Introduction

As she stepped out into the street, Doña Candelaria, a visitor to Mexico City, asked Señor Gutiérrez whether it was obligatory to hold a man's arm when out walking. It was not, he clarified, but it was the safest way, given the poor state of the streets. Suffering from eyestrain after years of sewing, Doña Candelaria accepted her guide's arm. At the Plaza del Seminario, their progress was stopped by her heartfelt cry: "Oh Jesus, Mary, and Joseph!" Confused, her escort asked what was the matter. She pointed to the lights and said, "The gas harms me . . . Look, what barbarity!" Señor Gutiérrez sought to explain that it was not gas but electric lighting, but the clarification made no difference to Doña Candelaria:

DOÑA CANDELARIA: What *elétrica*! It could make you go blind!
SEÑOR GUTIÉRREZ: It's a lovely light.
DOÑA CANDELARIA: How can you say that! How can it be beautiful if it's worse than an *ocote* [Montezuma pine] torch in your nose. Tonight, I certainly will be ill from my eyesight, Señor Gutiérrez . . .
SEÑOR GUTIÉRREZ: Don't fix your eyes on the *focos* [light bulbs].
DOÑA CANDELARIA: What light bulbs?
SEÑOR GUTIÉRREZ: In the lighting.
DOÑA CANDELARIA: Which ones are the light bulbs? You are a scientist, but I don't understand about light bulbs.
SEÑOR GUTIÉRREZ: Well, señora, don't look at the lamp.
DOÑA CANDELARIA: Even if I don't want to! Look at th— [Turning to her husband who joined them along the walk] Do you see it, Trinidad? I don't know how people put up with the, the what, Señor Gutiérrez?

SEÑOR GUTIÉRREZ: The light bulbs.
DOÑA CANDELARIA: The *focos elétricos*. Do you put up with them, Trinidad?
SEÑOR GUTIÉRREZ: I must confess, they are a little bit strong.
DOÑA CANDELARIA: Well, I see, and now I understand, Trinidad, my love, why there is a school for the blind in Mexico [City]. There's nothing like that in my town, and I now know why, because we do not have *elétricas*.[1]

José Tomás de Cuéllar, a prolific novelist critical of Mexico City's material progress, captured this scene in his 1883 novel *Los fuereños* (The provincials). Doña Candelaria's denunciation of electric lighting as a barbarity diverges from Señor Gutiérrez's attempted praise and demonstrates that personal reactions to modern industrial lighting were far from monolithic. Not everyone was impressed with what was new. Far from fictitious, Doña Candelaria's response echoed other documented reactions to electric bulbs in the early 1880s. The first forty arc lamps went up from the Zócalo, the city's main square, to the Reforma roundabout. *Capitalinos* (Mexico City residents) complained that pedestrians halfway along the lamp-lit blocks, dazzled by the radiant light, could not distinguish objects. Anyone in the radius of the light walked as if in a daze. Those directly underneath the lamps—the only ones who were spared being blinded—enjoyed an amusing sight. For them, the light perfectly illuminated figures from head to toe, in vivid colors, as these same people walked with eyes half-shut, comically trying to shade themselves from the harsh glare, so the light would not entirely blind them.

More than one hundred years after this spectacle, electricity has won people over in a way that its earliest incarnations did not. In our everyday lives, we spend little time thinking about electricity. Only major disruptions of service or high bills make us realize its presence.[2] We inhabit electrified spaces and even expect them wherever we go. All around us, high-voltage towers, transformers, posts, and power lines interrupt our horizon, weaving a web so familiar that we no longer recognize it. We live in a world where we hardly even think about electrification. Only when electricity is missing does it becomes a newsworthy event. But what was it like for those first experiencing electrification? How did it impact their lives, their ambitions? How did it register in their senses?

I answer these questions in the following pages by delving into the making of electrified spaces and how people navigated their way through them. I explore the experience of electricity through lighting in public cel-

ebrations, the social anxieties and legal complexities of streetcar accidents and power theft, the gendered and racialized scripts that framed the sale and consumption of electrical kitchen appliances, and the nationalization of the electrical industry. Since the late nineteenth century, technology has played a dominant role in modern life, with machines among "the most evident emblems and instruments of . . . modernity."[3] However, too often, technologies appear as "black-boxes" in popular discourse, as "fixed entities that irresistibly change society and culture," removed from the people and the ambitions that employed them.[4]

The fluid relationship between people and technology has escaped the attention of the traditional diffusionist model of the history of technology. This model was developed by George Basalla in 1967 to explain the simple transfer of "progressive" Western science to the non-European world.[5] Adopted for the study of technology, this model privileged innovation and dispersal at the expense of adaptation and use. In the histories of the ways technology has shaped modern life, too often technology becomes an all-powerful, unstoppable force. Not surprisingly, analyses that adopt the postulate of technological determinism to treat the history of technological modernity have produced "a single-stranded story of advancing, and indeed progressive, globalization."[6] This is particularly true for major technologies (such as railroads, telegraphs, and large-scale irrigation projects) introduced to Africa, South Asia, and Latin America. The model concedes no agency to local societies, which appear to be mere "perpetual consumers" of technology developed elsewhere.[7] Modernity, in these studies, always originates in an industrialized core.

Recent work has called this conviction into question, however, beginning with the very idea of what constitutes technology. As one seminal scholar has claimed, technology conceptualized as "abstract, reified, and universalistic . . . obscure[s] the significant differences between birth control and hydrogen bombs, and blind[s] us to the ways different groups and cultures have appropriated the same technology and used it to different ends." Far from dictating to people how they *must* be used, "technologies interact deeply with society and culture . . . [with these] interactions involv[ing] mutual resistance, accommodation, acceptance, and even enthusiasm." To untangle its connection to the way societies understood themselves and their reaction to modernity, we need to stop treating technology as a mass noun and instead, as Thomas Misa argues, "look more closely at individual technologies and inquire more carefully into social and cultural processes."[8]

This trajectory is evidenced in the history of electrification. The early twentieth century saw the earliest works on electrification, primarily by po-

litical economists, as a response to concerns over the power of monopolies in the United States and movements toward the nationalization of electric companies in Europe. The preeminence of the state and capital consolidated with works that predominantly centered on the technological, institutional, and economic aspects of electrification.[9] These have been the primary focus of the large technical systems (LTS) approach pushed by the seminal work of Thomas Hughes. Shunning technological determinist narratives, Hughes argued that a narrow focus on the development of technical devices (incandescent lamps, electrical generators, and transformers) could not explain the evolution of electric light and power systems. Instead, scholars had to look at the fundamental role of political cultures and system-building individuals (engineers and entrepreneurs).[10] Despite underlining the diversity of technical cultures, Hughes's demand-driven perspective left consumer demand for electricity unrecognized.[11]

Consumer and cultural perspectives revealing the social meanings of electricity emerged with the adoption of a social constructivist approach (social construction of technology: SCOT) that defines technological systems as "both socially constructed and society shaping."[12] After David E. Nye's work on electricity in the United States demonstrated the significance of this approach, electric grids are now recognized as "inescapably a social construction." The role of politics and capital has taken precedence, as demonstrated in works on South Africa, India, Palestine, and Latin America, where the footprints of the state and foreign capital loom large.[13] Concern has mainly centered on *how* electrification occurred rather than on the complex process of *whether* to electrify in the first place.[14]

In the last decade, scholars have questioned the inevitability of electrification by looking at the processes of domestication and energy transition. While Graeme Gooday, for instance, tracked the way Britons debated bringing electricity into their domestic spaces, Christopher Jones (privileging the environmental dimension of electrification) demonstrated how the construction of large energy transport systems in the nineteenth century set the United States on the path to fossil fuel dependency. Together these studies have shown how current electrified environments were "neither natural nor inevitable."[15]

Despite the level of sophistication reached by this historiography, it remains geographically unbalanced, disproportionately centered on the industrialized North Atlantic area.[16] Alexandra Hofmänner notes that Europe has remained the primary subject of electrification. The rest of the world, as Dipesh Chakrabarty writes, serves as "the historical residual against which difference is mapped."[17] The myth that electrification began in the North

Atlantic and then spread to other societies leaves intact "the conceptual confines of the assumptions that underlie the grand narrative of modernity."[18] The relativist approach recognizes that societies have embraced various technologies based upon local situations and needs, and even that the same technology may not be employed in the same way everywhere. While calling for multiple or alternative modernities, however, the relativist approach has struggled to produce "an alterity for the genealogy of modernity."[19]

Shalini Randeria underlines the urgency of overcoming the confines of a singular conception of modernity. The Western/non-Western binary defines non-Western societies "by negation." "Their historical and contemporary experience is then understood in such a framework not in terms of what it is but in terms of what it is not." She invites us to replace this with a "relational perspective [on modernity] which foregrounds processes of interaction and intermixture in the entangled histories of uneven modernities."[20]

The relation that a society develops with electricity and electrifiation must be treated as unique and discrete. This uniqueness does not preclude us from recognizing the patterns and trends that foreign capital and global electrification efforts established from the 1880s to the 1950s.[21] Through specific grounded analyses, we uncover the particular circumstances that shape and characterize different experiences of modernity and relationships to electricity. Mexico is no exception. This approach allows historians to bring new actors into focus. Discussion of people's doubts and fears about electricity, competition from other energy sources, legal complexities, and racial and class associations in the following pages helps us to see the adoption of electricity in the Mexican capital as neither inevitable nor linear. Electrification is entangled in other histories of the city, in the choices that capitalinos made in the transformation of their spaces, and in the transnational flows of capital, machinery, and technicians.

Most Mexicans in the 1880s saw modernity as something to be imported from abroad. Nothing signified the might of a modern Mexico more than electricity, with its brightness and foreignness. That did not mean that Mexicans agreed on what electricity was, its proper and potential use, and what a future electrified Mexico would look like. In different times and places, Mexicans could disagree vehemently. They may have imported a great deal of electrical machinery, along with scripts on how to use it, but, as I argue, these scripts were translated, edited, adapted, rewritten, or sometimes even entirely discarded. I go beyond official dictates and blueprints to look at what real people did every day.

The long regime of President Porfirio Díaz (1876–1880, 1884–1911), which became known as the Porfiriato, espoused technology as the guiding

light to a modern, powerful Mexico. Until recently, however, scholarship on the history of technology has been limited. This lacuna is endemic to Latin America at large. The framing of the region as technologically backward has marginalized the interactions of Latin Americans with technology and, as in other areas of the Global South, has justified "giving greater attention to more industrialized areas of the world."[22] Latin American scholars have called for counteracting single-stranded narratives, for developing new narratives, for an "anti-grand narrative of Western progress," to strip away the vestiges of framing science and technology as imported magic.[23] Dynamics of technological change in Latin American countries remain underexplored. Too often historians slide back into the easy, unreflective position that the region's "contribution to patterns of technological change has been largely marginal, derivative, or mimetic" or that imported technologies "primarily served the interest of foreign investors and their local partners . . . [and thus] found little engagement with local society." This distorted image erases "dynamics of local invention, adaptation, and engagement with imported techniques."[24]

Over the last ten years, historians of technology in Mexico have worked to correct this image by documenting how technology was deployed as a tool for state-building and nation-building and in the pursuit of modernity. These studies have enriched our understanding of the environment in which technologies such as the railroad, radio, and sewing machine and technological systems and processes flourished. They reveal not only the institutional, national, and transnational networks of power that shaped such technologies, and how they entered discourses of modernity, revolution, and nationhood, but also the factors that facilitated and hindered local adaptation and innovation. Far from having a negligible footprint, new technological devices and systems became "deeply integrated into the social and cultural lives of many Mexicans."[25] By moving the lens to center on the local, Mexicans come into focus as agents of technological change. Concentrating on the country's capital, a handful of historians have followed the actions of politicians, social reformers, technocrats, merchants, industrialists, and ordinary citizens to transform the human environment and to make what Mauricio Tenorio-Trillo has called the "ciudad científica" (scientific city).[26] Informed by these studies, I take a user-centered approach to delve into the making of electrified spaces.

I challenge distorted images in the following chapters by exploring technological change in the Mexican capital. Capitalinos had to grapple with the quotidian opportunities and mishaps resulting from rapid urban-

ization, early industrialization, and technification of public and private spaces. In interrogating electrification of the city and grounding the process in everyday life, the inhabitants of the city emerge as agents who actively negotiated the extent and manner in which electricity entered their lives and lived spaces. In doing so, they established fluid relations with this new source of power and technology. My account moves away from elite actors in industry and government and privileges a broader and more diverse set of Mexicans (differing in race, class, and gender), thereby answering the call for historians of technology to shift "toward a more geographically inclusive understanding of technological development and change."[27]

The idea of a Mexican electricscape is central to a discussion of the capitalinos' relationship with electricity from the introduction of the first electric lights in the 1880s to nationalization of the industry in 1960. As in the case of an actual landscape, the electricscape offers a wide view of the physical and symbolic aspects of electrification. It captures not only how electrical production, the government, and consumers interact and how that interaction manifests itself tangibly in infrastructure, policy, and consumption but also the changing ideas, debates, and anxieties as well as hopes and dreams of electrified futures. Unlike the pristine views found in the works of the great nineteenth-century landscapist José María Velasco, the electricscape demands observation from multiple perspectives, placing equal emphasis on the individuals in the foreground and the expanse of urban scenery in the background. To capture the grittier aspects of the electricscape without losing a sense of perspective and depth, I acknowledge the value of granting equal footing to an inquiry of the human imagination.

According to the historian David Arnold, just as people (individually and collectively) can conceptualize modern nations only as imagined spaces, they imaginatively embrace particular technological goods, skills, and processes or, conversely, associate certain technologies with particular groups and seek to distance themselves from them. Electricity came to be seen as the engine that would propel the country into being an industrialized modern nation. Its power was not merely tangible. Sheila Jasanoff demonstrates how imagination, operating on an intersubjective plane, unites members of a social community in shared perceptions of futures that should either materialize or be avoided.[28] As the following pages show, the potential of the new technology loomed large in the minds of not only politicians, technocrats, and businesspeople but also ordinary people who debated and expressed anxiety and doubts of its application and those who sought to profit (even illegally) from its use. Visions of an electrified future were classed,

racialized, and gendered. Participants came from all walks of life, from middle-class housewives to electrical workers. Capitalinos saw themselves and their city as becoming modern through electricity.

ELECTRICITY'S OFFICIAL WELCOME

Electricity was officially welcomed through the Electricity Exposition in 1886. El Duque Job, the favorite pen name of the writer Manuel Gutiérrez Nájera, captured the atmosphere on the streets of Mexico City when the exhibition opened in mid-December that year.[29] As darkness set in, joyful, rich young women—followed by their servants—hurried through cobblestone streets while crackling fireworks obscured the monotone prayers of a nearby procession. Illuminated shop windows on Plateros Street gleamed with trinkets for the *posadas* (traditional Christmas commemorations) and artistic objects for traditional New Year gifts.[30] The Electricity Exposition at the National Preparatory School housed in San Ildefonso, a sixteenth-century Jesuit building, drew in the crème de la crème of Porfirian society. Among the last to arrive, President Porfirio Díaz made a grand entrance, accompanied by his top ministers, a handful of military generals, and directors of institutions of higher education. They entered the colonial building as musicians of the Twenty-First Battalion played the arrival fanfare.

Celebrated at the time as the first scientific exhibition held in the country, the Electricity Exposition represented Díaz's hopes for stimulating the nation's economy. The organizers of the exhibition intended it to be the modernizing elite's introduction to electricity. Gutiérrez Nájera emerged from the exhibit at San Ildefonso impressed. He characterized electricity as a great magician and conjurer: through the telephone, telegraph, and electric lights, it demonstrated numerous marvels as it "illuminated, talked, and caught words in a net, throwing them like shuttlecocks over great distances."[31]

The emergence of these marvels of modern science in San Ildefonso, a former Jesuit boarding school confiscated in the period of liberal reform just two decades before, made the exhibit all the more powerful. The school, a bastion of Auguste Comte's positivist curriculum, stood as the center of scientific politics, training a generation of late nineteenth-century technocrats. The minister of education, Justo Sierra, trusted that—once they graduated—the nation's resources would be exploited and placed in global circulation under their supervision. If the Mexico of the past had been colonial and put itself in the hands of God, the Mexico of the Porfi-

riato would be independent and put its future in the hands of science and reason.

Electricity promised a way forward for energy-hungry Mexico.[32] In the inaugural address to the exhibition, Sierra surveyed science's achievements from antiquity to the present, all of which, in his estimation, had been leading up to electricity. He fervently believed that Mexico, as a land with limited fossil fuel resources, had everything to expect from this new technology.[33] After his address, the minister invited attendees to enter the exhibition. President Díaz pressed an electric switch: to everyone's amazement, the school's monumental door opened and powered the circuit, feeding lights and devices on display.[34] For the next fourteen days, scientists offered lectures to educate the public on the expanding subject of electricity.[35]

The marvels of science and the evidence of electricity's potential were there inside San Ildefonso for all to see. A dazzling banquet of light attested that science brought forth the visible out of the hidden.[36] Attendees first entered a small, lavishly lighted room where an elegant aquarium illuminated with Edison lights welcomed them.[37] The school's library shone with profuse lights, gracefully located. On one of the walls high above, the names of Benjamin Franklin, Alessandro Volta, André-Marie Ampère, Henri Becquerel, Auguste-Arthur de la Rive, and Claude Servais Pouillet appeared in golden letters, in recognition of their legacy in electrical science. Above the names, a painting of a stormy cloud with two lightning bolts served as the representation of nature's force. Dedicated salons displayed electrical devices by group: magnetism, static electricity, and the telegraph, among others. Students provided detailed explanations to the public as they operated the devices—proudly pointing out the ones that came from the workshops of Mexican inventors.

Spectators enthusiastically gathered in the telegraph room, where they witnessed the Hughes printing telegraph. Unlike earlier versions that used Samuel Morse's code, it employed a piano-like keyboard, with each of the twenty-six keys corresponding to a letter of the English alphabet. Operators typed out a message that was then "printed on paper tape at a receiving Hughes telegraph connected by wire to the sending telegraph."[38] After watching, many observers cheerfully walked away with a piece of printed paper as a souvenir.

Skeptics remained, however. Liberal intellectuals and political elites—and the press that catered to them—wasted no opportunity to lampoon conservatives as backward. Where liberals saw wonder, conservatives saw danger. Rumor had it that ghosts of Jesuit fathers, former teachers at the college before their 1767 expulsion from Spanish lands, lurked in the dark

passages and former cells of the colonial building. The Jesuits became visible only because of the incandescent lights and made the sign of the cross when they saw them. Even the influential paper *El Partido Liberal* capitalized on such stories. It reported that the Jesuits (and by association deeply religious Mexicans more generally), unfamiliar with the wonders of science, saw electricity as the diabolical partner of Lucifer. Frightened by the big electric bulbs like fireflies, the fathers yelled, "Come back tomorrow, mob of ghosts!"[39] Forgotten among these rumors, of course, was the Jesuits' significant contribution to the advancement of science in the nation. It largely did not matter: despite the unfounded rumors circulating about Jesuits and complaints from those who had known only candlelight, the 1886 exposition at San Ildefonso announced that electricity was the path to the nation's destiny.

It was no surprise that the president was present for the exposition. The event not only educated the audience on its electrical future but also functioned as a public display of power: an announcement that Mexico was steadily moving along the path of progress, thanks to the Díaz administration. At the end of his speech (ostensibly about science and knowledge), Sierra thanked the regime for its tenacious national security campaign and financial reorganization, which he argued was an indispensable condition for the republic to raise its eyes from the present to plan for the future.

Like Sierra, Díaz's supporters felt that the nation had finally become stable enough to think about and even plan for a glorious future. The threat of revolt and unrest had subsided, and the regime's investments in education and technology made the future worth betting upon. Newspapers, many in league with the president, agreed. The leading financial journal, *El Economista Mexicano*, applauded the exposition as a scientific event of enormous proportions, which demonstrated the level of enlightenment that the nation would reach under Díaz's "empire of peace." The paper concluded by urging the nation to undertake another scientific exhibition soon.[40] Even the Catholic daily *El Tiempo* blessed the event, exhorting authorities to devote more funds to foster and protect scientific endeavors that would "earn the country a name for itself,"[41] through the example of Mexico City.

Mexico City is a particularly compelling case through which to study the tangible and symbolic deployment of electricity in technological modernity. During the Porfiriato, the combination of political stability, massive foreign investment, and consolidation of the export-based economy led not only to the physical transformation of the city but to a social, even attitudinal, transformation. Technological progress became a source of legitimization for the regime, with Mexico City as its showcase. Proud of the

city's rapid urbanization, Díaz wanted nothing more than to transform the capital into a cosmopolitan center through the elixir of electricity. The city attracted capitalists from around the world, eager to profit from lighting and powering the capital's social and economic life. Díaz imagined that the vitality of the metropolis, like a dynamo, would energize provincial cities, which would mimic the city's electricscape by the turn of the century.[42] As went Mexico City, so went the nation: as the capital became an electrified industrial center, so did provincial industries.

No monolithic Mexico ever existed, however. In taking technology as an extension of human lives, I move beyond official blueprints to follow individuals on the ground in all their diversity. I examine how a staggering array of Mexicans—government officials, businesspeople, social commentators, inventors, doctors, electrical workers, domestic advisors, housewives, and ordinary citizens—became electrifying agents, who sold, bought, or even stole electricity to achieve their own ends. Their ambitions gave rise to a discourse on how electricity should be used and who had a claim to it.[43] That discussion was both concrete in its immediate application and symbolic in its hopes for Mexico's future. It was notably contentious, for hardly any electrifying agent could agree with another. Electrification was not inevitable: its development and speed resulted from decisions that facilitated the import of electrical machinery, the legislation that made the generation, transmission, and sale of electricity attractive to foreign capital, and the values associated with electric lighting and electrical devices that contributed to the material development of the industry.

My account favors perception and experience of everyday life. Informed by a user-centered approach, I treat users as agents of technological change, going beyond how technology changes society to examine how society impacts technology. In their user-centered studies, leading cultural and media studies scholars such as Roger Silverstone, Eric Hirsch, Metere Lie, and Knut Sørensen have reconceptualized the role of users in shaping technological objects by challenging the traditional distinction between production and consumption. In the process, they have breathed new life into Karl Marx's claim that consumption is production: as they make clear, consumption is "not complete until users have defined the uses, meanings, and significance of the technology."[44] In this reinterpretation of Marx, consumers are not passive agents and technology is not a universal standard. Instead of adopting a narrow understanding of how users interact with a given machine, which limits a priori how individuals interact, users and technology must be placed within in a broader set of social, cultural, and economic relations. To establish user–technology relations, we must understand how

machines became integrated into everyday life. The concept of domestication of technology, which follows discretionary appropriation and incorporation of a new technology, is particularly valuable in the study of electricity, as demonstrated by the work of Graeme Gooday on Britain before World War I Britain.[45] We must see technological innovation through the eyes of those who witnessed it, including capitalinos adopting festive lighting or riding trams and home advisors integrating electric blenders to prepare pulque recipes.

Through the lens of everyday life, then, I document how electrical lighting, power, and transportation changed ideas of time and space: of bodies, self, others, and what it meant to be Mexican. Shifting the focus to the agency of individuals who confronted new electric technology allows a deeper understanding of processes of social change: how gender, race and class, and nationalism colored relationships between individuals and technology. Images of the electrified city—which celebrated human mastery of natural forces and resources, control, progress, and order—conceal the contingencies, complexity, and often violence that accompanied technological change. Electrocutions, tram accidents, and power theft were everyday realities that accompanied electrification and much as light bulbs and washing machines. Electricity brought with it debates on aesthetics as well as safety and legal issues. Looking at technological change through the lens of everyday life pulls us from the broad, abstract narratives of national "modernization" into individual personal quests for modernity: in the end, a "modern" Mexico could be defined only by actual Mexicans. To get at this, I explore a series of difficult, highly charged questions. What opportunities did Mexicans see in electricity? What dangers? And who, in the end, had a say in how to balance the two?

Historical research on the electric industry has dramatically expanded in the last two decades. In addition to general economic histories on its development, scholars have concentrated on foreign companies that dominated the industry from the late Porfiriato to its nationalization.[46] Indeed, historians have followed foreign investment in the electrical industry all the way down to the regional level. As has been the case with Latin American histories more broadly, private electric companies have received their due share of attention.[47]

Mexico, along with the countries in Latin America with the largest economies, joined the electric revolution early on. Mexican mines and refineries were the first in the region to introduce electricity, only a year after it was tested in US mines.[48] By 1889 the Batopilas mine in Chihuahua employed two hydroelectric turbines and two steam generators for crushing

ore.[49] Most major mining centers were utilizing steam-generated electricity by the next decade.[50] The *Mexican Mining Journal*, the leading domestic trade publication, called electrical smelting one of the greatest moments in the country's mining history.[51] The journal noted the vast possibilities for iron production and the treatment of low-grade copper sulfide ores, which had remained unprofitable until then.

Within twenty years of the electrification of Batopilas, the application of electricity had reached the oldest and most important production centers.[52] Indeed, it had become the preferential energy source in Latin American mines, where it made the large-scale exploitation of low-grade ores profitable and reduced labor expenses. The introduction of electricity was one of the technological innovations that transformed the industry in the late nineteenth century. Despite extensive use of electricity in the various stages of mining activities, its most profound impact was on controlling the presence of underground water. Flooding of shafts had been a significant obstacle to the recovery of mining activity throughout the nineteenth century.[53] Electrical energy was either generated by the mining companies themselves or bought from commercial electric companies.[54]

Until the turn of the twentieth century, the generation, transmission, and distribution of electricity in Mexico remained isolated and uncoordinated. Over one hundred electric power companies were established between 1887 and 1911. All significant industries at least partly introduced the new energy source into their economic activities, hoping to increase production and save labor costs. *American Machinist* in 1904 recognized a widespread electrification drive in Mexico, with projects to harness the powerful waterfalls in the nation, with "every town and village of any pretensions demanding the introduction of electricity."[55] Textile, tobacco, paper, and glass factories were among the first industries that jumped on the electrical bandwagon. This led to the emergence of privately owned power plants that generated the energy for their machinery. Those with surplus energy often marketed it to municipal governments for public lighting.

I devote less space here to the armed struggle phase of the Mexican Revolution than to the postrevolutionary period, in which revolutionary rhetoric came to shape the electric industry. Unlike the railway industry, which suffered severe material damage caused by battles and sabotage aimed to disrupt supply lines, the electric sector emerged from the civil war without much physical damage.[56] Regions with critical power facilities did not experience military activity. Despite exaggerated coverage abroad, the conflict did not target foreign interests. Revolutionary governments were vigilant in protecting foreign property to prevent the likelihood of out-

side intervention.[57] For instance, at a formal banquet organized at the Necaxa hydroelectric plant in early 1913, President Francisco Madero assured attendees that Mexico welcomed foreign capital and that his government would protect their property from rebel bands.[58]

Hard data on Mexican electrification is uneven and limited for the first forty years of the industry. The Ministerio de Fomento (Minstry of Development) led the first efforts to document early applications in the late 1880s. Resulting publications traveled to world exhibitions as proof of the country's progress in the field of electricity. Economic assessments of the state of the industry emerged in the social reform phase of the revolution in the 1920s and 1930s. Studies dedicated to the industry's development and the challenges it faced became prominent with the renewed industrialization efforts led by the federal government in the 1940s and 1950s. In the post-1960s era, government officials and academics set out to evaluate the impact of the industry's nationalization.

Historical research on the electric industry has expanded in the last two decades. In addition to general economic histories on its development, the research agenda has concentrated on two aspects. The first is the foreign companies that dominated the industry during the late Porfiriato. Indeed, this has occurred at a regional level: foreign investment in the electrical industry (and in public utilities in general) in Latin America has received attention from economic historians. The other area of concentration includes studies that focus on an individual electric company. The application of electricity for power and lighting has also created a research niche. Additional work on the introduction of electricity by individual factories will certainly add a new dimension to our understanding of the context in which Mexicans secured electricity, subsequent transformations, and how workers manipulated it. Although economic and business histories and technical and policy studies of the industry have dominated such scholarship, a few works have ventured toward a more social understanding of the electrification process (including the educational training of engineering students who participated in constructing the Necaxa hydroelectric plant).

ELECTRIFYING AGENTS IN THE ELECTRICSCAPE

The French poet, essayist, and philosopher Paul Valéry reproached traditional historians for fixating upon politics and war while ignoring the real forces that shape the world and cited electricity's "conquest of the earth" as an exemplar of "those notable phenomena" that history neglects,

even though it has "more meaning and greater possibilities of shaping our immediate future than all the political events combined."[59] While his critique was strong—and remains controversial—his take on electricity's importance is self-evident, especially when we consider that electricity, as a primary engine of a modern society, has permeated all aspects of life and weaves like a weft strand through the warp of city, transportation, labor, business, engineering, women, medicine, death, public celebrations, nightlife, advertising, literature, and architecture histories, to name only a few. Yet for all his radical insight—especially considering the state of history when he wrote his words—Valéry was wrong on one important fact: electricity did not achieve a "conquest." Rather, people took it, adapted it, manipulated it, negotiated over it, and in some cases rejected it. In short, they became what I refer to as electrifying agents. Electricity did not, like some cruel conqueror, hand people a set of demands. Everywhere the technology arrived, people incorporated it into their social and cultural norms and projected it into their dreams. That is, electricity served people; but in Mexico, as everywhere else in the world, the question remained: which people would it serve and in what ways?

Fortunately, a wealth of primary sources on the Mexican case help answer these questions. Government plans for electrical infrastructure and the records of private companies tell a story of how they wanted Mexicans to consume electricity, but it is incomplete. Newspapers, medical journals, novels, letters, court records, and popular sources complement the official perspective and help us to see how people became not just consumers of electricity but electrifying agents. Writers vented their frustrations at the inefficiencies of electrification in newspapers and in the penny press. Seemingly everyone had something to say about how electricity would change people's lives. Injured individuals, those suspected of theft, and electric companies went to the courts: along with lawyers and jurists, they debated and sought to shape the legislation of the new energy source. Even cookbooks, women's magazines, and other advice literature serve as windows into the way electricity, construed as the harbinger of modern living, was to transform homes into clean, efficient, and comfortable spaces. Families of trolley victims and those who defended the new transportation spoke their minds in the courts. Electricity theft cases, unknown a few years before, became a daily occurrences in these courts. Prosecutors attempting to defend powerful electrical companies in those cases ran head-on into injured individuals, suspects, and their lawyers, who all argued for a different perspective on what an electrified—and hence modern—Mexico meant.

No other group spilled more ink in debating and defending the place

of electricity in the nation's future than the people who physically delivered it. Issues of *Lux*, the magazine of the Sindicato Mexicano de Electricistas (SME; Mexican Electricians Union), along with the syndicate's general-assembly minutes, reveal how the workers cast themselves as a new generation of revolutionaries in a struggle against a rapacious foreign company for the industry's Mexicanization.

I examine how Mexicans shaped the electrification process in the following pages, from electricity's first emergence in the 1880s until electrical appliances became truly ubiquitous—the smaller ones even unremarkable—in middle-class homes in the 1960s. The process of electrification did not follow a simple, linear process, so any accurate narrative about it cannot be linear. My account reflects that truth: though it moves along in a generally chronological direction, it also reaches across space and time to capture key moments of causation and contingency.

I interrogate the dreams and visions of an electrified future in part I. We must see that the history of electricity goes far beyond the material—the generators, transmission lines, transformers, dynamos, poles, and incandescent bulbs that made up electricity's physical presence—into the human imagination.[60] In the Mexican case, people were hardly bewitched by electricity, shrinking in fear and wonder, but almost immediately they began to imagine how the new technology could transform the nation, its industries, their neighborhoods, and, most commonly, their individual prospects.

I delve into the first manifestation of an electricscape in chapter 1. How did electricity, primarily electric lighting, redraw luminous boundaries within the capital? Lighting was one of the first and certainly the most widely encountered form of electricity. I ask how people understood and experienced the new illuminant as both tangible (lumen) and intangible (lux). I examine the transformation of public spaces and how the new illuminant both improved lives and reinforced inequality. I discuss the next most common demonstration of electricity's potential in chapter 2: exhibitions that aimed to document, display, and celebrate an electrified capital city. The grandest of these exhibits took place during the country's independence centennial celebration in 1910.

I shift from the introduction of electricity and the promises it held to an exploration of actual practices by electrifying agents in part II. A world driven by electricity, which had seemed like a dream just a generation before, became a growing part of everyday life during the late Porfiriato. With it came efforts to regulate the behavior of electric power users.

Chapters in this section build upon the work of previous historians

who have found a "clear confrontation between an authoritarian regime's projects to reshape urban geography and the opposing forces of subordinate groups' use of the city, demographic growth, and technological change."[61] I try to put a human face upon these "subordinate groups" and show how they were not always as subordinate or powerless as they may appear. I transverse the city aboard electric trams to piece together how they altered daily life and the uses Mexicans made of them in chapter 3. In ways the regime did not predict, the *eléctricos* (electric streetcars) demonstrated the two sides to the imagined modern Porfirian city. On the one hand, they demonstrated great order, for they ran on tracks and were held to a regular schedule. On the other, that order came at the expense of horrific accidents, countless injuries, and everyday slights and insults.

Focusing on the debates surrounding accidents, I argue that, despite accidents, capitalinos did not advocate for the return of older modes of transportation. Instead, they categorized these quotidian misfortunes along with other lamented and frowned-upon events in city life. Along with public urinating, defecating, and drinking, "reckless" walking began to plague the city. Pedestrians faced calls to rationalize and standardize their behavior. The public discussion and debate about these accidents represented not a counternarrative of modernity but rather instructions on how everyday people had to adapt to the reality of technological change. Capitalinos would have to change their behavior in order to become modern. Discussions surrounding eléctricos indicated not only the growing anxieties of a society in a quest for modernity but also the certainty that the quest would continue despite these anxieties.

I deal with the first two decades of the twentieth century in chapter 4. Electric power moved from being a publicly consumed good to one that could be privately consumed during that period, and theft accompanied this change. I address who stole power and why, how the state and power companies responded, and the public debate over the regulation of proper use of electricity. Good money awaited active and former electrical workers as well as self-taught entrepreneurs who set up illegal connections to power lines or tampered with meters. The demand for their services spanned the social spectrum of Mexico City, including owners of prestigious theaters, small business owners, a town council member, the elderly, widows, and tenement residents. I follow electric company inspectors around the city as they sniffed out power theft and represented their company's interests in the resulting court cases. Their quarry was most commonly small business owners, who framed testimonies, defined the nature of electricity, and crafted clever arguments in court that challenged the very idea of private

property and theft. Court records prove that many of the imaginative acts that shaped the electricscape arose from or were inspired by conflict.

After exploring the promise of electricity and how people actually brought electricity into their lives in parts I and II, I look at two very distinct, even wildly different, groups in Mexico in part III: middle-class housewives and workers in the electrical industry. They are, by design, an odd coupling. Yet, this may not be so unusual a pairing as it seems. In both cases, we can see how the experience of living with electricity filtered into a personal sense of identity and empowered people culturally and politically.

I examine how retailers promoted domestic gadgets not only as practical tools but also as ways to refashion the values of gender, class, race, and culinary nationalism in chapter 5. To understand the generational shift, I look across three decades (1930s–1950s), the period of the consolidation of the revolutionary regime and the economic miracle, exploring how middle-class women imagined themselves in an electrical future. Electrical appliances made housewives at once scientific, hygienic, and white.

Interestingly, gender and class also played a role in the nationalism of electrical workers. I examine the gendered language and imagery of the modern working-class man that permeated union-produced literature in chapter 6. These workers imagined themselves as a new generation of revolutionaries struggling against rapacious foreign companies. Their touchstone was the example of former president Lázaro Cárdenas and his oil expropriation; their imagined future was one where the state moved in to right the wrong of economic exploitation and fulfilled the promise of the revolution.

I conclude with the 1960 celebration of Mexico's nationalization of the electrical industry. The roughly eighty years that had passed since minister Justo Sierra promised his audience at San Ildefonso that Mexico's future lay in electricity had proven him more right than wrong. Mexico had electrified, and the electricscape increasingly spread out from the urban and industrial centers into all corners of the nation. Yet, at the same celebration, the stories being told about how Mexico became electrified did not reflect the real, historic past. In this first telling of Mexico's electrical history, the everyday people who did so much to expand and shape the electricscape began to disappear and be replaced by large, powerful actors—not least of which were electric companies and the government. I correct this imbalance by leaving the balcony of the Presidential Palace and taking readers back into the streets, businesses, and homes of Mexico City. It was there that the electricscape arose.

The Leyden jar was used in a demonstration of electricity popular in

scientific gatherings during the nineteenth century. The demonstration, developed and perfected abroad, started with facilitators who dared attendees to witness an appealing and deceitful demonstration. First, they called for a group of people to stand in a circle holding hands, forming a human chain. At one end, an individual held a *botella de Leyden* (Leyden jar), a glass jar with its inner and outer surfaces coated with metal foil and sealed with a cork or wooden lid that had a copper wire running through it. An early form of batteries, Leyden jars had been essential for the study of electricity for nearly 150 years but were still a novelty in Mexico, as in much of the world.[62] Early on, jars were filled with water and some even with beer, as the liquid was thought to store electricity. The wire in the lid ran to an electrostatic generator or another source of electric charge; as it touched the inner lining of foil, it allowed energy to build up in the interior layer. The glass of the jar blocked electrical movement to the outer layer of foil, allowing it to remain grounded. For the stored energy to travel, it needed a pathway: a wire, rod, or human hand connected to the wire emerging from the lid served as a communication. A person at one end of the human chain would touch the top of a charged jar, while the person at the other end reached out to touch the foil-coated bottom of the jar with a free hand to complete the pathway.[63] Electricity would then flow through all members of the chain, each receiving the "gift of an electric shock."[64] Like the Leyden jar experiment, electricity would reach through all ranks of society when it came to Mexico, through the hands of capitalinos. Modernity would indeed bring shocks to all.

Ladrones de Luz: Policing Electricity in Mexico City, 1901–1918

Diana J. Montaño

Abstract This essay explores Mexico City's electrification in the early twentieth century through the lens of power theft. The arrest and resulting trial of dozens of *capitalinos* (Mexico City residents) suspected of power theft allow us to document the nuances of policing and prosecuting a modern crime and thus to explore how notions of policing, private property, space, honor, and even decency influenced how people secured and used electricity. Using 63 cases tried before the Tribunal Superior de Justicia del Distrito Federal (Federal District Higher Court) and newspaper and legal debate on power theft, this article examines how capitalinos could flip seamlessly between the elitist, scripted, proper use of electricity and the ad-libbed, improper use that fit their needs in specific circumstances. By grounding electrification in everyday life, this article argues that capitalinos emerge as agents of technological change, people who understood the importance of electricity to transform their lives and spaces.

In early December 1901, an eclectic "inspecting team" stormed into the Hotel de Ambos Rumbos in downtown Mexico City demanding entry into room 35.[1] The team—made up of Oliverio López, a *perito eléctrico* (electrical expert witness) for the municipal government, Gabriel Ortiz and Guillermo Feuss, legal representative and installation supervisor respectively for the Compañía Mexicana de Electricidad (CME), and a police inspector—accused the hotel of stealing electricity and was determined to prove this. The hotel manager objected, claiming that only the hotel owner, Francisco Torres, could consent to

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1. *El Imparcial* (Mexico City), 19 Dec. 1901, p. 2.

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such a search and that he was absent. When the team brushed aside this news, the manager explained that the room was occupied and that the guest had left with the key. But the team was not dissuaded and secured permission from the adjacent room's occupant to use his balcony in order to enter room 35.[2] As they made their entry, someone abruptly exited the room and tried to reach the roof terrace, but the police inspector swooped in and apprehended him. It was none other than Torres, the hotel owner. With the owner in hand, the team reentered the room and found their evidence. Two cable ends lay severed on the balcony, hidden from the street by a mattress and sarape resting against the balcony railing. Confident that an electrical connection had been deliberately cut, López and Feuss joined the cable ends to those found inside the room, and instantly the hotel came to life. Fifty-seven lights illuminated the hotel's stairs, office, lobby, hallways, and thirty-five guest rooms.

Historians working on daily life have emphasized the importance of looking at minutiae—the subtle aspects of ordinary matters—to appreciate the rules that governed behavior.[3] The arrest and resulting trial of Torres, like dozens of other *capitalinos* (Mexico City residents) suspected of power theft, offer a fruitful avenue to document the nuances of the Mexican capital's electrification and "to reconstruct the texture of crime as experienced in everyday life by those who formed the majority of offenders and victims."[4] Trial testimonies reveal that no matter how legal experts interpreted the law, ordinary people held their own notion of what was fair, one that reflected the kind of lives they wanted for themselves. Yes, the accused framed statements in terms that lessened their responsibility, but the judicial records are still valuable for how these defendants drafted narratives. That is, the records help reveal what people thought was a viable explanation—or excuse—for securing for themselves electricity.

Through these cases, this article confronts our understanding of technological change in the Mexican capital and how—on the everyday level—capitalinos grappled with rapid urbanization, expanding industrialization, and technification of spaces. Images of the electrified city celebrated humanity's mastery of natural forces and resources, the inevitable advance of progress and order, but these same images concealed the contingencies and complexity that accompanied technological change. For many capitalinos, securing even a

2. *Diario de Jurisprudencia del Distrito y Territorios Federales* (Mexico City), 20 Jan. 1904, p. 8 (hereafter this newspaper will be cited as *DJDTF*); *DJDTF*, 21 Jan. 1904, pp. 1–5.

3. Lipsett-Rivera, *Gender*, 4.

4. Piccato, *City of Suspects*, 3.

little electricity meant a few bulbs in the home or a new, more efficient piece of machinery. Trivial though it may seem now, this was for them a vital connection to and participation with improvement—of both their lives and the nation. Power theft reveals subtle aspects of electrification. By grounding electrification in everyday life, capitalinos emerge as agents of technological change, people who understood the importance of electricity to transform their lives.

Since the late nineteenth century, technology has played a dominant role in modern life, with machines among "the most evident emblems and instruments of our modernity."[5] Too often, technologies appear as "black boxes" in popular discourse, as "fixed entities that irresistibly change society and culture," removed from the people and the ambitions that employed them. Far from dictating to people how they must be used, Thomas Misa argues, "technologies interact deeply with society and culture, [with these] interactions . . . eliciting resistance, accommodation, acceptance, and even enthusiasm." To untangle technology's connection to how societies understood themselves and their reaction to modernity, we need to stop treating technology as a mass noun and instead, as Misa argues, "look more closely at individual technologies and inquire more carefully into social and cultural processes."[6] Depending on local situations and needs, different societies embraced various technologies, and even the same technology is not necessarily employed in the same way everywhere. This means that the idea of modernity, like the idea of technology, must be pluralized, and the relationship of people to the technology they embrace must be treated as unique and discrete.[7] We must uncover the specific circumstances that shape and characterize different experiences of modernity—Mexico being no exception.

Over the last ten years, historians of technology in Mexico have documented how technology was deployed as a tool for state and nation building in the pursuit of modernity. Such scholarship has enriched our understanding of the environment under which technologies (such as the railroad, radio, and sewing machine) and technological systems and processes flourished, revealing the institutional, national, and transnational networks of power that shaped these technologies, systems, and processes; how they entered discourses of modernity, revolution, and nationhood; and the factors that facilitated and

5. Arnold, *Everyday Technology*, 5.

6. Misa, "Compelling Tangle," 2–3, 9.

7. Calls for new narratives include Portuondo, "Constructing a Narrative"; Medina, Marques, and Holmes, *Beyond Imported Magic*.

hindered local adaptation and innovation.[8] New technological devices and systems became "deeply integrated into the social and cultural lives of many Mexicans."[9] By focusing on the local, Mexicans emerge as agents of technological change. Concentrating on the country's capital, a handful of historians have followed the actions of politicians, social reformers, technocrats, merchants, industrialists, and ordinary citizens to transform the human environment and to make what Mauricio Tenorio-Trillo has called the "ciudad científica" (scientific city).[10] This article, informed by these studies, takes a user-centered approach to delve into the making of electrified spaces.

Instead of adopting a narrow understanding in which a given machine limits a priori how its users interact with it, I will place users and technology within a broader set of social, cultural, and economic relations.[11] To establish user-technology relations, we must understand how machines became integrated into everyday life.[12] We must see technological innovation through the eyes of those who witnessed it, including capitalinos charged as *ladrones de luz* (power thieves), those who aided and abetted them, and those who set out to stop, extort, or prosecute them.

By looking at the transgressions and the resistance of users, we can identify an electric script, an expectation of how individuals were to interact, use, or consume electricity.[13] Electrification amounted to large investments of capital

8. Matthews, *Civilizing Machine*; Castro, *Radio in Revolution*; Beatty, *Technology*. Beatty underlines that recent economic history does not "treat technology in any explicit manner, despite its centrality to any explanation of economic growth and development." Beatty, 20.

9. Beatty, 6.

10. Tenorio-Trillo, *I Speak of the City*, 307. See also Alexander, *City on Fire*; Vitz, *City on a Lake*; Agostoni, *Monuments of Progress*.

11. User-centered studies reinstitute Karl Marx's claim that consumption is production, with "the process of production . . . not complete until users have defined the uses, meanings, and significance of the technology." Oudshoorn and Pinch, "Introduction," 16. See also Silverstone and Hirsch, *Consuming Technologies*; Lie and Sørensen, *Making Technology*.

12. The use of technological innovations is intrinsically entangled with not only economic activities of nation and state building but also "transformations in identity and everyday life." Tinajero and Freeman, "Introduction," 1–2.

13. This article adapts Madeleine Akrich's concept of the script. Akrich noted that innovators "inscribed" into the technologies that they developed—in the form of a "script"— assumptions (beliefs, values, norms, and attitudes) about the technologies' future users. Akrich, "De-scription of Technical Objects." Nelly Oudshoorn argues that "in principle the possibility exists that a user [will] interpret differently, modify, diverge from, or totally reject" imposed scripts. Nelly Oudshoorn, quoted in Rose and Blume, "Citizens

entering into people's private spaces. Electrical companies, with the backing of foreign investors and wealthy Mexicans, would bring power to peoples' homes, but within the confines of their home subscribers were expected to honor the terms of their contracts. Judicial records, however, demonstrate that users, authorized and unauthorized, resisted this script for consumption and frequently subverted it altogether. They would not bow to what was expected of them, especially when they thought it unfair—or, at least, when a better deal was available—and actions deemed theft in the eyes of the law seem to have received communal approval by ordinary denizens. For many capitalinos, large electric companies' expectations for how users should engage with electricity were less a final script and more a first draft, subject to revision. In revising this script, capitalinos shaped the legal system that supported it by questioning whether stealing was always a crime.

Prior to the increased attention to the history of technology, Latin American historians expanded scholarship on crime and punishment, but the two historiographical currents have yet to cross-fertilize.[14] Mexico City's industrialization and urbanization created social tensions as urban designers' orderly plans for the proper use of the city—much like power companies' script for consumption—clashed with residents' quotidian demands.[15] One important idea that has emerged from these studies is that the law always allowed (whether or not reluctantly) marginal groups to contest, elude, and even use the law for their benefit, and yet though cities were prime sites for the introduction of technologies, we know little about the juncture of technology and crime. What happens when we focus on technology crimes and infringements?

This essay helps to fill this gap in the historiography. The study of power theft contributes to the historiography of crime and modernity by introducing technology into the equation.[16] Judicial files provide a window into the everyday conflicts surrounding the dynamic historical realities of electrification. This particular type of theft allows us to explore how notions of policing, private property, space, honor, and even decency influenced how people secured and used electricity. Capitalinos could flip seamlessly between the elitist,

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as Users," 108. I am interested in the script that electrical power companies prescribed and that imagined users behaving within the power contract's parameters.

14. For scholarship on elite visions of criminality in Mexico, for instance, see Buffington, *Criminal*; Piccato, *City of Suspects*; Speckman Guerra, *Crimen y castigo;* Pulido Esteva, *¡A su salud!*

15. See Lear, *Workers*; Porter, "'And That It Is Custom'"; Piccato, "Urbanistas."

16. For two exceptions of studies on technology and crime in the region, see Galeano, *Criminosos viajantes*; Rodriguez, "South Atlantic Crossings."

scripted, proper use of electricity and the ad-libbed, improper use that fit their needs in specific circumstances. As we look closely into the cases contained in the judicial files, the categorical difference between criminal and innocent breaks down and is replaced with a spectrum of those who could secure electricity reliably and affordably and those who could not. Sometimes capitalinos could secure it legally, but sometimes not.

As testimonies of the accused reveal, the interpretation of the law was not the exclusive purview of legal experts. The accused framed statements in terms that lessened responsibility. Judicial records thus become valuable not merely for what witnesses said but for how they drafted narratives. Michel de Certeau poses that by looking at the everyday, we begin to "see how [lives] are lived and 'how sites are constructed in the interstices of the vast socio-economic systems.'" By looking to the quotidian, we come across "evidence of occurrences of resistance in which ordinary people undermined the imposed relations of power," because although individuals "cannot escape the dominant cultural economy, . . . they can adapt it to their own ends."[17]

Using evidence from both the Archivo General de la Nación (the General Archives of the Nation) and Mexico City newspapers, this article explores 63 cases brought against individuals indicted for power theft and tried before the Tribunal Superior de Justicia del Distrito Federal (TSJDF, Federal District Higher Court). These records document the frustration, indignation, and resentment that the electric companies and the police felt toward capitalinos who could, with such ease, violate the electric script and switch seamlessly between roles as paying customers and illegal pilferers (often, as we will see below, performing both simultaneously). For the companies and the police, the capital was nothing less than a city of suspects. Yet these legal records provide more than the accusations leveled by prosecutors, company officials, and eyewitness experts. The records also contain the voices of defendants, their attorneys, and their friends and family. These voices raised powerful questions that push us past the celebrated images of electrification and toward the experiences of those who lived through it: Who would get electricity? Could some have preferential access? Was it ever fair to steal electricity? Was stealing electricity even a crime? In the trials considered here, Mexico forged answers.

Policing Scripted Consumption

The Porfirian regime (1876–1911) saw technology as a tool to transform the country into a modern nation, and to secure that technology the regime

17. Levine, "Michel de Certeau," 317.

instituted legal reforms in the 1880s and 1890s that "strengthened private property rights and foreign investors' power vis-à-vis the state."[18] The sanctity of private property would be the bedrock of a capitalist Mexican society and an assurance to all-important foreign investors. Theft of electricity—of property, really—transgressed the foundation of the modern Mexico that Porfirio Díaz envisioned, and he made sure that private companies knew that they had the full support of the state to curtail this violation.

Enthusiastic partners, the companies actively policed consumption, with entire departments devoted to detecting illegal use. Discovering fraud fell to ordinary company workers. For instance, by 1907 Mexican Light and Power (Mexlight) had a dedicated department of 35 inspectors who walked the streets day and night seeking out theft, their eyes fixed on the lines that crisscrossed the city. Undercover inspectors and informants aided their work.[19] Besides surveying overhead power lines, inspectors visited commercial and residential buildings unannounced, checking for illegal hookups to power supply lines, unauthorized reconnections, or meter tampering. In early twentieth-century Mexico City it was rare for public and private agencies to coordinate their activities efficiently, but this was not the case when it came to dealing with ladrones de luz. The startling speed with which larcenists were collared suggests how important electricity was to the government's vision of modernity. In the Hotel de Ambos Rumbos case with which this essay opened, suspicions of theft emerged when company employees noticed that the electric meters' readings in the hotel's vicinity were higher than expected given the clients on Calle Vergara. The CME legal representative Gabriel Ortiz approached the Ministerio Público (Public Prosecutor's Office) to finger the hotel as the source of the theft, and on the very next day the authorities assembled the eclectic team that raided the hotel.

The consolidation of the city's electric power market by 1905 was a double-edged sword: more people had power, but authority over that power fell to fewer companies. With the inauguration of the Necaxa River hydroelectric plant, Mexlight flooded the market with cheaper power, putting other electricity companies out of business. In 1906, Mexico City's city council (*ayuntamiento*) granted the company an unprecedented 97-year concession, turning Mexlight into a monopoly.[20] This simplified matters for Mexico City's leaders, but the resultant consolidation meant that ex-employees of the now-defunct

18. Weiner, *Race*, 59.

19. *El Imparcial* (Mexico City), 27 Dec. 1907, p. 1.

20. For 20 years, no other company could enter Mexlight's area of coverage unless they could guarantee lower rates. Galarza, *La industria eléctrica*, 121.

smaller competitors were available to lend their services to those who wanted to bypass the monopoly. This spurred a cat-and-mouse game for the next decade.

This type of theft rose in the context of an ongoing transformation of the city's electrical landscape. With cheaper and more abundant electric energy available, the capital offered advantages to both established and new industries. Along with better communication and transportation services, electricity increased the city's overall competitive edge in industry.[21] By 1909, the secretary for Mexlight's board of directors claimed that power demand had "increased so rapidly" in Mexico City and the Federal District that it had exhausted the Necaxa River plant's initial 40,000-horsepower capacity, pressing the company to complete an expansion "faster than . . . proposed and foreshadowed" just a year before. Upon completion of this expansion, the plant's capacity would reach about 100,000 horsepower.[22]

The easiest of the inspectors' many responsibilities was uncovering illegal hookups to power lines. These were often stunningly rudimentary, consisting of nothing more than a wire running from a home or business to the nearest central power line. The crude splice that joined the two was for inspectors the telltale sign of stolen power. If the owner of a property suspected of electricity theft could not provide a contract immediately to the inspectors, Mexlight could arrive within hours to take the unauthorized line down. Inspectors were diligent and efficient, but Mexico City was already large and constantly growing, and illegal connections could go undetected for days, months, and even years. Even when Mexlight disconnected service, capitalinos could simply reconnect the wires themselves or arrange for someone to do so. Rita Arias had been a Mexlight client until late October 1906, when her service was interrupted for nonpayment. For two weeks thereafter, claimed the newspaper *El Imparcial*, she nightly slung a *gancho de hierro* (metal hook) over the nearby uninsulated main power line and drew a steady current into her home. Inspectors discovered the maneuver one morning when she forgot to take the gancho down. No mention was made of the danger of her action.[23] Arias's method of securing electricity was especially crude, but any unauthorized tapping of power lines was inherently dangerous. Besides the obvious possibility of death, stealing electricity risked fire. Fear of conflagrations intensified in the

21. On the city's industrialization, see Garza, *El proceso*, 117–22.

22. *Mexican Light and Power Company Ltd., (1909)*, 2–3. Rising power demand continued during the Mexican Revolution. Mexlight noted a "very marked" demand growth from 1914 to 1921 (no reports were issued during these years) and called for increasing installed capacity. *Mexican Light and Power Company Ltd., (1921)*, 7–8.

23. *El Imparcial* (Mexico City), 4 Nov. 1906, p. 2.

late nineteenth century as the establishment and expansion of factories and workshops within city limits brought hazardous materials, flammable substances, and machinery prone to sparking and explosion.[24] These dangerous elements often sat in factories and workshops exploiting unauthorized electrical connections, with thrown-together wiring and faulty circuits. At the Hotel de Ambos Rumbos, exposed wiring touched ceilings, tapestries, and bed canopies, but luckily nothing ignited. Other thieves were not so fortunate: a hair salon in the neighborhood of Santa Ana nearly went up in flames in 1901.[25]

The rudimentary methods and lack of care put into certain unauthorized connections meant that inspectors had to remain constantly alert, and night was their greatest ally. In the darkness, inspectors walked the city looking for bright electric lights where there should have been none. Nighttime made clear that it was not just workshops or penny-pinching business owners who stole power, as Inspector Gabriel Abrego discovered in 1912. Abrego appears to have been exceptionally diligent—his name surfaces again and again in the records—and during one of his nocturnal rounds he noticed electric light coming from the home of Miguel Palacios, whose service had been interrupted for nonpayment.[26] Palacios did not confess until at the police station, but when he did so Abrego was also able to squeeze out Palacios's reason: he wanted to host a dance party for friends later that night.

The inspectors' work was not easy; property owners—or their proxies, like a maid or a hotel manager—could deny entry, as they often did. Inspectors had to be equal parts attentive, creative, and tenacious. Inspectors would conduct surveillance to confirm suspicions and document the extent of clandestine pilfering. In 1913, for instance, Carlos Paliza, one of Mexlight's most astute and active inspectors, received instructions to investigate the suspiciously low consumption levels reported at the Monte Carlo and Salón México theaters. After staking out both establishments, Paliza caught Ignacio Nápoles, vaguely identified as an electric company employee, manipulating the electric meter at the Monte Carlo.[27]

After catching thieves brazenly lighting up their properties at night, the simplest and most effective way to uncover ladrones de luz was to go into homes

24. For the increased frequency and intensity of fires, see Alexander, *City on Fire*, 6–11.

25. The owner had used bell wire, generally employed for low-current, low-voltage applications, to tap into a power line servicing a nearby drugstore. The overloaded wire ignited the salon's roof, partially burning it. *El Imparcial* (Mexico City), 19 Dec. 1901.

26. *Nueva Era* (Mexico City), 6 June 1912.

27. *El Diario* (Mexico City), 24 Aug. 1913, p. 7.

and find the wires and tampered-with electric meters, but until 1905 it was an open question as to whether police and company agents could do this. In that year Isidoro Díaz, a store owner, brought a 12,000-peso lawsuit for slander, *allanamiento de morada* (breaking and entering), and property damage against Inspector Ernesto Lobo of the Compañía Explotadora de las Fuerzas Hidro-Eléctricas de San Ildefonso. Lobo had demanded Díaz's arrest on the charge that his store, Las Dos Estaciones, was using a *brincador* (a jumper cable that bypassed the electric meter) and was illegally feeding power to two homes. A judge agreed and imprisoned Díaz for eight days, but upon release an enraged Díaz sued Lobo. Lobo argued in his defense that the seventh clause of the electric lighting contract signed by Díaz authorized company employees to carry out installations and inspect the meters at any time. Furthermore, Lobo claimed that article 637 of the 1871 penal code reserved the charge of allanamiento de morada for entry of a house, dwelling, or bedroom used as a *habitación* (living space); a convenience store, he explained, "is not used as a living space but instead was an establishment open to the public." It took two years, but in 1907 the TSJDF confirmed the lower court's sentence that Lobo had committed no crime.[28] It was a victory for Mexlight, but not one that capitalinos accepted willingly. Subscribers, although contractually obliged to allow inspectors entrance, could delay access to their property; if the subscribers were absent, their domestic workers could deny it altogether. Furthermore, contract clauses did not apply to nonsubscribers.[29]

The inspectors were as diverse as the city itself and reflected the migration of Mexicans from the country to the metropolis. The energetic inspector Paliza, 34 years old and single in 1906, was from Mexico State.[30] Gabriel Aranda, from the state of Guanajuato, was in 1916 a 39-year-old widower.[31] Gabriel Abrego, 42 years old in 1912, was married and hailed from Chilpancingo, Guerrero.[32] Mexico City's inspectors also reflected the foreign immigration taking place during the Porfiriato. Javier de la Vega, 44 years old in 1918,

28. *DJDTF*, 13 Aug. 1907, pp. 713–16.

29. In 1912, Mexlight strengthened its legal position by adding a 12th clause to its customer contract stipulating "unconditional consent and authorization for company employees to have access to the house or places where the subscriber uses electric energy." Antonio Vázquez Suárez, 28 June 1912, Archivo General de la Nación, Mexico City, Tribunal Superior de Justicia del Distrito Federal (hereafter cited as AGN, TSJDF), box 1143, file 203598.

30. Reyes Granados, 1 Mar. 1906, AGN, TSJDF, box 0565, file 102030.

31. Vicenta Castañeda, 29 Mar. 1916, AGN, TSJDF, box 1370, file 242373.

32. Vázquez Suárez, 28 June 1912, AGN, TSJDF, box 1143, file 203598.

was born in Santander, Spain; Mexlight's supervisor of inspectors in 1909, 31-year-old Juan Boesch, hailed from Switzerland.[33]

Inspectors lived all over the city—an important fact considering that inspectors were most effective in their own neighborhoods. In April 1906, *El Imparcial* narrated the apprehension of Enrique Lara, who owned a diner along Callejón del Garrote and had stopped lighting service there a few months after signing up.[34] He secretly reestablished the connection; an inspector believed he had been stealing power for about six months, at a value of over 200 pesos total. The newspaper report never named the inspector, but coincidentally, Inspector Paliza resided on Callejón del Garrote, at building number 2, apartment number 5.

Inspectors were regular people who, via the threat of fines and jail time, held real power over their neighbors and fellow citizens. Such power, as the case against Antonio Vázquez Suárez demonstrates, was susceptible to abuse. Sometime in 1912, a rumor reached the offices of Mexlight that someone in the El Chorito neighborhood had been installing "combinations," possibly brincadores, in order to cheat meters. Tasked with locating these, inspectors Ignacio Magaña and Manuel Rodríguez later wrote that they had learned that Vázquez Suárez sold brincadores for 75 cents each and that they had found one at his house. They claimed that immediately upon finding the brincador, Magaña had left to find two gendarmes to bear witness while Rodríguez stayed behind to guard it.[35] After an inspection of Vázquez Suárez's house by court personnel, police arrested Vázquez Suárez, who maintained that he knew absolutely nothing about lighting, let alone electricity. If a brincador were in his house, he added, one of the inspectors must have planted it before calling the gendarmes; he suspected Rodríguez, with whom, he claimed, he had fought in the past.[36] Rodríguez denied this during his initial court appearance and promised to provide the court a list of names and addresses of those who had bought brincadores from Vázquez Suárez. However, Vázquez Suárez's allegation that vengeance motivated Rodríguez became credible when two character witnesses swore that the inspector and the accused knew each other and had been love rivals.[37] Irrespective of the allegation's weight, the judge ordered Vázquez Suárez's release because the prosecution could not determine that the cable

33. Guillermo Elorreaga, 25 Jan. 1918, AGN, TSJDF, box 1507, file 269073; Sra. Viuda de R. Pokorney, 19 Apr. 1909, AGN, TSJDF, box 910, file 159339.

34. *El Imparcial* (Mexico City), 27 Apr. 1906, p. 6.

35. Vázquez Suárez, 28 June 1912, AGN, TSJDF, box 1143, file 203598.

36. *El Tiempo* (Mexico City), 4 July 1912, p. 4.

37. Vázquez Suárez, 28 June 1912, AGN, TSJDF, box 1143, file 203598.

confiscated at this house was indeed a brincador, precisely where the wire was placed in relation to the electric meter, or even that the wire could have served to manipulate the meter.

An accusation of theft was no minor matter. With it came searches, possible trials, and, frequently, fines and jail time. The spectacle of raids made questionable private behavior public knowledge. These scenes were witnessed by neighbors and friends, people who constituted an "insider audience" who held unique "power" because they "had a collective memory for a person's reputation and honor."[38] In early twentieth-century Mexico, a world without credit scores or other objective means to establish risk, any questions about one's trustworthiness and righteousness had direct social and financial consequences. This explains why Isidoro Díaz, in setting his aforementioned lawsuit against Ernesto Lobo at 12,000 pesos, asked for only 1,000 pesos in lost business and another 72 pesos in legal fees but just under 11,000 pesos for "the physical distress and moral angst suffered behind bars."[39] As uncomfortable as his brief stint in jail had been, the real suffering would come in the form of lost business. Any diminution of his moral standing in the community would mean higher costs for doing business.

Moral Users beyond the *Zaguán*

Despite Mexlight's established legal right to penetrate private spaces, capitalinos pushed back and not only questioned whether these intrusions were fair but argued that they violated gendered, classed, and moral understandings of space. Capitalinos went beyond the question of legal rights and asked a more profound cultural question: Was it decent for the inspectors to command entrance into private spaces? Mexicans attached moral values to their spaces, and as Sonya Lipsett-Rivera notes, residential homes "were a vital part of the way that Mexicans defined themselves as moral beings." "The main door was the most potent signifier of morality and proper behavior," as she points out: an open door during the day signified that the home was respectable and had nothing to hide, while a closed door at night kept out those with dishonest intentions.[40] The threshold was a liminal space (associated with but not entirely part of the house), a physical demarcation between the private and the public. When a property owner was confronted by an inspector, it was only proper—indeed, moral—to allow the inspector into these threshold spaces, but the moral

38. Lipsett-Rivera, *Gender*, 38.
39. Isidoro Díaz, 15 Aug. 1906, AGN, TSJDF, box 0495, file 087332.
40. Lipsett-Rivera, *Gender*, 25.

calculus flipped when inspectors (with the force of the law behind them) demanded to go further. It was there where inspectors and gendarmes awaited permission to conduct inspections. In larger homes they were addressed from the balconies or made to wait in the *zaguán*, a vestibule at the house's entrance, a traditional Spanish architectural element. In practice, these spaces served a gatekeeping function. If theft of power were indeed taking place beyond the zaguán, indignation at inspectors violating a homeowner's right to privacy was a convenient pretext for avoiding discovery.

This dynamic was exemplified when Inspector Manuel Rodríguez stopped at the home of German citizen Federico Jah, in the same year that Abrego ruined Palacios's party.[41] During his rounds Rodríguez had noticed what he suspected to be an illegal installation, but when he knocked during the day the maid who came to the gate claimed that the house had no electric service. Mexican custom demanded that guests be invited into the zaguán, which was considered the public portion of the house. The maid did so, but she did not allow him to go further; she had no obligation under city ordinances to give the inspector access to the home. Rodríguez, however, had seen enough. Exposed wires in the hallway all but proved Jah's theft, and though the maid was right that electricity was not flowing through them at that moment, Rodríguez could tell that they could readily be connected and disconnected from local power lines. He came back after dark, accompanied by another employee and three gendarmes, but this time the maid denied him entrance. Rodríguez and his party could only watch from the street as electric lights were turned off and candles lit.[42]

Capitalinos thus challenged the company's right to penetrate private spaces by tacitly alluding to gendered understandings of space, in which dichotomies of order/disorder and home/street meant that perceived sources of disorder were pushed into the street. Women's refusal to allow inspections is understandable within a gendered honor system centered around the home. Women's *honra* (honor conferred by virtue) was intimately linked to sexuality, and their reputation was bound up with "their chastity as maidens and then their loyalty as wives and discrete respectability as widows." Should a woman do something that could be seen as unvirtuous, such as allowing unknown men into her home, she risked tarnishing the reputation of not only herself but also the men in her life, since women were theoretically under their control; a stain on her honor

41. Federico Jah, 17 July 1912, AGN, TSJDF, box 1118, file 198038.

42. In a similar case, inspectors saw how candles were lit up after an electric light was turned off. Minutes later, a maid denied them entrance, alleging that her boss was sick. Enriqueta Ruiz, 15 Sept. 1915, AGN, TSJDF, box 297, file 226252.

was "an attack not only on male honor but also on the very masculinity of their husbands, brothers, or fathers."[43] A woman's reputation had implications for her whole family, and thus—even more so than the men in their lives—women fought hard to guard it, going as far as to legally and physically confront those who endangered it.[44] Thus when an inspector demanded entrance to a woman's home, it was inescapably a test: Would she allow her virtue to be questioned by the community?

Middle- and upper-class women alone in a house felt empowered to deny access, in violation of the power contract, based on a notion of virtue. The penetration of private spaces by company employees, particularly when accompanied by gendarmes, was often interpreted as an insult to the residents' honra. This is why Jah's maid denied entry: the realm of its patriarch, a house was not to be penetrated by other men in his absence. No capitalino would bat an eye at denying access on those grounds alone. In 1918, inspectors and gendarmes seeking to inspect city councilman Angel Montaño's house were asked by his wife to wait in the zaguán while she sent for her husband.[45] Tellingly, the inspectors obliged.

Not every capitalino had a servant to stall an inspector, let alone a gated wall or a balcony from which to converse with such officials. Many were too poor to rent or own a house and resided in either a *vivienda* (a shared space within a building) or *cuartos* (rooms, the humblest form of lodging and one of the most popular). For these capitalinos, as Lipsett-Rivera argues, a stark separation between public and private space was absent, which meant that one's actions were under greater scrutiny.[46] Having so many people living in such close proximity could be a blessing or a curse for those accused of theft. Caretakers or friendly neighbors could help conceal questionable behavior, as servants did in more affluent homes. Yet these poorer suspects were also beset by many more eyes potentially watching for opportunities to settle old scores.

Cases involving women thus deserve consideration, 10 of which exist among the 63 TSJDF cases that I have located pertaining to power theft from 1901 to 1918. Although only one of these women identified as a widow, many of them were likely heads of household in charge of securing their homes' lighting sources. Mexico was not alone in the early twentieth century in imagining the home as a safe, ordered refuge run by virtuous women, in stark contrast to the disorder—even violence—of the street. The capital historically had large

43. Lipsett-Rivera, *Gender*, 14.

44. By contrast, working-class women, particularly marketwomen, redefined female morality "as inclusive of publicness." Porter, "'And That It Is Custom,'" 141.

45. Angel Montaño, 18 Feb. 1918, AGN, TSJDF, box 1507, file 269076.

46. Lipsett-Rivera, *Gender*, 49–58.

numbers of female-headed households, an intrinsic part of Mexico City during the Porfiriato that expanded throughout the Mexican Revolution as many more women than men migrated there.[47] Indeed, the disruptive nature of war increased internal migration and women's overall vulnerability in the capital, which in addition to the already discussed cultural consequences meant that women felt entitled to refuse when inspectors demanded entrance into their home.

The myriad scenarios emerging from these inspections reveal that when suspicious inspectors—men (all of them) who believed in the justness of their work—knocked on doors and demanded entry, they were not simply trying to penetrate homogeneous, interchangeable structures. Rather, they were approaching spaces embedded with meaning for those who carried out lives within them. What that space was and who occupied it mattered. An open shop may have been public enough to warrant easy access with little pushback, but capitalinos bestowed on even a busy apartment vestibule—and certainly a gated house—a degree of sanctity and privacy that they would not easily or happily surrender. Likewise, who answered the inspector's knocks mattered; they were not all mere clients. A poor man living in a room may not have had the moral prerogative of a widowed woman or the financial prerogative of a wealthier businessman. But all had to weigh carefully whom they allowed into their space.

Cognizant of these moral connotations, Mexlight attempted to frame inspections as a safety measure rather than as policing. In late 1907, not long after the higher court ruled that inspectors could enter businesses, Mexlight's manager, Charles Cahan, claimed that a considerable number of commercial and residential houses were fire-prone.[48] Business owners placed themselves in harm's way, Cahan declared, by carrying out installations themselves or by hiring individuals whose credentials could not be verified.[49] Inspectors determined that of Mexlight's 30,000 clients, 3,000 had dangerous installations—installations that put whole neighborhoods in danger.[50] The company had

47. See Kuznesof, "Gender Ideology," 161.

48. *El Imparcial* (Mexico City), 27 Dec. 1907.

49. Owners studied installation costs; installing electrical wiring themselves only constituted an illegal act when tapping into a power line.

50. In the absence of clientele data, power demand provides a sense of the market. In 1908 Mexlight fed 3,310 arc lamps and 305,400 incandescent lamps; by 1913 the company powered only 2,539 arc lamps but 589,731 incandescent lamps, almost double the number from 1908. Gross earnings more than doubled between 1906 and 1913 (from 3,854,194.63 pesos to 8,484,338.17 pesos). *Mexican Light and Power Company Ltd., (1913)*, 7.

earlier sent letters warning customers of this and explaining that fixing these installations could mean considerable savings, but only 300 clients had responded by the time that Cahan made his plea. Clients, Cahan concluded, had failed to understand that inspections were to their benefit. The clients might have seen their decision to bar inspectors from their spaces differently.

Cahan was right that faulty circuits were dangerous, and Mexlight decided that if capitalinos would not voluntarily allow workers to fix these circuits, the company would avail itself of its newfound legal right to send inspectors for unannounced visits. Clients, in turn, went to greater lengths to camouflage brincadores. The detection of brincadores thus required increased vigilance.

Hierarchy of Thieves

A "plague of robbers," all members of the lower classes, had descended on the metropolis—at least that was the perception of social commentators at the turn of the twentieth century.[51] In his diagnosis of criminality, jurist Miguel Macedo insisted on the urgent need to erect "a levee against the criminal wave threatening to bury our *pueblo*."[52]

Data on the extent of power theft in the capital is sparse. This was a crime, though, that did not incite spasms of dread and anxiety among capitalinos. There was no study of ladrones de luz as a single criminal class. Then as now little is known about them; impressions and unsupported assertions have had to stand in for facts. In 1907, for instance, manager Cahan claimed that electrical theft was so widespread that arresting all ladrones de luz would mean overflowing Belem jail; this is why, he went on, Mexlight only charged those against whom there was substantial evidence. With those who carried out petty theft or defrauded the company without malice, Mexlight reached individual settlements. Some measure of the problem can be gained from Cahan's allegation that in the preceding months company inspectors had discovered more than 300 theft cases, only a handful of which were significant enough for criminal charges.[53] The manager's assertions, which were admittedly self-serving, indicated that if the company charged someone for theft, he or she must have done something egregiously wrong.

By the 1910s, commercial establishment owners and residential owners were brought to court in nearly equal numbers by Mexlight. As the problem of power theft grew in the commercial and manufacturing sectors, Mexlight

51. Sodi, *Nuestra ley penal*, 8.
52. Macedo, *La criminalidad*, 28.
53. *El Imparcial* (Mexico City), 27 Dec. 1907, p. 1.

shifted from Cahan's earlier, more moderate stance on punishment. His successor, Haro Harrsem, took an aggressive stance, bringing more criminal charges in the belief that this would end the abuses of those acting in bad faith.[54] Yet despite Mexlight's surveillance efforts, cases continued to proliferate. Without disclosing their methodology, the newspaper *El Demócrata* argued that as much as 80 to 90 percent of energy subscribers in 1924 used the so-called *diablitos* (little devils), described as an illegal device that diverted electricity from power lines.[55]

The growth of electrical consumption in Mexico City had significant consequences for the nature of work in both factories and workshops, but nowhere was electrification more transformative than in semimechanized workshops.[56] Electrical power brought new machinery, and new machinery led to new workshop organization, in which unskilled workers reduced or altogether eliminated the need for traditional artisans.[57] Small and medium-sized workshops remained in operation, but many crafts came to be dominated by a few companies organized around large, semimechanized workshops that in turn placed pressure on smaller enterprises.

There was no single profile for ladrones de luz. There existed an economic hierarchy among the power thieves. On the top were factories, hotels, and theaters, who comprised those ladrones de luz stealing the largest quantities of energy. Factories employed large amounts of electricity to power countless types of machinery for extended periods.[58] Electric companies offered several types of contracts for these establishments. A factory could request electric light, heat, or power service, or a combination of these, and the resulting contract would either guarantee the operation of engines at a predetermined horsepower or power for a given number of electric lights. Of course, not all clients, even large, well-established businesses, honored their contracts. For instance, in 1903 Rodolfo Schuzandubel, CME's manager, accused the owners of the La Michoacana tobacco factory of theft.[59] During an inspection,

54. *El Diario* (Mexico City), 15 Dec. 1911, p. 3.

55. *El Demócrata* (Mexico City), 27 Oct. 1924, p. 1.

56. Electrification also allowed for industrial life in the city center; earlier, industry was restricted to scattered hamlets around the Federal District. Morgan, "Proletarians," 152–54.

57. Lear, *Workers*, 62–66.

58. Garza, *El proceso*, 120. John Lear found six textile factories in the Federal District in 1877, altogether employing 900 men, 300 women, and 220 children. The workforce doubled by 1910, with production increasing fivefold. Lear, *Workers*, 59. See also Becerril Montero, *Las fábricas*.

59. *El Imparcial* (Mexico City), 26 Apr. 1903, p. 3.

Schuzandubel found that workers had installed a power line to run machinery, in violation of the factory's contract with CME restricting the use of electric energy to lighting.[60] A subtler form of theft among businesses involved tampering with electric meters. Nápoles, the electrician caught in flagrante at the Monte Carlo, admitted that among theaters in the city it was common practice to reverse the meters' dials.[61] Given their energy needs, other large, commercial establishments unsurprisingly also engaged in substantial fraud.

After factories, hotels, and theaters, the next category of ladrones de luz, and perhaps the majority of those arrested as ladrones de luz, was small businesses, often sole proprietorships: grocery stores, dairies, diners, drugstores, hair salons, tailors, shoe stores, and mechanic shops. From the accounts contained in the court cases against these violators, it is clear that in the second half of the Porfiriato—as restrictions on entrepreneurship lessened, more people began business ventures, and competition intensified—entrepreneurs did all they could to keep a competitive edge on rivals.[62] Yet while the number of middling business owners grew, so too did the power of monopolies, to whom the former collectively lost political, social, and economic influence.[63] Sole proprietors existed on razor-thin profit margins and scrutinized every expense. Establishing safe and professional electric installations, signing power contracts, and paying for energy consumption all were unprofitable.

Finally, at the bottom of the economic hierarchy among ladrones de luz were homeowners who siphoned off electricity to improve their quality of life. They most commonly used the power to light domestic spaces at night, but in a world of expanding electrical possibilities, they could find other uses too. The defense of Vázquez Suárez, the capitalino who had potentially been framed for selling brincadores, is telling in this regard: he claimed that he had no need for such a device because he only used enough power to light his home for half an hour every night, for which he had a contract. He directed authorities to instead investigate homes with commercial equipment, a heater, bathroom and kitchen appliances, or a clothes iron.

There is one last, shadowy group that must be considered among the ladrones de luz: those who eked out a living making the illegal electrical connections and the mechanisms for defrauding electric companies. Adept individuals such as mechanics, electricians, and current or former electric company

60. *El Tiempo* (Mexico City), 26 Apr. 1903, p. 3.

61. *El Diario* (Mexico City), 24 Aug. 1913, p. 7.

62. Lear, *Workers*, 56. The number of vendors in Mexico City grew from 19,000 in 1895 to 30,000 by 1910.

63. Lear, 55–58.

employees sold or bartered their skills in handling electric lines. These local professionals joined a cadre of homegrown inventors to expand electrical use—just not according to the script promoted by electrical companies.[64] Sometimes their efforts were as simple as splicing a line or installing a brincador. However, there are examples of more ingenious and skillful means for stealing electricity. The most sophisticated was reported in 1911 by *Nueva Era*: a miniature transformer known among electricians as the "Palmer transformer," named after its inventor, a former Mexlight employee whose first name was not given. The device moved the meter's dials backward once installed.[65]

How many diablitos, brincadores, and illegal splices were there in Mexico City? The inspectors and electric companies never knew, in spite of their best estimates and wild guesses, which means that neither do we. But tellingly, no one dismissed the problem as insignificant; electric companies believed the problem large enough to justify squads of inspectors to stop it. Yet capitalinos, on the verge of a technologically transformative moment, were not going to accept that this life-altering resource would be rationed out according to who could pay. They believed that they had the right to a modern, comfortable life, and they would defy the inspectors to secure it. The companies, in turn, went to further lengths by calling on the judiciary to safeguard their right to profit.

When Is Stealing Not a Crime?

Power theft challenged the Mexican judiciary system, jurists, and lawyers. For over three decades before the Hotel de Ambos Rumbos raid, article 368 of the 1871 penal code defined *robo* (theft) as "the appropriation of a *cosa mueble* [movable thing] without right or the consent of its legitimate owner."[66] This definition served as the basis for prosecuting electricity theft, and thus defense lawyers naturally probed its limits. Under these mounting challenges and criticism, jurists called for reform.

Lawyers challenged the prosecution of electrical theft under article 368 on two intertwined grounds: the fact that no penal law proscribed power theft, and the nature of electricity. Jacinto Pallares, a prominent jurist of the Porfiriato and the lead attorney in the defense of Francisco Torres, owner of the Hotel de Ambos Rumbos, claimed that although his client's actions were reprehensible

64. The intersection of innovation and illegality has been absent from the historiography of technology in the region. For an exception on narco-trafficking in late twentieth-century Colombia, see Guerrero C., *Narcosubmarines*.

65. *Nueva Era* (Mexico City), 21 Nov. 1911.

66. *Código penal*, article 368.

he had violated no penal law. The application of article 368 to his client's case, he insisted, violated article 14 of the Mexican constitution, which barred judgments based on interpretation of penal laws and demanded instead that laws be applied according to their letter. That is, for an act to be considered felonious and punishable, the penal law had to include it in literal, precise, and unequivocal terms. According to articles 368 and 370 of the penal code (the latter of which defined the precise moment when an action turned into theft), theft was the appropriation of someone else's cosa mueble and was perpetrated when the thief literally held the item in his or her hands. Given this legal precept, Pallares asked whether it were even possible for a thief to hold in his or her hands "a current that shocks, often knocking down the careless or stupid individual."[67]

Judge Ismael Elizondo, who heard the case against Torres, suggested that articles 368 and 370 did apply to power theft, as he judged electricity a cosa mueble. In legal parlance, he claimed, *cosas* (things) and *bienes* (properties) were synonymous and constituted all that made up a person's estate. Elizondo explained that "no one could deny that electricity, whether called a fluid, current, energy, or what have you, forms today part of mankind's wealth" that has been "imprisoned between his hands, using it as a lucrative force in industry."[68] It was no longer debatable whether electric current was a thing, because it had been commercialized and was thus susceptible to appropriation. Elizondo considered it indisputable that electricity could be transmitted and transported and was therefore deemed movable.

Pallares, reading the law literally, challenged Elizondo's definition. The jurist contended that theft required a thing capable of being grabbed, as only such met the condition of being movable. In other words, only a physical body that could be "isolated, dispersed, individualized, and independent of other bodies" could be stolen.[69] Legally, there was no theft unless the item passed from the possession of its legitimate owner to the individual who committed the crime. Only physical seizure constituted theft as fundamentally defined in articles 368 and 370. Prominent penologist Demetrio Sodi supported Pallares's stance, arguing that two cardinal elements constituted theft: the object had to be seized from the owner's possession (not handed over voluntarily or via error or fraud), and the object had to be movable. Sodi found it inconceivable that electricity, given its nature, could be dispossessed by merely installing a

67. Jacinto Pallares, quoted in Sodi, *Nuestra ley penal*, 27–28.
68. *DJDTF*, 21 Jan. 1904, p. 2.
69. Jacinto Pallares, quoted in Sodi, *Nuestra ley penal*, 28.

connection between the electricity company's wires. The electric current, he reasoned, remained under the "full and absolute possession" of the company that generated it because the company could at any time suspend, reduce, withdraw, or cut service. Basically, Sodi argued, theft—that is, physical dispossession—was impossible given electricity's nature.[70]

Torres's case raised difficult questions regarding the new energy's regulation. Despite Pallares's challenge to Elizondo's interpretation, an appellate court upheld Torres's sentence and denied his *amparo* (writ of protection).[71] The appellate judge, José Saavedra, argued that Torres had committed theft, even if the legal definition of this crime in the penal code did not apply to electrical theft. It was evident to the judge that the code's authors had never envisioned the existence of electric lighting and that therefore the code could not have legislated for it. He held that lawmakers had simply not yet had time to legislate on the recent advancements; as if in response to his ruling, calls for reform intensified in the case's aftermath.[72] Still, there were holdouts who maintained that power theft was indeed penalized in the 1871 code. Judge Enrique Peña y Aguayo was one of them, but even he considered it convenient to add an article specific to electricity to avoid "twisted interpretations."[73]

A consensus crystallized as a project to reform the law developed.[74] Public defender José del Castillo, who believed that power theft was reaching alarming levels, recommended streamlining article 368 by suppressing the word *mueble* and called for harsher punishment. If he had his way, anyone given a sentence of over a year would go to penitentiary colonies and, upon release, take up residence away from urban centers, under police surveillance.[75] Though he disagreed with Pallares's arguments on behalf of his client Torres, Judge Elizondo did agree on the need for reform. Having argued for the applicability of the current penal code, Elizondo nevertheless recognized that to avoid controversies and prevent the crime of power theft—which he feared would only grow more frequent in the absence of clear laws—the definition of theft needed to include the pillaging of all currents and fluids incorporeal and intangible. Only then, he argued, would the interests of companies and individuals be guaranteed.[76]

70. Sodi, 13–15.
71. *DJDTF*, 25 Jan. 1904, pp. 6–8; *DJDTF*, 26 Jan. 1904, pp. 1–4.
72. *DJDTF*, 11 Aug. 1904, pp. 675–76.
73. *DJDTF*, 8 Aug. 1904, p. 656.
74. For debate on reforms, see *DJDTF*, 20 July 1904; *DJDTF*, 1–10 Aug. 1904.
75. *DJDTF*, 17 Sept. 1904, p. 112.
76. *DJDTF*, 1 Sept. 1904, p. 7.

Everyone involved with the Torres case agreed that he was no saint and that he had taken electricity for which he did not pay. The question was, Had he actually broken a law? Though Torres personally lost, on this point his lawyers had actually made a shockingly effective case. Whether prosecutor or defendant, judge or third-party jurist, everyone agreed that the law was unclear and that, given the demand for electricity, capitalinos would likely try to find any loophole through which they could siphon power. Something had to be done, or no one, domestic or foreign, would dare invest in Mexico. However—as the electric companies' own inspectors already knew—crafting reform would be easier than enforcing it.

The Case of La Velocitan

In 1906, not long after the juridical chaos of the Torres case, La Velocitan Fábrica de Cueros, a Mexico City leather tannery, joined the list of enterprises accused of power theft.[77] Located in Santa Crucita, less than two miles from the Zócalo, La Velocitan was no small enterprise. It was the largest tannery in the country, with a mere dozen competitors; the company had the capacity to produce 300 leather soles daily.[78] The tannery had developed well-thought-out plans to defraud Mexlight, to which end they specially trained a set of employees.

The tannery owed its name and industrial capacity to the Velocitan process of quick tannage that promised to save time, trouble, and money. La Velocitan, established as a public limited company in 1898, mirrored the city's manufacturing companies. The company, like much of the commerce, real estate, and large-scale industry in the capital, was controlled by a tight-knit group of mostly foreign-born investors.[79] Spanish and French shareholders based in Brussels had acquired rights to exploit the Durio brothers' patent to the Velocitan process; these investors also established a tannery in Barcelona, which also specialized in the manufacture of belting, soles, and harnesses.[80]

Internationally, the increased market for leather coincided with the new quick tanning process and the introduction of new energy sources. Industry commentators could not hide their glee at the changes. Armed with technology and financial muscle, La Velocitan entered the Mexican market at a time when

77. Granados, 1 Mar. 1906, AGN, TSJDF, box 0565, file 102030.

78. *Boletín de la Secretaría de Fomento* (Mexico City), Oct. 1907. The tannery was working below capacity, with daily about 50 cowhides and 30 dozen sheep-, goat-, and calfskins.

79. Haber, *Industry and Underdevelopment*, 79–80.

80. *Industria é Invenciones* (Barcelona), 8 Oct. 1898, p. 140.

large quantities of bovine leather were needed to make bands for new industrial machinery, and the company's founders clearly wanted to enter this market with an enormous lead over rivals.[81] The tannery's preferred method involved soaking skins in a revolving drum filled with a liquid that promised to accelerate the handling of unhaired hide, a modest modification that paid handsome dividends.[82]

In March 1906, Inspector Paliza brought a complaint to the Ministerio Público against La Velocitan.[83] A simple examination of the business's accounts had raised his suspicions; the estimated power needed to run the factory's machinery was much higher than the meter readings, evidence that theft, he vaguely added, had been happening for some time, at a cost of no less than 20,000 pesos to Mexlight. From his office, he had no way of being sure that a crime had taken place or how it had been carried out, but an on-site inspection resulted in the arrest of manager Juan Caffarel, technical director Eugenio Heinriche, and mechanic Reyes Granados. During his first interrogation, the 24-year-old Granados admitted that he had overseen the factory's electric engines for years and explained how the fraud was perpetrated.

With the crime clearly established, the ministerio next set out to assign blame, but there would be less clarity and far less fairness here. The Oficina Electro-Técnica Mexicana, an agency tasked with verifying electrical installations, estimated 43,455 pesos in damages. La Velocitan settled this bill within a week, and almost immediately Mexlight dropped charges against the tannery. However, Mexlight did not drop charges against the factory's employees. A judge indicted Caffarel, Heinriche, and Granados three months later, and the tannery's vertical labor hierarchy would be revealed in the resultant trials. Per Caffarel's instructions, for about a year Granados had between 20 and 22 times a month disconnected the cable connecting the transformer to the meter, a special maneuver that did not impede the engines' operation but prevented the meter from registering consumption. The mechanic declared that another employee, Paz Villagaña, had carried out the task until becoming ill; before his death, he had managed to train Granados, even leaving to Granados his set of rubber gloves and electrical pliers. According to Granados, Villagaña gave him a little black notebook to track usage, but unfortunately he had misplaced it, and thus it could not be entered as evidence. For his efforts Granados was "rewarded" by Caffarel with ten extra pesos monthly.[84]

81. Herrero B., *Los empresarios mexicanos*, 145.
82. *Leather Manufacturer* (Boston), Mar. 1898, p. 46.
83. Granados, 1 Mar. 1906, AGN, TSJDF, box 0565, file 102030.
84. Granados, 1 Mar. 1906, AGN, TSJDF, box 0565, file 102030.

Granados's honesty did not serve him well, and he quickly found himself alone. Caffarel, a 30-year-old French citizen and the tannery's manager since September 1905, denied any involvement in or knowledge of the operation; he claimed only to have learned of the fraud when the police arrived at the factory. He said that even the gloves and pliers in Granados's possession did not belong to the company. Caffarel acknowledged the ten-peso monthly payments but maintained that they were a "custom" that had preceded his arrival at La Velocitan—a bonus for "cleaning the engines." Two other employees also denied knowing about or participating in the maneuver. French tanner Justino Gibaux admitted that he had "heard, but did not remember from whom," of the fraudulent disconnections, but he claimed that it was not until the inspection that he had learned who executed the operation and how it occurred. Likewise, technical director Heinriche, a German citizen employed by the tannery for seven years who was strictly speaking in charge of the tannery's machinery, also distanced himself from the fraud. He offered broad generalities, explaining that the engines had been run by steam until three years ago, that Gibaux oversaw the machinery used for manufacturing leather goods, and that Granados was responsible for the electric engines. Neither of these employees, Heinriche stressed, reported directly to him. He claimed to be dumbfounded regarding the matter. Prosecutors offered Granados the chance to revise his original statement, but he only reiterated that two other individuals knew of the maneuver: Caffarel and Andrés, an employee who had left three months before the scheme's exposure. Granados's and Gibaux's testimonies absolved Heinriche; despite Granados's assertions, the court ordered Caffarel's release on the grounds that his responsibility "had not been proven."[85]

Matters only got worse for Granados. Left to be the scapegoat, he was easily convicted by the court—but in absentia. He had contracted pneumonia; he was unable to attend the indictment hearing, already rescheduled once because of his illness. Granados's lawyer entered a motion for acquittal, claiming that there was scarce evidence for a conviction since his client, with no criminal history, had not benefited personally from the alleged theft. The judge denied the motion and found Granados guilty of illegally taking electricity by preventing the meter's proper functioning. He was sentenced to either 100 days in jail or a 1,000-peso fine. The punishment was not fulfilled; Granados died a day later from pulmonary tuberculosis.[86]

85. Granados, 1 Mar. 1906, AGN, TSJDF, box 0565, file 102030.

86. Granados likely contracted it at Belem, where tuberculosis was epidemic. He had been released on a 500-peso bond during his trial.

That some ladrones de luz were foreigners is not surprising given Mexico City's cosmopolitanism. By the turn of the century, about 60,000 foreigners resided in the capital, mostly from Spain and the United States but also from Great Britain, Germany, and France.[87] They were part of not only the capital's upper classes but also its middle and working sectors, because during the Porfiriato foreign technicians installed and managed the first wave of industrial-scale production systems.[88] Given that ladrones de luz often referred to foreigners in the course of admitting guilt, it is feasible that in certain cases tampering techniques could have been passed along as part of the exchange of know-how between local workers and technicians and their foreign overseers.

The malfeasance at La Velocitan may appear exceptional—why, after all, would a dominant manufacturer, already enjoying several advantages over its competition, engage in theft?—but sizable factories and workshops in Mexico City were prone to theft. The introduction of electrical machinery not only altered the nature of work and production but also, especially in the large factories, created specialized positions to oversee electrical machines and engines. These employees became deft with electrical matters. Such was the case with Villagaña, Granados, and perhaps others at La Velocitan. Reducing power consumption seems to have been part of their position or at least a special task assigned to them and rewarded with a bonus. Granados's training, his tracking of consumption levels in a little black book, and the regularity with which he disconnected the cable from the meter indicate that his actions were not impromptu; they were an essential part of the production process, developed consciously in the hope of deceiving Mexlight and escaping the inspectors' attentive eyes. Nonetheless, we must consider how free mechanics actually were within a factory's hierarchy to reject questionable tasks. For an ordinary worker, ten more pesos a month could constitute a substantial raise. Irrespective of the pressure placed on employees by their company, that was money that would be hard to turn down.

To Survive Cutthroat Competition

Commensurate with their size, medium-sized businesses like cantinas, bakeries, *molinos* (maize mills), and various commercial houses carried out thefts less audacious than those of large factories like La Velocitan, as these businesses

87. Tenorio-Trillo, *I Speak of the City*, 402–3. French residents had a large social footprint among the city's elite. For studies of foreigners in Mexico City, see Buchenau, *Tools of Progress*; Schell, *Integral Outsiders*.

88. For Mexico's reliance on imported human capital, see Beatty, *Technology*, 185–202.

consumed far less electricity (typically powering one or two engines or a small circuit of incandescent lamps) and consequently often lacked the skilled personnel needed to execute more ambitious acts of theft. Still, electrical consumption was one more expense as they struggled to remain afloat amid an economic downturn in the twentieth century's first decade and an armed struggle in its second decade. With varying success, they contracted outside individuals to help get out from under the weight of electric bills.

Two years after La Velocitan was prosecuted for theft, a case against a *molinero* demonstrated the relationships that contributed to theft within the trade. At San Antonio, a molino on Calle de Pueblita owned by Tomás Sánchez, Inspector Alfonso Gómez found that the electric meter was not functioning because of a missing fuse.[89] Gómez believed that it had been intentionally removed, but Sánchez argued that there was a simple explanation: three days earlier, a carter hauling a maize sack had accidentally banged against the device, knocking the fuse to the floor. No one had touched the meter since. Manuel Aviera, a Spanish citizen and friend of Sánchez, vouched for the story. Aviera had bought several maize sacks but, with no room at his establishment, had asked Sánchez to store them for him. Sánchez agreed and made available the room that housed his mill's engine. When all the maize arrived the pile was enormous, almost touching the room's ceiling, and a few days later, when a handyman and a cart driver came to pick the maize up, they had so little room that they knocked into the meter.

Inspector Gómez was having none of it. Based on the molino's average daily power consumption history, he estimated that the loss came to 1,089 pesos. Prosecutors indicted Sánchez and sent him to Belem, where he elaborated on his earlier testimony. Sánchez explained that if he had not replaced the fuse after the carter accidentally had knocked it loose, it was only because he had no idea that the meter needed a fuse to properly record consumption. However, he went on to claim that he had feared that he would install it incorrectly and cause an accident. Such explanations were not uncommon; another molinera tried for theft had assured the inspector that she did not know who could have installed a brincador because, fearing an accident, she never got close to the meter.[90]

With time, Sánchez became more desperate and admitted to some wrongdoing but not to electrical theft. According to Sánchez, the discrepancy between past and current power usage was due to competition. Until the

89. Tomás Sánchez, 22 Mar. 1908, AGN, TSJDF, box 0746, file 131627.
90. Roberto del Villar, 23 Apr. 1906, AGN, TSJDF, box 0491, file 087193.

previous year, his molino had enjoyed a monopoly in the area. After rumors reached him of plans to establish mills nearby, he approached Mexlight to explain that power service to any such future mills would be extremely detrimental for him. A Mexlight lawyer assured him that the company would not service those mills, but the promise was short-lived. Soon after their meeting, four mills opened in the area, and Mexlight offered service to any of these that requested it, undermining Sánchez's monopoly. As Sánchez predicted, the competition weighed on his business, decreasing demand and consequently power usage.

It might seem odd and incriminating, but Sánchez's bid to keep competition at bay was standard business practice. Mills controlled competition by restraining others' access to electric power. Although neither Gómez nor Paliza, who brought the case to court, commented on Mexlight's supposed broken promise, such an agreement likely occurred. The last years of the Porfiriato and the early phase of the revolution saw a dramatic increase in molinos, an increase both facilitated and hindered by corruption.[91] Bribes helped obtain specialized licenses required to establish molinos near successful ones, but, like Sánchez's molino, many of these mills were small and vulnerable. Yet connections to high-level government officials and electric company agents could help keep vital electrical supplies out of competitors' hands; over time, access to electricity was one of the ways by which two or three companies came to control the molino industry.[92] It is conceivable that, seeing the writing on the wall after his arrangement with Mexlight failed, Sánchez resorted to theft to keep his business afloat.

Corruption and backroom dealing were part of everyday business for molinos, something that Inspector Gómez would experience firsthand. Gómez claimed that after talking to Sánchez about the missing fuse, Francisco García, a Spanish citizen and owner of the El León de Oro grocery store, stopped by the mill and invited Gómez and two other Mexlight employees to a nearby cantina. Over drinks, García asked Gómez to dismiss Sánchez's case, handing him ten pesos with the promise that Sánchez would provide an additional five pesos. Gómez accepted the money but claimed to have notified Mexlight about this.

91. There were 72 mills in 1913 in the Federal District. In 1915 there were 130, a pronounced increase that came with the market's concentration by Compañía Mexicana Molinera de Nixtamal, a Spanish-owned company with 100 mills in the Federal District. Lear, *Workers*, 65. These trends of growth and concentration continued as military hostilities came to an end. By 1923, the Compañía Mexicana Molinera de Nixtamal owned 119 out of 147 mills in the Federal District. Keremitsis, "Del metate," 292–93.

92. See Keremitsis, "Del metate," 286.

García's friends denied Gómez's accusation, but the bribery had likely occurred. For businesspeople who resorted to power theft and bribery to remain afloat, electric company employees occupied a privileged position, and clearly, given the ease with which García offered his bribe, not every inspector put Mexlight's interests first.

Sánchez's case also demonstrates the importance of peritos eléctricos. In cases of electricity theft, peritos not only technically assessed an electrical installation and located evidence of tampering but also, perhaps most importantly, provided a monetary assessment of the fraud committed. Seven months into the case, court personnel gathered at the San Antonio mill for a reconstruction of the alleged crime. Given that neither Sánchez nor Aviera could provide the name or whereabouts of the carter who had supposedly bumped into the meter, the judge ordered the reconstruction to determine the force necessary to dislodge the fuse and whether the meter was correctly protected.[93] The judge also asked each side in the case to produce peritos to determine whether the fuse could have accidentally fallen out of the meter. Peritos called by the Secretaría de Justicia (Department of Justice) initially concluded that the fuse in question could not have fallen accidentally based on the type of fuse, the locks that secured the fuse, and its height from the ground (almost ten feet). Indeed, one needed to "strongly pull it to detach it."[94] Thus, Mexlight did not need to provide additional protection. However, after witnessing a reenactment of the maize sacks' unloading in which someone managed to detach the fuse, the peritos for the state recanted, determining that neither side was responsible for what had happened. Peritos for the defense disagreed, arguing that Mexlight should have been protecting fuses against accidental disconnections. Expert objectivity would not provide the solution hoped for by the court.

Sánchez was acquitted, the judge finding that the missing fuse resulted from "a fact solely accidental . . . and not fraudulent machinations to defraud Mexlight."[95] Mexlight was not happy with this ruling; after failing to have the decision reversed on appeal, the company filed a civil action against Sánchez demanding 1,089 pesos in damages. When Mexlight learned that Sánchez was selling his mill, his only known property, a company representative asked the court to place a lien on the mill to cover the amount for which Mexlight was suing. If Mexlight could not have the satisfaction of a guilty verdict, the company would still get its money; either result would serve as a warning to

93. *El País* (Mexico City), 4 Nov. 1908.
94. Sánchez, 22 Mar. 1908, AGN, TSJDF, box 0746, file 131627.
95. Sánchez, 22 Mar. 1908, AGN, TSJDF, box 0746, file 131627.

those who would deviate from the company's script for electricity consumption. No record exists of how this case was resolved, but the resolution was largely beside the point; what mattered most was demonstrating the lengths that Mexlight would go to.

Midsize businesses trapped in cutthroat competition felt directly the advantages and disadvantages of electrifying their shops. Access to electricity, particularly after Mexlight established a monopoly, could give a business the upper hand in a restricted market if it could work with electric companies to deny power service to competitors. However, these competitors sought the same advantage. It was a ruthless environment in which proprietors had to be creative—and even a touch devious—to survive.

Acting *Sin Dolo*

Inspector Paliza kept up his frantic pace into 1907, filling his days by hunting down suspicious activity among the city's many smaller shops and businesses. That year he accused 22-year-old Jesús Paredes, owner of the La Suerte diner on Plazuela de la Palma, of theft.[96] The diner's official connection had been interrupted a few months earlier for nonpayment, when under different management, and the connection had not been reestablished since. But when Paliza arrived on the day that he accused Paredes, he could clearly see that the building had electric lights. When asked about this, Paredes claimed that he had only opened the diner a week before. On its first day of business, he explained, he was busy fixing an oil lamp when a stranger approached him and suggested electric lighting for the establishment, offering to make an immediate connection. The stranger also promised, for a five-peso fee, to take care of the contract with the electric company. The trusting Paredes negotiated the price of the reconnection down to two pesos plus a free meal. That was the last time that Paredes saw the other man.

Paredes's lights unequivocally consumed stolen electricity, but did he mean to steal? As part of the reforms to the 1871 penal code, lawmakers had added to article 416 a provision demanding evidence of criminal intent for cases of power theft. Only after intent had been established could legal proceedings move on to considering the physical execution of the crime; consequently, ascertaining the intention behind fraudulent installations became an essential component of any such case. Paredes was fortunate; because he had accepted an offer from an anonymous electrician and did not carry out the installation himself, he was

96. Jesús Paredes, 19 Aug. 1907, AGN, TSJDF, box 643, file 113625.

judged by the law's standard to have acted "sin dolo" (without criminal intent); the company thus did not file charges.[97] Not everyone was so lucky. In many instances defendants admitted to making illegal connections but tried to raise doubts about their intent, only to find the electric company unsympathetic. Librada Lara admitted to using electricity for an application not stipulated in her contract, but she claimed that she had done so only once and only for a few hours due to "urgent need."[98] In at least one case, a defendant tried to equate ignorance with a lack of criminal intent. Concepción Delgado had asked Nicolás Sánchez to run a connection from his commercial establishment to the room that she occupied so that she could use three lights for a get-together with friends. Although Delgado admitted that in the end she did use electricity to entertain her guests, she claimed that she had used it only for a single light and that there was "no criminal intent" because she did not know that this constituted a crime.[99]

Unlike Mexlight, the courts could be more forgiving and consider unfamiliarity with the law and personal circumstances in their ruling. Judge Adalberto Gómez sentenced Vicenta Castañeda, who powered a lamp in her small shop without a contract, to pay Mexlight 15 pesos in damages. In his verdict, in addition to citing as extenuating circumstances Castañeda's lack of a criminal history and the fact that she did not know beforehand that her action was a crime, the judge proclaimed that "the humble class still lacks a clear concept of the crime [of electricity theft], which has provoked digressions and grave controversies among jurists."[100] Such a justification for mercy, however, is misleading, for as we have seen ladrones de luz were predominantly middle class.

Those who pleaded lack of intent most often, like Paredes, narrated scenarios in which anonymous individuals introduced themselves as either independent electricians or employees of electric companies and offered connections for cash. Having been duped themselves, the accused believed they were on the right side of the law since they had not intended to break any law. Sometimes, the accused were reliable electricity customers—just to the wrong

97. Paredes, 19 Aug. 1907, AGN, TSJDF, box 643, file 113625.

98. *Nueva Era* (Mexico City), 30 Mar. 1912.

99. Concepción Delgado and Nicolás Sánchez, 24 Mar. 1917, AGN, TSJDF, box 1401, file 247414.

100. Castañeda, 29 Mar. 1916, AGN, TSJDF, box 1370, file 242373. Judges were not as a rule more lenient toward women; rather, "some judges . . . punish[ed] female criminals as an example to other women." Speckman Guerra, "Disorder and Control," 384.

parties. Cristóbal Rubio claimed that he paid Federico Brown, a German electrician who had set up his connection, directly every month for service.[101]

Crooked electricians like Brown proliferated, most commonly taking cash but also frequently bartering for their services. Manuel Herrera, owner of the drugstore La Salud in Tlalpan, had been a Mexlight client for over seven years when inspector Gabriel Abrego arrived in March 1913 unannounced and found a brincador.[102] Herrera admitted that three years earlier he had been called to the house of Enrique Gavito to attend to his sick wife. Without money to cover the expense, Gavito instead offered to reduce Herrera's electric bill simply by loosening some screws. Herrera claimed that he had refused the offer because he would never allow such a crime and that he never saw Gavito again. It is not clear whether Gavito tampered with the meter or Herrera did so himself. In the end, Herrera got off on a technicality, for peritos testified that the brincador had been improperly installed and thus that there had been no fraud.

In their efforts to curb and prosecute fraudulent connections, electric companies and the courts ran up against the realities of a city in flux. Not only was Mexico City physically expanding, bringing in waves of new faces with it, but also faster transportation facilitated journeys into and across the city. With cheap mass transit, residents of adjacent villages could come in and leave daily, and people could visit and work in different neighborhoods and be back by dinner. Migration to the capital was increasing, turnover was frequent in cheap rentals, and informal employment was common. In this environment, it was not difficult for anonymous individuals not only to offer services of dubious legality but to pose as electrical company employees offering fixes or special installations. We can get a better sense of those duping capitalinos into electricity theft by looking at the case of Ignacio Vera and a few of his friends. They made money doing this until they were caught in August 1905, when Juan Esparza, employee of the Compañía de Gas y Luz Eléctrica, was investigating power interruptions at a tailor's shop in San Lorenzo. In the course of this investigation he identified a clandestine connection, not carried out by the electric company, to a residential house; following the line, he arrived at Efrén Vilchis's room, where a party was in full swing under the warm glow of 25 electric lights.[103] Immediately, Esparza notified the police, but when they arrived at Vilchis's room, they found the installation destroyed. The police still arrested Vilchis for

101. *El País* (Mexico City), 4 July 1903.

102. Manuel Herrera, 6 Mar. 1913, AGN, TSJDF, box 1185, file 207147.

103. *DJDTF*, 24 Aug. 1905, pp. 785–88. (All subsequent discussion of this case is drawn from this source.)

the illegal connection; later, they also arrested Ignacio Vera, one of the party guests, whom they alleged had carried out and then destroyed the installation.

At the police station, Vilchis confessed that, having insufficient light for his party, he had accepted an offer from Vera and his friend to install only ten electric lights. Vera, in turn, pleaded innocence, claiming that he had merely helped his friend—identified in court documents only by his first name, Jesús—who had facilitated the deal and made the installation. Upon further questioning, Vilchis expanded on his original statement in a way that both helped and hurt Vera's case. Vilchis now explained that the ringleader, who offered the connection and determined its price, was not Vera but someone whom Vilchis knew only by the nickname El Chato. However, Vilchis also explained that this ringleader and Vera both claimed to be employees of the electric company. As far as electric thefts go, it was a small crime—peritos set the defrauded amount at 3 pesos and 30 cents, and the company lawyers demanded 22 pesos and 7 cents in damages—but while Vilchis paid his fine and served no time, the courts convicted Vera of carrying out the installation and sentenced him to over 14 months in jail and a fine of 6 pesos and 25 cents.

For some of those who claimed to have stolen electricity sin dolo after 1906, the lack of intent was clear, but many others had a harder time making this defense. Some were duped, and others appear to have embraced willful ignorance. Some tried to be savvy, while others were driven by fear. But whatever their immediate motivation, those who acted *sin dolo* shared one important quality with those who acted *con dolo*: they both desperately wanted to enjoy the tangible benefits of electricity.

Conclusion

The desire to pay less—or nothing—for electric power was at the root of its theft, but curiously, those brought to court for this crime rarely admitted this motivation or questioned electricity rates. Salvador Ruelas acknowledged placing diablitos in his meter to "save four pesos," and Esteban Castillo, co-owner of a mill, complained about Mexlight's exorbitant rates, but they were exceptions.[104] Even critical comments in the press were few and far between and often oblique. For instance, in an article covering a case of electric theft, *El País* conceded that Mexlight was within its rights to safeguard its interests via

104. See, respectively, *El País* (Mexico City), 13 Aug. 1912; Villar, 23 Apr. 1906, AGN, TSJDF, box 0491, file 087193.

inspectors but showed some sympathy with its customers—not because they paid too much, but because the company's service was so poor.[105]

Mexico City experienced tremendous transformations between 1910 and 1920. Not only did the capital's population grow substantially during this period, but it became home to a burgeoning working class whose unity and energy galvanized riots and mobilizations.[106] Capitalinos also faced dire economic challenges directly and indirectly fed by the Mexican Revolution. Assaulted and occupied by opposing armies, for instance, the city suffered the "year of hunger" in 1915. Historian Ariel Rodríguez Kuri reminds us that besides toppling the political order and causing material destruction, "the revolution has a place in the imaginary . . . insofar as it fosters new behaviors, new expectations, and new demands."[107] Changes in perception of what seemed just and unjust in everyday life were not restricted to mobilized workers. City council member Serapio Rendón, for instance, harshly condemned Mexlight for the grievances endured by electric power subscribers under its monopoly. The company, he noted, "obliged subscribers to make deposits without guarantee for their money . . . and [continued to] install electric meters without the public having certainty that [these] are correctly calibrated." To level the playing field, Rendón proposed eliminating deposits and for the city council to organize its own corps of inspectors to surveil Mexlight's measurements and service charges. Although Agustín Galván, who headed the city council's public lighting commission, welcomed such a corps, he rejected eliminating deposits on the grounds that the city council had no right to intervene in transactions between private parties.[108] From the judicial cases that I consulted, it does not seem that any such corps ever materialized. Despite this, we can identify a shift around this time in everyday relations between electricity users, Mexlight, and government officials. Capitalinos' demands for state intervention on their behalf against a foreign company, increasingly seen as predatory, began to find adherents.

Thus when capitalinos opened their copies of *El Demócrata* on October 27, 1924, they might have nodded approvingly as they read the paper's harsh commentary on Mexlight; for over two decades, criticism of electrical companies, their rates, and their service had been simmering. That year alone, the

105. *El País* (Mexico City), 16 Oct. 1906.

106. For working-class mobilization, see Lear, *Workers*, 138–42.

107. Rodríguez Kuri, *Historia del desasosiego*, 15.

108. Rodríguez Kuri, *La experiencia olvidada*, 214–15. *La Iberia*, a Mexico City daily, published complaints and, to no avail, asked authorities to make meters subject to the existing laws for weights and measures.

paper estimated, as many as 80 to 90 percent of energy subscribers used diablitos, but for this the paper blamed not the capitalinos' morality or ethics but rather Mexlight's "prohibitive rates." The newspaper claimed to have received countless letters demanding that the Secretaría de Industria y Comercio (Department of Industry and Commerce) and the Secretaría de Agricultura y Fomento (Department of Agriculture and Development) step in to reduce rates, a demand with which the paper agreed, denouncing the monopoly for charging too much for service. For comparison, the paper relayed the experience of a "distinguished individual" who had traveled to St. Louis, Missouri. This individual was shocked to find that the electric company there charged rates considerably less than those found in Mexican cities. Nothing, the paper believed, could explain this. After all, the paper reminded its readers, the Mexican government had given the hydrodynamic power of the "magnificent" Necaxa falls to Mexlight for a price so low that it amounted to a giveaway. What did Mexicans get in return, the "distinguished individual" asked? Exorbitant rates.[109] There was, in the paper's analysis, something fair about cheating a company that abused its subscribers.

Mexlight charged 30 cents per kilowatt-hour (kWh) in the capital in 1905, with discounts for public entities and large energy customers. Between 1910 and 1930, the city council paid a discounted rate of 25.5 cents per kWh for public lighting and only 3.5 cents per kWh for pumping water. But it was not the discounts enjoyed by the city council that caused concern; it was those discounts given to large, private enterprises buying horsepower to run engines and electrical machinery, which could be so great that they hindered the development of small shops. In 1907, the cost for horsepower ranged from 100 pesos for large consumers to 477 pesos for small ones.[110] In 1917 a national commission concluded that power monopolies would have "severer consequences . . . than the unrestrained exploitation of minerals during the colonial period or the oil fields' growing exploitation."[111]

According to the law, ladrones de luz were criminals. This class of criminals included not only the motley crowd of individuals who sold or bartered the technical skills required to make fraudulent connections but also the innovative individuals who manufactured energy-saving mechanisms designed to bypass the electric meters' vigilance. Courts sought to squash them and protect the

109. *El Demócrata* (Mexico City), 27 Oct. 1924. Until 1933, the state had neither the legal precepts nor the technical, financial, and administrative capacity to regulate the electric industry. Wionczek, "State," 534–35.

110. Galarza, *La industria eléctrica*, 193.

111. Enriquez, *Cuatro conferencias*, 17–18.

interests of large electric companies, but capitalinos, criminal or not, were not going to be passive participants in the city's electrification. Their thefts were their demand to be included in the wonder of modern, electrified Mexico City and a form of protest, questioning who had the right to determine who enjoyed the comforts of modern life.

For electric companies, theft was not just lost revenue. The tenacity and resolution of their inspectors and their lawyers' demand for convictions, even after fines had been paid, speak to injury that went beyond finances; if cultural norms had to be violated in order to secure the redress of those injuries, then the companies were prepared to do so. By beginning to penetrate private spaces previously off-limits, public utilities sought to ensure that their script for consumption was the only one that people could follow. Mexicans, companies like Mexlight effectively declared, would get electricity under company rules or not at all. Yet court documents and the testimonies of the accused show that capitalinos often refused, went off script, and asserted their own prerogatives.

Theft trials offer a fruitful avenue to document the nuances of Mexico City's electrification. As defendants justified and explained their actions, nearly every layer of society participated in the debate about power theft. To one degree or another, ladrones de luz knew the script that the electric companies sought to propagate but refused to follow it. The companies' efforts to regulate electricity were thus "constantly deflected and resisted by those . . . caught in [their] 'nets.'"[112] The responses of ladrones de luz were at once "dispersed, tactical, and makeshift creativity," an "antidiscipline" that, just like a brincador, bypassed the electric companies' control.[113]

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112. Levine, "Michel de Certeau," 317.

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