented peace and stability,” which contrasted with the endemic political conflict the country experienced since gaining independence from Spain in 1821. Yet this Pax Porfiriana, as historians have named the era, was, of course, a flawed peace, based on the repressive political techniques of Díaz and his state officials. This study demonstrates how Porfirian officials created a discourse that linked public health, medical science, and technology into a cohesive narrative—one that sought to create a modern Mexico City that would serve as a model of modernity for the rest of the country. How Porfirian officials attempted to modernize the city by judiciously applying reason, science, and technology to organizing and managing the everyday lives of citizens has been explored from various perspectives, and is the foundation on which this dissertation is built.

The modernization process in late nineteenth and early twentieth century Mexico City has best been described as a process of uneven development. While Porfirian officials sought to make the city safer, cleaner, healthier, efficient, and rational—as well as a more comfortable place to live—the steps to achieving such standards turned out to be far more complicated than state officials had envisioned. Central to understanding this process is the work of anthropologist James C. Scott, who has argued that modern state officials attempted to arrange populations in ways that simplified their ability to organize nature and society. The goal of modern statecraft, Scott explained, was “to reduce the chaotic, disorderly, constantly changing reality” of society,

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in favor of a process known as internal colonization. This process seeks to create homogenous citizens by shaping people’s behaviors and customs—creating a society that is, as Scott put it, “more amenable to the techniques of the State.” If successful, the result is a population that state officials can control, observe, and manage, since they do not have to worry about the unpredictability that comes with having heterogeneous citizens.\textsuperscript{25}

This attempt to control both nature and society is what French sociologist and anthropologist Bruno Latour has argued is an impossible feat to achieve. He has argued that state officials who considered themselves modern—based on the employment of economic rationality, scientific truth, and technological efficiency—believed that nature and society were separable concepts that could be manipulated by human ingenuity. For Latour, however, nature and society were not separable concepts. Humans who believed that they had successfully managed to achieve separation, he contended, had been blinded by their desires. What they failed to understand is that nature and society have always been interconnected and thus, there has never been a point in history where people have been able to achieve modernity. While state officials who believed “the past was a barbarian medley, the future of a civilizing distinction,” Latour’s work has presented scholars with a chance to explore how these officials—in the name of modernity—sought to create a separation between nature and society.\textsuperscript{26} This has been an approach that has helped historians of Mexico shed new light on the realities of how modernization actually happened in the Porfirian era.

The most important studies to address this issue have examined how crime, death, and public health were integral components of Porfirian officials’ attempts to manage and transform Mexican society. In the area of crime, the two most important works on Mexico, each have addressed how state officials and elite members of society constructed a set of characteristics to identify criminals. Not surprisingly, these characteristics focused on the innate deviance of members of the lower classes, whose behavior and customs were obstacles to the progress that state officials desired. Historian Pablo Piccato has argued that by committing crimes, the urban

\textsuperscript{25} James C. Scott, \textit{Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed} (New Haven, CT: Yale University, 1999), 82.

poor were able to assert their autonomy and challenge the authority of the state. As authorities sought to control the behavior of the poor and teach them how to use the city in a proper manner—such as creating a dress code and enacting laws that banned public drunkenness—the urban poor continued to act in ways that state officials had deemed inappropriate.\(^{27}\)

Another example of a behavior that Mexican authorities deemed to be criminal involved regulating the lives of female prostitutes. Historian Katherine E. Bliss has argued that state officials believed that the behavior and actions of prostitutes were obstacles to achieving modernity in the capital. Instead of making prostitution illegal, Mexico City’s medical and political community considered prostitution to be a “necessary evil” that required constant supervision—including invasive medical examinations of prostitutes, but not their male clients—in order to prevent the spread of disease. Nevertheless, Bliss explained, the city had thousands of unregistered prostitutes who operated outside the boundaries of the Porfirian state, who, along with registered prostitutes, considered themselves to be modest and honorable (two adjectives that state officials did not use when describing prostitutes). Both registered and unregistered prostitutes challenged the official narrative that characterized them as disease-ridden, alcoholic, and melancholic by creating their own definitions of honor, love, respect, friendship, and citizenship. This attitude, Bliss has found, extended well beyond the Porfirian era and into the post-Revolutionary Mexico City (1920-1940). Despite attempts by the government to continue regulating the lives of prostitutes, the prostitutes began arguing that they should be included in government welfare campaigns that supported the principles of social reform that ordinary citizens, including prostitutes, had fought to achieve during the Mexican Revolution.\(^{28}\)

The Porfirian state’s experiment with modernizing Mexico City also centered on the issue of death. State officials sought to define what constituted a proper and modern death, in order to better facilitate their control over the lives of citizens. Anthropologist Claudio Lomnitz has explained that death in Mexico remains a complex idea that intersects with many avenues of society, from corridos (popular ballads) to the government’s registration of death (burial registration and death certificates). Nevertheless, there has been one constant. Beginning in the Porfiriato, families had to go through official bureaucratic channels in order to have a relative buried, which he has


argued, gave state officials control over the death of citizens and allowed the government to construct its own version of death in order to demonstrate to citizens who was in control of the modern state.  

Another way that the government tried to extend its control over death occurred during the extravagant funerals of important state officials. Historian Matthew Esposito has demonstrated that over the course of Porfirio Díaz’s presidency, he and his officials constructed dozens of national monuments, performed countless commemorations, and held 110 state funerals (more than in any other period of Mexican history), all in an effort to demonstrate to city residents through the use of public space, time, memory, and ideal behavior that the government was in control of the bodies of citizens. Esposito has argued these funerals allowed the state to construct a past, present, and future vision of the national community for citizens. This was a particularly significant issue because these memorializations took place in Mexico City, which was becoming the primary destination for Mexico’s rural population of agricultural workers, skilled artisans, and unemployed wage laborers — those targeted by state officials in their efforts to instill the customs of modern cosmopolitan life. Porfirián rule had attempted to establish control over citizens by creating a uniform way that citizens should celebrate the dead.  

State control over death also extended into the process behind burial reforms during the Porfiriato, especially at Panteón Dolores, Mexico City’s largest public cemetery. Historian Amanda López, in her unpublished dissertation, has argued that state officials sought to gain control over how citizens interacted with the dead by instituting special burial reforms that reflected the state’s vision of modernity. Officials dictated to cemetery administrators and workers how they should use cemetery space, which, Lopez contended, reflected the importance the state had placed on socioeconomic status, hygienic conditions, and appropriate modern behavior. López has also traced how both individual and state attitudes toward death and dead citizens were shaped by the political, social, and cultural ideas of the living. Panteón Dolores, she has argued, was a

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microcosm for Porfirian modernization, a space inextricably linked to the larger, living world of Mexico City where state officials had attempted to control nature and society.\textsuperscript{31}

Another challenge that existed between state officials and citizens during the Porfiriato centered on the issue of public health. The two most important works to have addressed this issue were written by Mexican historians, Ana María Carrillo and Claudia Agostoni, each of whom has contributed to an improved understanding of how Porfirian officials sought to control nature and society in the name of modernization. Public health first became an essential problem for state officials in the late eighteenth century, when the Spanish Bourbon monarchy had attempted to modernize the residents in New Spain (later known as Mexico) through the use of science.\textsuperscript{32} The reforms instituted by the house of Bourbon had paid particularly close attention to the health of citizens, establishing sanitary and medical discourses that sought to create healthier citizens and public environments by creating health boards to oversee public health.

Following Mexico’s independence from Spain in 1821, new approaches to improving public health also had begun to appear there, as Mexico tried to create its own version of Mexican medicine. Historian Ana María Carrillo has argued that, following independence, the Mexican medical community adopted British, French, and German medical theories and techniques in place of the traditional humoralism found in Spain.\textsuperscript{33} With this shift in medical understanding came an increase in responsibility and prestige for Mexican physicians and public health experts who state officials believed were the key to improving public health.\textsuperscript{34}

Historian Claudia Agostoni has argued that public health in Mexico City also improved as a result of infrastructural changes. She has demonstrated that the desire by state officials to alter the physical shape of the city—the introduction of wider boulevards, posh neighborhoods


\textsuperscript{34} Ana María Carrillo, “Profesiones sanitarias y lucha de poderes en el México del siglo XIX,” \textit{Asclepio} 50, no.2 (1998): 149-168.
located away from the bustling areas of the city, and the introduction of electricity, as well as educating citizens how to use city space—were crucial factors for understanding how Porfirian officials thought they would create a modern city. Agostoni refers to this as symbolic legitimation, a process that centered on creating a visible and palpable notion of what modernity was, in order to showcase it to both residents and visitors.\textsuperscript{35}

At the same time, state officials began to rely on physicians as cultural arbiters of progress. In turn, physicians used the opportunity to capitalize on their improved social and cultural positions as authority figures. They began publishing the thank-you letters patients had sent to physicians in local newspapers, which, Agostoni has argued, was how the medical community tried to strengthen their position in society and contribute to the state’s myth that the sooner average citizens accepted science and technology, the sooner they too would enjoy the fruits of modernization.\textsuperscript{36}

Yet in all of these well-researched and informative works, one elephant in the room that has remained absent from the narrative are the dead bodies. While the dead, as Amanda López has quipped, “frolic vivaciously in the Mexican political and cultural imaginary,” they also contaminated the living world of Porfirian Mexico City, where countless hundreds, if not thousands, remained scattered, unburied, decomposing in city streets.\textsuperscript{37} Central to my dissertation are the following questions that connect each chapter: How would state officials handle the growing number of dead bodies? What did residents (upper, middle, and lower class) of Mexico City, and its surrounding suburban towns, have to say about the approaches utilized by the government for dealing with dead bodies? This is the first study to examine how technology and medical science were integral components of Porfirian policies for modernizing Mexico City by removing dead bodies from the city environment.

My work also supports the existing scholarship that has explored everyday citizens challenged state officials desires to control their behavior in the name of modernization. In this


\textsuperscript{36} Claudia Agostoni, “‘Que no traigan al médico’: los profesionales de la salud entre la crítica y la sátira (ciudad de México, siglos xix-xx),” in \textit{Actores, espacios y debates en la historia de la esfera pública en la ciudad de México}, eds. Cristina Sacristán and Pablo Piccato (Mexico City: Instituto de Mora, 2005), 97-120.

\textsuperscript{37} López, “The Cadaverous City,” 10.
way, this dissertation reinforces what James C. Scott and Bruno Latour have argued about the process of modernization. The idea that nature and society were separate categories, each capable of being controlled by state officials, has revealed how governments and their institutions—try as they might to control both nature and society—have failed repeatedly. As a result, this attempt by Porfrian officials and citizens to capture modernity or anyone of its known synonyms—such as order and progress—should be viewed as the metaphoric dog that chases its own tail: an action that will never deliver the desired result.

**Chapter Summaries**

State officials in late-nineteenth and early-twentieth century Mexico attempted to cultivate a modern image of Mexico City by employing medicine and technology in matters related to death as tools for developing a modern society. Chapter Two explores how state officials sought to modernize Mexico City by adopting new transportation methods for the dead. The introduction of specific rules regarding hygienic corpse transportation onboard trains first appeared in 1887—during President Porfírio Díaz’s second term—spurring the growth of certain transportation techniques that focused on ways to move dead bodies in ways that would protect residents from exposure to potential health risks. At the same time, the urban poor reacted to these new transportation methods in ways that challenged the government’s idea that they were passive citizens who would welcome the new forms of transportation. I argue that the transportation methods (railroad, modern carriage, and electric tram) implemented by state officials were part of the Porfrián government’s modernization process that focused on introducing capitalinos (Mexico City residents) to the benefits they would enjoy as citizens living in a modern capital.

In parallel to new transportation methods introduced by the government, Chapter Three explores how medical education became intertwined with the official Porfrián discourse on modernity. Improving public health in Mexico City required more than just changing how residents would transport dead bodies. Understanding the intricacies of the human body, Mexican medical professionals believed, would reveal how the health of the city and the lives of its residents could be improved. In particular, one individual—physician Eduardo Licéaga—would spearhead the campaign to improve the lives of Mexicans. In his opinion, this task could be accomplished by changing the nature of medical education at the nation’s most influential
medical school (and his alma mater): the National School of Medicine (La Escuela Nacional de Medicina). Beginning in the 1890s, shortly after Mexico had joined an influential and multinational public health organization known as the American Public Health Association (APHA), Licéaga suggested to both school and state officials that the medical school’s curriculum should focus more on dissection than traditional medical theories, if they were serious about improving the health of the people. This suggestion, I argue, intersected with the government’s desire to regulate the health of citizens by encouraging them to embrace medicine and the advice of medical professionals as the best weapons for improving individual health.

Protecting the health of the living was not the only aspect of a citizen’s life that the Porfirian government sought to control. Chapter Four examines how the state’s desire to protect and improve public health helped introduce technology that focused exclusively on protecting the dead from the living and the living from the dead. Funeral technology, as state officials referred to it, allowed medical professionals to reduce the decomposition rate of corpses: an effort, as I argue, to preserve (ironically) the corpse’s “health” to protect residents. This new technology also helped to reinforce class divisions by offering well-to-do residents four methods of hygienic disposal—the fashionable coffin, the burial vaults, topical embalming, and arterial embalming—while the only affordable option for lower class citizens was cremation.

Chapter Five discusses how the urban poor challenged the government’s multi-layered approach to improving public health in the city. The Porfirian modernization project hinged on the success state officials and President Díaz himself believed they could accomplish by modifying behavior and customs of the lower-classes, especially as they related to death and decomposing bodies. By stressing the importance of modern hygienic guidelines, state officials believed that they would be able to erase lower-class behaviors and customs that they considered backwards. Yet many lower-class citizens chose to ignore state regulations and, instead, undermined the state’s authority by continuing to use bodily disposition methods, hygienic guidelines, and relationships with death that state officials did not consider modern. Nevertheless, they were ones that made sense in the lives of the poor.
Creating the Narrative: a Note on Sources

Despite the commercial success of television psychics such as Miss Cleo, John Edward or James Van Praagh, the dead cannot speak to us. But this does not prevent historians from being able to explore how historical actors felt about the dead, especially how state officials approached the treatment and use of dead bodies as professional physicians and scientists began to understand more about disease and public health after bacteriological theory burst on the scene in the late nineteenth century. Improving society through hygiene and public health has inspired scholars to write tremendous historical monographs that have illustrated how important dead bodies were to government agendas of modernizing cities and even entire countries. Public health was an aspect of modern life that state officials sought to define, control, and manipulate in ways that reflected the government’s increasing autonomy. State officials obsessed with public health have filled countless cubic volumes of material in archives around the world, which is, in reality, only a sample of an obsession preserved in the historical record. As it turns out, while the dead cannot speak, they can be spoken of, and this provides researchers with a unique window into the minds of how state officials, state institutions, medical professionals, elite, middle, and lower-class residents, felt about public health and the problems associated with dead bodies.

To understand how a diverse group of historical actors has approached the issue of public health and dead bodies, I have based my study on a variety of sources. State regulations and decrees, institutional reports, letters to the governor of the Federal District and President of Mexico, business contracts, correspondence reports from cemetery administrators and medical school professors, medical school curricula, and patent applications are just some of the sources that shed light on the goals, accomplishments, and pitfalls associated with controlling bodies in


the name of modernization. The Historic Archive of the Ministry of Health (Archivo Histórico de la Secretaría de Salubridad y Asistencia) includes a collection of laws passed during the Porfiriato regarding the transportation of the dead that illustrates how important control over dead bodies had become for Mexican state officials. The Historic Archive of the Federal District (Archivo Histórico del Distrito Federal) contains cemetery records for Mexico City and some surrounding towns, which provide information on the day-to-day operations of these cemeteries, as well as important events or problems that cemetery administrators encountered. Included in these records are detailed reports that outline employee behavior, the complex relationship between the cemetery, the private citizen, and private corporations, as well a variety of state institutions. The records of the Archivo General de la Nación (National Archives) contain collections pertaining to patent applications, criminal cases that involved bodies, including international incidents such as the death of American railroad worker William Scott. The Historic Archive of the National Autonomous University of Mexico (Archivo Histórico de la Universidad Autónoma de México) maintains important collections related to the National School of Medicine, such as personal letters from professors, course catalogs, faculty, staff, and student records, all of which offer the historian a window into how the medical school and state officials worked together to improve the health of citizens, the city, and even the country.

By examining how state officials believed they would demonstrate that modernization was occurring in Mexico City and the surrounding towns of the Federal District, my dissertation reveals that it was a complex process—inextricably tied to notions of public health, medical science, and technology. My study also provides greater insight into how state officials sought to use cultural, social, and technological changes in order to reach a level of civilization and modernity never before achieved.
CHAPTER TWO

FROM BARBARITY TO MODERNITY: PUBLIC HEALTH AND THE TRANSPORTATION OF THE DEAD IN PORFIRIAN MEXICO CITY

Introduction

According to a British visitor to Mexico in the winter of 1904, “nowhere do modernity and barbarity shoulder one another more closely” than in Mexico City. Nonetheless, this same visitor, like many state officials, believed that the modernization plan created by President Porfirio Díaz was improving the city. By offering citizens access to modern amenities—such as electric light, railways, medicine, and hygiene—the President and his government were “hustling the old Mexico aside.”

But underneath this façade of a modern Mexico lay the truth: the new Mexico was indistinguishable from the old Mexico.

Beginning in the 1890s, Mexico City experienced unprecedented population growth. People had migrated from their homes in rural parts of the country to the capital, seeking new opportunities and a new life. The Diaz administration had made traveling to the capital city, as well as within it, far easier with the introduction of the railroad during the 1880s. The countrywide network of railways that converged in Mexico City reshaped the relationship between the city and the country. The train allowed people of both meager and sizeable incomes to arrive in the capital in a single day rather than several days. On average, railroad companies charged passengers between 1.5 and 3 centavos per kilometer, depending on the type of ticket purchased (first, second, or third-class).

However, the constant influx of people added to a growing number of poor city residents, whom the government considered dangerous, dirty, and unclean.

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40 Tweedie, Porfirio Díaz: Seven Times President, 321.


42 Piccato, City of Suspects, 23-24.

43 Teresa Miriam Van Hoy, A Social History of Mexico’s Railroads: Peons, Prisoners, and Priests (London: Rowman and Littlefield Publishers, 2008), 167. In 1900, 2.06 pesos equaled $1 U.S. dollar. This applies to all conversions that follow. For more, see John A. Adams, Jr., Mexican Banking and Investment in Transition (Westport, CT: Quorum Books, 1997), 161. It was common practice to divide the peso into 100 centavos, a standard of retail trade after 1864. For more, see Markus A. Denzel, Handbook of World Exchange Rates, 1500-1914 (Burlington, VT: Ashgate Publishing Company, 2010), 487-488; and Marie Eileen François, A Culture of Everyday Credit: Housekeeping, Pawn Broking, and Governance in Mexico City, 1750-1920 (Lincoln, NE: University of Nebraska Press, 2005).
and an impediment to achieving progress. In particular, the growth of this group—collectively known as the urban poor—helped contribute to Mexico City’s international reputation as one of the most unsanitary cities in the world highlighted by the alarming mortality rate of 33.6 per thousand.44

Public health was a nightmare—and not just for the lower classes. The government had created a series of health and legal measures that sought to maintain invisible boundaries in the city that separated the gente decente (elites and middle-classes) from the diseased (the urban poor). The government considered the lower classes—the group most likely to birth criminals, drunkards, and prostitutes—to be dangerous. But state officials failed to realize that the features of urban life meant that the lives of both elites and the urban poor intersected on a daily basis.45 For example, elite neighborhoods did not supply labor or material; instead, the upper and middle classes used the urban poor as both suppliers and laborers. So there was little choice for the urban poor but to leave their homes to eat, drink, socialize or earn a living, all activities which undermined the government’s attempt to preserve these artificial borders.46 Above all, on a daily basis, an alarming number of corpses—from the urban poor—lay scattered in city streets near well-to-do neighborhoods. This situation threatened to ruin the progress that many of the city’s elite believed Díaz was steadily achieving in the capital.47

Tension emerged between the urban poor and the upper classes over how residents should use public space, especially as it related to the disposal of bodies. To eliminate the threat the bodies represented, the government pursued a variety of transportation strategies in an effort to demonstrate to both visitors and residents alike that it was still capable of bringing modernity

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44 Agostoni, *Monuments of Progress*, 26. This was the annual mortality rate for 1900, while life expectancy was 26.5 years. Life expectancy in other large urban cities like London (between 44 an 49 years) and Paris (between 46 and 50 years) nearly doubled that of Mexico City. For more, see Roderick Floud and Paul Johnson, eds., *The Cambridge Economic History of Modern Britain: Economic Maturity 1860-1939*, Vol. 2 (New York: Cambridge University Press, 2004).

45 Piccato, *City of Suspects*, 13-33. This was not the first time the government attempted to alter the behavior and customs of the lower classes. During the eighteenth century, Bourbon reformers attempted to instill behavior they considered “proper” in the urban poor through a series of hygienic measures that government officials believed would lead to improvement for their health and the health of the city. For more, see Voekel, “Peeing on the Palace,” and Staples, “Policia y Buen Gobierno.”


47 Agostoni, *Monuments of Progress*, 47.
to the city. This chapter explores the various modes of transporting corpses that the government implemented, including the railroad, modern carriage, and electric tram, and examines how the well-to-do and the urban poor reacted to these new forms of transport. The urban poor, for instance, responded to the changes in ways that subverted the government’s official discourse on modernity, while state officials viewed the transportation methods as useful tools for establishing the capital city as the paradigm of modernity.

**The Hygienic Railroad**

The use of the railroad for transporting corpses became one of several symbols of modernity for President Porfirio Díaz and his administration that demonstrated the country’s commitment to progress. During the president’s first term—from 1876 to 1880—the railroad industry took few precautions when moving corpses. Bodies traveled freely between the Mexican states and even to the United States, with little regard for public health. The railroad companies’ only requirement was that a signature appeared on a certification of embalmment. Moreover, there were no specifications governing the types of material used to secure the bodies or guard public health. Passengers often traveled on the same trains as the dead, and there is no evidence to suggest that physical separation between the two existed.

So in 1887, during Díaz’s second term, his administration developed more stringent rules for improving public health on trains—which state officials considered to be “emissaries of progress”—by emphasizing to railroad employees the importance of hygiene when transporting corpses. The rules covered issues such as construction and packing material for coffins as well as the inclusion of demographic information. Once the body reached its final destination, the administration required disinfection procedures.

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49 Archivo Histórico de la Secretaría de Salubridad y Asistencia (hereafter AHSSA), Fondo-Salubridad Pública (hereafter F-SP), Sección-Medicina Legal (hereafter Sec-ML), Caja 2, Expediente 24, 6 November 1877, 1-7.


51 AHSSA, F-SP, Sección-Secretaría de Justicia (hereafter Sec-SJ), Caja 4, Expediente 5, 11 March 1887, 1.
The new regulations and materials governing the construction and packing of coffins reinforced the importance of public health and created a set of transportation standards that reflected the government’s dedication to modernization. These rules required workers to place corpses transported by train into two coffins, both made from zinc, lead or galvanized iron, and with walls at least three millimeters thick. Like a set of Russian nesting dolls, the smaller coffin fit inside the larger one. A preservative powder made from sawdust and zinc sulfate, or carbon dust and tree bark, was to surround the corpse inside the smaller coffin, and fill any empty space that existed between the two coffins. When fastened by screws or nails, the coffins were hermetically sealed. State officials believed that these new rules would prevent noxious gases and odors from escaping the coffin and possibly endangering the lives of passengers onboard.

The second of the government’s two new requirements—designed to protect workers and passengers—addressed the origins and demographic information of the deceased. A form would now accompany the coffin, listing the deceased’s name, age, and date of death, together with a signature from a doctor or “competent person” who had verified these data. Additionally, if the individual had died from a particular disease, the outside of the coffin would so indicate. If the cause of death were typhus, typhoid fever, diphtheria, smallpox or Asiatic cholera, corpses could be transported throughout the country, however, if the cause of death were yellow fever, the government restricted transportation to locations above sea level or regions where the climate was not conducive to the spread of the disease. State officials required similar documentation for those who died outside of Mexico or for foreigners who requested burial in Mexico. Finally, the state required an adult escort to accompany the corpse to vouch for the validity of the demographic information. The government’s desire to keep detailed records and identify the cause of death was important for maintaining public health standards on the railways.

Segregated physical space was another way to ensure the health and safety of those onboard. Corpses were no longer transported in the same cars as passengers. Instead, workers put the coffin in the car at the back of the train, as far away as possible from passengers. To secure the health of passengers, once the train had delivered all of the corpses to their final destination, railroad employees cleaned the cars that had contained corpses with an antiseptic made from

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52 AHSSA, F-SP, Sec-SJ, Caja 4, Expediente 5, 11 March 1887, 1.

53 AHSSA, F-SP, Sec-SJ, Caja 4, Expediente 5, 11 March 1887, 1-2.
carbolic acid or Laborraque chloride (an early form of bleach) that eliminated the presence of any bacteria or odor associated with the dead.\textsuperscript{54} Transporting bodies by rail could be dangerous to workers and passengers, and the explicit rules instituted by government officials reveal how important maintaining hygienic conditions were to them.

\textbf{Railways and Corpse Deposits}

President Porfirio Díaz and his officials also decided that while the railway represented modernity, it was equally useful for improving the landscape of Mexico City. Many state officials, adherents of positivist ideology, believed society was an organism that used railroads as its arteries, “pumping blood and life into a moribund nation.”\textsuperscript{55} At the same time, the government created official sites for corpse deposits, locating them strategically throughout the city, a safe distance from fashionable neighborhoods, but within walking distance from popular lower class neighborhoods. However, with the creation of deposit sites for the dead, their use skyrocketed—and space inside them became scarce. Bodies soon ended up in the streets near the deposit sites because it was cheaper and easier for the urban poor simply to leave them. Unlike many of the city’s elite and middle-class residents who could afford expensive funerary accessories like coffins or hearses, the urban poor could not.\textsuperscript{56} Increased use of the deposits by the lower classes resulted in unintended consequences: the deposits and the area surrounding them quickly became unsanitary environments that threatened the progress desired by the government.

To reduce the hygienic problems surrounding corpse deposits—especially the site near Plaza Concepción—state officials decided to build a new railroad to link the deposit to Santa Paula cemetery, where they could bury the corpses rather than let them accumulate on sidewalks—solving the immediate problem while helping demonstrate the state’s commitment to modernization. Additionally, by removing the growing number of corpses, the railway would ameliorate public health challenges and show the state’s ability to control the movement of bodies in the city. State officials believed area residents would applaud these changes as proof of modernity’s arrival.

\textsuperscript{54} AHSSA, F-SP, Sec-SJ, Caja 4, Expediente 5, 11 March 1887, 1-2.

\textsuperscript{55} Matthews, “De Viaje,” 267.

\textsuperscript{56} Michael Johns, \textit{The City of Mexico in the Age of Díaz} (Austin: University of Texas Press, 1997), 82.
Yet the state soon found itself entangled in controversy and forced to defend the railroad’s planned activities because of issues surrounding land ownership and outrage from citizens living near Santa Paula cemetery as well as Plaza Concepción. Construction of the railway intended to link the deposit at Plaza Concepción to Santa Paula cemetery ceased abruptly in March 1889. The plan, which called for the railway to enter the cemetery to facilitate burial of corpses from Concepción, had failed to consider whether the land at Santa Paula was private or public. The company responsible for building the railroad, La Compañía Limitada del Ferrocarriles del Distrito Federal, informed the Federal District’s governor that Santa Paula was not public land, and belonged to Don Ygnacio M. Escudero, who denied the company a passageway to the cemetery. As a result, the railway’s tracks ended just short of the cemetery gates.57

Despite the sudden obstacle, railroad employees continued to deliver bodies to the cemetery. While the number of bodies found outside the deposit at Plaza Concepción had decreased, more and more bodies were piling up in front of the gates of Santa Paula. The Díaz administration realized that their desire to control the movement of bodies within the city had backfired. Since railway workers were unable to bury the bodies, and with seemingly no other alternative, they chose to stack the corpses outside the cemetery gates like sandbags.58 The result was an unflattering image of the supposedly modernizing Mexico—one that would continue to exist for five more years. Putting the best face on the situation, the government maintained that, despite the setback, the railroad was still contributing to improving public health for people near Plaza Concepción and providing a preview of the city’s future by demonstrating the utility of the railroad.

While the government believed the railway offered city residents tangible proof of modernity—by removing and transporting bodies as well as protecting public health—E. del Valle, the president of the company responsible for the railway’s construction, disagreed. He wrote a letter to the Secretary of the Government expressing his outrage over the Díaz administration’s decision to continue using the railway to transport corpses despite the inability


58 AHDF, F-AM/GDF, S-HSP, Caja 1, Expediente 19, 29 March 1889, 3.
The Inconsistencies of Modernization

The unhappy situation at Santa Paula illustrated the paradoxical nature of modernization in Mexico City. While many city residents and state officials used the term ‘modern’—as well as its close cousins ‘progress’ and ‘civilization’—many parts of the city, especially working class neighborhoods, gained nothing from the modernization process. It is certainly the case that before the presidency of Porfirio Díaz, the Mexican economy had suffered from a lack of transportation and communication facilities, as well as limited banks, capital, and technology. Similarly, during Díaz’s tenure, the country experienced uninterrupted growth with a boom in railroad construction, foreign economic investment, wealth, and population—all factors that contributed to the country’s ability to become modern. Nevertheless, this growth was spotty and even contradictory at times, both characteristics of an underdeveloped economy and uneven modernization. For example, state officials were not particularly concerned with the social implications of modernity as the country experienced increasing economic disparity between social classes, low wages, high food costs, and rising crime rates, all the while arguing that Mexico was becoming modern.
Another example of the contradictory nature of modernization in Mexico City was of course in plain view outside the gates of Santa Paula, which had become the dumping ground for an increasing number of bodies. From 1889 to 1894, the non-stop delivery of decomposing corpses exposed nearby residents to nauseating sights and unhealthy smells, and had the potential to create a deadly epidemic.

On April 26, 1894, Governor Pedro Rincón Gallardo successfully found a way to protect the future health of the city and to put Mexico back on the path to achieving modernity, at least in this instance. In that year, he persuaded Don Ygnacio M. Escuedero, the owner of Santa Paula, to sell the cemetery to the Federal District for 1000 pesos ($28,600). Included in the sale was a tract of land adjacent to the cemetery that provided the government additional space for burying the increasing number of corpses. Soon thereafter, the railroad company succeeded in completing the project it had begun five years earlier. For state officials, the ability to bury these corpses would not only improve public health but also demonstrate that modernization was possible in the capital.

Regardless, the haphazard nature of modernization in Mexico City had appalled hundreds of residents. Between July 1889 and February 1894—when the corpses of the urban poor remained in gruesome piles outside Santa Paula—citizens from surrounding neighborhoods were forcefully expressing their displeasure with how President Díaz was delivering modernity to the city, by writing letters to the Federal District’s governor concerning their health and the neighborhood. Piles of corpses left to decompose in the open air were potential sources of contagion for people living near Santa Paula, they declared. The persistent visual and olfactory reminders helped to foster residents’ distaste for state officials and their approach to modernization. One such resident, R. García, expressed his disappointment with how the government had handled the potential dangers surrounding the situation. He had written the governor twice, each time asking him to suspend the train service in the neighborhood.

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AHDF, F-AM/GDF, S-P, Caja 1, Expediente 19, 26 April 1894, 27-28.
Figure 2.1. *Plano Topográfico de la Ciudad de México.* Formado por el Ingeniero Antonio García Cubas. Año 1886. The locations that most concerned state officials are marked C, F, J, and K, where the railroad linked the corpse deposit, local neighborhoods, and Santa Paula cemetery. Courtesy of Benson Latin American Collection, University of Texas at Austin.

A. Orrin Brothers Circus  
B. Hospital San Hipólito  
C. Plaza de la Concepción  
D. Escuela Nacional de Medicina  
E. La Alameda  
F. Neighborhoods of Villamil/Carbonero  
G. San Juan de Díos  
H. Hospital San Andrés  
I. Consejo Superior de la Salubridad  
J. Neighborhoods of Santa María de la Redonda/Plaza de Jardín  
K. Santa Paula Cemetery  
L. Hospital Juárez  
M. Belem Prison  
N. Campo Florido Cemetery  
O. Hospital General (approximation)  
P. Pantéon Dolores Cemetery  
Q. Paseo de la Reforma  
R. Colonia Cuauhtémoc  

Railroad to Santa Paula Cemetery
Nevertheless, the governor ignored García, never responding to his grievances. The reason: the railroad continued to present state officials with an instrument of unmatched civilizing capabilities. It had become a central component of middle-class and elite discourses concerning self and class definition, which allowed the two groups to declare themselves the “vanguards of modern life.” Railway travel had ushered in a new set of cultural values that were part of larger social changes occurring in Mexican society. Led by aristocratic reformers, the government eagerly adopted social engineering tactics that called for the modification of lower-class culture and behavior. For example, they promoted American and European sports like soccer, baseball, cycling, and roller-skating to eliminate presumed lower-class vices like alcoholism, gambling, prostitution, and crime. Reformers assumed the lower classes would quickly adopt these pastimes and soon dedicate themselves to sobriety, hard work, and hygiene. The railway between Concepción and Santa Paula was part of this therapeutic package.

Yet the state’s optimism was not universally shared. For residents like García, it was one thing for the state to be the driving force behind eliminating the backward behavior of the urban poor. It was quite another to have the bodies of the urban poor cross the invisible boundaries that separated middle- and upper-class reformers from the lower classes, threatening their well-being. He voiced his concerns clearly: the pile of corpses outside the cemetery “infected airs that could cause serious damage to one’s health” and offended the sensibility of the residents. Nor was García the only citizen willing to voice umbrage with how the government was addressing the situation at Santa Paula. Hejo González and Carlos Puchón, residents from a nearby neighborhood, wrote the governor as well. Like García, they also expressed irritation that he had never responded to their complaints. But while the governor ignored them, the number of

AHDF, F-AM/GDF, S-HSP, Caja 1, Expediente 19, 18 July 1889, 4.


James Garza, The Imagined Underworld: Sex, Crime, and Vice in Porfirian Mexico City (Lincoln, NE: University of Nebraska, 2007), 12-36.

AHDF, F-AM/GDF, S-HSP, Caja 1, Expediente 19, 18 July 1889, 4. His complaint included residents of the following neighborhoods: Plaza de Jardín, Villamil, Carbonero, and Santa María la Redonda.
decomposing bodies had increased, threatening the water supply at a nearby aqueduct. The overwhelming presence of bodies had contributed to an invasion by “mounds of flies” that consumed the flesh of the corpses and laid eggs inside them, and also used the water supply as a breeding ground for their larvae. As González and Puchón put it, the unburied corpses had turned their neighborhood into “a hotbed of decay.”  

Like these affluent residents, state officials believed that the lower classes were “great enemies of hygiene, culture, and progress” and impediments to Mexico’s successful adoption of modernity. As a group, the poor had the potential to infect the rest of society, which jeopardized the government’s ability to promote a modern image of Mexico City—one where epidemics and contagious diseases did not exist. The decaying bodies at Santa Paula undermined the progress that many reformers had hoped to achieve.

Proactive as the state was, it did not have a monopoly on seeking solutions. Santa Paula’s neighbors did not merely complain; they also offered remedies of their own. To protect the health of the neighborhood, González and Puchón urged the governor to order state officials to discontinue using the railway that connected Plaza Concepción to Santa Paula. The two believed that the government instead could move the dead corpses to available land in the southwest part of the city adjacent to Belén Prison. Such a move could be more expensive than the government originally planned. But, according to the duo, this ought not be the overriding issue since “it will not cost half of what matters, which is the lives of the residents of the neighborhood of Santa María and the said chapel of Santa Paula.” Their plan was intriguing because a railway already existed near Belén that would allow the government to use the railroad—thus demonstrating its commitment to hygiene as well as modernity.

The location of the proposed new repository revealed a unique feature of modernization in Mexico. If the government chose to move the corpses from Santa Paula to Belén Prison, state officials (by fixing this problem) could continue to create a well-ordered and hierarchical society. One influential aspect of modernizing the country involved assessing the value that social groups

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70 ADHF, F-AM/GDF, S-P, Caja 1, Expediente 19, 25 July 1889, 10.

71 Adolfo Prantl and José L. Grosó, La Ciudad de México: Novísima Guía Universal de La Capital de la República Mexicana (Mexico City: Juan Buxó y Compañía editores, Librería Madrileña, 1901), 922.

72 ADHF, F-AM/GDF, S-P, Caja 1, Expediente 19, 25 July 1889, 11-12.
could offer the country. The prevailing ideology—based on a combination of positivism and Social Darwinism—placed greater value on the lives of middle-class and elite citizens. State officials argued that, unlike the poor, these two groups were contributing members of society, who could help usher Mexico into a modern era.\(^{73}\) Empirical “proof” that these groups were superior came from scientists (biologists, physiologists, and criminologists) who obliged the state by helping to create a discourse that argued the lower classes were inherently inferior, morally degenerative and required isolation from the superior parts of society.\(^{74}\) The availability of land near the prison—already filled with members of the lower classes—intersected with the government’s desire to maintain its grip on society by removing the potential public health threat that originated from the bodies of the urban poor.

Not surprisingly, residents like González and Puchón firmly believed in their own inherent supremacy, which was an integral part of their demand that the deposit be relocated to Belén. Moving the corpses to a less populated area of the city that already housed prisoners would ameliorate public health issues in their neighborhood, create a safe distance between the civilized and uncivilized citizens, and help paint Mexico City as modern. Indeed, state officials considered Belén Prison to be a source of disease: hygiene was non-existent there, and its poor location—combined with a lack of drainage—had turned the area into a virtual sewer.\(^{75}\) As one tourist guidebook suggested, the prison was “a microbial spot that should be avoided.”\(^{76}\) The government deemed its prisoners a social group that, like the poor, had no redeeming qualities, making them expendable and undeserving of the benefits associated with modernization.\(^{77}\) By moving the corpses to Belén, the government could improve hygiene in the Santa Paula neighborhood, placate residents, and provide the city with a modern appearance.


\(^{74}\) Piccato, *City of Suspects*, 50-63.

\(^{75}\) Rohlfes, “Police and Penal Correction in Mexico City,” 209-211; and Piccato, *City of Suspects*, 61-62.


Public Health and National Identity

Before it could pursue this plan, the government needed to discuss it with La Compañía Limitada del Ferrocarriles del Distrito Federal, the railway business that would be responsible for building the additional track to the prison. While state officials believed González and Puchón’s proposal would help reinforce social hierarchy, improve public health, and elevate the city’s modern image, E. del Valle, the railroad company president, vehemently disagreed. He argued that in all the excitement about the potential change, the government had overlooked one major factor—the health of the railroad workers. The area was, by all accounts, dirty and unhealthy. Del Valle bluntly informed the governor that his company would not install more track nor connect to existing railways near the prison.

But del Valle did present the governor with an alternate location that he thought would simultaneously protect the health of railroad workers, improve public health near Santa Paula, and help turn Mexico City into an icon of modernity. He argued that the “most appropriate location” for corpses was in the colonial-era cemetery Campo Florido. There were three reasons why the government should use the former cemetery for the disposal of corpses. First, the cemetery was in “the least populated area of the city” where it would be “sheltered from the prevailing winds.” As a result, it would protect the health of workers and prevent corpses from spreading disease to the rest of the city’s population. Second, the government owned Campo Florido and the railway line just outside of it. To deliver the corpses by train—the popular choice at the time—the government would only have to finance the construction of a “short stretch of railway” that connected the old line with the future one. If the government moved corpses to Campo Florido, it could use an existing railway located outside the cemetery to create a rail link between Florido and Panteón Dolores, a popular public cemetery. Connecting the two cemeteries would provide the government with even more space for burying the corpses of the poor. Del Valle’s arguments shrewdly anticipated that state officials would place the utmost importance on hygienic transportation of the dead to attain modernity.

78 AHDF, F-AM/GDF, S-P, Caja 1, Expediente 19, 1 August 1889, 14.
80 AHDF, F-AM/GDF, S-P, Caja 1, Expediente 19, 1 August 1889, 15.
81 AHDF, F-AM/GDF, S-P, Caja 1, Expediente 19, 1 August 1889, 15.
These factors were significant in themselves. Yet it was also possible that Santa Paula and Campo Florido shared another important connection to Porfirian modernization. In the late 1880s, the government tried to create a national identity based on the construction of an official history, a shared narrative. State officials cunningly chose important elements of the country’s past to connect to the present, seeking to validate their positions as the country’s leaders and to create public support for their role in protecting the present and future. The narrative included the creation of a pantheon of secular heroes, including selected leaders from the nation’s indigenous past, allowing the government to form a “cultural (linguistic and racial) nationalism and social Darwinism combined with the old patriotism”—all facilitating the construction of this official history. Here, local symbols could be appropriated. For example, Santa Paula was important for the country’s identity because former President Antonio López de Santa Anna had made it the final resting place for his amputated leg, lost while stopping a French invasion of Veracruz in 1838. Additionally, Santa Anna and Porfirio Díaz had been fierce rivals since Díaz first entered politics, when Santa Anna was consolidating his power and eliminating political enemies—a tactic that Díaz would borrow during his presidency. Hence, the use of Santa Paula potentially allowed Díaz to assert his authority and supremacy over Santa Anna. Similarly, Campo Florido was also a cemetery with ties to the country’s past. It existed near the same land where Franciscan missionaries had established a college for educating mestizo children in 1547 called Colegio de San Juan de Letrán. Furthermore, Campo Florido was the former home of a colonial chapel dedicated to La Virgen de la Soledad (Our Lady of Sorrows).

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83 Tenorio-Trillo, Mexico at the World’s Fairs, 69.

84 Will Fowler, Santa Anna of Mexico (Lincoln: University of Nebraska Press, 2007), 223-225.


86 Tomás Zepeda, La Educación Pública en la Nueva España en el Siglo XVI (Mexico City: Editorial Progreso, 1993), 103-112.

87 José María Marroquí, La ciudad de México (Mexico City: Tip. y Lit. La Europea, 1900), 50-55. For more information on the Virgin of Sorrows, see Víctor García and Laura González, “Juramentos and Mandas: Traditional Catholic Practices and Substance Abuse in Mexican Communities of Southeastern Pennsylvania,” in Invisible
probable that state officials and del Valle, the railroad company president, knew the historical traditions associated with each of the proposed sites. As a result, both locations presented the government with an opportunity to weave together the past and present to offer residents and visitors alike a picture of a modern country that valued its rich history.

**The Problem with Tangible Modernity**

Yet, despite the advantages of the Campo Florido proposal, the governor ultimately rejected the move. It is a historical mystery: no records have come to light regarding why the governor turned it down. But complaints about the corpses—from citizens living near Plaza Concepción and Santa Paula—continued to grow, after the government failed to adopt Florido as the new burial site for the bodies of the urban poor.

Residents near the deposits at Plaza Concepción also had expressed their anger over the poor hygienic conditions surrounding their neighborhood. As early as 1890, two neighbors, Francisco Yglesias and Lucio Romero, had gathered 129 signatures from other area residents. Writing to the governor, they expressed anger that the corpses of the urban poor constantly threatened their health. They pointed out that the constant presence of the dead could “easily compromise the rest of the population.” The neighbors were also angry because the decaying bodies had attracted dozens of hungry stray dogs that were ripping the decomposing flesh off the corpses, forcing the neighbors to pool their money to hire private security guards to stop the dogs from snacking on the bodies or occasionally dragging one through the streets. These horrors, shocking in themselves, also had commercial implications, limiting Diez and Ramírez’s ability “to rent or lease properties in the area” since nobody would choose to live or work there.88

The complaints over bodies in the neighborhood of Plaza Concepción remained, and in February 1894, neighbors Vidal Diez and Mauricio R. Ramírez—along with at least 30 others—believed the problems plaguing public health had continued for too long. The two decided to write the recently elected Governor of the Federal District, Pedro Rincón Gallardo, telling him that as long as the railway linking Concepción to Santa Paula was in use, “the number of germs”

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88 AHDF, F-AM/GDF, S-P, Caja 1, Expediente 19, 29 January 1890, 17.
in the neighborhood would escalate. Furthermore, they warned the governor that the winds in the
area had the potential “to carry the evil” beyond the neighborhood and infect the rest of the city.
But these two neighbors had a solution. If the governor moved the corpses away from Santa
Paula “to somewhere in the southern part of the town” where fewer people lived, public health
would improve. The situation at Concepción illustrated the uneven process of modernization in
Mexico City. State officials had invested in corpse deposits as a way to improve hygiene and
public health in the city. Nonetheless, many of them unintentionally exacerbated poor public
health conditions and demonstrated that the city was still far from modern.

Decomposing bodies would remain a problem in Mexico City throughout the 1890s. Despite
numerous letters, the government continued to ignore complaints. Perhaps state officials
were unable to find any empirical evidence to suggest that public health was at risk. But more
likely, the key reason the government disregarded the complaints was that addressing them
would have meant admitting defeat. President Porfirio Díaz and his officials played a crucial role
in creating, reinventing, and managing a national mythology that involved significant efforts to
control and regulate the lives of citizens. Perhaps addressing residents’ grievances meant state
officials would have to acknowledge that they were not as good at managing and controlling
society as they believed. Additionally, the government’s desire to have symbols of modernity in
populous areas of the city was strategic and outweighed any concern expressed by a minority of
citizens. Had the government moved the railway, as residents had requested, modernity would
be less visible and the impact of the railway as a tangible example of modernization would
disappear. But if the government continued to use the railway between Santa Paula and Plaza
Concepción, where thousands of people lived, it would expose residents to the desires of the
state. The railroad had become one of several symbols intended to teach the urban poor about the
benefits modernity could bring them if they accepted and appreciated it. For modernization to

89 AHDF, F-AM/GDF, S-P, Caja 1, Expediente 19, 12 February 1894, 22-23.
91 Tenenbaum, “Streetwise History,” 139-140. Tenenbaum argues that placing monuments in prominent locations,
such as exclusive neighborhoods near Paseo de la Reforma, reinforced the elites’ belief in their own superiority and
role in guiding Mexico’s future. Likewise, state officials purposefully chose the location of the railway and corpse
deposits in popular neighborhoods to keep the symbols of progress on constant display for citizens.
92 For an additional example of the role of Porfirian pedagogy and modernization in Mexico City, see Matthew D.
Esposito, “Death and Disorder in Mexico City: The State Funeral of Manuel Romero Rubio,” in *Latin American
reach a large number of residents, both the railway and deposits had to remain in populous areas of the city, where they would demonstrate the Díaz administration’s current progress, a possible sign of control over the immediate future.93

Despite new Federal District governor, Rafael Rebollar, having issued an official announcement indicating that his government had finally connected Campo Florido with Panteón Dolores in June 1898, almost nine years after the problem had begun, discontent continued to rise. Residents in areas outside Santa Paula and Plaza Concepción also began expressing their dissatisfaction and disgust with the stench and potential health hazard found at nearby corpse deposits.94 In June 1903, Pedro Sobrino, a resident of a well-to-do neighborhood located just off Calle de Arcos de Belén, wrote to the Superior Sanitation Council (SSC), the government institution responsible for public health and sanitation in Mexico City, to express his abhorrence of the “unpleasant and dangerous scene for one’s health” he encountered on a daily basis outside his home.95 According to Sobrino, the urban poor routinely filled the nearby corpse deposit to its maximum capacity. Once it reached this level, instead of returning home with the bodies, many of the urban poor chose to leave them scattered in the street: grotesque trail markers that led inhabitants to the deposit.96 City workers ignored them, allowing the corpses to remain in the street for hours (even days), where they not only threatened the health of surrounding neighborhoods, but also the government’s desire to create a modern image of the city.

Unlike previous complaints, Sobrino’s would actually foster a change in the collection of bodies. Expressing concern over a potential health epidemic that could develop from the situation, Superior Sanitation Council members decided that it was “highly desirable to prevent the people of the town from laying out the bodies of their relatives on a public road.”97 The

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93 Tenorio-Trillo, Mexico at the World’s Fairs, 7.
94 AHDF, F-AM/GDF, S-P, Caja 3460, Expediente 871, 14 June 1898, 3.
95 AHDF, F-AM/GDF, S-P, Caja 9, Expediente 855, 26 June 1903, 1. For more on the role of the Superior Sanitation Council, see Agostoni, Monuments of Progress, 57-76; and Paul Ross, “From Sanitary Police to Sanitary Dictatorship: Mexico’s 19th century Public Health Movement” (Ph.D. dissertation, University of Chicago, 2005).
96 AHDF, F-AM/GDF, S-P, Caja 9, Expediente 855, 26 June 1903, 1.
97 AHDF, F-AM/GDF, S-P, Caja 9, Expediente 855, 26 June 1903, 1.
collection of the dead by city workers had previously occurred twice a day: from 6 to 6:30 in the morning and from 3 to 3:30 in the afternoon. Both times were inconvenient for many urban poor who worked during these hours. Newly elected Federal District Governor, Guillermo de Landa y Escandón, believed the existing schedule had failed “to prevent the bodies from being deposited, even for a short time, on the streets of Arcos de Belem.” The corpse deposits had limited space and people filled them quickly. If many of the urban poor had similar schedules, the deposit became first-come, first-served, which for those turned away, resulted in corpses littering the street. To improve the situation, Superior Sanitation Council officials decided to continue using the transportation method already in place, but with one change—they decided to have the corpse car “stay in the neighborhood for an extended time,” which allowed for collections to fit the schedules of the urban poor.\textsuperscript{98} By adjusting pick-up schedules, the government had an opportunity to shape individuals’ behavior, which would strengthen the official narrative of order and progress that positivist elites believed could help to create a modern Mexico.\textsuperscript{99}

The governor also used his position to suggest to other state officials that the city should finance the construction of an additional corpse deposit near the problem-plagued neighborhood Pedro Sobrino had described.\textsuperscript{100} If altering the collection times for bodies did not remedy the situation, an additional deposit site would offer residents an alternative measure that could protect their health and keep the streets clean.

Whether the government constructed the additional deposit site remains unknown—further information has disappeared from the historical record. Nevertheless, the proposal is important, since it provides two important clues to how the modernization process unfolded for various social groups in Mexico City. First, the urban poor knowingly ignored concerns about public health expressed by both well-to-do residents and state officials. The changes to the schedule failed to make an impact on how lower-class citizens disposed of corpses, as they

\textsuperscript{98} AHDF, F-AM/GDF, S-P, Caja 9, Expediente 855, 26 June 1903, 1.


\textsuperscript{100} AHDF, F-AM/GDF, S-P, Caja 9, Expediente 855, 8 July 1903, 2.
thumbed their noses at these officially prescribed rules.\textsuperscript{101} Second, both the schedule change and potential new construction overlapped with the project of modern statecraft. Couched in official rhetoric that described the process as a method toward civilizing the population, the chief intended goal was to shape the population and landscape in a way that would make lower-class residents more susceptible to the persuasive techniques of state officials who wanted to observe and control their behavior. The Mexican government could succeed in creating a homogenous citizenry in the capital, imbued with the moral and cultural values that reflected modernization, just as Paris had achieved under Georges-Eugène Haussmann during the reign of Napoleon III in the mid-19\textsuperscript{th} century.

Haussmann had become the prefect of the Seine department in 1853, which meant he was in charge of the city of Paris. Plans were already in place to alter the city’s layout, before Haussman assumed this position, but he would become the driving force behind making “large buildings, palaces, and barracks more pleasing to the eye.”\textsuperscript{102} The Paris that Haussmann would improve had only recently expanded, as French Emperor Napoleon III had torn down the Farmer-Generals (octroi) wall—erected in 1791—that had surrounded the city to expropriate the valuable land outside the walls into Paris. Little had been done to alter the city’s landscape before 1850, so it remained a relic of the past, a town that state officials and visitors considered “dark, dirty, foul-smelling, and overcrowded.”\textsuperscript{103} But Haussmann’s renovations sought to open the “dark, confined, and frightful city” by demolishing significant parts of it—most notably several major streets and neighborhoods. In their place, he created large boulevards (400 miles of new pavement that made the narrow and curvy streets longer, wider, and straighter), uniform façades for buildings (he tore down large, dilapidated apartment buildings and gabled homes that had been sub-divided to accommodate more residents), public green space (47,000 acres versus 47 acres, and 100,000 newly planted trees), new sewer systems (260 miles of new lines), and a


\textsuperscript{102} Sigfried Giedion, Space, Time, and Architecture: The Growth of a New Tradition, 4\textsuperscript{th} ed. (Boston: Harvard University Press, 1962), 745.

new aqueduct that brought fresh spring water from the countryside into the city, replacing the inefficient water collection method that had relied on thousands of water carriers to deliver fresh water to daily to residents. In addition to hygienic advantages these features would provide state and city officials, they also facilitated the collection of information pertaining to the population. In particular, the redesigned city streets made mobilizing troops and police more efficient—a problem that had plagued Paris in earlier years—by placing army barracks at the intersection of major thoroughfares.\textsuperscript{104} The redesigned city also created distinct neighborhoods segregated by class and occupation, which permitted government officials “to easily manage and administer” the lives of Parisians, a plan that Francophile Mexican state officials enthusiastically adopted.\textsuperscript{105}

\textbf{From Slaughterhouse to Corpse Deposit}

Nonetheless, Mexico City officials remained unable to steer the behavior of residents in their daily lives, especially at designated corpse deposits. By May 1905, the problem had become so pervasive that state officials enlisted the help of Mexico City police inspector Domingo Martínez to find a suitable building that could store large numbers of bodies. However, according to state officials, the new building had to be close to an existing rail line, since the government would be loading corpses onto railroad cars to deliver them from overflowing deposits and thus protect public health.\textsuperscript{106} On May 12, two days after receiving this order, Martínez believed he had found two buildings—both near rail lines—that could alleviate the city’s corpse troubles. However, after further inspection, the police inspector realized that the buildings would require excessive repairs prior to becoming hygienic corpse deposits.\textsuperscript{107} So he continued to search for a building that the government could convert easily and with less expense.

Six days later, on May 18, Martínez found a building that met the needs of state officials. A large shed located at a well-known slaughterhouse named San Lucas had fallen out of favor with city officials. Originally constructed in the 18\textsuperscript{th} century, government officials had targeted

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\textsuperscript{104} Pitt, \textit{Walks Through Lost Paris}, 5-8.

\textsuperscript{105} Scott, \textit{Seeing Like a State}, 63, 81-83.

\textsuperscript{106} AHDF, F-AM/GDF, S-P, Caja 15, Expediente 1408, 10 May 1905, 1.

\textsuperscript{107} AHDF, F-AM/GDF, S-P, Caja 15, Expediente 1408, 12 May 1905, 3.
\end{flushleft}
the slaughterhouse for renovations several times. Its colonial design, particularly the red volcanic rock used to make the floor, was porous and absorbed the blood and other liquids gushing from slaughtered animals—turning it into a public health hazard.\textsuperscript{108} But as a potential site for storing bodies, San Lucas seemed appropriate. Mexico City’s late\textsuperscript{19}th-century population growth had sparked an increase in the number of working class neighborhoods surrounding San Lucas slaughterhouse. The hygienic conditions in the nearby neighborhoods, lined with the homes of the urban poor, were as dismal as the slaughterhouse. In particular, the lack of hygienic facilities led the urban poor to engage in behaviors such as urinating or defecating in the street, which the well-to-do considered backwards and uncivilized.\textsuperscript{109} If the poor wanted to act like animals, then what better location than San Lucas slaughterhouse was there for storing their carcasses?

\textbf{Corpse Deposits, Corpse Carriages, and Public Health}

Although the San Lucas slaughterhouse had presented state officials with an opportunity to fulfill their desires (and demonstrate to the urban poor that modernization was inescapable), they decided that the building “was not convenient to use” as a corpse storage facility.\textsuperscript{110} While not giving a specific reason, a potential explanation emerged in July 1905, when state officials chose to construct two new deposits inside Campo Florido and Los Angeles—the two colonial-era cemeteries owned by the government. Some of the same state officials had already rejected a similar plan for a corpse deposit inside Campo Florido in 1890.\textsuperscript{111} However, the number of bodies had increased so much between 1890 and 1905 that officials added another colonial-era cemetery to the plan proposed fifteen years earlier.\textsuperscript{112} Next, they sifted through engineering proposals for corpse deposits, eventually settling on hiring highly respected military engineer Carlos Noriega to design and construct “hygienic, simple and economical” corpse deposits as


\textsuperscript{109} Pilcher, \textit{The Sausage Rebellion}, 60; and Piccato, \textit{City of Suspects}, 28-29.

\textsuperscript{110} AHDF, F-AM/GDF, S-P, Caja 15, Expediente 1408, 21 May 1905, 7.

\textsuperscript{111} AHDF, F-AM/GDF, S-P, Caja 15, Expediente 1408, 29 July 1905, 3-4; and AHDF, F-AM/GDF, S-P, Caja 1, Expediente 19, 1 August 1889, 15.

\textsuperscript{112} AHDF, F-AM/GDF, S-P, Caja 15, Expediente 1408, 29 July 1905, 3-4.
well as provide corpse carriages for transporting the bodies from the overflowing deposits to the cemeteries.113

Noriega was an excellent choice. After designing the Campo Florido cemetery corpse deposit, he would make his professional reputation by assisting in the construction of the mental asylum known as La Castañeda (1910) in the suburban town of Mixcoac. Built on an old hacienda overflowing with chestnuts trees (castaños)—construction was completed on September 1, 1910, commemorating the centenary of Mexico’s independence. The project, which had taken over a year to build, would become the largest institution that cared for the mentally-ill in Mexico, as well as an infamous and expensive reminder of Porfirio Díaz’s desire to control the behavior of citizens.114

Campo Florido and Los Angeles’ colonial ties were useful for the Porfirian government’s continuing attempts to create a national identity based on the construction of an official history. Moreover, Noriega’s proposed design for the deposit reflected a popular trend in architectural projects sponsored by the Porfirian state since 1889, the year when Paris had hosted the World’s Fair. Mexican elites then and since were not looking to become French, but believed that France was the archetype of modernity, which they sought to emulate.115 The Parisian exposition offered Mexico an opportunity to construct its official history for the international consumption of over 28 million visitors.116 According to Porfirian officials, Mexico’s exhibit had “to highlight the great, though atypical, lineage of the nation it represented: a national entity with a glorious past but ready to adjust to the dictates of cosmopolitan nationalism and eager to be linked to the international economy.”117 The result was the Aztec Palace, a building that cost the Mexican


115 Tenorio-Trillo, Mexico at the World’s Fairs, 20.


117 Tenorio-Trillo, Mexico at the World’s Fairs, 64.
government about 280,000 pesos ($8.13 million) for construction and an additional 29,000 pesos ($850,000) for interior design.

The Aztec Palace enabled state officials to display their past, present, and future to millions of visitors in a safe and controlled way. Its architectural design was important: the palace needed to be a “building which at its sides and angles would characterize the architecture of the most civilized races of Mexico, but which would distance itself from the dimensions of ancient monuments that opposed modern amenities and tastes.” To be Mexican, at least for the Porfirian elite, meant adopting a particular view of the country’s past, one that highlighted that the country’s Indian past was far removed from its present state.

Figure 2.2. Entrance to the Aztec Palace at the 1889 Paris Exposition. Courtesy of the Library of Congress: Exposition Universalle de 1889, Paris, France.

The chosen design, submitted by historian and statistician Antonio Peñafiel, reflected this idea. He and engineer Antonio de Anza based the building’s design on a synthesis of pre-Hispanic architectural styles taken from a published book containing collections of...

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118 Tenorio-Trillo, Mexico at the World’s Fairs, 65.

Mesoamerican antiquities assembled by Irish antiquarian Edward King, Lord Kingsborough.\textsuperscript{120} The building—a reproduction of a teocalli (an Aztec temple)—measured 70 meters (230 feet) long, 30 meters (98 feet) wide, and 14.5 meters (47.57 feet) tall. The temple’s design, Peñafiel decided, had to accurately reflect Aztec architectural elements that would fit modern nineteenth century architecture standards. For example, he decided to use a steel frame and a glass ceiling, along with Mexican-style columns (instead of traditional neoclassical Greco-Roman columns), which he had seen when he visited the pre-Hispanic archeological site of Tula, in the state of Hidalgo. His goal was to depict Aztec religion, agriculture, and arts in a linear fashion, from the beginning of Aztec civilization to its end, the starting point of Mexican nationhood.\textsuperscript{121} The temple’s façade incorporated the geometric designs found in Aztec architecture and sculptures of Aztec gods and heroes, such as Tlaloc (God of Rain), Itzcoatl (fourth king of the Aztec Empire, credited with establishing an Aztec-led alliance in the Valley of Mexico), and Cuauhtémoc (the eleventh and final king who ruled during the time of the Spanish Conquest, killed in 1525 by the Spaniards).\textsuperscript{122} By reproducing indigenous deities and heroes, and presenting a chronological history of the country, Peñafiel was “continuing a long ideological and cultural Mexican tendency to selectively reevaluate the Indian past as part of the national identity”—reinforcing the popular notion that the only good Indian was a long-dead Indian.\textsuperscript{123}

Influenced by the architectural style of the Aztec Palace, Carlos Noriega chose to combine traditional and modern architectural elements for the new corpse deposits in the cemeteries of Campo Florido and Los Angeles. Indeed, the material used to construct the façades was representative of the country’s indigenous past: its outside walls were a combination of tepetate (an indigenous volcanic rock) and sun-dried brick—both features of the country’s traditional architecture.\textsuperscript{124} The inside, by contrast, reflected the trappings of modern Mexican


\textsuperscript{121} Tenorio-Trillo, \textit{Mexico at the World’s Fairs}, 75.


\textsuperscript{123} Tenorio-Trillo, \textit{Mexico at the World’s Fairs}, 75.

\textsuperscript{124} AHDF, F-AM/GDF, Serie-Hospital San Pablo (hereafter S-HSP), Caja 17, Expediente 1526, 29 July 1905, 3-4. For more on traditional Mexican architecture, see Russell Sturgis, \textit{A Dictionary of Architecture and Building}:
architecture: cement for the inner walls, floor, and ceiling. Cement was a new material—easy to clean and disinfect—that had arrived in Mexico during the 1890s. Beginning in the second decade of the twentieth century, its popularity as a building material earned it the nickname “magic dust.” By the early 1920s, cement would become “the perfect social glue” for a nation struggling to emerge from revolution, becoming a symbol that extended its modern properties beyond the architectural realm and into the Mexican social fabric to replace “the chaos of conflicto armado with the order of concreto armado.”

The modern material used to construct the deposit were just the beginning of Noriega’s contribution to tangible modernity in Mexico. Noriega was also responsible for incorporating several hygienic features that protected both public health and the health of workers. The only entrance to the deposit was a wooden door with two portals positioned in the center, one above the other. Each contained iron bars covered in wire fabric, allowing for the circulation of fresh air inside the deposit. Additionally, the wire screen would prevent flies from entering and laying eggs inside the bodies and rats from chewing on flesh, which had the potential to not only infect workers but also create an environment where a disease like yellow fever or rabies could affect the population at-large. The design also featured seven semi-circular windows that allowed natural light to enter. Together with the ventilation provided by the two circular holes in the door—both common characteristics of mid-to-late 19th century North American architecture—the design helped to protect public health and reduce the spread of disease.

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128 For more on rabies in Mexico, see Nicolás Ramírez de Arrellano, “Higiene: Profilaxis de la rabia,” *Gaceta Médica de México*, 24 (June 1, 1889): 206–9. For more on the problem between feral dogs, bodies, and city residents in Mexico City, see Mauricio Tenorio-Trillo, *I Speak of the City: Mexico City at the Turn of the Twentieth Century* (Chicago, IL: University of Chicago Press, 2013).

129 AHDF, F-AM/GDF, S-P, Caja 17, Expediente 1526, 29 July 1905, 6. For more on the common hygienic features of architecture in the era, see Teunis J. Van Der Bent, *The Problem of Hygiene in Man’s Dwellings: a Textbook for
In engineer Noriega’s design, we find yet another example of his architectural commitment to combine the past with the present: a new type of corpse carriage for transporting the bodies of the urban poor. Like the corpse deposit, Noriega’s carriage design maintained a traditional façade, while the inside used modern design elements like cylindrical rollers and individual storage compartments that aided efficiency and hygiene respectively. The inside design included a base layer made entirely of cylindrical rollers that facilitated the loading and unloading of corpses collected at deposits and delivered to cemeteries. Four storage compartments—placed vertically on top of the rollers—held the corpses and their coffins. The inside also included a reinforced double wooden bottom to support the weight of the loaded carriage, usually between “900 and 1000 kilos for four corpses and their coffins.” Underneath each compartment was a slide that formed a ramp that aided the arduous task of loading and unloading coffins as workers had done in earlier years; workers exerted less energy this way, which meant they were able to work longer hours.130

![Figure 2.3. Guillermo Olivares and Ignacio Huerta Campi, “Rear View of Funeral Car Model.” The back of the cadaver car pictured (from 1918) contained a ramp (labeled I in picture) similar to that Carlos Noriega proposed in 1905. Courtesy of Archivo Histórico del Distrito Federal.](image)

130 AHDF, F-AM/GDF, S-P, Caja 17, Expediente 1526, 29 July 1905, 3-4.

131 AHDF, F-AM/GDF, S-P, Caja 3472, Expediente 260, 30 August 1918.
The new carriage design reinforced the importance of workers’ efficiency, a concept popularized by Frederick W. Taylor’s late 1890s time-and-motion studies, which culminated in the worldwide adoption of scientific management principles worldwide.\textsuperscript{132} As a principle, scientific management was concerned with the physical efficiency of workers, who Taylor believed, “could be retooled like machines, their physical and mental gears recalibrated for better productivity.”\textsuperscript{133} Taylor’s modern production techniques, historian E.P. Thompson has written, required the use of concepts such as time-thrift and work-discipline; however, for these concepts to be effective, it meant that management would have to restructure workers habits.\textsuperscript{134}

Management practices would begin to emphasize standard, precise procedures for each laborer, eliminating decisions made based on tradition or rules of thumb. Taylor’s approach to making labor more efficient first appeared in 1898 at the Bethlehem Steel Plant in Bethlehem, Pennsylvania. He calculated that with precise movements, tools, and sequencing, each worker could load 47.5 tons of steel per day instead of the typical 12.5 tons.\textsuperscript{135} Taylor called these changes “social efficiency,” a concept that focused on using the leadership characteristics employers had learned as a tool for molding the behavior of workers.\textsuperscript{136} As a result, he argued, modern workers would begin to have the same interests as those of their employers. Noriega’s apparent incorporation of these principles into his corpse carriage design was significant for two reasons. First, it meant that he was an early adopter of the ideas that Taylor would later codify. Second, the use of such a principle meant that specialists like Noriega were well aware of


\textsuperscript{135} Richard L. Daft, \textit{Organization Theory and Design}, 10\textsuperscript{th} ed. (Mason, OH: South-Western Language Learning, 2008), 23.

American technological accomplishments, and were eager to put them to work in Porfirian Mexico.

Substituting modern technology and what would later be termed the principles of scientific management for tradition were for state officials essential features of the civilized world that could improve the lives of Mexican citizens. The Díaz government spent about 29,000 ($1.2 million) on Noriega’s designs, which included 16 corpse carriages, two deposits, and their furnishings, an insignificant sum in the government’s budget at the time. The total investment between 1877 and 1910 in public works and communication infrastructure totaled about one billion pesos ($44.8 billion). The majority of the money came from foreign companies, who supplied 667 million pesos ($28.8 billion), while 286 million ($12.4 billion) came from private funds and only 83.9 million ($3.63 billion) from the government itself. Foreign companies and capitalists invested heavily in Mexican economic infrastructure, controlling 67 to 73 percent of all capital invested in Mexico, which in the 1890s yielded investors a return of between 10 and 25 percent. Mexico presented foreign investors with an extremely lucrative opportunity, fully supported by President Díaz and his state officials. Other costly public works projects undertaken at the time included the paving of Mexico City streets (8 million pesos [$346 million]), the construction of schools in the Federal District (2.5 million [$103 million]), and the construction of the Monument to Independence in Mexico City (El Ángel de la Independencia) (1.5 million [$72.6 million]). While foreigners provided large sums of money for modernizing the capital, the Díaz government would invest in the construction of hygienic spaces and transportation methods for bodies to demonstrate to city residents that they would soon be living in a truly modern city.

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140 Agostoni, *Monuments of Progress*, 87. For the paving cost and school construction, the 1.86 pesos equaled 1 U.S. dollar. This value was determined by averaging the value of the peso between 1886 and 1910. For the construction of the monument, 2.195 pesos equaled 1 U.S. dollar, determined by averaging the peso value from 1902-1920, the years of construction.
The Electric Tram

Between 1898 and 1910, another revolutionary and efficient technology contributed to the path to modernity in Mexico City. Some 10 million pesos ($526 million) of private capital (primarily foreign capital) financed the construction of electric trams in the Federal District.\textsuperscript{141} Mule-powered trams had existed since the 1880s, but slowly disappeared with the introduction of electric trams.\textsuperscript{142} The company responsible for introducing this new technology was La Compañía de Tranvías de México (The Electric Tram Company of México), a foreign conglomeration led by American engineer Frederick Stark Pearson and financed by Canadian and European investors.\textsuperscript{143} In April 1898, these investors purchased La Compañía de Ferrocarriles del Distrito Federal (The Railroad Company of the Federal District), the principal railway operator in the city by 1897.\textsuperscript{144} The purchase provided the Electric Tram Company with an extensive network of railways that could be electrified, and presented the company with another opportunity to reap even more financial benefits from this new transportation mode, already operating in the United States and Western Europe, and being introduced in other Latin America capital cities, including Montevideo, Buenos Aires, and Rio de Janeiro.\textsuperscript{145}

Frederick Stark Pearson had studied chemistry and mining engineering at Tufts University, and after graduating in 1879 he accepted a position as a chemistry instructor at the Massachusetts Institute of Technology. However, Pearson resigned to re-enter Tufts, earning a bachelor’s degree in civil engineering (1883), a master’s degree in electrical engineering (1886), and a doctorate of sciences (1901). After completing his master’s, Pearson had acted as a

\textsuperscript{141} The average value of the peso between 1898 and 1910 was 2.173 pesos to 1 U.S. dollar.

\textsuperscript{142} Hayde Yazmín Toledo Martínez, “Historia Social de la Tecnología Tranviaria en el Distrito Federal, 1898-1920” (master’s thesis, Universidad Nacional Autónoma de México, 2010), 51-55.


\textsuperscript{144} Pilcher, \textit{The Sausage Rebellion}, 72-73.

consulting engineer for many of the largest street-railway and power companies in the United States, Canada, Great Britain, Brazil, and Cuba. In 1903, the Mexican Light and Power Company—owner of all the electric light companies in Mexico City—asked Pearson to oversee the construction of an immense, 48,000 horse-power hydro-electric plant in the city of Necaxa (100 miles away), which would carry the electricity over high tension lines to Mexico City to supply power to four electric substations in Mexico City—La Nonoalco (in the colonial part of the city, near elite neighborhoods), Indianilla and Tlaxpana (in the northeast), and Churubusco (in the southeast); in later years, the same dam would supply power to two additional substations in Mixcoac (in the southwest) and Xochimilco (in the south).¹⁴⁶ La Nana, as company officials called it, supplied power to a substation near La Alameda Park, which had several corpse deposits to its north. The electric tram not only allowed state officials to move residents through the expanding city faster than before, but facilitated the transportation of the dead as well. As Compañía de Tranvías electrified the railway tracks it had inherited (in some cases building entirely new tracks), state officials saw an opportunity to move corpses from deposits to cemeteries in a more efficient manner than previous infrastructure had allowed. The electric tram would become part of “the makeup and perfume” associated with modernization in Mexico.¹⁴⁷

### Public Health and the Electric Tram

By 1903, Mexican state officials considered electric trams the future of transportation, but there was a problem: the electric tram had become associated with danger and death in the penny press. Articles constantly referred to tram drivers as “mataristas (from the verb matar—to kill), a play on motoristas.”¹⁴⁸ Some upper-class residents in the city, who did not want electric trams that collected corpses to pass through their neighborhoods, felt the same way.¹⁴⁹ In March 1909, several families in the posh southwest neighborhood of Colonia Cuauhtémoc (just north of the Paseo de la Reforma, an elegant avenue that stopped at Chapultepec Castle, the presidential

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¹⁴⁷ Toledo Martínez, “Historia Social de la Tecnología Tranviaria,” 45.

¹⁴⁸ Piccato, *City of Suspects*, 24-25.

residence) believed that a corpse tram nicknamed “La Gaveta” (The Drawer) constituted a legitimate health threat.\textsuperscript{150} Located in the southwest of the city, Cuauhtémoc was both exclusive and fashionable, an area for the well-to-do, where public services like piped drinking water and sewers, and streets were named after famous European cities like Rome, Milan, London, and Berlin.\textsuperscript{151} One of the neighborhood’s most powerful residents Hugo Scherer Sr., a well-known, influential private banker of German heritage, had intimate ties to the Díaz administration.\textsuperscript{152} As an indication of his standing, the Ministry of Foreign Relations would select one of his houses, along with those of leaders such as the Governor of the Federal District and the Secretary of Finance, to serve as accommodations for German dignitaries during the 1910 centennial celebration.\textsuperscript{153} Residents like Scherer believed that a tram devoted to death brought “a repugnant spectacle” to the streets of the upscale neighborhood, and they argued that the tram could lead to the spread of disease by moving corpses “in various states of putrefaction” that had been “left for some time in the sun” near the official deposits.\textsuperscript{154}

State officials had allowed the electric tram to pass through Colonia Cuauhtémoc because it was a faster and more direct route for taking corpses to the city’s largest public cemetery, Panteón Dolores, only five kilometers (3.1 miles) west of the neighborhood.\textsuperscript{155} Public cemeteries like Panteón Dolores reflected the social hierarchy among Mexico City’s inhabitants. Families of the deceased could choose among six classes for burial, each with different costs. Elite families often selected first-class graves, where permanent burial was an option—as was the construction of grand monuments of remembrance to the deceased.\textsuperscript{156} In each grave class (except the sixth, where it was unavailable), families could purchase the site for ten-years or perpetuity. In 1887, for example, the burial fees associated with ten-year graves for adults in the first-class section

\textsuperscript{150} AHDF, F-AM/GDF, S-P, Caja 29, Expediente 2591, 13 March 1909, 1.

\textsuperscript{151} Agostoni, Monuments of Progress, 83.

\textsuperscript{152} Percy Falcke Martin, Mexico of the Twentieth Century, Vol. 1 (London: Edward Arnold, 1907), 160-177.

\textsuperscript{153} Mauricio Tenorio-Trillo, “1910 Mexico City: Space and Nation in the City of the Centenario,” Journal of Latin American Studies 28, no.1 (February 1996), 90.

\textsuperscript{154} AHDF, F-AM/GDF, S-P, Caja 29, Expediente 2591, 13 March 1909, 1.

\textsuperscript{155} López, “The Cadaverous City,” 50.

\textsuperscript{156} López, “The Cadaverous City,” 52-53.
cost 80 pesos ($2,400) and permanent burial cost 250 pesos ($7,490). But the sixth class was free, and involved cemetery workers burying the corpses of the urban poor in mass, unmarked graves—the high prices of first class graves at Dolores acting “as a subsidy for the free pauper burials.”\textsuperscript{157} Economics similarly played a role in the electric tram system: the route through Cuauhtémoc was better than the alternatives, which would have forced the tram to go around the exclusive neighborhood—adding valuable minutes and perhaps hours to the delivery time—which was far less efficient.

To protect their health, residents contacted the Electric Tram Company to request that “La Gaveta” change its route to avoid the neighborhood. Despite residents’ political influence, the Electric Tram Company refused.\textsuperscript{158} While the owners did not explain why they refused to change the route, it is safe to presume that since Porfirian state officials had instructed the company to pass through Colonia Cuauhtémoc, the Electric Tram Company would only listen to state officials and not angry citizens. While the tram may have posed health concerns, it continued to operate and deliver corpses to Dolores. The electric tram that went through Cuauhtémoc was more hygienic than the alternative transportation methods, offered a more efficient and direct route to Panteón Dolores, and most importantly, provided citizens with tangible proof that the government remained committed to modernizing the city’s landscape. Displeased by the lack of a response—and the continued rumbling of “La Gaveta” through their streets—the residents of Cuauhtémoc continued to voice their displeasure. The outraged families hired attorney José Luis Requeña to represent their interests, hoping he could provide a better outcome. Requeña was a prominent Mexico City lawyer and businessman and he also had constructed several houses in the same area. He was also a millionaire (U.S. dollars) who had made his money from being the director and principal shareholder of Dos Estrellas Mine in the state of Michoacán. An American magazine described Requeña as a man who had ties to the largest financial institutions in Mexico, but remained “one of the most level-headed men” in the country and “not a fawning sycophant” of President Díaz.\textsuperscript{159} Requeña was thus poised to use his

\textsuperscript{157} Amanda M. López, “The Cadaverous City,” 55-56.

\textsuperscript{158} AHDF, F-AM/GDF, S-P, Caja 29, Expediente 2591, 13 March 1909, 2.

\textsuperscript{159} “The Mining States of Mexico,” \textit{The Overland Monthly} 56 (July-December 1910), 64.
political and social clout to bring the residents’ complaint to someone who could get Electric Tram Company officials to change their minds about allowing “La Gaveta” to continue operating in Colonia Cuauhtémoc.

Figure 2.4. Micaela Hernández. *Plano del Panteón de Dolores de la Ciudad de México (1884)*. A. First-Class Graves, B. Second-Class Graves, C. Third-Class Graves, D. Fourth-Class Graves, E. Fifth-Class Graves, F. Sixth-Class Graves. Courtesy of Benson Latin American Collection, University of Texas at Austin.

Requeña contacted Governor Guillermo de Landa y Escandón, whom he knew well, since both were part of the same small social circle shared by prominent politicians and men of Mexican society. On May 13, 1909, Requeña wrote to the governor, telling him that the tram passing through Cuauhtémoc was “dangerous and contrary to the principles of elemental hygiene” and demanding that it be re-routed. His social connections worked. Less than a week

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161 AHDF, F-AM/GDF, S-P, Caja 29, Expediente 2591, 13 March 1909, 1.
later, the governor proposed a plan that would keep “the cadavers of the poor” from threatening the health of the Cuauhtémoc neighborhood.162

The governor’s new plan called for the Department of Public Works—responsible for overseeing the corpse deposits located throughout the city, among other duties—to find a piece of land near Colonia Cuauhtémoc for workers to construct yet another corpse deposit. This deposit, Guillermo de Landa y Escandón ordered, had to be in an area where electrified railroad tracks already existed—but the tram would not pass through Colonia Cuauhtémoc. This would force the tram to circumvent the houses of the well-to-do on their way to Panteón Dolores. For the governor, health issues were now paramount: this change “was the best way to avoid the serious evil” associated with the presence of the putrefying bodies passing by some of the city’s most elegant houses. The governor’s plan appeared to offer a viable solution to the problem residents were facing. Changing the tram’s route to avoid the privileged areas of the city would keep the elite safe from the “cadavers of the urban proletariat.”163 Furthermore, the plan would conceal the realities of urban life in the capital. The government would be able to present residents and visitors alike with an officially constructed version of Mexican modernity, one that made sure to eliminate the presence of society’s undesired elements.

**Combining Tradition and Modernity**

The Department of Public Works could not find space in the city to bring the governor’s vision to fruition. In July, Manuel Escalante, the department’s Director General, admitted that he and his workers had been unaware of any problems associated with the corpse trams, as “it has been some time since we studied the free service of collecting the cadavers of the poor.”164 But between March and July 1909, in an effort to appease the governor and demonstrate solidarity with Porfirian officials, department workers developed their own plan to keep corpse trams from entering the city’s exclusive neighborhoods.

Escalante’s proposed plan combined traditional and modern methods of corpse collection, and would no longer permit electric trams to pass through upper-class neighborhoods

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162 AHDF, F-AM/GDF, S-P, Caja 29, Expediente 2591, 19 March 1909, 1.


164 AHDF, F-AM/GDF, S-P, Caja 29, Expediente 2591, 7 July 1909, 7.
like Colonia Cuauhtémoc. Instead, the department would use four mule-drawn carts to collect the bodies of the urban poor spilling onto the streets from deposits. Workers would load the bodies into the carts, forsaking speed and direct access to Panteón Dolores, for improved public health and an environment free of unhappy, influential residents. Once loaded, the carts would go to pre-determined locations in the city, away from elite neighborhoods, to load the bodies onto electric trams for delivery to Panteón Dolores, all to the delight of the well-connected individuals living in these neighborhoods. The plan also called for state officials to find an existing building or piece of land that the Department of Public Works could modify for emergency corpse storage—such as during an epidemic, when the number of dead urban poor would surely explode. Nonetheless, Governor Guillermo de Landa y Escandón rejected the department’s entire plan. He explained that there “were no funds available to cover the expenses” and even if there were, it was “not appropriate to bring new spending” despite the plan’s relative low-cost and therapeutic properties. But the governor would not have to wait too long before he received another—and to his mind better—offer for transporting the city’s corpses.

**Completely Modern**

Mexico City had already adopted the electric tram as a preferred method of transportation that allowed its expanding population to move freely throughout the city. State officials even began using the tram to deliver corpses to local cemeteries. Yet the primary method for collecting bodies remained mule-drawn carts, as the city primarily used electric trams for the living. As long as the collection methods remained tied to what many state officials considered an antiquated transportation method, Mexico would continue to be stuck in the past. But in late July 1910, Luis Riba, the General Manager of the Electric Tram Company of México, seized the opportunity to provide the governor with a new solution to his old problem. In a letter Riba shared the exciting news that the Electric Tram Company was ready to help make corpse transportation in the city exclusively electric. Riba argued that mule-drawn carts had become ineffective since they had to cover extensive areas of the city when collecting bodies, which

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165 AHDF, F-AM/GDF, S-P, Caja 29, Expediente 2591, 7 July 1909, 8.

166 AHDF, F-AM/GDF, S-P, Caja 29, Expediente 2591, 13 July 1909, 9.
meant the company, had to spend more money to repair the carts and purchase new mules. However, electric trams made moving through the city faster and the presence of electric lines alone helped make Mexico appear modern. Riba also told the governor that by adopting the electric tram as the sole method of corpse transportation in the city, it would protect public health by providing “conditions that can be fully disinfected, which will not allow for any infiltration of stench from the corpses.” Furthermore, if state officials adopted the tram as its only corpse collection and delivery method, they could take advantage of the expanding kilometers of track added to city streets each day, and provide the Electric Tram Company with ways to reach cemeteries like Dolores other than passing through exclusive neighborhoods.

On August 3, a few days after the governor had received this proposal from Luis Riba and the Electric Tram Company, a letter landed on his desk from Aurelio Macias, the administrator of Pantéon Dolores. Macias had heard that the Electric Tram Company had presented state officials with an opportunity to only use electric trams for the collection and delivery of corpses. Yet, according to Macias’ unnamed sources—probably someone from the Electric Tram Company, since both the company and the cemetery would benefit—the governor only wanted to use one tram for the entire city. This was a problem. Macias pointed out that even traditional collection methods used two carts that carried eight corpses each, totaling 16 corpses at once. However, a single electric tram would only allow for 10 corpses, which Macias explained was “insufficient for service given the number of cadavers found daily.” But if the governor used two trams instead of one, it would make collecting and delivering corpses “much faster.” The governor agreed.

Writing to the Electric Tram Company on August 12, Guillermo de Landa y Escandón told Luis Riba exactly what Macias had told him, which was that the city wanted to only use electric trams, but that one tram was “too insufficient due to the number of corpses collected

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167 AHDF, F-AM, S-P, Caja 32, Expediente 2817, 29 July 1910, 1.
169 Terry, Terry’s Mexico, 256.
170 AHDF, F-AM/GDF, S-P, Caja 32, Expediente 2817, 3 August 1910, 2.
171 AHDF, F-AM/GDF, S-P, Caja 32, Expediente 2817, 3 August 1910, 2.
daily.” If Riba could provide two trams as Macias had suggested, then de Landa y Escandón would make Riba and the Electric Tram Company the city’s official corpse carrier. This relationship would secure the company a direct line to the offices of the governor, and they hoped, to President Díaz, as well as provide significant financial support. The Electric Tram Company eagerly accepted the governor’s counter-offer and sent two trams to begin collecting corpses in the city.

Leading state officials and elite residents of Cuauhtémoc were not the only people who supported the adoption of the electric tram as the exclusive method of corpse collection and delivery. On August 4, 1911, well-to-do residents living near the Military Hospital and municipal cemetery in Churubusco—“a straggling suburban town” located 20 minutes southwest of downtown Mexico City—also argued that adopting electric trams would improve their lives and health. Writing to the new governor of the Federal District, Ignacio Rivero, the residents expressed anger over the current method for corpse transportation used by the Military Hospital. Hospital attendants stacked bodies in wheelbarrows, before delivering them to the local municipal cemetery for burial. Sometimes bodies arrived in “poorly made boxes” leaving “a trail of blood” on the ground behind them. Residents complained that this situation had created “a truly pathetic and disgusting spectacle,” and one that “endangered public health.” But the people of Churubusco had developed a solution that would “remedy the evil” from their neighborhood.

Churubusco’s citizens asked Governor Rivero to get the Electric Tram Company to send a tram to the Military Hospital to collect the dead. According to them, the same tram that transported corpses from various deposits and city hospitals like Juárez to Panteón Dolores could come to Churubusco “with the same object.” The electrified line already existed from Mexico City into the southwestern suburb; it was just a matter of notifying the tram operator by telephone—another technology viewed as a symbol of modernity—that there were bodies available for pick-up. If there were no bodies to collect, hospital employees would call the

172 AHDF, F-AM/GDF, S-P, Caja 32, Expediente 2817, 12 August 1910, 7.
173 AHDF, F-AM/GDF, S-P, Caja 32, Expediente 2817, 12 August 1910, 8.
174 Terry, Terry’s Mexico, 407; and AHDF, F-AM/GDF, S-P, Caja 32, Expediente 2843, 4 August 1911, 1.
175 AHDF, F-AM/GDF, S-P, Caja 32, Expediente 2843, 4 August 1911, 1-2.
Electric Tram Company and tell them. However, if there were bodies to retrieve, the same employees would phone the company to report how many required transportation. Residents believed that using both the telephone and the tram would “provide great savings” for the government, both financially and as social capital among city residents.¹⁷⁶

It appears the government listened to the residents of Churubusco, because by December 1912 the governor had instructed the Department of Public Works to send trams to the Military Hospital and return with bodies to bury in Pantéon Dolores.¹⁷⁷ The electric tram had become an important symbol for elite and middle-class reformers, who believed it would help the city appear modern. Allowing the electric tram to reach the suburban towns surrounding Mexico City to retrieve corpses and deliver them to Dolores would improve public health and morale. Furthermore, the ability of the tram to reach distant towns allowed the government to provide additional proof to its citizens that modernity was inescapable.

Conclusion

In a letter addressed to Governor Alfredo Breceda in late January 1918, aspiring funerary automobile entrepreneur Rafael M. Peña lamented the state of corpse transportation in Mexico City. Peña made it clear that he and countless other residents still considered the electric trams the city used for disposing of corpses to be a danger to society. In particular, he told the governor that the crudely constructed coffins onboard these trams often went uncovered, which threatened the hygienic condition of the city. The solution, Peña argued, was for the city to enter into a two-year contract with his funerary automobile business. He promised the governor that not only was his system “modern, elegant, and practical,” but that once adopted, the governor would see improvements in the hygienic transportation of bodies and lower costs since he would charge the city a much lower rate than did the Electric Tram Company. Moreover, his methods “would not pose any danger of contagious in the streets.” The automobile would only use less travelled streets to arrive at Panteón Dolores Cemetery—unlike the carriages or trams that carried corpses, which Peña argued, had to obey traffic laws, often resulting in delayed arrivals and an increase in the

¹⁷⁶ AHDF, F-AM/GDF, S-P, Caja 32, Expediente 2843, 4 August 1911, 2.

possibilities that diseases from corpses could escape into the atmosphere and infect the public.\textsuperscript{178} Peña concluded that if the governor would pay him between 200,000 and 300,000 pesos ($1.03 to $1.54 million), it would allow him to help contribute to the improvement of public health in the capital.\textsuperscript{179}

Two months later, on March 24, 1918, the governor directed a Department of Public Works employee to respond to Peña’s request. It was positive. The department saw no problem with establishing a body transportation business as long as it followed the hygienic transportation rules established by the Superior Health Council. Yet there were a few details that the governor wanted addressed. Interestingly, one of these was the cost of his service—despite the price having been listed in the letter—which perhaps was the governor’s polite suggestion that the Peña’s original prices had been too high. The proposal itself, however, remains intriguing for two reasons. First, it facilitated the introduction of four additional requests for funerary automobile services between January 1918 and December 1919.\textsuperscript{180} Second and more importantly, this request illustrated that the desire to control the transportation of the dead, long after the tenure of President Porfirio Díaz, had remained an integral feature of the Mexican state. The use of hygienic transportation for the dead had become part of the city’s urban symbolism. Rather than a simple reflection of society, urban symbolism—here, the transportation methods for the dead—exposed how state officials used transportation in a strategic manner to shape and change social relationships in the city. These officials tried to create important mechanisms that would pressure all citizens, especially the urban poor, toward uniformity and social cohesion.\textsuperscript{181}

The next chapter will explore how changes in corpse transportation dovetailed with transformations in medical education that protected public health and illustrated modernity. In

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\textsuperscript{178} AHDF, F-AM/GDF, S-P, Caja 3472, Expediente 260, 28 January 1918, 29. For more on the dangers of early automobiles in Mexico City, see Piccato, \textit{City of Suspects}, 100-101.
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\textsuperscript{179} In 1918, 1 peso equaled .4985 U.S. dollars. For more, see Francis E. Fitch, \textit{The Fitch Record of Government Finances}, 3\textsuperscript{rd} ed. (New York: Fitch Publishing Company, 1918), 291.
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\textsuperscript{180} AHDF, F-AM/GDF, S-P, Caja 3472, Expediente 260, 28 January 1918, 24; AHDF, F-AM/GDF, S-P, Caja 3472, Expediente 260, 20 July 1918, 18; AHDF, F-AM/GDF, S-P, Caja 3472, Expediente 260, 16 October 1918, 8; and AHDF, F-AM/GDF, S-P, Caja 3472, Expediente 260, 2 December 1919, 33.
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particular, beginning in the 1890s, the National School of Medicine worked closely with the Mexican government to improve the teaching of medicine and students’ understanding of the human body. University professors and state officials began to express a keen interest in dissection. But how would the teaching of medicine evolve, where would cadavers come from, and why and how would dissection improve the health of the nation?
CHAPTER THREE
ADVANCING MEDICAL SCIENCE, ONE INCISION AT A TIME:
EDUARDO LICÉAGA AND THE CREATION OF MODERN MEDICAL
EDUCATION AT THE NATIONAL SCHOOL OF MEDICINE, 1889-1910

Introduction
In 1889, Mexican medical professionals received an invitation to join an influential international organization known as the American Public Health Association (APHA). The APHA brought together sanitarians from Canada, the United States, and Mexico, creating a North American scientific alliance. The organization’s U.S. and Canadian members believed that the inclusion of Mexico would foster a spirit of cooperation throughout the continent for improving public health and sanitation. But their desire to incorporate Mexico into the APHA had more to do with protecting foreign companies’ workforces from endemic diseases than internationality or pure altruism.182

When Mexican physicians attended their first APHA conference in 1890 however, their Canadian and American colleagues found allies interested in embracing this new relationship. Mexican state officials believed it would improve the health of Mexico and help the country gain recognition as being on the same level as its neighbors to the north.

One individual in particular, Dr. Eduardo Licéaga, quickly embraced the relationship, recognizing its potential capabilities for modernizing “the medical profession and its institutional structures.”183 Chosen in 1885 as the president of the Superior Sanitation Council (SSC)—the Federal District’s Board of Health that focused the majority of its efforts on Mexico City—Licéaga was responsible for overseeing public health, including the sanitary conditions found in institutions such as hospitals, jails, and cemeteries. As an organization, it had almost unlimited power for solving the city’s public health problems, including intervening “when it thought it was necessary to do so” as well as asking other governmental departments for “any information

it needed for its work.” However, members of the SSC went beyond just indentifying, reporting, and fixing hygienic problems in the city. Beginning in the early 1890s Licéaga, in particular, focused much of his attention on advancing medical education in Mexico.

The National School of Medicine—the nation’s most influential medical school and Licéaga’s alma mater—benefitted from his desire. From the very beginning, he focused exclusively on improving teaching and learning, stressing the importance and value of dissection, an aspect of medical education that Licéaga believed the school and Mexican medical professionals had considered insignificant for too long. He was able to devote a significant portion of his professional career to promoting the practical exercise of dissection because he had a personal relationship with President Porfirio Díaz as the latter’s personal physician. Their newfound relationship also had elements of clientelism, which allowed the two to work intimately, as historian Paul Ross has argued, “to build a formidable public health apparatus in Mexico” and a modern medical curriculum. Additionally, Licéaga benefitted from the Porfriean government’s commitment to modernizing the country through science and technology, embodied by an interconnected relationship between medical professionals and state officials that had begun in the late 1880s.

In this chapter, I will examine how Dr. Eduardo Licéaga, his professional colleagues, and state officials led a movement from 1893 to 1910 that sought to simultaneously reduce centuries-old dependence on text and lectures, and increase dissection and hands-on learning. The evolution of medical education occurred within three unique phases: 1889-1897, 1898-1905, and 1906-1911. In each successive period, educators increased the focus on dissection—including the creation of a modern anatomy museum affiliated with the medical university and the value of lecture-based instruction waned to compete with medical schools in the United States and Europe. Furthermore, the changes made in medical education overlapped the government’s desire to regulate the everyday lives of citizens. Indeed, it encouraged them to embrace medicine as the new religion.

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184 Agostoni, Monuments of Progress, 59.


186 Michael Sappol, e-mail message to the author, 10 September 2012.
An Extraordinary Tool

Every morning, Don Ramón Fernández, a physician, looked outside his apartment window onto the busy street of Plaza Santo Domingo, a bustling neighborhood for middle- and lower-class residents. His building also faced the National School of Medicine, and from the same window, he could see its roof where medical attendants known as mozos sorted partially dissected body parts by type, occasionally throwing appendages, like arms and legs, into their correct piles. Storing dissected human body parts on the roof offered workers a convenient solution: the weather accelerated decomposition, safeguarding the health of the mozos, physicians, and medical students. Don Ramón Fernández was not pleased: the landscape of cadaveric remains disturbed him.

Complaining to Dr. Manuel Carmona y Valle, the director of the school, Fernández offered to pay to construct a wall on the roof that would prevent him from seeing the piles of dissected remains. The school dismissed the offer. Instead, Carmona y Valle sought the help of the Minister of Justice and Public Instruction—who oversaw all public schools, including the National School of Medicine—to quash Fernandez’s request. It did; the disposal of remains on the roof would continue. As the minister argued, the National School of Medicine was a public institution that required “the most perfect independence” to achieve success. Fernández’s complaints would not sway them; everything done at the school had a purpose. As Carmona y Valle explained, if the school yielded to the demands of neighbors, “it would seriously harm the progress of the youth educated there.” His explanation and pedagogical approach were important because it embodied the direction that medical professionals and state officials would take when it came to medical education. It is not an exaggeration that improving medical education was an important element of how Mexican officials believed they would achieve modernity. Dissection would become the only way to create first-rate physicians. It was an

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187 Johns, *The City of Mexico in the Age of Díaz*, 33-34.
188 Archivo Histórico de la Universidad Nacional Autónoma de México (hereafter AHUNAM), Fondo-Escuela Nacional de Medicina (hereafter F-ENM), Ramo-Dirección (hereafter R-D), Subramo-Secretaría (hereafter Sub-Sec), Serie-Presupuestos y Gastos (hereafter S-PG), Caja 31, Expediente 21, 30 March 1889, 100-101.
189 AHUNAM, F-ENM, R-D, Sub-Sec, S-PG, Caja 31, Expediente 21, 30 March 1889, 102-103.
190 AHUNAM, F-ENM, R-D, Sub-Sec, S-PG, Caja 31, Expediente 21, 30 March 1889, 100-103.
191 AHUNAM, F-ENM, R-D, Sub-Sec, S-PG, Caja 31, Expediente 21, 30 March 1889, 103-106.
extraordinary tool: one that could simultaneously facilitate students’ understanding of the body and help provide solutions to the city’s health problems.

Nonetheless, many Mexican state officials and medical professionals like Manuel Carmona y Valle and Eduardo Licéaga believed that to improve public health, the curriculum at medical schools required substantial changes. According to Licéaga, Mexican medicine “had not evolved in 25 years” despite the increased number of professors and medical assistants at schools like the National School of Medicine. This failure to evolve was due to the country’s chaotic nineteenth century, marked by constant governmental instability that had allowed the curriculum at its medical schools to fall behind those in the United States and Europe. For example, in the late-eighteenth century, the work of famed Scottish anatomist William Hunter allowed him to open his own anatomy school, which historian Roy Porter has argued, created an important shift in the medical school curricula across England. However, when Porfirio Díaz became president, attitudes changed. He began to focus his attention on creating tangible examples of modernity that would improve public health—embodied by the establishment of hygienic rules for railroads carrying corpses and the creation of corpse deposits throughout Mexico City. As a result, university and state officials saw an opportunity unfolding before them to create a new era for Mexican medicine by emphasizing how important dissection was for the modern physician.

Dissection was not a foreign concept to Mexican physicians and medical schools. However, before the 1890s, it was an insignificant component of the curriculum at the National School of Medicine. Textbooks and medical theories—disease transmission as a matter of inherited susceptibility and individual intemperance, abetted by climate and location, and the use of printed illustrations of the body and its organs—held significantly more value, and according to Licéaga, they had delivered devastating results. Students performed well on exams involving theory, but when it came to “anatomy demonstrations and dissection exercises,” they demonstrated incompetence. He also thought that the type of students enrolled in the university contributed to the unfortunate state of medical education; the majority of students

192 AHUNAM, F-ENM, R-D, Sub-Sec, Serie-Programa de Estudios (hereafter S-PE), Caja 18, Expediente 7, 20 June 1893, 41.


194 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 42.
were of “common aptitude” and those with “exceptional mental faculties were rare, exclusively rare.”

Licéaga argued that if the National School of Medicine did not want to make changes to its admissions process, then the school had only one option to improve the state of medical education: introduce dissection.

Licéaga wanted the university to alter its curriculum to reflect the importance of dissection. In his opinion, theoretical studies had no value when compared to the experience that students could gain from working with anatomical material, explaining to state officials, “they cannot replace performing dissections or executing operations on a cadaver with dissections in a book.” The biggest problem in medical education was students’ lack of practical training required for developing dissection skills. Instead, many of the classes involved students memorizing and applying medical theories, which according to Licéaga, were antiquated methods of instruction for the modern physician. Theory was not a worthy substitute for tactile learning.

Licéaga offered the university three additional suggestions for improving its reputation and, consequently, the status of medical education in Mexico. First, the National School of Medicine needed to collaborate with local hospitals like Hospital Juárez or San Andrés, since they had “airy wards with lots of light and sufficient ventilation” that would provide students with hygienic environments for practicing their dissection skills. Second, their school lacked the proper learning environment for students. As Licéaga wrote, “the furnishings of the departments are very far from having the conditions that exhibit modern pedagogy.” If the country was serious about fixing medical education, then the university needed to surround students with the latest medical accessories, such as the anatomical mannequin, laryngoscope (endoscope for examining the larynx), and spirometer (apparatus for measuring the volume of air produced in the lungs). Licéaga reserved his last suggestion to criticize the government’s

195 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 42.
196 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 43.
197 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 62.
198 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 62.
investment in medical education. The government invested millions of dollars to construct public works and infrastructure projects, such as sewage systems and prisons, but the university—and medical education in general—received far less.\footnote{Agostoni, \textit{Monuments of Progress}, 86-88.} The improved teaching and understanding of the human body that Licéaga and others desired meant spending more money “than what the Nation currently dedicates to the teaching of medicine.”\footnote{AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 63.} State officials talked about turning Mexico into a modern nation—with a first-rate medical education system—but did not want to pay the associated costs.

Licéaga also lamented the fact that the Mexican government was responsible for paying for students’ tuition at the National School of Medicine, calling it a “burden that has been voluntary imposed” to foster a culture that valued education.\footnote{AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 63.} For him, this limited the funding the medical school received and, consequently, “the needs of medical teaching.”\footnote{AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 63.} Licéaga suggested the government adopt the system in place at two of the world’s preeminent medical schools—The University of Paris (France) and Harvard University (U.S.)—where students paid for their medical education. According to Licéaga, Harvard charged students $5 for tuition, $200 for teaching fees, $30 for exam rights, $6 for entrance into dissection rooms, and $4 for instruments—$245 per year per student ($6,150 today).\footnote{AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 65.} Adopting a similar approach for medical schools in Mexico, he thought, would immediately free them from the problem of insufficient governmental funds and lead students to value their education more since they would be paying for it. Furthermore, this approach “would establish a noble emulation between physicians who dedicate themselves to teaching” and students, who would be put in the “brilliant position to learn from and consult with medical authorities.”\footnote{AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 65.} This change in the medical education system would contribute to the professional and intellectual development of both teachers and students, which, in turn, would guarantee the country improved public health a better future.
While the government did not adopt Licéaga’s higher education funding suggestions, state officials did listen to his ideas about how to improve medical education. In 1894, Joaquín Baranda, the Secretary of Justice and Public Instruction, began modifying the curriculum at the National School of Medicine to reflect the importance of anatomy. Medical school would take a total of six years to complete and, for the first time, courses would build on each other and reflect the growing importance of dissection. For example, students would take classes like Descriptive Anatomy in their first year, Topographical Anatomy in the second, Pathological Anatomy in the third, and Surgical Pathology in the fourth. By the fifth year, they would attend and perform autopsies at the school and local hospitals. Ultimately, in their sixth and final year of medical school, students would be so familiar with anatomy that they would spend the year working in medical clinics to study how diseases and other illnesses affected patients. With so much of the new curriculum including motor skills, Baranda changed exams to student demonstrated dissection techniques. Furthermore, one-third of the mandatory pre-degree professional exam included a dissection component. The importance placed on anatomy represented a fundamental shift in the direction of Mexican medical education. State officials and medical professionals remained dedicated to modernizing the National School of Medicine’s archaic medical pedagogy and curriculum by focusing exclusively on the results that dissection could deliver.

The Professional Anatomy Museum

Yet dissection alone would not be enough to lift the National School of Medicine onto the same level as Harvard or the University of Paris. Mexico also lacked a medical museum, a standard feature in the nineteenth century associated with modern medicine. However, in January 1895, a National School of Medicine professor named Sánchez submitted a proposal to President Porfirio Díaz that sought to complement the changes already underway in medical education: the creation of an anatomy museum. According to Sánchez, building a museum in Mexico City was

206 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 68-70.

207 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 20 June 1893, 70-71.
“a necessity of vital importance,” an “immemorial institution” that would put Mexico on the same level as other countries of “the first order.”

Anatomy museums were crucial for major medical schools in the nineteenth century. Medical schools without museums were like “the state of man without language” an early medical instructor had written, a frightening characterization for Mexico. Anatomy museums were selling points, advertisements for why a student should attend a particular university. As Sánchez pointed out, “there is no important medical center in Europe or America that does not possess a museum of this nature.” An indispensable component of modern medical education, museums allowed medical school faculty to better teach students. Like the new curriculum that focused on dissection, the museum had the potential to contribute to the “production and progress of knowledge.” In addition to serving as a pedagogical tool, anatomical collections reinforced the sanctity placed on science by the government and ascribed confidence in the student body: the state believed that these collections would give students more confidence during their training and thus, help them to solve the city’s health problems.

The professional anatomy museum was a repository of both typical and odd medical souvenirs. It contained “stuff in jars, skeletons, dried preparations, casts, and models in wax, plaster, papier mâché, and wood.” As professional medical museums became standard features of medical schools, amateur medical museums (known as popular anatomy museums) also began sprouting up in the United States and Europe. While both contained anatomical collections, the main differences between them were proportion, quality, audience, and legitimacy. Popular museums tended to have more collections devoted to sex and abnormalities, such as the display of both male and female reproductive organs. Additionally, the popular museum, while open to

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208 AHUNAM, F-ENM, Ramo-Institutos y Sociedades Medicas (hereafter R-ISM), Serie-Museo Anatomia-Patológica (hereafter S-MAP), Caja 40, Expediente 1, 14 January 1895, 1.


210 Sappol, A Traffic of Dead Bodies, 276.

211 AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 1, 14 January 1895, 1.

212 Sappol, A Traffic of Dead Bodies, 276.

all classes, primarily drew visitors from the lower-classes. On the other hand, the professional museum contained scientific collections devoted to multiple body systems rather than just sexual organs. Its clientele differed as well since it was only open to physicians, medical students, and occasional visits from respectable members of society like the president, foreign dignitaries, or high-ranking state officials.\(^{214}\)

Moreover, the museum and its collections legitimized the medical profession and the high social position of physicians. It offered proof that medicine and the individuals who studied it had access to specialized knowledge, especially concerning the “character of sicknesses that present themselves and the rest of the peculiar circumstances” found inside the human body.\(^{215}\) Furthermore, Sánchez believed that it would foster a patriotic fervor among citizens as the collections would “demonstrate that here we cultivate science.”\(^{216}\) The anatomy museum would solidify the country’s commitment to its burgeoning scientific reputation, to modernity, and above all, to its citizens.

The museum would also help improve the reputation of the Mexican physician. According to Sánchez, people routinely threw out “unjust accusations against the most accredited physicians of our country” despite the accolades medical professionals received from distinguished international medical organizations like the APHA. Nevertheless, he did admit that the Mexican physician had suffered from poor medical instruction and that anatomy departments had failed “to provide premium indispensable material.” As a result, Sánchez proposed establishing a cadaver department—affiliated with the museum but located inside Hospital San Andrés—that would provide physicians and students with the opportunity to practice dissection and create anatomical collections for display at the museum. The location inside the hospital would allow the department access to the significant number of unclaimed bodies needed to reach the goal of 3,000 to 4,000 anatomical pieces that Sánchez envisioned.\(^{217}\) Unlike the potential for disease that existed if physicians used bodies found at corpse deposits or in city

\(^{214}\) Sappol, “‘Morbid Curiosity.’”

\(^{215}\) AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 1, 14 January 1895, 2.

\(^{216}\) AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 1, 14 January 1895, 2-3.

\(^{217}\) AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 1, 14 January 1895, 3.
streets, the location inside the hospital would protect the health of the physicians and students since the specimens came with their own medical history.

To create an anatomical collection of such magnitude would require significant financial support from the government. Sánchez projected that the museum would need a monthly budget of 5,292.80 pesos ($254,000). The museum would allot roughly 8 percent or 440 pesos ($21,100) of the budget per month to cover salaries. The distribution for high-ranking employees was as follows: the chief physician responsible for overseeing the collection and preparation of anatomical pieces would receive 100 pesos per month ($5,690); a physician in charge of collecting and compiling statistical information about the clinical histories of cadavers from Hospital San Andrés would receive 50 pesos ($2,850); and a histology physician in charge of microscopic preparations would receive 80 pesos ($4,550). The museum also needed to hire low-ranking employees to perform undesirable work. For example, dissection assistants would make 40 pesos ($2,280); an employee to write the narrative to display with each anatomical collection would also earn 40 pesos ($2,280); and a dissection room assistant, who would clean up after the physicians and students had performed dissections, would earn 15 pesos ($854). The budget for equipment and materials included 80 pesos ($4,550) for the chemicals required to preserve anatomical specimens, 10 pesos ($480) for a laboratory desk, and 25 pesos ($1200) for the containers that held chemical preservatives.²¹⁸

The museum would also present Mexico with an opportunity to keep talented students from leaving the country for medical universities connected with museums in the United States or Western Europe. Rather than stay in Mexico, where medical education was undergoing significant transformation—still in an embryonic stage, compared to the fully-developed international medical scene—students who could afford to go abroad or who received a scholarship often chose to leave. Additionally, the country also had a difficult time attracting students from abroad. It did not help that influential foreign physicians like Herbert J. Hardwicke—a member of the Royal College of Physicians and Fellow of the Royal College of Surgery at Edinburgh, Scotland—had published scathing critiques of medical universities in Latin America. According to Hardwicke, Chile, Brazil, Argentina, and Venezuela all had “good

²¹⁸ AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 1, 14 January 1895, 4.
universities and tolerably good medical laws.”

However, outside of these four countries, he wrote, “the condition of medicine is as bad as can well be imagined.” In particular, Mexico received harsh criticism as a country that lacked uniformity in its medical regulations and rules for obtaining medical licenses. Despite the existence of five medical schools in the country—the University of Oaxaca, University of Campeche, University of Zacatecas, University of Guadalajara, and the National School of Medicine—all were “in a most unsatisfactory condition and their diplomas and degrees are...of little value.” According to Hardwicke, Mexico was a country for foreign physicians to avoid “as they would the plague.”

Nevertheless, for Mexican state officials and physicians, its new medical curriculum was a valuable resource. The potential for an anatomy museum offered hope that more students would stay in country and perhaps more foreigners would choose Mexico over England, France, or the United States for their medical education. Sánchez pleaded with President Porfirio Díaz to approve and finance the construction of the anatomy museum, arguing, “it would without a doubt, be one of the most beautiful accomplishments of your administration.” On February 19, 1895, the president indeed approved both the project and its budget, and construction began a few weeks later. Mexican medicine seemed poised to finally achieve the status that state officials and physicians like Sánchez believed it needed to compete in the modern world.

The state’s commitment to the anatomy museum remained unwavering. By May 1895, only two months after construction had begun, President Díaz approved an increase in the museum’s budget of almost 3,000 pesos ($144,000), taking it from 5,300 to 8,000 pesos (about $254,000 to $384,000), which allowed physicians at the museum to hire additional employees and conserve more anatomical collections for display. But the state’s financial commitment to improving the teaching of medicine and medical education—symbolized by the museum—did not stop with this significant (51 percent) budgetary increase. Fourteen months later, in July 1896, the budget had grown to a whopping 18,000 pesos ($864,000), which represented a 225


220 Ibid., 21.

221 Ibid., 135.

222 AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 1, 14 January 1895, 4-5.
percent increase from the previous year.\textsuperscript{223} Such financial investment demonstrated that the
government believed the dissection of cadavers and their subsequent display was a valuable
feature of a modernizing nation. State leaders accepted that museums were important assets for
medical pedagogy, affording students more time studying the body than was available in the
dissecting room, while helping to focus their attention on specific parts of the body.\textsuperscript{224} Museums
were so intertwined with medicine in Europe and the United States that anatomists often praised
their value as “the most essential and valuable aid to scientific anatomical instruction and
research which our universities today possess.”\textsuperscript{225} All of this, Sánchez argued, would make
“national learning rise from nothing” and “undoubtedly improve” the reputation of Mexican
medicine.\textsuperscript{226}

The state’s investment in the museum attracted the attention of Manuel Carmona y Valle,
a physician and director of the National School of Medicine. On April 12, 1897, he wrote to
Secretary of Justice and Public Instruction Joaquín Baranda, extolling the virtues of the anatomy
museum and its contributions to medicine during its short existence. Already, the museum’s
collection had grown to include 1,500 macroscopic and almost 2,000 histological specimens.\textsuperscript{227}
As a result, Carmona y Valle saw an opportunity to strengthen medical education and create a
collaborative environment for students and professors. He suggested that the museum and the
National School of Medicine could work together to develop courses to deliver at the museum,
which would use these invaluable collections. The two courses he suggested—for which he had
prepared descriptions—were Pathological Necropsy and Pathological Histology. Pathological
Necropsy was only available for third-year students who would study “pathological anatomical
lesions and their macroscopic and microscopic characteristics” while Pathological Histology was
for fourth-year students who would examine how “disease and sickness” modified organs and

\textsuperscript{223} AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 4, August 1896, 83.
\textsuperscript{224} A.W. Bates, “‘Indecent and Demoralizing Representations’: Public Anatomy Museums in mid-Victorian
\textsuperscript{225} George S. Huntington, “The Morphological Museum as an Education Factor in the University System,” \textit{Science}
13, no. 329 (1 April 1901): 602.
\textsuperscript{226} AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 1, 14 January 1895, 3.
\textsuperscript{227} AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 4, December 1896, 82.
tissues.\textsuperscript{228} Not only would these changes help solidify a bond between the museum and the medical school, but they would better prepare students for both yearly and professional exams. Furthermore, in the opinion of influential foreign physicians like Herbert J. Hardwicke, medical universities in parts of the “uncivilized world” with well-trained professors and modern facilities like anatomy museums could “quickly follow in the footsteps of those who have already adopted a high standard of education.”\textsuperscript{229} This symbiotic relationship between the museum and medical school offered Mexico an opportunity to achieve international recognition into the pantheon of progressive nations.

Joaquín Baranda shared Dr. Carmona y Valle’s suggestion with President Porfirio Díaz. Two weeks later, on April 27, 1897, Díaz issued a decree that the National School of Medicine and the Anatomy Museum would offer courses on Pathological Necropsy and Pathological Histology beginning in fall 1897.\textsuperscript{230} Yet, despite the existence of an anatomy museum and its synergistic relationship with the National School of Medicine, Dr. Eduardo Licéaga believed that Mexican medical education was still woefully behind its international counterparts. In a letter to Baranda, he referenced their discussions four years earlier about reforming Mexican medical education by modeling it after European and U.S. medical universities. Since then, Licéaga had observed some positive changes occurring in Mexican medical schools. However, there was still more work to accomplish. In particular, he pointed out that since 1893 he had collected detailed information about French and German schools, each of which contained attractive elements that warranted further discussion among Mexican state officials like Baranda, who oversaw the medical curriculum.\textsuperscript{231}

\textbf{Looking to France and Germany}

Licéaga was troubled that the medical school training at the University of Paris only took five years to complete, unlike Mexico’s six years. He believed that despite having one less year

\textsuperscript{228} AHUNAM, F-ENM, R-D, Sub-Sec, S-Correspondencia General (hereafter S-CG), Caja 22, Expediente 44, 12 April 1897, 223.

\textsuperscript{229} Hardwicke, \textit{Medical Education and Practice}, 1.

\textsuperscript{230} AHUNAM, F-ENM, R-D, Sub-Sec, S-CG, Caja 22, Expediente 44, 27 April 1897, 225.

\textsuperscript{231} AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 2 December 1897, 79-80.
devoted to medical studies, French students learned more than their Mexican peers due to their curriculum. While the French scholastic year only had two semesters—summer and winter—each consisted of courses that were “entirely practical.” Additionally, outside of class, French students went to government-licensed repetidores—individuals who aspired to become medical professors—who taught dissection, oversaw student operations on cadavers, and demonstrated to students how to use microscopes. “In spite of the luxury of facilities available for study,” Licéaga made sure to point out, students often took an additional semester or two to complete their studies.232

The University of Leipzing’s medical school in Germany took five years to complete, but as was the case in France, it usually took students additional semesters to finish. According to Licéaga, Leipzig outranked Paris as the model of modern medicine. He wrote that teaching at the German university was “extraordinarily rich,” with access to “very good” hospitals and “numerous distinguished and wise professors,” as well as a healthy supply of anatomical material.233 Regardless of the fact that students in both countries were not able to finish their studies in five years, Licéaga remained impressed by each school’s commitment to dissection.

At the same time, Licéaga reserved specific disdain for the U.S. medical education system. Unlike France or Germany, he wrote, the teaching of medicine in “our Republican neighbor” had created specialists in all medical branches. Acquired in three or four short years of medical school, these specialists had “very precise knowledge,” but a knowledge set that was only good if the patient suffered from something within the student’s area of expertise. If the patient presented with symptoms outside their area of expertise, the physician was useless. Licéaga believed that Mexico—“unlike the United States”—should create versatile physicians: ones who could perform surgery, delivery a baby, or assist authorities when it came to autopsying bodies or solving hygienic problems.234

232 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 2 December 1897, 80-81.

233 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 2 December 1897, 82.

234 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 2 December 1897, 82-84. In the United States during the late-nineteenth century, dissection had become a stepping-stone for individuals interested in becoming a medical professional. Yet the physicians that this system would produce were less interested in dissecting bodies exclusively and more interested in using popular medical and criminological theories to argue that moral, social, or political categories were ‘natural’ or ‘pathological.’ For more, see Gerald Geison, “‘Divided We Stand’: Physiologists and Clinicians in the American Context,” in The Therapeutic Revolution: Essays in the Social History of American Medicine, ed. Morris J. Vogel and Charles E. Rosenberg (Philadelphia: University of Pennsylvania
To accomplish this goal, Licéaga proposed that Mexico build a system that resembled those of the medical giants France and Germany. While medical school would remain six years rather than five, a continued focus on dissection would produce physicians who were capable of practicing in “the city, town, or even the country.”

For Licéaga, the goal for Mexico—unlike the United States—was to create an army of physicians with a holistic understanding of the body, responsible for improving citizens’ health, and guaranteeing the country a place in the pantheon of modern medical nations. But to institute this change, Joaquín Baranda needed approval from President Díaz. After sending the president Licéaga’s report, one making a persuasive case for increased dissection, Díaz responded by issuing a decree on December 15, 1897, that made Licéaga’s suggestions a reality.

Focusing on dissection would make physicians “more efficient” and guarantee that, unlike in earlier years when students left medical school unprepared, they would be prepared to do their job fully.

Limiting the Theoretical

Nevertheless, Nicolás Ramírez de Arellano, the Secretary of the Superior Health Council, argued that these changes were still not enough. The biggest concern for him was the fact that, despite an increase in the number of dissection courses, some professors continued to use medical theories (which included textual learning through books and images) rather than dissection. In a letter dated May 27, 1898 to university professor Porfirio Parra, he pointed out that in spite of Licéaga’s valuable research and numerous suggestions, the National School of Medicine had not abolished “two propaedeutic classes” that focused on a preliminary collection of data about patient by observation, palpation, and temperature measurement, along with a few other classes he considered unnecessary. What the university needed to do, Ramírez de Arellano

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235 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 2 December 1897, 84.

236 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 15 December 1897, 109.

237 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 2 December 1897, 84.
wrote, was replace a third year course on Ophthalmology, which used a relatively new instrument called an ophthalmoscope, to diagnosis potential eye diseases or eyestrain in workers, with a course involving dissection. It also needed to abolish a fifth year course on General Pathology, replacing it with a course that allowed students to operate on cadavers. Based on course descriptions from the 1899 course catalog, it appears that university officials listened to both Licéaga’s and Ramírez de Arellano’s advice.

In 1899, the university added three courses to the curriculum dedicated exclusively to dissection. The first was Descriptive Anatomy, taught by Dr. Porfirio Parra, an accomplished writer and professor of physiology who had graduated from the National School of Medicine in 1878. The course, which lasted for one hour on Mondays, Wednesdays, and Fridays, emphasized the importance of studying and dissecting cadavers to gain knowledge about the body. Moreover, the description of the course revealed his pedagogical technique. The first step was to have an assistant dissect a prepared cadaver in front of small group of six to eight students. Next, the assistant would explain how he had performed the dissection before removing “the organs in the manner they are discovered.” In addition, students would visit the anatomy museum to study preserved anatomical parts, illustrations, and engravings that represented the “complicated anatomical layout.” The experience students gained from their visit to the museum would replace the narrative found inside textbooks, which simply could not offer students a visceral connection to the human body. Students only used their textbooks—written by University of Paris professor Charles Bouchard—as a secondary or tertiary aid. Concerning lectures, Parra posited that “a professor’s words” should be combined with an anatomical demonstration using “conserved pieces” or at the very least, “artificial ones.” Lastly, Parra

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239 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 27 May 1898, 157.

240 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 9, 1899, 374.

241 Frederick Starr, Readings from Modern Mexican Authors (Chicago, IL: Open Court Publishing, 1904), 359.

242 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 26 September 1898, 287.

243 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 7, 26 September 1898, 287.
required his students to receive practical anatomical training in two ways. First, students would practice dissection in the university’s dissection room in the presence of a professor’s assistant. Additionally, the course required students to describe organs from memory, presumably based on their recent dissections. Once students demonstrated competency in practical training, Parra required them to combine their dissection and description exercises into an “anatomical drawing that is drawn on the blackboard.”

Similarly, an 1899 Topographical Anatomy course taught by Dr. Francisco de P. Chacón—a prominent physician and chair of the surgical anatomy department, whose colleagues upon his death characterized his work as “the history of progress of medicine in Mexico”—also emphasized the importance of dissection. Every lesson he presented to students centered on dissection of “fresh preparations.” Like Parra, his students used a textbook written by French physician Paul Jules Tillaux—who had also produced a publication about the surgical treatment of bone fractures—as a secondary source. In addition to the presentation of lessons, de P. Chacón had students dissect various cadaver parts, substituting practical work of “extraordinary preparation” for all of their written work.

Like professors Parra and de P. Chacón, the 1899 Pathological Anatomy course at the National School of Medicine also focused exclusively on tactile techniques. The man responsible for enhancing students’ abilities was Dr. Manuel Toussaint, a professor of physiology who traveled in the same professional circles as Parra, Carmona y Valle, and Licéaga. Toussaint taught the course on Tuesdays, Thursdays, and Saturdays at Hospital San Andrés from 11am to 12:30pm. He divided the course into four parts: 1) general technique for autopsies, 2) microscopic techniques and principles of bacteriology, 3) general pathological anatomy, and 4) special pathological anatomy. The course description provides insights into Toussaint’s teaching.
approach. For autopsy technique, he planned to have students watch him or an assistant perform an autopsy. Afterward, students would practice on their own, making sure to “pay close attention” to their technique and the organs found. General pathological anatomy would rely on microscopic preparations, and special pathological anatomy combined aspects of the autopsy and pathology sections by using “microscopic preparations and anatomical pieces.”

The class may have also used a textbook as ancillary material, since it was included in the course description. However, Toussaint had crossed out *Practical Pathology: a manual for students and practitioners* by British pathologist Sir Dr. G. Sims Woodhead. The book was well-known throughout the medical world as was the author’s pedigree: fellow of the Royal Society in Edinburgh, Director of Laboratories of the Conjoint Board of the Royal Colleges of Physicians and Surgeons, former demonstrator of Pathology at the University of Edinburgh, Pathologist to the Royal Infirmary in Edinburgh, and 1899 professor of pathology at Cambridge University.

The increased focus on dissection in the 1899 curriculum at the National School of Medicine exemplified the beginning of an important transformation at the turn of the century, designed to place the university on the same level as the University of Paris or Leipzig.

**Modernizing Legal Medicine**

Despite this encouraging transformation, some Mexican physicians believed the advancements in medical education had still not provided enough change, especially pertaining to students’ abilities. In particular, legal medicine physicians L. Ferdinand Ferrer and L. Hernández Ortigosa were unimpressed by the quality of their medical assistants. On November 20, 1900, writing to the Secretary of Justice and Public Instruction, they argued that legal medicine as a field had not benefitted from reforms. They reminded the secretary that legal medicine was essential for aiding judicial decisions, and most importantly, providing scientific justification for the social and physical differences that existed between inhabitants of Mexico City. This approach was a key element of the Porfrian discourse that relied on legal medicine

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250 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 18, Expediente 9, October 1898, 305.


252 Archivo General de la Nación (hereafter AGN), Fondo-Secretaría de Justicia (hereafter F-SJ), Caja 373, Expediente 499, 12 November 1900, 1.
physicians to act as interpreters of the government’s grand narrative of Progress. Furthermore, the physicians wrote, the work they performed daily consistently put their lives in danger. Working in “places that are contagious,” they explained, kept them in a constant state of sickness and had even caused the death of four low-ranking employees as well as of a physician colleague. Furthermore, they worked “irregular hours” as they traveled throughout the city—including the southern city of Tlalpan—to collect corpses before they could return to Hospital Juárez to perform autopsies. These factors influenced the type of employees the physicians secured as medical assistants. Such dangerous conditions, the physicians argued, had provided them with the worst employees—first-year medical students.

To mirror the modernization efforts underway in the city, as well as ameliorate the problems in their workplace, Ferdinand Ferrer and Hernández Ortigosa asked for a salary increase for their assistants and a budget increase to hire three medical professors and a clerk who could file paperwork “for the good of our office and our work.” Salaries, the physicians posited, “should be proportional to the dangers and demands of the job.” As it stood, their medical assistants worked longer hours and earned less money per month than a court clerk—40 pesos compared to 50. Ferdinand Ferrer and Hernández Ortigosa believed that the current students occupying the positions were “individuals of little aptitude,” who far too often damaged the remains of corpses. But a more attractive salary would deliver “persons of some enlightenment.” While it remains unknown whether or not the government heard the physicians’ pleas, it remains an illuminating incident for two reasons. First, legal medicine physicians believed they deserved the same treatment and support from the government as other medical professionals had received for contributing to the creation of the country’s modern image. Second, like Dr. Licéaga and other medical professionals, Ferdinand Ferrer and Hernández Ortigosa realized that medical education was still producing poorly trained first-year students—as evidenced by their own medical assistants.

253 Agostoni, Monuments of Progress, 27.
254 AGN, F-SJ, Caja 373, Expediente 499, 20 November 1900, 1-2.
255 AGN, F-SJ, Caja 373, Expediente 499, 20 November 1900, 2-3.
Bones and Beriberi

To revolutionize both the health of the nation and the image of physicians, students themselves would have to express a keen interest in wanting to improve. New evidence of student commitment emerged in early 1901, when students requested assistance from the governor of the Federal District, Ramón Corral, to acquire human bones from Panteón Dolores to enhance their understanding of the human body. As one student explained, “bones were indispensable for medical studies.”256 Bones were becoming such an integral feature of the desire to improve medical education that if the medical school was unable to provide them, or if the student lacked the financial resources necessary to purchase them, the governor allowed students to obtain bones from ossuaries at local cemeteries.257 Occasionally, Corral allowed medical students to disarticulate unclaimed bodies—destined for burial in the potter’s field—for the purposes of constructing an entire skeleton. Such an incident occurred on May 14, 1901, when the director of the School of Homeopathic Medicine requested and received permission to use the body of 33-year-old Francisco Tapia, who had died of pneumonia at the National Homeopathic Hospital the day before.258 By allowing students to acquire bones from the cemetery or skeletons of the unclaimed poor, the governor contributed to both the medical school and state’s desire to advance students’ understanding of the body. In time, this knowledge could provide the state with medical professionals who could help solve myriad health problems in Mexico. It also demonstrated to the international medical community that the government, most notably President Porfirio Díaz, was truly committed to improving the reputation of Mexican medicine and medical education.

President Díaz and Governor Ramón Corral were not the only influential authorities interested in improving the reputation of Mexico in the early-twentieth century. In May 1901, Professor Manuel Toussaint of the National School of Medicine and National Medical Institute identified a disease—previously undiagnosed in Mexico—that promised to explain many of the nation’s health issues. At the National Medical Institute, Toussaint and some of his students


257 AHDF, F-AM/GDF, S-P, Caja 4, Expediente 264, 31 January 1901, 1.

258 AHDF, F-AM/GDF, S-P, Caja 4, Expediente 309, 14 May 1901, 1.
identified why a number of his patients had complained about gastrointestinal pain before their sudden deaths. Using the data and observations collected from patient autopsies, Toussaint and the students discovered that they had suffered from beriberi, a nutrition-based disorder affecting the nervous system caused by the lack of vitamin B1, and found among many of the urban poor. According to Toussaint, beriberi had been unrecognized in Mexico until his discovery and the leading reason for contracting the disease was excessive alcohol consumption.\textsuperscript{259} In his opinion, the immediate culprit was pulque—a popular alcoholic drink among the urban poor derived from the fermented sap of the maguey plant.\textsuperscript{260} Toussaint’s findings made it easy for state officials to identify future victims since he wrote that excessive alcohol consumption caused “profound degeneration of the liver,” which produced a distinctive gait in those affected. Furthermore, individuals who constantly held their abdomens were more than likely suffering from what Toussaint called a “tenacious intestinal cold,” also known as severe and persistent diarrhea. The autopsies revealed that in addition to problems with the liver, other parts of the body—including the kidneys, pericardium, and medulla oblongata—were also significantly altered.\textsuperscript{261} The discovery of beriberi’s presence in Mexico’s poor prompted Toussaint to have students harvest and preserve affected organs to create a permanent collection for display inside the anatomy museum. The effort to identify and catalog organs affected by beriberi, according to Toussaint, would “benefit humanity and honor the homeland” in a manner never before imagined.\textsuperscript{262}

Beriberi’s discovery owed much to the power of anatomical dissection, without which, it almost certainly would have remained unidentified in Mexico. The disease provided state officials with additional proof that to maintain a healthy population they needed to be involved in regulating the daily lives of the urban poor, especially their diet.\textsuperscript{263} The desire of Porfirian officials to control the bodies of the urban poor was a hallmark of both the late-nineteenth and

\textsuperscript{259} AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 13, May 1901, 262.

\textsuperscript{260} Piccato, \textit{City of Suspects}, 34-41.

\textsuperscript{261} AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 13, May 1901, 263-264.

\textsuperscript{262} AHUNAM, F-ENM, R-ISM, S-MAP, Caja 40, Expediente 13, May 1901, 265.

\textsuperscript{263} For more, see Pilcher, \textit{The Sausage Rebellion}, and Piccato, \textit{City of Suspects}.
early-twentieth centuries in the Western world.\textsuperscript{264} State officials had tried unsuccessfully to create healthier citizens in Mexico for more than a century.\textsuperscript{265} The most pressing issue had been the poor’s overconsumption of alcohol, which prompted officials at the end of the nineteenth century to ban the sale of alcohol, especially pulque, in public places. Instead, government regulations required the sale of alcohol to occur inside specialized establishments, hidden from passersby.\textsuperscript{266} By limiting the sale of pulque and other alcoholic beverages, state officials, criminologists and physicians all believed it would quickly reduce the number of public intoxication cases, and more importantly, produce healthier citizens.\textsuperscript{267} But the state’s attempt to control the sale and consumption of alcohol in a rapidly expanding city would fail; as the city grew, new pulquerías, cantinas, and cheap restaurants began to appear in the outskirts of the city.\textsuperscript{268}

\textit{“The Cadaver is the Best Textbook”}

The Porfirian discourse on how to become modern did not include everyone. Instead, much of it provided justification for continual marginalization of the urban poor, widely considered by officials to be the sole reason why Mexico’s ability to advance was occurring so sluggishly.\textsuperscript{269} Furthermore, medical science—especially dissection—provided empirical proof that the poor were the scourge of Mexico. The only way to successfully advance the nation as a whole was for medical education to place additional emphasis on the importance of dissection. This occurred, for example, at the National School of Medicine, where the description for Dr. Francisco de P. Chacón’s 1902 Topographical Anatomy course revealed that students were only

\begin{itemize}
  \item \textsuperscript{264} For a discussion of how state officials controlled citizen’s bodies in both the United States and Sweden through science, see Sappol, \textit{A Traffic of Dead Bodies}, 274-309; and Åhrén, \textit{Death, Modernity, and the Body}.
  
  \item \textsuperscript{265} Voekel, “Peeing on the Palace,” 183-208.
  
  \item \textsuperscript{266} Piccato, \textit{City of Suspects}, 29-30; and Johns, \textit{The City of Mexico in the Age of Díaz}, 5-6.
  
  
  \item \textsuperscript{268} Piccato, \textit{City of Suspects}, 28-30.
  
  \item \textsuperscript{269} Ibid., 70-71.
\end{itemize}
scheduled to come to the classroom one or two times out of a six-day week. The rest of the days, according to the physician, students were to practice dissection on their own, at the university, local hospital, or anatomy museum.\textsuperscript{270} Success in the medical profession equated to a student’s ability to dissect, to familiarize himself with the intricacies of the body. According to de P. Chacón, the professor would evaluate students based on their anatomical preparations and continually remind them that “the cadaver is the best textbook.”\textsuperscript{271} Many professors at the National School of Medicine agreed with Francisco de P. Chacón’s assertion that dissection was the only true method for measuring a student’s capabilities for success in the medicine. In an unsigned note in the university’s curriculum records, presumably from a professor, the writer pointed out that even if a physician could obtain useful information from a patient’s family, it did not guarantee a true understanding of a patient’s sickness. To understand the patient, a student needed to observe him or her while alive and at death to “exercise his spirit in the method of exploration and appreciate what he can see and hear” from the body.\textsuperscript{272}

\textbf{Reducing the Length of Medical School}

Despite the significant changes made to medical education between 1893 and 1905, there remained room for improvement. By 1906, a leading physician who believed that medical education needed to continue evolving was none other than Dr. Eduardo Licéaga, the director of the National School of Medicine, a position he held until 1910.\textsuperscript{273} While Licéaga had been the driving force behind the changes at the university, students’ practical experiences, in his opinion, were still not at the highest level. Writing in 1906, Licéaga pointed out that he and Joaquín Baranda had worked hard to improve the state of medical education since the early 1890s. For example, he recalled how he had personally overseen multiple revisions to the curriculum to provide Mexican medical students with better instruction to match the “superior instruction” received by U.S. and European students, who were more competent. One of the goals of reforming medical education in Mexico had been to create an army of medical professionals who

\textsuperscript{270} AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 19, Expediente 13, 5 August 1901, 523.

\textsuperscript{271} AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 19, Expediente 13, 5 August 1901, 523.

\textsuperscript{272} AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 19, Expediente 14, 1902, 563.

\textsuperscript{273} Birn and Carrillo, “Neighbours on Notice,” 249.
could perform a range of duties—in both rural and urban areas—based on their studies, which included anatomy, physiology, therapeutics, obstetrics, hygiene, and legal medicine.\textsuperscript{274}

For Licéaga and many of the Porfirian state officials, a physician’s purpose in the modern world was to act as an agent on behalf of the state, which required a delicate balance between improving the nation’s health and performing specific duties related to the monitoring and organization of the population.\textsuperscript{275} But to accomplish this goal, the curriculum at the National School of Medicine needed additional improvements. Too many physicians were having trouble explaining to patients concepts such as the relationship between hygiene and personal health, or how they would perform a simple operation. From the perspective of state officials, physicians who were unable to address the importance of hygiene or articulate how they would perform a specific procedure failed to gain the trust and confidence of their patients. These physicians were ineffective agents of the modern state, and if the country continued to rely on them, they could damage the reputation of Mexican medicine and the universities that trained them. According to Licéaga, he and Justo Sierra (the Minister of Public Education) believed that the government could quickly improve the situation by reducing the length of medical school from six to five years. They brought this idea to the attention of state officials, who agreed with them.

Shortening the length of medical school provided students with an opportunity “to arrive to the womb of society,” having acquired both the “knowledge and energy” required for exercising medicine in Mexico. Additionally, it offered students the chance “to not spend the greater part of their life in preparation.” Licéaga also believed that the medical school could create physicians who were better prepared to deal with practicing medicine on patients with a curriculum that included “obligatory studies” and specializations, but with the shared experience of dissection. As Licéaga put it, the changes made in the past—most of them initiated by him—had not exactly delivered the results that both he and state officials had envisioned.\textsuperscript{276}

\textsuperscript{274} AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 19, Expediente 24, 23 July 1906, 829.


\textsuperscript{276} AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 19, Expediente 24, 23 July 1906, 831.
Eliminating Theoretical Lessons

Licéaga thought that medical students had trouble explaining hygiene or operating procedures in terms that the average person could understand because several professors continued to rely on textbooks, anatomical illustrations, and outdated medical theories when teaching. Instead, he insisted, the school needed “to completely erase the theoretical lessons” and have professors demonstrate “what they teach” via dissection. For him, this meant that each professor needed to focus on offering students tactile-learning exercises in all courses. Anatomy and histology classes, for example, would require dissection demonstrations of “fresh and conserved pieces,” first by the professors and then by each student until “they have acquired the knowledge that the professor has given them.” Additionally, Licéaga posited that even when it came to bacteriology studies, students should repeatedly practice the studies of Professor Roux, from the Pasteur Institute, “without the accompaniment of the book.”

Dr. Licéaga’s position as director of the medical school, along with his personal friendship with high-ranking state officials, including President Díaz, allowed his suggestions to become a reality.

In fact, his curriculum changes also prompted the government to provide the university with two new dissection rooms in January 1907. At a cost of 5,300 pesos ($272,000), the rooms—like the corpse deposits at local cemeteries—combined architectural elements of the past and the present. According to the architectural plans, the walls were made of an indigenous volcanic rock called tepetate, while the floors were cement; the room also contained three porcelain washbowls with individual drains attached underneath to pipes to carry liquids away to the sewers. New equipment combined with an increased focus on dissection at the National School of Medicine would facilitate the government’s goals of creating healthier citizens, continuing to improve the country’s international medical standing, and making students more knowledgeable about the body.

Using their hands, whether in-class or in the dissection room, presented students with invaluable lessons that medical theory could not replicate. For the National School of Medicine and the future of medicine, 1907 was an important year. Since the 1890s, medical education had undergone significant transformations every five to six years. However, the reduction of the

277 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 19, Expediente 24, 23 July 1906, 832-833.

278 AHUNAM, F-ENM, R-D, Sub-Sec, S-PGI, Caja 32, Expediente 39, 19 December 1906, 207.
length of medical school and the increasing number of courses offering dissection had catapulted the country to a level of modernity never before reached.

The program of study for medical surgeon was just one of many programs at the school that illustrated how indispensable dissection had become in the eyes of university and state officials. First-year students enrolled in this program were required to take four classes, each two hours long, which meant that 40 percent of their total hours that year were devoted exclusively to dissection. By their second year, courses containing dissection occupied over 50 percent of their total hours. An increasing focus on dissection continued for students’ entire medical school stay. By the end of their final year, medical students had spent more than 1,500 hours doing dissections. For the first time, medical students were more likely to study anatomy from cadavers rather than from textbooks as understanding how the body worked through tactile learning had become a fundamental element of Mexican modernization.

In 1908, Licéaga published a short book (intended for state and university officials, as well as medical professionals) reflecting on the changes in the curriculum he had witnessed at the National School of Medicine during the 1907 academic year. Under his tutelage, the school had flourished, and he applauded “the innovative, new plan” for medical education. However, before he thanked state officials and professors at the school, he congratulated the Superior Council of Public Education for having made, as he put it, “one of the most important decisions” for education and the country’s future. The council had mandated that professional exams for medical schools based on material and questions derived from textbooks had very little place in medical education. Instead, universities would base the majority of the exams on the practical exercise of dissection. As a result, university professors and state officials credited the change as instrumental for the preparation of physicians and the improved health of the nation.

In earlier years, as we have seen, professors had relied too much on textbooks as a pedagogical tool. Licéaga believed this approach had prompted students to believe that they

279 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 19, Expediente 24, 23 July 1906, 833-834.

280 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 19, Expediente 24, 23 July 1906, 833-836. I calculated the total number of hours based on the program information for first through fifth year medical school. The number does not take into account any additional practice students received outside of sanctioned classes. For example, see the case of Guadalupe Rodríguez, a medical attendant at the National School of Medicine who the university fired for selling cadavers to students. His case appears in AHUNAM, F-ENM, R-D, Sub-Sec, S-CG, Caja 23, Expediente 67, 8 September 1905, 444-450.
could pass the exam by simply memorizing the textbook “even when dealing with material like anatomy or operations.” This approach to medical education had yielded what Licéaga and other medical professionals characterized as “fatal results.” Students left medical school “believing that the apprenticeship of memory” had adequately prepared them to deal with patients; however, Licéaga believed that it actually left them “quite unprepared to exercise medicine.” The changes he had implemented in 1907 had finally altered the state of medical education.

Licéaga continued to argue that the interior of the human body revealed more than any textbook could. The school’s new direction embodied this notion, as he put it, by requiring students to rely simply on “the direct observation of facts.” Students could not accomplish this through books; rather, they needed to examine the layout of organs, study pathological anatomy parts, and perform operations on cadavers, all exercises that “would teach their hands” what it meant to be a physician. Additionally, they should also study “tissues and their modification” by examining slides under a microscope, disarticulating joints and arteries, discussing with professors how to approach hygiene with patients, and spending time in a hospital to study and observe the “natural course of diseases and therapeutic agents” introduced by physicians to their patients.

Later, Licéaga would recall that he had brought these suggested changes to the attention of the Secretary of Public Education in the fall of 1906, but had been told that it “was too late” to change the curriculum at that point. Nonetheless, he believed that as the school’s director, accomplishing his vision for medical education would not be a problem as long as he was in charge. But as a faculty member at a public university, Licéaga was not always able to get what he wanted. He was inconvenienced by having to discuss and receive approval for all curriculum changes from state officials. 281

Yet, he did receive permission to use a new administrative feature for the medical school beginning in 1908: he could remove students who did not reach “good grades within the first six months” of their studies, and thus create, “a more exclusive” student body that rivaled medical schools in the United States and Europe. Licéaga thought this change would cultivate a stronger

281 Eduardo Licéaga, *Memoria de Los Trabajos Realizados en La Escuela de Medicina por el año 1907* (Mexico City: Imprenta de A. Carranza y Compañía, 1908), 4-7. For more on the university’s relationship with the Mexican government, see Adriana Álvarez Sánchez, “La Universidad Nacional de México y El Centenario de la Independencia,” Paper presented at XIV Encuentro de Latinoamericanistas Españoles, Universidad de Santiago de Compostela, Galicia, Spain, September 15-18, 2010.
relationship between professors and student, a bond analogous to “the first years of one’s life when the parents insist on inculcating their children with knowledge that they themselves have accommodated.” This “noble mission” would allow society to receive help from a profession that “exercises the most interest in humanity.” If professors helped Licéaga develop a program that reflected these ideas, they would be able to create a new breed of student—an individual who left the university “armed with scientific knowledge, ready to nobly exercise the profession, and make the country proud for having educated them.”

Dr. Licéaga, who had worked tirelessly to make medical education modern, appeared closer to achieving his goal.

**Science as the New Religion**

The reforms made at the National School of Medicine also helped the government improve the lives of the general population as well. Medicine had overlapped with the science of criminology: both provided recipes for improving society based on scientific evidence, which supported the government’s desire to achieve progress and order. As a result, medical students served as a modernizing force, armed not with rifles or machine-guns, but with medicine: a weapon that students, professors, and state officials believed would guarantee better hygienic conditions and bring modernization to large cities, small towns, or wherever else the government needed it. The objective for physicians was to cultivate a ‘hygienic instinct’ in people based on “science, rather than superstition or religion.” Licéaga reminded medical students that they held a unique position: Mexican society had imbued physicians with an inherent trust, an attribute missing from similarly distinguished professions. Additionally, the youth of the medical students represented both honor and purity, two traits that he believed enhanced their righteousness in the eyes of the population. More than any other agent of the Porfirian state, Licéaga believed that the physician would be “both confidant and advisor to his patient” useful for maintaining control over the population. The scope of such intervention offered state officials potentially limitless possibilities when it came to managing and transforming society.

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283 Agostoni, *Monuments of Progress*, 76.

with “a view toward perfecting it.” Now, it would be possible to engineer a modern society based on conscious, rational and scientific criteria.\textsuperscript{285}

The physician’s role as confidant and advisor to the inhabitants of Mexico embodied the modern direction of the Porfirian state. In an earlier era, the priest was the individual who performed this function. However, by the late-nineteenth century, medicine, not religion, offered a prescription for salvation in the modern world. State officials had challenged priests during the mid-nineteenth century (1854-1867), when the Reform Wars attacked the powerful position the Roman Catholic Church had held in Mexican society for centuries.\textsuperscript{286} But when Porfirio Díaz became Mexico’s president, he began loosening some of the restrictions placed on the Roman Catholic Church and its priests.\textsuperscript{287}

Nevertheless, priests would never regain the same level of influence they had had in the earlier eras. State officials designated physicians as the true spiritual advisers who could guide the Mexican people in a modern world through “the science of life.”\textsuperscript{288} To drive this point home, in Licéaga’s 1910 closing address to students at the National School of Medicine, he pointed out that the reason the country had reached its current “level of civilization” was due to Porfirio Díaz and his government. As a result, they needed to continue improving themselves to meet “the sublime intentions of the government that so wisely governs us.” If students committed themselves to medicine, they would forever be known as “lovers of truth and worthy of trust by Society.”\textsuperscript{289} Consequently, the modern Mexican citizen would turn to the physician as the only source of proper guidance—in matters of both health and moral supervision—just like state officials and Licéaga himself had envisioned for decades.

\textsuperscript{285} Scott, Seeing Like a State, 92.


\textsuperscript{287} Overmeyer-Velázquez, Visions of the Emerald City, 70-97.


\textsuperscript{289} AHUNAM, F-ENM, R-D, Sub-Sec, Serie-Informes y Memorias (hereafter S-IM), Caja 30, Expediente 6, 2 May 1910, 7.
Conclusion

The Mexican Revolution that began in late 1910 marked a period of social unrest in Mexico—especially in the rural areas of the country.\(^{290}\) Citizens sought to address local grievances that centered on important issues such as land reform or workers political and social rights. Yet as historian Rodney D. Anderson has pointed out, the revolution and eventual resignation of President Porfirio Díaz in May 1911 “did not mark the death of one era and the birth of another.”\(^{291}\) Change itself was purposively gradual since many Porfirian state officials continued to operate state institutions, employing the same techniques and management styles that Porfirio Díaz had used during his tenure.

One such example of this technique can be found in the arena of medical education. The revolutionary and post-revolutionary governments that followed the collapse of the Porfiriato borrowed heavily from President Díaz. These state officials all supported their rise to power by creating an official history that tied them to the principles of the revolution, especially the 1917 Constitution that incorporated land reform and workers rights.\(^{292}\) Yet the approach to governing was no different than what the Díaz administration had done in earlier years. By linking the present with the past, and tethering the new government to the revolution and its legendary protagonists, such as Emiliano Zapata, Pancho Villa, or Pascual Orozco, state officials also sought to legitimize their rule in a manner that mirrored the techniques of Don Porfirio.

Throughout the Revolution, medical education remained at the forefront of discussions involving state officials. In 1912, National School of Medicine director Fernando Zárraga wrote a letter about the effects the Revolution was having on the medical school. In his opinion, “[1912] has been abnormal, as it has been for all of the inhabitants of the Republic.” Despite a

\(^{290}\) For more on the historiographic argument between the urban versus rural nature of the Revolution, see John Mason Hart, Revolutionary Mexico: The Coming and Process of the Mexican Revolution (Berkeley: University of California Press, 1987); and Alan Knight, The Mexican Revolution, 2 vols. (Lincoln, NE: University of Nebraska Press, 1986). The records from the National School of Medicine offer a different picture of the urban environment—it was an area largely unaffected by the fighting. Furthermore, how the revolution affected other public institutions in the city and throughout the country remains an underexplored area of research that could contribute significantly to the historiography of the revolution.


\(^{292}\) For more, see Alan Knight, The Mexican Revolution: Counter-Revolution and Reconstruction volume 2 (Lincoln, NE: University of Nebraska Press, 1986), 470.
slight reduction in the number of students able to attend classes, “the germ of rebellion” would not dissuade state and university officials from continuing to view medical education as the solution to many of the country’s problems. Zárraga explained that “agreement and harmony should be the basis that governs those who teach and those who learn” to keep future physicians on the path to progress. One of the solutions Zárraga proposed for improving the state of medical education at the university involved the installation of cadaver refrigerators, since the delivery of fresh corpses from local hospitals appears to have been unpredictable during this era.  

At the same time, the medical school also created and published a new curriculum that remained committed to dissection, one that school officials saw as a way to support a nation engaged in civil war. The tangible results that state and medical school officials believed a curriculum focused on dissection would deliver remained as potent as ever. In fact, dissection would continue to be such an integral component of medical education and the government’s desire to improve public health that it created a heated rivalry between the medical and the dentistry schools. In 1920, the Secretary of the National School of Medicine’s Department of Odontology (Dentistry) wrote a letter to the director of the medical school asking that he use “his valuable contacts” to help dentistry students acquire a cadaver from a local hospital. This request would spark the competition over cadaver acquisition that continued well into the 1950s. Cadaver suppliers for the medical school routinely denied the dentistry school access to fresh bodies, while continuing to provide the medical school with corpses for dissection. Regardless of who was in charge of the government, medical education would remain a valuable weapon in the fight to improve public health and bring lasting modernity to Mexico.

The next chapter explores how the changes in medical education overlapped with the emergence of funerary technology in the early-twentieth century. In particular, both medicine and funerary technology shared a similar passion for regulating bodies to ameliorate public

293 AHUNAM, F-ENM, R-D, Sub-Sec, S-CG, Caja 25, Expediente 113, 1912, 1127-1139.
294 AHUNAM, F-ENM, R-D, Sub-Sec, S-PE, Caja 20, Expediente 35, 3 January 1912, 952-960.
295 AHUNAM, R-D, Sub-Sec, Series-Facultad de Medicina Expedientes de Personal (hereafter S-FMEP), Caja 10, Expediente 4705, 6 October 1920, 73.
296 Archivo Histórico de la Secretaría de Salubridad y Asistencia (hereafter AHSSA), Fondo-Salubridad Pública (hereafter F-SP), Sección-Manicomio General (hereafter Sec-MG), Caja 8, Expediente 5, 1 November 1942, 14-15; AHSSA, F-SP, Sec-MG, Caja 8, Expediente 5, 11 October 1944, 28-29; and AHSSA, F-SP, Sec-MG, Caja 8, Expediente 5, 12 August 1954, 56.
health problems and allow state officials to achieve their vision of a modern city. But how would new technologies offer state officials proof that bodies no longer posed a threat and the city’s public health was safe?
CHAPTER FOUR
A MODERN AND SENSIBLE DEATH: FUNERARY TECHNOLOGY, CLASS, AND PUBLIC HEALTH IN PORFIRIAN MEXICO CITY

Introduction

The changing shape of Mexico’s modernizing landscape was not limited to just new forms of transportation for the dead, or an improved medical education system that could solve the country’s myriad health problems. The tenure of Porfirio Díaz also created tremendous business opportunities for many entrepreneurs inside and outside of Mexico. In particular, Mexican state officials’ desire to protect public health and remove rotting corpses from city streets helped bring into existence a technology that focused exclusively on ways to handle the dead. Funerary technology, as officials referred to it, offered amateur and professional inventors—many of whom thought of themselves as scientists—two opportunities: a chance to help the government maintain control over public health, and a chance to make a fortune.

Mexico was a country with “relatively low levels of human capital and relatively backward state of existing productive technology,” which President Porfirio Díaz and his state officials used to their advantage by implementing policies that recognized patents, especially funerary ones, as a vital source of technology transfer that would help keep Mexico on the path to progress. For investors interested in building their wealth, Mexico presented a unique opportunity since the president needed them to help strengthen the country’s economy. To make his country more appealing, President Díaz found ways “to make selective commitments to

privileged groups of asset holders” and present Mexico as a country rife with opportunities for untold fame and fortune.\textsuperscript{298}

As the Porfirian state struggled to create a modern city that was safe, healthy, and organized, inventors submitted patents that reinforced the values and sensibilities of the city’s elite and middle-class citizens who believed the growing number of bodies found throughout the city, on streets and on cemetery grounds, threatened to ruin the city’s modern image.

The beginning of the twentieth century fostered a new direction for the disposal of corpses and ushered in innovative funerary technologies. During the 1880s and 1890s, only six patents were submitted that proffered methods of handling bodies.\textsuperscript{299} Of those six, five dealt with coffin construction and one mentioned conserving the corpse. However, between 1900 and 1910, there were 16 patents that related to the handling of bodies. The new century presented state and medical officials with an opportunity to protect public health and continue modernizing the country.

While several studies have focused on the city’s environment and the problems associated with low-lying areas prone to flooding that resulted in the creation of new neighborhoods for elites, none have addressed how state officials planned to deal with the growing problem of bodies that threatened the health of the city.\textsuperscript{300} This chapter explores a significant number of funerary patents and technologies that sought to protect public health and reinforce class division by offering five distinct hygienic methods of disposition that would contribute to the modernization of the capital and hopefully the country: the coffin, the burial vault, topical embalming, arterial embalming, and cremation.


\textsuperscript{299} Edward Beatty, email message to the author, October 24, 2012. I determined this number based on records provided to me by Professor Beatty of patents he has collected that are missing from the records of Grupo Documental-Patentes y Marcas in the Archivo General de la Nación.

Brief Background of Patents in Mexico

State officials in Mexico, like those in the United States and Europe, believed that patents were important because they encouraged technological and industrial development.\(^{301}\) Furthermore, whether accurate or not, Mexican state officials were quick to promote the idea that inventors maintained rights to their inventions, which ensured the government that it would continue to receive new and useful inventions that could revolutionize society. An additional reason the government encouraged the submission of domestic patents was the fact that, if granted, they only had a limited lifespan before becoming public domain. Once expired, the patent information—both the narrative and accompanying drawings—became available to anyone who wanted it, and perhaps would serve as inspiration to other inventors looking to improve on the original.

Nevertheless, in late-nineteenth century Mexico, domestic invention was not the primary source of new funerary technology. Instead, much of it came from foreigners, especially citizens of the United States, who were attracted to the Mexican market because of the low application costs and, more importantly, the perception that it was a land rich with economic opportunities. In the United States, the cost of a patent application after 1861 was $35 ($1,510 in 2011 dollars).\(^{302}\) While the cost may seem high, the average annual salary for all laborers in the U.S. was $437.96 ($23,800)—most of the Americans who submitted patents worked in industries that paid substantially more.\(^{303}\) In Mexico, however, the average wage was far less, with the daily wage of journeymen laborers, seamstresses, and cigar factory workers in the early twentieth century estimated at one peso ($56.90).\(^{304}\) In 1890, Mexico had doubled the length of patent protection—from 10 to 20 years—and then it reduced application costs substantially after 1903, from 50 pesos ($2,720) to five pesos ($217).\(^{305}\) Inventors who paid the initial five peso fee received “provisional” status for their invention, which only guaranteed their patents a one-year

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\(^{304}\) Piccato, *City of Suspects*, 246-247.

\(^{305}\) Beatty and Sáiz González, “Industrial Property Institutions,” 18.
lifespan. If they wanted to maintain rights to the invention after one-year, the government required a payment of additional 35 pesos ($1,520), which granted them “definitiva” status and guaranteed exclusive rights for an additional 19 years.  

The Mexican government modeled their patent rights on those found in the U.S., focusing on “investment in invention over investment in innovation,” and strengthening the rights of foreign inventors by giving them equal protection and priority rights. Yet access to protection and rights appears to have mattered less to foreign patent-seekers than the initial cost of securing patents. Mexico’s patenting fees represented a tremendous financial burden for domestic inventors, as fees ranged between two to three times the average annual per capita income, even with the fee reduction in 1903. Uneven income distribution (a hallmark of Porfirian Mexico) along with the “lack of effective capital markets” for those without political connections, likely meant that patenting was too expensive for most Mexicans. So the majority of funerary patents submitted in Mexico came from foreigners, who believed they could simultaneously improve their social standing and solve Mexico’s frustration with what to do with corpses.

**Fashionable Coffins**

Early coffins did very little to protect public health, yet they remained a popular disposition method for elite members of society. The changes that would occur for coffins in Mexico began to mirror those that had taken place in the United States over the course of the nineteenth century. Around 1800, Americans began to pay more attention to the style of coffins when burying their dead; the practice appears to have had its origins with British colonists who used “simple, unadorned wood receptacles” for those of ordinary backgrounds. Nevertheless, for the well-to-do, the coffin became a symbol of class differences based on artisanship—including materials and adornment. Those from noble or aristocratic backgrounds often remained unburied for days while friends and relatives paid their respects, so the design of the coffin had

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to match the regal furnishings that had surrounded them in life. It was part of an emerging impulse in American and Mexican society to create something beautiful to match the socioeconomic status of the dead, and which helped foster the creation of the funeral industry in both countries.

By the turn of the twentieth century, North American funeral directors like W.P. Hohenschuh advised his colleagues “to change the style of caskets, trimmings, linings, and robes as often as possible,” to take advantage of the emerging consumer culture surrounding funerals. Yet the majority of coffins remained unchanged from earlier versions that had conformed to the shape of the human body—tapered from the shoulders to the head and from the shoulders to the feet. One of the most popular designs in the United States was the Fisk Metallic Coffin, which the manufacturer tailored to the shape of the individual who had died. The fitted shape of the coffin meant that it was lightweight, despite being made of metal. Patented in 1848 by Almond Fisk, who claimed that his metal coffin was hermetic and prevented a body’s decay, it also included an option for families to fill it with “any gas or fluid having the property of preventing putrefaction.” The coffin itself resembled a sarcophagus, with the arms folded across the chest with a cross placed in-between the hands. The head of the coffin resembled an underwater diver’s helmet with a glass plate that allowed the face to be visible.

The immediate popularity of the Fisk coffin led Fisk to develop additional coffin styles that appealed to a variety of consumers. For example, Fisk and other manufacturers—including the Crane and Barnes Company, which had bought the manufacturing rights to the Fisk Coffin in 1853—realized that the coffin’s eerie human shape was beginning to offend the sensibilities of the deceased’s family. To comfort their consumers, manufacturers like Fisk introduced decorative cloth wraps “made from French cloth, trimmed with silk fringe” to cover the coffin, which hid its shape, but continued to keep the face visible under the glass plate. By 1860, however, manufacturers had abandoned the Fisk Coffin altogether to begin producing standard

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312 Habenstein and Lamers, American Funeral Directing, 164.

313 Habenstein and Lamers, American Funeral Directing, 167.
rectangular-shaped coffins that no longer resembled the human figure. Yet a Fisk-like coffin did not emerge until much later in Mexico. On November 22, 1907, J. Ramón Díaz, a citizen of Spain, received “definitiva” status in Mexico for his patent titled “Drawing of a Special Form of Lids for Coffins.” The lid, Díaz pointed out, was “new and original,” despite having existed in the United States since the mid-nineteenth century. 314

Like Díaz’s submission, fellow Spaniard Joaquín D. Tames received patent rights on May 22, 1910, for his “Model of a Coffin or Mortuary Box” that was rectangular, carved from wood, and tailored to the deceased’s dimensions. 315 Tames’s coffin also came with a crystal plate above the corpse’s face, a popular feature of coffins, especially those used for state officials during important state funerals. 316 His design offered more decorative possibilities for the fashion-conscious family by including an option for “decorating the interior or exterior with any fabric desired.” In addition to the coffin’s design and fashionable approach to death, Tames’s patent—unlike Díaz’s—included information about the coffin’s protective features, which included four bolts in the lid that, when closed, would ensure the coffin remained sealed from outside invaders such as animals or grave-robbers. 317

In many instances, gaskets were included as part of the coffin’s design in order to protect the corpse from “body-snatchers,” a term popularized throughout the United States and Europe during the nineteenth century when medical schools paid scurrilous individuals to steal the newly buried from cemeteries. Yet the evidence for Mexico suggests that body-snatching was non-existent. 318 However, the seal did reassure the living that they were protected from diseases

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314 Archivo General de la Nación (hereafter AGN), Grupo Documental-Patentes y Marcas (hereafter GD-PM), Legajo 307, Expediente 84, 22 November 1907, 1.

315 Ibid.

316 Esposito, Funerals, 133.

317 AGN, GD-PM, Legajo 307, Expediente 86, 28 May 1910, 1.

318 While there are no definitive sources that state whether or not body-snatching did occur in Mexico, a close examination of hundreds of cemetery records for Mexico City have indicated that stealing corpses from graves did not happen. There are, however, several cases that illustrate that theft of items placed on top of an individual’s grave, such as small statues, jewelry, nickel-plated crosses or flower pots, was quite common. For more, see Archivo Histórico del Distrito Federal (hereafter AHDF), Fondo-Ayuntamiento de México/Gobierno del Distrito Federal (hereafter F-AM/GDF, Serie-Panteones (hereafter S-P), Caja 3497, Expediente 761, 30 September 1911, 1-2 AHDF, F-AM/GDF, Serie-Panteón Dolores (hereafter S-PD), Caja 3483, Expediente 251, 24 November 1905, 1; AHDF, F-AM/GDF, S-PD, Caja 349, Expediente 736, 23 March 1912, 1; AHDF, F-AM/GDF, S-PD, Caja 349, Expediente 736, 12 April 1912, 5. According to historian Amanda López, it was common at this time to reuse markers and
popularly though to be emitted by corpses. During this era, Mexican state officials placed great emphasis on protecting public health from noxious gases and odors emitted by decomposing corpses. Despite the fact that German medical officer Robert Koch had developed germ theory in 1883, miasmatic theory—the idea that disease was environmental, resulting from infectious mists or vapors emanating from swamps, garbage, raw sewage, animal carcasses, or decomposing bodies—remained a popular conception of disease in many countries, including Mexico, the United States, and England. For many Mexicans, including people within the medical community, organic bodies emitted contagious odors that threatened the health of anyone living near places that contained dead or dying people like cemeteries, corpse deposits, prisons, or hospitals. This theory was so prevalent in nineteenth century Mexico that state officials cited it as the reason why burials had moved away from beneath church floors to suburban cemeteries.

For many Mexicans, including people within the medical community, organic bodies emitted contagious odors that threatened the health of anyone living near places that contained dead or dying people like cemeteries, corpse deposits, prisons, or hospitals. This theory was so prevalent in nineteenth century Mexico that state officials cited it as the reason why burials had moved away from beneath church floors to suburban cemeteries.

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Figure 4.1. Fisk Metallic Burial Case, 1848, Patent Sketch. Courtesy of Robert W. Habenstein and William M. Lamers.

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monuments. The cemetery had a bodega in which they offered used monuments for sale. For more, see López, “The Cadaverous City,” 65.


321 Habenstein and Lamers, American Funeral Directing, 164.
By the early twentieth century, miasmatic theory remained a popular explanation for disease in Mexico. Secure coffins reassured state officials that the public would be free of

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322 AGN, GD-PM, Legajo 307, Expediente 84, 22 November 1907, 1.
323 AGN, GD-PM, Legajo 307, Expediente 86, 28 May 1910, 1.
disease from decomposing corpses. This new situation presented inventors with a unique opportunity to profit from the popular acceptance of the miasmatic theory, which even some inventors and medical professionals still appeared to believe. Inventors also realized that sculptors had benefitted financially and socially from elite families’ desires to possess sepulchral monuments made from bronze, stone, or marble, all of which symbolized their socioeconomic status. Like their sculpting colleagues, they too could offer families what they had sought when they hired sculptors to design elaborate tombs or lifelike busts to honor the dead and console the grieving: a tangible symbol of their commitment to keeping memories of the deceased alive.

**Hermetic Coffin**

The utilitarian design of the traditional coffin had improved over the years, but for state officials and residents, even these latest designs were unable to reduce the decomposition rate of corpses—a necessary feature that they believed would offer better protection for public health, despite the fact that speeding up decomposition to reduce the corpse to bones would have been the safest choice. In the early twentieth century, to offset the poor design of traditional coffins, the government granted eight patents—five for hermetic coffins and three for impermeable burial vaults—to patentees whose designs guaranteed safety from the health problems associated with putrefying remains.

The first of these patents, dated October 1, 1903, was submitted by an American inventor from Warren, Pennsylvania, named John Charles Fremont McGriff, who paid for the twenty-year life of his patent upfront, and as a result, received “definitiva” status for his “Improvements in Coffins.” He also received patent rights in the United States for a 1901 patent of the same design. The first of his improvements guaranteed that his coffin was “absolutely sanitary,” meaning that the gases and liquids associated with decomposition would stay inside the coffin and not enter the atmosphere, an attractive feature for state officials. The second improvement

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325 AGN, GD-PM, Legajo 307, Expediente 74, 1 October 1903, 1.

326 John Charles Fremont McGriff, Burial Casket, U.S. Patent 684, 293, filed on October 17, 1900 and issued on October 8, 1901.
appealed more to the consumer’s desire to immortalize the deceased by offering the family a view into the coffin through a small window “made from glass or crystal” above the face. Furthermore, the coffin contained a large, metallic cylindrical tube where the body remained, complete with detachable head and foot rests as well as sliding curtain “to cover the body or expose any part to view, if desired.” The sliding curtain was inextricably tied to the elites’ notions of their identities and “the definition of the body in which caution, modesty, and modernization would dominate.” Knowing the deceased was resting comfortably soothed the conscience of relatives and also allowed the family to preserve the deceased’s modesty. Unlike the corpses of the urban poor—often nude and buried without coffins in unmarked potter’s fields of large, public cemeteries like Panteón Dolores—Fremont McGriff’s coffin was for an exclusive clientele, families of the wealthy elites who had continually sought to distinguish themselves from the rest of society.

Fremont McGriff’s coffin design included a small, partially sealed tube at the feet of the deceased that presented families with an opportunity to “introduce a preservative” in gas form that would surround the lining of the coffin and provide family members with an additional method for preserving the appearance of the dead. Despite the fact that the inside came unadorned, Fremont McGriff offered his clients another opportunity to demonstrate their social status by adding additional upholstery and lining the coffin with “porcelain or some other indestructible substance.”

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327 AGN, GD-PM, Legajo 307, Expediente 74, 1 October 1903, 1-2.


329 Ibid.
The Fremont McGriff coffin was not the only design that appealed to state officials and aristocratic families. An inventor from Guadalajara, Mexico, named Arcadio Hernández received “definitiva” status on October 1, 1903, for a patent titled “A Construction System for Mortuary Boxes with Automatic Closing.” His design shared similarities with Fremont McGriff’s, including its ability to preserve the corpse’s appearance. Additionally, Hernández’s design would reduce the threat to the living posed by putrefying bodies by offering a unique hermetic feature: a several-inches deep canal around the top of the coffin with thick rubber molding. From an aesthetic perspective, the coffin was distinctive because it resembled a life-size jewelry box. Additionally, it included crystal or glass rectangular pieces on both sides of the coffin as well as near the corpse’s face that permitted family members to see inside the coffin. Another feature that appealed to the family was the optional installation of curtains along the sides of the coffin. This feature would allow families to choose to draw them close for the corpse’s privacy or leave open, as one last symbol for the living world to see that the opulent surroundings the deceased had enjoyed while alive would continue.

330 AGN, GD-PM, Legajo 307, Expediente 74, 1 October 1903, 3.
331 AGN, GD-PM, Legajo 307, Expediente 79, 1 October 1903, 1.
Yet there is reason to believe that Hernández intended his coffin to appeal even more to state officials than to well-to-do families. The most innovative feature of his coffin was its double-bottom construction. While not apparent in the patent sketch, Hernández explained in the application’s narrative that the bottom of the coffin contained several large holes covered by swivel caps. When cemetery workers removed the caps—at the moment of burial—it would allow liquids associated with decomposition to drain beneath the coffin and into the second bottom-piece located three to four centimeters below the coffin, rather than having the liquids collect in pools beneath the corpse, creating a sticky, unhealthy residue. This feature, in particular, made Hernández’s design attractive to state officials, since many of them were proponents of miasmatic theory. Rather than allowing gases that had collected in the coffin during decomposition to escape into the air, the holes in the bottom of the coffin would allow

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332 Ibid.
333 AGN, GD-PM, Legajo 307, Expediente 79, 1 October 1903, 1.
gases (and the liquids that pooled beneath the corpse) to seep into the ground, reducing the chance that gases from the corpse could reach the city atmosphere and infect living residents.

While Fremont McGriff, Hernández, and state officials all believed that these coffins had hermetic properties, the reality was much different. Neither coffin actually delayed decomposition. Pathologists now understand that anaerobic bacteria thrive in airless atmospheres. Instead of protecting the body, these hermetically sealed coffins unknowingly accelerated decomposition, a circumstance about which government officials and physicians were most likely unaware. Their understanding of bacteria was still in the embryonic stage, as miasmatic theory remained a popular explanation for disease, even among trained medical personnel.  

Indeed, the prevalence of miasmatic theory was perhaps responsible for the introduction of patent number 3681, which combined hermetic properties with chemical preservatives to reduce decomposition rates and protect public health. Submitted by Mexican citizen Carlos Navarro Mora on April 26, 1904, he received “definitiva” status for what he called “The Automatic Closing Mortuary Box.” The coffin contained preservative cushions that, he explained, would conserve the corpse in such a manner that it eliminated “deleterious miasmas.” To reduce the public’s exposure to potential miasmas, Navarro Mora used a dual coffin design. The coffin containing the body was made of metal and used a rubber seal along with a series of hand-turned locks to prevent air or fluids from entering or leaving. The metal coffin fit inside a larger wooden coffin with the same seal and locks, which created a reinforced barrier against escaping gases. If any did escape, then they would have to pass through two layers before reaching the air that city residents were breathing.

In addition to multiple layers that would reduce possible contamination, Navarro Mora also included two preservative cushions—one from the shoulders to the feet and the other just behind the head—each filled with a liquid he described as “general alcohol.” When placed on the cushions, the corpse would absorb the alcohol and exhibit characteristics of partial embalmment, an approach similar to that used by British sailors to transport the corpses of

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335 AGN, GD-PM, Legajo 307, Expediente 78, 26 April 1904, 1.

336 AGN, GD-PM, Legajo 307, Expediente 78, 26 April 1904, 1.
persons who had died at sea—including that of British Naval war hero Admiral Horatio Lord Nelson, whose body arrived in England in 1805 stuffed into a barrel of rum.\cite{337}

While Navarro Mora’s coffin offered state officials the most holistic approach to protecting public health, his design did not foster radical change within the Mexican funeral industry. Nonetheless, his coffin and preservative cushions inspired other inventors to adopt some type of topical embalming when it came to disposing of corpses.

While many of these inventors have slipped into obscurity, leaving almost no details of their lives behind, insights can be gleaned from the life of one inventor whose story has survived. American inventor and physician Monroe S. Leech received “definitiva” status for what he called “Improvements in Mortuary Boxes” on March 1, 1907.\cite{338} Born October 14, 1845, in Shelby, Ohio, Leech served in the Union Army in the 163rd Ohio Regiment from May 1, 1864, until the end of the Civil War. After the war, he studied medicine at Western Reserve College (now Case Western) in Cleveland, where, despite his claims of having graduated in 1867, he did not.\cite{339} He then opened his own medical practice in a small town outside Kansas City, Missouri, where he stayed for three years before returning to Ohio, where he enrolled at the Eclectic Medical School in Cincinnati.\cite{340} According to the scant records of the Eclectic Medical School, Leech graduated in the Winter 1870/1871 term, having paid for two courses and completing a thesis on congestive intermittent (a severe cold in patients whose health was already deteriorated).\cite{341} After graduation, Leech settled again in Missouri, where he practiced medicine for another ten years. In 1881, citing health problems, he moved to Chicago, where he took more classes and graduated from Rush Medical College in 1882.\cite{342} Leech remained in Chicago until

\begin{enumerate}
\item AGN, GD-PM, Legajo 307, Expediente 80, 1 March 1907, 1.
\item Helen Conger, email message to Case Western Archivist, 1 August 2012.
\item John A. Campbell, *A Biographical History with Portraits of Prominent Men of the Great West* (Lincoln, NE: Western Biographical and Engraving Company, 1902), 361.
\item Campbell, *Portraits of Prominent Men*, 361.
\end{enumerate}
his death on June 24, 1909, due to complications associated with nephritis, a disease caused by
“the abnormal production or accumulation of acid in the cells of the kidney.” His sudden death
also received coverage in several newspapers, largely due to the death of his pet monkey, which
reportedly had “starved itself to death” after Leech died.

Leech, like other American patentees of this era involved in Mexico, received a patent for
the same invention in the United States on January 9, 1906 (patent number 809, 573). He
employed a traditional coffin design but added one new feature: a glass dome over the upper-half
of the coffin. But Leech’s invention was not entirely new, as it closely resembled one submitted
in the United States in 1859 by George W. Scollay of St. Louis. Nevertheless, the result was a
coffin that would allow the mortician to extract the air and introduce a disinfecting gas. The glass
dome provided a constant hermetic seal because Leech roughened the coffin’s edges to bind
them to the glass using “cement or other binding material.” Leech’s patent appealed to both
Mexican state officials and affluent citizens since it combined additional protection for the living
and sought to preserve the appearance of the deceased.

Nonetheless, the glass-domed casket failed to gain a following in Mexico. This coffin
design, however, did appear to create a distinct change in how inventors approached the
construction of new coffins. Following Leech’s coffin, many of the patents submitted began
incorporating cement into their funerary patents. Cement, as Leech had explained, offered
hygienic properties that far exceeded those found in the traditional materials used during coffin
construction. One such example appeared on September 5, 1911, when American Elijah D.
McDonald of Los Angeles, California, received “definitiva” patent status for his “Mortuary


345 Monroe S. Leech, U.S. patent number 809, 573, filed on August 21, 1905, and issued on January 9, 1906; he had also received a patent in the U.S. for a method of preserving human bodies, patent number 826, 583, filed on February 6, 1906, and issued on July 24, 1906.


347 AGN, GD-PM, Legajo 307, Expediente 80, 1 March 1907, 1.

348 Ibid.
Box,” an “indestructible and waterproof” coffin. Interestingly, the attorney who handled McDonald’s interests in Mexico was a man named E. Dean Fuller, who not only represented inventors, but also large international corporations, such as the Mercantile Banking Company, United States Shoe Manufacturing Company, and International Loan and Trust Company.  

Elijah McDonald was no stranger to the patenting process. Before submitting his “Mortuary Box” plan in Mexico, he had received several patents in the United States for a trolley, a self-lubricating wheel, a new form of railway construction, and reinforced concrete. According to his patent application, the most innovative feature of this coffin was its great strength “in proportion to its weight,” a feature that he claimed was absent from other coffins. The coffin itself contained a basket made from a single-piece of woven wire fabric, molded over the entire frame of the casket. The result, he explained, was a coffin “strong at any given point.”

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349 AGN, GD-PM, Legajo 307, Expediente 83, 5 September 1911, 1.


351 AGN, GD-PM, Legajo 307, Expediente 80, 1 March 1907, 1.

352 Elijah D. McDonald, Trolley, U.S. Patent Number 833, 080, filed on August 31, 1905, and issued on October 9, 1906; Elijah D. McDonald, Self-lubricating Wheel, U.S. Patent Number 832, 994, filed on August 31, 1905, and issued on October 9, 1906; Elijah D. McDonald, New Form of Railway Construction, U.S. Patent Number 943, 198, filed on December 12, 1906, and issued on December 14, 1909; Elijah D. McDonald, Reinforced Concrete Pile, U.S. Patent Number 979,529, filed on January 13, 1910, and issued on December 27, 1910; and Elijah D. McDonald, Mortuary Box, U.S. Patent Number 1, 168, 660, filed on April 29, 1912, and issued on January 18, 1916.
The coffin would no longer contain vulnerable spots that people, animals, or dirt could break. Despite being so impenetrable, the coffin, McDonald claimed, was of the same weight as one made from solid wood, and capable of withstanding a pressure of 1100 pounds per square inch. In addition to the weight-resistance of the coffin, McDonald pointed out that his coffin was hygienic. He covered the inside of the coffin with a special solution made from “one-part Portland cement, one-part gypsum, one-eighth part magnesium, one-part molasses, and one-part water,” which he guaranteed would make the coffin impermeable to man and nature, both features that state officials and families could enjoy.  

Two of the ingredients used by McDonald were interesting due to their historical use in burials. For example, gypsum was a common preservative used in the Roman Empire. Furthermore, molasses also enjoyed a rich history as a preservative of both food and bodies. A sugar byproduct reduces the amount of bacteria that grows on the body’s surface, absorbing moisture, and leaving behind dehydrated tissues with a texture similar to that of beef jerky.

Figure 4.7. Elijah D. McDonald, patent 12, 116, “Mortuary Box.” The hygienic lining described by McDonald would cover the inside of the wire fabric labeled figure two in the original illustration. Courtesy of Archivo General de la Nación.

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357 AGN, GD-PM, Legajo 307, Expediente 83, 5 September 1911, 2.
Burial Vaults

Yet in early-twentieth century Mexico, the most popular material thought to offer the best hygienic properties for coffins was not molasses, but cement. Cement also began to be a popular material for constructing burial vaults, a body disposition option for aristocratic families. As one French sociologist has noted, the vault became widespread in the twentieth century with the commercialization of death, since it was no longer sufficient to just protect the corpse; families had started “to protect what protects the corpse.”358 During the nineteenth century in the United States, for example, inventors had tried to line graves and coffins with loose rock, finished stone, or brick.359 But the common flaw these materials had was that none were hermetic, each containing small spaces through which air, bacteria, and insects could travel. However, by the twentieth century, these ingredients disappeared as cement became the standard material used by inventors and the funeral industry.

Burial vaults in Mexico, unlike the United States, France, or England, had less to do with stopping grave robbers and more to do with reducing the public health threat posed by dead bodies. Between 1912 and 1913, the Mexican government granted three patents to the Francisco Kassian, a subject of Austria-Hungary who resided in Mexico City. His first patent (number 12,979)—a burial vault consisting of a sheet of metal or cement covering an iron frame lowered into a grave—received “provisional” patent status.360 Traditional burial vaults had coverings made of brick or stone, but as Kassian put it, his vault offered far greater “aesthetic appeal and cleanliness,” appealing characteristics for both state officials and elite families.361 The sheet of metal or cement placed above the coffin created a smooth, flat surface that allowed families to stack the coffins holding their deceased relatives on top of each other—a preferred burial option to the invasive and costly procedure of dismantling stone or brick covered vaults. This option would allow living members of the upper classes to separate the remains of their deceased

359 Habenstein and Lamers, American Funeral Directing, 183-184.
360 AGN, GD-PM, Legajo 207, Expediente 95, 6 May 1912, 1.
361 AGN, GD-PM, Legajo 207, Expediente 95, 6 May 1912, 1.
relatives had tried to establish with the creation of new exclusive neighborhoods far from the urban poor.

Kassian recognized that both Porfirian officials and elite families wanted to emphasize spatial separation of the classes, so he submitted another patent that combined his vault coverings with a system of individualized underground burial compartments, each separated by artificial stones that were impermeable to humidity. He continued to improve the construction surrounding his burial vault, and on July 24, 1913, he received “provisional” status for burial compartments that combined elements of his previous patents. This time, he made the compartments from blocks of cement rather than stone, and allowed families to fill any empty space with additional cement, which would encase the coffin in a giant cement block. The result, Kassian explained, was a vault that prevented humidity and moisture from penetrating the coffin—which would allow, as he put it, the corpse to “pay tribute to the beauty of returning to dust” rather than “marinating in putrefaction.”

![Figure 4.8. Francisco Kassian, patent 12, 979, “A Covering of Sheet Metal or Rebar for Racks of Tombs.” The rebar that would support the metal covering that was placed over the corpse and is labeled with a star (in the original drawing it is the letter C). Courtesy of Archivo General de la Nación.](image)

362 AGN, GD-PM, Legajo 207, Expediente 96, 19 June 1912, 1. For more on the spatial separation of elite families in Mexico City during the Porfiriato, see Piccato, *City of Suspects*, 20-33.

363 AGN, GD-PM, Legajo 207, Expediente 99, 24 July 1913, 1.

364 AGN, GD-PM, Legajo 207, Expediente 95, 6 May 1912, 1.
Yet the use of burial vaults was not a new feature of modern societies. Archaeologists have uncovered crude burial vaults called barrows that used stones to form vaults or protective

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365 AGN, GD-PM, Legajo 207, Expediente 96, 19 June 1912, 1.
366 AGN, GD-PM, Legajo 207, Expediente 99, 24 July 1913, 1.
enclosures for corpses that date back to the third millennium B.C.E. in Scotland and England. While burial vaults had had a long history, the unique features of newer vaults were the materials used by inventors to preserve corpses and protect the health of city residents. By the twentieth century, cement vaults offered families and state officials a way to care for bodies and safeguard the health of the city, all without having to introduce any additional substances.

**Topical Embalming**

While burial vaults presented families and state officials with the opportunity to preserve the dead without additives, the obsession with creating a sanitary environment and receptacles for the dead led to the introduction of several distinct methods of topical embalming. Each inventor guaranteed that his topical process would preserve corpses for a longer period than any coffin or burial vault alone could provide. Topical embalming was also an attractive option for families because it delivered the same results as chemical embalming but allowed the family to take solace in the fact that the undertakers would not poke nor prod the body with needles. Earlier methods of topical preservation during the nineteenth century—at least in the United States—involved the use of an apparatus known as a “corpse cooler,” a portable box made from wood or zinc that undertakers placed on the corpse’s torso, head, arms, and legs. Despite its portability and convenience, this method of body preservation had two problems: the iceboxes were “unsightly and unwieldy,” and more importantly, if the undertaker did not drain the melted ice fast enough, the body could absorb the water and spoil. While it remains unclear whether or not the Mexican funeral industry ever used these ice-coolers—it is reasonable to assume that they knew of them—newer methods for topical preservation began to appear in Mexico during the early-twentieth century that did not use ice.

The “Sanitary Urn” was the first embalming patent and it received “definitiva” status on October 1, 1903. Submitted by an inventor who only provided the last name of Jimenez de la Cuesta, the patent’s purpose was twofold: 1) to describe a device to preserve human bodies, and

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2) to allow for the transportation of the corpse such that no potential threat posed by the corpse spread to the public.\textsuperscript{370} The urn, described by Jimenez de la Cuesta, was actually a small generator placed below a soldered box containing the corpse that used “any disinfecting fluid” to produce a cloud of gas that engulfed the corpse, and allowed the skin to absorb the gas. By the time the corpse arrived at the burial site, he claimed the body would be preserved without ever having to cut it open.

Jimenez de la Cuesta proposed soldering three of the box’s four sides to prevent air or liquids from entering or escaping, leaving one side as a hinged door that opened to allow the corpse’s placement. Similar to being in a coffin, the deceased would have been dressed in the appropriate burial outfit. Inside the soldered box was a baseboard made of iron, with a waffle-shaped screen that allowed the gas to pass through and disinfect the corpse. For state officials, the device offered two intriguing features that supported their desire to make the city appear modern and which would eliminate the threat that decomposing corpses posed to public health. First, the device came with its own box, which gave it a more utilitarian feel, making it more attractive for state officials disposing of myriad lower-class bodies. Second, the device’s portability would allow officials to use it on any vehicle, since Jimenez de la Cuesta promised that “even the most infected body could pass through the street without posing any danger to passersby.” This method of bodily disposition provided officials with the opportunity to sanitize corpses in a way that would not threaten the health of citizens or require additional space in cemeteries since burial with a coffin would be unnecessary. Cemetery workers could now bury corpses without coffins and be confident that public health was safe. As Jimenez de la Cuesta put it, the urn was a “huge benefit to humanity and powerful facilitator of health” for state officials and city residents worried about the potentially devastating effects that decomposing bodies could have on public health.\textsuperscript{371}

\textsuperscript{370} AGN, GD-PM, Legajo 207, Expediente 76, 1 October 1903, 1.

\textsuperscript{371} AGN, GD-PM, Legajo 207, Expediente 76, 1 October 1903, 1.
The “Sanitary Urn” was just the beginning of funerary patents that promoted both topical embalming and a healthier city environment. American physician Marshall Devereaux Johnston, hailing from Bisbee, Arizona Territory, received “definitiva” status on February 17, 1906, for a patent called “A Procedure for Conserving Cadavers.” Like Jimenez de la Cuesta, Johnston made bold claims about how his procedure—tongue in cheek—would offer “perfect health” for corpses. The procedure permanently conserved the body’s features and expressions so it would appear “as natural in death as it appeared in life.” Johnston claimed that not only would his procedure offer “perfectly hygienic results,” but it would also make it possible to “abandon cemeteries and avoid the contagion to the water that they caused.” These claims, no doubt exaggerated, were important because they likely appealed to state officials’ intentions to protect the health of the city. With cemeteries in the early-twentieth century burying more people daily than ever before, the opportunity to abandon cemeteries piqued the interest of many health and state officials in Mexico City.

To demonstrate that he was serious about his assertions, Johnson provided the patent office explicit details about how he would achieve such hygienic results. According to his application, he covered the corpse in a layer of “silver or carbon nitrate” that acted as an

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372 Ibid.
373 AGN, GD-PM, Legajo 207, Expediente 79, 17 February 1906, 1.
electrical conductor; afterward, he submerged the body in a salt-water solution to allow electricity to flow through the body easier.\(^{374}\)

While it remains unclear how effective his method was, the approach itself had antecedents in France, where electroplating of bodies had gained a following. In 1857, the French government had granted a patent to Eugene Theodor Noualhier that involved the application of a large layer of “silver nitrate that penetrates the pores of the corpse’s skin.” After applying the silver nitrate, Noualhier submerged the body in a bath of copper sulphate, which along with the galvanic current “established a metallic deposit of copper of the requisite thickness, the result being a metallic mummy.”\(^{375}\) A similar procedure had appeared in the United States during the nineteenth century that prevented decomposition by using various solutions to soak the body, “rendering its contents impervious to all forces of decomposition.”\(^{376}\) Yet the use of electricity to preserve the body did not disappear at the end of the nineteenth century. In 1935, American Levon G. Kassabian would receive patent rights for his unique “Method of Preserving Dead Bodies.” Unlike Noualhier’s procedure, Kassabian’s required injecting the corpse—before submerging it—with a solution made from zinc chloride, sodium salicylate, phenal crystals, and water. After several injections of this solution, the body’s ability to act as an electrical conductor increased greatly. Kassabian would then place a thin layer of parrafin wax and copper wire over the body, which he believed would allow electrical current to move uninterrupted throughout the corpse.\(^{377}\)

While electroplating was—and would continue to be—a popular method for corpse preservation, Mexican medical surgeon Agustín Domínguez Fagle offered state officials an alternative method of body preservation that did not require soaking or brushing the corpse. On May 3, 1907, Domínguez Fagle received “provisional” status for Aegecil, a topical embalming ingredient that he placed inside the cushions that came with coffins. He made Aegecil from ingredients commonly found in medical labs—such as thymol, nitric acid, lime hydrochlorate

\(^{374}\) AGN, GD-PM, Legajo 207, Expediente 79, 17 February 1906, 2. The use of silver nitrate made for an interesting choice because it stained the body, leaving dark spots wherever poured on the skin.


\(^{376}\) Habenstein and Lamers, American Funeral Directing, 201.

\(^{377}\) Levon G. Kassabian, Method of Preserving Dead Bodies, U.S. Patent 2,023,685, filed on February 2, 1934 and issued on December 10, 1935.
and aluminum sulfate—as well as naturally occurring substances like oak charcoal, sawdust, balsam of Perú, French fine grass, powdered tar coal, and eucalyptus wood chips or leaves. Mixed together, Domínguez Fagle claimed, these ingredients had dehydrating properties that would remove any liquid remaining in the corpse.

Domínguez Fagle also provided the patent office with the specific ingredients measurements needed to create Aegecil. Two formulas were involved: one for the cushion filling, and one for the cushion covers. Domínguez Fagle made the cushion filling from four kilograms of pine sawdust, four kilograms of eucalyptus leaves, four kilograms of French fine grass, four kilograms of oak charcoal dust, two kilograms of coal tar dust, and six kilograms of lime hydrochlorate (calcium chloride). He explained that this mixture would protect the body to such a high degree that “one will not lose any part of the human skeleton, unlike other procedures.” The second formula called for a solution made from two liters of one-percent thymol (an antimicrobial solution), one kilogram of nitric acid, one kilogram of aluminium sulfate, one liter of formol (early version of formaldehyde), and 500 grams of Black Balsam of Perú. After making the mixtures, Domínguez Fagle soaked the covers in the solution for five to ten minutes, and then air-dried them. Once dry, the cushion covers would “indefinitely conserve the mortal remains and mummify them.” Indeed, according to Domínguez Fagle, this procedure offered more protection than other forms of topical preservation and made the process far more efficient, since the corpse was not involved. Whether these cushions actually slowed the body’s decomposition and protected the health of living residents remains unknown.

Nonetheless, by summer 1907 Domínguez Fagle’s procedure appears to have set off a firestorm of professional competition among inventors of funerary technologies over whether or not the best method of bodily preservation was to soak coffin cushions or just the body. Three months after Domínguez Fagle received his patent, another inventor received “definitiva” status for his patent that would embalm all organic bodies—both human and animal—without removing any organs. Giovanni Chiarelli Fu Giovanni, the man behind the procedure, hailed from Genoa, Italy. His Fu Giovanni’s embalming procedure required the corpse to soak in one of three chemical formulas for four or five days depending on, as he put it, “the quantity of

378 AGN, GD-PM, Legajo 207, Expediente 81, 3 May 1907, 1.
379 AGN, GD-PM, Legajo 207, Expediente 81, 3 May 1907, 2.
The first solution contained a mixture of six grams of an unnamed corrosive sublimate mixed with one liter of alcohol, the second used 100% pure Lysoform (made from liquid soap and formaldehyde), and the third used a combination of equal parts Lysoform with the first solution of corrosive sublimate. Regardless of the solution chosen, the results were the same: the undertaker could pose the corpse in any desired position and it would be “perfectly rigid” forever. Afterwards, the corpse could be placed on a bed, table, or coffin, where it stayed for several hours “to dry slowly without giving off any fetid odors.” According to Fu Giovanni, the procedure was effective and the corpse no longer posed a threat to the living world—at least if “no flies appeared on the body.”

Fu Giovanni’s patent was not the only one to offer a procedure for preserving corpses and protecting public health. Antonio Subira, a medical doctor from Barcelona, Spain, received “provisional” status for a procedure that also embalmed corpses without having to remove any organs. The procedure consisted of “showering, painting, or soaking” the corpse in an unspecified substance that had dehydrating properties, which, Subira promised would remove all water from the body. While Subira did not provide the specific formula he used for the solution, he did explain that he used chemicals like glycerin, calcium chloride, caustic soda, methyl alcohol, and potassium nitrate in “various proportions” to complete his procedure.

Yet the actual process of topical embalming was not as modern as state officials or inventors may have believed. The procedure actually dates back millennia to the Egyptians, who despite eviscerating the corpse before embalming the internal organs, would also wrap the corpse in a shroud soaked in oil and spices to reduce decomposition and protect public health. Ancient Ethiopians covered corpses in plaster, while Persians, Syrians, and Babylonians submerged corpses in honey to preserve them. Despite using naturally occurring substances during embalmment, these processes also involved disemboweling the corpse and filling its

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380 AGN, GD-PM, Legajo 207, Expediente 82, 13 August 1907, 1.
381 AGN, GD-PM, Legajo 207, Expediente 82, 13 August 1907, 1-2. By 1892, many medical professionals were familiar with the microbicidal properties of formaldehyde. However, this led to the development of a solution that German doctors Hans Rosemann and Alfred Stephan called Lysoform, made from liquid soap and formaldehyde, which they submitted for patenting in 1900 to the German Patent Office. For more, see http://www.lysoform.com/lyso.htm.
382 AGN, GD-PM, Legajo 207, Expediente 97, 13 September 1912, 1.
383 Iserson, Death to Dust, 192.
cavities with substances like frankincense or anise seed. Even in sixteenth-century England, barber-surgeons embalmed the corpses of the royal family by removing their organs and filling their cavities with cotton soaked in a mixture of aloe, myrrh, rosemary and other spices.  

**Arterial Embalming**

Unlike topical embalming, the history of arterial embalming was far less prestigious. Yet it would become a popular preservation method for physicians and funerary professionals in early twentieth-century Mexico City, who wanted a fast and efficient way to protect the living world from potential diseases that could be found inside dead bodies. Injecting corpses with preservative solutions first appeared in 1663 when Robert Boyle, an experimental philosopher, and arguably the most influential figure in the emerging scientific culture of late seventeenth-century England, published the results of experiments he had conducted on animal preservation through vascular injections made from wine and other spirits. Yet the transition from animals to humans did not become popular until the eighteenth century when Scottish anatomist/physician brothers John and William Hunter injected various chemical solutions through into the arteries of corpses to determine the rate of decomposition. Meanwhile, in the United States, an embalming procedure through arterial injection did not appear until 1856, when J.A. Gaussardia of Washington, D.C., received a patent for injecting corpses with an arsenic-alcohol mixture, washing the body in chemicals, covering it in oils, and electrifying it, all of which yielded a preserved corpse.

Nevertheless, the majority of American embalmers pointed to “Doctor” Thomas H. Holmes as the person responsible for popularizing modern embalming. Despite never having graduated from New York University medical school in the 1850s, Holmes advertised himself as a doctor who specialized in corpse preservation. He burst onto the American scene during the Civil War, where he flaunted his medical and embalming expertise to appeal to the families of fallen officers—he claimed to have embalmed over 4,000 cadavers in four years—who had the

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financial resources to pay $100 ($1,850) for his services. Although he never revealed what his exact embalming formula contained, experts believe Holmes used a combination of zinc chloride and arsenic, a popular form of body preservation at the time.387

During the late-nineteenth century, most embalmers only swabbed the corpse with some type of embalming fluid since injection tools were costly and not readily available. Moreover, very few embalming schools existed. Many new undertakers had very limited anatomical knowledge, which made arterial embalming a less popular option since it required a sophisticated understanding of the human body. For example, in the United States, there were only two schools of embalming—the Cincinnati School of Embalming and the Rochester School of Embalming, both founded in 1882.388

Despite the rise in the number of embalming schools by the turn of the twentieth century, the curricula of these American institutions continued to focus almost exclusively on cavity rather than arterial embalming. While arterial embalming preserved bodies longer, it also required an advanced understanding of human anatomy, especially of the vascular and arterial systems, which most embalmers did not possess. The easier and far more appealing method was cavity embalming because it required far less skill and anatomical understanding. The only requirements for cavity embalmers—or “belly puncturers” as they were popularly known—was that they had to cut open the body, remove the organs, sew the incision shut, and dress the body to hide their poor stitching. Interestingly, while arterial embalmers believed that cavity embalmers were amateurs and less effective, they began to include cavity embalming as a secondary procedure to ensure total preservation of the body.389

Nevertheless, by the early-twentieth century, arterial embalming in Mexico was still a new process. Patent records indicate that 1908 was the first time that arterial embalming gained attention there, when Mexican inventors Carlos C. McRae and Antonio J. Ogazón received “provisional” status for their patent “An Apparatus for Injecting Cadavers.” McRae and Ogazón

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387 E.B. White and Ivan Sandof, “The First Embalmer,” The New Yorker, November 7, 1942, 44. In 1900, 2.06 pesos equaled 1 U.S. dollar. German chemist August Wilhelm von Hofman discovered formaldehyde in 1867, but scientists and physicians did not realize its potential as a preservative until 1888; it would be several years before the use of formaldehyde became commonplace among embalming professionals due to its high cost.

388 Habenstein and Lamers, American Funeral Directing, 224-225.

389 Habenstein and Lamers, American Funeral Directing, 228-230.
emphasized that their device was both “new and useful” for disposing of corpses. Their embalming process, the duo explained, started with the embalmer inserting several trocars, medical instruments with sharply pointed ends used inside cannulas (hollow cylinders) to insert into blood vessels or body cavities to extract blood, fecal matter, and gases from the body. Once extracted, the embalmer inserted several needles into the corpse to fill it with preservatives and antiseptic liquids, which sanitized the body and reduced the potential threat that the body posed to the environment. According to McRae and Ogazón, the total time for embalming one corpse was less than five minutes. They also emphasized the construction of the machine that powered the trocars, cannulas, and needles. It used two different sized chains that moved the gears that powered the machine’s needles and tubes in a way that would emphasize “strength and perfect uniformity,” preventing the machine from breaking, a common occurrence in early embalming machines. Moreover, the machine allowed embalmers to embalm ten to twelve corpses per hour, an extremely high number compared to fifty years earlier when “Doctor” Thomas Holmes was only able to embalm three per day.

Figure 4.12. Carlos W. McRae and Antonio J. Ogazón, patent 8047, “An Apparatus for Injecting Cadavers.” The two gears are directly below the two stars (not in the original) seen at the top of the patent drawing. The gears on top of the machine powered seven needles seen at the bottom of the drawing, allowing embalmers to insert them into the corpse to extract fluids and inject the corpse with the necessary preservative liquids required for embalming. Courtesy of Archivo General de la Nación.

390 AGN, GD-PM, Legajo 207, Expediente 85, 29 May 1908, 1.
391 White and Sandof, “The First Embalmer,” 44.
392 AGN, GD-PM, Legajo 207, Expediente 85, 29 May 1908, 1.
The embalming machine submitted by McRae and Ogazón was not the only one of its kind to capture the attention of state officials. Cuban physician José María Addis—who also spoke English and had a residence in New York City at 221 West 22nd Street—shared his embalming machine before an audience of state and medical officials at the National School of Medicine in Mexico City on March 8, 1909. \(^{393}\) The event, covered in the March 9 issue of *El Heraldo* newspaper—a large Catholic opposition paper that was not favored by the state—shed light on the horrors of the Díaz regime. \(^{394}\) State officials saved these records related to Addis’ embalming procedure, which included a detailed pamphlet he had written in English. It is worth exploring in more detail because it offers a glimpse into how embalming captured the attention of Mexico City’s residents, providing readers of *El Heraldo* disturbing images of what the modern capital was becoming, and what modern medicine was doing to the individual’s body.

![Figure 4.13. “How One Can Embalm a Cadaver in only Two or Three Minutes: Notable Experiments at the School of Medicine.” *El Heraldo* March 9, 1909. In the photograph, the hand of Dr. Addis (the man in white) is on top of his embalming machine that is performing a muscular embalment through the major muscle groups of the cadaver. Courtesy of the Archivo Histórico del Distrito Federal.](image)

\(^{393}\) AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 4.


\(^{395}\) AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 1.
Addis’s pamphlet began with a short history of embalming that mentioned William Hunter and his contributions to the procedure. However, much to the delight of state officials, the medical community, and well-to-do families, the narrative quickly turned to promoting the importance of embalming as a process that “protected the living from possible infection.” He assured readers that embalming was the only method that would remove germs, which frequently leaked into the soil and carried “contagion to the living, through water and sometimes through food,” from corpses. The result was a preserved corpse that no longer posed a threat to the living world. According to Addis, the embalming machine was so simple that, as he put it, even the “inexperienced operator will easily find the left ventricle of the heart,” which was the first step in the embalming process. Like other embalmers of the era, Addis preferred arterial over cavity, but realized that “if a perfect embalming is desired,” then he would have to also include cavity and vascular injections. Using air pressure, Addis could complete the process in five to ten minutes, spreading five quarts of embalming fluid into the cavities and muscles. The embalming machine held a maximum of seven quarts of fluid and could deliver up to 30 pounds of pressure to complete the process.\(^{396}\)

While Addis had extolled the ease of using his machine, reality was far different. To operate the embalming equipment required a delicate touch, since there were various pressure settings that accelerated or decelerated total embalming time. To improve the skill required to become a master machine embalmer, Addis suggested that an individual with little to no experience fill the tanks with water instead of embalming fluid, and practice injecting “a dog or other big animal” before moving on to a human. He pointed out that if they did not practice first, it was likely that they would “seriously bloat the corpse or even rupture its skin.”\(^{397}\)

Once the embalmer became more familiar with the machine settings, he could move on to the muscular embalming process. The first phase of the injection process began with the eyes, where the embalmer inserted two small needles into their corners. When the embalmer reached a depth of six inches, he could begin depositing 16 ounces of fluid in each eye. Next, he inserted two needles and deposited 11 ounces of fluid in each lung. Afterward, the embalmer placed three

\(^{396}\) AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 4-5.

\(^{397}\) AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 5.
needles into the abdominal cavity and injected 23 ounces of fluid before inserting a trocar into
the left ventricle of the heart and pumping 60 ounces of fluid into it.398

The second phase of the embalming process began with the chest, where the embalmer
inserted two needles on each side of the pectoral muscles, one needle in each shoulder, and two
needles in the throat—the area that decomposed the quickest—all receiving 14 ounces of
embalming fluid. The third phase began by inserting four needles into each arm and injecting 22
ounces of fluid. The fourth phase placed one needle per buttock and one into the “fleshy part of
each thigh,” injecting 47 ounces of fluid. The last step of the embalmment process placed three
needles in each leg and one in each foot, an additional total of 22 ounces of embalming fluid.399

After completing the muscular embalming phases, the next step was cavity embalming,
which Addis described as one that used “three quarts of fluid in the thoracic and abdominal
cavity.” Once the embalmer completed the process, Addis explained, any corpse could return to
a “normal state” even if they were victims of contagious disease, drowning, or train accidents.400

All of these embalming steps were important for eradicating disease from the body. One
of the specific diseases that undertakers and medical officers struggled with, and which Addis
believed his method would combat, was tuberculosis. According to Addis, normal embalming
for cases of tuberculosis required the embalmer to inject the carotid artery and bronchial tubes.
However, this procedure caused more problems than it solved, since internal leakage was quite
common. To determine the origin of the leak, the embalmer had to repeatedly cut open the
corpse, starting with an incision to the carotid artery, both femoral arteries, the windpipe, the
eyes, and lastly, the usual location of the tear, the abdomen. These actions, Addis exclaimed,
were “profane and extremely repugnant” and left behind, in his opinion, a semi-mutilated
corpse.401

Addis explained in his pamphlet that his machine and embalming process would return
the body to its previous condition and offer a more natural appearance. His technique—injecting
the eyes first—eliminated a common problem associated with embalming. Rather than “swell

398 AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 7-8.
399 AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 9-10.
400 AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 11-13.
401 AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 13.
like hen’s eggs,” Addis’ process gave the eyes a more life-like appearance. Additionally, this process allowed him “to clear the blood from the head and rid it of its discoloration,” a characteristic associated with other embalming procedures. He also explained that the injection of the left ventricle was the best way to have “preservative fluid circulate through all of the arterial system.” After these explanations, Addis concluded the section by asserting the utility of the machine, stating that “even an illiterate person” could operate it. This statement—while likely an exaggeration—was appealing to state officials who would frequently hire individuals from the lower classes to work with or near bodies, e.g., grave-digger or morgue assistant.\footnote{AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 10-12. For more examples of lower class professions that worked alongside the dead, see López, “The Cadaverous City,” 74-80.}

Nonetheless, it appears that state officials did not adopt Addis’s embalming method since he did not re-appear in the historical record until November 6, 1918. That month, Addis wrote a letter to the municipal president of the Federal District, José María de la Garza, to offer his embalming expertise for the recent victims of the Spanish Influenza that had swept through Mexico.\footnote{AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 6 November 1918, 1.}

![Doctor J.M. Addis, “Cranial Cavity Injection.” The man holding the needle is Dr. Addis, who is injecting preservative fluids into a severed head of an unknown man. The various bottles seen at the front of the picture contain preservative fluids that were delivered to the cranial cavity by a series of tubes, including one that was inserted into the nasal cavity of the deceased man. Courtesy of the Archivo Histórico del Distrito Federal.\footnote{AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 3.}](image-url)
Figure 4.15. Doctor J.M. Addis, “Left Ventricle Injection.” The cadaver in the picture has been cut open by Dr. Addis to illustrate how the preservative fluids move into the left ventricle. The tubes in the picture connect the arteries in his neck with those in his chest. Courtesy of the Archivo Histórico del Distrito Federal. 405

Figure 4.16. Doctor J.M. Addis, “Muscular Embalming.” This is the same picture shown on the pages of El Heraldo newspaper that demonstrate how Dr. Addis performed muscular embalming. All of the tubes seen draped across the cadaver are connected to the major muscles groups that required preservation, according to Addis’s pamphlet. Courtesy of the Archivo Histórico del Distrito Federal. 406

405 AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 7 July 1918, 5.

406 Ibid.
This global pandemic hit Mexico hard. Influenza was a familiar disease, one that left its victims bed-ridden for several days or a week, before their health returned. Spanish Influenza, however, was a different strain that carried pneumonic complications, which had not been seen before. Pneumonia is a killer.\(^{407}\) While the official statistics of Spanish Influenza affected Mexicans are controversial—some estimates place the mortality rate at 2 percent, while others have it closer to 0.7 percent—the impact the disease had on medical and state officers is not.

With a population of between 720,000 and 800,000 inhabitants, the epidemic produced anywhere from 5,000 to 15,000 deaths—and corpses—in just a few months.\(^{408}\) Such large numbers had forced state officials to store the dead bodies in monstrous piles at the former Belém Prison, which Addis believed his method could “sterilize.”\(^{409}\) But before he would commit to helping eliminate the risks to health posed by the bodies, Addis wrote a series of contractual demands that he expected the government to meet. First, workers had to take the corpses out of the large piles and distribute them in smaller numbers among the various jail cells at the prison. Second, the government had to pay for the antiseptic fluid that his machine would need to embalm thousands of corpses. Third, the government would pay him a fee of 1.50 pesos ($50) per embalmed corpse, which he acknowledged was a bit pricey—but allowed him to pay his medical assistants.\(^{410}\) Fourth, the corpses he embalmed had to be clothed and placed in a coffin, before he would begin the arterial embalming process. If the corpses, however, had poor vascular systems, they would only receive cavity and muscular embalming. Lastly, Addis promised the municipal president that his method was the best option, since he would embalm “no less than 200 cadavers per day” for the length of his three-month contract, an amount that traditional burial could never match.\(^{411}\)


\(^{409}\) AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 6 November 1918, 1.

\(^{410}\) In 1918, one peso equaled 50 U.S. cents. For more see, Philip H. Middleton, *Industrial Mexico* (New York: Dodd, Mead, and Company, 1919), 99.

\(^{411}\) AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 6 November 1918, 2.
Thirteen days later, municipal president José María de la Garza responded to Addis’s request, informing Addis that he had received his proposal and hired a medical expert to review it. R. Riverell—the expert he called on—was dismissive. He concluded that the embalming process was “nice, but did not have any influence against disease.” However, despite the review, de la Garza would grant Addis the contract if he would agree to put cotton soaked in “a cheap antiseptic” into the nostrils and mouths of corpses, since this method would “eliminate the actual disease.” Alas, surviving records do not reveal whether or not Addis accepted the condition that he would have to either pay for the antiseptic—or use one below his medical standards.

Crematory Ovens

Yet another method of body disposition had appeared at the turn of the twentieth century that captured the imagination of state officials and supporters around the world, including in Mexico, who for years had looked for ways to dispose of the dead in an efficient and sanitary manner. The introduction of the Marburg Crematory Oven in October 1907, offered state officials a more efficient and modern method to reduce its escalating corpse problem and create a hygienic environment. The crematory oven would also provide city cemeteries, such as Panteón Dolores, an alternative method to dispose of the urban poor’s bodies, since cemetery space was at a premium. Overall, the oven offered state officials an opportunity to reach a higher level of modernity.

Negotiations between Guillermo Beltran y Puga (the Director of Public Works in the Federal District) and representatives from the Caesar J. Marburg Company concluded on October 12, 1907. Two crematory ovens would be built in Panteón Dolores, one that could incinerate one corpse every two hours, and the other that could fit three to five corpses at once, and incinerate them in three to four hours. This detailed contract also revealed that the Marburg Company would supply “all material and iron” needed for oven construction, while the government would pay to transport the materials from Veracruz to Mexico City using one of two state-owned railroad companies (Mexican Railroad and Interocéanico) and for “all costs of

412 AHDF, F-AM/GDF, S-P, Caja 3475, Expediente 28, 19 November 1918, 1.

413 Unlike early-twentieth century Buenos Aires, London, Paris, or San Francisco, where civic leaders popularized and financed cremation, the Mexican government was responsible for the construction of the crematory ovens. For more, see López, “The Cadaverous City,” 83-85.
preliminary construction.” If Marburg proved unable to complete construction by July 1, 1908, then the company would pay Mexico’s Treasury Department 30 pesos per day ($1,140) until its completion; but if the ovens were finished on time and passed inspection, then the government would pay the Marburg Company 40,000 pesos ($1,580,000).414

The Director of Public Works also alerted the Marburg Company that seven unsatisfactory conditions would void their contract and leave them unpaid. To satisfy state officials, the ovens had to demonstrate the following characteristics. First, the ovens had to cremate the corpses in the time specified, providing white ashes and bone fragments measuring “no more than two centimeters in length.” The amount of fuel required to incinerate a single body in the oven could not exceed 100 kilograms. The gas produced by incinerated corpses also had to be “neutral”—a phrase that state officials failed to explain further, but most likely meant not harmful to city residents and cemetery workers who would ingest the smoke on a daily basis. If Marburg was unable to obtain the materials needed for construction within three months or if the ovens failed to meet the guaranteed corpse capacity, the fourth and fifth conditions stated that he would not receive anything. If the director determined that the iron and other materials used were “not of good quality,” Marburg would also get nothing. The last stipulation explained that if Marburg did not provide Public Works officials with a written notice about the completion of the ovens, then he would go home empty-handed.415

Such stringent clauses in Marburg’s contract were the result of the tremendous power the Department of Public Works—responsible for overseeing city projects—wielded over people interested in investing in the infrastructure of Mexico City. As the director of such a department, Guillermo Beltra y Puga could choose anyone he wanted to complete the project, an opportunity that could make someone both a financial and social success in Porfirio Díaz’s Mexico.

Not surprisingly, with so much money and prestige on the line, the Marburg Company completed the ovens before the deadline, satisfying all of the requirements imposed by the Director of Public Works. While completing the ovens by July 1, 1908, may have seemed like a normal deadline for a project of this magnitude (eight months), the actual reason why Beltran y

414 AHDF, F-AM/GDF, S-P, Caja 3486, Expediente 446, 12 October 1907, 1-2. In 1907 and 1908, 2.01 pesos equaled 1 U.S. dollar.

415 AHDF, F-AM/GDF, S-P, Caja 3486, Expediente 446, 12 October 1907, 3-4.
Puga pushed hard to expedite the work was because the city was running out of burial space in Panteón Dolores. Cemetery administrator Alberto Hope had informed the Department of Public Works in early December 1907 that his cemetery was overrun with corpses, since they had buried almost 22,000 bodies between January 1906 and December 1907. To create the space he needed to handle all of the bodies, he had begun exhuming graves of individuals who had only paid for a seven-year burial term, which came with more affordable rates than burials for perpetuity.

Hope also pointed out that, if the number of burials remained constant, then he and his department would need to consider expanding the cemetery. When the federal government had purchased the land that became Panteón Dolores in 1879, it was over 276 acres (about 1.1 million square meters). According to Hope’s calculations, based on a seven-year burial term and normal mortality rates, the cemetery would need an additional 170 acres (almost 700,000 square meters), which was 61.5 percent of the current area. This size cemetery would allow for one meter of space between graves and allow for wider roads to accommodate the carriages transporting corpses, both of which would promote a more hygienic environment. But if the total space he desired were unavailable, Hope had an alternative plan. If state officials reduced standard burial from seven to five years, and allowed the cemetery to keep the ground “continuously wet, through rainfall or manual watering,” then it would accelerate the decomposition of corpses buried with or without coffins, only requiring a cemetery footprint measuring almost 500,000 square meters (44 percent of the current cemetery’s size).

Whatever their merits, it appears that state officials failed to adopt Hope’s recommendations—most likely because such large tracts of land were difficult to find in an expanding and overcrowded city. Elite and middle-class residents only embraced cremation to feed the flames of modernity with the bodies of those they considered inferior. The only people who ought to cremate their bodies were the poor, who the well-to-do blamed for the city’s poor hygienic conditions.

416 AHDF, F-AM/GDF, S-P, Caja 3486, Expediente 460, 5 December 1907, 1.
418 AHDF, F-AM/GDF, S-P, Caja 3486, Expediente 460, 5 December 1907, 1-2.
Popular Roman Catholic superstition was another detrimental influence that elite and middle-class residents cited as the reason why the urban poor failed to embrace the warmth of modernity embodied by the ovens. In the 1880s and 1890s, the Roman Catholic Church had issued several decrees banning the practice of cremation, even excommunicating some long-time members. Church officials argued that cremation violated the fundamental tenet of Catholicism: the resurrection of the body. Earlier attempts by Roman Catholic officials in Mexico to ban cremation had taken place as far back as the sixteenth century, when officials sought to eliminate cremation practices of Mexican indigenous populations and substitute Roman Catholic burial rights in their place. The Aztecs were one of these groups targeted by church officials, since cremation was a method used in their cosmological outlook as a way to facilitate the movement of the heart through the underworld and for the practical purpose of fertilizing crops. Indeed, by the late-eighteenth century—the era of Bourbon Reforms—the Spanish royal family had begun to attack the privileges of the Roman Catholic Church, which included opulent burials of the dead. When Mexico became independent in 1821, religion did not disappear as enlightened urban elites (known as sensatos), became more interested in individual religious reflection and began to champion the virtues of science. As a result, burials shifted from beneath church floorboards to secular spaces outside city limits.

Yet despite the presence of cremation among indigenous groups in Mexico, burials remained the most chosen method of body disposition for Mexicans throughout the nineteenth century, since burials reinforced the social hierarchy. By the late-nineteenth century, burials had also become an influential political tool for Porfirio Díaz and his construction of the country’s official history, complete with selected national heroes that reinforced the power and influence that he held over the population.

Like cemetery reforms, cremation served as another tool of social control for Don Porfirio. As early as 1891, Díaz sent representatives from the Superior Sanitation Council (The

421 Iserson, Death to Dust, 275, and Farrell, Inventing the American Way of Death, 166.
422 Lomnitz, Death and The Idea of Mexic, 159-172.
423 Voekel, Alone Before God, 81-122.
424 Esposito, Funerals, 113-144.
Federal District’s Board of Health) to attend a panel on the hygienic benefits of cremation at the International Congress of Hygiene and Demography in London. Within the Mexican medical community, vocal support for cremation began in 1907, when medical student José Najera authored a study on the advantages that cremation offered state officials when it came to improving public health. In Najera’s opinion, cremation eliminated the dangerous odors, gases, and liquids that corpses emitted when buried.\textsuperscript{425} Support for cremation also began to appear in the written publications of a small but vocal, religious minority in Mexico known as the Episcopalian Methodists. Unlike the Roman Catholic majority, Episcopalian Methodists accepted the benefits that science could bring the country, believing science was an essential component for achieving modernization. According to members of this faith, one of the Roman Catholic Church’s biggest shortcomings was it failure to embrace the promising relationship that existed between science and religion. In the 1870s, they pointed out the Catholic press had routinely attacked Darwinism with the argument that the idea of man and monkey having an ancestral connection was ludicrous.\textsuperscript{426}

As a result, Episcopalian Methodists accepted cremation as an invaluable technological tool that they promoted and defended in the face of staunch Roman Catholic opposition. Using their official newspaper, \textit{El Abogado Cristiano Ilustrado} (The Intelligent Christian Lawyer), Episcopalian Methodists published columns that attacked the Roman Catholic belief that cremation violated the resurrection of the body. According to one contributor, F.S Borton, it was “the inhabitant and not the room that has value, the bird and not its old nest, the spiritual and not the physical.”\textsuperscript{427} Resurrection still occurred with cremation, they argued, but that the process was more like the metamorphosis of a caterpillar to a butterfly. The individual’s spiritual body was more important than its corporeal one.\textsuperscript{428}

\textsuperscript{425} López, “The Cadaverous City,” 89-93.


\textsuperscript{428} Miguel Z. Garcia, “¿Es la incineración de cadáveres anticristiano?” \textit{El Abogado Cristiano Ilustrado}, 15 July 1909, 438.
In addition to the differing views Roman Catholics and Episcopalian Methodists held over what role the physical body played in resurrection, Episcopalian Methodists argued that since the Bible never explicitly opposed cremation, it should not be rejected as a potential method of body disposition. Here again, F.S. Borton argued that God had never envisioned the public health problems that plagued the modern world, which meant that man had to use the common sense given to him by God to ameliorate public health problems in any manner he deemed fit. If this meant using cremation, then people needed to be more willing to put aside their “beautiful but false feelings and old but hurtful customs.” Cremation, in Borton’s opinion, was a method that could reduce the body to ashes in hours, rather than “by worms during six months, which produced an indescribable foul smell that harmed the living of the earth.” The sentiment expressed by Borton was one that cremationists around the world shared, publishing articles that argued that the release of gaseous matters into the atmosphere—the smoke from the crematory ovens—was not antichristian or antireligious, but suggested the existence of another high life form, a symbol of enlightened Christianity.

For state officials—many of whom maintained a religious identity, but were also generally secular in their approach to the deaths of others—the crematory ovens were another technology that could help the Porfirian government firmly control death and the bodies of citizens, especially of the popular classes. It also provided state officials and well-to-do residents with a technology that provided an unmatched opportunity to dispose of the urban poor quickly and efficiently—and in a way that allowed those in charge to erase the poor from the memories and landscape of modern Mexico.

Conclusion

A 1925 patent application submitted by a Spanish physician highlighted why the preservation of corpses remained so important for Mexican state officials. In his application, José Bassas Llados commented on why he believed the conservation of the dead was important for a country’s reputation. “The cult of the dead,” he wrote, “has throughout history been evidence of

429 Borton, “¿Hay razones?” 437.

430 Farrell, Inventing the American Way of Death, 166-167.
civilized and progressive people. Nobody can deny that the most appropriate way to honor the deceased is through the preservation of their body.”

According to Bassas Llados, conservation procedures of the recent past had tried too hard “to manipulate the body.” Removing organs or injecting bodies with chemical solutions were methods that Bassas Llados felt had “always delivered bad effects for relatives.” However, his preservation technique sought to fix these problems by practicing “absolute efficiency, without subjecting the corpse to any operation or manipulation.” In his opinion, “the body played a completely passive role in treatment,” and thus true conservation could only occur in the environment that surrounded the corpse. The procedure that Bassas Llados would describe covered the body in a chemical solution—such as thymol or formaldehyde—before placing it in the coffin. Once inside the coffin, the corpse would be surrounded by an unnamed disinfectant gas. Afterward, Bossas Llados pointed out, the environment inside the coffin would be “completely sterile and therefore, no further decomposition will occur,” which he claimed could help protect the health of a city.

Mexican state officials, both during and after the Porfiriato, believed that public health in Mexico City could be improved by adopting new forms of funerary technology like that described by Bosas Llados. This type of technology would offer state officials an opportunity to protect the city’s healthy residents (upper and middle-class) from unhealthy ones (urban poor). Adopting new methods of body disposition would allow state officials to create an efficient and modern system for disposing of the dead and also further extend their reach into the lives of everyday citizens. Funerary technology had become part of the Mexican government’s ongoing modernization project—which had begun during the Porfirian era—to reduce the disorderly and chaotic methods surrounding how city residents disposed of and preserved their dead.

Yet in their attempt to control how citizens would deal with the dead, state officials often failed to understand how members of the lower class would interpret and use new technologies.

431 AGN, GD-PM, Legajo 307, Expediente 75, 2 December 1925, 1.

432 AGN, GD-PM, Legajo 307, Expediente 75, 2 December 1925, 1.

433 AGN, GD-PM, Legajo 307, Expediente 75, 2 December 1925, 2.

434 For more on the project of creating a modern state, see Scott, Seeing Like a State, 76-83. For more on how Porfirian state officials approached the issue of burials in Mexico City cemeteries, see López, “The Cadaverous City.”
Blinded by their own obsession with new forms of technology, state officials were unable to recognize that the technology that would help create a modern Mexico was only useful for citizens who understood it and believed it would deliver tangible benefits. For those who did not understand it, technology remained a useless tool that did not improve their daily lives, and as a result, failed to gain popularity among the urban poor.

Adopting funerary technology was another tool of the modern state that officials believed would allow them to control how citizens interpreted death and dying in Mexico City. According to state officials, modern citizens should follow the hygienic guidelines the government promoted surrounding the burial of bodies. However, as the next chapter illustrates, accomplishing these goals proved difficult, since it meant altering the behaviors and customs of the lower classes. As we shall see, many lower-class inhabitants ignored official regulations—and instead chose to act in a manner that fit their worldview and facilitated their continued existence in the city.
CHAPTER FIVE

A CITY OF CIVILIZED IDEAS AND UNCULTURED PEOPLE: PUBLIC HEALTH AND POPULAR ATTITUDE TOWARD DEATH IN PORFIRIAN MEXICO CITY

Introduction

Around midnight on November 2, 1904, outside “The Luck Club,” a poker room located on Independence Street—police officer Adrian R. Acevedo put a gun into his mouth. Pulling the trigger, a shot rang out, killing him instantly. His body slumped and hit the floor.

Near Acevedo’s body lay his friend and fellow police officer Francisco Camareno, who Acevedo had shot and wounded before killing himself. When the police arrived, Camareno told the investigating officers that he had been on duty inside the poker club, standing near a screen door in the back of the establishment, when a familiar voice had called his name from outside. He left to see who was calling him, and as he stepped out of the club, a bullet had struck him in the left forearm from close-range, sending him stumbling backward to the ground. As Camareno looked up to see who had shot him, he quickly noticed that it was his friend Adrian Acevedo, who had taken the gun and turned it on himself.

Camareno told the police investigating the scene that he did not know why Acevedo had shot him, but believed he knew why he had shot himself. According to Camareno, a few days earlier, Acevedo had told him about a disturbing incident that had taken place while he was on duty at the Office of Security Commission. On October 27, Acevedo had fallen asleep when someone arrived at the office, then “unhooked his pants and pulled out his member.” When Acevedo woke up, he noticed the individual attempting “to perform the effeminate and immoral act” was the Inspector General of the Police. Acevedo asked the man what he was doing and when he did not receive a response, Acevedo walked away. However, sexual advances from such a high-ranking individual put Acevedo in a difficult situation. If he reported the incident, it was

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435 Archivo General de la Nación (hereafter AGN), Fondo-Tribunal Superior de Justicia del Distrito Federal (hereafter F-TSJDF), Caja 372, Expediente 343, 15 February 1900, 1.

436 AGN, F-TSJDF, Caja 372, Expediente 343, 15 February 1900, 2.

437 AGN, F-TSJDF, Caja 372, Expediente 343, 15 February 1900, 3.

438 AGN, F-TSJDF, Caja 372, Expediente 343, 15 February 1900, 3.
unlikely that anyone would believe the story. Such an accusation would probably have cost Acevedo his job. So he told the only person who he thought would believe him, his friend Francisco Camareno.

A few days later, Acevedo appeared to have decided that his only choice was to commit suicide. Camareno told the officers taking his statement that he knew no other reason why Acevedo had killed himself.\(^{439}\) The officers continued interviewing witnesses—most of whom were inside the club when Acevedo shot Camareno—and all of them reported hearing two shots fired, matching what Camareno had told them. The legal medicine physicians who worked for the state had arrived at the scene and generated a preliminary report on the cause of death, which they determined was the result of “an entry wound found immediately behind the roof of the mouth, irregularly circular, one centimeter in diameter, with no exit wound.”\(^{440}\) While the rest of the case has disappeared from the historical record, the incident itself remains significant because Acevedo’s corpse remained at the scene for hours—and was just one of dozens that startled visitors could find on Mexico City streets during the Porfirián era.

The sight and smell of corpses abandoned on streets—especially those of the urban poor—offended the sensibility of middle-class and elite residents and represented an impediment to the progress envisioned by Porfirián state officials. Official records listed the number of corpses collected at cadaver deposits in the city for the year 1900 at 9,327.\(^{441}\) Yet this failed to include the numerous bodies found in the street, away from sanctioned deposits. To solve the city’s corpse problem, state officials and affiliated institutions would have to eradicate the poor’s unseemly behavior and stress the importance of hygiene, especially when it came to handling the bodies of dead relatives. State officials believed that, in addition to regulating the movement of bodies, they also had to control how inhabitants of the city and its surrounding suburban towns and villages dealt with death. They believed the appropriate response was for individuals to follow the hygienic guidelines promoted by the government if the city was going to become modern. Indeed, the majority of state officials viewed Mexico City as a laboratory, a place rife

\(^{439}\) AGN, F-TSJDF, Caja 372, Expediente 343, 15 February 1900, 4.

\(^{440}\) AGN, F-TSJDF, Caja 372, Expediente 343, 15 February 1900, 6.

\(^{441}\) Archivo Histórico del Distrito Federal (hereafter AHDF), Fondo-Ayuntamiento de México/Gobierno del Distrito Federal (hereafter F-AM/GDF), Serie-Panteones (hereafter S-P), Caja 2, Expediente 272, 31 December 1900, 1.
for experimentation. However, accomplishing their goals would be difficult, since it meant eliminating certain behaviors and customs associated with people’s everyday lives—especially among the lower classes, who state officials and well-to-do residents considered obstacles to achieving progress.  Many lower-class inhabitants ignored state regulations and, instead, chose to pursue strategies that fit their worldview and facilitated their survival in the city.

This chapter explores how the people of Mexico City and surrounding small towns in the Valley of Mexico reacted to the government’s attempt to establish a modern and hygienic approach to death. In the 1890s, as we have seen, state officials supported an increased focus on dissection in medical school curricula as a way to demonstrate that progressive medical education existed in Mexico, as elsewhere in the world (Chapter 3). Additionally, this chapter examines how officials defended the actions of physicians and medical students in the face of international outrage from foreign governments who challenged the efficacy of performing autopsies on workers who died in railroad accidents, by exploring the case of an American worker, William Scott.

At the same time, state officials also tried to unite Mexicans by establishing an official approach to death that was both progressive and secular. They promoted the use of the cemetery as a space where citizens could dispose of bodies in an organized, hygienic, and modern manner. Nevertheless, this was only well-received by the elite and middle-class members of society. The majority of the population—the lower class—continued to approach death in a way that made sense in their lives. By asserting their autonomy, they undermined the Porfirian state’s attempt to control death and the spaces surrounding it, particularly the cemetery, medical school, and hospital.

**The Death of William Scott: How the Soldiers of Modernity Created an International Incident**

To accomplish its hygienic goals surrounding death, the government turned to professionals like physicians and public health experts to serve as soldiers in Mexico’s sanitary

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army. These professionals shared a common interest—ameliorating the unsanitary conditions that threatened the health of the city. With their backgrounds, they claimed special access to the knowledge and skills required to obtain a diagnosis and potential solution for the city’s health problems. In particular, physicians and medical students became invaluable partners for the Porfirian government, since more than any other group they had an intimate knowledge of the human body. So much so, that state officials continued to support physicians despite international outrage expressed by representatives of the American government over an incident that riled Washington in 1900.

In early February 1900, United States Ambassador to Mexico Powell Clayton—the first U.S. ambassador to Mexico, who would serve from 1899 to 1905—received a letter from U.S. Consular Agent John H. Farwell. In it, Farwell communicated the disturbing information about a recent incident that had occurred in San Luis Potosí. Farwell accused the Mexican medical community—both physicians and medical students—of having unnecessarily, and repeatedly, mutilated the corpses of American railroad workers during their autopsies.

Many Americans migrated to Mexico in the late-nineteenth century. They searched for independence or a better standard of living—both of which Mexico offered. There was cheap land and plenty of employment opportunities in the oil, mining, and railroad industries. As a writer for the National Association of Railway Agents’ monthly magazine The Railway Agent explained, “there are Americans in every branch of railroad life in Mexico, the demand for them owing to the rapid increase in mileage, becoming daily much greater.” More than 25,000 Americans went to Mexico, most to work as farmers. But a significant number ended up working on railroads. In each case, these Americans received support from land development companies who dominated the colonization effort in several cities, including San Luis Potosí, which, as of December 9, 1888, had completed a new international railroad eight miles south of the city that

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444 Claudia Agostoni, “Popular Health Education and Propaganda in Times of Peace and War in Mexico City, 1890s-1920s,” American Journal of Public Health 96, no. 1 (January 2006): 52-61. Agostoni herself mentions that state officials often used the terms sanitary police and sanitary administration in an effort to establish what she refers to as a sanitary dictatorship.

445 Scott, Seeing Like a State, 78.

446 AGN, TSJDF, Caja 372, Expediente 343, 15 February 1900, 1.

connected it with the United States. In eastern San Luis Potosí, several hundred American colonists and a handful of absentee American estate owners claimed most of the land, which covered three districts and was home to over 100,000 Mexicans.

Despite significant American presence in San Luis Potosí and other areas of Mexico, Americans in the railroad industry were not well-received by Mexican state officials or the people of Mexico. According to *The Railway Agent*, some Mexican states maintained and enforced antiquated laws that made train conductors or engineers—positions often filled by Americans—culpable for any type of accident that occurred. In particular, the magazine revealed that officials often imprisoned Americans in these positions for months on charges of negligence. However, the article’s author rejoiced in the fact that “this custom is rapidly giving way to more civilized ideas, and the day is not far distant when no more of this will be done.” But this celebration would prove premature.

Between February 15 and early May 1900, any mention of consular agent Farwell’s letter concerning the mutilation of American railroad workers seemed to disappear from the historical record. However, on May 26, 1900, Agent Farwell wrote to the influential Mexican physician Jesus E. Monjarás of San Luis Potosí, who had achieved international recognition as a Mexican commissioner in the American Public Health Association (APHA), along with physicians Eduardo Licéaga and José Ramírez. In his letter, Farwell pointed out that, for the two years he had served as an agent, he was aware of numerous instances where bodies of American railroad employees who died during railroad accidents had undergone autopsies before anyone had notified him. While upset about this lack of courtesy, he told Monjarás that he took solace in the fact that the autopsies “were authorized by law.” He had told Americans who had

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450 “Railroading in Mexico,” 172.


452 AGN, F-TSJDF Caja 373, Expediente 343, 26 May 1900, 25-26.
voiced concerns to him about the autopsies that postmortem examinations were the legal customs of Mexico: a procedure that foreign residents had to abide by.

Nonetheless, the case of William Scott—an American engineer killed on the Central Mexican Railroad—had made Farwell distrustful and suspicious of Mexican state officials and, more importantly, its medical community. For Farwell was convinced there was no reason why physicians had to perform an autopsy on Scott’s corpse. According to his sources—presumably railroad company officials and American railroad employees—the train Scott drove had crashed, and the engine had fallen on him, killing him instantly. Additionally, water and steam from the boiler had escaped, causing Scott’s corpse to appear as “nothing more than a bruised shapeless mass of bones with the flesh completely cooked.” For Farwell, there was no reason why physicians needed to conduct an autopsy. Yet a judge had issued an order for the autopsy, and a physician named Delgado had performed it, despite pleas from Scott’s friends that “the autopsy could reveal absolutely nothing more than was already known regarding cause of death.” The Mexican judge disagreed. Farwell’s interpretation would be correct under normal circumstances, as it was an unnecessary procedure in cases where cause of death was “plainly evident.” However, Scott’s death fell into a different category: one classified as mysterious deaths “where persons died of unknown cause or were found in a strange place or in a strange manner” required an autopsy to determine cause of death.

Unsatisfied by the judge’s explanation, Farwell used his position as U.S. Consular Agent to get a meeting with the governor of San Luis Potosí, Don Blas Escontría. In 1898, President Porfirio Díaz had appointed Escontría to replace Governor Díez Gutiérrez—widely considered much younger, more progressive, and more dynamic than his predecessor. In addition, Blas Escontría was both an engineer and businessman—the kind of professional that President Díaz believed would improve the state’s economic situation, create incentives for foreign capital investment, and “assuage the public’s discontent with decades of caudillo-style rule.” Farwell expected that the governor would sympathize with his position—and indeed had told him that, as

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453 AGN, F-TSJDF Caja 373, Expediente 343, 26 May 1900, 26.
454 AGN, F-TSJDF Caja 373, Expediente 343, 26 May 1900, 27.
a consular agent, he had the right to object to the performance of autopsies of Americans. However, the governor also stated that he was “unable to do anything more than recommend to the judge a more liberal construction of the law” because the judge who had issued the autopsy order was actually a federal judge, who was not under the auspices of Escontría. Having made no real strides toward obtaining a satisfactory answer to his inquiry, Farwell brought the issue once again to the attention of his boss, Ambassador Powell Clayton.

Sometime in May, Farwell—still perturbed—provided Clayton with what he called “eight facts” that surrounded the situation unfolding in San Luis Potosí. First, he declared that the type of autopsy practiced by Mexican physicians consisted of sawing into the corpse’s skull to extract the brain—at the same time, physicians opened the abdomen to examine the internal organs. Second, when physicians conducted autopsies, they “always invited medical students” and used the time with the corpse as a teaching opportunity to help students understand anatomy. Third, since students were present at the autopsies, they often received chances to practice their dissection skills, which left corpses in a “terribly mutilated state” despite being “patched and sewn” before the physicians returned the corpses to their family or relatives. Fourth, in the case of William Scott, whomever sawed the skull and extracted the brain had, Farwell wrote, “stitched the scalp inside-out (the inside part of the scalp was placed on the outside) and returned it in this condition to the family.” Fifth, Farwell and his staff had “begged and complained” to local physicians, who nevertheless refused to stop autopsying American bodies unless they received orders from a federal judge. Sixth, since the physicians listened exclusively to federal judges, Farwell argued, it produced a “mutually protected society that until now, has withstood all attacks.” Seventh, in Scott’s case, the cause of death was clear—the engine had crushed almost all of his bones and he was “burned and cooked by the vapor and hot water” that escaped from the train’s boiler. Lastly, Farwell concluded his report by reiterating that, in the case of William Scott, physicians and students had mutilated the body “even more than usual” by sawing, hammering, and chiseling the skull, before “throwing the brain to the floor” and executing “other scientific operations.”

Appalled by the information he had received from Farwell, Ambassador Clayton used his political power to sue the attending physicians who

456 AGN, F-TSJDF Caja 373, Expediente 343, May 1900, 15-16.

457 AGN, F-TSJDF Caja 373, Expediente 343, 28 May 1900, 15-17.
performed the Scott autopsy, forcing Mexican authorities to require all of the individuals involved in the autopsy of William Scott to complete depositions before having the Mexican Supreme Court rule on the lawsuit.

The first person to complete his deposition was federal judge Gabriel Aguirre—the man who had given permission to the physicians to perform the Scott autopsy. Cases like William Scott’s, Aguirre argued, were accidents requiring further investigation—instances the court believed required autopsies. Furthermore, he argued, that to discover the truth meant exploring all possible options when it came to homicides, accidental or intentional. “Some cases are at first view, not attributable to anyone,” Aguirre declared, but “afterwards, the autopsy proves the existence of a crime.” An autopsy thus provided them the opportunity to determine if there was more to the death of William Scott. The main duties of a judge, he argued, involved “assuring and collecting all of the elements” before delivering a ruling, which was why he had ordered the autopsy. 458

Judge Aguirre had little reason to fear Mexican authorities would contradict his actions, since he had the backing of governor Escontría. As Aguirre would learn, Escontría had personally met with Farwell to discuss the Scott incident. Indeed, Escontría went out of his way to let Aguirre know that, as governor, he was “entirely uninvolved in all types of judicial proceedings.” 459 He supported Aguirre’s decision to order an autopsy since the Scott case fell into the category of mysterious deaths, where autopsies were standard. Concluding, the governor reminded the judge that Farwell was a friend of his, and thus their “private conversation did not have an official character.” 460 The tone of the letter suggests that Escontría was trying to protect himself, since creating an enemy, especially one as powerful as a federal judge, could have tremendous professional consequences. Additionally, his letter served as a reminder that Escontría valued his country and his fellow countrymen more than a personal relationship with an American bureaucrat.

Escontría defended Aguirre’s autopsy order. The physicians, who performed it, also wrote a lengthy report defending their actions. Physicians Luis L. Cordero and Joaquín L.

458 AGN, F-TSJDF Caja 373, Expediente 343, 7 June 1900, 7.
459 AGN, F-TSJDF Caja 373, Expediente 343, 1 June 1900, 28.
460 AGN, F-TSJDF Caja 373, Expediente 343, 1 June 1900, 30.
Delgado, both of the Civil Hospital of San Luis Potosí, began their letter by stating that, in the case of William Scott, no physician or student had mutilated the corpse as Farwell had claimed. In fact, Cordero and Delgado exclaimed, there had never been any cases where anyone had made extraneous cuts beyond what was required for an autopsy; nor had they or their colleagues used judicial autopsies as an opportunity to teach trainees, as Farwell had asserted. In all cases, “without exception,” they had proceeded as directed by the judge—and simply carried out autopsies in accordance with the law.\footnote{AGN, F-TSJDF Caja 373, Expediente 343, 4 June 1900, 19.}

Nevertheless, these physicians also acknowledged that a juridical autopsy was often more invasive than a regular autopsy. By design, they wrote, they had to not only study the “one or more lesions that explain cause of death” but also had to examine the interior of the skull as well as abdominal and thoracic cavities. Here, the physicians supported their claims by pointing out what Physician Luis Hidalgo y Carpio—Mexico’s preeminent legal medicine expert and founder of the Legal Medicine section of the National Academy of Medicine, which he had run from 1864 until his death in 1879—had encouraged legal medicine physicians to do in his 1877 book \textit{Compendio de Medicina Legal}. On page 621, these physicians noted, Hidalgo y Carpio had written that all body cavities required inspection “even when the cadaver has been found mutilated or dismembered” because these acts could have happened after death, as a way to “deflect the attention of the authorities about the true cause of death.”\footnote{AGN, F-TSJDF Caja 373, Expediente 343, 4 June 1900, 19-20.} Therefore, they argued that they had done nothing malicious during the autopsy of William Scott.

Their defense went further. Cordero and Delgado also insisted that Farwell’s claim that “almost all of the bones in William Scott’s body had been fractured” was false—as was the accusation that they had thrown around the deceased’s brain. As they explained, no cut took place that “did not prescribe to science” and they had tried their best to “balance the scientific requirements with due respect of the body.”\footnote{AGN, F-TSJDF Caja 373, Expediente 343, 4 June 1900, 20.} To illustrate this point, their report also included a detailed narrative of how they performed the autopsy. This was important for two reasons. First, the autopsy procedure served as a self-defense tool in the face of Farwell’s acerbic accusations. Second, it revealed the ability of physicians to create a linguistic barrier based on specialized
knowledge that was, at best, partially understood by lay society.\textsuperscript{464} The physicians wrote the report, describing what they had done to each cavity, starting with the skull. Here, the cut had occurred at the “beginning of the hair line” to the area at the base of the skull, behind the bottom of the ears. Next, the physicians explained in detail how they had lowered the flaps of skin to draw a line with a saw around the circumference of the skull, where with “the hook of the hammer” they removed the upper half of the skull to examine the brain. Afterward, the autopsy moved to the thoracic cavity, where—in accordance with the Virchow Method, meaning a Y-shaped incision—these physicians cut in the skin in a vertical line down from the “sternum to the pubis bone” and two diagonal cuts toward both shoulders. After removing the tissue and muscle from above the corpse’s ribcage, these two physicians had used special scissors to cut open the ribcage, removing vital organs such as the heart and lungs. The next step in the autopsy process was an examination of the abdominal cavity and the organs inside it, such as the liver, kidneys, stomach, and intestines. At that point, the post-mortem examination was done: extracted organs were returned to their respective places inside the body, and the cavities were sewn shut. Once all the organs were back, the attending physicians—or presumably their medical assistants—“washed the cadaver with a disinfecting solution, dressed him, and delivered the body to the relatives” usually completing the entire process in 2.5 to 3 hours. Cordero and Delgado concluded their report by proclaiming their innocence from accusations they characterized as “unnecessary and ignorant.” They were confident that state officials could determine whether the accusations against them were actually the truth.\textsuperscript{465}

A few days after providing their side of the case, Delgado and Cordero received support from an influential ally in the Mexican medical profession. Physician Eduardo Licéaga submitted a letter on behalf of these physicians, supporting the direction the two had taken in the name of modern science. Licéaga acknowledged Farwell’s complaint that the autopsy was only applicable for cases of mysterious deaths, not railroad accidents. However, Licéaga argued, it was entirely possible that a criminal could commit a crime of “common order” like homicide, and then use a train accident to “erase his traces and make it appear as if the train was responsible for the death

\textsuperscript{464} Agostoni, \textit{Monuments of Progress}, 27.

\textsuperscript{465} AGN, F-TSJDF Caja 373, Expediente 343, 4 June 1900, 21-23.
of the victim.”

According to historian Michael Matthews, most accidents involving trains during the Porfiriato occurred close to towns, villages, fields, and farms where people worked and lived. Many of the victims were railroad employees or innocent bystanders who seemed to be doing routine activities when killed—for example, traveling to work or walking along the tracks. The carnage that train wrecks brought to citizens’ everyday lives made it a plausible location for murderers looking to dump the bodies of victims. Licéaga also pointed out that, according to article 49 of International Law, foreigners employed by Mexican businesses like the Central Mexican Railroad were “Mexican in all that relates to them,” including death. While he understood that members of the American colony in San Luis Potosi “were not pleased that one of their compatriots was taken to the dissecting room at the hospital,” they had to keep in mind that the autopsy would rule out foul play in the death of William Scott.

Concluding his letter of support, Licéaga declared that he believed that physicians Cordero and Delgado had done their job “as it should be—in agreement with the principles of legal medical science.” After all, he wrote, even if experts thought they had identified the cause of death, “they should never, under any pretense” settle on their initial conclusions; instead, they should examine “the second or third cavity,” for this would provide either additional proof for—or cast doubt on—their earlier findings. Much like he told students at the National School of Medicine, Licéaga believed that, whatever the issue, medical science was an invaluable tool—it outweighed the uneducated and misguided ramblings of uninformed bureaucrats. The truth in the majority of situations, legal or otherwise, existed inside the body. Medical professionals like Licéaga, Cordero, Delgado, and all other trained physicians, had a professional obligation to uncover the actual cause of death, no matter the cost.

Licéaga’s opinion on the William Scott autopsy surely influenced the outcome of the case. With all of the testimony recorded and reviewed by Mexican Supreme Court judges, they issued a verdict in the lawsuit against Luis L. Cordero and Joaquín L. Delgado. The Court

466 AGN, F-TSJDF Caja 373, Expediente 343, 7 June 1900, 33.
468 AGN, F-TSJDF Caja 373, Expediente 343, 7 June 1900, 36-37.
469 AGN, F-TSJDF Caja 373, Expediente 343, 7 June 1900, 38.
decided that the autopsy performed by the physicians was “of legal precision” and that “no judge would accept the responsibility of neglecting autopsies.” Even if families did not want autopsies performed on their relatives, they were necessary for uncovering the truth and bringing forward individuals who may have committed a crime. Additionally, physicians “should not avoid performing autopsies” even when faced with “the unlawful measures of foreign consular agents.”

The future of the country rested on the physician’s ability to understand the human body to improve public health and the lives of the inhabitants of Mexico, including foreigners like William Scott. State officials had placed tremendous power in the hands of physicians since the 1890s and could not risk anyone, especially foreigners, undermining it.

The message that the physician was an essential component of modern Mexico began to appear in newspapers that were sympathetic to the government. One such example was the pro-government newspaper, *El Imparcial*, which argued that modern medicine, based on “proof, data and documentation had replaced eloquence and rhetoric.” It went on to argue that state officials needed physicians to help analyze public health problems and curb the uncivilized behavior exhibited by the lower classes. The importance elites placed on remedying the health of the city, including the environment and its inhabitants, grew, as physicians better understood the threat. In particular, by the final decade of the nineteenth century, the germ theory of disease—first developed in 1883 by German physician Robert Koch—gained a following among some members of the medical community in Mexico. A more full-fledged acceptance of the theory would have to wait, as historian Ana María Carrillo has argued, until 1903. Even then, miasmatic theory remained popular, especially among the lay population. In 1905, an unsigned letter from the office of the consul general of Argentina and addressed to Dr. Eduardo Licéaga, the director of the National School of Medicine, provided details on a recent surgery that had removed the paralysis from the hand of a soldier, a medical mystery that had stumped several

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470 AGN, F-TSJDF Caja 373, Expediente 343, 11 July 1900, 40.


473 Ana María Carrillo, “¿Estado de peste o estado se sitio?”
leading medical professionals in Argentina. However, a Dr. Navarro at the Hospital Caridad had used a new drug called Scopolamine to anesthetize the soldier for an extended period. The drug’s affect on the body allowed Navarro to cut through several layers of skin and muscle to discover bone fragments and a compressed nerve.\textsuperscript{474} Medical journals and word of mouth presumably advertised the discoveries of new drugs, diseases, or medical theories within the Mexican medical profession. Whether or not all Mexican physicians adopted bacteriological theory or new drugs remains unknown. Yet it is safe to assume, that for those who did, the theory dovetailed nicely with the desire by state officials and physicians to make Mexico modern, which meant educating citizens on the numerous invisible threats the city had to overcome, which existed in the household and inside the body.\textsuperscript{475}

\textbf{Tradition versus Modernity in the Urban and Suburban Cemetery: Panteón Dolores, Magdalena, Tlalpan, Ixapalapa, and Coyoácan}

Medical physicians were integral components of the Superior Sanitation Council (SSC), the institution responsible for all public health and sanitation issues in the Federal District. Its mandate went beyond just informing the government about the hygienic problems of the city and its inhabitants.\textsuperscript{476} As a state institution, it was responsible for assisting other organizations in an attempt to create an image of Mexico City and its surrounding areas that illustrated (to both visitors and residents alike) that modernity existed there. However, SSC officials recognized, they first had to deal with the behavior exhibited by cemetery workers toward the dead, which they considered anachronistic.

\textsuperscript{474} Archivo Histórico de la Universidad Nacional Autónoma de México (hereafter AHUNAM), Fondo-Escuela Nacional de Medicina (hereafter F-ENM), Ramo- Dirección (hereafter R-D), SubRamo-Secretaría (hereafter Sub-Sec), Serie-Correspondencia Sobre Asuntos Varios (hereafter S-CSAV), Caja 33, Expediente 9, 38-42.

\textsuperscript{475} For more on state officials and physicians educating citizens about issues related to public health, see Dufendach, “Injecting Modernity; Garza, The Imagined Underworld; Overmeyer-Velázquez, Visions of the Emerald City; Patience Schell, Church and State Education in Revolutionary Mexico City (Tuscon: University of Arizona Press, 2003); Agostoni, Monuments of Progress; Bliss, Compromised Positions; Piccato, City of Suspects; and Buffington, Criminal and Citizen in Modern Mexico.

\textsuperscript{476} Agostoni, Monuments of Progress, 57.
They learned about such problems through networks of similarly minded officials such as cemetery administrator Manuel Cervantes, who wrote a letter to the SSC to inform them of a dangerous situation unfolding inside his cemetery. Workers continued to open coffins—despite the fact that they had existed in Mexico for decades—before burying corpses “to assure the presence of the body.”477 At this time, coffins had no transparent parts, which would allow cemetery workers to verify the presence of the corpse. It appears that based on either tradition or administrative rule, workers checked for a body to make sure that only one corpse was inside the coffin. Cervantes admitted that this behavior had become an unofficial “formality” under his direction, and he lamented the fact that it threatened public health.478 He feared that if someone

477 AHDF, F-AM/GDF, S-P, Caja 3458, Expediente 575, 10 February 1893, 1.
478 AHDF, F-AM/GDF, S-P, Caja 3458, Expediente 575, 10 February 1893, 1.
had died from a potentially contagious disease, opening the coffin would not only “spill” noxious odors into the atmosphere, but escaped germs could lay dormant on the workers’ clothes. All of this could lead to a potential pandemic, as these workers could infect thousands of people in the city unknowingly. Considering the number of corpses buried each day, people living near the cemetery, as well as families accompanying bodies, needed to be aware of the potential danger that existed. Furthermore, he believed that state officials could eliminate this behavior by having physicians or their medical assistants stamp or mark coffins in a way that ensured that nobody would open them.479

Cervantes’ proposal resonated with SSC members, who suggested that they put it to a vote to determine whether they should bring the issue before the federal government. In the end, members voted in favor—ten to two—of bringing Cervantes’ suggestion before the government. Additionally, SSC members proposed five solutions of their own to prevent workers from opening coffins at cemeteries. First, the members recommended that every coffin have a transparent piece above the corpse’s face, “at least three inches long and two inches wide,” made from glass or crystal, providing “an unobstructed view into the interior to ascertain the presence of the body that is to be buried.” Second, in cases where families could not afford to purchase a coffin with this glass insert (usually the lower classes), the person responsible for the burial could request the local police inspector or “a person of their choosing” to verify that the coffin did contain a single corpse. Third, for the bodies of individuals who did not die inside state institutions (such as hospitals or jails) the funeral home would be required to attach a document to the outside of coffins that indicated the contents—specifically, that a corpse was inside and what class of grave the family had selected. Fourth, for individuals who died inside state institutions, administrators would be responsible for burying corpses in simple coffins without glass inserts but with an attached document that indicated the deceased’s name and cause of death—proof of the coffin’s contents. Lastly, state officials would prohibit cemetery workers from opening coffins in the cemetery, except in cases where a judicial or political authority had submitted a request for such action.480

479 AHDF, F-AM/GDF, S-P, Caja 3458, Expediente 575, 10 February 1893, 2.
It remains unclear whether or not the government of the Federal District adopted these suggestions. What is more important, however, is that the incident provides a unique window into the world of both the working classes and upper classes. The approach to the dead exhibited by cemetery workers—from working-class neighborhoods where it was quite common to find corpses without coffins—illustrated how citizens made sense of new forms of technology. The cemetery was likely the space where workers first encountered coffins on a consistent basis, their unfamiliarity with it prompting them to open the coffins to verify the presence of a corpse. Their actions were similar to those of workers introduced to the wheelbarrow in parts of Mexico during the late-nineteenth century—who chose to carry the wheelbarrows on their heads, rather than use them to move heavy or awkward objects as intended.\footnote{Beezley, \textit{Judas at the Jockey Club}, 73-74.} This type of behavior was class specific, as the only people who used coffins on a frequent basis were foreigners and the well-to-do. For the unfamiliar Mexican, the coffin was a puzzling contraption for disposing of the dead, since traditional (and ancestral) methods of burial had involved various methods for body disposition, including wrapping the corpse in a shroud before burying it.\footnote{Lomnitz, \textit{Death and the Idea of Mexico}, 170-177; Esposito, \textit{Funerals}, 27; and Amos Megged, \textit{Social Memory in Ancient and Colonial Mesoamerica} (New York: Cambridge University Press, 2010), 136-140.} At the same time, the proposed changes to coffins were certain to exacerbate class tensions in the city. The poor would be unable to afford the glass or crystal insert—and according to the proposal, this meant they would be required to go to the police to confirm the presence of a corpse. The problem with this potential measure was the fact that the poor had a tenuous relationship with the police, who considered the majority of the poor to be thieves and criminals.\footnote{Piccato, \textit{City of Suspects}, 34-49.} But rules such as these were clearly intended to reinforce state officials’ paternalistic attitude toward the urban poor: to modernize the city, government officials—including policeman—had to improve the daily habits of its citizens, especially as it related to bodies, hygiene, and public health.

As one might imagine, the urban poor were less than enthusiastic when faced with implementing recommended hygienic changes of this kind. In fact, while the state sought to control bodies and establish an official approach for how citizens would deal with death, many individuals from the lower classes instead maintained traditional attitudes and customs toward
bodies, refusing to adopt modern techniques. Nor was this a new issue. Since the late-eighteenth century, members of the elite had tried to control how inhabitants dealt with death: for example, by passing legislation that moved burials out of churches to cemeteries located in the outskirts of cities. However, beginning with the ascendance of Porfirio Díaz to the Mexican presidency, state officials pushed to control death further. With Díaz’s help, they created a patriotic death cult that celebrated national heroes—e.g., Benito Juárez (father of Mexico’s Liberal 1857 Constitution) or Miguel Hidalgo (the father of Mexican independence)—and regulated popular activities that surrounded celebrations of the dead, such as banning the introduction of food and drink inside cemeteries in 1900, which had been typical behavior for families visiting their dead relatives during the Day of the Dead festivities.

In an attempt to elevate the legitimacy of his presidency and to claim historical legitimacy for his rule, Díaz and his cabinet members created a historical narrative that simultaneously emphasized the common experiences of military officers—which included Díaz himself—and traced Díaz’s genealogy to the men considered to be the founding fathers of Mexico. When Ignacio Ramírez, the co-writer of the country’s Liberal Constitution of 1857, died, the Porfirian government planned an opulent and, more importantly, symbolic state funeral that honored Ramírez’s contributions to the legal framework of the country, the same constitution that Díaz swore to uphold during his presidential inauguration. The state paid all of the funeral expenses, provided a pension to Ramírez’s family, and granted his sons government scholarships to attend college at any state university. Furthermore, during the funeral procession—unlike earlier presidents who rode at the end of the march—Porfirio Díaz led the march on foot, placing himself directly behind the hearse carrying the body, which “stressed his political leadership and personal relationship with the deceased.”

During the popular celebration for remembering the dead (Day of the Dead), incidents of violence and public drunkenness among the urban poor throughout city cemeteries had become a

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484 Voekel, Alone before God, 106-145.

485 Esposito, 1-19. For a first-hand account of Day of the Dead celebrations from the early-twentieth century, see Ethel Tweedie, Mexico as I saw it (London: Hurst and Blackett Limited, 1901), 215-217. For more on the Day of the Dead, see Stanley Brandes, Skulls to the Living, Bread to the Dead: The Day of the Dead in Mexico and Beyond (Malden, MA: Blackwell Publishing, 2006).

486 Esposito, Funerals, 56-60.
stain on the progress that state officials hoped to achieve. To remedy the situation, the
government increased its police presence in these cemeteries, mobilized volunteer watchmen,
banned the consumption of food and drink inside the cemeteries, and closed cemeteries at 6pm,
rather than the later hours that people had grown accustomed to using. The justification for
these regulations centered on the idea that the government should control the dead to “lay claim
to an objectivity and impartiality, to the transcendental serenity of the immortal nation.”
Nevertheless, the government’s attempt to establish its own version of how citizens would deal
with death and dying in Mexico was resisted by lower class citizens: those working in state-
affiliated institutions like cemeteries, hospitals, and medical schools, as well as those who lived
in Mexico City and in the myriad suburban towns that surrounded the capital. These tensions
would have profound consequences for how members of the lower classes dealt with bodies, and
how they interacted with Díaz and his state officials.

By the time of President Porfirio Díaz’s long second term, which began in 1884, the
standing rule for all cemeteries within the Federal District—including these outlying areas—was
for cemetery administrators to turn away families who arrived without the necessary paperwork.
These measures were put in place to protect public health and inculcate inhabitants about proper
hygienic procedure when it came to burials, both of which reinforced the government’s desire to
control the living and the dead. Once residents understood what type of behavior was expected
from them, state officials believed “order and progress” would flow from the center of Mexico
City to the surrounding towns and villages in the Valley of Mexico—making the country truly
modern.

Yet the problem involving burials was becoming more pervasive in areas further away
from the presence of federal and state governments. The rules did not work as well as state
officials had envisioned in suburban towns like Magdalena, Tlalpan, Ixtapalapa, and Coyoácan.
For many of the residents of these towns, two factors influenced whether or not they participated
in the state’s official death cult: cost and convenience. State officials from the Federal District
determined the costs associated with burials, which were expensive, but did include the required

paperwork and burial plots—at times costing upwards of 50 pesos ($2,850). In Mexico, the daily wage of low-skill workers at the turn-of-the-twentieth-century laborers was one peso ($56.90). This meant that at a burial cost of 50 pesos, an individual’s burial was, a minimum, 13 percent of their annual income. However, this is not an accurate portrayal of how expensive burials were for lower class families, since wage laborers rarely worked every single day in a year, since their work was far more inconsistent. Additionally, the government in Mexico City set up an office to issue the paperwork, and required families to come there to collect burial tickets. This process made it difficult for working citizens in these surrounding towns to take time off to travel to the city—often a half-day trip by horse, unless the railroads served their towns, where trips could take anywhere from 20 to 60 minutes depending on train schedules. Either way, working class people were not in a position to leave work at their leisure; if they did, they risked losing their job, which meant losing money to feed their families. As a result, individuals often chose to disregard the state’s guidelines toward death and, instead, followed their own set of rules.

In the town of Magdalena, located just outside the capital city limits—roughly six kilometers southeast of Panteón Dolores—one example that illustrates these challenges has survived in the historical record. On August 23, 1901, Judge Juan Z. Ceballos of Magdalena wrote to the state government of Mexico City, complaining about an illegal burial that had occurred at the local church cemetery of Iglesia Magdalena. He further noted that it was “not the first time this has happened.” The church cemetery most likely had stopped burying corpses several decades earlier, when state officials had created secular burial grounds throughout Mexico—especially Mexico City—to improve public health, take away the control church officials had over death, and transfer that power to state officials. The judge had learned of the incident from the cemetery administrator, who had informed him that the corpse was that of a

489 AHDF, F-M/GDF, S-P, Caja 5, Expediente 359, 23 August 1901, 1-3.

490 Assuming that the wage laborer worked every single day at the rate of one peso per day, their annual income would be 365 pesos or $20,800 in 2011 dollars. This, however, is a false assumption since most laborers did not work regularly. For more on worker wages, see Piccato, City of Suspects, 246-247.

491 Terry, Terry’s Mexico, 232-233.

492 AHDF, F-AM/GDF, S-P, Caja 5, Expediente 359, 23 August 1901, 1.

493 Esposito, Funerals, 23-35.
man named Bibiano Ballesteros. Judge Ceballos informed state officials that he was going to start an investigation into the illegal burial to determine who had buried the body. A week later, on August 30, the cemetery administrator informed Judge Ceballos that he believed he knew who the likely culprits were who had buried the corpse. With this information, Ceballos asked police to conduct interrogations of two men, Pedro Abad and Angel Sánchez, and send their findings to a Mexico City judge (unnamed in these documents) who would now preside over their fate.

According to the police report, Abad was the assistant director of the cemetery in Magdalena, while Sánchez was a neighbor of Bibiano Ballesteros. Abad confessed to the police that Sánchez had approached him “inquiring about how one could be buried in Panteón de Magdalena.” He had told Sánchez that it was his responsibility to receive permission from the government of the Federal District and to pay 50 pesos ($2,810) for burial rights and paperwork—then he could bury the body. With Abad’s story in hand, the police then turned to Sánchez: was what Abad had told them true? Sánchez replied that he had never asked Abad anything like what he had claimed, that he was “neither a relative nor friend of the deceased,” and thus he had “no interest in the burial.”

Faced with two conflicting stories, the police asked both if they were sure about the information they had provided. Did they have anyone who could verify their stories?

Both Abad and Sánchez responded emphatically: they did. The police collected the names of these witnesses, and brought them in for questioning. Toribio Ballesteros (the brother of Bibiano), told police that he—along with Perfecto Ballesteros (his other brother), Apolinario Ballesteros (his nephew and Bibiano’s son), and an acquaintance named Vicente Mendoza—had been responsible for paying the burial fee and collecting the necessary paperwork from the government office in Mexico City that oversaw burials for the municipal cemetery of San Francisco in the town of Magdalena. When police interrogated Perfecto, he relayed the same story as his brother—except he claimed that after obtaining the paperwork they returned to Bibiano’s house, and found that family members had changed their minds, preferring that “the burial be done in the cemetery of the church of Magdalena,” the closed cemetery in question, which had religious significance for the family, unlike the secular and state-run cemetery of San

494 AHDF, F-AM/GDF, S-P, Caja 5, Expediente 359, 30 August 1901, 3.
As police continued to interrogate the Ballesteros family, the picture that emerged in their minds was that Pedro Abad and Angel Sánchez were small town hustlers who used their respective positions as assistant cemetery administrator and “person of influence” to profit from the naivety of grieving families.

According to the official interrogation record, police concluded that Sánchez had told the family that he would bury the body in Panteón Magdalena at a cost of 50 pesos ($2,810) and, once they paid, had assured them that he would take care of the required paperwork and any other details. The family members had paid Sánchez because they wanted to bury Bibiano in a place that had religious meaning for them, and to keep the body away from the control of the government. Sánchez and Abad split the 50 pesos ($2,810), using Abad’s position as assistant caretaker to bury the body in Magdalena. While profiting from this transaction, the two had not only deceived the family, but had also created a potential public health situation by unofficially burying a body in the closed cemetery.

When the case closed on September 30, the unnamed judge, who had received the report from Magdalena police, issued two rulings. First, he ordered a legal medicine team to exhume the body of Bibiano Ballesteros and bury him in Panteón San Francisco, as the original paperwork had indicated. Second, he verbally reprimanded Ceballos for admitting that he knew there had been other illegal burials, and “doing nothing about it.” For co-conspirators Sánchez and Abad, the judge issued an unspecified punishment. While details concerning the punishment are missing from the historical record, the complications surrounding the burial of Ballesteros remains significant. It demonstrates that underhanded people could turn fellow citizens’ desires for what they considered a proper burial site into a profitable business. Moreover, it supports the idea that rather than follow the official state rules concerning death, inhabitants who lived outside Mexico City limits used their autonomy to assert both traditional and popular notions of death and religion rather than follow the secular practices of the Mexican state.

495 AHDF, F-AM/GDF, S-P, Caja 5, Expediente 359, 31 August 1901, 5.

496 AHDF, F-AM/GDF, S-P, Caja 5, Expediente 359, 31 August 1901, 6.

497 AHDF, F-AM/GDF, S-P, Caja 5, Expediente 359, 31 August 1901, 6.

498 AHDF, F-AM/GDF, S-P, Caja 5, Expediente 359, 12 September 1901, 7
Another incident illustrates that these tensions were becoming the norm for citizens living outside Mexico City limits. In the suburban town of Tlalpan—with a population of 6,000, and described by travelers as “the farthest, healthiest and most picturesque of the city’s suburban places”—several complaints from prominent residents had appeared on the desk of Federal District Governor Ramón Corral. On April 12, 1902, Corral requested that the Civil Registry—the office that oversaw birth and deaths—to report on Tlalpan’s public cemetery’s condition. Agustín M. Cordero of the Civil Registry provided Corral with information that spurred him to act. The official sent to the cemetery, reported that it was full, affecting how residents disposed of their dead. Since there was no available room to bury the bodies, people were simply propping corpses against the outside cemetery walls. The area of the cemetery most vulnerable to these abuses was the southeast corner, where “cracked and collapsed” walls caused Cordero and other officials to think that there was a high probability that illegal burials could or were occurring there. Furthermore, the shed used to store corpses before burial was missing both a wall and roof. The threat to public health that existed in the cemetery as well as its less-than-modern appearance presented the governor with a situation requiring an immediate solution. Despite being outside Mexico City limits, Tlalpan was one of several towns (including Coyoacán and Churubusco) that received daily train service, meaning that the cemetery’s poor condition could affect the health—and viewpoints—of hundreds of travelers. The smell of bodies, along with foul water in ditches, and litter on the streets left visitors with an unsatisfactory impression of the capital and the suburban towns, one that was far from the image of progress envisioned by state officials.

To ameliorate the situation, Corral asked Cordero to provide him with a list of repairs and the total cost required to improve the condition of the cemetery. On April 18, Cordero requested 515 pesos ($23,300) to repair the walls in the southeast corner, the corpse shed, and the house for the cemetery caretaker. Ten days later, on April 28, Ramón Corral fulfilled his request.

499 Terry, Terry’s Mexico, 400.

500 AHDF, F-AM/GDF, S-P, Caja 6, Expediente 498, 14 April 1902, 1.

501 Agostoni, Monument of Progress, 111-112.

502 AHDF, F-AM/GDF, S-P, Caja 6, Expediente 498, 18 April 1902, 4.

503 AHDF, F-AM/GDF, S-P, Caja 6, Expediente 498, 28 April 1902, 7.
Additionally, since there was no space inside the cemetery for proper burials, Cordero suggested that the governor should order the exhumation of corpses interred in the oldest parts of the cemetery to free up space. Corral agreed, and on 15 May, announced that exhumations “in the graves of this establishment” (meaning Tlalpan Cemetery) would begin shortly.\footnote{AHDF, F-AM/GDF, S-P, Caja 6, Expediente 498, 15 May 1902, 6.} Families had five days to collect the remains of their relatives once exhumations began. If they did not, the bones would most likely become the property of medical schools (who believed that bones were an invaluable pedagogical tool) or medical students (who believed that they helped improve their understanding of anatomy).\footnote{AHDF, F-AM/GDF, S-P, Caja 4, Expediente 264, 31 January 1901, 1; AHDF, F-AM/GDF, S-P, Caja 4, Expediente 264, 5 February 1901, 4; AHDF, F-AM/GDF, S-P, Caja 4, Expediente 309, 14 May 1901, 1-2.}

The government had invested heavily in Mexico City cemeteries in the 19th century, using them as additional spaces of social control.\footnote{Scott, \textit{Seeing Like a State}, 28-47.} By the early-twentieth century, this investment transcended the official boundaries of Mexico City, spilling into the numerous towns and villages surrounding the capital. However, as the government attempted to extend its control in matters related to death—a prime example of its desire to regulate all facets of Mexican society—people who lived far from the seat of government felt that their way of life, traditions, and beliefs were all under attack by state bureaucrats seeking to impose on them their vision for what constituted a proper modern life. As a result, many of the residents of these towns resisted, and continued to deal with death in ways that made sense to them.

Indeed, a significant number of individuals in small towns surrounding Mexico City chose not to adopt the state’s modern approach to death. In particular, cemetery workers—members of a profession who interacted intimately with the dead, populated by individuals from lower socioeconomic backgrounds—dealt with bodies in a far different manner than individuals from the middle or upper classes. This behavior became a source of conflict in Ixtapalapa, a small town southeast of Mexico City, once a prominent town during the height of the Aztec Empire.\footnote{Ramón Iglesia, \textit{Columbus, Cortés, and Other Essays}, trans. Lesley Simpson (Berkeley: University of California Press, 1969), 151-154.} But by the early twentieth century, most of the town’s indigenous population—which had consanguineous ties to the Aztecs—lived in abject poverty, but continued “to preserve the
traditions that their missionaries created among them,” including Roman Catholic passion plays.\textsuperscript{508} The combination of traditional indigenous worldviews and Roman Catholicism created an approach to death that did not fall under the category of secular modernity that Porfirian state officials had envisioned.

One example of how religion and cultural traditions affected citizens’ attitudes toward death occurred on January 28, 1903, when brothers Ramón and Tomás Cedillo, along with neighbor Tomás Luna, wrote to the Superior Sanitation Council (SSC) to complain about the behavior of local cemetery workers. In their joint letter, the men complained that, for several days, workers at the Ixtapalapa Municipal Cemetery had exhumed corpses that “had reached their temporarility.”\textsuperscript{509} This meant that, when originally buried, their families had chosen the less expensive five year burial term rather than a burial for perpetuity—which was always significantly more expensive.

In particular, these neighbors expressed concern that, despite the fact that five years had passed, the corpses were not decomposed completely. According to the Cedillos’s and Luna, once workers removed the corpses from their graves, they had taken them to a cave on the property, where the bodies remained “out in the open air, producing unbearable miasmas” that threatened the health of the town.\textsuperscript{510}

A few days later, physician and President of the Superior Sanitation Council Eduardo Licéaga sent José Ramón, the Secretary General of the SSC, to Ixtapalapa to investigate the complaint and generate a report for a presentation at their upcoming meeting on February 7. Ramón’s report contained alarming information supporting the claims made by the Cedillos family and Luna. Not only did the “extracted bodies give off an unbearable stench,” but there were corpses with “bellies containing masses of organic material that give a repugnant aspect to the remains.” Furthermore, even though the cave where workers stored the remains was “wide and well-ventilated,” the presence of partially decomposed bodies mixed with “bodies found reduced to skeletons” generated fear among neighbors, since the cemetery “was very close to the


\textsuperscript{509} AHDF, F-AM/GDF, S-P, Caja 9, Expediente 896, 28 January 1903, 2.

\textsuperscript{510} AHDF, F-AM/GDF, S-P, Caja 9, Expediente 896, 28 January 1903, 2.
town’s population.” To placate their fears, José Ramón suggested during the February 7 meeting that the SSC order the cemetery to do two things. First, bury the exhumed remains. Second and most importantly, use the same rules recently adopted at Panteón Dolores to extend temporary burial rights by two years, bringing the total time before exhumations were legal to seven years.511

With this information, Superior Sanitation Council members discussed the proposals, and returned with a resolution four days later on February 11. The members agreed that while there was “a bad odor” at the Ixtapalapa Cemetery, the exhumation of corpses after five years was acceptable since it corresponded to article 239 of the 1877 Sanitary Code, which stated that the Superior Sanitation Council “will set for each cemetery the time that human remains stay in the grave and outside this term, the only way to permit exhumation was a direct order from the government of the Federal District.”512 Yet not all cemeteries had the same exhumation periods. For example, the SSC had set the exhumation period for Panteón Dolores (inside Mexico City) at seven years. Nonetheless, the recent exhumations in Ixtapalapa—the first carried out at the cemetery—were of corpses buried in 1895 and 1896. The SSC had determined that their partial decomposition was an aberration, most likely due to the “special conditions of the terrain” caused by inadequate rainfall.513 Despite the reservations expressed by the town’s well-to-do, the SSC did not find the actions of cemetery workers to be an urgent matter, primarily because they did not live in Ixtapalapa. Mexico City was home to the SSC—and its members lived in the city—keeping them at a safe distance from Ixtapalapa and the potential threats posed by the local cemetery.

In Panteón General, located in Coyoacán, a suburban town (roughly eight miles west of Ixtapalapa and eight miles south of the historical center of Mexico City where Hernán Cortés had established his seat of government), we find another example of a rural cemetery where “order

511 AHDF, F-AM/GDF, S-P, Caja 9, Expediente 896, 7 February 1903, 1-2.

512 AHDF, F-AM/GDF, S-P, Caja 9, Expediente 896, 11 February 1903, 3. In fact, the 1895 Sanitary Code contains a reference table for readers to see what article numbers had changed from the code’s earlier versions. The book lists article 239 as article 203 in the 1895 version of the sanitary code. For the original Spanish version of the article, see Article 203 in Código Sanitario de los Estados Unidos Mexicanos 9th ed. (Mexico City: Eusebio Sanchez, 1895), 49.

513 AHDF, F-AM/GDF, S-P, Caja 9, Expediente 896, 11 February 1903, 3. The SSC would eventually change the length of short-term burials in Ixtapalapa from five years to seven years on August 17, 1903. See AHDF, F-AM/GDF, S-P, Caja 9, Expediente 896, 17 August 1903, 5.
and progress” was absent. On June 5, 1903, the family of a deceased little girl named María Jesús Salinas Labastida arrived at the cemetery. They sought to visit her grave—located in the third class section—as they had done since her burial two months earlier on April 1. According to her parents, during their previous visits, the grave site “had been normal.”\(^{514}\) However, during the most recent visit, the family noticed something unusual—there was fresh dirt on the grave. Puzzled as to why his daughter’s grave would need new dirt, Crescencio Salinas went to the office of the cemetery manager, hoping to get an answer.

According to Salinas, the manager provided him with a brutally honest response to his inquiry. The cemetery did not maintain detailed records about burials—an issue that did not create the modern image desired by state officials. The manager admitted that since “the graves have no numbering or signs, it is quite difficult to know which of them are filled and which are not.” Furthermore, without a comprehensive index containing names, burial dates, or grave numbers, the manager had selected his daughter’s grave because he believed that “the deposited corpse had already served its term.”\(^{515}\) Under this assumption, the manager had her body exhumed on May 30, to make room for the body of a recently deceased child named Floresque Bernardino.

To prepare the grave for this boy, the manager had asked cemetery workers to remove the older girl’s casket. However, upon lifting it out of the grave, and “seeing the state of the coffin and noticing the stench that it emitted,” the manager quickly realized he had made a mistake—the body had not fully decomposed, as he originally believed. With this revelation, the manager decided to put the casket back in the grave and to place the new casket (containing Bernardino’s body) on top of it. This was why the grave site had fresh dirt. After this candid explanation, an angry Crescencio Salinas contacted Ramón Noriega, a member of the Superior Sanitation Council, to ask him to investigate the incident further. Details remain meager. The only piece of his investigation that remains crucial to the historical record is that the incident involving the corpse of María Jesus was not unique. Indeed, when Noriega arrived in Coyoacán, he wrote that

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\(^{514}\) AHDF, F-AM/GDF, S-P, Caja 9, Expediente 861, 5 June 1903, 1.

\(^{515}\) AHDF, F-AM/GDF, S-P, Caja 9, Expediente 861, 5 June 1903, 1.
several local families had come to him to express their concern that the manager had given “little care and bad treatment” to the dead at the Panteón General.  

Incidents of this sort in Magdalena, Tlálpán, Coyoacán, and Ixtapalapa all suggest that state officials frequently had to compete with the autonomy that individuals outside the immediate city limits believed they had. State officials expected that institutions like cemeteries would adopt the same approach to public health that they constantly promoted—the use of statistics, proper hygiene, and handling of the dead—to demonstrate that progress was underway.  

In particular, cemeteries became contested spaces where the goal of creating a hygienic space often failed at locations outside Mexico City limits, where workers ignored the prescribed rules. The majority of inhabitants living in the suburban towns were members of the lower classes, who fiercely preferred to advance their independence by forming an ideal or moral economy with its own set of unwritten, but nonetheless, official rules of the people.

**A Fear of Death and Dissection in Urban Popular Culture**

Citizens living inside Mexico City limits also began to challenge the Porfirian state’s declaration that it was the sole adjudicator of death. For example, on June 2, 1902, six-month old Eugenio Lugo stopped breathing. His parents tried to revive him, but after several attempts, they abandoned their efforts and rushed the baby to a local medical clinic, hoping that the physicians would be able to help him. But the physicians were unable to help Eugenio, pronouncing him dead on arrival. The sobbing parents asked the physician if it were possible for them to take their son’s body home, so they could collect some of his toys and dress him in his best clothing. The parents promised the physician that they would only be gone an hour or two with the body, returning to collect the death certificate so that they could go to the government office that issued burial tickets.

Soon, an hour or two had become six hours, and neither parent had returned with the infant’s body. The physician who had allowed the parents to leave was in trouble. Against state regulations, he had allowed them to take the corpse home. In the opinion of state officials, a

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516 AHDF, F-AM/GDF, S-P, Caja 9, Expediente 861, 5 June 1903, 1.


decomposing body traveling throughout the city represented a tremendous threat to public health. Realizing he had made a terrible mistake, the physician contacted the Superior Sanitation Council (SSC), hoping that its agents could find the corpse quickly and rectify his blunder.\textsuperscript{519}

The SSC selected agent Luis Parano to investigate and find the body. In a stroke of luck, Parano obtained an address from the clinic paperwork that the parents had filled out, which he believed would lead him to the boy’s missing corpse.\textsuperscript{520} He started with the address he had written on a piece of paper: house number two on La Tercera Calle de las Artes, as he searched for it among a row of dilapidated houses. Soon he found the home matching the address and he began knocking on a wooden door that had begun to rot. Several minutes passed with no answer. Eventually, an old woman appeared at the door, telling Parano that she was not interested in whatever he was selling. Parano quickly corrected the woman, telling her that he was from the SSC and that she needed “to hand over the infant’s body” before it cause any more damage. The woman, Parano wrote, told him that she knew nothing about a boy’s corpse. Parano then told her that he knew she had gone to the clinic earlier that day with Eugenio, and she needed to return his body to the authorities, before she made things worse for herself. Once again, she told Parano she had no idea what he was talking about, and perhaps he had the wrong address because she was too old to have an infant son.\textsuperscript{521} Convinced that she was not who he was looking for, Parano returned to SSC headquarters. But upon his arrival, Parano received more information related to the missing boy’s case. According to a staffer at the medical clinic, the physician who had released the boy’s body to the parents had just sent a death certificate destined for officials in Huichapan, a town in the state of Hidalgo, almost 200 kilometers away from Mexico City. Parano quickly informed his superiors and the SSC telegraphed all of the town councils between Mexico City and Huichapan, asking local officials to be on the lookout for a man and woman trying to obtain a burial ticket for a dead infant. Yet every town official telegraphed back to the SSC with the same response: no one had tried to obtain a burial ticket for a dead infant.\textsuperscript{522}

\textsuperscript{519} AHDF, F-AM/GDF, S-P, Caja 6, Expediente 576, 2 June 1902, 1.

\textsuperscript{520} AHDF, F-AM/GDF, S-P, Caja 6, Expediente 576, 9 June 1902, 6.

\textsuperscript{521} AHDF, F-AM/GDF, S-P, Caja 6, Expediente 576, 9 June 1902, 6-7.

\textsuperscript{522} AHDF, F-AM/GDF, S-P, Caja 6, Expediente 576, 9 June 1902, 8.
Something was not right. How would the parents have gotten to Huichapam so quickly? According to Parano’s report, he was convinced that the old woman at house number two knew more about the situation than she was letting on. So Parano decided to return the house, where he began asking the woman why the parents would list a random person’s address, unless they had known her in some capacity. The old woman confessed—perhaps out of guilt—that she did indeed know the parents, who were friends of a friend. But she did not know where the parents were, she only knew the location of the boy’s body. According to Perano’s report, the woman took him two streets over from her house on La Quinta Calle de Las Artes. There, she pointed to a small, crudely constructed, and unnumbered shack (*jacal*) that her friends Ignacia Hernández and José Martínez—friends of the Lugos—had rented. As Parano approached the house, he noticed that no one was home. So he waited. A few hours later, Hernández and Martínez returned, and Parano began questioning them. Within minutes, the couple confessed to having Eugenio’s corpse. According to the report, the couple admitted that they were good friends with the Lugos, who had stopped by their house, asking them to “hold onto the body for a day or two.”

Hernández and Martínez just believed that the couple was having trouble dealing with the sudden loss of their young son and that they would return as they had promised. However, the couple assured Parano, while they had agreed to take the body, they had no idea that a death certificate had been issued or that it was a crime for them to hold on to the corpse. Interestingly, throughout Perano’s report, the couple never mentioned feeling threatened by having a decomposing corpse in their home, perhaps due to the intimacy many lower class citizens had with death.

It remains unclear whether or not the SSC ever found the parents. What is more important, however, is that the incident illustrated the type of behavior that state officials were beginning to deal with inside Mexico City limits. Instead of following the state’s prescribed rules for handling bodies, the urban poor chose to deal with death in ways that made sense to them. State officials believed that society—especially the lower classes—was separate from the state,

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523 AHDF, F-AM/GDF, S-P, Caja 6, Expediente 576, 9 June 1902, 10-11.

which allowed death to become a category like crime or prostitution that was subject to the
“advanced technical standards and new moral sciences” used by state officials.\textsuperscript{525}

Traditional customs honoring the dead remained popular among lower-class citizens inside Mexico City and in the surrounding towns. For example, the case of Eugenio Lugo supports the idea that the traditional approach to death outweighed the Porfirian state’s modern approach. Customs like the \textit{velorio}—where families laid the deceased on a table inside the home, “surrounding him or her with candles, and inviting kin, friends, and acquaintances to observe the body and pay their respects to its soul over the course of a few days”—stood in direct contrast to state’s desire to make death impersonal, and require bureaucratic paperwork, immediate burial, and approved methods of body disposition.\textsuperscript{526}

The urban poor resisted the state’s impersonal approach to death, as they saw their behavior relating to bodies as the only aspect of their lives they still controlled. One example that illustrates the poor’s approach to death occurred in the suburban town of Tacuba, with 2,000 inhabitants, and located four miles northwest of Mexico City.\textsuperscript{527} Like Ixtapalapa, Tacuba was a town with a rich past, having been the home to Tepanec Indians and admitted into the Aztec Confederation of State in 1430.\textsuperscript{528} Like Ixtapalapa, they had a significant indigenous population that combined traditional religion with Catholicism, and during Holy Week—the week leading up to Easter—they performed Passion Plays that visitors characterized as full of “superstition, quasi-solemnity, much noise and tawdry display.”\textsuperscript{529} This behavior surely influenced how Tacubans dealt with the death of relatives, when faced with the state’s clinical interpretation of how death was going to be handled in a modern country.

On January 29, 1904, Benjamín Pérez arrived at the local police station with information about the location of a body, not buried in a cemetery, but in a field—an illegal act and a threat to public health. Pérez told the police that while collecting firewood from a field near his house, he had encountered the illegally buried corpse. While bending over to pick up the wood he had

\textsuperscript{525} Scott, \textit{Seeing Like a State}, 91-92.

\textsuperscript{526} Johns, \textit{The City of Mexico}, 81-82; and Lomnitz, \textit{Death and the Idea of Mexico}, 322.

\textsuperscript{527} Janvier, \textit{The Mexican Guide}, 313.

\textsuperscript{528} Terry, \textit{Terry’s Mexico}, 419.

\textsuperscript{529} Terry, \textit{Terry’s Mexico}, 419-420.
collected, he noticed “a bundle of rags” sticking out from below his woodpile. Curious, Pérez began pulling on them, and uncovered the head of a semi-buried infant. The police asked Pérez if he was sure about what he had seen in the field. He told them he was, and he could take them to the body if they wanted.

The police instructed their legal medicine team—medical physicians Pedro Alfaro and Emilio Pineda—to accompany Pérez and confirm the existence of the corpse. When the three of them arrived at the field, the physicians soon encountered a scene more gruesome than Pérez had described. As physicians collected the infant’s head, they noted, that something (or someone) had crudely separated the head from the body. While they searched for the rest of the body, they began hearing a strange noise in the distance, and decided to investigate. The physicians then saw a pack of feral dogs chewing on the remains of the dead infant. To fully explore the cause of death, the physicians noted that they had to retrieve these parts, and decided to charge at the pack of dogs. As the physicians ran at the dogs, they dropped the remains, and the physicians quickly collected them and returned to the lab.

At their lab, Alfaro and Pineda examined all of the remains and discovered that the dogs had devoured the infant’s intestines and legs, which meant that the physicians only had the head, torso, and two arms to autopsy. As their report explained, the cause of death was impossible to determine, since so much was missing from the infant. Yet in their medical opinion, the one thing they knew for sure was that the infant had “not lived or breathed outside the womb”: it had been stillborn.

What happened next in this case has disappeared from the historical record. Nonetheless, the incident provides a unique window into the type of behavior state officials had to overcome to establish their control over death. According to the physicians’ report, they had found the infant semi-buried in a small hole measuring 30 centimeters (11.8 inches) in length by 25 centimeters (9.8 inches) deep, but more importantly, only 65 feet from the walls of Santiago.

530 AGN, TSJDF, Caja 358, Expediente 57353, 29 January 1904, 1.
531 AGN, TSJDF, Caja 358, Expediente 57353, 29 January 1904, 2.
532 AGN, TSJDF, Caja 358, Expediente 57353, 29 January 1904, 3-5.
533 AGN, TSJDF, Caja 358, Expediente 57353, 29 January 1904, 8.
Huixachuac, a Catholic chapel. While the Porfirian state had tried to create a modern approach to death—emphasizing the importance of following hygienic protocol when dealing with bodies—popular religious interpretations of a proper burial stood in the way. For lower-class citizens, death was an event intimately associated with burials near places that had religious significance for families. Illegal burials also meant no paperwork or added expenses that the rules of the Porfirian state required. More importantly, religion—not science—created a worldview that the urban poor valued more than hygiene or medical science. But for the elite, death had become a secular event, one that required the scientific expertise of medical physicians and hygienists who could protect the health of the living from the contagion of the dead. As historian Charles Hale has demonstrated, late nineteenth-century liberalism was guided by a series of philosophical ideas that proclaimed the triumph of science, often referred to as positivism, a theory of knowledge where the scientific method represented man’s only means of knowing. Rather than rely on the prevailing source of man’s knowledge—the Catholic Church and its priests—state officials, physicians, and hygienists turned to positivism. This ideology relied on the notion that society could be researched, organized, and administered in a way that mirrored a laboratory environment, providing these officials with an opportunity to observe, experiment, and offer solutions for the city’s problems. Science had become their new religion, and physicians their priests.

**Guided by Interpretation: The National School of Medicine and Hospital Juárez**

Yet the struggle between the modern and traditional approach to death also began to appear in institutions—particularly the National School of Medicine and Hospital Juárez—that state officials considered part of a secular realm guided by men of science. But the individuals employed to handle the bodies were not of the same mindset as their bosses nor of the same socioeconomic class. Instead, those who handled the dead were often from the lower classes, and their private ideas about death intersected with their working lives.

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534 AGN, TSJDF, Caja 358, Expediente 57353, 29 January 1904, 9.

One example that illustrates this clash between elite and lower-class ideas of death occurred at the prestigious and state-funded National School of Medicine. On August 31, 1905, Physician Eduardo Licéaga—the director of the National School of Medicine and President of the Superior Sanitation Council—received a shocking letter from an unnamed individual who accused one of the school’s medical attendants (mozos) of selling cadavers to medical students.\footnote{Archivo Histórico de la Universidad Nacional Autónoma de México (hereafter AHUNAM), Fondo-Escuela Nacional de Medicina (hereafter F-ENM), Ramo- Dirección (hereafter R-D), SubRamo-Secretaría (hereafter Sub-Sec), Serie-Correspondencia General (hereafter S-CG), Caja 23, Expediente 67, 31 August 1905, 445.} Such activity angered Licéaga. Creating a controlled and hygienic environment at the university, Licéaga believed, was important for maintaining public health, and demonstrated to President Díaz that the behavior inside Mexican medical schools was equal or superior to medical schools in Europe or the United States. But knowingly violating these rules put everyone at the university at risk, since professors and staff were supposed to provide students with “the securities of asepsis and antisepsis that hygiene demands.”\footnote{AHUNAM, F-ENM, R-D, Sub-Sec, S-CG, Caja 23, Expediente 67, 31 August 1905, 445.} To put a stop to such illicit activity at the university, Licéaga hired Physician Eduardo Vargas (the school’s provost) to investigate the cadaver-selling claim.

Vargas spent the first week of his investigation studying how the school received and distributed cadavers. Each day was the same. Employees from a public hospital, Hospital General, drove cadavers to the school, delivering them to one of the medical attendants responsible for tracking and recording these shipments. Once the employees offloaded the cadavers, another medical attendant marked the skin of each cadaver with a letter of the alphabet. For example, the first cadaver received an “A,” the second a “B,” and so on. The attendant then recorded which cadaver received which letter, and then, delivered the corpses to various departments of the medical school. Once the professors concluded class, the attendant returned to collect the cadaver, and placed it in an open-air storage room until its next use.\footnote{AHUNAM, F-ENM, R-D, Sub-Sec, S-CG, Caja 23, Expediente 67, 8 September 1905, 447.}

Puzzled how someone could be selling cadavers within such a professional system, Vargas decided to talk to the alleged recipients of the cadavers: the medical students. According to his report, most of the students he met were unaware that one of the attendants had been selling cadavers. As Vargas interviewed more students, however, he found the evidence he
needed to solve the case. According to several Topographical Anatomy students, at the end of their classes, Guadalupe Rodríguez—the medical attendant who worked in their department—routinely failed to return the cadavers to storage after classes. Instead, the students told Vargas, cadavers “remained in the class without destination”—the perfect opportunity, Vargas believed, for someone to sell them. This was all of the information he needed before concluding that Guadalupe Rodríguez was the culprit. Vargas informed Licéaga that he had found the employee responsible for trafficking cadavers. After reading Vargas’s report, Licéaga immediately fired Rodríguez for “distributing cadavers to students for tips.”

What is more important, however, is that during Vargas’s investigation, he had uncovered information related to why cadaver trafficking had occurred at the university. Before Licéaga had become the director, students often paid for bones, skeletons, and cadavers, which they had considered “necessary and indispensable for their studies.” While Licéaga believed he had steered the university in a direction that embodied the modernity that President Díaz sought to achieve for the nation, the trafficking of cadavers and their parts had remained an institutional tradition for students. A symbiotic relationship existed between medical assistants (who earned additional money) and students (who earned additional studying time). For medical assistants, the ability to augment their income was the reason why they engaged in the clandestine sale of cadavers. The monthly salary of a medical assistant was 16 pesos ($911), an extremely low sum considering the macabre nature of their work. Engaging in illegal activities was often the only option available to many members of the lower classes to earn additional money in the Porfirian economy. As a group, they interpreted the rules established by the state in a manner that helped them, even as they created unsanctioned employment opportunities for themselves that were beyond the purview of the Porfirian state.

For the National School of Medicine, the Guadalupe Rodríguez incident prompted Licéaga to change the way the school distributed cadavers. The new rules used a bureaucratic

\[539\] AHUNAM, F-ENM, R-D, Sub-Sec, S-CG, Caja 23, Expediente 67, 8 September 1905, 447.

\[540\] AHUNAM, F-ENM, R-D, Sub-Sec, S-CG, Caja 23, Expediente 67, 8 September 1905, 448.

paper trail that required medical assistants to send written notices—with the cadaver’s name, letter assigned, class name, and date of delivery—to both the department head and secretary of the university. If the class had begun dissecting the cadaver, then the notice had to indicate which part(s) the class had dissected. This way, any additional incisions found afterward would indicate unauthorized activity.\(^\text{542}\) The new approach to cadaver distribution made it much easier for university officials to identify illegal activity. But more importantly, it allowed Licéaga, on behalf of the Porfírian state, to exert total institutional control—the same approach that President Díaz and his state officials implemented for modernizing Mexico City.

Another example of a challenge from within a state institution occurred at Hospital Juárez. State officials considered Juárez to be a symbol of modernity, largely due to the recent installation of electrical lighting, expansion of hospital wings, and technological achievements that had occurred there (such as the first application of radiography).\(^\text{543}\) Despite the official belief that the hospital was a beacon of modernity, an article appeared in the English language newspaper *The Mexican Herald* that depicted a different side of Hospital Juárez—one that challenged the myth of modernity in Mexico City.

“Need for Reform at the Juárez Morgue; Dead Room is a Disgrace; Government Proposes to Eradicate Evils,” read one of the headlines on the front page of the June 10, 1909, edition of *The Mexican Herald*. The reporter remains anonymous, but he painted a vivid picture of disarray unfolding at one of the city’s symbols of Porfírian modernity. According to this article, the visit to Juárez left the reporter with the impression that “the city need not boast of keeping abreast of the times.”\(^\text{544}\) He reserved particular disgust for how the hospital morgue stored corpses, explaining that visitors never had to ask hospital employees for directions to the morgue, because visitors could “smell it” as soon as they arrived at the hospital. The reason why the smell was so pungent, the author wrote, was because the morgue was filled with corpses that were “naked and foul-smelling, maimed with swollen stomachs and brown spots on their shoulders, threatening to burst as a result of decomposition.” The scene inside the morgue, the

\(^{542}\) AHUNAM, F-ENM, R-D, Sub-Sec, S-CG, Caja 23, Expediente 67, 8 September 1905, 448.

\(^{543}\) Daniel Cruz Gómez, “El Hospital Juárez,” in *Histórica Gráfica de la Medicina Mexicana del Siglo XX*, 2nd ed. (Mexico City: Méndez Editores, 2003), 228-229.

\(^{544}\) “Need for Reform at the Juárez Morgue; Dead Room is a Disgrace; Government Proposes to Eradicate Evils,” *The Mexican Herald* 10 June 1909, 1.
author pointed out, “told the story without words, a sickening sight and nauseating smell, which proves that no attention is given to this section of the hospital.” Conditions inside the hospital’s renovated wings—built to accommodate more patients—actually had created a “truly defective and menacing environment for patients and employees,” since two or more patients (women and men afflicted with contagious diseases) were often forced to share the same hospital bed.⁵⁴⁵

It remains unclear whether or not the Federal District’s government attempted to improve the conditions at Hospital Juárez after the publication of this article. What is more important, however, is that the incident provides a unique window into the paradoxical reality that existed at state institutions. State officials believed institutions (such as Hospital Juárez or the National School of Medicine) were environments that could be controlled. Yet as the newspaper reporter discovered, the hospital like other areas of the city the state believed it controlled, had actually created an environment that embodied the true nature of the city. If the city were a developing organism, as many Porfrian officials believed, then it was one that had failed to adapt to its surroundings—having fallen victim to the unpredictability of nature.⁵⁴⁶

Conclusion

As cemetery worker Matias Aguilar cleaned the area around grave number 66 in lot C of Panteón Tepeyac on the morning of June 20, 1916, he noticed something unusual wedged between the headstone and grave curb.⁵⁴⁷ There, wrapped in two pieces of white cloth, was a glass jar. Attached to the jar was a note written on a sheet of paper describing the contents of the jar: “I beg whoever finds this jar to carefully bury it, as it contains a legitimate and baptized child. I preserved the body in alcohol because I did not have enough resources to bury it. I left the jar in this holy place in the hands of those who will have mercy. God will pay charity.”⁵⁴⁸

Aguilar turned the jar over to the cemetery administrator, who then contacted legal medicine physician Roberto Caneda, who would perform an autopsy to verify the contents inside

⁵⁴⁵ “Need for Reform at the Juárez Morgue,” 1.

⁵⁴⁶ Agostoni, Monuments of Progress, 22-25.

⁵⁴⁷ A grave curb is a low border, usually made of stone or concrete, that surrounds the grave or plot, beginning slightly underground and extending no more than a few inches above ground. For more, see http://www.in.gov/dnr/historic/files/cem_glossary.pdf.

the jar. Four days later, on June 24, his report determined that the contents of the jar had been a male fetus measuring 38 centimeters in length and an intrauterine age of approximately seven months (28 weeks). According to Caneda, the organs of the fetus had been “in a fetal state and without notable alteration,” meaning that the fetus had been healthy while inside the womb and on track for a normal birth. He concluded, however, that the child probably died 72 hours after its birth, due to the fact that it was three months premature (a typical pregnancy is 40 weeks). While the rest of the case has disappeared from the historical record, it remains intriguing for several reasons. First, after Caneda had performed the autopsy, there appears to have been no investigation carried out by legal authorities. Second, the mother clearly had not given birth to the child at one of the city’s supposedly modern medical hospitals; instead, Caneda and other state officials believed that she had suffered devastating consequences by giving birth outside the sanitary walls of the hospital. Third and more importantly, the case illustrated that traditional burials—the cemetery’s location near La Basilica de Guadalupe, the site in Mexican religious folklore where the Virgin Mary had appeared in 1555 before peasant Juan Diego—remained integral to popular attitudes toward death and dying.549 As state officials continued to carry out Porfirian attempts to secularize and diminish the Roman Catholic Church’s influence over society, the reaction to death on the part of lower-class citizens—who often could not afford more than the free burials in mass graves provided by the government—remained tethered to the idea that the dead needed a proper burial inside the cemetery.

Controlling how citizens—especially the poor—dealt with death was a major component of how Porfirian state officials believed they would achieve progress in Mexico City. One way that officials sought to control death was through the introduction of free burials in public, secular cemeteries such as Panteón Dolores. Yet cemeteries remained contested spaces. State officials attempted to establish sanitary guidelines for disposing of the dead, but met resistance from lower-class citizens, who preferred to deal with death in more traditional ways. Cemeteries remained spaces that had both cultural and symbolic meanings for the living, serving as microcosms of Porfirian and revolutionary Mexican society. By exploring how regular citizens challenged the status quo surrounding death, this chapter offers insights into how individuals

mediated multiple spaces—such as the body, the cemetery, and the street—and processed and experienced death and dying, all of which were inextricably tied to the symbiotic relationship that existed between the government and the citizen.\footnote{Lily Kong, “Foreword,” in \textit{Deathscapes: Spaces for Death, Dying, Mourning, and Remembrance}, eds. Avril Maddrell and James D. Sidaway (Burlington, VT: Ashgate Publishing Company, 2010), xv-xvi.} Rather than the capital and its institutions serving as badges of modernity—as Díaz and his state officials had intended—they would continue to remain symbols of a conflicted capital that was equal parts barbarous and modern.
CHAPTER SIX
CONCLUSION

By 1906, twenty-six years into Porfirio Díaz’s presidency, British travel writer Ethel Tweedie proclaimed that “education, electric light, railways, splendid harbours, telegraphy, and endless modern inventions” were hustling the old Mexico aside. Even the indigenous people, who continued to comprise a significant percentage of the city’s population, she explained, had given up “drinking themselves to death and their beliefs in charms and weird cures for illnesses.” In her opinion, they had begun to adopt modern burial procedures and medicine, which Tweedie (like state officials) considered successful measures of the various Porfirian modernization campaigns. Thus, the citizens of Mexico were enjoying “better health amid their more sanitary surroundings.” The city itself, according to Tweedie, had now become a picturesque town with the “finest combination of ancient and modern architecture in the world, clean streets, well-paved, well-lighted roads, good police force, and excellent tram service,” thanks to President Díaz and his team of state officials.551

Throughout this dissertation, I have analyzed the process by which modernization occurred in the streets of Mexico City and the surrounding suburban towns during the Porfirian era (1876-1910). In the earlier chapters, I described how the images of a rapidly modernizing and improving environment, described by Tweedie and other visitors to Mexico City, were, in fact, sanitized images of the real Mexico City. The city continued to deal with severe hygienic problems, despite the supposed success that hygiene campaigns had achieved for public health. Residents and visitors alike could find numerous decomposing bodies outside corpse deposits, both inside and outside of cemeteries, below their feet in the city streets, being transported by electric tram, or they might have smelled the stench of unburied, decomposing bodies stored at local hospitals.552

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552 For a description of unburied and decomposing bodies left at Hospital Juárez, see Archivo Histórico de la Secretaría de Salubridad y Asistencia (hereafter AHSSA), Fondo-Beneficencia Pública (hereafter F-BP), Sección-Establecimientos Hospitalarios (hereafter Sec-EH), Serie-Hospital Juárez (hereafter S-HJ), Legajo 9, Expediente 1, 6 February 1907, 14. For an example of bodies found in the street, see Archivo General de la Nación (hereafter AGN), Fondo-Tribunal Superior de Justicia del Distrito Federal (hereafter F-TSJDF), Caja 565, Expediente 102014, 16 March 1907, 1-12; AGN, TSJDF, Caja 565, Expediente 158625, 8 August 1909, 5-10; and AGN, TSJDF, Caja 934, Expediente 164339, 11 January 1910, 1-8.
Studies of public health and modernization during the reign of Porfirio Díaz have emphasized how the government sought to extend its control over the health of citizens, including their deaths. By focusing on the dead, my study reveals the pervasive problem of bodies—and the threat they posed to the health of the city and the goal of progress—in late-nineteenth and early-twentieth century Mexico City. It also illustrates the extent to which everyday relations among lower-, middle-, and upper-class citizens, as well as state officials, were constantly negotiated when determining how best to handle death in a modern society. Tensions emerged as the elite’s project of establishing official transportation methods for the dead (the railroad, modern carriage, and electric tram) clashed with the everyday use of these methods by the city’s lower-class inhabitants. Since its introduction in the 1880s, the railroad had become one of several symbols of modernity that demonstrated President Porfirio Díaz’s commitment to progress. Thus, in 1887, Díaz created new rules and regulations governing the hygienic transportation of corpses, which had been missing in earlier years. In addition to the changes surrounding the movement of bodies on trains, President Díaz also had decided that the railroad was equally useful for cleaning up the city, linking corpse deposits with railways to demonstrate that Mexico City was becoming modern. But the Porfirian vision for how city residents would use these corpse deposits soon encountered a big problem. Once residents filled the deposits to capacity, they began leaving bodies in the streets near the deposits. The urban poor found it cheaper and easier to leave the corpses near deposits (where they would receive a free burial) than to take the bodies back to their homes, pay for death certificates, burial tickets, and transportation to the local cemetery. The deposits, and the neighborhoods surrounding them, quickly became unsanitary environments that threatened the progress desired by the government.

So in 1889, to improve the environment outside of corpse deposits, state officials decided to build a new railroad that would link them to a closed cemetery known as Santa Paula. Yet the state soon found itself entangled in fresh controversy. The cemetery, which state officials had believed was still owned by the government, belonged to a citizen who refused to allow the company responsible for building the railroad access to the cemetery. As a result, the railroad stopped just outside the cemetery gates until 1894, but continued to transport corpses from the deposit.

553 Esposito, Funerals; López, “The Cadaverous City”; French, A Peaceful and Working People; Overmeyer-Velázquez, Visions of the Emerald City; Agostoní, Monuments of Progress; Piccato, City of Suspects; Bliss, Compromised Positions; Buffington, Criminal and Citizen; Rivera Garza, “Masters of the Street”; and William French, “Progreso Forzado.”
deposits, leaving them to decompose outside the gates. State officials then decided to introduce other forms of transportation for corpses such as a modern carriage (complete with a bed of cylindrical rollers and ramps to facilitate the loading and removal of corpses), as well as retrofitting existing railways with electricity, which ushered in the era of electric trams that would move corpses throughout city streets. Nevertheless, each of the new technologies that the state introduced were never used by the urban poor in ways that state officials had envisioned. Rather than bodies remaining scattered outside deposits, they were left in crudely constructed coffins at tram stops, often without the required burial paperwork. But if officials were lucky, the corpse’s name would be carved inside the coffin lid, making the identification process a little easier.  

In contrast with historical studies of technology, and the impact of technological systems on the landscape of early-twentieth century Latin American cities, this dissertation has stressed the value of carefully reconstructing the everyday interactions between the population and the technological changes introduced by the government. The lower classes’ use of the new transportation methods for the dead, for example, offers a promising perspective for understanding the history of how massive technology reforms in urban areas are received by citizens of varying socioeconomic backgrounds. Letters from angry citizens as well as police reports about abandoned corpses near the technologies (discussed in Chapter Two) constitute a rich source for the study of citizens’ understanding and acceptance (or lack thereof) of state-driven technological reform. A topic deserving further investigation is that of the role of technology related to the collection of corpses in others areas of Mexico and Latin America. Both social and cultural historiographies would benefit from a better understanding of whether or not the problems encountered by state officials in an urban area like Mexico City were unique. Records from other city archives might in the future provide new insights into how state officials

554 For a description of a corpse found with its name carved in the lid of the coffin, see AGN, F-TSJDF, Caja 470, Expediente 82690, 15 March 1906, 1-4.  
sought to improve the collection of the dead in a region of the world that struggled with overpopulation and low life expectancy.

In parallel to new transportation methods introduced by the government, prior studies of medical education during the presidency of Porfirio Díaz have highlighted the introduction of new medicines or the struggle that doctors experienced as medical professionals in the face of the modern state’s increasing control. But by focusing on the changes in the medical curriculum at Mexico City’s flagship medical school, the National School of Medicine, this study has emphasized how and why medical education was tied to the official Porfirian discourse on modernity. This focus also reveals to what extent the government, institutions, and medical professionals worked together to improve public health in Mexico City, demonstrating that the health of citizens was vital for changing the reputation of Mexico from backward to modern nation.

The central tenet of this new direction centered on understanding more about the human body. Mexican medical professionals believed this would reveal how the health of the city and the lives of city residents could be improved. In particular, Dr. Eduardo Licéaga, President Díaz’s personal physician and friend, spearheaded the campaign to improve the lives of citizens in the 1890s by revamping the medical school’s curriculum to focus on dissection rather than relying on medical theories and textbook illustrations. Thus, from 1893 to 1910, Licéaga challenged his colleagues to stop depending on the same methods of instruction they had received as students, and, instead, adopt dissection as the most useful exercise and cadavers as preeminent ‘texts’ for students. This suggestion, which the medical school quickly accepted, reveals not just an emphasis on changing the culture at medical schools, but the fact that—like new transportation methods for the dead—the curriculum shift to dissection was part of the government’s desire to regulate citizens’ bodies. Encouraging citizens to embrace medicine and accept the sage advice of professionals (who knew their bodies inside and out) would improve the health of individuals, the city, and most importantly, the nation. U.S. medical schools faced a similar change in how they did business as a result of the 1910 Flexner Report, which—unlike the situation in Mexico—was undertaken at the behest of the American Medical Association.

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(AMA) in coordination with the Carnegie Foundation. As in Mexico, the Flexner Report called for an overhaul of medical education—based on Johns Hopkins medical school, which Flexner believed had adopted and molded the best features of medical education from England, France, and Germany to American conditions—including the raising of standards for admission and graduation.557

Unlike previous historical studies of public health and medicine that have focused on hygiene, vaccination campaigns, or policy-oriented topics, this dissertation has stressed the importance of investigating the relationship that existed between a country’s medical institutions, medical professionals, and state officials.558 Historians have explored, and continue to explore, this topic for other countries, primarily the United States and Western Europe. In each case, the emphasis on dissection in medical schools appeared much earlier. For example, in England, dissection had actually become an important feature of medical education by the late-eighteenth century. But smaller medical schools like Cambridge University struggled to acquire a steady supply of corpses, prompting students interested in becoming physicians to leave England for Parisian medical schools like Saint-Louis, which many English physicians considered “ahead of England in the ‘art-and-science’ of anatomy.”559 As a result, the teaching of dissection in medical schools in England did not become more structured until the 1860s and 1870s, when the supply


of corpses improved and dissection facilities were expanded.\textsuperscript{560} In the United States, for example, the problems England had encountered in the early-nineteenth century, while acquiring corpses for dissection, were known by both state officials and American medical colleges. For physicians and anatomists in the U.S., medical students devoted “long years of patient toil…inhaling the nauseous atmosphere of the dissection room, at the imminent hazard of health and life…” to acquire the knowledge necessary to save lives and improve public health.\textsuperscript{561} But without a steady supply of corpses, how would their profession survive? Interestingly, various states began to pass anatomy acts in the 1820s-1840s that increased the penalties for body snatchers and allowed medical schools, mostly in large urban cities, to use bodies defined as unclaimed, a category that consisted of individuals who had died in poorhouses and other state institutions and who had no money to pay for burial costs.\textsuperscript{562}

Yet for Mexico, the transition to an increased use of unclaimed bodies for dissection in medical school did not appear until the late 1890s. The ease with which the changes in the curriculum began to appear at the National School of Medicine, for example, offers an encouraging framework for better understanding the dynamic that existed between medical professionals and state officials during the Porfiriato. A topic that warrants further investigation is to what extent professional western medicine become accepted in the more rural and indigenous areas of Mexico.\textsuperscript{563} Both social and political historiography would benefit from a better understanding of how citizens used western medicine in their lives, or instead, chose more traditional remedies to cure their illnesses. The records of traveling doctors, recent medical school graduates assigned to rural areas, western medical schools, and homeopathic schools, may provide researchers with new insights into how various Mexican citizens addressed issues concerning health, hygiene, and disease.

\textsuperscript{560} Weatherall, \textit{Gentleman, Scientists and Doctors}, 100-101.
\textsuperscript{561} Jenks S. Sprague, “Annual Address before the Medical Society of the State of New-York and Members of the Legislature” (Capitol Building, Albany, NY, February 7, 1854).
\textsuperscript{562} Sappol, \textit{A Traffic of Dead Bodies}, 121-122.
\textsuperscript{563} This question has only been tackled by a few historians of Latin America. For more, see Palmer, \textit{From Popular Medicine to Medical Populism}; Peard, \textit{Race, Place, and Medicine}; Carrillo, “¿Estado de peste?” While these historians focus on whether or not western medicine was accepted in rural areas of Costa Rica, Brazil, and Mexico, where large indigenous populations resided, my work focuses exclusively on Mexico’s capital and largest city, Mexico City. The dissertation reveals how, at the same time western medicine was widely accepted by physicians, state officials, and elite members of society, the urban poor rejected modern hygiene and medicine, undermining the effectiveness of western medicine.
The modernizing landscape of Porfirian Mexico City was not limited to just new transportation methods for the dead or a revamped medical education system that could solve the myriad health problems experienced by the country’s inhabitants. By focusing on state officials’ desire to protect public health and remove decomposing corpses from city streets, this dissertation highlights how the government began to experiment with funerary technology, which focused exclusively on creating various ways to handle the dead. The study of funerary patents and technology remains tied mostly to archaeological studies of ancient Greek, Roman, and Egyptian culture. My study appears to be the first of its kind for Porfirian Mexico. Examining funerary technology reveals how Porfirio Díaz’s desire to create a safe, healthy, and organized modern city, reinforced the values and sensibilities of the city’s elite and middle-classes who believed the growing number of bodies found throughout the city threatened to ruin the modern image that Díaz had worked hard to create. In particular, the five distinct hygienic methods of body disposition (the coffin, burial vault, topical embalming, arterial embalming, and cremation) helped to exacerbate class divisions within the city, especially since all of these methods (except cremation) were used by elite and middle-class residents, leaving cremation to be the exclusive disposition method of the poor.

Other studies of the relationship that existed between public health, class, and death in Porfirian Mexico have focused primarily on funerals and burials. Yet this dissertation has revealed that the idea of protecting the living from the dead, and the dead from the living, extended beyond the Porfiriato and into the governments that followed the Mexican Revolution. Funerary patents illustrate how adopting new forms of funerary technology allowed state officials to continue to create a modern system for disposing of the dead and further extend their reach into the lives of everyday citizens. A topic worthy of further investigation is the funeral agencies that operated alongside the government and most likely adopted these new devices for preserving the dead. Both cultural and institutional historiography would benefit from a more

565 Esposito, Funerals; López, “The Cadaverous City”; Lomnitz, Death and the Idea of Mexico; and Dufendach, “Injecting Modernity.”

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sophisticated understanding of how these technologies were used by funeral agencies, and what benefits funeral agencies received for using them. Records from funeral agencies like those of Eusebio Gayosso or Pedro Leyendecker may provide researchers with a better understanding of how state officials were able to create an official and modern death in Mexico.566

Modernizing death in Mexico City hinged on modifying the behavior and customs of the urban poor. State officials and President Díaz himself believed they could achieve this by stressing the importance of modern hygiene among the urban poor. State officials thought they would be able to erase lower-class behaviors that they considered backwards and uncivilized. Yet many lower-class citizens ignored state regulations and undermined the state’s authority by continuing to engage in body disposition methods, hygienic practices, and relationships with death that made sense to them. In contrast with historical studies about how state reform is carried out and accepted by all citizens, this dissertation has contributed to an incredibly rich historiography on how everyday citizens have been able to define their identities in the face of an increasingly powerful state apparatus seeking to control every aspect of their lives.567 By focusing on the dead, this study has emphasized that in private matters of an individual’s life, for

566 For more on the relationship that existed between funeral agencies and the Mexican state, see AHDF, F-AM/GDF, S-P, Caja 4, Expediente 355, 16 August 1903, 1; AHDF, F-AM/GDF, S-P, Caja 9, Expediente 800, 2 March 1903, 1; AHDF, F-AM/GDF, S-P, Caja 12, Expediente 1120, 22 August 1904, 1; AHDF, F-AM/GDF, S-P, Caja 13, Expediente 1209, 26 December 1904, 1; AHDF, F-AM/GDF, S-P, Caja 15, Expediente 1328, 27 March 1905, 4; and AHDF, F-AM/GDF, S-P, Caja 22, Expediente 1937, 29 December 1906, 1.

example, death or sex, not all citizens wanted the government involved in regulating how they should act or feel to be considered modern. Court records constitute a rich source for studying how individuals defied the unilateral decisions of the state. A topic deserving of additional research is how citizens used space that the government believed it controlled such as the street, cemetery, prison or hospital. Further examination of prison and city cemeteries’ records might produce new insights into how citizens negotiated space and identity in the dizzying world of modern Mexico.

Hustling the old Mexico aside proved more difficult than state officials had envisioned. As proponents of modernization, President Díaz and his state officials believed that nature and culture were distinct elements that could be manipulated in the name of modernity. The process of modernization itself, they believed, would help establish a present that had left the chaotic past of nineteenth century Mexico behind, in favor of a clear-sighted and scientifically-driven modern world. But the past, as sociologist Bruno Latour has stated, and which Porfirio Díaz and his officials found out, could not be bulldozed and replaced with a present that used rationality, scientific truth, and technology. Whether involving new transportation methods for the dead, an improved understanding of the human body, or new funerary technology designed exclusively to protect both the dead and the living, the only citizens who embraced these changes were the elite and middle-class citizens who stood to benefit from their use. For the urban poor—who continue to remain a significant percentage of Mexico City’s population—the present did not alter their lives in any notable way to warrant adopting the changes surrounding public health and the dead. As a result, the attempt by Porfirian officials and well-to-do citizens to capture modernity has demonstrated that their actions should be viewed as the metaphoric dog that chases its own tail: an action that will never deliver the desired result. Despite the best efforts of state officials to modify the landscape of the city, and the behavior of its residents, their actions ultimately produced conflict between the ruling classes and the ruled, resulting in the creation of a capital city that would never be modern.

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569 According to data from 2010, provided by Mexico’s National Council for the Evaluation of Social Development Policy (CONEVAL), the official Mexican agency in charge of poverty measurement and the evaluation of social policy, two municipalities in Mexico City made the list of the greatest absolute number of persons in poverty: Iztapalapa, Federal District (727,128) and Gustavo A. Madero, Federal District (356,328). Iztapalapa was also a municipality with the largest absolute number of persons living in extreme poverty (63,017). For more, see http://www.coneval.gob.mx/Medicion/Paginas/Medici%C3%B3n-de-la-pobreza-municipal-2010.aspx.
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BIOGRAPHICAL SKETCH

Jonathan Weber grew up in Georgia, where he attended Georgia Southern University for his Bachelor’s Degree. He then attended The Florida State University, where he received his Master’s Degree under Dr. Robinson Herrera. In spring 2007, he began his doctoral studies at The Florida State University under Dr. Robinson Herrera. After his dissertation topic shifted focus and began incorporating the history of science and technology, he continued his studies at FSU under the direction of Dr. Ronald E. Doel and Dr. Kristine C. Harper.