

# INTRODUCTION

## MODERNITY AND ITS ACCIDENTS

In Mexico until now fires have not been so terrible; the fine construction of our buildings does not allow fire to spread far; nevertheless, these disasters have been occurring more frequently, to the point that the precautions being taken are useless.

“BOLETÍN DEL ‘MONITOR,’” *EL MONITOR REPUBLICANO*, SEPTEMBER 28, 1882

The simple combination of heat, oxygen, and fuel brings fire into living form. Its flames, the visible manifestation of fire, are capable of mesmerizing beauty and incalculable destruction. From the moment of its birth, fire fights for survival. The necessity of staying alive requires that it breathe oxygen and consume materials. At times it rages out of control, quickly transforming itself into a menacing force, taking drastic measures to fuel its own existence. It darts around corners and surges through corridors, whipping tongues of flames onto physical structures and stalking unsuspecting bystanders, crackling and hissing all the while as it feasts on wood, cloth, and anything else it might claim for subsistence. Clamoring for survival, fire leaves ruin in its wake. Charred remains and debris document its life.

Humans often have a decisive role in determining fire’s survival as well. When it has the potential for human benefit—to light streets, heat homes, or propel machinery, for example—people stoke it, tend to it, feed it. But fire is often not so easily contained. For all they have tried to master fire, humans learned, often through grim experience, that fire possesses a life force all its own and does not always behave as expected. Over time fire’s role in human development has evolved, but along the way it has also become more destructive. This basic fact has compelled people to devise various ways to control it and harness it for power.

When humans began to feed fire coal and natural gases—fuels that once rested deep in the earth beneath layers of rock and sand—their experience with fire also began to change. Feeding on these fuels, fire burns longer and hotter. Enclosed inside chambers and machines for

industrial purposes, it becomes more susceptible to explosion. This transformation in the use of fire, as it took hold in cities across the world, began to alter human-fire relationships, as people were forced to understand and respond to it in new ways. On the one hand, fire, once it had been harnessed in applications like steam and combustion engines, contributed to the benefits offered by new and more efficient industries. On the other hand, those who used flammable and combustible fuels soon came to realize that the fire that had been fed with this type of fuel exhibited an exceedingly unpredictable and dangerous nature. By reacting to it, regulating it, writing about it, and mitigating it, people acknowledged its decisive influence in the decisions they were making about the environment in which they lived. It had the power to excite and frighten, to transform landscapes and lives, to expose and exacerbate social inequalities, and to bring ideas about safety and risk to the forefront of policymaking. Coaxing fire to benefit humankind morphed it into something more robust and forceful than ever before, ultimately altering the course of human history.<sup>1</sup>

In Mexico City, fire portended the dangerous consequences of modernity and urbanization. Fire, and subsequent reactions to it, altered the development of Mexico's capital during the transformative half century from 1860 to 1910. During this period, the city's residents felt the effects of unprecedented population growth and the development of more and more industry. Consequently, efforts to modernize Mexico City and fold it into the global industrial economy had the unintended consequence of elevating the risk of fire hazards.<sup>2</sup> Because Mexico City functioned as both the main laboratory for the country and the site where global and local knowledge met, this book examines the development of modernity there.<sup>3</sup> While fires had afflicted the capital for centuries, never before had the citizenry confronted such a drastic increase in the frequency and intensity of this hazard. The numerous workshops that opened throughout Mexico City from the mid-nineteenth century onward required extensive fuel and fire energy tamed inside machines, making fires more likely to erupt. Soap manufacturers used large amounts of animal fats, tanneries needed thick oils for tanning hides, and ice workshops utilized chemicals stored under pressure. Combustible fuels (with flash points above 100 degrees Fahrenheit), such as varnishes, kerosene, fertilizers, and dyes, became common accessories in daily life and could easily be found in open-air market stalls, in home kitchens, or on corner-store shelves. Flammable fuels (with flash points below 100 degrees Fahrenheit),

such as gasoline and turpentine, were only beginning to become popular among capital residents during this period. These energy sources, intended to make life easier and to increase business profits, also made living in Mexico City far riskier.

Environmental historian Stephen Pyne refers to the changing nature of fire in this period as the nineteenth-century industrial fire regime, since a number of cities throughout the world were plagued by comparable problems brought on by similar economic and technological changes.<sup>4</sup> While Mexico City in this period exhibited many of the characteristics Pyne identifies as part of the industrial fire regime, such as rapid urbanization and industrialization, the fuels used on a daily basis differed slightly in Mexico City. Unlike Western Europe and the United States, which had transitioned from biomass energy to coal during the early eighteenth and early nineteenth centuries, respectively, Mexico made the energy transition to coal much later, around the 1870s.<sup>5</sup> According to a recent study on household fuels, the majority of Mexico City residents and workshop owners used coal sparingly, and instead used wood, charcoal, and electric power for daily use.<sup>6</sup> The transition to petroleum and natural gas did not occur in Mexico until the 1940s. Despite the difference in fuels, Mexico City's population growth and density, as well as its increased output and manufacturing, make Pyne's concept of an industrial fire regime a compelling framework for this study.

The rise in fire hazards created a collective sense of fear in the city. The dangerous side of fire, the side that incinerated homes and took lives, forced residents to adjust the ways that they lived their daily lives, conducted business, and behaved in the city. In the face of growing fire risks, ordinary residents did not sit idly by and watch fires wreak havoc. Rather, they actively shaped fire control and prevention. The experiences of interaction and debate over the issue of fire among residents ultimately affected both the spatial layout and the political and social dynamics of Mexico City. Faced with the daily risk of fire, residents from diverse backgrounds made the city accommodate their needs. At times this meant becoming involved in municipal politics; at others it meant creating businesses to profit from urban risk, or pioneering new medical procedures to deal with the increase in the number of burn victims. Through these and countless other measures, political officials, fire inspectors, firefighters, municipal engineers, lay inventors, professional physicians, and ordinary citizens collectively transformed their city in response to a new and unfamiliar environmental threat.

Examining Mexico's capital from 1860 to 1910 offers a new approach to understanding how the city's history unfolded. Rather than employing the political periodization of the Porfiriato (the period of oligarchic rule under strongman Porfirio Díaz from 1876 to 1911), which perpetuates the conventional wisdom that modernization and urban development in Mexico City represented the will of the dictator, this project instead asserts that fundamental infrastructural and public service developments took root earlier in the city's history, beginning with the Liberal victory at the end of the Reform War (1857–1861) and expanding through the French Intervention (1862–1867), Restored Republic (1867–1876), and the Porfiriato. Without discounting the importance of political centralization during this period, this book maintains that a diverse group of actors, rather than just the political elite, shaped the city at this pivotal moment. This study thus uses an unconventional point of entry, fire, to examine the major changes in economic development, scientific understanding, and technological innovation occurring both in Mexico and throughout the world in the late nineteenth century.

Even though accidental business and home fires continued well into the twentieth century, this project's chronology ends around 1910, with the onset of another change in fire regime. During the 1910 Mexican Revolution, which ousted Díaz and spurred ten years of sustained internecine warfare, fires increasingly occurred as byproducts of combat or as intentional acts of arson by rebel forces. Revolutionaries set fire to haciendas (large rural estates that symbolized oppression to many in the countryside) and municipal buildings and burned property records and debt documents. Arson had been somewhat common and burdensome for city development in the late nineteenth and early twentieth centuries, but for the most part arsonists hid behind the common occurrence of accidental fires to gain insurance money or to seek revenge on a foe. The revolutionaries' more overt use of fire changed it from an accident of modernity to a tool of revolution.

This urban environmental history argues that technical expertise arose to address the various aspects of life that fire had affected, leading city officials, engineers, physicians, inventors, theater workers, vendors, and insurance agents to reevaluate how they understood and interacted with the dangers and limitations of their physical world. In the United States, urban environmental history has become a well-developed subfield, and discussions of urban parks, industrial pollution, natural disasters, water shortages, and sewage disposal mark just some of the contributions to it. But in Latin America, historians

have just begun to view the built environment through the lens of environmental history.<sup>7</sup> This book is about how fire hazards worked at multiple levels in urban society, motivating citizens in everyday life to expand the fields of science, engineering, medicine, and business in order to confront urban risk. While borrowing from global scientific trends, Mexicans also utilized local expertise and experience to produce knowledge that they used to confront fires. In Latin America's growing literature on the history of science, scholars have noted the importance of social conditions and everyday interactions in the production and transmission of knowledge.<sup>8</sup> Relegating knowledge to the laboratory or university discounts the important findings made by the people who had to experiment with ways to protect their lives and livelihoods from an increasingly hazardous environment.

This book analyzes fire as an active agent in much the same way that historians of medicine and health have argued that epidemic diseases have shaped the course of history and geopolitics.<sup>9</sup> Rather than evaluating fire as simply a passive element that has been shaped by human action, this book also takes into consideration how fire interacted with nonhuman agents, such as fuels, winds, building materials, and chemicals.<sup>10</sup> Urban fires were fused with both natural and social forces that combined to present imminent danger to Mexico City. Functioning as natural occurrences that are constantly shaped by human initiative, fires can alter landscapes by destroying the built environment and straining natural resources. From a social perspective, the fundamental changes spurred by increased fires often intensified already severe inequalities, as access to fire safety was distributed unevenly along existing lines of privilege. The interconnections between space and inequality meant that not everyone had the same opportunities to be productive, healthy, and safe citizens.<sup>11</sup>

Patterns of scientific and technological change have shaped urban modernization in Mexico City, especially in the period between 1870 and 1910. Historian Mauricio Tenorio-Trillo refers to Mexico's capital during this period as the "ciudad científica" (scientific city) to explain how residents applied science and technology to the city to solve the problems of daily life.<sup>12</sup> Until recently, most analysis of technology in Mexico has focused on political and economic history with a heavy emphasis on mining extraction, textile manufacturing, and railroad development.<sup>13</sup> In the past five years, however, scholars have directed their analysis toward the social construction of technology and, more specifically, the cultural significance of new technologies for creating

modern societies.<sup>14</sup> This book draws on the emerging field of scholarship on the history of technology in Mexico by employing the methodology and sources of cultural history and using them to make broader claims about how technology influenced the course of urban life in a moment of significant structural change.

Mexico City in the second half of the nineteenth century pulsed with energy from its bustling economy and vibrant street life. In the half century from approximately 1860 to 1910, the city's population more than doubled (from about 190,000 to 417,000).<sup>15</sup> This population boom was the result of people flocking to the city from rural areas and abroad to find employment; by 1900, half of Mexico City's population had been born outside of the capital.<sup>16</sup> Foreign companies followed suit and infiltrated the capital looking for new, untapped markets. The city changed from being a quiet capital to a thriving metropolis. For some, the transformation represented a renaissance, but for others, it led to horrid living and working conditions. The combination of rapid and diverse urban population growth, new risks, and the limited access to new technology reinforced and even widened the inequalities of a city already known for great social and economic disparities.

An infrastructure of flammability developed around the midcentury, when a higher concentration of manufacturing appeared in the capital. Beginning around 1860, the levels of production of metal extraction and manufacturing began to recover after the intermittent warfare that had affected the country during most of the first half of the nineteenth century. In part, the Liberal constitution of 1857, which promoted the proliferation of manufacturing and business, made economic recovery a possibility.<sup>17</sup> By nationalizing ecclesiastical property, President Benito Juárez set in motion a property grab by entrepreneurs who bought up church lands and buildings and in their places established businesses, factories, and workshops in the capital.<sup>18</sup> Mexico City, rather than the historic manufacturing cities of Puebla and Querétaro, became the country's primary manufacturing hub. By creating a favorable political and economic climate for businesses to thrive, officials hoped to concentrate factories in the capital, where more businessmen could benefit from centralized public works such as hydroelectric and communication infrastructure and thus lower production costs. The majority of manufacturing in Mexico City was centered on small-scale production (soaps, oils, pottery, and spinning wool) that primarily satisfied the needs of locals. Historian Gustavo Garza estimates that in

1879, 91.3 percent of businesses in the capital were of the small-scale production type, and the other 8.7 percent represented forms of export-oriented industrial production that included paper mills, tobacco workshops, and textile mills.<sup>19</sup> Most production in the capital relied on energy sources from manual labor, hydraulic power, and steam power, the latter requiring extensive use of wood from the foothills of the basin of the valley of Mexico. Because Mexico had so few coal reserves, coal never fully replaced biomass as it did in England and the United States. Instead, the coal Mexicans used merely complemented the existing fuel sources.<sup>20</sup>

With more manufacturing, a dense population, and new fuels in the city, fire increasingly became dangerous and exacerbated preexisting social divisions. This led to a series of political struggles, and official responses to disasters reflected a modernizing impulse that disregarded the material condition of the poor. Conservatives, feeling threatened by the Liberal reforms that limited the power of the church and military, tried to restore their political and social presence by first starting a civil conflict that would come to be known as the Reform War, and later by requesting help from Napoleon III of France. The emperor responded with the French Intervention in 1862 and in 1864 provided Mexico with a puppet emperor, Maximilian von Habsburg of Austria. Maximilian and his wife, Carlota, arrived as emperor and empress on the false assurance that Mexicans had consented to their presence through a plebiscite. With this in mind they sought to fulfill their duties to their new subjects, which included an effort to improve living conditions and beautifying the capital, even at the expense of depleting the treasury. Maximilian installed gas lamps in the center of the city, planted trees along avenues and boulevards, reinitiated garbage collection, and prohibited residents from dumping urine and human waste from balconies.<sup>21</sup> The emperor modeled many of his improvement efforts in the capital after similar projects in France, addressing social welfare issues with a vigor that had not been seen in Mexico ever before. Shortly after he arrived, he toured Mexico City schools, jails, and hospitals, discovering that they were understaffed and poorly maintained.<sup>22</sup> In addition to the emperor's observations, travelers and residents complained of foul odors and overcrowding in the city's hospitals and cemeteries.<sup>23</sup> Shocked by the insurmountable levels of poverty in the city, Maximilian and Carlota used their personal funds to expand public welfare, hospitals, and poorhouses.<sup>24</sup> The imperial couple's social welfare programs angered the conservatives

who had brought them to power because they resembled earlier efforts made by the Liberal government. No matter who held political power in Mexico—Liberals, Conservatives, or an Austrian archduke—the city had become a dangerous place.

Fire risks became most visible in 1866, the year in which an exceptional number of conflagrations plagued the capital. Every few weeks, Maximilian's government received news of yet another devastating fire. Butcher shops, match factories, bakeries, and soap manufacturers all succumbed to fire during this remarkably devastating year. Sometimes the causes of the fires were clear: unsupervised lit candles falling over and setting the room ablaze,<sup>25</sup> for instance, or a poorly constructed oven setting aflame the walls of a bakery.<sup>26</sup> At other times the fires had no explanation at all: a box of matches spontaneously igniting in a drawer of clothing,<sup>27</sup> or an underground supply of gas exploding for no apparent reason.<sup>28</sup> In the existing scholarship on fires, and natural disasters in general, these small, daily occurrences have not received the same attention as the so-called great fires, such as the Great Chicago Fire of 1871 or the San Francisco earthquake fire of 1906. In the Latin American scholarship on disasters, numerous studies have used a major environmental catastrophe to reveal social tensions and racial and class-based dynamics that had been bubbling below the surface.<sup>29</sup> Conversely, in this project, it is the daily presence of fire, both big and small, that tells stories about struggles for power, safety, and resources.

The fear of fire in daily life did not emerge only in the aftermath of major conflagrations. Rather, it built up over time when communities faced smaller, more frequent, everyday fires. Instead of examining one major disaster, this book analyzes how the almost constant presence of smaller fires acted as a catalyst for social change. This analysis borrows from a branch of hazard studies that focuses on common disasters, even those that often were not counted in official records and are thus difficult to quantify. Greg Bankoff has led this approach with his work on the Philippines, which faces nearly constant threats of flooding, typhoons, mudslides, and earthquakes. The presence of these hazards in the lives of South Pacific Islanders led him to coin the term "cultures of disaster" to explain the ways in which certain societies live with constant natural threats and find ways to cope in the aftermath of misfortune.<sup>30</sup> Building on the idea of a culture of disaster, this book argues that urban residents, in a moment of significant social and environmental change, adjusted their daily lives to confront the increasing risk of fires. The small, everyday fire plagued cities across the world. One



Chicago underwriter warned of “the seriousness of our ‘ordinary’ or ‘small’ fires,” citing in 1910 “an average of one conflagration a day” in the city.<sup>31</sup> Scanning Mexico City fire reports and newspapers reveals a similar statistic there. Preparing for ordinary fires required vigilance and regulation.

Once Porfirio Díaz came to power in 1876, the ministers representing his regime expanded fire suppression programs at the federal and municipal levels, but the reforms tended to benefit the upper ranks of society.<sup>32</sup> This unequal distribution of resources and support is characteristic of the style of liberalism that typified the Porfirian regime.<sup>33</sup> Sometimes referred to as “conservative-liberalism,” the paradoxical Porfirian-style liberalism stemmed from the intellectual trends that influenced Mexican elites at the time, including Comtean positivism, Spencerian social Darwinism, and classical liberalism. This patchwork of theories provided the intellectual base with which officials adopted policies to distribute the benefits and risks of new urban developments across society.<sup>34</sup> In 1877, shortly after Díaz took power, all oversight of charitable organizations came under the control of the Board of Public Welfare (Junta Directiva de Beneficencia Pública).<sup>35</sup> Maintaining that the poor should not be coddled and therefore should not receive public assistance, officials refused to fund many existing programs that offered charity to the poor.<sup>36</sup> Officials chose, instead, to invest public service funds in very visible, large-scale projects, such as drainage systems and tree-lined streets, or in other conspicuous relocation and gentrification projects to achieve similar aesthetic and modernizing goals. The Díaz administration, in order to clean up the capital and rid it of poverty, moved lower-class hospitals and cemeteries to the edge of the city. These projects represented efforts to beautify the city and physically segregate the rich in the city center from the poor residents on its outskirts.

The Porfirian regime’s belief that aligning Mexico with European sensibilities and aesthetics, especially the orderly and functional centers of Paris and London, would allow Mexico to achieve its evolutionary potential. This sentiment influenced the way the Díaz administration approached urban issues. Intending to make Mexico City the “Paris of the Americas,” Díaz’s advisers adopted urban aesthetic designs from the French *Beauté* and US-based *City Beautiful* movements.<sup>37</sup> The enthusiasm for European pastimes, attitudes, and technologies has been called the “Porfirian Persuasion,” a phrase that refers to how upper-class Mexicans eagerly accepted fashion styles and sporting

events from the United States and Europe and rejected already established popular domestic diversions such as bullfighting. They justified this new approach as a way to put the country on par with the seemingly progressive Western societies of Europe and North America.<sup>38</sup> The imitation of European aesthetics solidified a growing trend that embraced urban life, equating urbanization with modernity. From this new attitude emerged an urban ethic that inspired wealthier Mexicans and foreigners to move to the capital, where they invested in business and reveled in the city's cultural attractions. Historian Katherine Bliss describes Mexico City during the age of Díaz as the "playground of the Porfirian elite," a place where they could be seen eating truffles and bonbons from French chocolatiers and window shopping along avenues that housed boutiques full of the latest Parisian fashions.<sup>39</sup> The opportunity to attend the opera or sip coffee in upscale cafés attracted many outsiders to move to the capital.

Efforts at modernizing the city and making it appear more like its European and American counterparts contributed to the increase in fire hazards. Manufacturing workshops used large supplies of combustible fuels such as varnishes, sulfur, and turpentine, which could cause substantial destruction if ignited. The street lighting, praised by locals and visitors alike, was extremely dangerous if flames touched the stockpiles of gas or turpentine used to illuminate lanterns or if sparks flew from electrical apparatuses. Electric energy was introduced to Mexico in 1879, and over the next decades small plants began appearing throughout the capital, slowly replacing steam power with electric power. By 1890 all of the gas and turpentine-powered lamps in the city had been replaced with electric lights, and by the turn of the century more than half of the electricity that powered the country was both generated and used in Mexico City.<sup>40</sup> Newly established parks and forests, intended to bring health to the population, often caught fire in dry months or during lightning storms. In addition, building patterns, especially experiments with wooden construction, mimicked those found in Europe. Whereas planners formerly used flame-resistant cobblestone and tiles, they increasingly installed flammable wooden sidewalks to line the streets and constructed French-inspired mansard roofs that adorned the mansions and hotels of upper-class neighborhoods. Mansard roofs were particularly prone to fires. Joseph Bird, a Boston fire expert, warned in 1873 that "mansard-roof structures, as made in our cities and villages, are the most dangerous buildings ever constructed . . . they will assuredly cause the destruction of our cities."<sup>41</sup>

Mexico City planners did not heed the warnings made by Bird and others and instead continued to build the steep wooden roofs that now symbolize Porfirian Mexico City.

Modernization had its price, and Mexico City inhabitants looked at urban beautification and improvement projects with varying degrees of pride and concern. Petitions to the *Ayuntamiento* (municipal government), newspaper articles, and legislation confirm that residents of the city worried about the precipitous increase in fires.<sup>42</sup> Everyone from vendors to bureaucrats speculated about the reasons for this drastic increase. Some turned to religion to understand these dangers and ultimately justified their misfortune with the explanation that God had meted out punishment for sins committed.<sup>43</sup> Others blamed population increases for the increase in fires, often embellishing their arguments with class-based slurs about the effects that uncultured rural dwellers had on the city.<sup>44</sup> Stories of recent migrants to the city who lived in one-room homes crammed with seven or eight people, dogs, chickens, pigeons, and pigs alongside piles of charcoal and wood, exemplified concerns that rural inhabitants were incapable of adjusting their daily habits to fit the modern urban environment.<sup>45</sup> Moreover, the modernizing context characterized by land dispossession, job opportunities in the city, population density, and increased manufacturing contributed to the creation of a new industrial fire regime.

This project utilizes an assortment of primary sources to bring breadth and depth to the study of fire. Reading the opinions of reporters, government officials, artists, and travel writers reveals how residents and visitors alike understood Mexico City to be a hazardous place. The rationale behind fears of fire was rooted in both the presence of real incidents of fire and the imagined fears that the city was a tinderbox. In either case, there was growing sentiment that the city needed order and control. In the process of combing through these sources, the voices of capital residents who were most affected by fire emerged. While I had initially anticipated the centrality to the story of certain social actors such as fire engineers and firemen, other voices took me by surprise and led me to archives I never would have entered otherwise. Inventors and physicians, for instance, represent some of these valuable, yet unexpected, individuals. Patent requests, inventors' drawings, medical journals, and medical school curricula confirm that fire was not only a concern of the political elite. The responsibility of preventing and suppressing fires and healing those who had been burned preoccupied

citizens from multiple backgrounds, and this newfound concern about fire safety created new occupations and ways to earn a living. Because fire affected so many disparate facets of everyday life, this book as a whole is organized thematically, rather than on a strictly chronological basis. The narrative structure moves from large-scale, often intangible perceptions and fears of fire and ultimately ends with a discussion of flame and smoke's effects on human cells and tissue. This approach helps to focus the glance, starting from the macro and ending with the micro, thus explicating the importance of fire to residents on various levels.

Popular depictions of fire as unruly, menacing, and evil stoked popular imagination and helped create a collective fear of fire. Stories of fires in Mexico and abroad swayed public opinion and encouraged civic engagement. Chapter one focuses on fear, both of fire and how people responded to it, ultimately confirming that fear functioned as an engine of change. The chapter argues that residents used emotionally charged pleas to inspire change and make public officials give priority to urban safety. With the considerable increase in fires, traditional informal and community-based approaches to fighting fire, such as the bucket brigade, could no longer contain the bigger and more frequent fires. Instead, citywide ordinances and a professional fire brigade became necessary. Chapter two analyzes a changing ethos among citizens about the government's responsibility to regulate behaviors in the city. Both urban planners and public health officials used the science of regulation to try to bring order to disorderly spaces in the city, even going so far as to reach into people's private homes and classify some daily habits as risky. Fire codes defined fire hazards as detrimental to business, public health, hygiene, and safety, and the codes eventually divided the city into zones of comparatively great and comparatively mild fire risk. However, ordering spaces and regulating behavior was not enough, and city officials had to implement fire control practices in case the preventative measures did not work. Chapter three discusses the establishment of the vital social service of a professional fire brigade. These uniformed men with the newest imported technologies from Western Europe became emblematic of an orderly, progressive city.

A professional fire brigade was just one of the fire-related occupations that arose in the last decades of the nineteenth century. Chapter four examines how university-trained engineers and architects, functioning as city inspectors, implemented the fire codes that government

officials had authorized. Engineers used their technical expertise to manipulate their natural surroundings to prevent fires. This culminated in the creation of extensive hydraulic systems to supply water for drinking, industry, and fighting fires. But over time, the presence of engineers also created a false sense of security by convincing people that the city had become impervious to the risks of fire. Thus, paradoxically, people actually became more reckless (refusing to follow official fire codes, for instance), despite clear evidence of the increased risk and frequency of fires. Engineers' experiences as inspectors made them recognize that fires threatened all members of society, and they argued that fire protection should be extended more equitably. Their appeals for fair distribution of protection marked a major deviation from the Porfirian mindset, which tended to value elite progress at the expense of the poor.

During a period when residents turned to science and technology to improve social problems, and when the spirit of entrepreneurialism was increasingly celebrated, lay inventors listened to the growing anxieties about urban danger and created safety devices for homes and businesses. As chapter five discusses, they vigorously marketed their protective services—safety matches, flame-retardant roofs, and handheld fire extinguishers—to make a profit from fire risks. The presence of Mexican inventors challenges the erroneous notion that in Latin America technological innovations were always imported from the United States or Western Europe. Yet inventors of technologies were not the only actors to profit from fire risk. Chapter six evaluates the ways in which insurance representatives, playing on the fears of fire, promised security against potential loss of investments. They saw fire as an opportunity to sell peace of mind in the face of catastrophe. Insurance companies reinforced fears of uncertainty, loss, and death by telling clients that their lives were inherently vulnerable and could suffer complete demise at any moment. By purchasing insurance, Mexico City residents attempted to predict and prepare for emergencies, refusing to leave anything to chance. Moreover, private insurance fit into the liberal economic model that privileged free market capitalism and encouraged an ethos of individual responsibility. Businessmen or homeowners who could afford private insurance were more willing to take investment risks because they had a safety net.

Moving beyond fire's effect on the built environment or the economy, chapter seven assesses how fire hazards caused pain and suffering to the human body. Burns became easily infected, and more se-

verely burned patients rarely survived more than a few days. For those patients who survived, fire marked their bodies with unsightly scars and the trauma of the event haunted their memories. Physicians experimented with a combination of indigenous healing methods and laboratory-developed medicines, as well as skin grafts from animals and cadavers. The increasing numbers of burned patients forced physicians and healers to make healing burns part of their professional mission.

During the period from 1860 to 1910, fire and fire safety marked the city in irreversible ways. Fire, an anthropogenic agent that can destroy structures and incite fear, changed human–nature relationships in the growing metropolis of Mexico City. Fire hazards offer a way to look at broader processes found in rapidly modernizing cities. They demonstrate how space is made and remade according to political and social agendas, how public services and technology get distributed unequally, and how the competing economic and political interests of private and public interest groups are reconciled with the collective necessity to create a safe environment. In other words, fire forced different groups, through varying measures of conflict and cooperation, to grapple with their hazardous environment and assert their interests in discussions about how best to confront it.